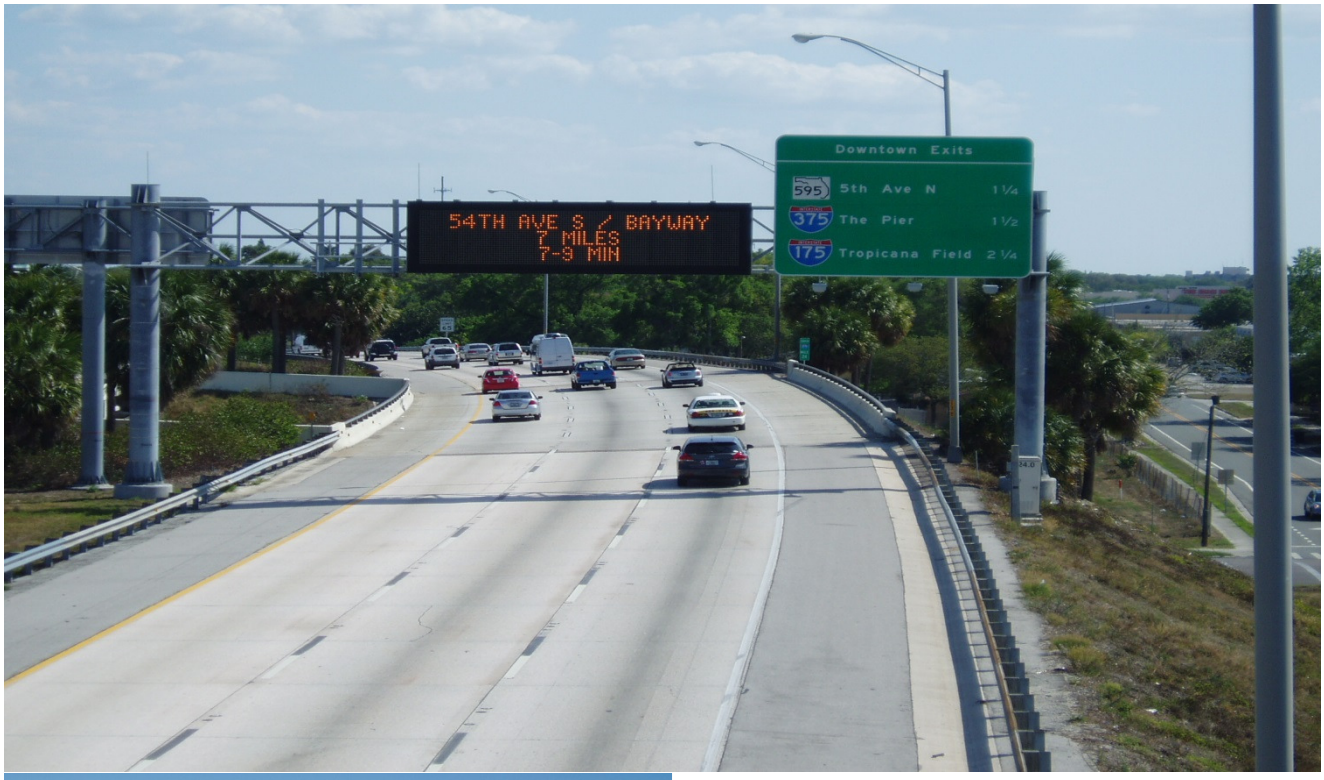

PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

Work Program Item Segment No: 424501-1

Final Design Traffic Technical Memorandum (DTTM)

Project Development and Environment (PD&E) Study

I-275/SR 93

From South of 54th Avenue South
to North of 4th Street North

Pinellas County, Florida

April 2016

FDOT

Executive Summary

The Florida Department of Transportation (FDOT), District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate the need for capacity and operational improvements along 16.3 miles of Interstate 275 (I-275) (State Road (SR) 93) from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida.

The objective of this PD&E Study is to assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, location, and conceptual design of the necessary improvements for I-275 to safely and efficiently accommodate future travel demand. This study will document the need for the improvements as well as the procedures utilized to develop and evaluate various improvements including elements such as proposed typical sections, special designation of travel lanes, preliminary horizontal alignments, and interchange enhancement alternatives. The anticipated social, physical, and natural environmental effects and costs of these improvements will be identified. The alternatives will be evaluated and compared based on a variety of parameters utilizing a matrix format. This process will identify the alternative that will best balance the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs).

The PD&E Study satisfies all applicable federal and state requirements, including the National Environmental Policy Act (NEPA), in order for this project to qualify for federal-aid funding of subsequent development phases (design, right of way acquisition, and construction). The project was evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. This project is designated as ETDM Project #12556. An ETDM Programming Screen Summary Report was published on July 26, 2013, containing comments from the Environmental Technical Advisory Team (ETAT) on the project's effects on various natural, physical, and social resources. Based on the ETAT comments, the FHWA determined that this project qualifies as a Type 2 Categorical Exclusion.

This Design Traffic Technical Memorandum (DTTM) was prepared as a component of the PD&E Study. The DTTM documents the evaluation of existing and future traffic operations of the I-275 study corridor and identifies the required geometric and traffic control features needed to meet adopted Levels of Service (LOS) standards. The DTTM was prepared in accordance with FDOT Project Traffic Forecasting Procedure, Topic No. 525-030-120 and FDOT New or Modified Interchanges Procedure, Topic No. 525-030-0160.

Existing Year (2012) Traffic Conditions

Existing traffic conditions along the I-275 study corridor were evaluated to establish a baseline for comparison of operations with and without the proposed lane continuity and express lane improvements. The results of the existing conditions analysis indicated that the majority of freeway segments along I-275 operate at an acceptable LOS D or better during both the AM and PM peak periods. In addition to performing highway capacity and level of service analyses, a highway safety evaluation of the study corridor revealed that there were 2082 crashes within the five-year period from 2009 to 2013, of which, 1088 involved property damage only, 976 involved a person being injured, and 18 fatalities. The cash rates along the 16.3-mile segment vary from a low of .367 to a high of 1.017, which is greater than the average crash rate of .681 for similar urban interstate facilities throughout the State of Florida.

Design Year (2040) Traffic Conditions

Design year (2040) traffic operational analyses were performed for a No Build and Build Alternative using travel demand forecasts provided by FDOT. The results of the analysis indicated that as many as twenty-six mainline segments on I-275 are not projected to meet the adopted LOS standard in either the AM or the PM peak hour under the No-Build Alternative. If the recommended lane continuity improvements are implemented in Segments A and B (from south of 54th Avenue South to south of Gandy Boulevard), the number of deficient roadway segments is projected to be reduced to less than fifteen segments in either the AM or PM peak hour. The specific location of this deficiency is the segment from 5th Avenue North to Gandy Boulevard. Similarly, the proposed Master Project express lanes improvement in Segment C is projected to provide acceptable LOS C or better operations within the express lanes and LOS D within the general use lanes (GULs).

Opening Year (2020) Traffic Conditions

The opening year analysis documented the future year (2020) traffic conditions with the implementation of lane continuity improvements for Segments A and B and the Starter Project express lanes in Segment C. The results of the analysis indicate that all I-275 freeway segments are projected to operate at an acceptable LOS D or better during both the AM and PM Peak hours.

Interim Year (2030) Traffic Conditions

Similar to the analysis of opening year traffic conditions, the interim year traffic analysis assumed the construction of lane continuity improvements in Segments A and B and Starter Project express lanes in Segment C. The results of the interim year traffic operational analysis indicate that the majority of I-275 freeway segments will require additional improvement to accommodate the projected travel demand.

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Glossary of Terms

Term	Definition
AADT	Annual Average Daily Traffic
CCC	Chairs Coordinating Committee
DDHV	Directional Design Hour Volumes
DRI	Development of Regional Impact
FDOT	Florida Department of Transportation
FHWA	Federal Highway Administration
FSUTMS	Florida Standard Urban Transportation Modeling Structure
FTI	Florida Traffic Information
HCM	Highway Capacity Manual
HCS	Highway Capacity Software
LDCA	Location Design Concept Acceptance
LRTP	Long Range Transportation Plan
LOS	Level of Service
MOE	Measure of Effectiveness
MPH	Miles per Hour
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
PD&E	Project Development and Environment
SHS	State Highway System
SIS	Strategic Intermodal System
SLD	Straight Line Diagram
TBARTA	Tampa Bay Area Regional Transportation Authority
TBX	Tampa Bay Express
USGS	United States Geological Survey

1.0 Introduction

1.1 Project Description

The Interstate 275 (I-275) (State Road (SR) 93) project corridor extends from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida, a distance of approximately 16.3 miles. The study map is shown on **Figure 1.1** on the following page. To effectively describe and evaluate the unique transportation characteristics of the project, the study corridor is divided into three segments as listed below, and graphically displayed on **Figure 1.1**:

- Segment A: From south of 54th Avenue South to I-175, a distance of 4.6 miles;
- Segment B: From I-175 to south of Gandy Boulevard, a distance of 6.0 miles; and
- Segment C: From south of Gandy Boulevard to north of 4th Street North, a distance of 5.7 miles.

The study corridor is contained within the townships, ranges, and sections listed in **Table 1-1** (United States Geological Survey [USGS] Pass-A-Grille Beach, Fla. 1956; St. Petersburg, Fla. 1956; Safety Harbor, Fla. 1956).

Table 1-1. Township, Range, and Section Coordinates

Township	Range	Sections
32 South	16 East	2, 3, 10, and 11
31 South	16 East	1, 2, 11, 12, 13, 24, 26, 27, 34, and 35
30 South	16 East	6, 12, 13, 14, 23 through 26, 35, and 36

With respect to the Project Development and Environment (PD&E) Study section of I-275 within Segments A and B, only lane continuity improvements are being evaluated. Segment C is the focus of express or express lane improvements.

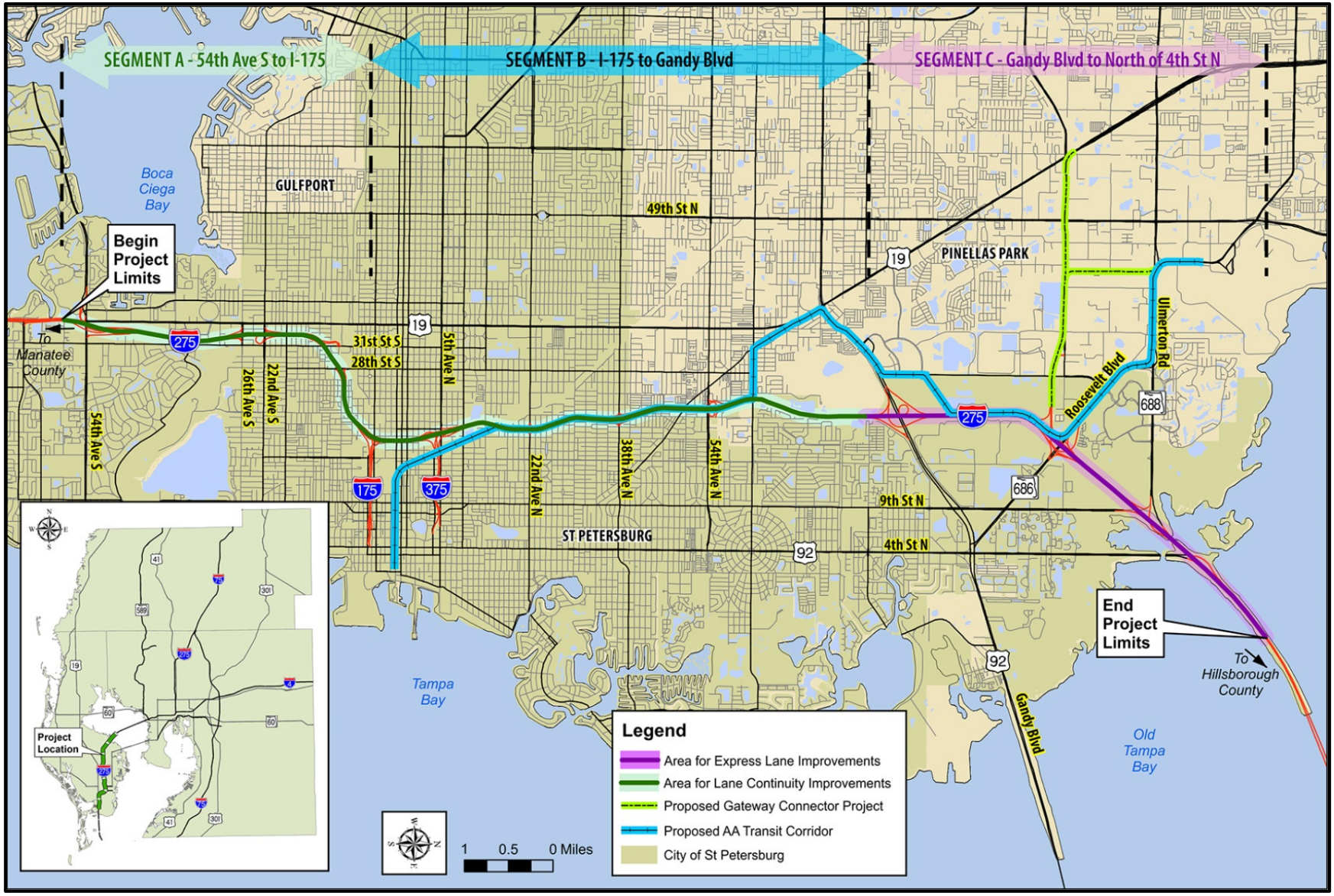


Figure 1.1. Project Location Map

1.2 Project Background

The Florida Department of Transportation (FDOT) conducted this PD&E Study to evaluate the need for capacity and operational improvements along I-275 from 54th Avenue South to north of 4th Street North in Pinellas County, a distance of approximately 16.3 miles. The objective of this PD&E Study was to provide documented environmental and engineering analyses to assist the FDOT and the Federal Highway Administration (FHWA) in reaching a decision on the type, conceptual design and location of the necessary improvements within the I-275 PD&E Study limits.

Several multimodal transportation planning studies for the I-275 PD&E Study Corridor within Pinellas County have been completed while others are presently underway. The findings from these studies are assisting the FDOT in identifying transportation improvements needed to adequately meet local and regional travel demands, as well as to support the development of the PD&E Study's Preferred Alternative. The following sections describe the relevant multimodal planning studies prepared for the I-275 corridor in Pinellas County.

1.2.1 Tampa Bay Express (TBX) Master Plan

FDOT District Seven developed the TBX Master Plan that indicates on which interstate facilities, and specific freeway segments of these facilities, it would be cost feasible to implement express lanes. This Plan ensures that the impacts of implementing express lanes on the Tampa Bay interstate system would be evaluated on a system-wide basis in lieu of treating each corridor as its own stand-alone project. The I-275 PD&E Study incorporates the TBX Master Plan improvements proposed for the I-275 study corridor as part of the Preferred Alternative along with the lane continuity improvements which would occur generally between 54th Avenue South to south of Gandy Boulevard.

Realizing a potential shortfall in funding for implementation of the Plan's ultimate capacity improvements planned for the Tampa Bay Region, the FDOT underwent an evaluation to identify a series of lower cost express lane projects that can be funded in the FDOT's Five-Year Work Program. These initial projects could be built within a five-year or less time period and then later be incorporated into the Master Plan projects at minimal additional costs. The shorter-term, lower-cost improvements are considered the "Starter Projects."

Further information regarding the development of the Master Plan and its proposed projects are documented in the TBX Master Plan document.

1.2.2 Pinellas Alternative Analysis (AA)

In addition to addressing highway capacity deficiencies, this PD&E Study also considered multimodal accommodations envisioned for the I-275 study corridor and its regional connections to the rest of Tampa Bay. The Tampa Bay Area Regional Transportation Authority (TBARTA) adopted a Transportation Master Plan for Citrus, Hernando, Hillsborough, Manatee, Pasco, Pinellas, and Sarasota Counties in May 2009. While considering all modes of transportation, the TBARTA Master Plan focused on providing the framework for an integrated transit system to serve all parts of the region. In 2009, the Hillsborough, Pinellas, Pasco, and Hernando County Metropolitan Planning Organizations (MPOs) and Citrus County all adopted the TBARTA Mid Term (2035) Networks in their 2035 Needs plans and included several key elements of the Master Plan in their 2035 Cost Affordable Long Range Transportation Plans (LRTPs).

As a first step in moving toward implementation of this Plan, the Hillsborough Area Regional Transit Authority (HART) had undertaken an AA for a light rail transit corridor running from the University of South Florida, through downtown Tampa, to the Westshore area. This HART analysis included a service connection to a proposed High Speed Rail station in downtown Tampa. A second AA has been completed by the FDOT, TBARTA, the Pinellas County MPO and the Pinellas Suncoast Transit Authority (PSTA) for a premium transit corridor from downtown St. Petersburg, through the Pinellas Gateway area, to downtown Clearwater. In addition, the FDOT, local transit agencies, and MPOs have planned several Regional Transit Corridor Evaluations for other elements of the TBARTA Master Plan.

The 2012 Pinellas AA evaluated transit options connecting major residential, employment and activity centers in Pinellas County to Hillsborough County via the Howard Frankland Bridge corridor. The study identified a 24-mile light rail Locally Preferred Alternative (LPA) for its ability to offer transportation options that are safe, sustainable, affordable, and efficient. Significant countywide local bus enhancements were recommended to support the LPA, nearly doubling the existing local bus service with portions being implemented before the light rail.

A key element of the TBARTA Master Plan is to provide a transit linkage across Upper Tampa Bay linking Hillsborough and Pinellas Counties. Specifically, both the TBARTA Master Plan and the MPO LRTPs call for the linkage to be provided across the Howard Frankland Bridge (I-275/SR 93) corridor. This linkage would run from Hillsborough County's proposed Westshore Regional Multimodal Center (service connection to the proposed High Speed Rail Station in downtown Tampa) to Pinellas County's proposed Gateway Station. These stations would not serve as termini, but would allow uninterrupted transit movements from the St. Petersburg and Clearwater areas across the Howard Frankland Bridge to and through Tampa's Central Business District (CBD) and vice versa. However, for this linkage to be possible, the Howard Frankland Bridge corridor must be able to accommodate the appropriate transit provisions. The FDOT plans to replace the northbound Howard Frankland Bridge in the future since it is approaching the end of its useful service life. Therefore, the I-275 PD&E Study will provide recommended improvements that provide the transit accommodations envisioned by TBARTA and the needed highway improvements consistent with the planned northbound bridge replacement.

1.2.3 Lane Continuity Study

Completed in October 2008, the I-275 Lane Continuity Study evaluated operational improvements on I-275 from the Sunshine Skyway Bridge North Toll Plaza to Gandy Boulevard in Pinellas County. The study documented existing and future operational and safety conditions within the corridor for the purposes of recommending possible improvements to alleviate identified deficiencies. The study addressed both short-term traffic operational type improvements and longer-term major geometric improvements. As a long range improvement, the study recommended providing lane improvements to achieve one additional continuous lane on I-275 in each direction from 54th Avenue South to Gandy Boulevard.

The I-275 Pinellas PD&E Study incorporated and updated the Lane Continuity Study recommendations. Currently, I-275 from south of 54th Avenue South to 4th Street North has one continuous lane in the northbound direction and no continuous lanes in the southbound direction. According to the previous Lane Continuity Study recommendations, proposed lane additions to I-275 are anticipated to provide three continuous lanes in the northbound direction and two continuous lanes in the southbound direction between 54th Avenue South and 4th Street North. These new lane connections will improve the safety for motorists traveling the I-275 corridor by substantially reducing

the number of lane changes for both directions of travel. The study also recommended modifications to certain interchanges within the study limits, allowing for a more refined analysis of those locations.

1.2.4 National Environmental Policy Act (NEPA) Process

The proposed project has been evaluated through the FDOT's Efficient Transportation Decision Making (ETDM) process. Agency coordination for this project has been initiated as part of ETDM Project Number 12556. The FDOT received Location Design and Concept Acceptance (LDCA) from FHWA on July 15, 2016 for lane continuity improvements along I-275 from 54th Avenue South to south of Gandy Boulevard and express lane improvements related to the TBX Master Plan project along I-275 from south of Gandy Boulevard to north of 4th Street North.

1.3 Existing Conditions

I-275 is a limited access urban interstate highway facility that runs in a north and south direction through Pinellas County. The posted speed limit is 65 miles per hour (mph). Within the project limits, I-275 is comprised of a four-lane divided typical section with auxiliary lanes from south of 54th Avenue South to I-375. From I-375 to north of 4th Street North, I-275 is comprised of a six-lane divided typical section with auxiliary lanes.

The existing roadway typical sections, as shown on **Figure 1.2(a-f)**, are described as follows:

- Segment A (from south of 54th Avenue South to I-175): consists of four 12-foot general purpose travel lanes, two 12-foot auxiliary travel lanes, 12-foot inside and outside shoulders (10-foot paved) and generally open drainage with a median width that varies from 64 to 212 feet;
- Segment B (from I-175 to south of Gandy Boulevard): consists of six 12-foot general purpose travel lanes, two or four 12-foot auxiliary travel lanes, 12-foot inside and outside shoulders (10-foot paved) and generally open drainage with a median width that varies from 64 to 204 feet; and
- Segment C (from south of Gandy Boulevard to north of 4th Street North): There are four separate typical sections within Segment C (labeled separately as C1-C4).
    - C-1 (from south of Gandy Boulevard to Roosevelt Boulevard) consists of six 12-foot general purpose travel lanes, two or four 12-foot auxiliary travel lanes, 12-foot inside and outside shoulders (10-foot paved) and generally open drainage with a median width that varies from 64 to 204 feet;
    - C-2 (from Roosevelt Boulevard to south of 9th Street North): consists of six 12-foot general purpose travel lanes, zero to four 12-foot auxiliary travel lanes, 12-foot inside and outside shoulders (10-foot paved) and generally open drainage with a median width of 40 feet;
    - C-3 (from south of 9th Street North to north of 4th Street North): consists of six 12-foot general purpose travel lanes, two to four 12-foot auxiliary travel lanes, 12-foot inside and outside shoulders (10-foot paved) with a 26-foot wide concrete median containing a two-foot traffic barrier used to separate northbound and southbound traffic on I-275;
    - C-4 (from north of 4th Street North to 1.0 mile south of the Howard Frankland Bridge): the I-275 causeway consists of six 12-foot general purpose travel lanes, two 12-foot auxiliary lanes, 10-foot paved inside and outside shoulders, and a 22-foot median. The face of the outside barrier mounted on the sea walls is approximately 40 feet from the travel lanes.

No dedicated transit facilities, frontage roads or high-occupancy vehicle (HOV) lanes are currently provided within any of the I-275 mainline Segments. I-275 includes 15 interchanges within the project limits:

1. 54th Avenue South;
2. 26th Avenue South;
3. 22nd Avenue South;
4. 31st Street South;
5. 28th Street South;
6. I-175;
7. I-375;
8. 5th Avenue North;
9. 22nd Avenue North;
10. 38th Avenue North;
11. 54th Avenue North;
12. Gandy Boulevard;
13. Roosevelt Boulevard /118th Avenue North;
14. Ulmerton Road/9th Street North; and
15. 4th Street North.

Figure 1.2. Existing Typical Sections

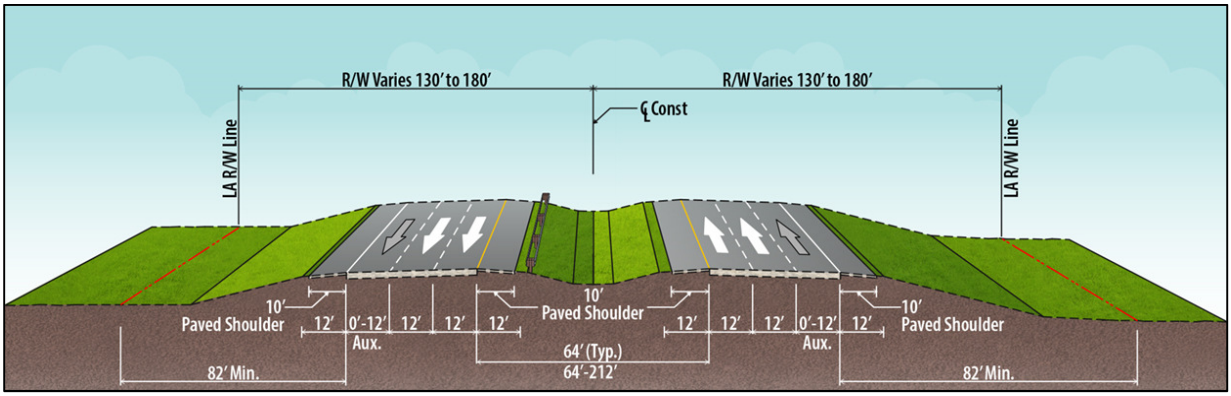


Figure 1.2a. Existing I-275 Mainline Typical Section from south of 54th Avenue South to I-175 (Segment A)

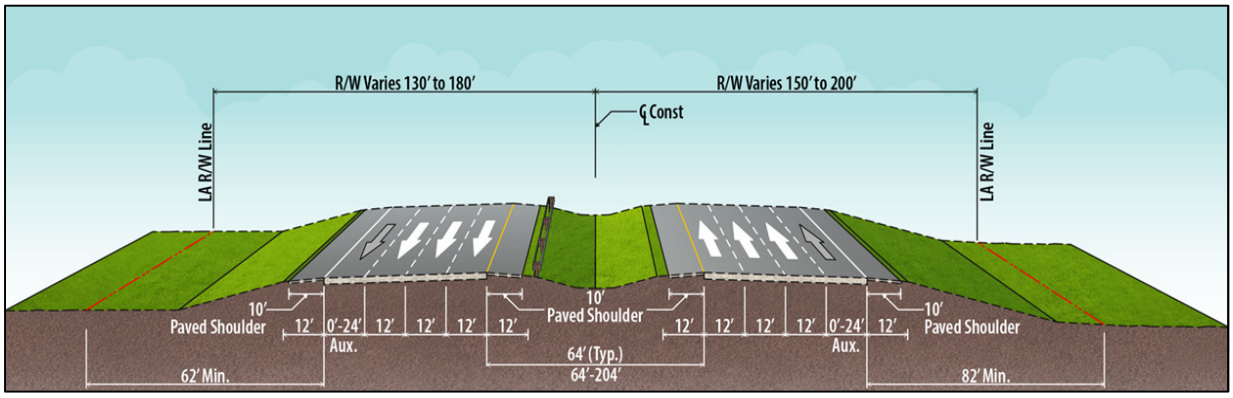


Figure 1.2b. Existing I-275 Mainline Typical Section from I-175 to south of Gandy Boulevard (Segment B)

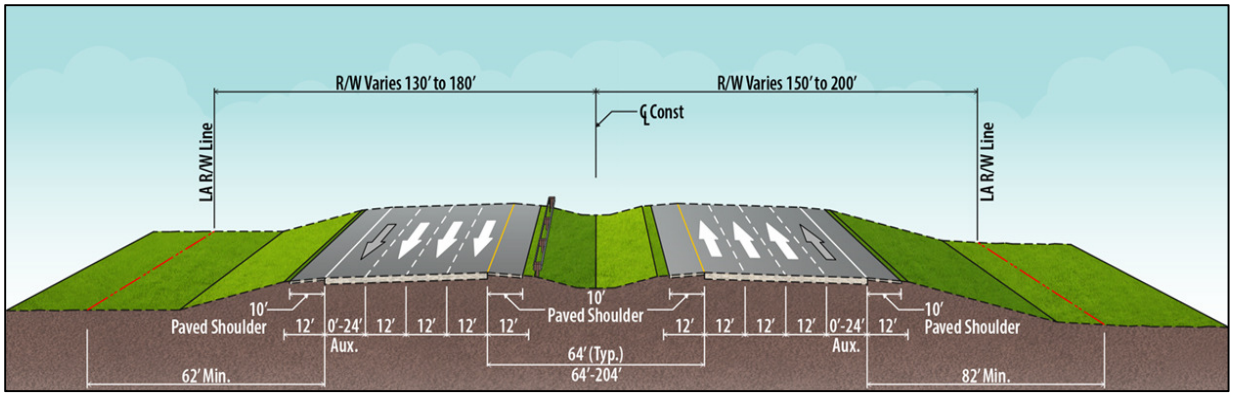


Figure 1.2c. Existing I-275 Mainline Typical Section from south of Gandy Boulevard to Roosevelt Boulevard (Segment C-1)

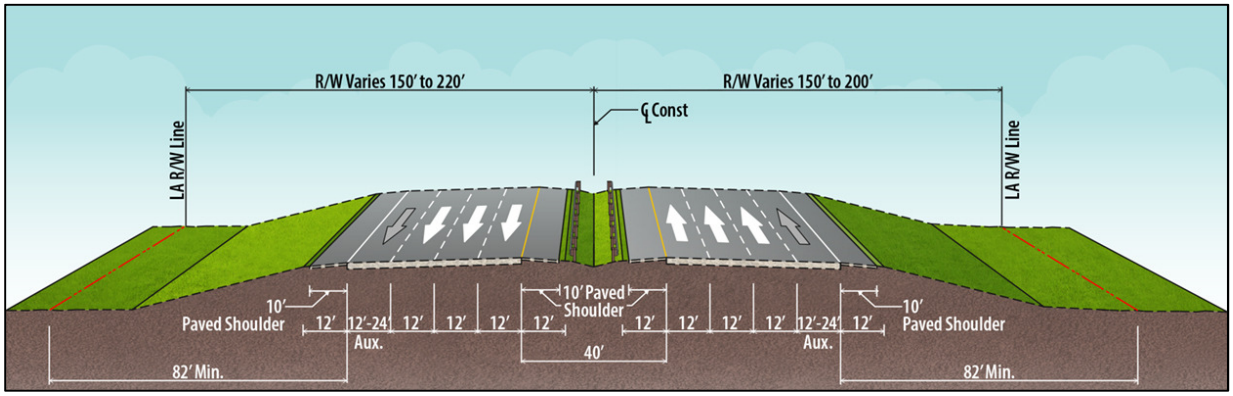


Figure 1.2d. Existing I-275 Mainline Typical Section from Roosevelt Boulevard to south of 9th Street North (Segment C-2)

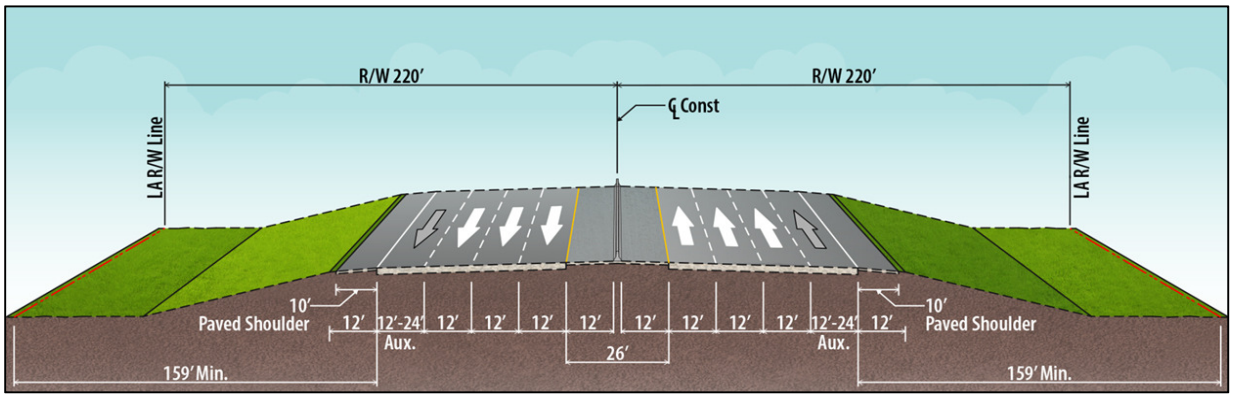


Figure 1.2e. Existing I-275 Mainline Typical Section from south of 9th Street North to south of 4th Street North (Segment C-3)

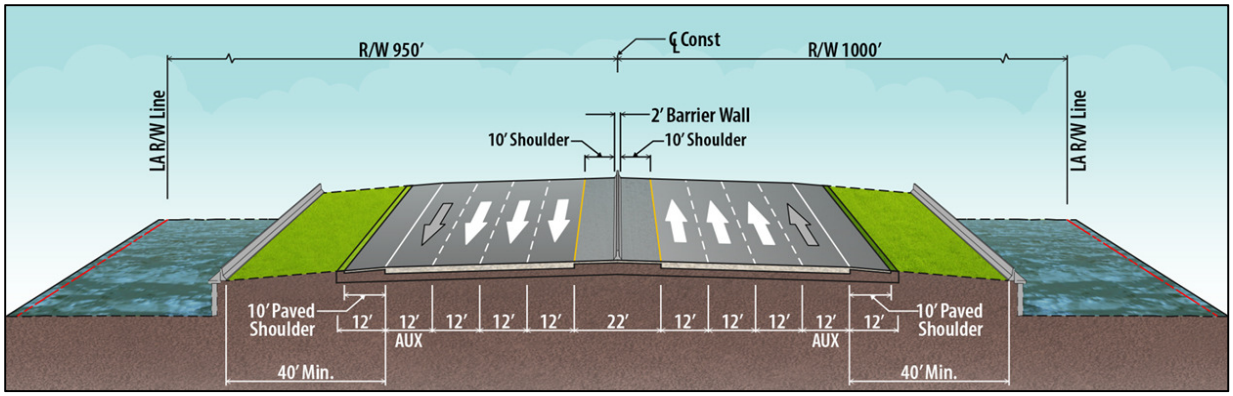


Figure 1.2f. Existing I-275 Mainline Typical Section from south of 4th Street North to 1.0 mile south of Howard Frankland Bridge (Segment C-4)

1.4 Project Purpose and Need

The purpose of this project is to provide for operational and safety improvements that maximize capacity within the I-275 corridor, improve lane continuity and connect I-275 within Pinellas County to the future network of express lanes planned for the Tampa Bay Region. Improvements are needed within the I-275 corridor to help alleviate existing traffic congestion, enhance safety and better accommodate future travel demands associated with projected growth in employment and population. The addition of special use/express lanes is included in the FDOT's Approved SIS Highway Component 2040 Cost Feasible Plan.

In 2012, Annual Average Daily Traffic (AADT) volumes on I-275 ranged from a low of 82,000 vehicles per day north of 54th Avenue South to a high of 142,500 vehicles per day north of 4th Street North. Under these existing traffic loadings, several sections along the I-275 mainline operate deficiently (Level of Service – LOS E) during both the morning and afternoon peak travel periods and does not meet the minimum LOS standard D for SIS highway facilities. Without improvements, the operating conditions along I-275 will continue to deteriorate, resulting in unacceptable levels of service throughout the entire study corridor.

The following information supports the proposed project's purpose and need:

Safety/Crash Rate Issues

Crash data from the Florida Department of Highway Safety and Motor Vehicles indicated there were 2,082 crashes recorded in the project limits during the five year period of 2009 through 2013. There were a total of 976 injuries and 18 fatalities. The crash rates were higher than the average statewide crash rate for urban interstates within the vicinity of certain interchanges within the project limits, and along mainline sections between 22nd Avenue and 54th Avenue North.

Safety within the project limits will be enhanced due to maximizing capacity that will be provided by the proposed lane continuity improvements on I-275. The lane continuity improvements will reduce driving decisions related to lane changes, thereby decreasing potential conflicts among vehicles.

Lane Continuity Issues

Currently, I-275 from south of 54th Avenue South to 4th Street North has one continuous lane in the northbound direction and no continuous lanes in the southbound direction. The proposed intermittent widening and restriping of existing lanes within I-275 Segments A and B comprise the lane continuity improvements that will form two continuous lanes on I-275 in each direction between 54th Avenue

South and 4th Street North; thereby improving the safety of motorists by reducing driving decisions which relate to lane changes and the incidence of associated crashes.

Managed/Special Use Lanes Intent

I-275 Segment C is a component of the Tampa Bay Express (TBX) toll lanes. As part of the TBX Master Plan, one tolled lane is to be added to I-275 in each direction from Gandy Boulevard to 118th Avenue North. From 118th Avenue North to north of 4th Street North, two tolled lanes will be provided in each direction on I-275. Access will be provided between the tolled and non-tolled lanes near Gandy Boulevard, at 118th Avenue North, and between 4th Street North and the Howard Frankland Bridge.

Proposed Improvements

The proposed action involves the provision of capacity and operational improvements along 16.3 miles of I-275 from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida. This evaluation considers the operational and highway safety benefits of implementing capacity improvements and compares them to the cost savings and minimization of adverse impacts associated with a No Build Alternative. The No Build and Build Alternatives are evaluated and compared based on a variety of parameters utilizing a matrix format. This process identifies the alternative that best balances the benefits (such as improved traffic operations and safety) with the impacts (such as environmental effects and construction costs). In addition to capacity and operational improvements, the proposed action also considers the multimodal transportation needs of the I-275 project corridor, specifically incorporation of a multimodal envelope as part of the proposed improvements in order to be consistent with the Locally Preferred Alternative (LPA) of the Pinellas Alternatives Analysis (AA).

The Preferred Build Alternative consists of providing lane continuity improvements within Segments A and B (from south of 54th Avenue South to south of Gandy Boulevard), and express lane improvements in Segment C (from south of Gandy Boulevard to north of 4th Street North). The lane continuity improvements consists of intermittent widening and restriping of existing lanes on I-275 to form two continuous lanes in each direction. In Segment B, a 40-foot (ft) multimodal transportation envelope within the I-275 median is preserved for the future implementation of light rail transit use envisioned as part of the Federal Transit Administration (FTA) approved Pinellas AA. The express lanes proposed in Segment C are part of the Tampa Bay Express (TBX) Master Plan, which consists of an integrated system of express lanes identified for the Tampa Bay Region.

The I-275 interchange modifications proposed within the project segments are as follows, these future interchange improvements will be further analyzed in appropriate interchange analysis documents:

Segment A

- 31st Street South – moving SB on ramp from a left hand merge to a right hand merge

Segment B

- 5th Avenue North – SB off ramp contains a new auxiliary lane (connected with 22nd Avenue North)
- 22nd Avenue North – SB on ramp contains a new auxiliary lane with connection to 5th Avenue North
- 38th Avenue North – Additional lane on NB off ramp (from 1 to 2).

Segment C

- 118th Avenue – new GUL and SUL ramps
- Roosevelt Boulevard – new GUL NB on ramp
- MLK Boulevard – NB on ramp widening
- Ulmerton Boulevard – NB on ramp widening
- 4th Street North – NB on ramp and SB off-ramp widening

The proposed express lane improvements initially considers (prior to the design year 2040) one express lane (EL) in each direction of I-275 from south of Gandy Boulevard to north of 4th Street North. This near-term express lanes project is known as the Starter Project. The longer-term Master Plan Project shall provide for one EL in each direction of I-275 from south of Gandy Boulevard to 118th Avenue North/Roosevelt Boulevard and two ELs in each direction of I-275 from 118th Avenue North/Roosevelt Boulevard to north of 4th Street North. The separately prepared Final Preliminary Engineering Report (PER) documents the engineering and environmental analyses conducted to assess the environmental and sociocultural effects of implementing the No Build and Build Alternatives.

1.5 Memorandum Purpose

This Design Traffic Technical Memorandum (DTTM) is one of several documents prepared as part of the PD&E Study. The DDTM documents the project's existing and future traffic conditions and defines the needed lane geometry and traffic control features to achieve acceptable levels of service in the design year (2040).

2.0 Improvement Alternatives

This DTTM was prepared as part of the PD&E Study to document the existing travel conditions along I-275, present traffic forecasts of the opening year (2020), interim year (2030) and design year (2040) travel demand along I-275 and the crossing corridors, and summarize level of service evaluations of improvement alternatives for the I-275 mainline. The DTTM concluded that the proposed improvements should consist of providing lane continuity improvements only in Segment A (from south of 54th Avenue South to I-175), lane continuity improvements which are compatible with potential multimodal improvements in Segment B (from I-175 to south of Gandy Boulevard) and adding express lanes (ELs) to the existing general use lanes (GULs) in each direction of the I-275 mainline to form express lanes in study Segment C (from south of Gandy Boulevard to north of 4th Street North). For the express lane section, two ELs would be provided in each direction of the I-275 mainline to accommodate traffic volumes forecasted in the design year (2040) under the Master Plan scenario. Alternatively, one EL would be provided in each direction of the I-275 mainline under the Starter Project scenario, in order to cost effectively provide mobility options and preserve acceptable levels of service for the regional travelers prior to the design year.

2.1 No Build Alternative

The No Build Alternative assumes that, with the exception of the improvements that are already planned and funded, the existing conditions would remain for I-275 within the project limits and only routine maintenance activities would occur until the design year 2040. The advantages to the No Build Alternative include no new costs for design and construction, no effects to existing land uses and natural resources and no disruption to the public during construction. However, the No Build Alternative would not address the project's purpose and need and would result in increased congestion and user costs. The traffic analyses for this alternative indicates that by the year 2040 a significant portion of the I-275 mainline, merge/diverge areas and ramp termini intersections would operate below acceptable levels of service.

2.2 Mainline Build Alternatives

For the I-275 mainline, two build alternatives were developed and evaluated based on alternate typical sections. In Segments A and B, the build alternative consists of lane continuity improvements, while in Segment C express lanes are considered as the build alternative. The proposed lane continuity improvements in Segments A and B provide for intermittent widening and restriping of existing lanes on I-275 to form two continuous lanes in each direction. In Segment B, a 40-foot multimodal envelope is preserved for the future implementation of light rail transit within the I-275 median as part of the Federal Transit Administration (FTA) approved Pinellas AA.

As part of the Master Plan improvements in Segment C, a single express lane is to be added in the northbound direction of mainline I-275 north of Gandy Boulevard. A second express lane is added to the northbound I-275 mainline as a direct connection from the 118th Avenue North corridor. Only one access point, located between 4th Street North and the Howard Frankland Bridge, is provided for travel between ELs and GULs. In the southbound direction, two ELs on the I-275 mainline will originate from points north/east of the Howard Frankland Bridge, with one of the ELs terminating as a direct connection to the 118th Avenue North corridor, and the second southbound I-275 mainline EL will transition back into the GULs south of Gandy Boulevard. Similar to the northbound direction,

only one access point is to be located between the Howard Frankland Bridge and 4th Street North. The express lane typical section in Segment C generally consists of six GULs (three lanes in each direction) and four ELs (two in each direction). A marked four-foot buffer containing traffic delineators (i.e., vertical PVC flexible posts) separate the ELs and the GULs.

The Starter Project improvements in Segment C consist of re-designating the existing auxiliary lanes on mainline I-275 to form a single express lane in each direction from south of the Roosevelt Boulevard corridor to the Howard Frankland Bridge. Access to the EL from the GULs is provided at three locations along the northbound I-275 mainline: 1) between Gandy Boulevard and Roosevelt Boulevard, 2) a direct connection from the 118th Avenue North corridor, and 3) between 4th Street North and the Howard Frankland Bridge. In the southbound direction of mainline I-275, the single express lane originating from points north/east of the Howard Frankland Bridge will terminate south of Gandy Boulevard. Access from the EL to the GULs is provided at three locations along the southbound I-275 mainline: 1) between the Howard Frankland Bridge and 4th Street North, 2) a direction connection to the 118th Avenue North corridor, and 3) between Gandy Boulevard and 54th Avenue North.

The widening of I-275, under both lane continuity and Starter and Master Plan express lane mainline alternatives, can be constructed within the existing right of way. Additional right of way may be required, however, for stormwater management facilities and floodplain compensation sites.

A detailed description of each mainline alternative is provided in the following pages, and a graphical depiction of the conceptual design layout of the proposed build alternative is provided in **Appendix A**.

2.2.1 Mainline Build Alternative – Segment A

Mainline Build Alternative – Segment A, proposed lane continuity improvements mainly consists of providing intermittent widening that varies between 0 and 12 ft and restriping of the existing four-lane typical section with auxiliary lanes. The proposed I-275 mainline build alternative typical section in Segment A is shown on **Figure 2.1**. As seen in this graphic, widening of I-275 is only proposed to the outside in the southbound direction.

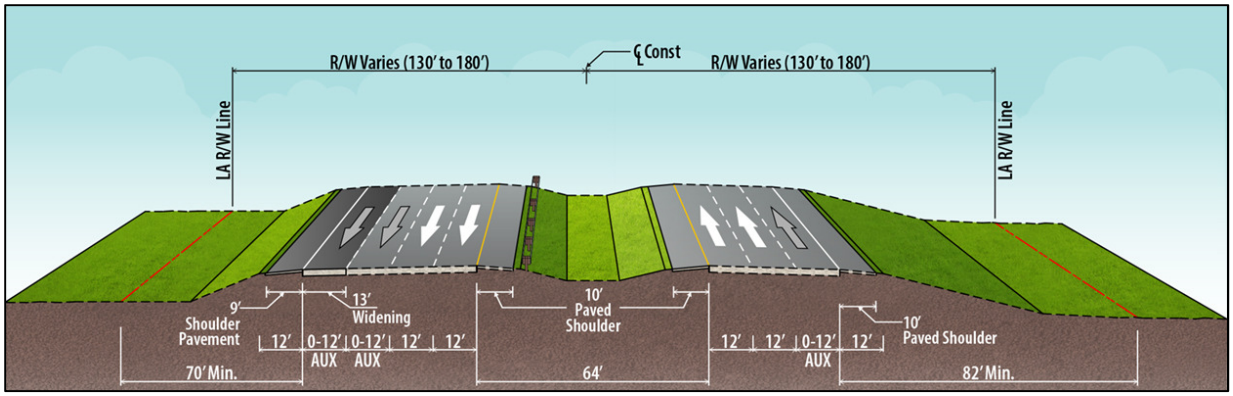


Figure 2.1. I-275 Mainline Build Alternative Typical Section from south of 54th Avenue to I-175 (Segment A)

2.2.2 Mainline Build Alternative – Segment B

Mainline Build Alternative – Segment B, proposed lane continuity improvements mainly consists of providing intermittent widening that varies between 0 and 24 ft and restriping of the existing six-lane typical section with auxiliary lanes. As previously mentioned in Section 2.2, lane continuity improvements and accommodations for future light rail transit within the I-275 median as planned in the Pinellas Alternatives Analysis are provided. The proposed I-275 mainline build alternative typical section in Segment B is shown on **Figure 2.2**.

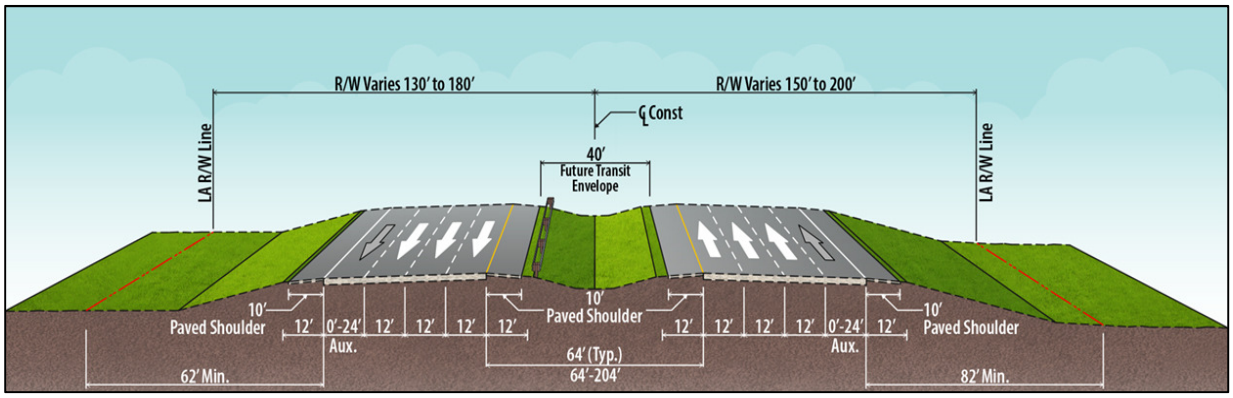


Figure 2.2. I-275 Mainline Build Alternative Typical Section from I-175 to south of Gandy Boulevard (Segment B)

2.2.3 Mainline Build Alternative – Segment C

Mainline Build Alternative – Segment C, proposed widening of I-275 consists of the addition of express lanes to form the Master Plan and Starter projects. The proposed I-275 mainline build alternative typical sections in Segment C are shown **Figure 2.3(a-d)** and **Figure 2.4(a-c)** for the Master and Starter projects, respectively.

2.2.3.1 Proposed Master Plan Improvements

The Master Plan proposes to widen the existing I-275 mainline towards the median in order to accommodate one EL in each direction from south of Gandy Boulevard to 118th Avenue North (see **Figure 2.3a** for a graphical depiction of the proposed typical section). The proposed ELs are to be

separated from the GULS by a four-foot painted buffer that is to contain traffic delineators. Direct connections from the 118th Avenue North/Gateway corridor to I-275 are provided via new flyover ramps that enter and exit I-275 from the median. **Figure 2.3b** illustrates the use of Mechanically Stabilized Earth (MSE) wall to transition 118th Avenue North flyover ramps to the at-grade I-275 mainline. From 118th Avenue North to 1.0 mile south of the Howard Frankland Bridge, two express lanes are provided in each direction of travel along I-275 (see **Figure 2.3c** and **Figure 2.3d**). In order to accommodate the proposed express lanes, the existing I-275 causeway extending into Tampa Bay will need to be widened and the existing sea wall replaced.

Figure 2.3. I-275 Mainline Build Alternative Typical Sections – Master Plan Project

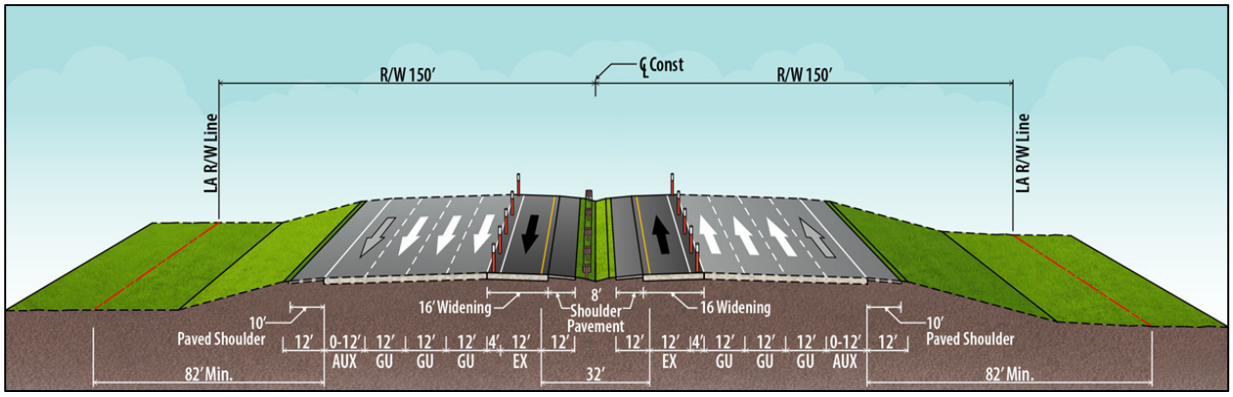


Figure 2.3a. I-275 Mainline Master Plan Build Alternative Typical Section from south of Gandy Boulevard to Roosevelt Boulevard (Segment C-MP1)

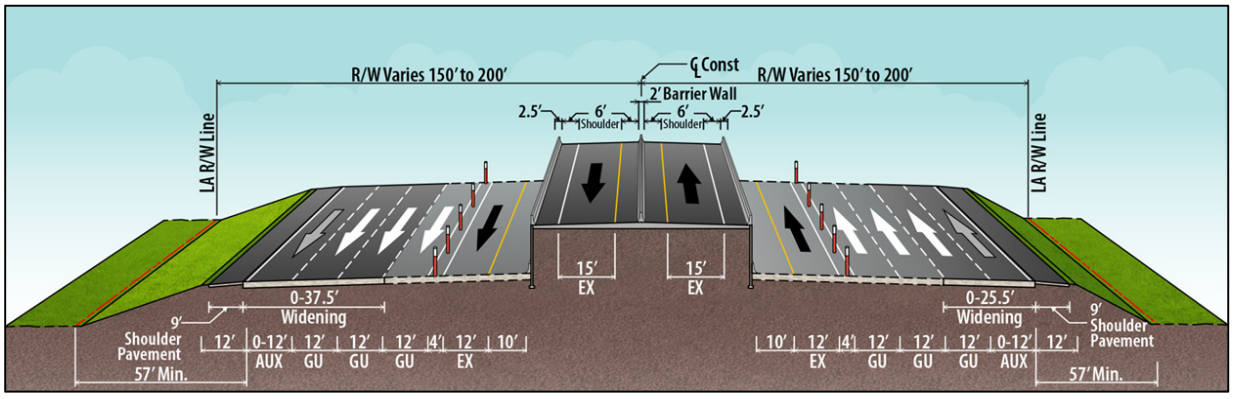


Figure 2.3b. I-275 Mainline Master Plan Build Alternative Typical Section from Roosevelt Boulevard to south of 9th Street North (Segment C-MP2)

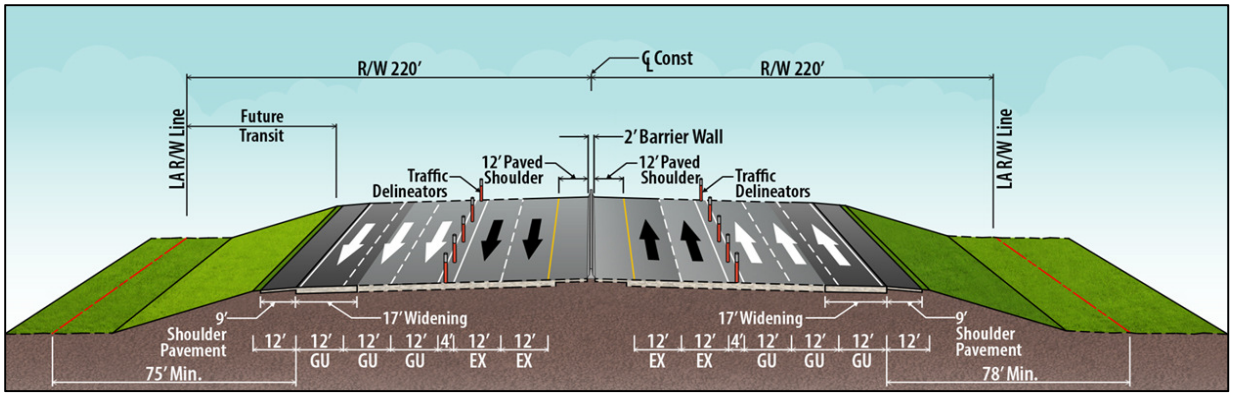


Figure 2.3c. I-275 Mainline Master Plan Build Alternative Typical Section from south of 9th Street North to north of 4th Street North (Segment C-MP3)

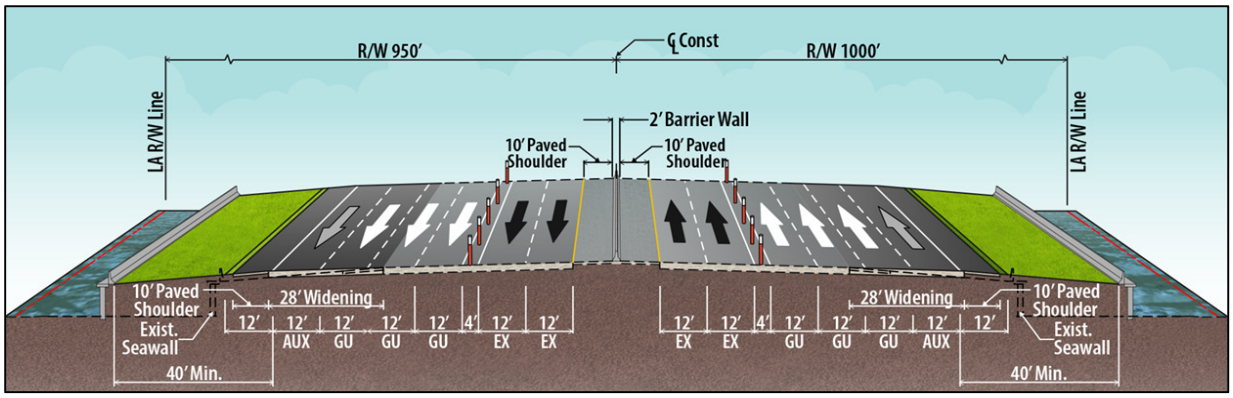


Figure 2.3d. I-275 Mainline Master Plan Build Alternative Typical Section from north of 4th Street North to 1.0 mile south of the Howard Frankland Bridge (Segment C-MP4)

2.2.3.2 Proposed Starter Project Improvements

The Starter Project improvements are similar to those of the Master Plan, with the exception that instead of two express lanes proposed in each direction of I-275 under the Master Plan Project, only one lane is provided in each direction of I-275. The southern termini of the Starter Project express lane improvements consist of a lane addition north of Gandy Boulevard, and in the southbound direction the proposed inside (i.e., towards the median) express lane transitions back into the existing southbound I-275 typical section south of Gandy Boulevard.

The Starter Plan proposes to widen the existing I-275 mainline towards the median in order to accommodate one EL in each direction from south of Gandy Boulevard to 118th Avenue North (see **Figure 2.4a** for a graphical depiction of the proposed typical section). As illustrated on **Figure 2.4b**, an MSE wall is utilized in the design of the direct connection to transition 118th Avenue flyover ramps into the at-grade I-275 mainline just south of 9th Street North. The remaining limits of the Starter Project, from north of 9th Street to 1.0 mile south of the Howard Frankland Bridge, involve outside widening and re-designating the existing auxiliary lane on I-275 to form an express lane to the inside. As shown on **Figure 2.4c** and **Figure 2.4d**, no additional travel lanes above-and-beyond the number of existing travel lanes are added under the Starter Project north of 9th Street North.

Figure 2.4. I-275 Mainline Build Alternative Typical Sections – Starter Project

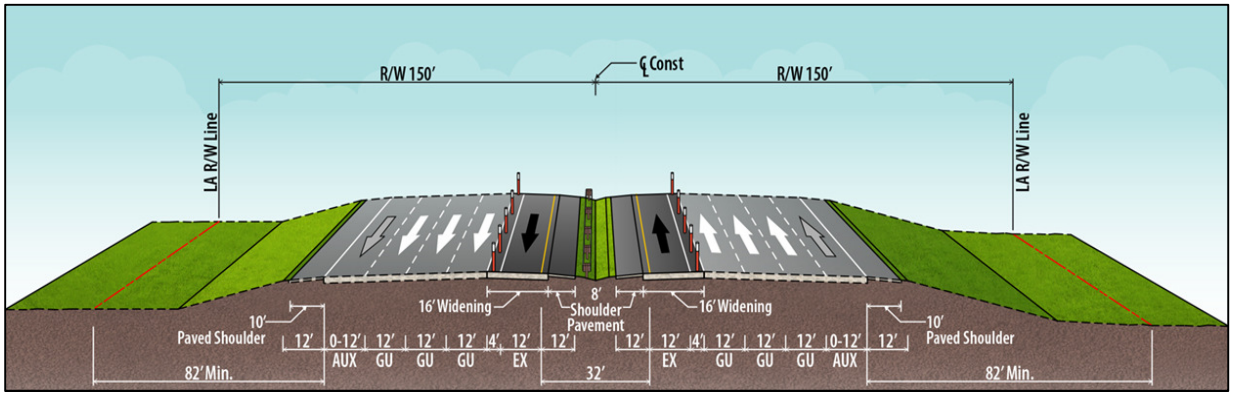


Figure 2.4a. I-275 Mainline Starter Project Build Alternative Typical Section from south of Gandy Boulevard to Roosevelt Boulevard (Segment C-SP1)

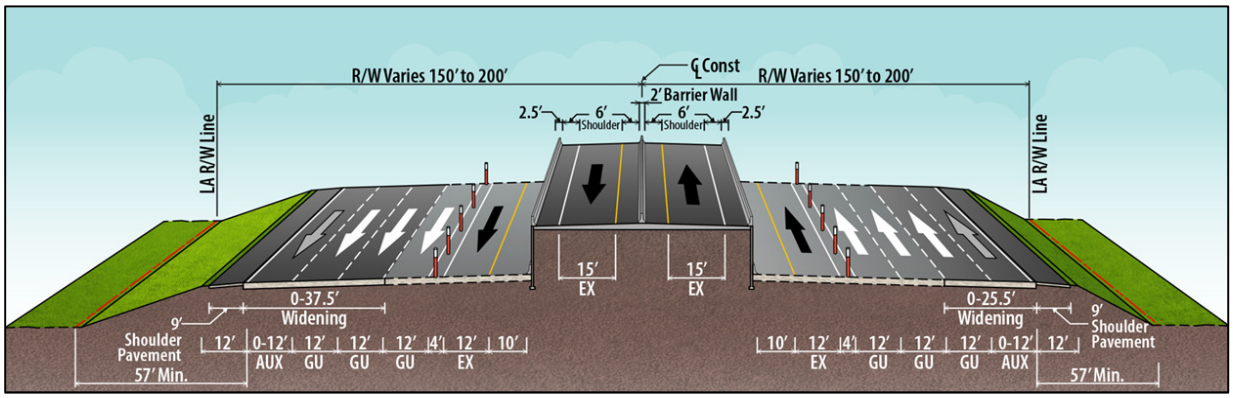


Figure 2.4b. I-275 Mainline Starter Project Build Alternative Typical Section from Roosevelt Boulevard to south of 9th Street North (Segment C-SP2)

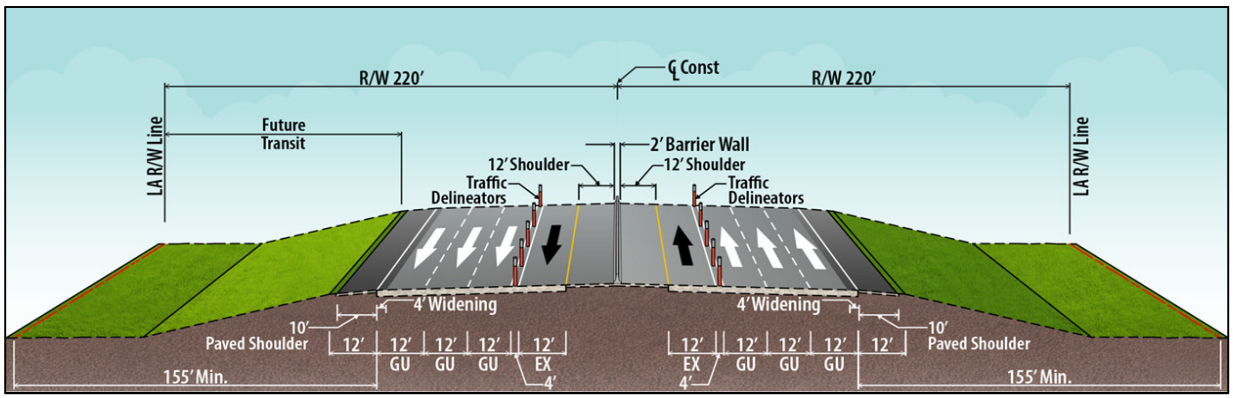


Figure 2.4c. I-275 Mainline Starter Project Build Alternative Typical Section from south of 9th Street North to north of 4th Street North (Segment C-SP3)

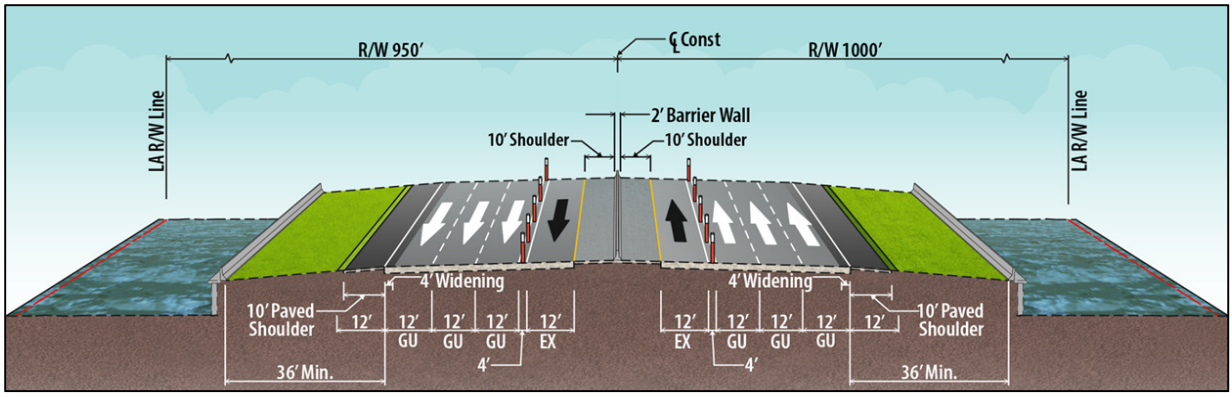


Figure 2.4d. I-275 Mainline Starter Project Build Alternative Typical Section from north of 4th Street North to 1.0 mile south of the Howard Frankland Bridge (Segment C-SP4)

3.0 Methodology

3.1 Methodology Statement

The methodology and procedures employed to analyze and evaluate existing and future traffic operations within the I-275 study corridor are defined in the Methodology Letter of Understanding (MLOU) prepared for the I-275 Systems Interchange Modification Report (SIMR). A copy of the FHWA-approved MLOU is provided in **Appendix B.** As previously discussed, the I-275 study corridor in Pinellas County is part of the system of express lanes improvement proposed for the Tampa Bay Region and described as the TBX Master Plan Project. In order to achieve consistent, predictable, and repeatable results among the various express lane projects, a common methodology for analysis has been employed in the I-275 PD&E Study.

3.2 Analysis Years and Alternatives

The analysis years and concepts analyzed include the following:

Existing Year: 2012 (Existing Configuration)

Opening Year: 2020 (Starter Project and Lane Continuity Improvements)

Interim Year: 2030 (Starter Project and Lane Continuity Improvements)

Design Year: 2040 (Master Project, No Build, and Lane Continuity Improvements)

3.3 Data Collection and Sources

Data collection for the study consists of information from various sources, which are comprised of existing information and field-collected data. Sources of existing information include:

- Straight Line Diagrams (SLDs)
- Latest Five-Year Crash History from FDOT Crash Analysis Reporting System (C.A.R.S.)
- Traffic Count Information from the Florida Traffic Information (FTI) DVD
- FDOT Standard Indexes
- Project Traffic Forecasting Handbook
- Quality/LOS Handbook
- FDOT Five-Year Work Program
- Tampa Bay Time of Day Model
- Pinellas County MPO 2035 LRTP
- Developments of Regional Impact (DRIs)
- TBARTA Master Plan

3.4 Operational Analysis Approach

The No Build, Starter Project, and Master Project scenarios from South of Gandy Boulevard to north of 4th Street North were analyzed in CORSIM, a microsimulation software program. The Measures of Effectiveness (MOEs) used for the analysis include density and average speed. The Lane Continuity Improvements for the freeway mainline and ramps from south of 54th Avenue South to south of Gandy Boulevard were analyzed using the Highway Capacity Software (HCS) 2010, which is based on the Highway Capacity Manual (HCM) 2010 methodology. Ramp terminal intersections within the Lane Continuity Improvement limits were analyzed using Synchro HCM 2010 reports and the HCS 2010. The minimum LOS standard for freeways, ramps, and arterials is LOS D.

3.5 Transportation System Management (TSM) Considerations

Transportation System Management (TSM) improvements were considered as part of the Lane Continuity Improvements from south of 54th Avenue South to south of Gandy Boulevard. TSM improvements may include adding lanes to on and off ramps, restriping to change lane designations, signal retiming, modifying stop-controlled intersections to signalized intersections, and addition of new or lengthening of existing right/left turn lanes.

4.0 Existing Conditions

4.1 Roadway and Interchange Characteristics

I-275 is a north-south freeway that is classified as an urban principal interstate. I-275 has between two and five (including auxiliary) 12-foot lanes in each direction, with paved outside shoulders. The following fifteen interchanges exist within the project limits:

- I-275/54th Avenue South
- I-275/26th Avenue South
- I-275/22nd Avenue South
- I-275/31st Avenue South
- I-275/28th Avenue South
- I-275/I-175
- I-275/I-375
- I-275/5th Avenue North
- I-275/22nd Avenue North
- I-275/38th Avenue North
- I-275/54th Avenue North
- I-275/Gandy Boulevard
- I-275/118th Avenue North/Roosevelt Boulevard
- I-275/Ulmerton Road/9th Street North
- I-275/4th Street North

The project is approximately 16.3 miles long. The I-275 existing posted speed is 65 mph. The intersection lane geometry is shown on **Figure 4.1**. The distances between the interchanges of interest are displayed in **Table 4-1** . The milepost was approximated from the I-275 straight line diagram, which can be found in **Appendix C**. The distance between mileposts was converted and rounded to the nearest 100 feet.

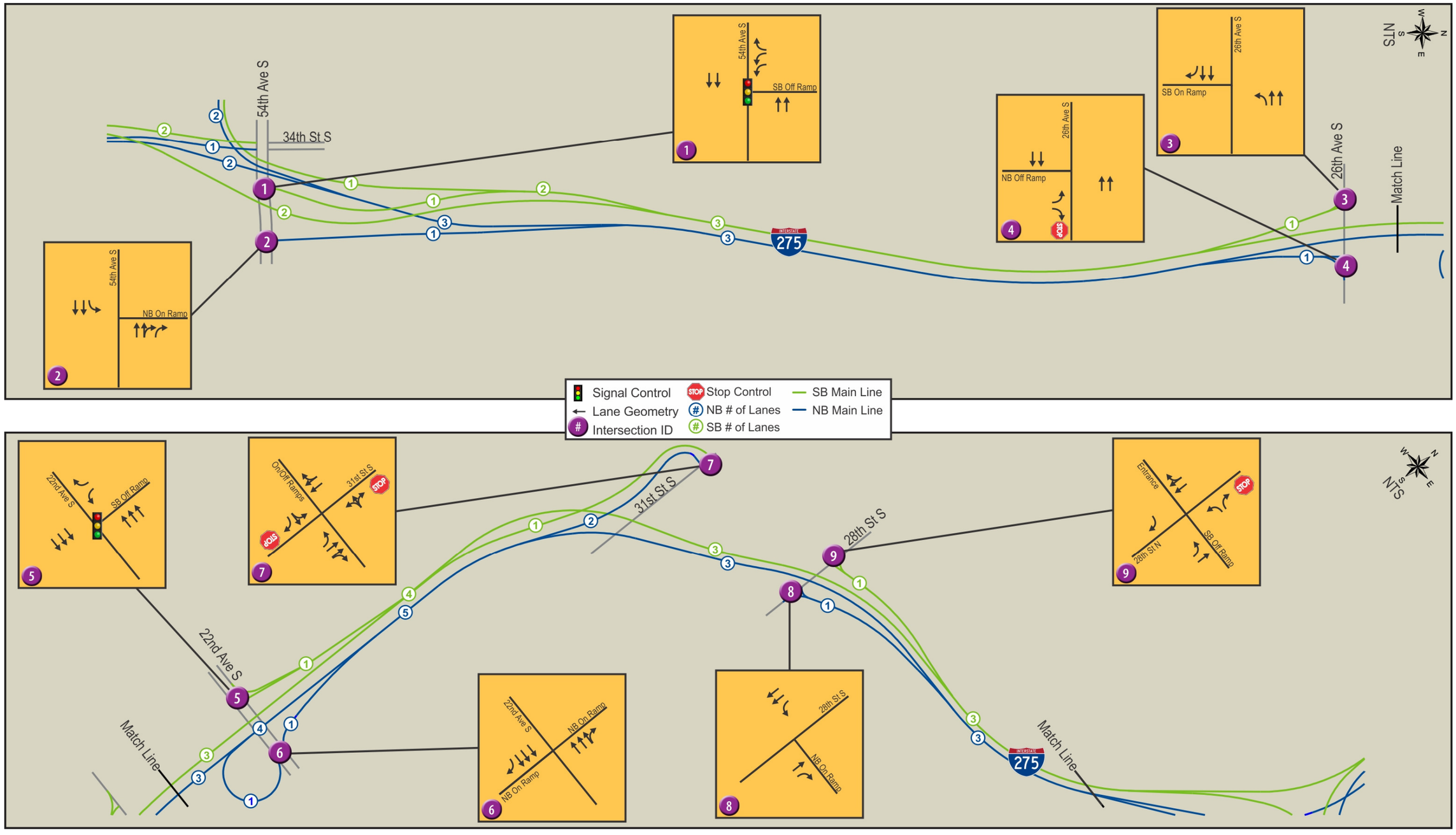


Figure 4.1. Existing Year (2012) Lane Geometry

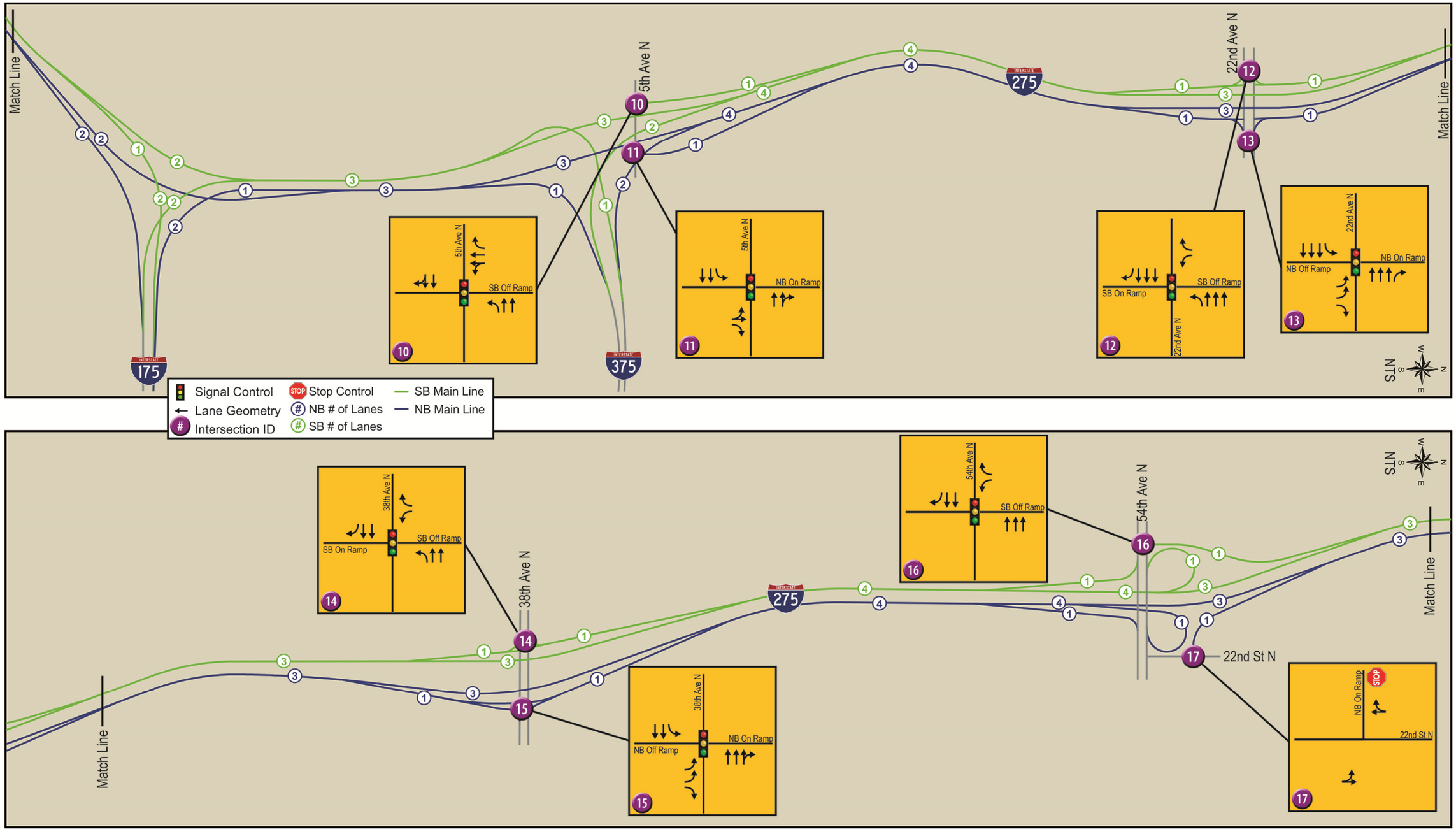


Figure 4.1. (Continued). Existing Year (2012) Lane Geometry

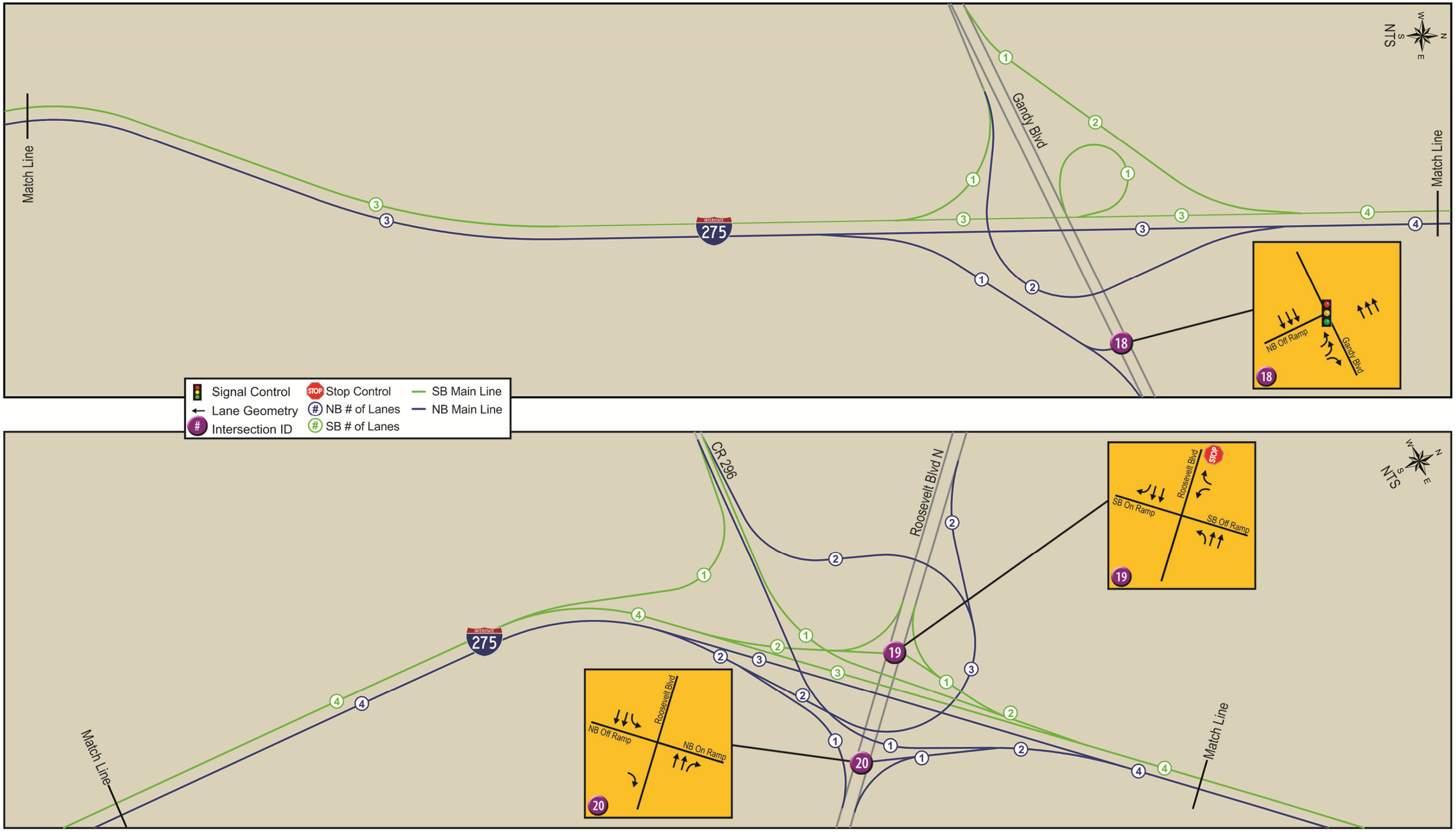


Figure 4.1. (Continued). Existing Year (2012) Lane Geometry

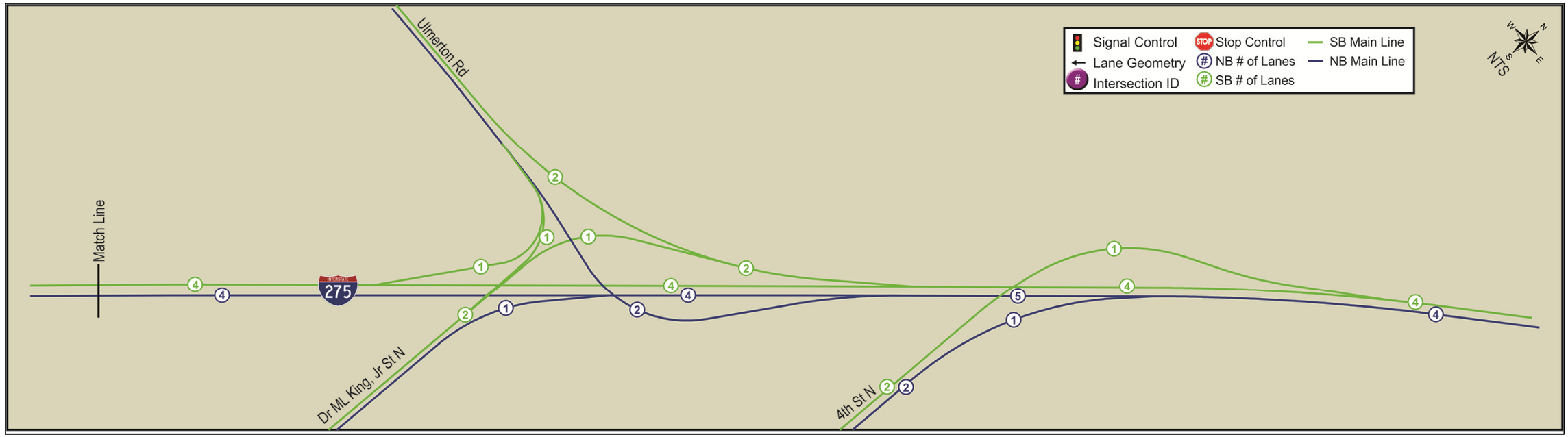


Figure 4.1. (Continued). Existing Year (2012) Lane Geometry

Table 4-1. Estimated Distance Between Study Interchanges

Cross Street	Milepost*	Distance (mi)	Rounded Distance (ft)
54th Ave S	0.521		
		1.784	9400
26th Ave S	2.305		
		0.248	1300
22nd Ave S	2.553		
		0.663	3500
31st St S	3.216		
		0.338	1800
28th St S	3.554		
		0.956	5000
I-175	4.510		
		0.680	3600
I-375	5.190		
		0.080	400
5th Ave N	5.270		
		1.027	5400
22nd Ave N	6.297		
		1.030	5400
38th Ave N	7.327		
		1.027	5400
54th Ave N	8.354		
		0.071	400
22nd St S	8.425		
		2.130	11200
Gandy Blvd	10.555		
		1.703	9000
118th Ave N	12.258		
		0.222	1200
Roosevelt Blvd N	12.480		
		1.123	5900
Dr MLK Jr St N	13.603		
		0.107	600
Ulmerton Rd	13.710		
		0.607	3200
4th St N	14.317		

*Mileposts are estimated using the straight line diagram for I-275.

4.2 Crash Data and Safety Analysis

Crash data within the I-275 project limits were obtained from the FDOT crash database for the years 2009 through 2013. A total of 2082 crashes were reported within the project limits for the years 2009 through 2013, for an average of 416 crashes per year. This translates to 26 crashes per mile per year along the 16.3 mile project corridor. **Figure 4.2** shows the total number of crashes within the

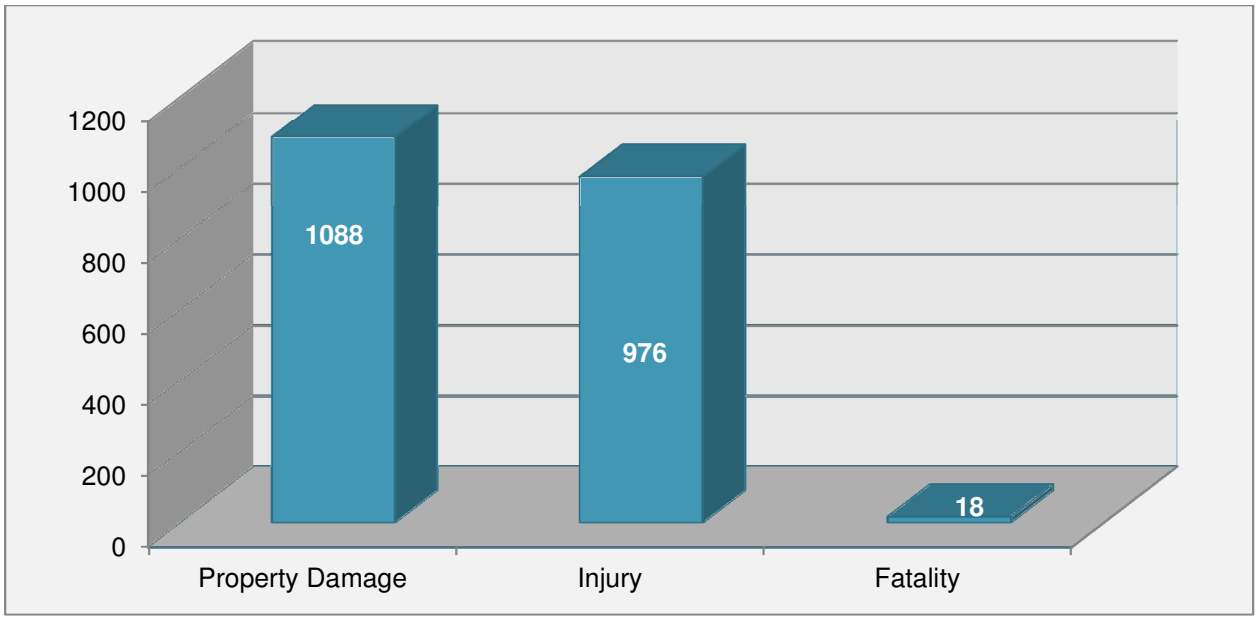


Figure 4.2. Number of Crashes involving Property Damage, Injury, or Fatality (2009-2013)

project area involving property damage, injury, or fatality. There were 1088 crashes that involved property damage, 976 crashes that involved injury, and 18 crashes that involved a fatality within the project limits for the years 2009 through 2013. Segment B had the highest total number of crashes (1149). **Figure 4.3** shows the crash totals and crash percentages by segment.

The average number of crashes for the study corridor is approximately 416 crashes per year. The crash rates along the 4.6-miles of Segment A vary from a low of 0.464 to a high of 0.901, which is greater than the average crash rate of 0.681 for similar interstate facilities. For Segment B, the crash rates vary from a low of 0.702 to 1.017, which is greater than the average crash rate of 0.681. Segment C observed crash rates lower than the average crash rate with a range of values from 0.367 to 0.615. Segments A and B typically involve a significant number of weaving and lane changing movements as drivers position their vehicles to enter or exit the I-275 mainline. Based on unit costs from the National Safety Council for 2012, the economic loss, or cost to society of these crashes, is estimated to be approximately $112.07 million over the 5 year period, as shown in **Table 4-2.**

In addition to the 2082 crashes that occurred on the mainline and ramps within the project limits, an additional 933 crashes occurred within the vicinity of several ramp terminal intersections that are within the corridor. **Figure 4.3** displays the amount of crashes per year by cross street. Only crashes that occurred within the nearest upstream and downstream intersections of the ramp terminal were included in this analysis. Gandy Boulevard had the highest total number of crashes (188) followed by 5th Avenue North (169) and Roosevelt Boulevard (168) over the 5-year period spanning from 2009 to 2013.

4.3 Data Collection

Traffic counts along the I-275 mainline from south of 54th Avenue South to north of 4th Street North and the interchange ramps within the I-275 study corridor originated from historical count information contained in the 2013 FTI DVD and supplemented with traffic data obtained from Pinellas County and recent FDOT studies, as shown in **Appendix C**. Vehicle turning movement counts were

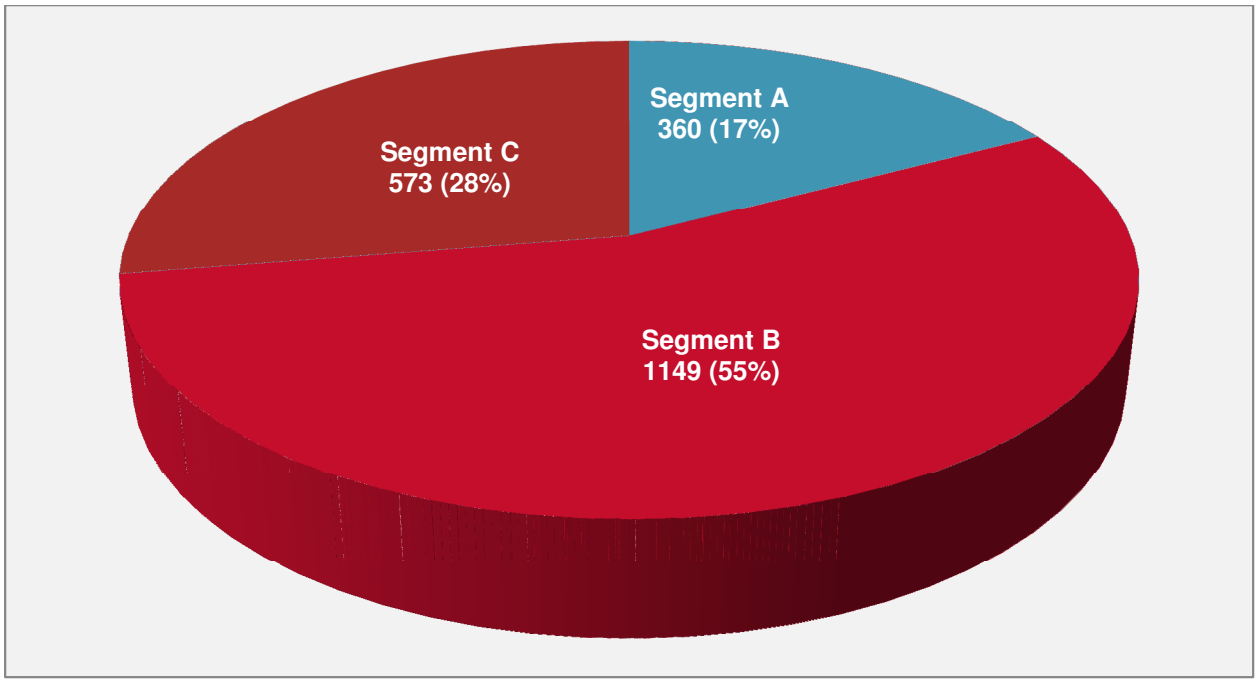


Figure 4.3. Segment Crash Frequency and Percentage

collected at all ramp terminal intersections from 7:00 AM to 9:00 AM and 4:00 PM and 6:00 PM. All turning movement counts, except for Gandy Boulevard, were collected on April 9-10, 2014. The counts for Gandy Boulevard were collected on November 15, 2012. The traffic count data can be found in **Appendix D**. The AM and PM global peak hours were determined to occur from 7:00 AM to 8:00 AM and from 4:45 PM to 5:45 PM, respectively. Travel time data collected on the I-275 mainline and vehicle queue lengths measured on the I-275 off ramps is shown in **Appendix E.** These data were used in calibrating the CORSIM model that was developed for the express lanes section of I-275 from south of Gandy Boulevard to north of 4th Street North. Signal timing plans for the signalized intersections were obtained from Pinellas County and the City of St. Petersburg. The signal timing plans can be found in **Appendix F**.

Table 4-2. Estimated Economic Loss from Crashes

Crash Type	Estimated 2012 Unit Cost	Estimated Number 2009 thru 2013*	Economic Loss
Fatality	$1,410,000	18	$25,380,000
Nonfatal Disabling Injury	$78,900	976	$77,006,400
Property Damage	$8,900	1088	$9,683,200
Total			$112,069,600

Note: *Within the project study limits

Table 4-3. Summary of Crashes at Ramp Terminal Intersections Within the Project Limits

Cross Street	Yearly Crash Frequency								Jurisdiction
	2009	2010	2011	2012	2013	Total	% of Total	Yearly Average	
54th Ave S	1	5	5	2	6	19	2.0%	3.8	City of St Petersburg
26th Ave S	0	0	0	1	2	3	0.3%	0.6	City of St Petersburg
22nd Ave S	9	17	13	17	13	69	7.4%	13.8	City of St Petersburg
31st St S	6	3	8	3	4	24	2.6%	4.8	City of St Petersburg
28th St S	2	5	1	2	3	13	1.4%	2.6	City of St Petersburg
5th Ave N	32	33	30	33	41	169	18.1%	33.8	City of St Petersburg
22nd Ave N	38	38	30	20	17	143	15.3%	28.6	City of St Petersburg
38th Ave N	22	32	30	23	21	128	13.7%	25.6	City of St Petersburg
54th Ave N	3	2	2	1	1	9	1.0%	1.8	City of St Petersburg
Gandy Blvd	44	40	23	35	46	188	20.2%	37.6	Pinellas County
Roosevelt Blvd	25	40	27	38	38	168	18.0%	33.6	Pinellas County
Total	182	215	169	175	192	933	100.0%	186.6	

4.4 Development of Existing Year (2012) Traffic Volumes

The existing year (2012) AADT and AM and PM peak-hour traffic volumes were provided by FDOT District Seven for the I-275 mainline and ramps. **Figure 4.4** and **Figure 4.5** show the existing year (2012) AADT and AM and PM peak hour traffic volumes, respectively.

4.5 Existing Year (2012) Traffic Operational Analysis

Traffic operational analyses of the I-275 study corridor were completed for I-275 basic freeway segments, merge/diverge areas of the mainline/ramp junctions and ramp terminal intersections. The HCS 2010 was utilized to evaluate existing freeway operations on the I-275 mainline within the lane continuity section of I-275 (i.e., Segments A and B, from south of 54th Avenue South to south of Gandy Boulevard). Due to the unique traffic characteristics associated with the express lane section of I-275 (i.e., Segment C, from south of Gandy Boulevard to north of 4th Street North), CORSIM microsimulation was employed to evaluate the operations of the ELs and GULs. The AM and PM peak period CORSIM models were calibrated for use in determining existing and future traffic operations. The CORSIM Calibration Memorandum can be found in **Appendix G**. The following sections present the key MOEs obtained from the use of the HCS 2010 and CORSIM software to assess the operations of the I-275 study corridor.

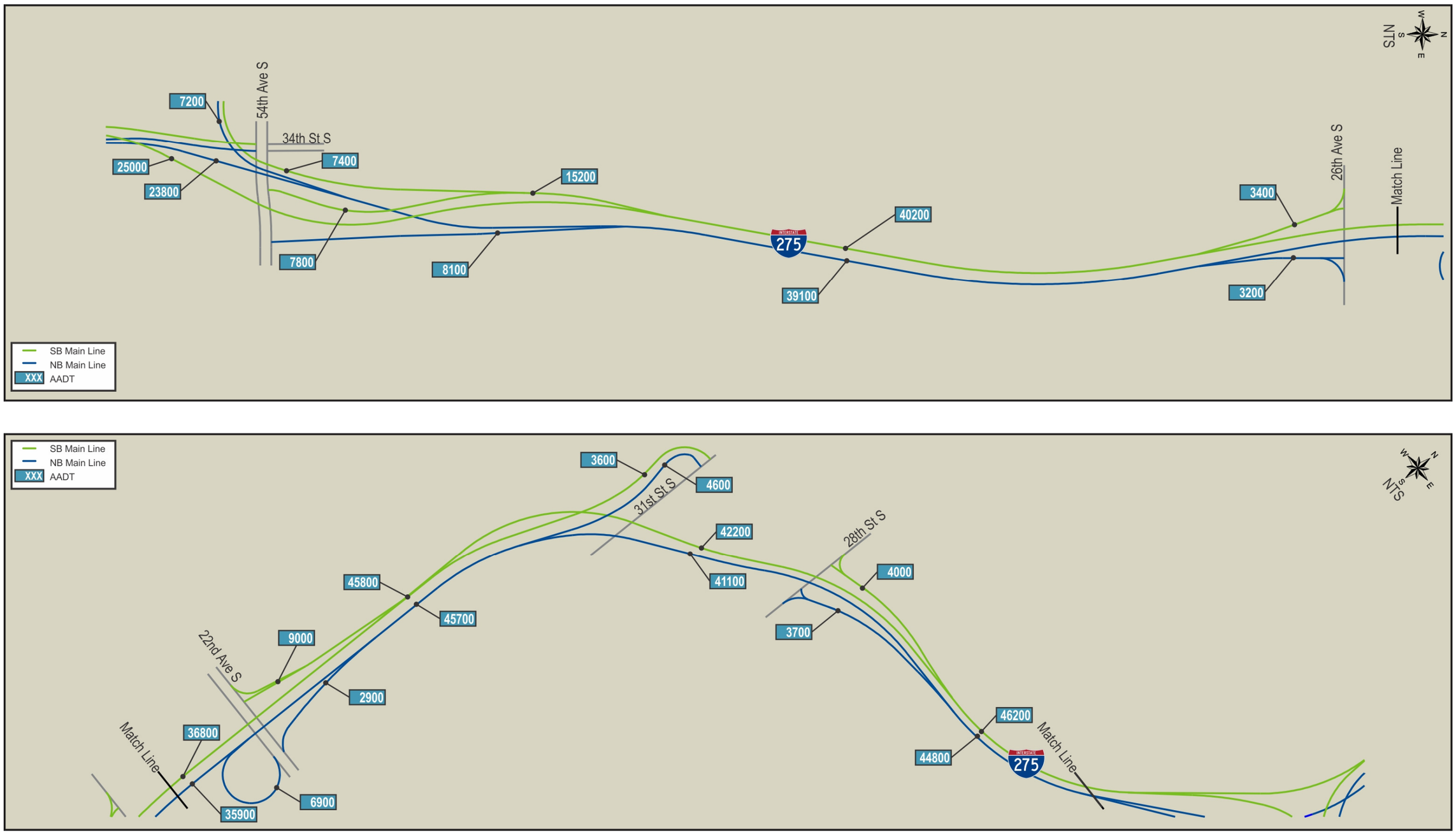


Figure 4.4. Existing Year (2012) AADT – Existing Configuration

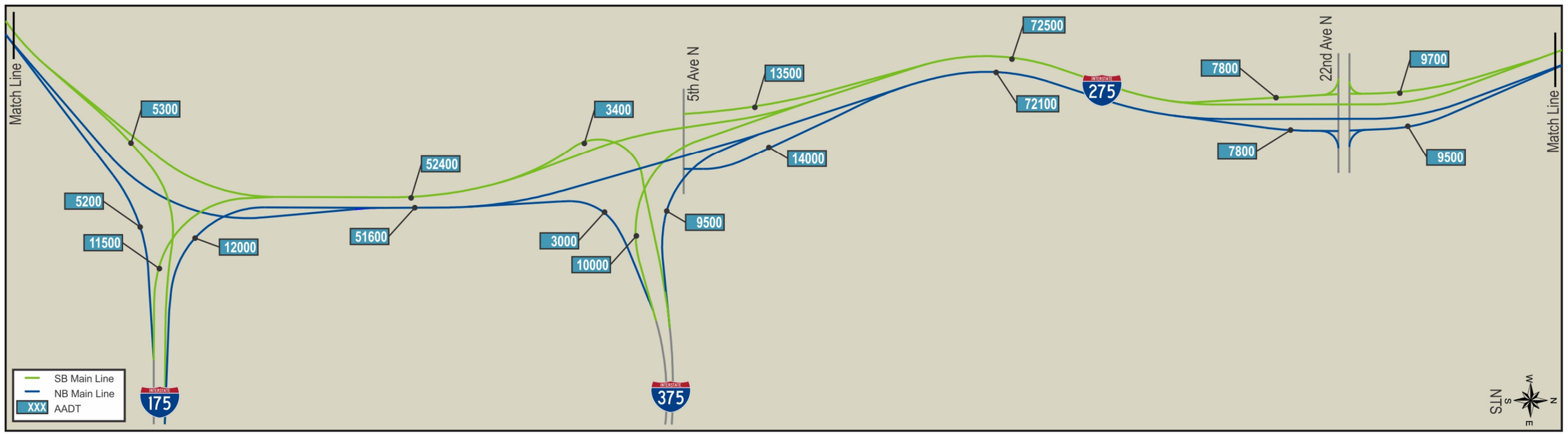
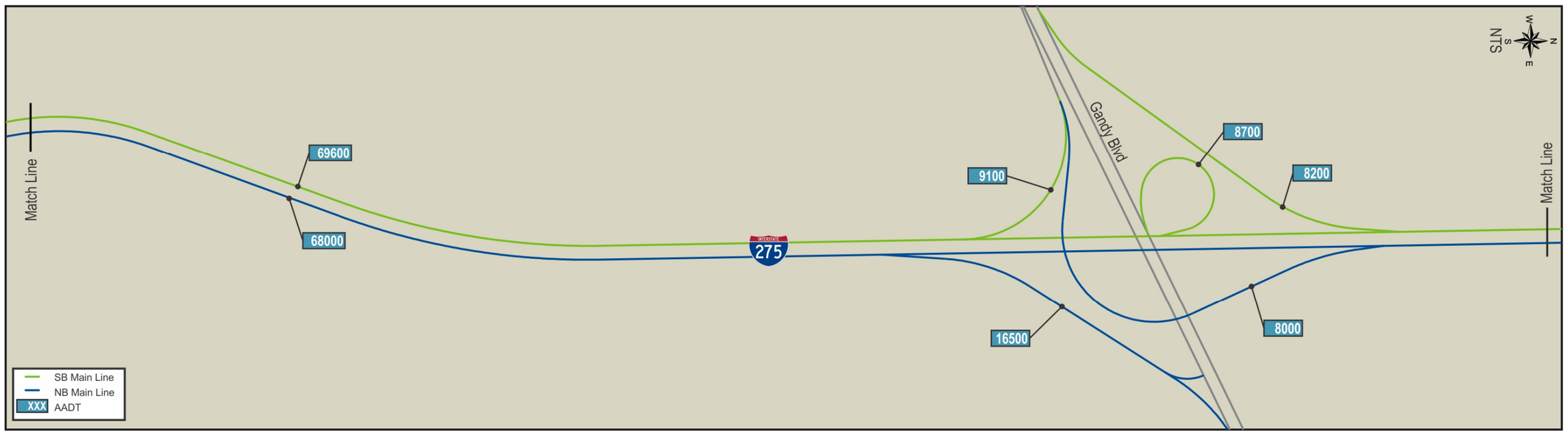


Figure 4.4. (Continued) Existing Year (2012) AADT – Existing Configuration



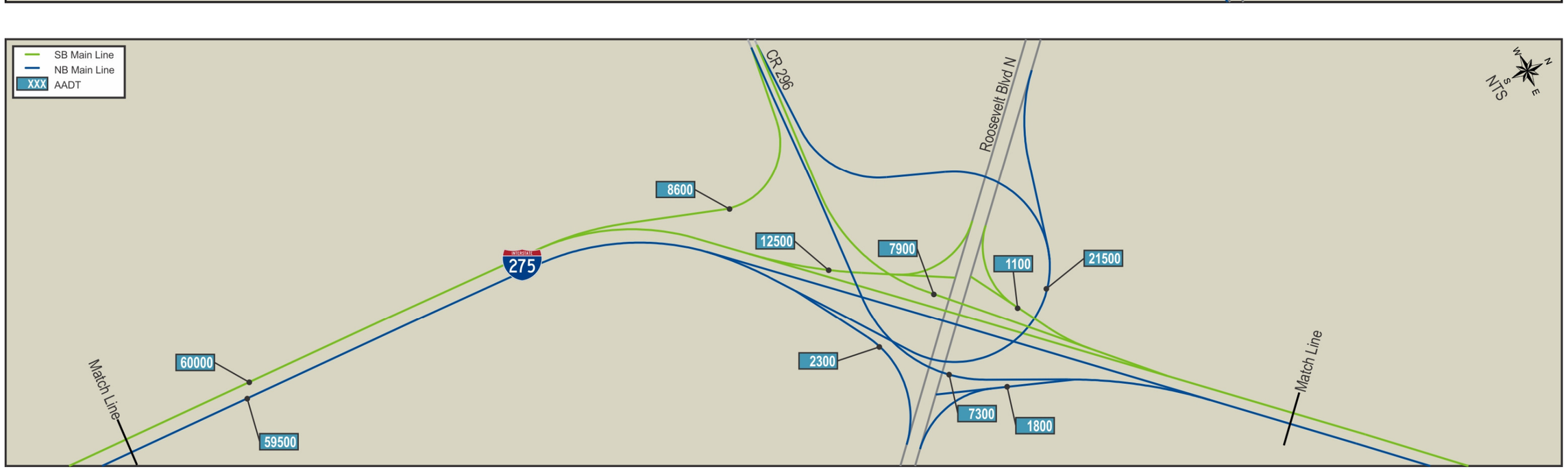
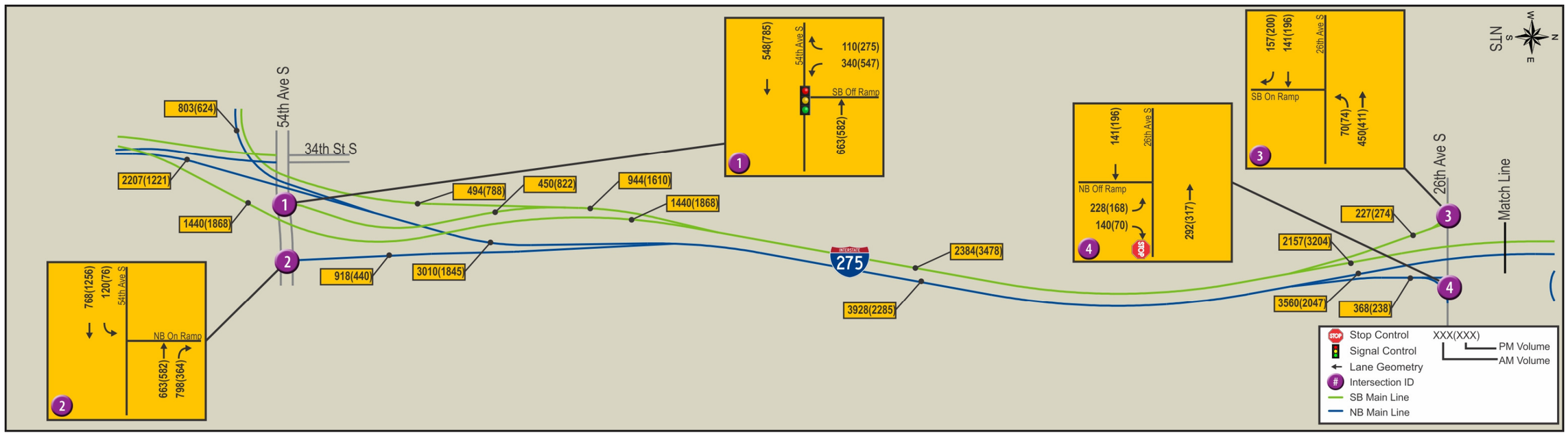


Figure 4.4. (Continued) Existing Year (2012) AADT – Existing Configuration

Figure 4.4. (Continued) Existing Year (2012) AADT – Existing Configuration



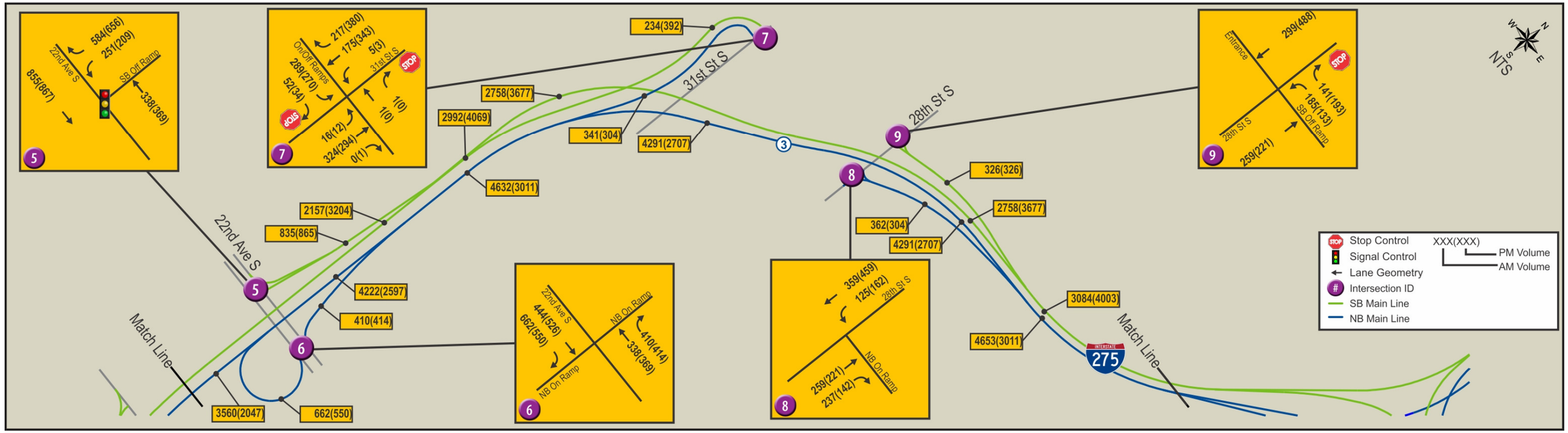
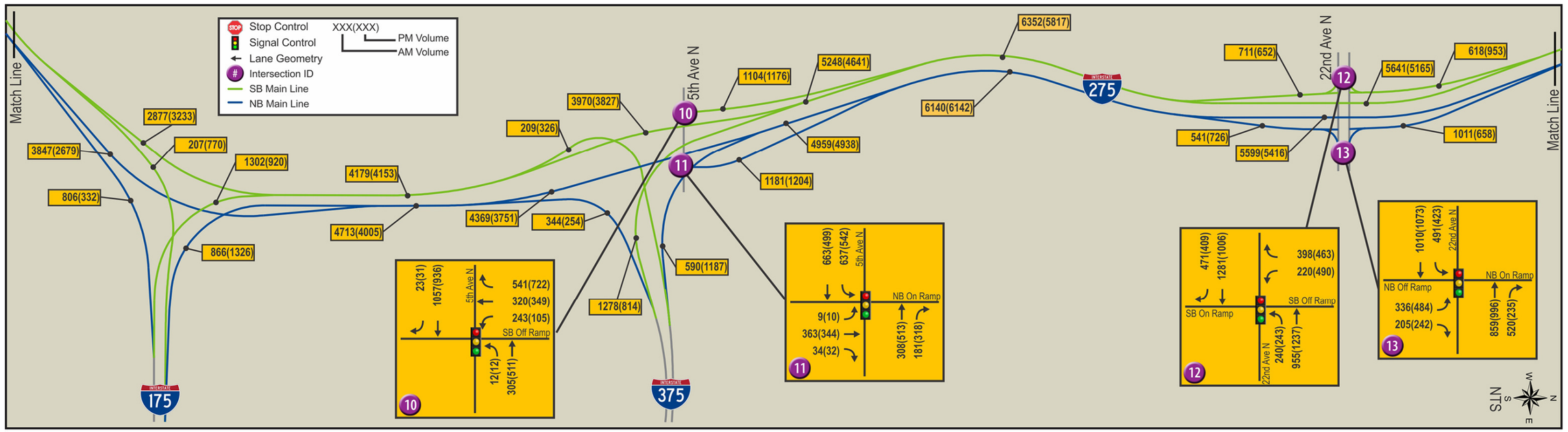


Figure 4.5. Existing Year (2012) Peak-Hour Volumes – Existing Configuration



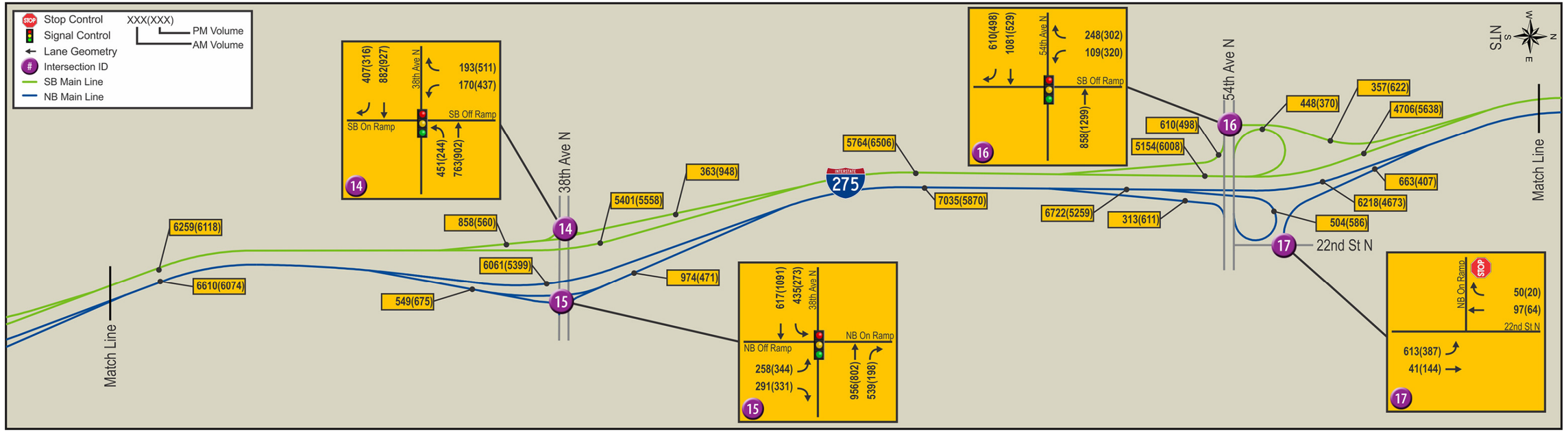


Figure 4.5. (Continued) Existing Year (2012) Peak-Hour Volumes – Existing Configuration

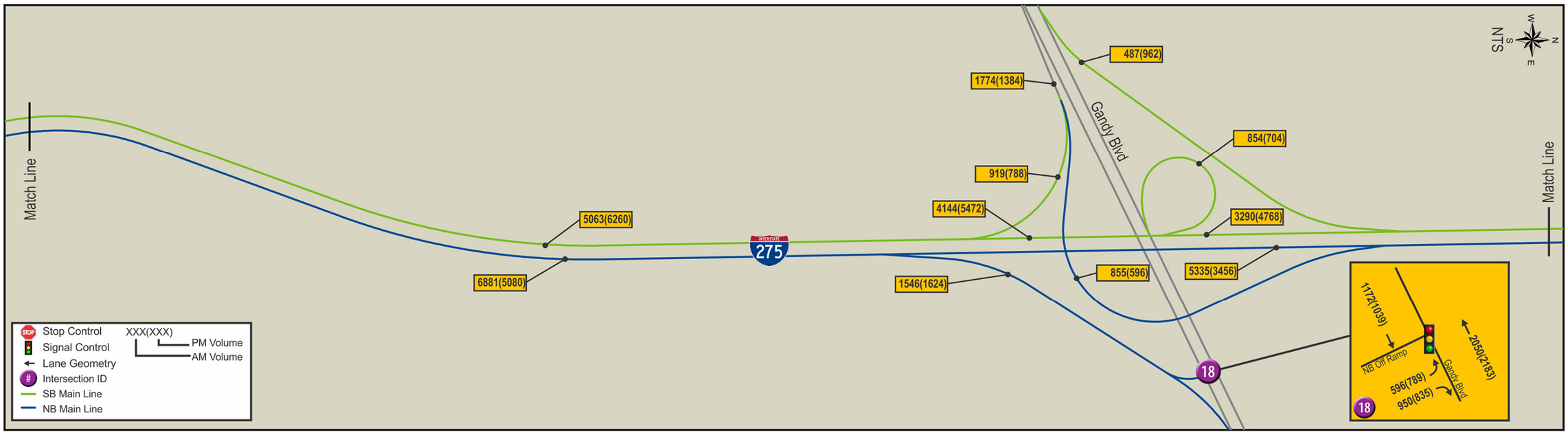


Figure 4.5. (Continued) Existing Year (2012) Peak-Hour Volumes – Existing Configuration

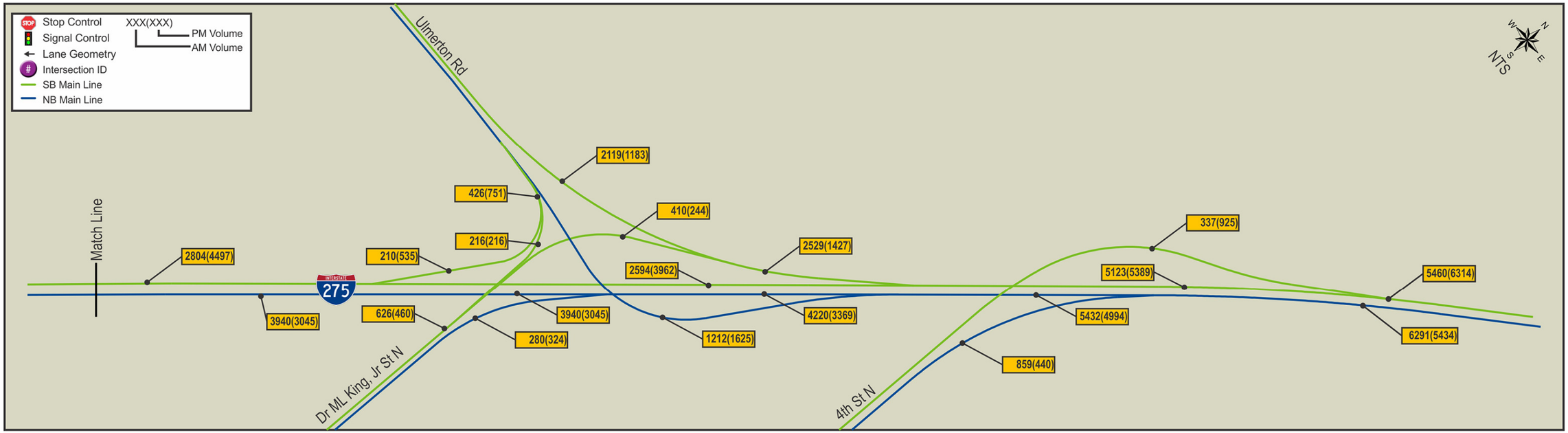


Figure 4.5. (Continued) Existing Year (2012) Peak-Hour Volumes – Existing Configuration

4.5.1 Existing Year (2012) I-275 Mainline Operations

The I-275 mainline was analyzed in HCS 2010 using density thresholds specified in Exhibit 11-5 of the HCM 2010 to determine the LOS. The results of the existing year (2012) HCS 2010 basic freeway analysis for the AM and PM peak periods are shown in **Table 4-4** and **Table 4-5**, respectively. The results of the analysis indicate that five segments currently do not meet the adopted LOS standard in the AM peak hour and two segments currently do not meet the adopted LOS standard in the PM peak hour. The HCS 2010 freeway output for the existing year (2012) can be found in **Appendix H**.

Table 4-4. Existing Year (2012) HCS I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	2207	17.2	B
54th Ave S EB On to 54th Ave S WB On	3010	15.6	B
54th Ave S On to 26th Ave S Off	3928	20.6	C
26th Ave S Off to 22nd Ave S EB On	3560	18.5	C
22nd Ave S EB On to 22nd Ave S WB On	4222	16.4	B
22ndAveS WB On to 31st St S Off	4632	14.4	B
31st St S Off to 28th St S On	4291	22.8	C
28th St S On to I-175 Off	4653	25.2	C
I-175 Off to I-175 On	3847	34.6	D
I-175 On to I-375 Off	4713	18.4	C
I-375 Off to I-375 On	4369	23.3	C
I-375 On to 5th Ave N On	4959	19.4	C
5th Ave N On to 22nd Ave N Off	6140	24.8	C
22nd Ave N Off to 22nd Ave N On	5599	32.9	D
22nd Ave N On to 38th Ave N Off	6610	45.1	F
38th Ave N Off to 38th Ave N On	6061	37.8	E
38th Ave N On to 54th Ave N EB Off	7035	29.9	D
54th Ave N EB Off to 54th Ave N WB Off	6722	28.0	D
54th Ave N Off WB to 22nd St N On	6218	39.7	E
22nd St N On to Gandy Blvd Off	6881	47.3	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	4706	25.5	C
54th Ave N WB On to 54th Ave N EB On	5154	20.2	C
54th Ave N EB On to 38th Ave N Off	5764	23.0	C
38th Ave N Off to 38th Ave N On	5401	31.0	D
38th Ave N On to 22nd Ave N Off	6259	40.2	E
22nd Ave N Off to 22nd Ave N On	5641	33.3	D
22nd Ave N On to 5th Ave N Off	6352	25.9	C
5th Ave N Off to I-375 Off	5248	20.6	C
I-375 Off to I-375 On	3970	20.8	C
I-375 On to I-175 Off	4179	22.1	C

Table 4-4. (Continued) Existing Year (2012) HCS I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-175 Off to I-175 On	2877	22.9	C
I-175 On to 28th St S Off	3084	16.0	B
28th St S Off to 31st St S On	2758	14.3	B
31st St S On to 22nd Ave S Off	2992	11.6	B
22nd Ave S Off to 26th Ave S On	2157	11.2	B
26th Ave S On to 54th Ave S Off	2384	12.4	B
South of 54th Ave S Off	1440	11.2	B

Table 4-5. Existing Year (2012) HCS I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	1221	9.5	A
54th Ave S EB On to 54th Ave S WB On	1845	9.6	A
54th Ave S On to 26th Ave S Off	2285	11.9	B
26th Ave S Off to 22nd Ave S EB On	2047	10.6	A
22nd Ave S EB On to 22nd Ave S WB On	2597	10.1	A
22ndAveS WB On to 31st St S Off	3011	9.4	A
31st St S Off to 28th St S On	2707	14.1	B
28th St S On to I-175 Off	3011	15.6	B
I-175 Off to I-175 On	2679	21.1	C
I-175 On to I-375 Off	4005	15.6	B
I-375 Off to I-375 On	3751	19.6	C
I-375 On to 5th Ave N On	4938	19.3	C
5th Ave N On to 22nd Ave N Off	6142	24.8	C
22nd Ave N Off to 22nd Ave N On	5416	31.2	D
22nd Ave N On to 38th Ave N Off	6074	37.9	E
38th Ave N Off to 38th Ave N On	5399	31.0	D
38th Ave N On to 54th Ave N EB Off	5870	23.5	C
54th Ave N EB Off to 54th Ave N WB Off	5259	20.7	C
54th Ave N Off WB to 22nd St N On	4673	25.3	C
22nd St N On to Gandy Blvd Off	5080	28.3	D
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	5638	33.2	D
54th Ave N WB On to 54th Ave N EB On	6008	24.2	C
54th Ave N EB On to 38th Ave N Off	6506	26.8	D
38th Ave N Off to 38th Ave N On	5558	32.5	D
38th Ave N On to 22nd Ave N Off	6118	38.4	E
22nd Ave N Off to 22nd Ave N On	5165	29.0	D
22nd Ave N On to 5th Ave N Off	5817	23.2	C

Table 4-5. (Continued) Existing Year (2012) HCS I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
5th Ave N Off to I-375 Off	4641	18.1	C
I-375 Off to I-375 On	3827	20.0	C
I-375 On to I-175 Off	4153	21.9	C
I-175 Off to I-175 On	3233	26.6	D
I-175 On to 28th St S Off	4003	21.0	C
28th St S Off to 31st St S On	3677	19.1	C
31st St S On to 22nd Ave S Off	4069	15.8	B
22nd Ave S Off to 26th Ave S On	3204	16.6	B
26th Ave S On to 54th Ave S Off	3478	18.1	C
South of 54th Ave S Off	1868	14.5	B

4.5.2 Existing Year (2012) I-275 Merge/Diverge Operations

The I-275 ramp merge/diverge areas were analyzed in HCS 2010 using density thresholds specified in Exhibit 13-2 of the HCM 2010. Ramp capacities were also checked. The results of the existing year (2012) HCS 2010 ramp merge/diverge analysis for the AM and PM peak periods are shown in **Table 4-6** and **Table 4-7**, respectively. The results of the analysis indicate that nine merge/diverge areas currently do not meet the adopted LOS standards in the AM peak hour and five merge/diverge areas currently do not meet the adopted LOS standards in the PM peak hour. This may be attributed to substandard freeway operations as, the ramps all operate well under capacity as shown in **Table 4-8**. Ramp capacities are based on Exhibit 13-10 of the HCS 2010, and consider the number of lanes and free-flow speed of the ramp. The HCS ramp output for the existing year (2012) can be found in **Appendix H**.

Table 4-6. Existing Year (2012) HCS I-275 Ramp Merge/Diverge MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	803	11.9	B
54th Ave S WB On	918	25.4	C
26th Ave S Off	368	28.0	D
22nd Ave S EB On	662	23.8	C
22nd Ave S WB On	410	13.7	B
31st St S Off	341	4.2	A
28th St S On	362	29.1	D
I-175 Off	806	20.9	F
I-175 On	866	35.7	F
I-375 Off	344	26.6	C

Table 4-6. (Continued) Existing Year (2012) HCS I-275 Ramp Merge/Diverge MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-375 On	590	3.2	A
5th Ave N On	1181	26.9	C
22nd Ave N Off	541	25.5	C
22nd Ave N On	1011	38.7	F
38th Ave N Off	549	41.5	F
38th Ave N On	974	40.0	F
54th Ave N EB Off	313	27.4	C
54th Ave N WB Off	504	30.6	F
22nd St N On	663	39.0	F
Southbound I-275			
54th Ave N Off	357	32.8	D
54th Ave N WB On	448	24.4	C
54th Ave N EB On	610	23.5	C
38th Ave N Off	363	23.8	C
38th Ave N On	858	37.9	E
22nd Ave N Off	618	26.2	C
22nd Ave N On	711	34.4	D
5th Ave N Off	1104	47.3	E
I-375 Off	1278	7.4	A
I-375 On	209	23.4	C
I-175 Off	1302	16.4	B
I-175 On	207	22.2	C
28th St S Off	326	22.9	C
31st St S On	234	24.2	C
22nd Ave S Off	835	11.5	B
26th Ave S On	227	14.0	B
54th Ave S Off	944	2.6	A

Table 4-7. Existing Year (2012) HCS I-275 Ramp Merge/Diverge MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	624	2.0	A
54th Ave S WB On	440	15.8	B
26th Ave S Off	238	17.8	B
22nd Ave S EB On	550	15.2	B
22nd Ave S WB On	414	10.3	B
31st St S Off	304	*	*
28th St S On	304	18.1	B

Table 4-7. (Continued) Existing Year (2012) HCS I-275 Ramp Merge/Diverge MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-175 Off	332	5.5	A
I-175 On	1326	29.5	D
I-375 Off	254	23.0	C
I-375 On	1187	5.0	A
5th Ave N On	1204	27.0	C
22nd Ave N Off	726	25.8	C
22nd Ave N On	658	35.7	E
38th Ave N Off	675	37.4	E
38th Ave N On	471	33.7	D
54th Ave N EB Off	611	24.2	C
54th Ave N WB Off	586	22.0	C
22nd St N On	407	29.2	D
Southbound I-275			
54th Ave N Off	622	38.3	E
54th Ave N WB On	370	28.7	D
54th Ave N EB On	498	25.5	C
38th Ave N Off	948	28.5	D
38th Ave N On	560	38.0	E
22nd Ave N Off	953	26.1	C
22nd Ave N On	652	31.6	D
5th Ave N Off	1176	40.9	E
I-375 Off	814	3.4	A
I-375 On	326	27.3	C
I-175 Off	920	16.2	B
I-175 On	770	29.7	D
28th St S Off	326	27.4	C
31st St S On	392	34.2	D
22nd Ave S Off	865	17.1	B
26th Ave S On	274	20.9	C
54th Ave S Off	1610	12.8	B

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 4-8. Existing Year (2012) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
Northbound I-275		
54th Ave S EB On	0.19	0.15
54th Ave S WB On	0.44	0.21
26th Ave S Off	0.18	0.11
22nd Ave S WB On	0.33	0.28

Table 4-8. (Continued) Existing Year (2012) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
22nd Ave S EB On	0.20	0.20
31st St S Off	0.08	0.07
28th St S On	0.17	0.14
I-175 Off	0.19	0.08
I-175 On	0.41	0.63
I-375 Off	0.16	0.12
I-375 On	0.14	0.28
5th Ave N On	0.56	0.57
22nd Ave N Off	0.26	0.35
22nd Ave N On	0.48	0.31
38th Ave N Off	0.26	0.32
38th Ave N On	0.46	0.22
54th Ave N EB Off	0.15	0.29
54th Ave N WB Off	0.25	0.29
22nd St N On	0.32	0.19
Southbound I-275		
54th Ave N Off	0.17	0.30
54th Ave N WB On	0.22	0.19
54th Ave N EB On	0.29	0.24
38th Ave N Off	0.17	0.45
38th Ave N On	0.41	0.27
22nd Ave N Off	0.29	0.45
22nd Ave N On	0.34	0.31
5th Ave N Off	0.53	0.56
I-375 Off	0.30	0.19
I-375 On	0.10	0.16
I-175 Off	0.31	0.22
I-175 On	0.10	0.37
28th St S Off	0.16	0.16
31st St S On	0.11	0.19
22nd Ave S Off	0.40	0.41
26th Ave S On	0.11	0.13
54th Ave S Off	0.22	0.38

4.5.3 Existing Year (2012) I-275 Ramp Terminal Intersection Operations

Synchro models were developed to pre-process the data used in the HCS signalized and un-signalized intersection analysis for the lane continuity improvements study area. HCM 2010 Signalized and Two-Way Stop Controlled (TWSC) intersection reports were extracted from Synchro and can be found in **Appendix H**. The results of the existing year (2012) HCS 2010 signalized ramp

terminal intersections analysis for the AM and PM peak periods are shown in **Table 4-9** and **Table 4-10**, respectively. Similarly, the results of the existing year (2012) HCS 2010 unsignalized ramp terminal intersections analysis for the AM and PM peak periods are shown in **Table 4-11** and **Table 4-12**, respectively. The results of the analysis indicate that one intersection (both signalized and unsignalized) currently does not meet the adopted LOS standards in the AM peak hour and one intersection (both signalized and unsignalized) currently do not meet the adopted LOS standards in the PM peak hour. The deficient intersection is located at Gandy Boulevard and the northbound I-275 off ramp. The northbound to eastbound right-turn lane volume is greater than the capacity that is provided by a single lane yield controlled right turn movement.

Table 4-9. Existing Year (2012) I-275 Signalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	4.8	A	5.1	A	--	--	31.5	C	12.1	B
22nd Ave S SB Off	19.0	B	12.8	B	--	--	40.2	D	26.7	C
5th Ave N SB Off	24.5	C	11.5	B	--	--	40.1	D	29.7	C
5th Ave N NB On	38.7	D	20.7	C	61.7	E	--	--	39.0	D
22nd Ave N SB On/Off	17.5	B	13.9	B	--	--	50.3	D	22.0	C
22nd Ave N NB On/Off	19.9	B	11.6	B	52.0	D	--	--	21.6	C
38th Ave N SB On/Off	9.6	A	13.4	B	--	--	51.7	D	16.6	B
38th Ave N NB On/Off	28.5	C	17.4	B	54.0	D	--	--	27.7	C
54th Ave N SB Off	7.1	A	5.2	A	--	--	38.5	D	10.4	B
Gandy Blvd NB Off	16.9	B	26.6	C	404.8	F	--	--	146.8	F

Table 4-10. Existing Year (2012) I-275 Signalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	23.3	C	7.8	A	--	--	44.7	D	27.2	C
22nd Ave S SB Off	19.5	B	13.1	B	--	--	65.3	E	37.2	D
5th Ave N SB Off	34.6	C	17.5	B	--	--	57.9	E	41.5	D
5th Ave N NB On	52.6	D	25.3	C	60.7	E	--	--	43.9	D
22nd Ave N SB On/Off	20.1	C	14.6	B	--	--	54.2	D	26.4	C
22nd Ave N NB On/Off	19.0	B	9.6	A	54.5	D	--	--	23.1	C
38th Ave N SB On/Off	26.6	C	20.5	C	--	--	40.2	D	28.4	C
38th Ave N NB On/Off	8.8	A	9.3	A	54.2	D	--	--	19.0	B
54th Ave N SB Off	7.6	A	7.6	A	--	--	39.5	D	14.3	B
Gandy Blvd NB Off	16.3	B	24.5	C	291.1	F	--	--	112.1	F

Table 4-11. Existing Year (2012) I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	9.7	A[1]	--	--	--	--	--	--	0.7	A
26th Ave S SB On	--	--	7.7	A[1]	---	--	--	--	0.8	A
26th Ave S NB Off	--	--	--	--	11.9	B	--	--	5.5	A
31st St S SB On/NB Off	19.2	C	11.4	B	7.6	A[1]	--	--	7.8	A
28th St S SB Off	--	--	13.8	B	--	--	--	--	5.1	A
28th St S NB On	--	--	--	--	--	--	8.1	A[1]	1.0	A
Roosevelt Blvd SB Off	--	--	--	--	--	--	5610.4	F	224.6	F
Roosevelt Blvd NB On	28.0	D[1]	--	--	--	--	--	--	0.4	A

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

Table 4-12. Existing Year (2012) I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	9.1	A[1]	--	--	--	--	--	--	0.3	A
26th Ave S SB On	--	--	7.8	A[1]	--	--	--	--	0.9	A
26th Ave S NB Off	--	--	--	--	12.2	B	--	--	3.9	A
31st St S SB On/NB Off	28.3	D	--	--	8.1	A[1]	--	--	9.1	A
28th St S SB Off	--	--	13.0	B	--	--	--	--	4.1	A
28th St S NB On	--	--	--	--	--	--	8.1	A[1]	1.3	A
Roosevelt Blvd SB Off	--	--	--	--	--	--	10553.9	F	180.5	F
Roosevelt Blvd NB On	19.6	C[1]	--	--	--	--	--	--	0.5	A

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

4.5.4 Existing Year (2012) CORSIM Analysis

The I-275 freeway operations of the existing configuration from south of Gandy Boulevard to north of 4th Street North were analyzed in CORSIM. The on and off ramps within these limits were also analyzed. The CORSIM model was calibrated using volume as the primary parameter and travel time as the secondary parameter. A visual inspection of the queuing patterns was also performed as part of the calibration process. The model assumptions, parameters, and network coding techniques used in developing the CORSIM models, full calibration procedure, link-node and lane diagram of the existing configuration CORSIM model, and results of the model calibration are presented in the CORSIM Calibration Memorandum, which can be found in **Appendix G**.

A three-hour multiple-period analysis was performed to ensure that congestion was not building before the peak hour or remaining after the peak hour. Each run was divided into twelve fifteen-minute time periods. The hour preceding the peak hour was comprised of time periods one through four, the peak hour was comprised of time periods five through eight, and the hour succeeding the peak hour was comprised of time periods nine through twelve. The volumes of the hours adjacent to the peak hour were determined by applying a factor to the peak-hour volumes in order to proportionately scale the balanced peak-hour volumes.

FTI synopsis data was used to determine global scale factors for both the AM and PM peak periods. The scale factors were determined by the ratio of adjacent peak-hour volumes to actual peak-hour volumes and weighting those ratios by the peak-hour volumes in order to obtain one overall global ratio. Scale factors of 0.76 and 0.89 were used for the adjacent hour before the peak hour for the AM and PM peak period, respectively, and scale factors of 0.83 and 0.82 were used for the adjacent hour after the peak hour for the AM and PM peak period, respectively. All three analysis hours were adjusted by the peak-hour factor of 0.95 to account for the variability in flow rate within the four fifteen-minute periods of each of the three hours.

Ten different model runs were performed for both the AM and PM peak periods to ensure that a variety of random occurrences that could result from the stochastic nature of the program were captured and to ensure that an appropriate sample size was used to average the output results for each MOE. The peak-hour results for different MOEs, measured at one-minute intervals, were extracted from the existing year (2012) CORSIM model output and averaged over the ten runs for the appropriate links. Note that the peak-hour output was used for determining the operational analysis. The three-hour analysis period results were used to produce heat diagrams, as shown in **Appendix H**.

Also note that microsimulation programs calculate MOEs based on stochastic formulas and real-time vehicle interaction. They aggregate data output using different methods than the HCM 2010. Therefore, it is not appropriate to report LOS for MOEs extracted from simulation software programs. Comparisons and conclusions will be based on absolute differences and percent differences. The results of the existing year (2012) CORSIM analysis for the AM and PM peak periods are shown in **Table 4-13**.

Table 4-13. Existing Year (2012) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
Freeway				
NB I-275 from South of Gandy to Gandy Off Ramp	62.4	65.0	35.0	25.6
NB I-275 from Gandy Off Ramp to Gandy On Ramp	65.1	66.9	26.3	17.1
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	64.0	66.2	22.4	14.6
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	66.8	67.8	14.8	10.4
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	67.0	67.2	13.2	10.5
NB I-275 from MLK On Ramp to Ulmerton On Ramp	66.7	66.9	13.7	11.3
NB I-275 from Ulmerton On Ramp to 4th On Ramp	65.8	64.7	15.3	19.7
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	62.8	63.5	21.7	19.0
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	67.4	64.9	20.4	24.6
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	64.2	65.2	15.0	20.5
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	68.1	67.2	9.5	14.7

Table 4-13. (Continued) Existing Year (2012) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	66.9	64.6	15.4	21.2
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	68.1	67.0	16.1	21.3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	65.4	63.6	9.9	16.1
SB I-275 from 118th On Ramp to Gandy Off Ramp	66.0	63.3	13.9	21.9
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	66.9	65.0	15.9	23.4
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	61.9	62.0	17.6	23.0
SB I-275 from Gandy On Ramp to South of Gandy	64.9	63.4	23.5	29.6
Arterials				
EB Gandy from West of I-275 to I-275 On Ramp	48.1	48.7	17.0	13.8
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	48.6	49.1	8.4	7.2
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	43.7	43.8	10.2	8.8
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	46.2	46.4	14.4	13.2
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	46.2	46.7	16.5	18.1
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	53.2	53.0	11.3	14.2
WB Gandy from SB I-275 Off Ramp to West of I-275	53.0	51.9	21.7	26.3
EB Roosevelt from West of I-275 to SB I-275 On Ramp	58.4	57.4	8.2	14.4
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	58.8	58.1	9.3	13.9
EB Roosevelt West of NB I-275 Off Ramp	57.8	56.9	11.0	14.8
EB Roosevelt from NB I-275 Off Ramp to East of I-275	57.4	57.5	11.4	12.9
WB Roosevelt from East of I-275 to NB I-275 On Ramp	58.7	58.8	18.3	14.8
WB Roosevelt West of NB I-275 On Ramp	58.4	58.9	19.2	14.3
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	57.2	58.0	16.7	12.1
WB Roosevelt from NB I-275 Off Ramp to West of I-275	57.0	57.7	15.4	10.2
WB 118th from SB I-275 Off Ramp to West of I-275	57.4	56.7	9.1	12.1
EB 118th from West of I-275 to SB I-275 On Ramp	57.1	56.6	13.5	14.6
EB Ulmerton from West of I-275 to I-275 On Ramp	57.9	57.7	9.5	13.9
WB Ulmerton West of I-275	55.7	56.9	19.1	10.5
Ulmerton to SB I-275 On Ramp/MLK	47.3	45.9	8.9	16.2
EB Ulmerton to SB MLK	43.8	43.8	4.8	4.6
SB MLK	49.1	49.3	6.2	4.5
Ramps				
NB I-275 Off Ramp to Gandy	46.9	44.3	29.8	35.4
NB I-275 Off Ramp to EB Gandy	41.3	40.7	23.0	23.4
I-275 On Ramp from EB Gandy	38.2	42.9	22.8	16.0
NB I-275 On Ramp from EB Gandy	48.8	48.9	8.8	6.3
SB I-275 Off Ramp to Gandy	49.0	48.4	6.3	12.5
SB I-275 On Ramp from EB Gandy	45.9	45.9	19.3	16.8
SB I-275 Loop On Ramp Loop from WB Gandy	32.9	33.4	25.1	20.1
NB I-275 Off Ramp to Roosevelt/118th	47.9	50.3	31.1	19.0
NB I-275 Off Ramp to Roosevelt/118th	46.7	47.7	26.6	16.7
NB I-275 Off Ramp to EB Roosevelt	49.1	49.5	7.4	3.7
NB I-275 Off Ramp to WB Roosevelt	48.1	48.6	17.1	10.0
NB I-275 On Ramp from WB Roosevelt	53.4	52.4	0.4	2.8

Table 4-13. (Continued) Existing Year (2012) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
NB I-275 On Ramp from Roosevelt/118th	47.9	48.1	8.3	9.3
SB I-275 Off Ramp to Roosevelt/118th	49.5	48.6	7.7	14.3
SB I-275 On Ramp from Roosevelt	46.5	43.1	9.3	17.0
SB I-275 On Ramp from EB Roosevelt	49.5	49.0	5.6	12.5
NB I-275 Off Ramp to WB Roosevelt/118th	47.6	48.3	21.5	14.0
NB I-275 Off Ramp to 118th	49.2	49.3	9.8	7.6
NB I-275 On Ramp from 118th	48.9	49.0	10.8	9.5
SB I-275 Off Ramp to 118th	46.9	45.3	13.1	29.1
SB I-275 On Ramp from 118th	47.8	47.4	16.9	21.3
NB I-275 On Ramp from Ulmerton	49.0	48.5	12.5	17.0
SB I-275 Off Ramp to Ulmerton/MLK	47.7	48.7	26.4	14.7
SB I-275 On Ramp from Ulmerton	41.9	41.2	5.0	13.1
NB I-275 On Ramp from NB MLK	49.5	49.4	5.7	6.6
SB I-275 Off Ramp to MLK	48.5	48.8	8.5	5.0
NB I-275 On Ramp from 4th	58.3	58.9	9.8	5.0
SB I-275 Off Ramp to 4th	59.0	57.6	4.1	11.1

5.0 Future Travel Demand

5.1 Tampa Bay Time of Day Model

The Tampa Bay Time of Day (TBTOD) Model with express lanes included was developed from the Tampa Bay Regional Planning Model (TBRPM) and used as a source to forecast future year (2020, 2030, and 2040) traffic projections within the I-275 PD&E study limits. The Model's validated Base Year is 2006 and the most-recently adopted Cost Affordable (CA) model has a Horizon Year of 2035. The Tampa Bay Regional Planning Model is based on the Florida Standard Urban Transportation Modeling Structure (FSUTMS) and is recognized by the FDOT as the accepted travel demand forecasting model for Pinellas County. The travel demand forecast methodology statement is shown in **Appendix I**.

5.2 Development of Design Year (2040) Traffic Volumes

The design year (2040) AADT and Directional Design Hour Volumes (DDHV) on the freeway and ramps were provided by FDOT as developed from the TBTOD Model. The design year (2040) DDHV on the ramps were multiplied by the turning movement percentages at the ramp terminals. The ramp volumes that were provided were held constant as the control and a manual smoothing process was performed to balance traffic flows along the arterial between the ramp terminal intersections. **Figure 5.1** and **Figure 5.2** show the design year (2040) No Build AADT and AM and PM DDHV, respectively. **Figure 5.3** and **Figure 5.4** show the design year (2040) Master Project AADT and AM and PM DDHV, respectively.

5.3 Development of Opening Year (2020) and Interim Year (2030) Traffic Volumes

The opening year (2020) and interim year (2030) AADT and DDHV on the freeway and ramps were provided by FDOT as developed from the TBTOD Model. The turning movement volumes at the ramp terminals were adjusted proportionately to balance with the ramp volumes that were provided. The arterial through volumes were developed by interpolating between the existing year (2012) and design year (2040) arterial DDHV. **Figure 5.5** and **Figure 5.6** show the opening year (2020) Starter Project AADT and AM and PM DDHV, respectively. **Figure 5.7** and **Figure 5.8** show the interim year (2030) Starter Project AADT and AM and PM DDHV, respectively.

5.4 Noise Traffic Data

Noise traffic data was collected along I-275 for use in determining if it would be necessary for noise walls to be constructed due to the impacts of the proposed improvements. Traffic data required to conduct the noise analysis of the proposed improvements is provided in **Appendix J**.

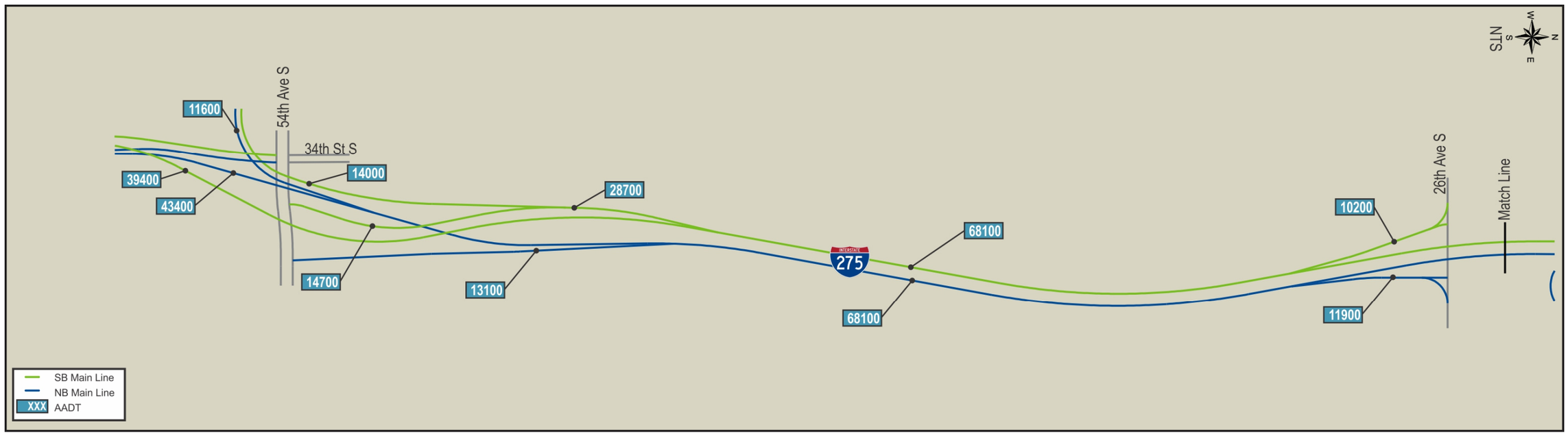
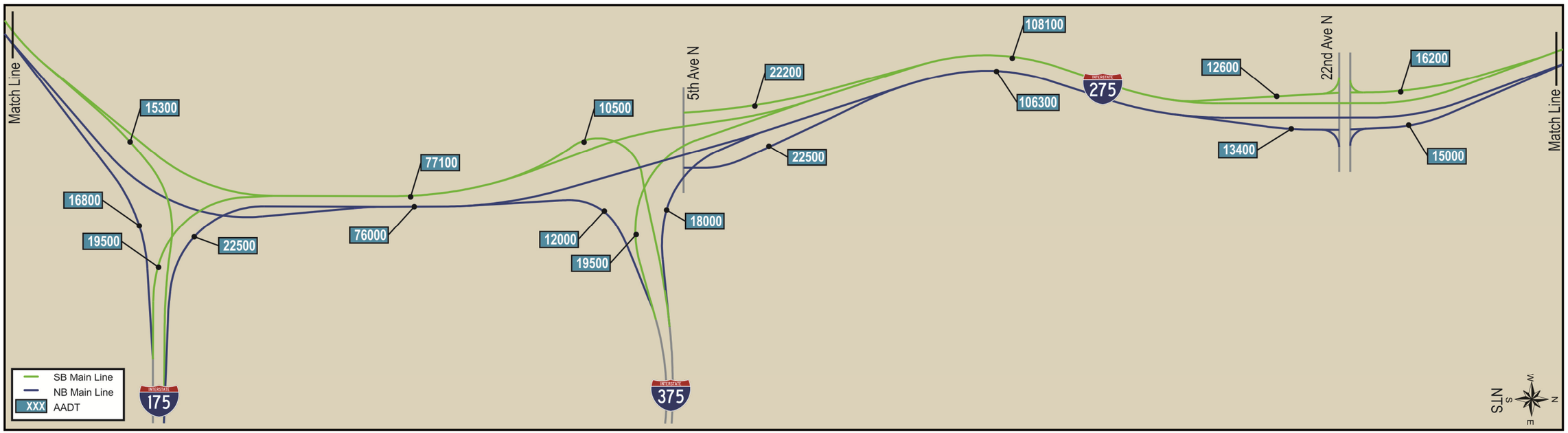


Figure 5.1. Design Year (2040) AADT – No Build



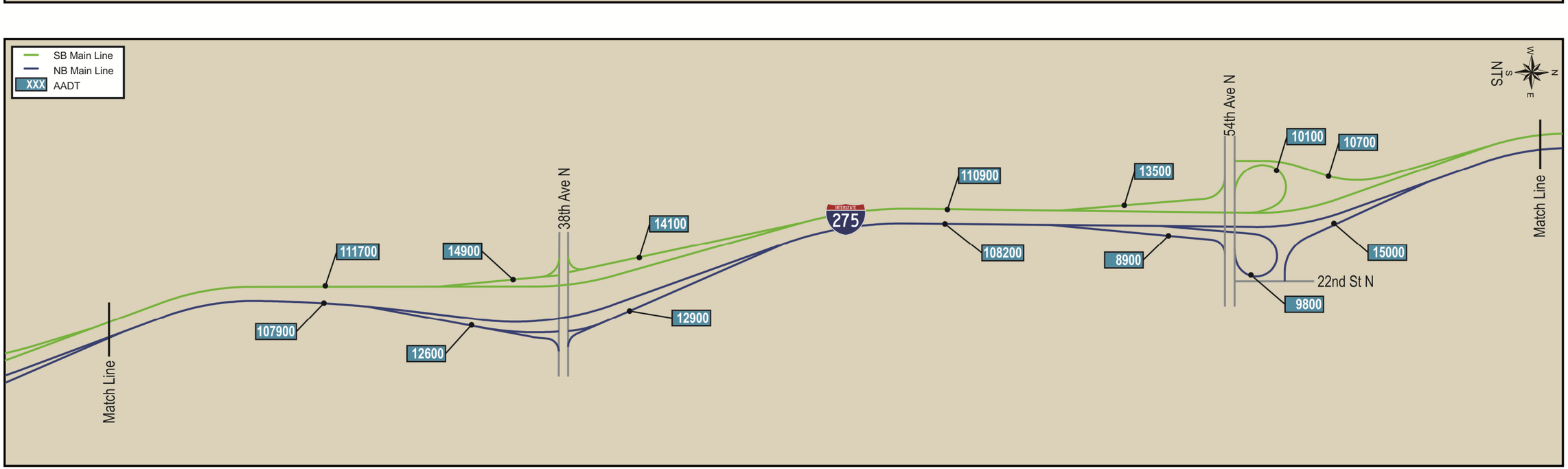


Figure 5.1. (Continued) Design Year (2040) AADT – No Build

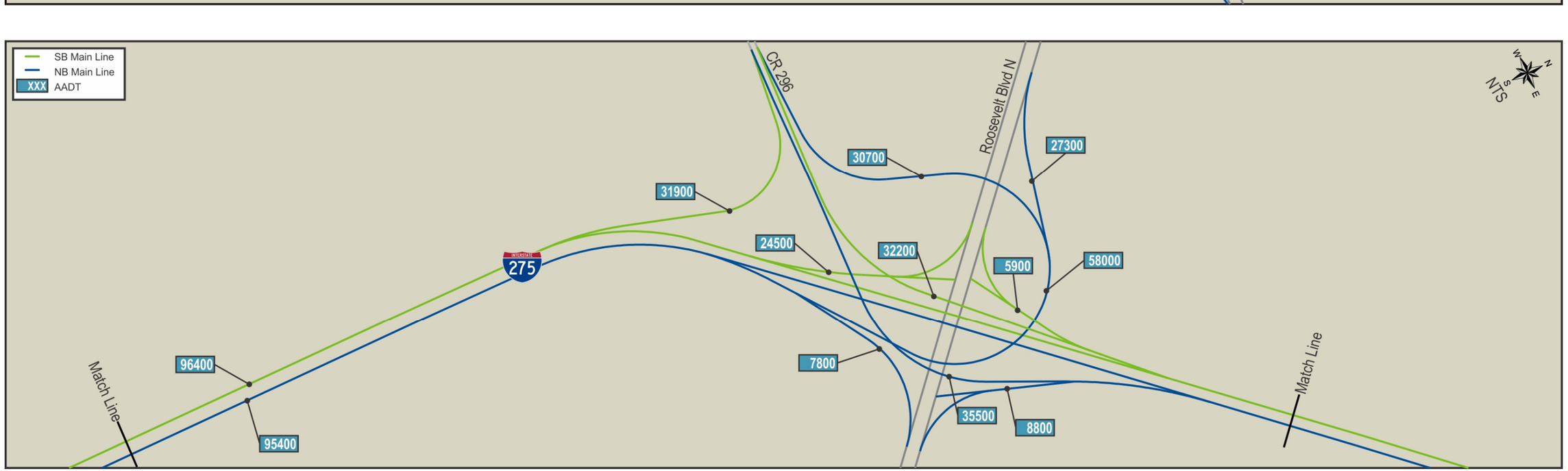


Figure 5.1. (Continued) Design Year (2040) AADT – No Build

Figure 5.1. (Continued) Design Year (2040) AADT – No Build

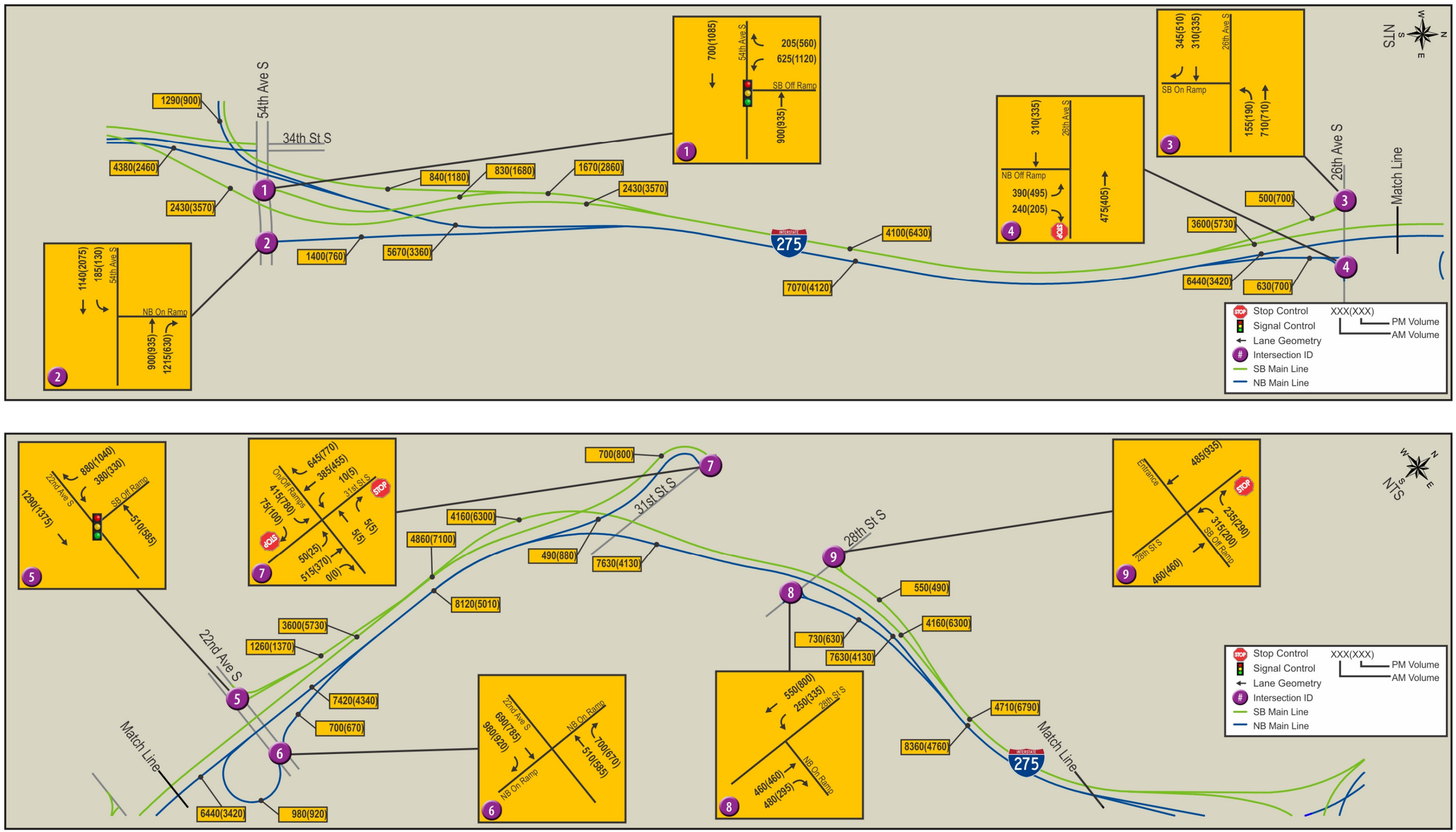


Figure 5.2. Design Year (2040) DDHV – No Build

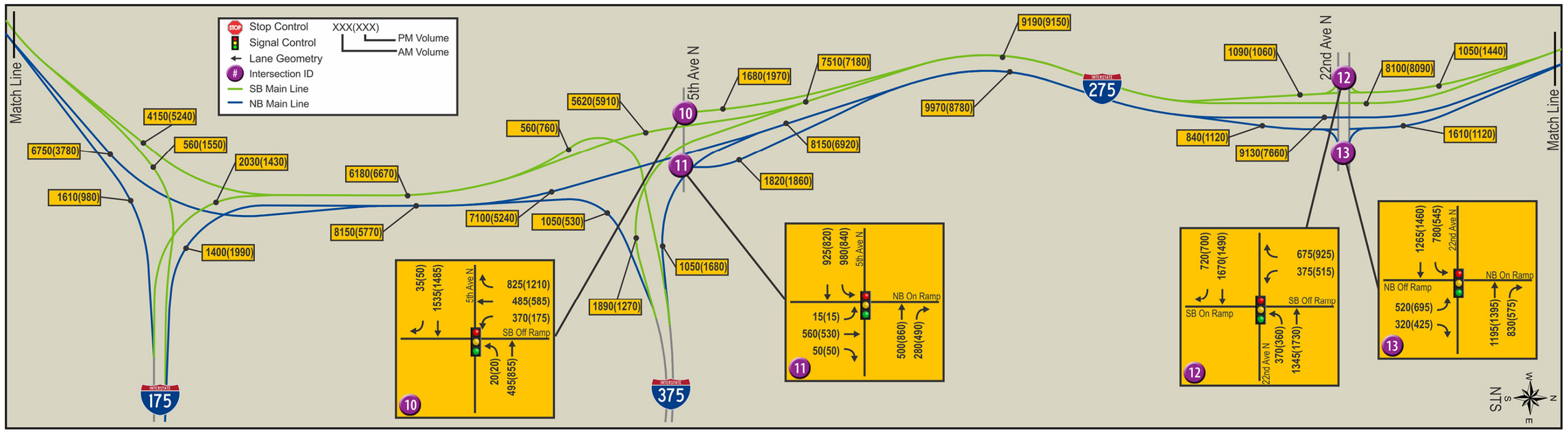
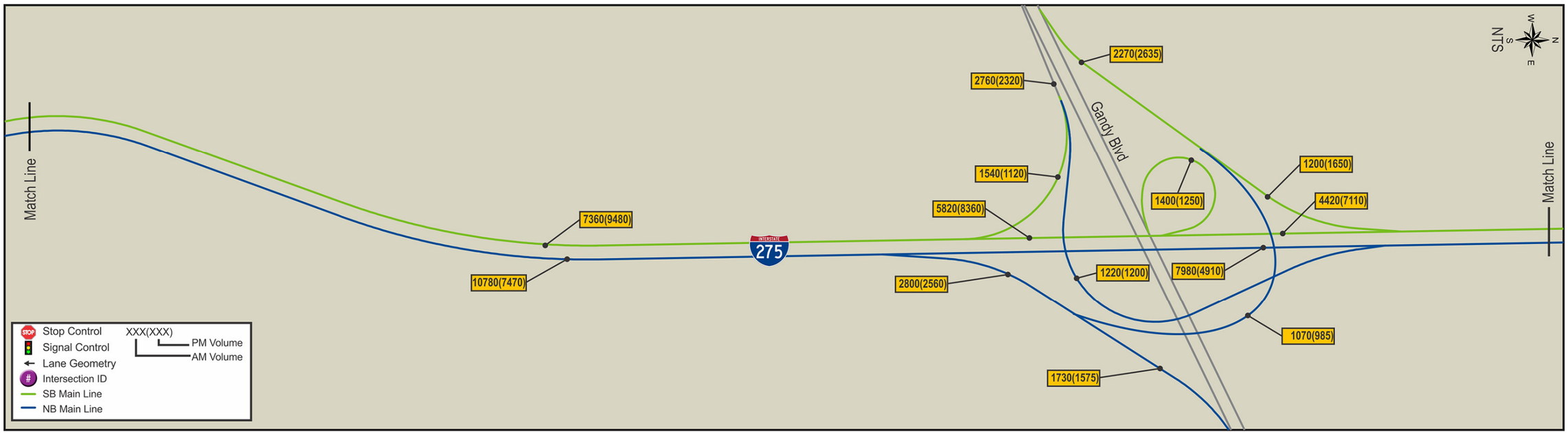


Figure 5.2. (Continued) Design Year (2040) DDHV – No Build



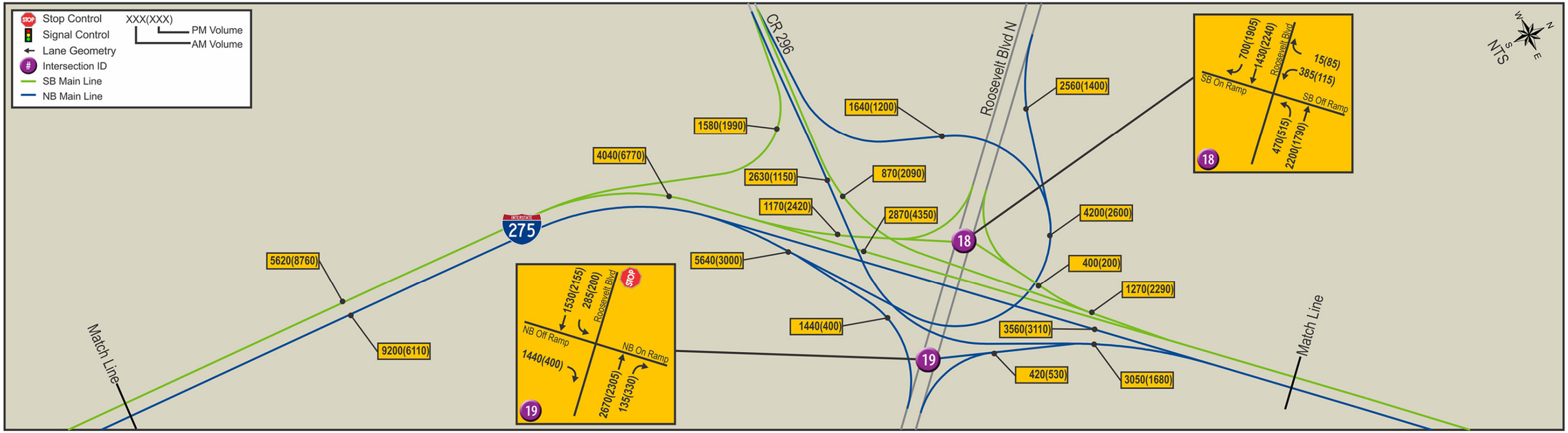


Figure 5.2. (Continued) Design Year (2040) DDHV – No Build

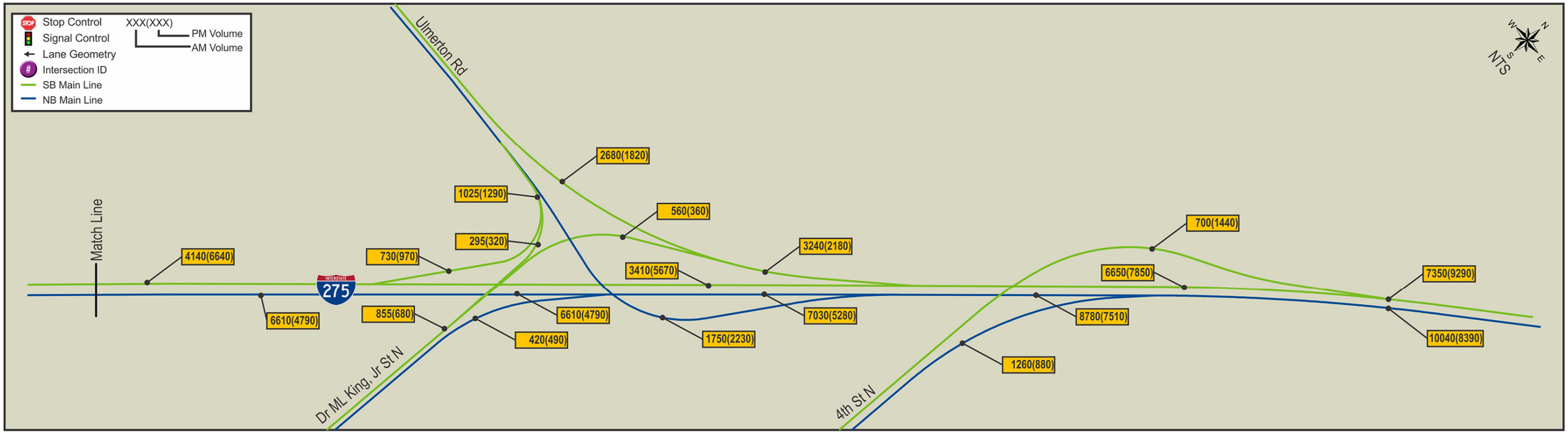


Figure 5.2. (Continued) Design Year (2040) DDHV – No Build

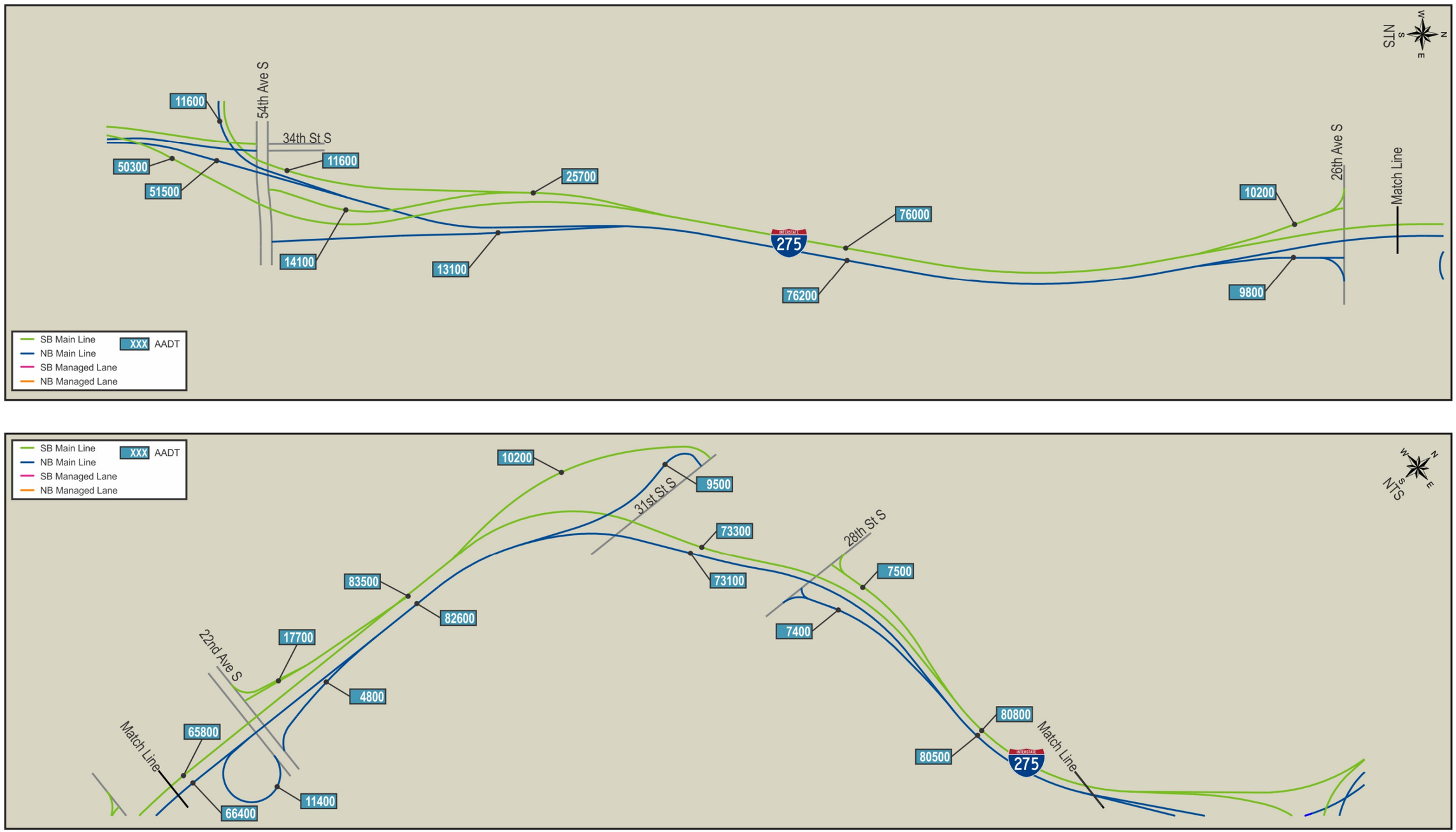


Figure 5.3. Design Year (2040) AADT – Master Project

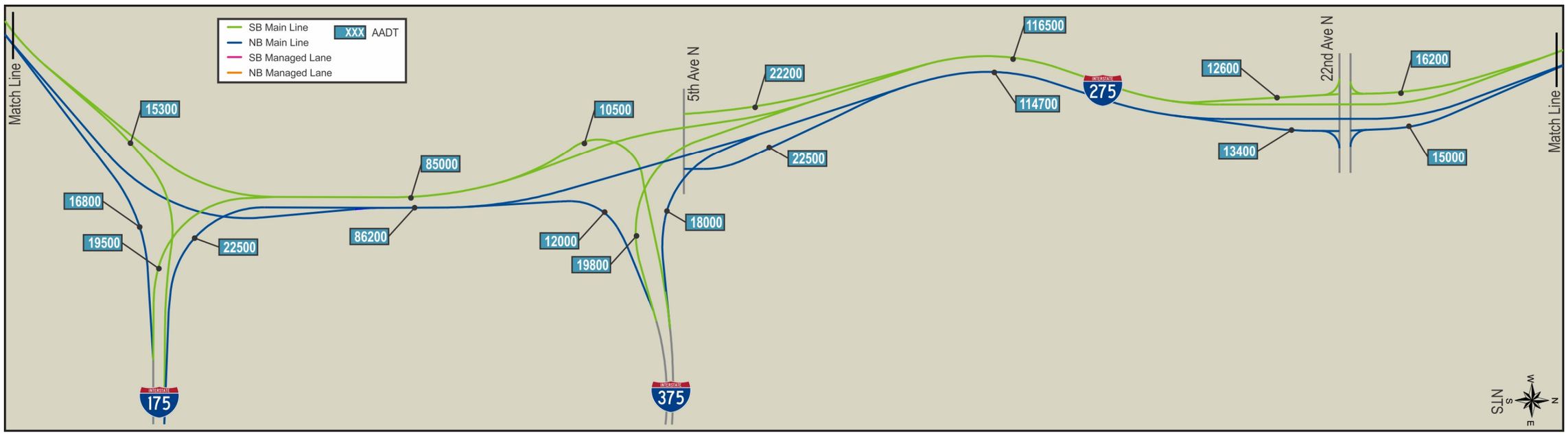


Figure 5.3. (Continued) Design Year (2040) AADT – Master Project

Figure 5.3. (Continued) Design Year (2040) AADT – Master Project

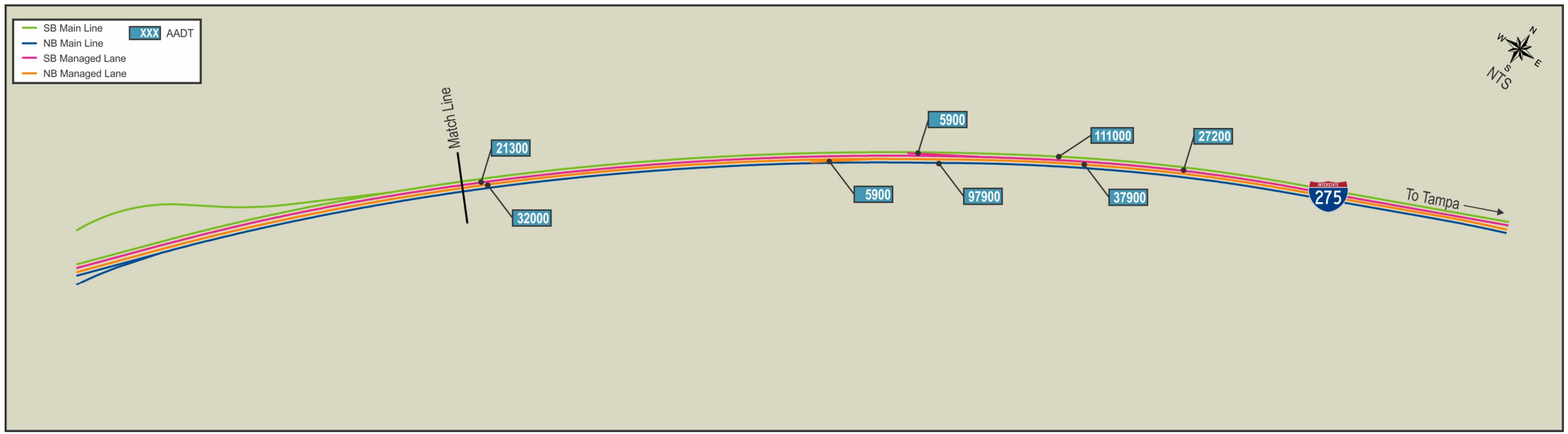


Figure 5.3. (Continued) Design Year (2040) AADT – Master Project

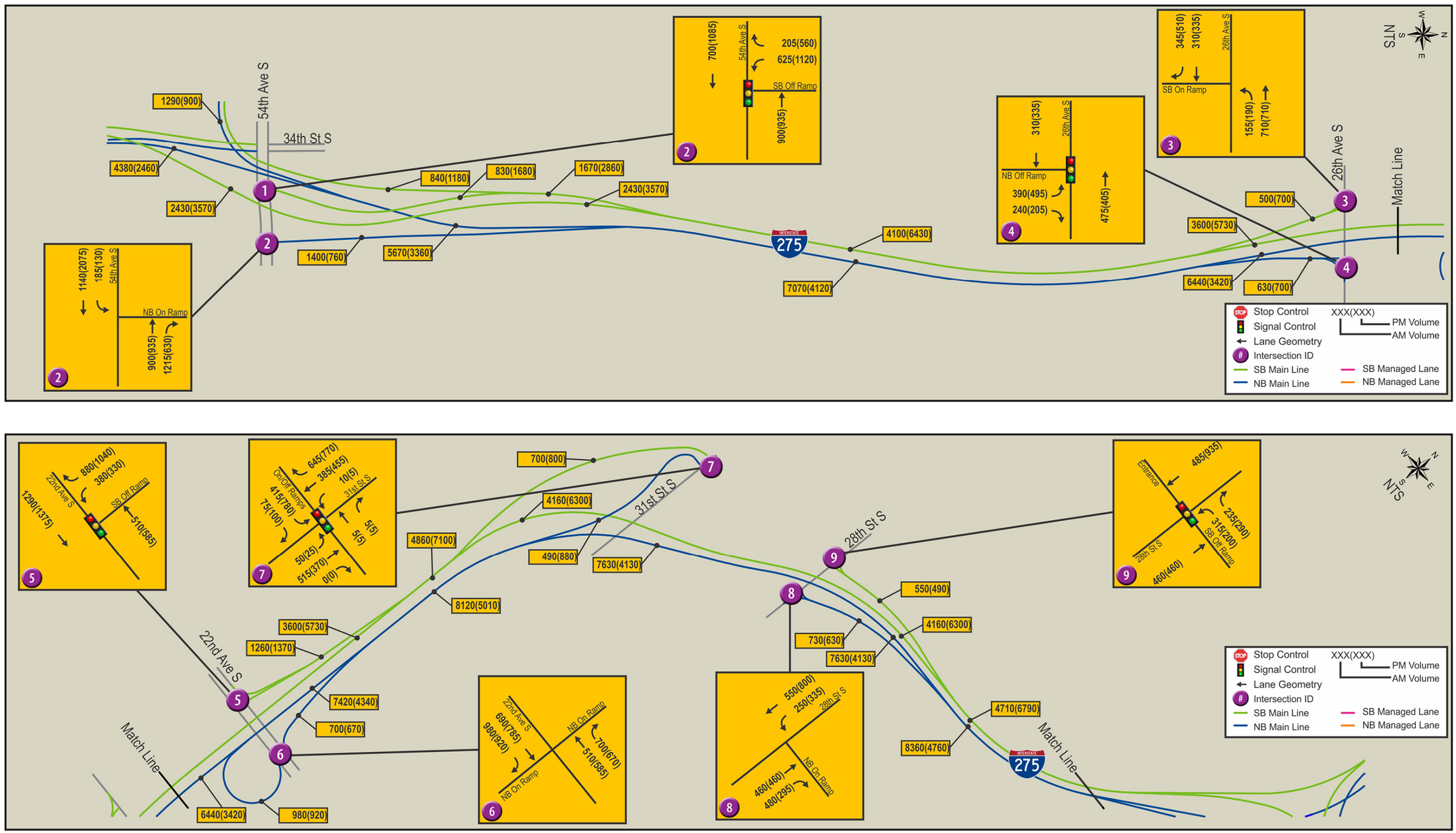
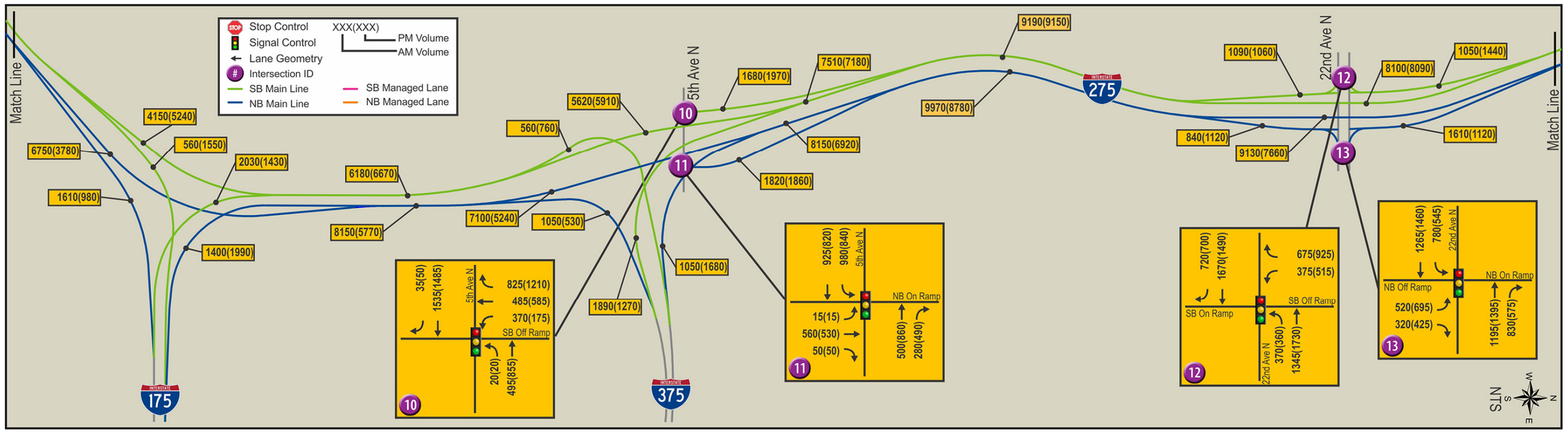


Figure 5.4. Design Year (2040) DDHV – Master Project



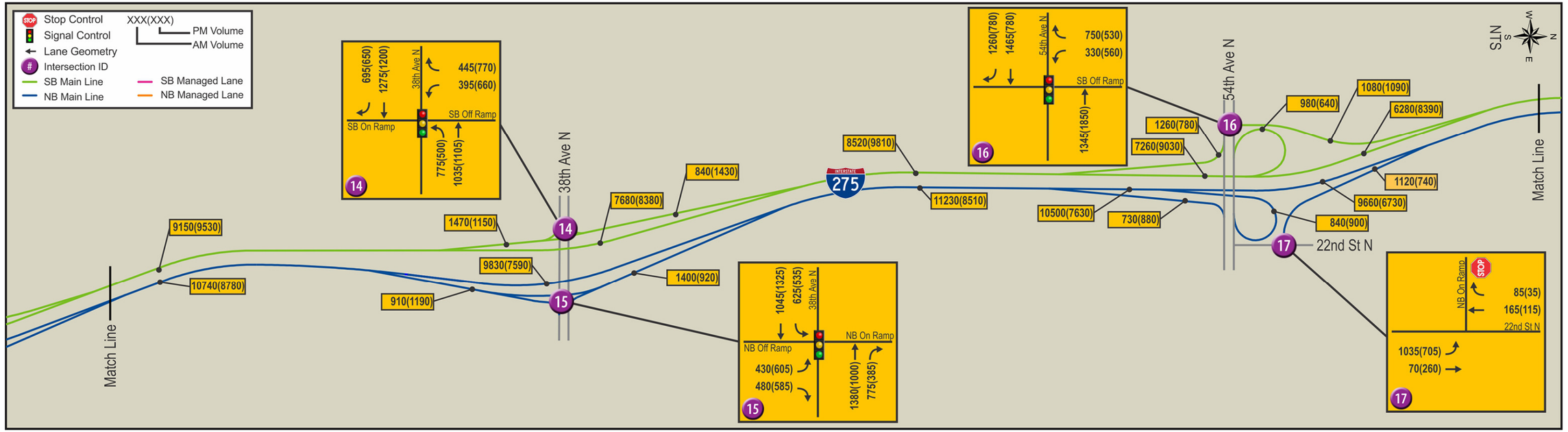


Figure 5.4. (Continued) Design Year (2040) DDHV – Master Project

Figure 5.4. (Continued) Design Year (2040) DDHV – Master Project

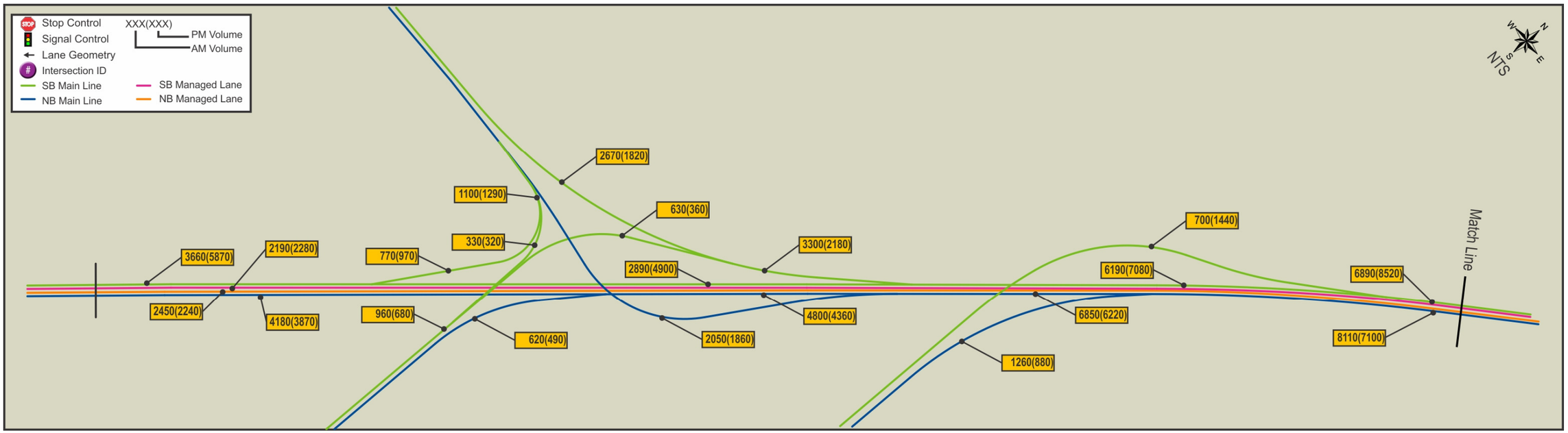


Figure 5.4. (Continued) Design Year (2040) DDHV – Master Project

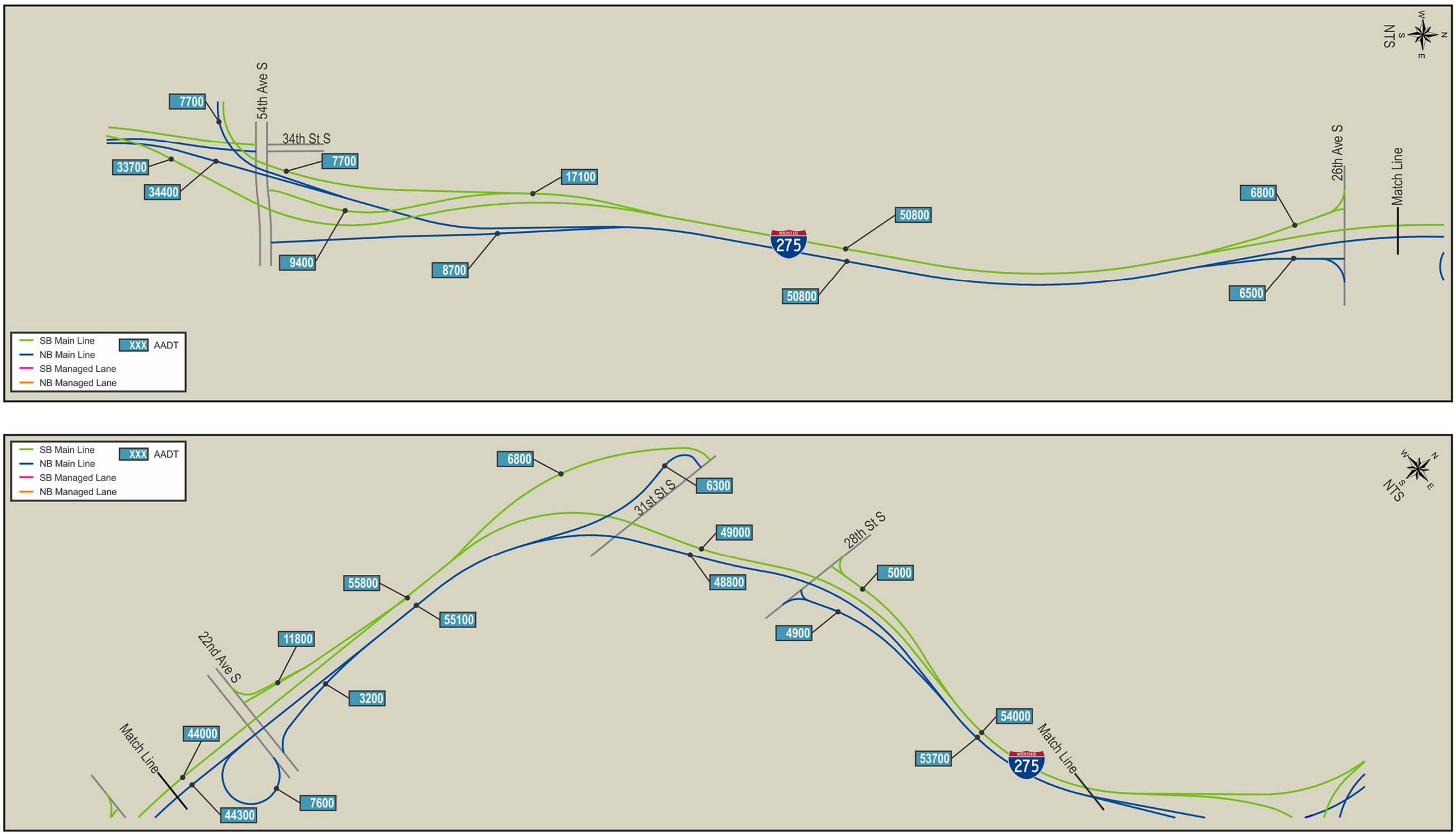


Figure 5.5. Opening Year (2020) AADT – Starter Project

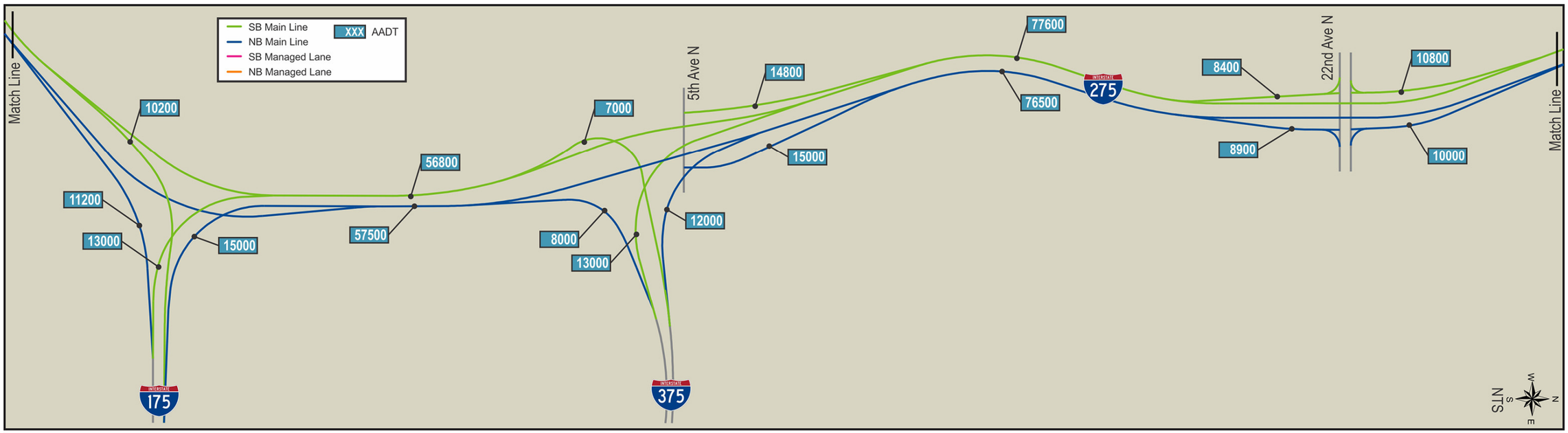


Figure 5.5. (Continued) Opening Year (2020) AADT – Starter Project

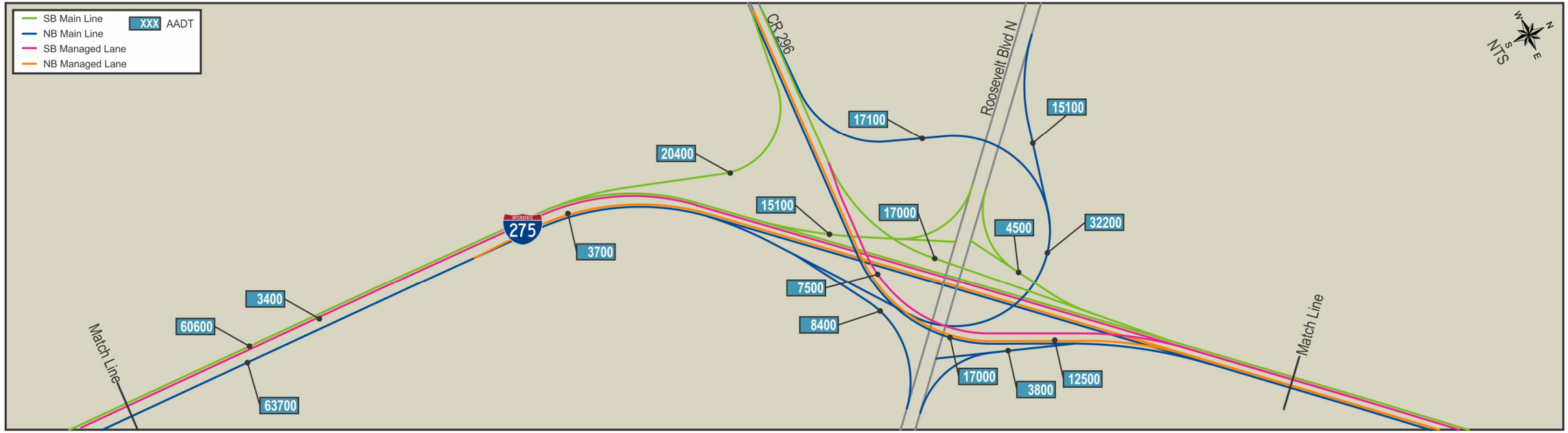


Figure 5.5. (Continued) Opening Year (2020) AADT – Starter Project

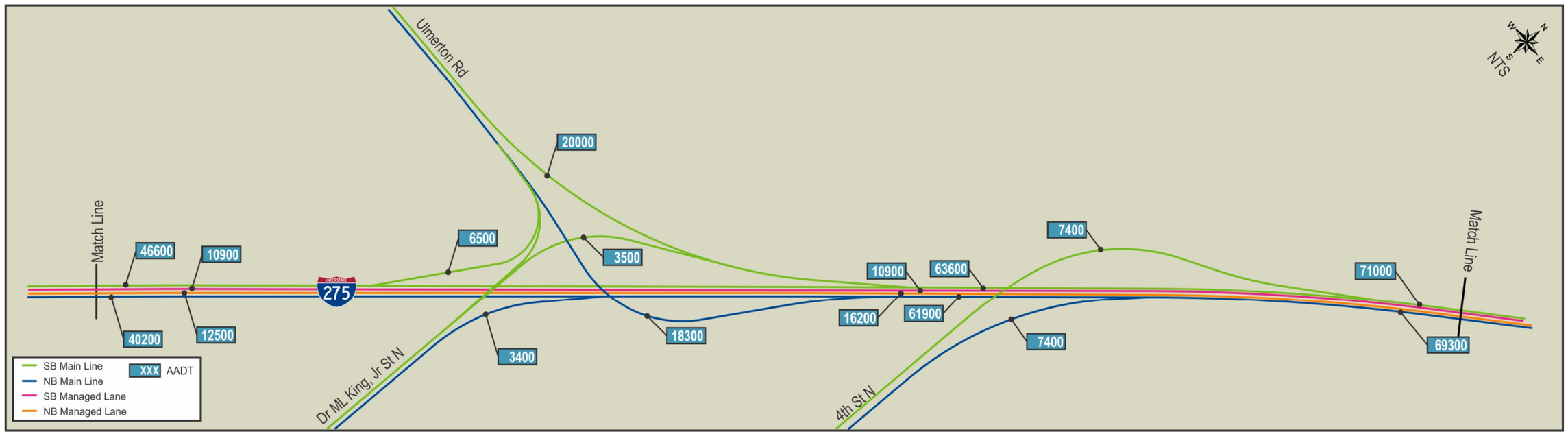


Figure 5.5. (Continued) Opening Year (2020) AADT – Starter Project

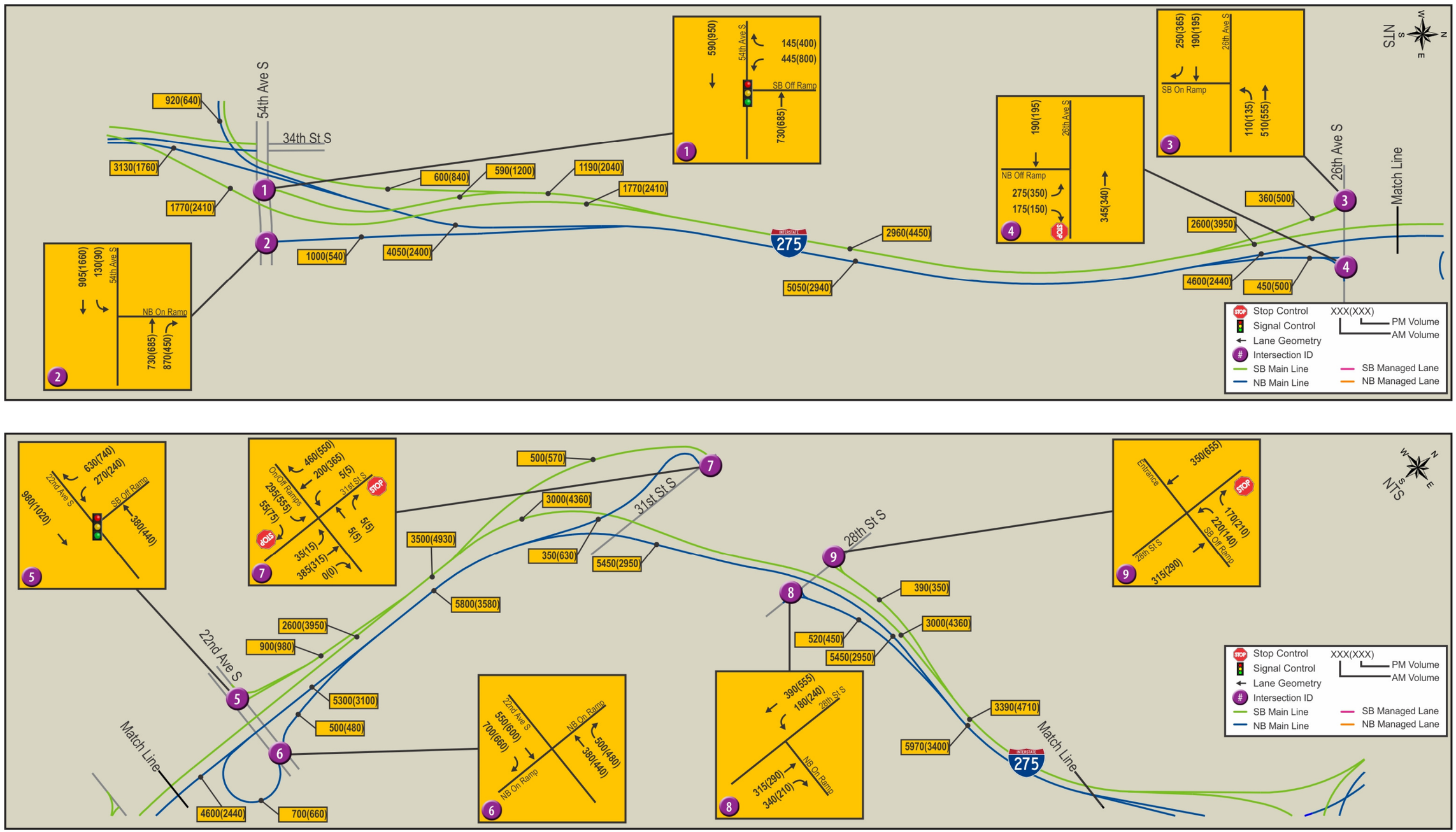
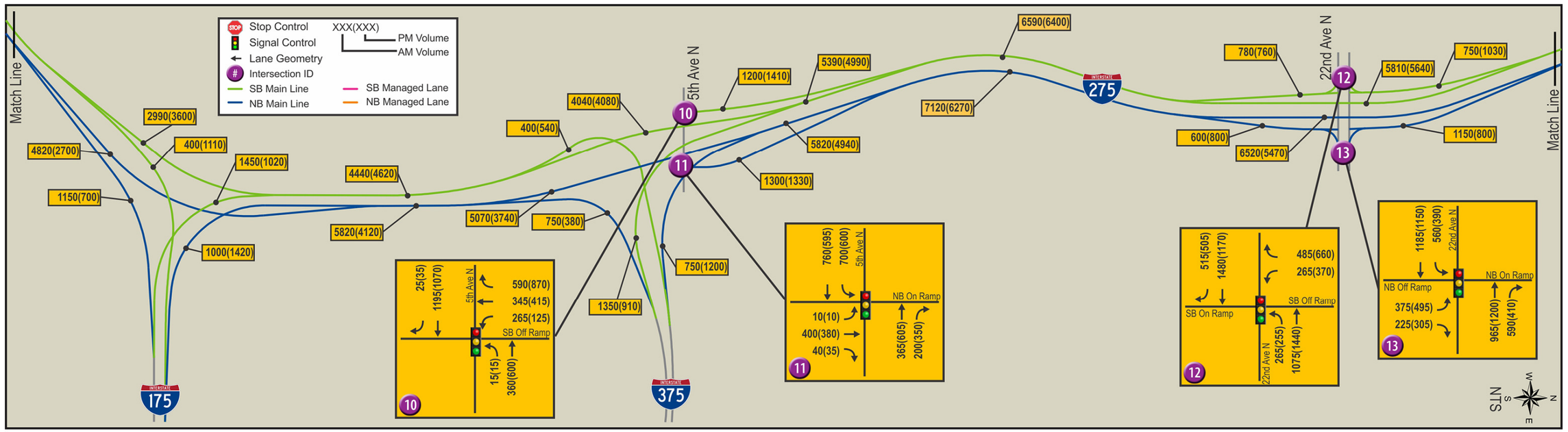


Figure 5.6. Opening Year (2020) DDHV – Starter Project



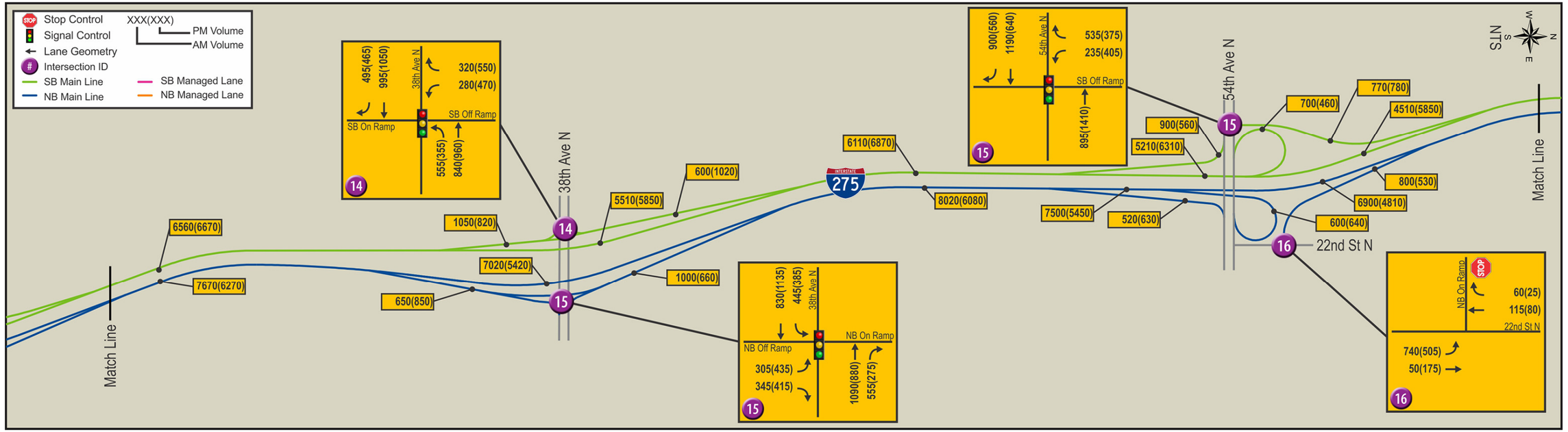


Figure 5.6. (Continued) Opening Year (2020) DDHV – Starter Project

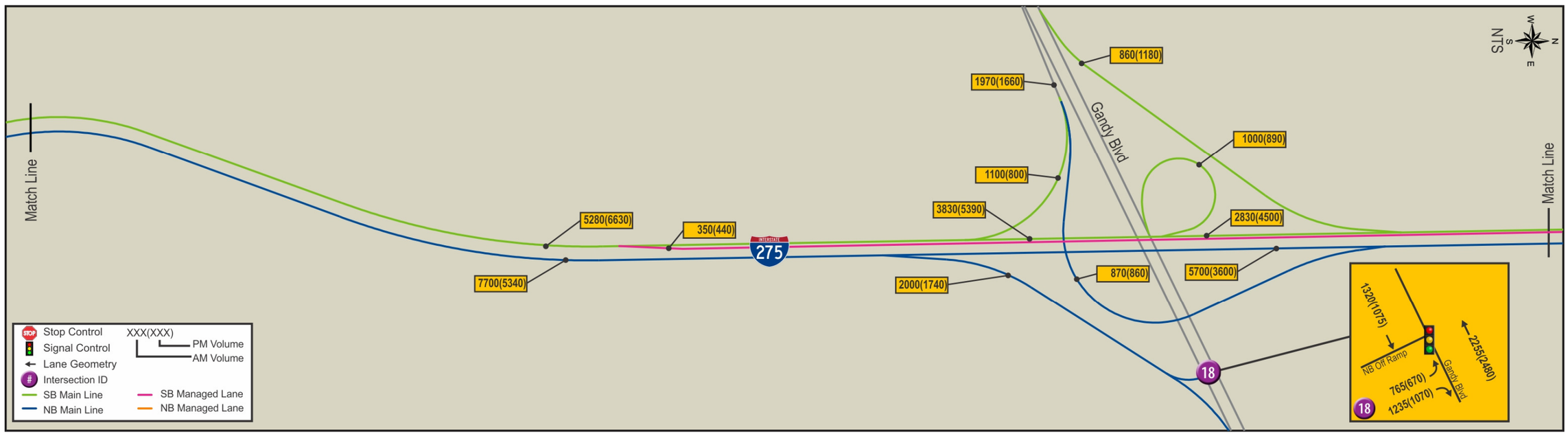
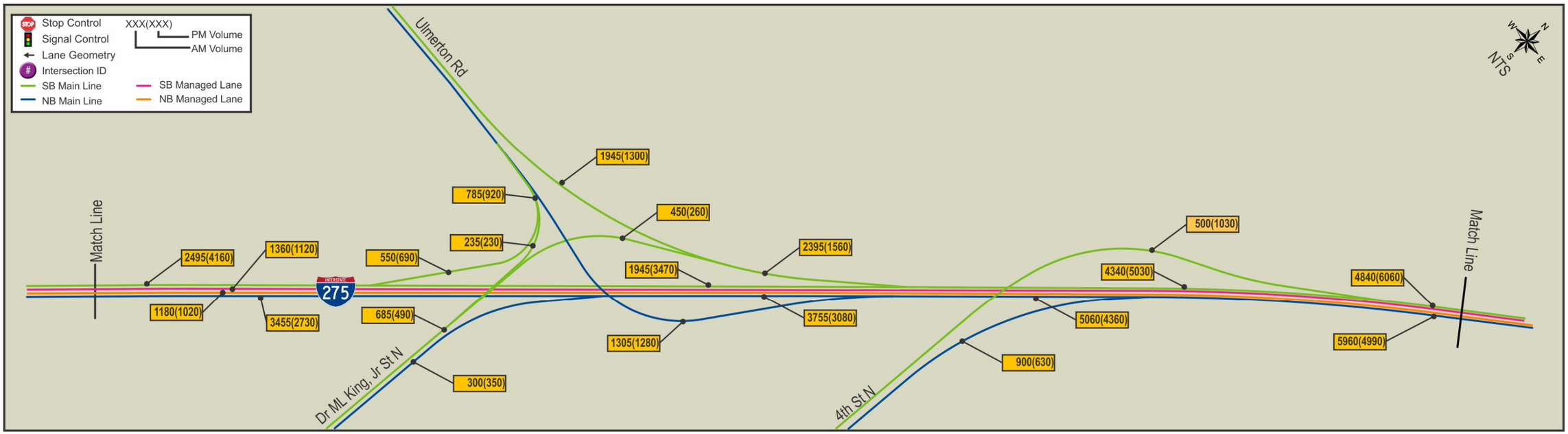


Figure 5.6. (Continued) Opening Year (2020) DDHV – Starter Project



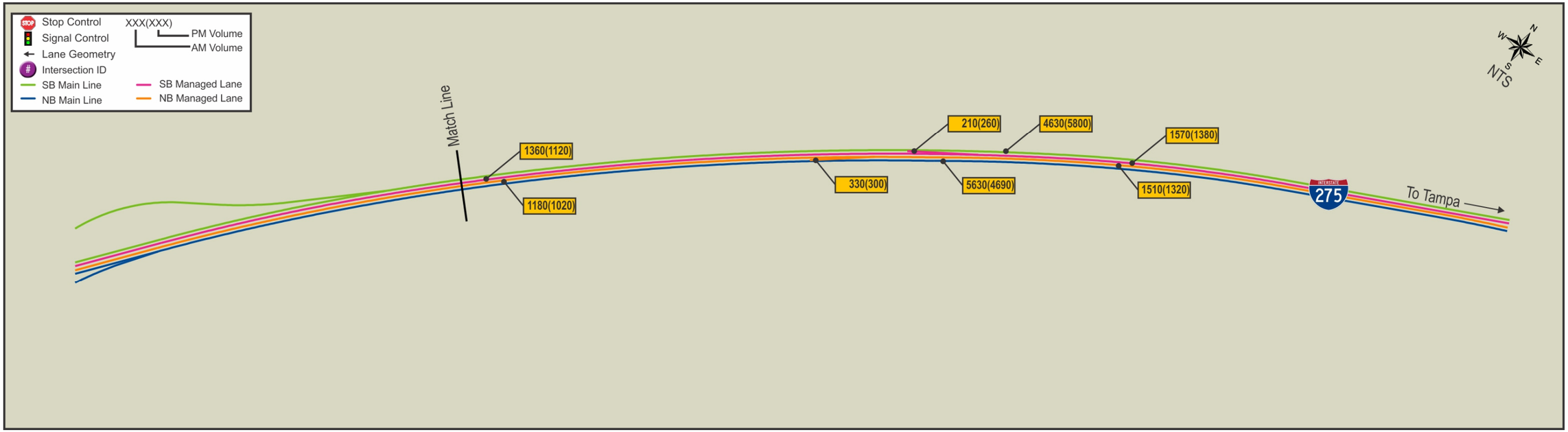


Figure 5.6. (Continued) Opening Year (2020) DDHV – Starter Project

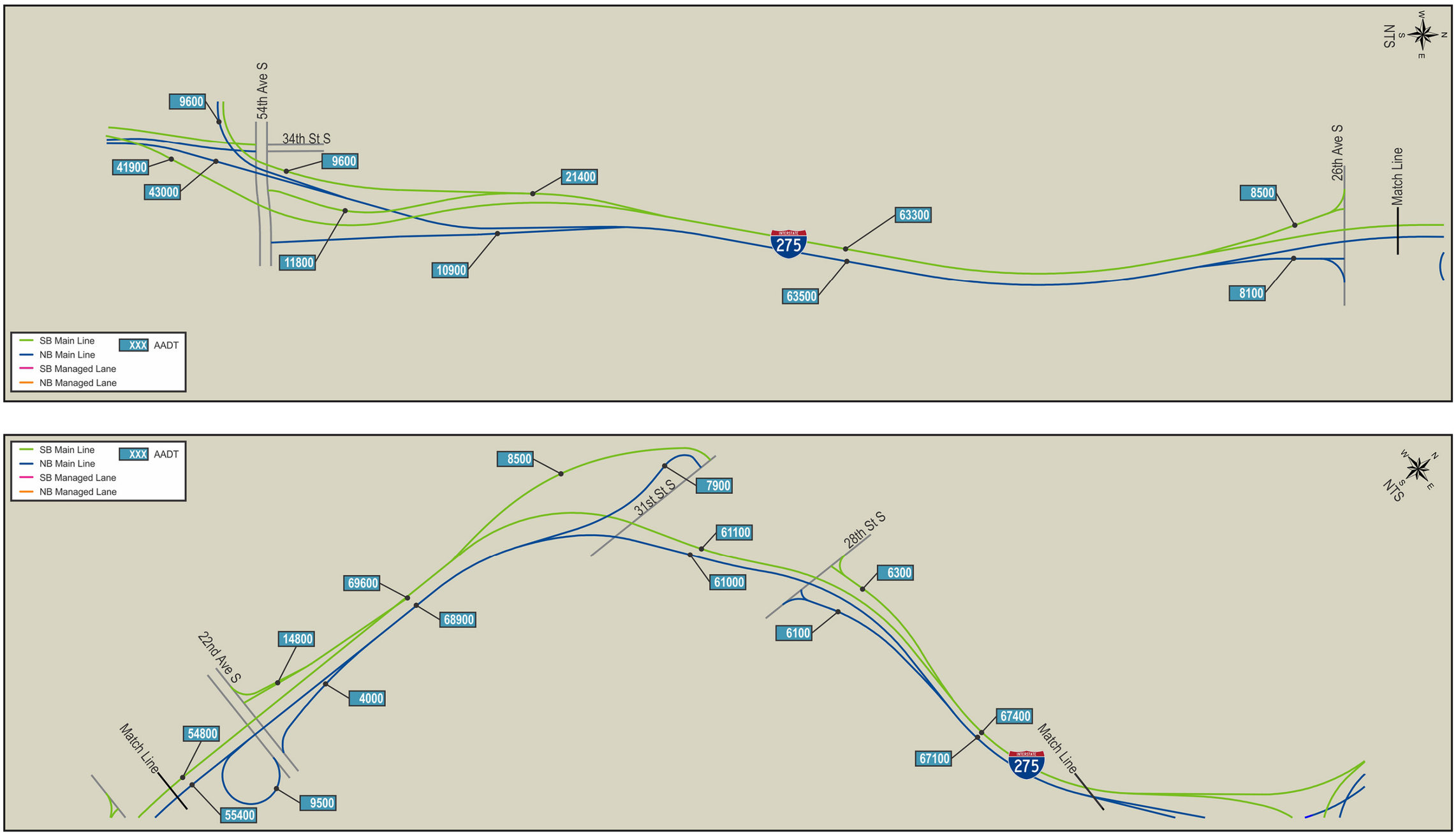


Figure 5.7. Interim Year (2030) AADT – Starter Project

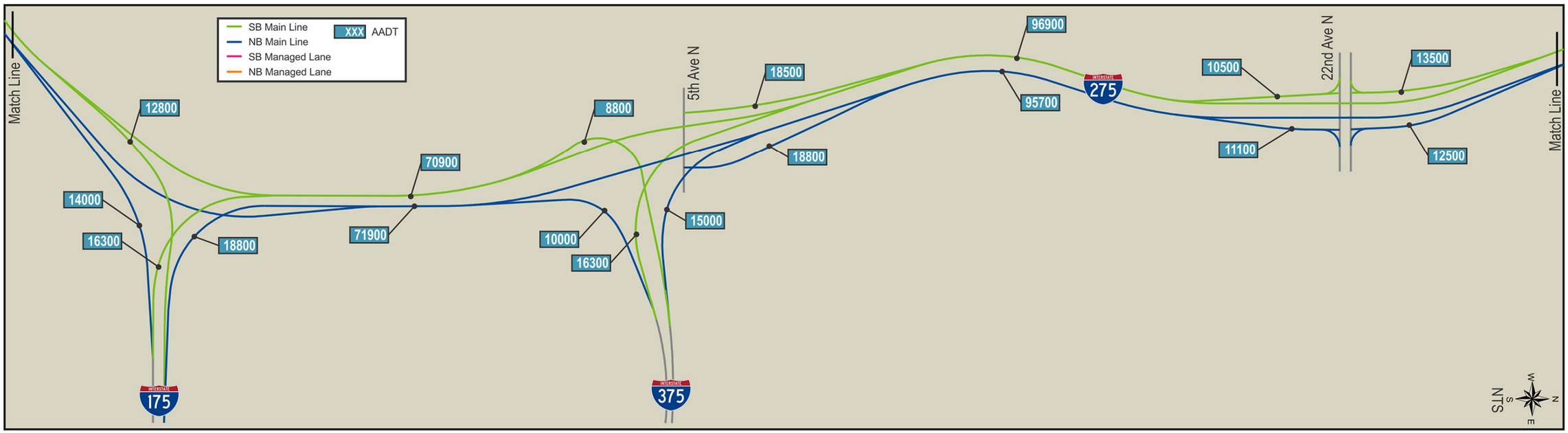
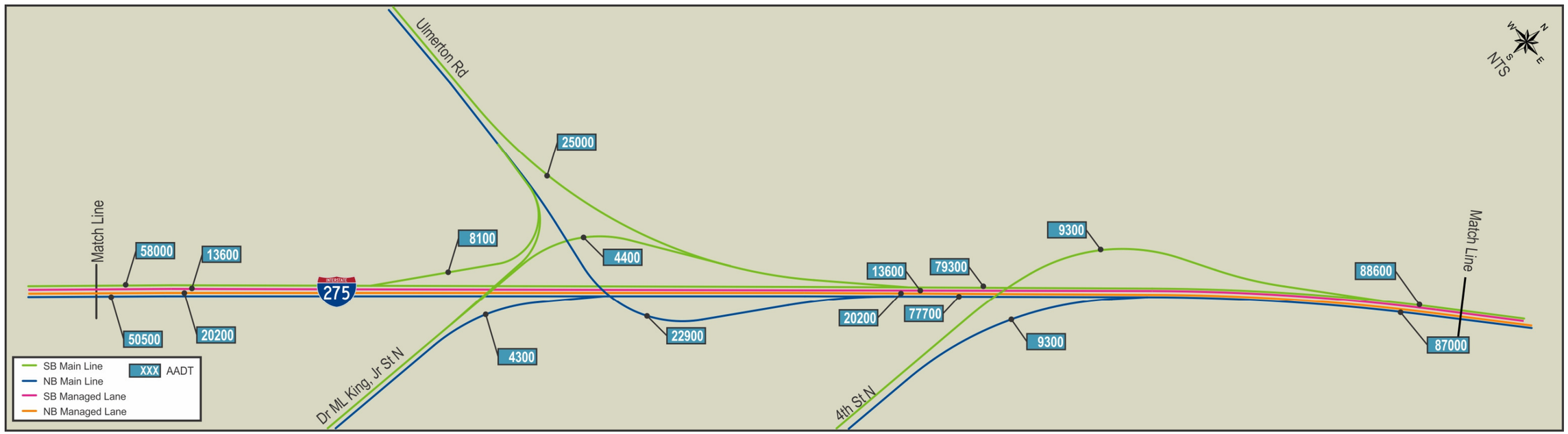


Figure 5.7. (Continued) Interim Year (2030) AADT – Starter Project

Figure 5.7. (Continued) Interim Year (2030) AADT – Starter Project



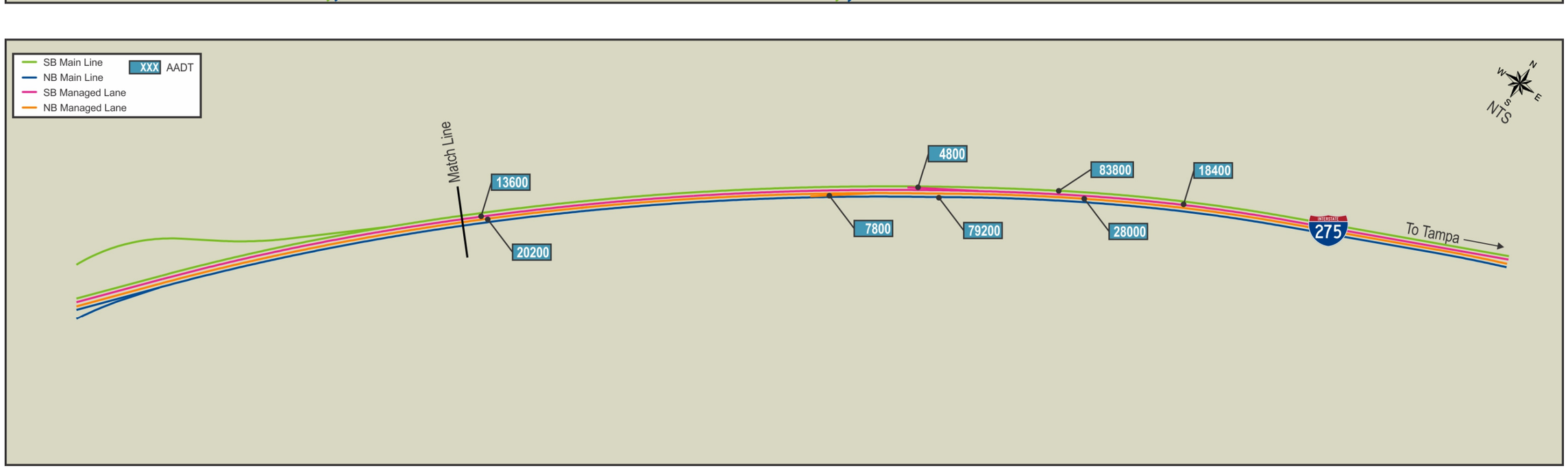


Figure 5.7. (Continued) Interim Year (2030) AADT – Starter Project

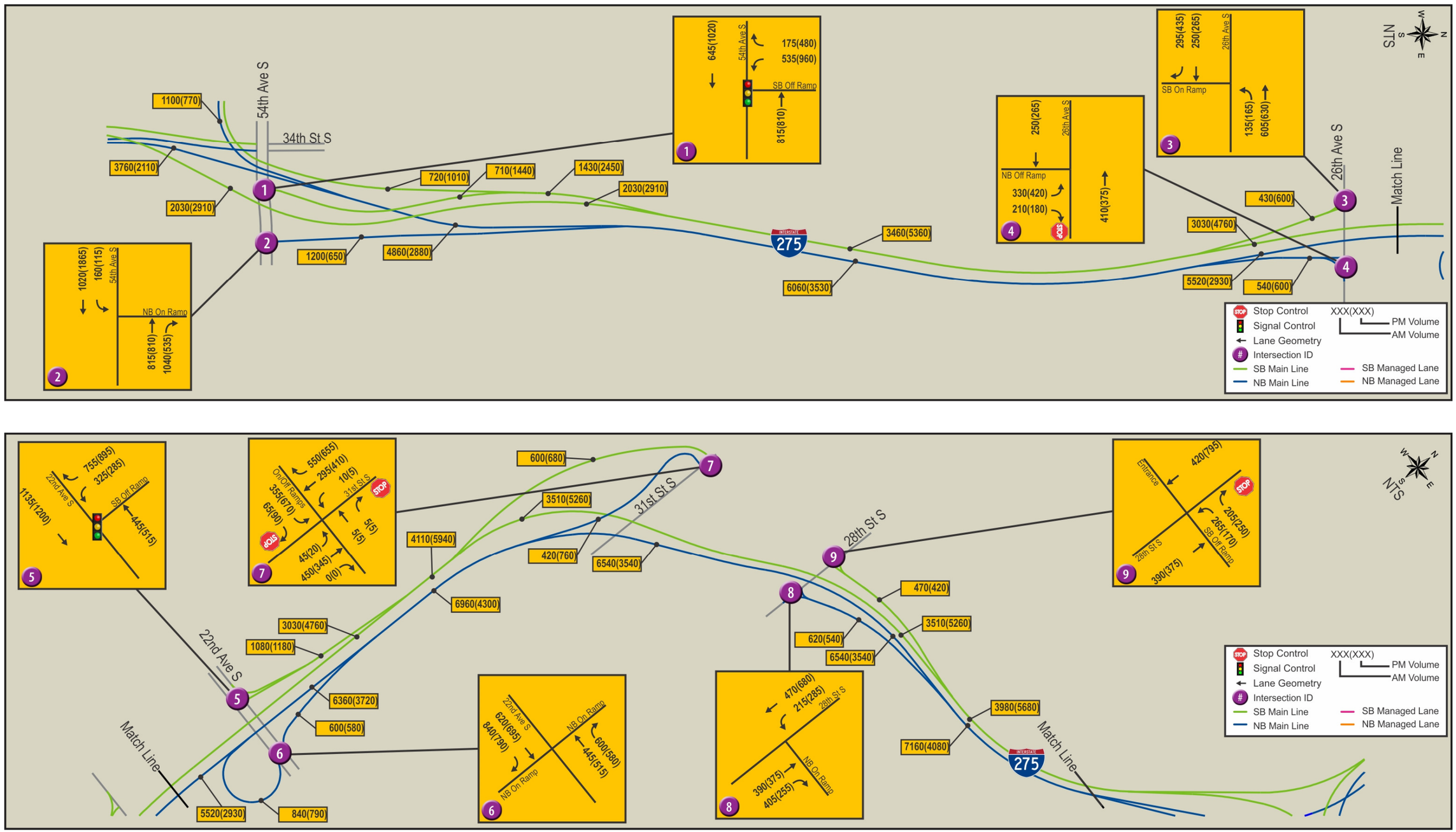
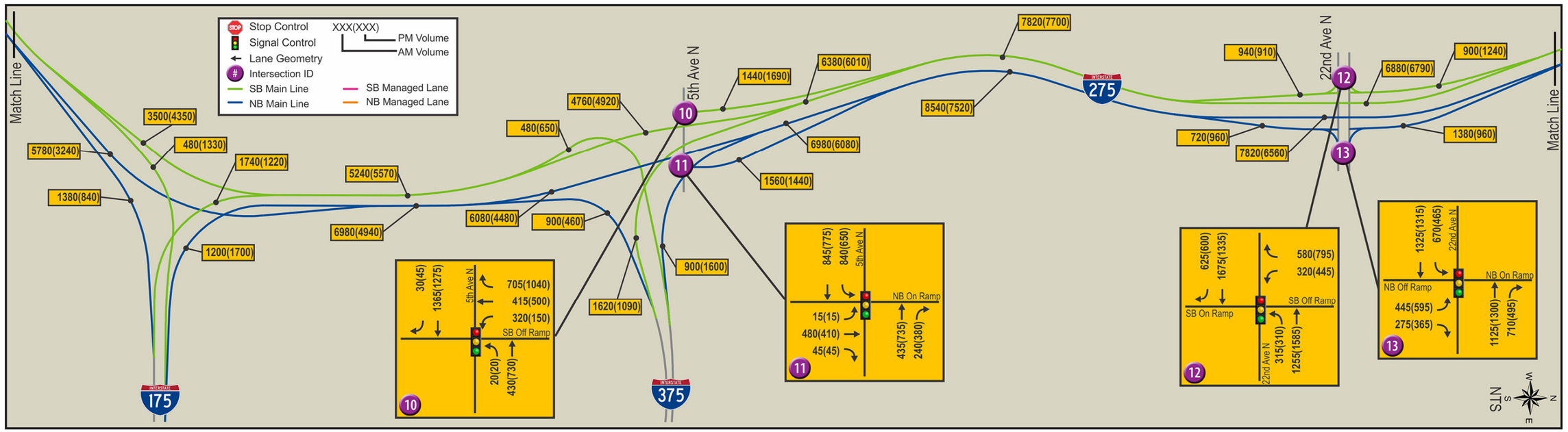


Figure 5.8. Interim Year (2030) DDHV – Starter Project



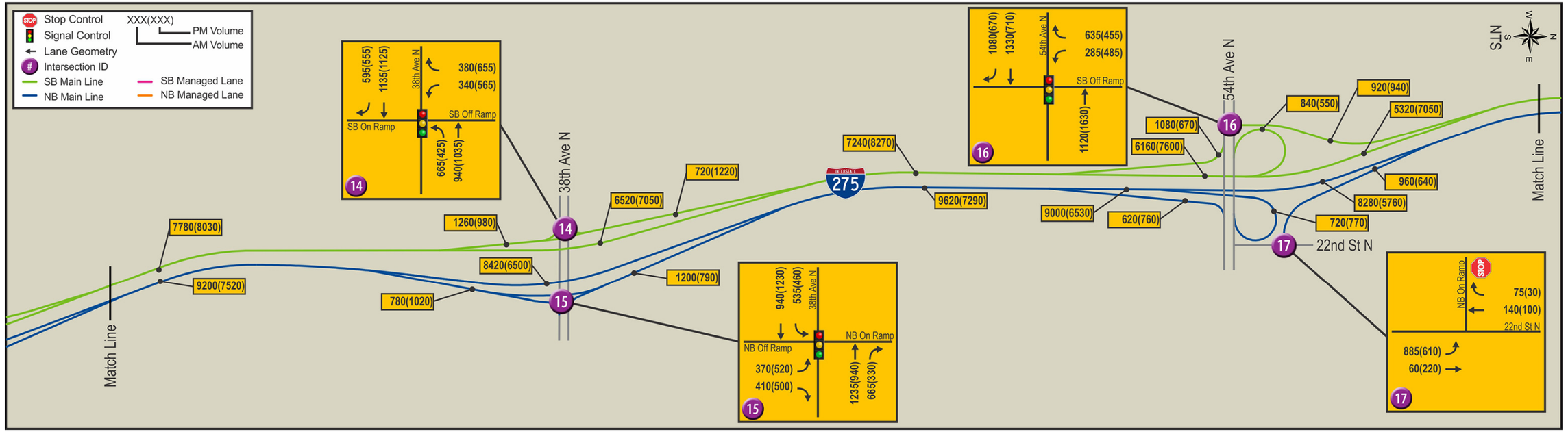
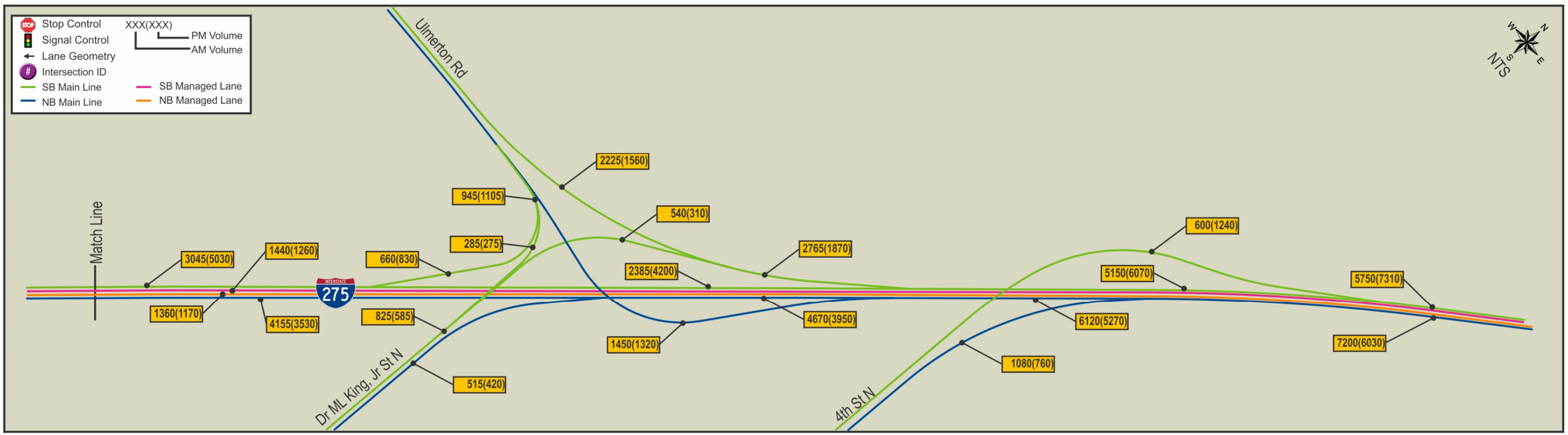


Figure 5.8. (Continued) Interim Year (2030) DDHV – Starter Project

Figure 5.8. (Continued) Interim Year (2030) DDHV – Starter Project



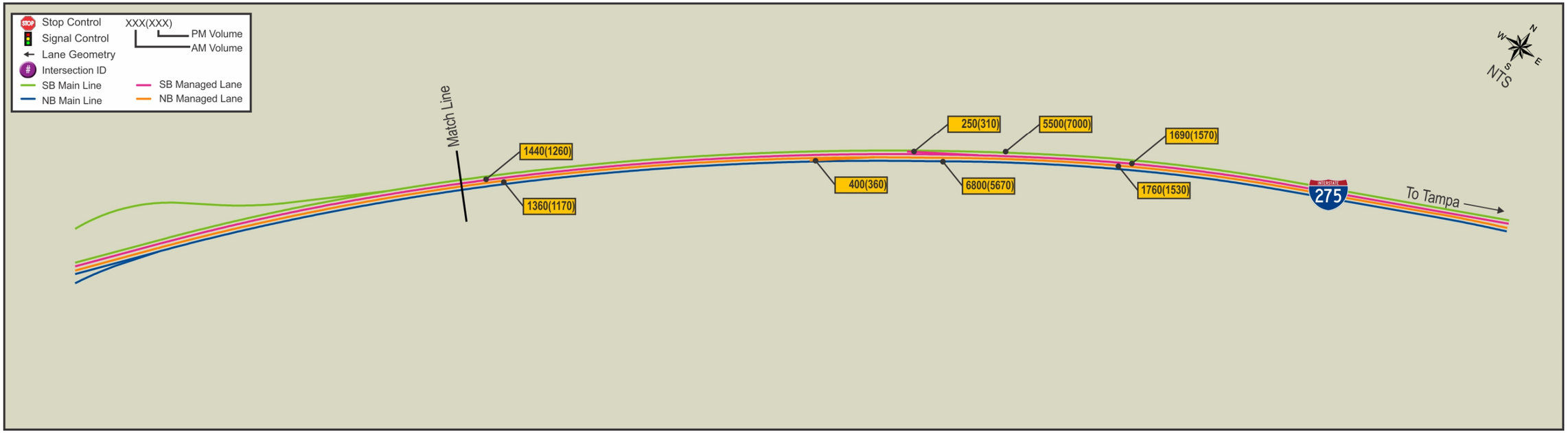


Figure 5.8. (Continued) Interim Year (2030) DDHV – Starter Project

6.0 Design Year (2040) Traffic Operational Analysis

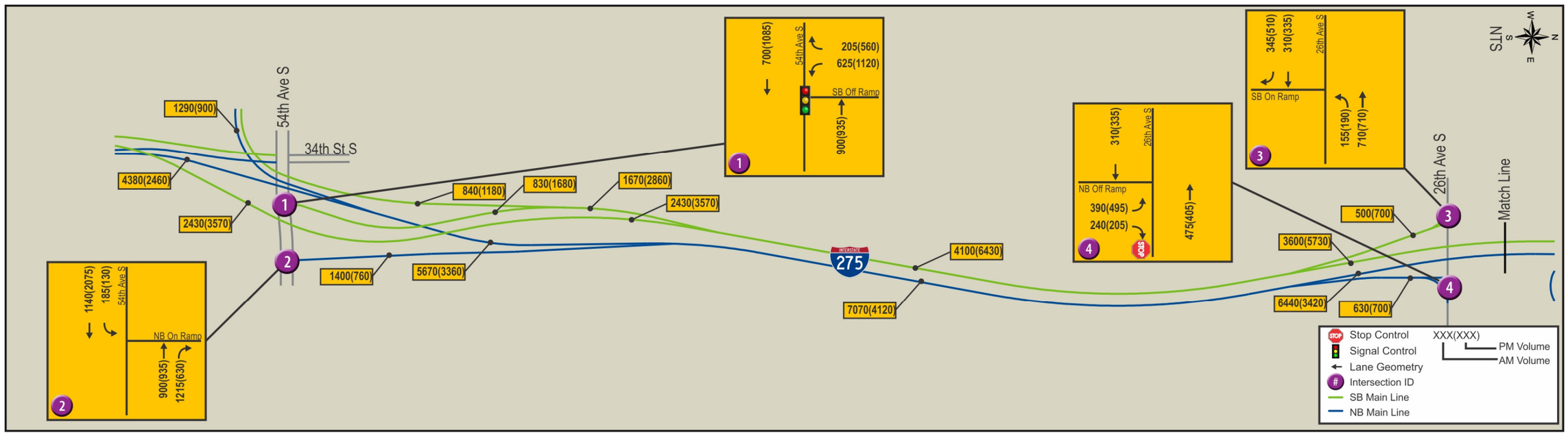
Traffic operational analyses of the I-275 study corridor were completed for I-275 basic freeway segments, merge/diverge areas of the mainline/ramp junctions and ramp terminal intersections. The HCS 2010 was utilized to evaluate existing freeway operations on the I-275 mainline within the lane continuity section of I-275 (i.e., Segments A and B, from south of 54th Avenue South to south of Gandy Boulevard). Due to the unique traffic characteristics associated with the express lane section of I-275 (i.e., Segment C, from south of Gandy Boulevard to north of 4th Street North), CORSIM microsimulation was employed to evaluate the operations of the ELs and GULs.

6.1 No Build

The No Build Alternative assumes that, with the exception of the improvements that are already planned and funded, the existing conditions would remain for I-275 within the project limits. Intersection lane geometry is shown on **Figure 6.1**. The distances between the interchanges of interest are displayed in **Table 4-1**. The following sections present the key MOEs obtained from the use of the HCS 2010 and CORSIM to assess the operations of the I-275 study corridor. In addition to existing lane geometry, projects currently programmed in FDOT work program such as Gandy Boulevard FPID: 257086-1-52-01 were considered in the No Build Alternative.

6.1.1 Design Year (2040) I-275 Mainline Operations

The I-275 mainline was analyzed in HCS 2010 using density thresholds specified in Exhibit 11-5 of the HCM 2010 to determine the LOS. The results of the design year (2040) HCS 2010 basic freeway analysis for the AM and PM peak periods are shown in **Table 6-1** and **Table 6-2**, respectively. The results of the analysis indicate that twenty-five segments are not projected to meet the adopted LOS standards in the AM peak hour and twenty segments are not projected to meet the adopted LOS standards in the PM peak hour. The HCS 2010 freeway output for the design year (2040) can be found in **Appendix K**.



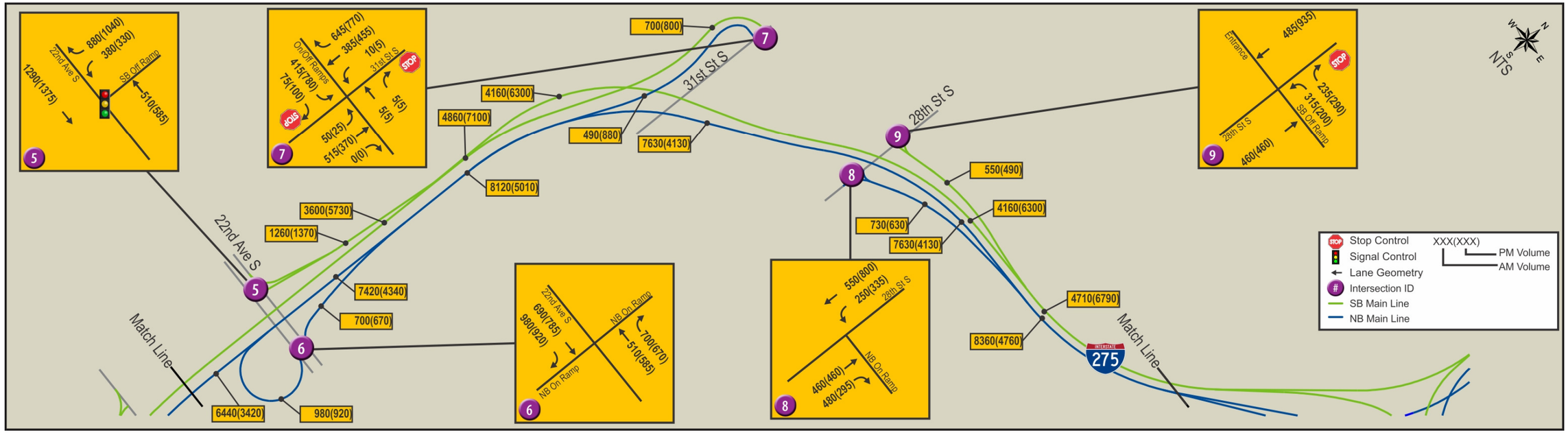


Figure 6.1. Design Year (2040) No Build Lane Geometry

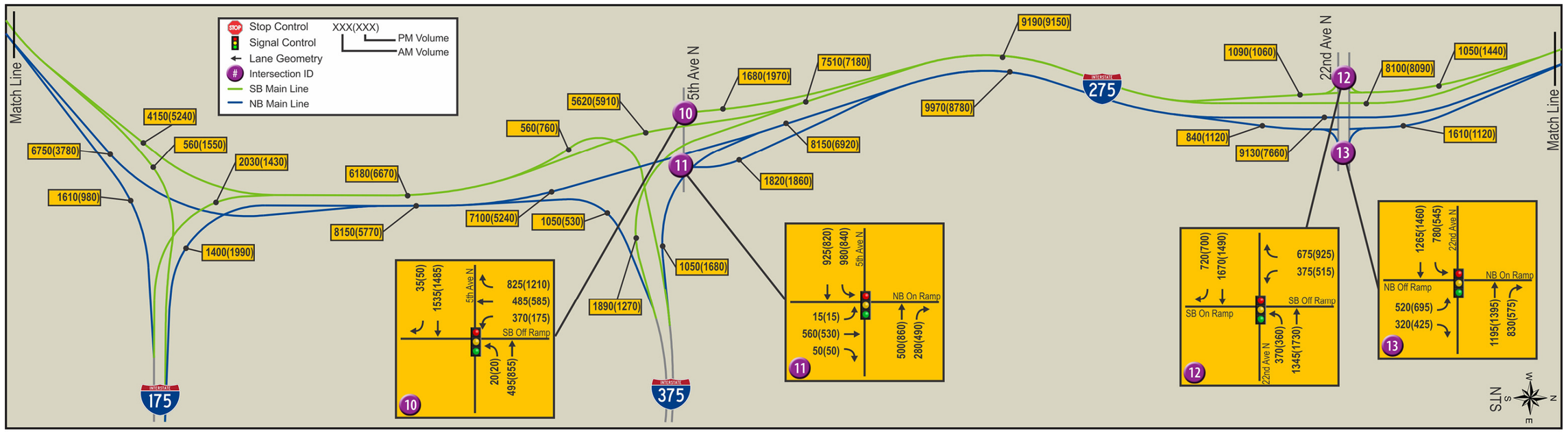
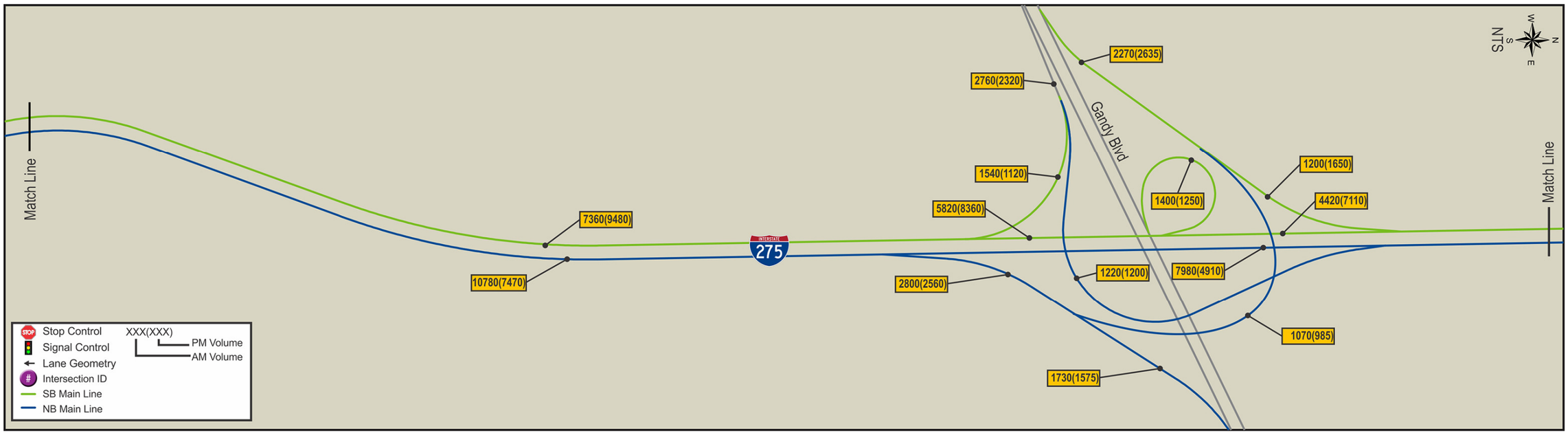


Figure 6.1. (Continued). Design Year (2040) No Build Lane Geometry



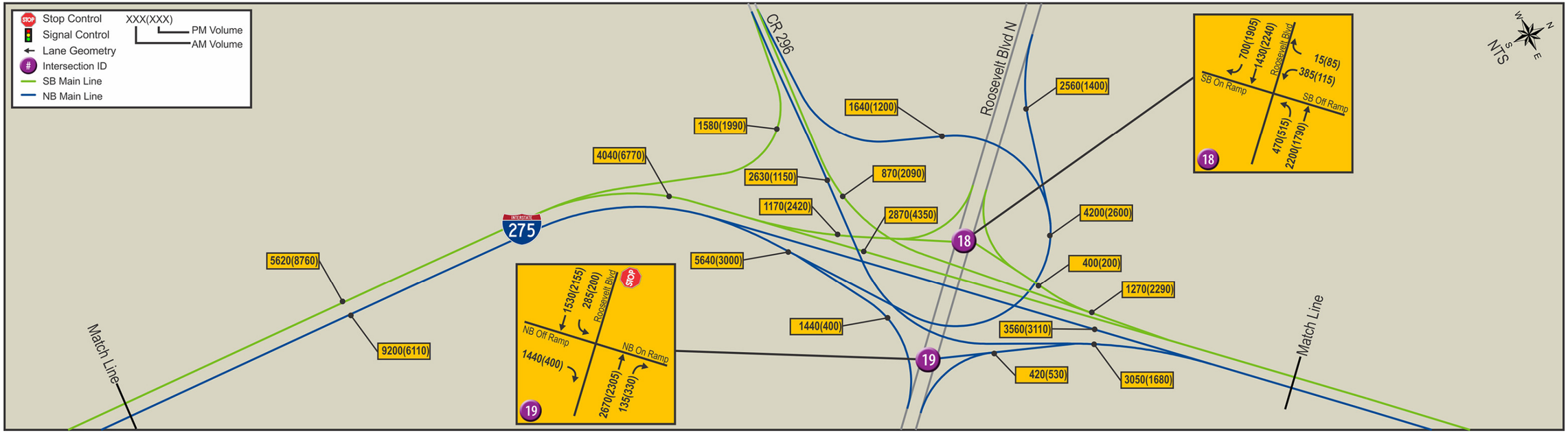


Figure 6.1. (Continued). Design Year (2040) No Build Lane Geometry

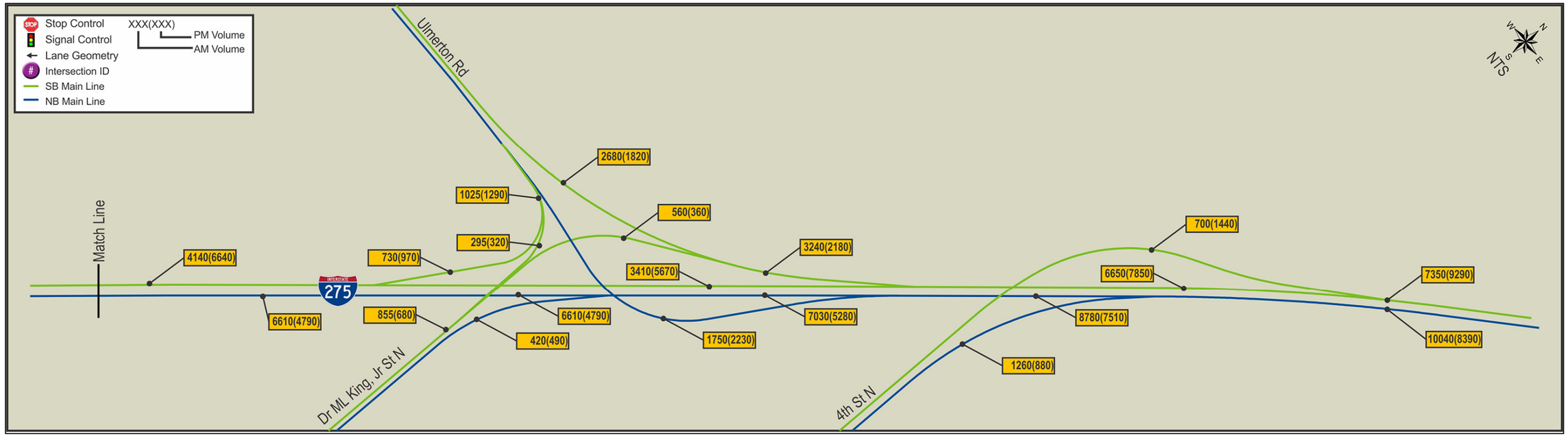


Figure 6.1. (Continued). Design Year (2040) No Build Lane Geometry

Table 6-1. Design Year (2040) No Build I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	4380	44.0	E
54th Ave S EB On to 54th Ave S WB On	5670	33.3	D
54th Ave S On to 26th Ave S Off	7070	52.6	F
26th Ave S Off to 22nd Ave S EB On	6440	42.2	E
22nd Ave S EB On to 22nd Ave S WB On	7420	32.3	D
22ndAveS WB On to 31st St S Off	8120	26.6	D
31st St S Off to 28th St S On	7630	66.0	F
28th St S On to I-175 Off	8360	96.1	F
I-175 Off to I-175 On	6750	*	F
I-175 On to I-375 Off	8150	38.0	E
I-375 Off to I-375 On	7100	53.1	F
I-375 On to 5th Ave N On	8150	38.0	E
5th Ave N On to 22nd Ave N Off	9970	61.8	F
22nd Ave N Off to 22nd Ave N On	9130	176.1	F
22nd Ave N On to 38th Ave N Off	10740	*	F
38th Ave N Off to 38th Ave N On	9830	627.4	F
38th Ave N On to 54th Ave N EB Off	11230	100.0	F
54th Ave N EB Off to 54th Ave N WB Off	10500	74.0	F
54th Ave N Off WB to 22nd St N On	9660	387.7	F
22nd St N On to Gandy Blvd Off	10780	*	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	6280	40.1	E
54th Ave N WB On to 54th Ave N EB On	7260	31.2	D
54th Ave N EB On to 38th Ave N Off	8520	41.5	E
38th Ave N Off to 38th Ave N On	7680	67.5	F
38th Ave N On to 22nd Ave N Off	9150	179.8	F
22nd Ave N Off to 22nd Ave N On	8100	82.9	F
22nd Ave N On to 5th Ave N Off	9190	49.2	F
5th Ave N Off to I-375 Off	7510	32.9	D
I-375 Off to I-375 On	5620	32.8	D
I-375 On to I-175 Off	6180	38.8	E
I-175 Off to I-175 On	4150	39.4	E
I-175 On to 28th St S Off	4710	25.4	C
28th St S Off to 31st St S On	4160	21.8	C
31st St S On to 22nd Ave S Off	4860	18.9	C
22nd Ave S Off to 26th Ave S On	3600	18.6	C
26th Ave S On to 54th Ave S Off	4100	21.5	C
South of 54th Ave S Off	2430	18.9	C

*Vehicle density greater than 9999 pc/mi/ln; therefore failing LOS is projected

Table 6-2. Design Year (2040) No Build I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	2460	19.1	C
54th Ave S EB On to 54th Ave S WB On	3360	17.4	B
54th Ave S On to 26th Ave S Off	4120	21.6	C
26th Ave S Off to 22nd Ave S EB On	3420	17.7	B
22nd Ave S EB On to 22nd Ave S WB On	4340	16.8	B
22ndAveS WB On to 31st St S Off	5010	15.5	B
31st St S Off to 28th St S On	4130	21.6	C
28th St S On to I-175 Off	4760	25.7	C
I-175 Off to I-175 On	3780	33.3	D
I-175 On to I-375 Off	5770	22.9	C
I-375 Off to I-375 On	5240	29.4	D
I-375 On to 5th Ave N On	6920	29.0	D
5th Ave N On to 22nd Ave N Off	8780	44.2	E
22nd Ave N Off to 22nd Ave N On	7660	66.9	F
22nd Ave N On to 38th Ave N Off	8780	128.3	F
38th Ave N Off to 38th Ave N On	7590	64.9	F
38th Ave N On to 54th Ave N EB Off	8510	41.4	E
54th Ave N EB Off to 54th Ave N WB Off	7630	33.8	D
54th Ave N Off WB to 22nd St N On	6730	46.5	F
22nd St N On to Gandy Blvd Off	7470	61.6	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	8390	97.9	F
54th Ave N WB On to 54th Ave N EB On	9030	47.2	F
54th Ave N EB On to 38th Ave N Off	9810	58.8	F
38th Ave N Off to 38th Ave N On	8380	97.3	F
38th Ave N On to 22nd Ave N Off	9530	300.1	F
22nd Ave N Off to 22nd Ave N On	8090	82.4	F
22nd Ave N On to 5th Ave N Off	9150	48.7	F
5th Ave N Off to I-375 Off	7180	30.6	D
I-375 Off to I-375 On	5910	35.7	E
I-375 On to I-175 Off	6670	45.5	F
I-175 Off to I-175 On	5240	73.4	F
I-175 On to 28th St S Off	6790	47.5	F
28th St S Off to 31st St S On	6300	40.3	E
31st St S On to 22nd Ave S Off	7100	30.1	D
22nd Ave S Off to 26th Ave S On	5730	33.9	D
26th Ave S On to 54th Ave S Off	6430	42.0	E
South of 54th Ave S Off	3570	30.4	D

6.1.2 Design Year (2040) I-275 Merge/Diverge Operations

The I-275 ramp merge/diverge areas were analyzed in HCS 2010 using density thresholds specified in Exhibit 13-2 of the HCM 2010. Ramp capacities were also checked. The results of the design year (2040) HCS 2010 ramp merge/diverge analysis for the AM and PM peak periods are shown in **Table 6-3** and **Table 6-4**, respectively. The results of the analysis indicate that thirty-one merge/diverge areas are not projected to meet the adopted LOS standards in the AM peak hour and twenty-eight merge/diverge areas are not projected to meet the adopted LOS standards in the PM peak hour. This may be attributed to substandard freeway operations as, the ramps all operate well under capacity as shown in **Table 6-5**. The HCS ramp output for the design year (2040) can be found in **Appendix K**.

Table 6-3. Design Year (2040) No Build I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	1290	34.0	F
54th Ave S WB On	1400	42.4	F
26th Ave S Off	630	45.2	F
22nd Ave S EB On	980	41.5	F
22nd Ave S WB On	700	26.8	C
31st St S Off	490	33.3	F
28th St S On	730	57.7	F
I-175 Off	1610	55.2	F
I-175 On	1400	64.3	F
I-375 Off	1050	51.0	F
I-375 On	1050	24.6	F
5th Ave N On	1820	42.7	F
22nd Ave N Off	840	60.5	F
22nd Ave N On	1610	70.3	F
38th Ave N Off	910	79.7	F
38th Ave N On	1400	74.8	F
54th Ave N EB Off	730	55.3	F
54th Ave N WB Off	840	65.5	F
22nd St N On	1120	71.5	F
Southbound I-275			
54th Ave N Off	1080	48.3	F
54th Ave N WB On	980	36.8	F
54th Ave N EB On	1260	35.7	E
38th Ave N Off	840	47.0	F
38th Ave N On	1470	58.6	F
22nd Ave N Off	1050	52.9	F
22nd Ave N On	1090	56.0	F
5th Ave N Off	1680	70.4	F
I-375 Off	1890	26.4	F

Table 6-3. (Continued) Design Year (2040) No Build I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-375 On	560	48.9	E
I-175 Off	2030	34.9	F
I-175 On	560	35.6	F
28th St S Off	550	31.1	D
31st St S On	700	41.1	E
22nd Ave S Off	1260	21.5	C
26th Ave S On	500	24.8	C
54th Ave S Off	1670	18.5	B

Table 6-4. Design Year (2040) No Build I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	900	14.6	B
54th Ave S WB On	760	25.8	C
26th Ave S Off	700	29.2	D
22nd Ave S EB On	920	25.0	C
22nd Ave S WB On	670	16.1	B
31st St S Off	880	6.2	A
28th St S On	630	31.0	D
I-175 Off	980	21.7	F
I-175 On	1990	43.9	F
I-375 Off	530	31.3	D
I-375 On	1680	16.0	F
5th Ave N On	1860	38.8	E
22nd Ave N Off	1120	49.4	F
22nd Ave N On	1120	55.2	F
38th Ave N Off	1190	61.4	F
38th Ave N On	920	52.0	F
54th Ave N EB Off	880	36.2	E
54th Ave N WB Off	900	38.7	F
22nd St N On	740	44.1	F
Southbound I-275			
54th Ave N Off	1090	68.0	F
54th Ave N WB On	640	51.1	F
54th Ave N EB On	780	41.6	F
38th Ave N Off	1430	59.1	F
38th Ave N On	1150	62.0	F
22nd Ave N Off	1440	56.4	F
22nd Ave N On	1060	58.1	F

Table 6-4. (Continued) Design Year (2040) No Build I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
5th Ave N Off	1970	64.6	F
I-375 Off	1270	23.2	F
I-375 On	760	47.5	F
I-175 Off	1430	39.5	F
I-175 On	1550	52.8	F
28th St S Off	490	42.6	F
31st St S On	800	62.2	F
22nd Ave S Off	1370	33.8	F
26th Ave S On	700	41.5	E
54th Ave S Off	2860	40.2	F

Table 6-5. Design Year (2040) No Build I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
Northbound I-275		
54th Ave S EB On	0.31	0.21
54th Ave S WB On	0.67	0.36
26th Ave S Off	0.30	0.33
22nd Ave S WB On	0.49	0.46
22nd Ave S EB On	0.33	0.32
31st St S Off	0.12	0.21
28th St S On	0.35	0.30
I-175 Off	0.38	0.23
I-175 On	0.67	0.95
I-375 Off	0.50	0.25
I-375 On	0.25	0.40
5th Ave N On	0.87	0.89
22nd Ave N Off	0.40	0.53
22nd Ave N On	0.77	0.53
38th Ave N Off	0.43	0.57
38th Ave N On	0.67	0.44
54th Ave N EB Off	0.35	0.42
54th Ave N WB Off	0.42	0.45
22nd St N On	0.53	0.35
Southbound I-275		
54th Ave N Off	0.51	0.52
54th Ave N WB On	0.49	0.32
54th Ave N EB On	0.60	0.37
38th Ave N Off	0.40	0.68

Table 6-5. (Continued) Design Year (2040) No Build I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
38th Ave N On	0.70	0.55
22nd Ave N Off	0.50	0.69
22nd Ave N On	0.52	0.50
5th Ave N Off	0.80	0.94
I-375 Off	0.45	0.30
I-375 On	0.27	0.36
I-175 Off	0.48	0.34
I-175 On	0.27	0.74
28th St S Off	0.26	0.23
31st St S On	0.33	0.38
22nd Ave S Off	0.60	0.65
26th Ave S On	0.24	0.33
54th Ave S Off	0.40	0.68

6.1.3 Design Year (2040) I-275 Ramp Terminal Intersection Operations

Synchro models were developed for the Lane Continuity study area for the AM and PM peak periods for the operational analysis of the I-275 ramp terminal intersections. HCM 2010 Signalized and TWSC intersection reports were extracted from Synchro and can be found in **Appendix K**. The results of the design year (2040) HCS 2010 signalized ramp terminal intersections analysis for the AM and PM peak periods are shown in **Table 6-6** and **Table 6-7**, respectively. Similarly, the results of the design year (2040) HCS 2010 unsignalized ramp terminal intersections analysis for the AM and PM peak periods are shown in **Table 6-8** and **Table 6-9**, respectively. The results of the analysis indicate that nine intersections (both signalized and unsignalized) are not projected to meet the adopted LOS standard in the AM peak hour and nine intersections (both signalized and unsignalized) are not projected to meet the adopted LOS standard in the PM peak hour. Based on the TWSC analysis results, the 31st south ramp terminal intersection may be a candidate for signalization.

Table 6-6. Design Year (2040) No Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	8.5	A	9.3	A	--	--	31.2	C	16.5	B
22nd Ave S SB Off	37.2	D	13.5	B	--	--	161.8	F	84.5	F
5th Ave N SB Off	144.7	F	17.7	B	--	--	81.3	F	99.0	F
5th Ave N NB On	263.2	F	32.5	C	122.2	F	--	--	182.2	F
22nd Ave N SB On/Off	61.0	E	18.7	B	--	--	302.1	F	96.1	F
22nd Ave N NB On/Off	126.9	F	95.7	F	56.1	E	--	--	101.9	F
38th Ave N SB On/Off	537.1	F	47.2	D	--	--	99.2	F	265.5	F

Table 6-6. (Continued) Design Year (2040) No Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
38th Ave N NB On/Off	97.9	F	93.3	F	105.7	F	--	--	97.3	F
54th Ave N SB Off	77.8	E	8.6	A	--	--	356.2	F	118.1	F

Table 6-7. Design Year (2040) No Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	33.8	C	13.7	B	--	--	154.7	F	83.6	F
22nd Ave S SB Off	28.0	C	13.8	B	--	--	260.8	F	121.3	F
5th Ave N SB Off	134.9	F	20.0	C	--	--	246.7	F	162.3	F
5th Ave N NB On	295.0	F	106.2	F	102.0	F	--	--	192.4	F
22nd Ave N SB On/Off	56.4	E	16.4	B	--	--	475.3	F	147.2	F
22nd Ave N NB On/Off	46.2	D	34.6	C	98.1	F	--	--	53.1	D
38th Ave N SB On/Off	480.1	F	26.0	C	--	--	177.2	F	242.2	F
38th Ave N NB On/Off	33.5	C	27.1	C	159.1	F	--	--	65.2	E
54th Ave N SB Off	12.9	B	10.3	B	--	--	213.2	F	60.4	E

Table 6-8. Design Year (2040) No Build I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

Intersection	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	11.8	B[1]	--	--	--	--	--	--	1.0	A
26th Ave S SB On	--	--	8.4	A[1]	---	--	--	--	1.1	A
26th Ave S NB Off	--	--	--	--	38.1	E	--	--	17.0	B
31st St S SB On/NB Off	315.7	F	--	--	8.3	A[1]	--	--	106.4	F
28th St S SB Off	--	--	63.1	F	--	--	--	--	23.2	C
28th St S NB On	--	--	--	--	--	--	9.4	A[1]	1.3	A
Roosevelt Blvd SB Off	--	--	--	--	--	--	10091.5	F	877.8	F
Roosevelt Blvd NB On	626.5	F	--	--	--	--	--	--	39.8	E

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

Table 6-9. Design Year (2040) No Build I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

Intersection	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	11.4	B[1]	--	--	--	--	--	--	0.5	A
26th Ave S SB On	--	--	8.6	A[1]	--	--	--	--	1.3	A
26th Ave S NB Off	--	--	--	--	86.8	F	--	--	42.2	E
31st St S SB On/NB Off	755.8	F	--	--	8.4	A[1]	--	--	381.4	F
28th St S SB Off	--	--	50.9	F	--	--	--	--	13.2	B
28th St S NB On	--	--	--	--	--	--	9.9	A[1]	1.7	A
Roosevelt Blvd SB Off	--	--	--	--	--	--	2043.6	F	138.4	F
Roosevelt Blvd NB On	144.1	F	--	--	--	--	--	--	6.2	A

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

6.1.4 Design Year (2040) CORSIM Analysis

The I-275 freeway operations of the existing configuration from south of Gandy Boulevard to north of 4th Street were analyzed in CORSIM. The on and off ramps within these limits were also analyzed. The parameters used in the calibrated CORSIM models were used in the design year (2040) Models and the modeling procedure described in Section 2.5.4 was employed. The link-node and lane diagram for the No Build CORSIM model is shown in **Appendix K**. The peak-hour results for different MOEs were extracted from the design year (2040) CORSIM model output and averaged over the ten runs for the appropriate links and time periods. Note that the peak-hour output was used for determining the operational analysis. The three-hour analysis period results were used to produce heat diagrams, as shown in **Appendix K**. The results of the design year (2040) CORSIM analysis for the AM and PM peak periods are shown in **Table 6-10**.

Table 6-10. Design Year (2040) No Build I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
Freeway				
NB I-275 from South of Gandy to Gandy Off Ramp	61.2	24.8	35.9	87.2
NB I-275 from Gandy Off Ramp to Gandy On Ramp	65.4	64.3	25.2	21.7
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	62.6	64.9	23.4	19.7
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	67.1	67.3	11.4	13.1
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	65.7	66.3	18.0	14.9
NB I-275 from MLK On Ramp to Ulmerton On Ramp	65.5	65.9	18.9	16.2
NB I-275 from Ulmerton On Ramp to 4th On Ramp	49.8	58.8	30.1	22.7
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	44.3	46.5	46.3	39.8
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	65.0	50.0	28.5	44.8
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	60.4	62.6	25.0	27.0

Table 6-10. (Continued) Design Year (2040) No Build I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	67.4	66.2	12.6	20.4
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	65.1	61.4	14.8	24.4
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	67.5	66.0	13.5	20.3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	65.0	52.8	13.3	28.3
SB I-275 from 118th On Ramp to Gandy Off Ramp	63.2	33.3	21.2	68.9
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	65.6	28.8	20.9	89.2
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	61.3	26.4	22.6	79.6
SB I-275 from Gandy On Ramp to South of Gandy	61.2	46.1	32.5	54.8
Arterials				
EB Gandy from West of I-275 to I-275 On Ramp	23.0	45.4	48.2	21.2
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	39.4	46.6	10.9	9.0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	43.3	44.0	10.7	10.4
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	46.9	45.5	16.6	18.0
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	50.7	43.8	15.6	21.2
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	53.8	52.2	11.0	14.7
WB Gandy from SB I-275 Off Ramp to West of I-275	53.4	52.6	14.1	18.3
EB Roosevelt from West of I-275 to SB I-275 On Ramp	58.0	56.0	10.7	21.5
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	58.2	54.7	12.2	21.2
EB Roosevelt West of NB I-275 Off Ramp	53.7	49.2	17.0	25.1
EB Roosevelt from NB I-275 Off Ramp to East of I-275	54.1	54.1	20.7	20.7
WB Roosevelt from East of I-275 to NB I-275 On Ramp	57.8	46.6	23.1	33.3
WB Roosevelt West of NB I-275 On Ramp	57.3	19.1	23.3	90.8
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	56.8	56.3	19.6	18.0
WB Roosevelt from NB I-275 Off Ramp to West of I-275	56.9	57.4	16.9	14.1
WB 118th from SB I-275 Off Ramp to West of I-275	57.0	56.2	11.8	18.5
EB 118th from West of I-275 to SB I-275 On Ramp	35.6	35.3	70.3	61.6
EB Ulmerton from West of I-275 to I-275 On Ramp	57.5	57.0	16.2	20.7
WB Ulmerton West of I-275	55.1	56.4	24.4	15.4
Ulmerton to SB I-275 On Ramp/MLK	44.9	43.8	22.6	28.7
EB Ulmerton to SB MLK	43.6	43.6	6.2	6.6
SB MLK	48.9	49.0	8.3	6.4
Ramps				
NB I-275 Off Ramp to Gandy	46.0	21.0	37.7	104.2
NB I-275 Off Ramp to EB Gandy	46.8	45.8	22.8	29.6
NB I-275 Off Ramp to WB Gandy	47.8	47.6	14.4	18.2
I-275 On Ramp at EB Gandy	12.9	25.1	81.7	45.2
NB I-275 On Ramp from EB Gandy	43.6	48.6	11.1	12.0
SB I-275 Off Ramp to Gandy	49.0	46.6	13.5	17.8
I-275 Off Ramp at Gandy	47.6	47.1	21.3	27.1
SB I-275 On Ramp from EB Gandy	40.7	45.9	27.8	23.3
SB I-275 Loop On Ramp Loop from WB Gandy	33.1	29.3	30.0	33.9
NB I-275 Off Ramp to Roosevelt/118th	45.0	48.9	41.6	27.6
NB I-275 Off Ramp to Roosevelt/118th	44.6	46.9	34.8	24.0

Table 6-10. (Continued) Design Year (2040) No Build I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
NB I-275 Off Ramp to EB Roosevelt	47.9	49.0	20.0	7.4
NB I-275 Off Ramp to WB Roosevelt	48.1	48.4	17.3	12.9
NB I-275 On Ramp from WB Roosevelt	52.3	45.9	2.6	9.3
NB I-275 On Ramp from Roosevelt/118th	46.3	47.2	30.5	17.0
SB I-275 Off Ramp to Roosevelt/118th	48.7	44.5	14.0	26.3
SB I-275 On Ramp from Roosevelt	46.3	39.2	12.0	26.5
SB I-275 On Ramp from EB Roosevelt	49.3	48.2	7.1	19.8
NB I-275 Off Ramp to WB Roosevelt/118th	47.6	47.9	22.9	19.2
NB I-275 Off Ramp to 118th	49.0	48.9	11.2	11.1
NB I-275 On Ramp from 118th	29.3	47.4	71.8	16.8
SB I-275 Off Ramp to 118th	46.5	44.3	20.2	46.3
SB I-275 On Ramp from 118th	46.1	22.4	33.6	106.6
NB I-275 On Ramp from Ulmerton	48.3	47.8	18.3	23.9
SB I-275 Off Ramp to Ulmerton/MLK	47.0	48.3	34.4	21.3
SB I-275 On Ramp from Ulmerton	41.0	40.8	18.0	23.7
NB I-275 On Ramp from NB MLK	49.2	49.2	8.6	10.0
SB I-275 Off Ramp to MLK	48.3	48.6	11.5	7.1
NB I-275 On Ramp from 4th	55.3	58.2	10.3	6.5
SB I-275 Off Ramp to 4th	58.2	56.3	8.5	17.3

6.2 Master Project

The Master Project proposes to widen the existing I-275 mainline towards the median in order to accommodate one EL in each direction from south of Gandy Boulevard to 118th Avenue North. Direct connections from the 118th Avenue North/Gateway corridor to I-275 are provided via new flyover ramps that enter and exit I-275 from the median. From 118th Avenue North to north of 4th Street North, two express lanes are provided in each direction of travel along I-275. Intersection lane geometry is shown on **Figure 6.2**. The distances between the interchanges of interest are displayed in **Table 4-1**. The following sections present the key MOEs obtained from the use of the HCS 2010 and CORSIM to assess the operations of the I-275 study corridor.

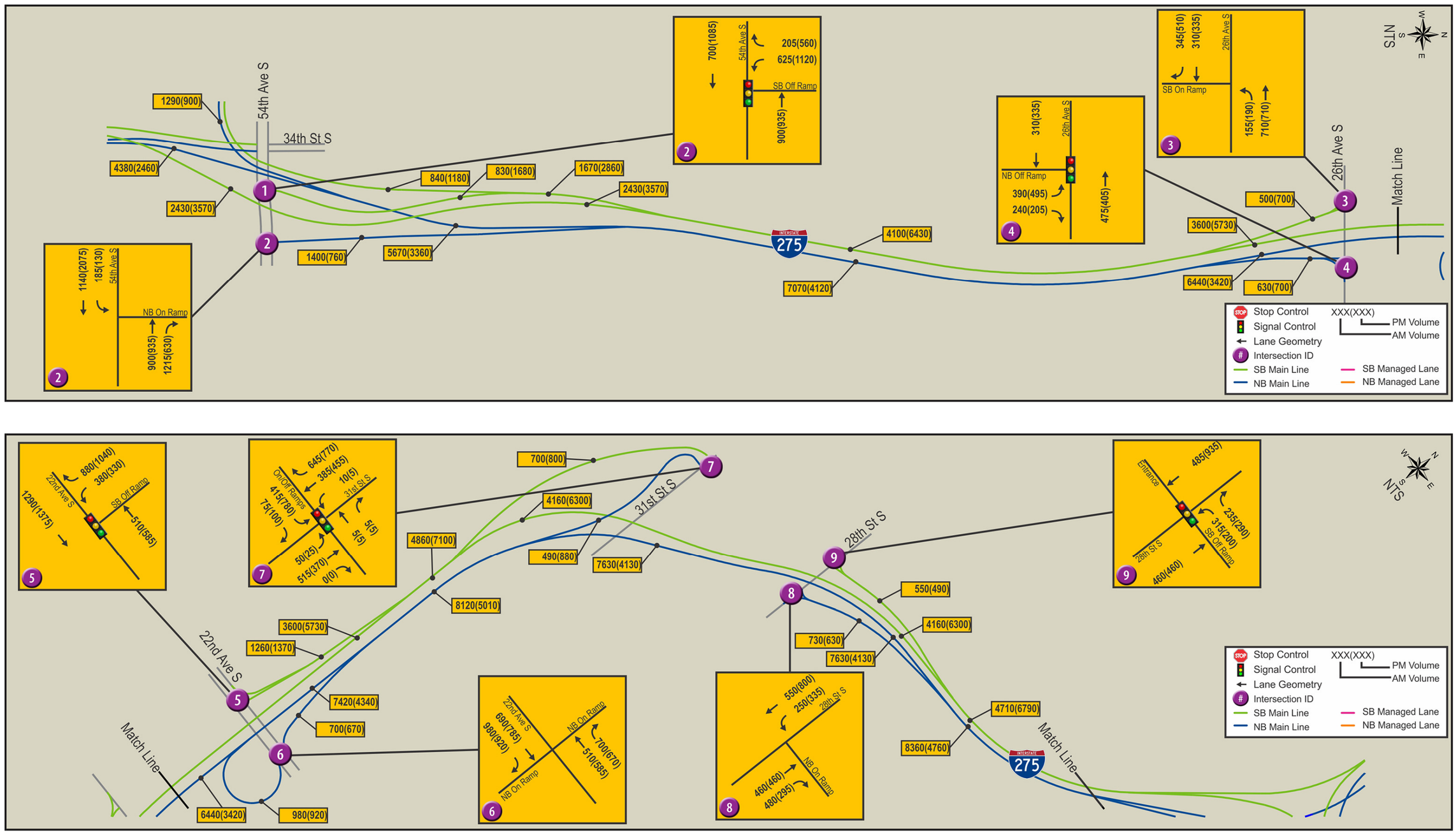
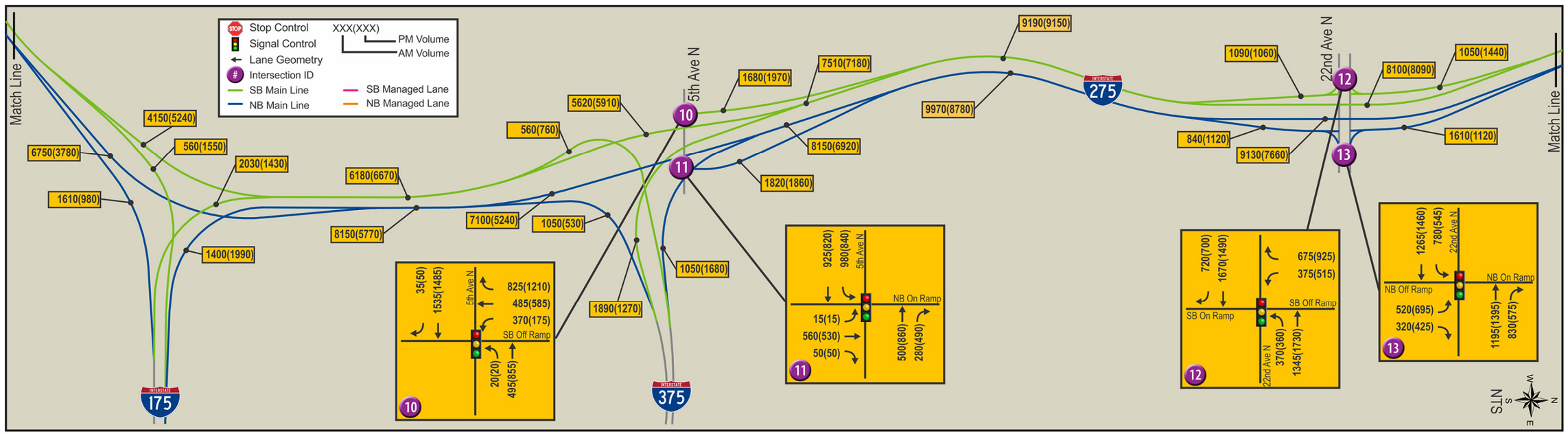


Figure 6.2. Master Project Lane Geometry



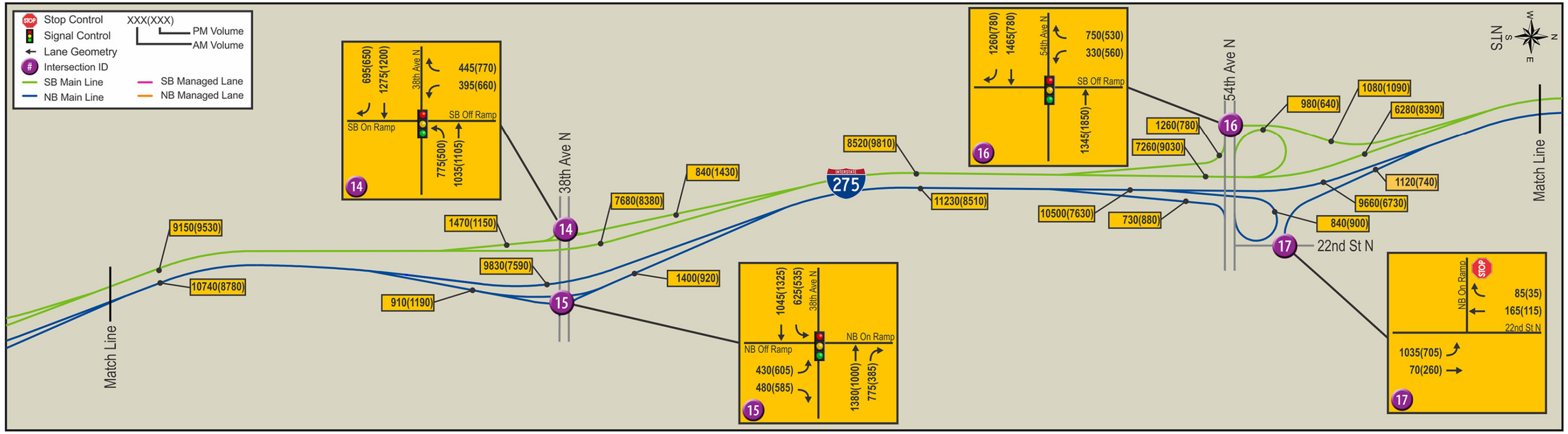
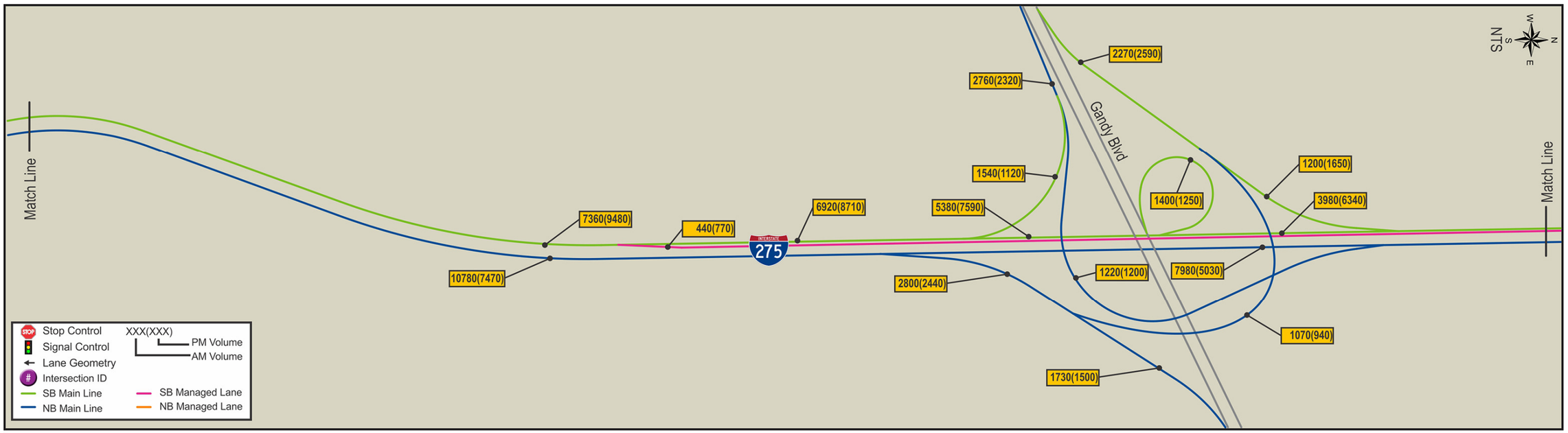


Figure 6.2. (Continued). Master Project Lane Geometry



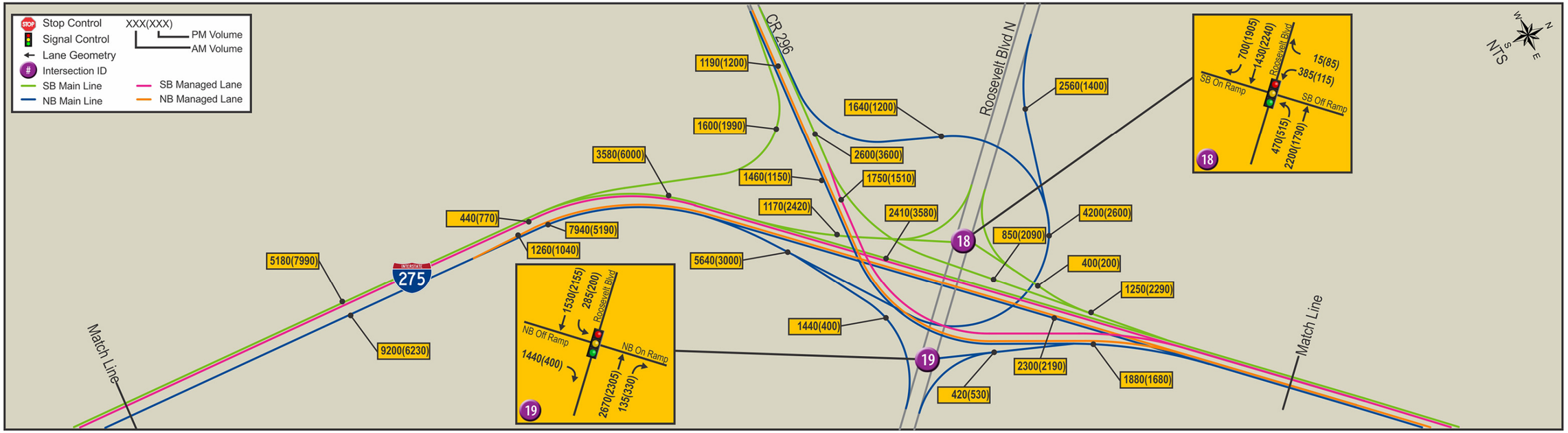


Figure 6.2. (Continued). Master Project Lane Geometry

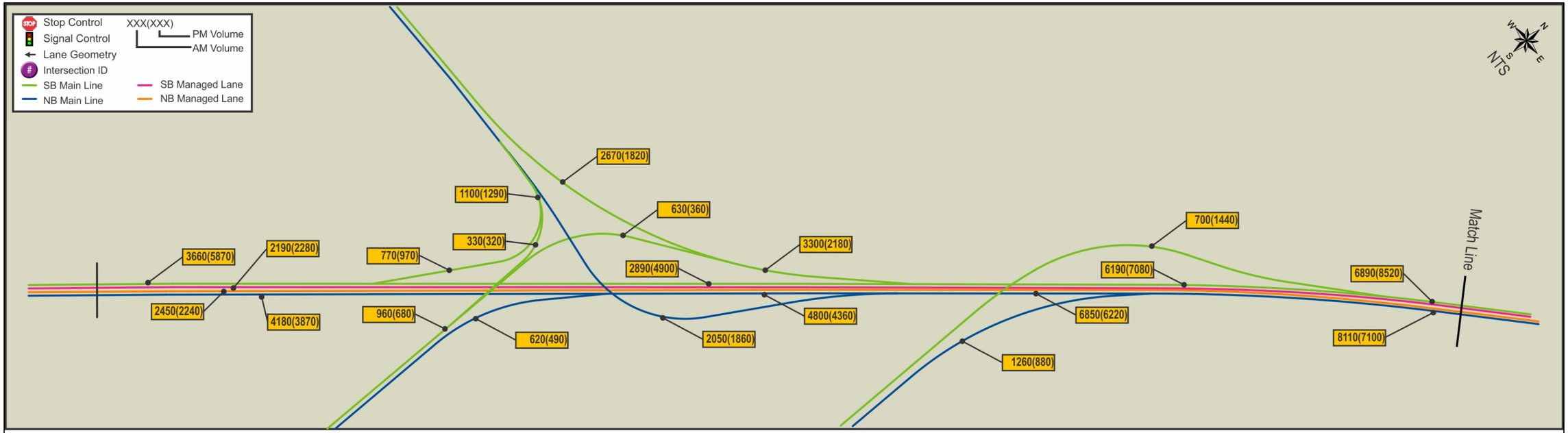


Figure 6.2. (Continued). Master Project Lane Geometry

6.2.1 Design Year (2040) I-275 Mainline Operations

The I-275 mainline was analyzed in HCS 2010 using density thresholds specified in Exhibit 11-5 of the HCM 2010 to determine the LOS. The results of the design year (2040) HCS 2010 basic freeway analysis for the AM and PM peak periods are shown in **Table 6-11** and **Table 6-12**, respectively. The results of the analysis indicate that twenty-four segments are not projected to meet the adopted LOS standards in the AM peak hour and eighteen segments are not projected to meet the adopted LOS standards in the PM peak hour. The HCS 2010 freeway output for the design year (2040) can be found in **Appendix K**.

Table 6-11. Design Year (2040) Build I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	4380	44.0	E
54th Ave S EB On to 54th Ave S WB On	5670	33.3	D
54th Ave S On to 26th Ave S Off	7070	52.6	F
26th Ave S Off to 22nd Ave S EB On	6440	42.2	E
22nd Ave S EB On to 22nd Ave S WB On	7420	32.3	D
22ndAveS WB On to 31st St S Off	8120	26.6	D
31st St S Off to 28th St S On	7630	66.0	F
28th St S On to I-175 Off	8360	96.1	F
I-175 Off to I-175 On	6750	*	F
I-175 On to I-375 Off	8150	38.0	E
I-375 Off to I-375 On	7100	53.1	F
I-375 On to 5th Ave N On	8150	38.0	E
5th Ave N On to 22nd Ave N Off	9970	61.8	F
22nd Ave N Off to 22nd Ave N On	9130	176.1	F
22nd Ave N On to 38th Ave N Off	10740	81.0	F
38th Ave N Off to 38th Ave N On	9830	627.4	F
38th Ave N On to 54th Ave N EB Off	11230	100.0	F
54th Ave N EB Off to 54th Ave N WB Off	10500	74.0	F
54th Ave N Off WB to 22nd St N On	9660	387.7	F
22nd St N On to Gandy Blvd Off	10780	*	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	6280	40.1	E
54th Ave N WB On to 54th Ave N EB On	7260	31.2	D
54th Ave N EB On to 38th Ave N Off	8520	41.5	E
38th Ave N Off to 38th Ave N On	7680	67.5	F
38th Ave N On to 22nd Ave N Off	9150	179.8	F
22nd Ave N Off to 22nd Ave N On	8100	82.9	F
22nd Ave N On to 5th Ave N Off	9190	49.2	F
5th Ave N Off to I-375 Off	7510	62.7	F
I-375 Off to I-375 On	5620	32.8	D

Table 6-11. (Continued) Design Year (2040) Build I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-375 On to I-175 Off	6180	24.9	C
I-175 Off to I-175 On	4150	21.8	C
I-175 On to 28th St S Off	4710	25.4	C
28th St S Off to 31st St S On	4160	21.8	C
31st St S On to 22nd Ave S Off	4860	18.9	C
22nd Ave S Off to 26th Ave S On	3600	18.6	C
26th Ave S On to 54th Ave S Off	4100	15.9	B
South of 54th Ave S Off	2430	18.9	C

*Vehicle density greater than 9999 pc/mi/ln; therefore failing LOS is projected

Table 6-12. Design Year (2040) Build I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	2460	19.1	C
54th Ave S EB On to 54th Ave S WB On	3360	17.4	B
54th Ave S On to 26th Ave S Off	4120	21.6	C
26th Ave S Off to 22nd Ave S EB On	3420	17.7	B
22nd Ave S EB On to 22nd Ave S WB On	4340	16.8	B
22ndAveS WB On to 31st St S Off	5010	15.5	B
31st St S Off to 28th St S On	4130	21.6	C
28th St S On to I-175 Off	4760	25.7	C
I-175 Off to I-175 On	3780	33.3	D
I-175 On to I-375 Off	5770	22.9	C
I-375 Off to I-375 On	5240	29.4	D
I-375 On to 5th Ave N On	6920	29.0	D
5th Ave N On to 22nd Ave N Off	8780	44.2	E
22nd Ave N Off to 22nd Ave N On	7660	66.9	F
22nd Ave N On to 38th Ave N Off	8780	44.2	E
38th Ave N Off to 38th Ave N On	7590	64.9	F
38th Ave N On to 54th Ave N EB Off	8510	41.4	E
54th Ave N EB Off to 54th Ave N WB Off	7630	33.8	D
54th Ave N Off WB to 22nd St N On	6730	46.5	F
22nd St N On to Gandy Blvd Off	7470	61.6	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	8390	97.9	F
54th Ave N WB On to 54th Ave N EB On	9030	47.2	F
54th Ave N EB On to 38th Ave N Off	9810	58.8	F
38th Ave N Off to 38th Ave N On	8380	97.3	F
38th Ave N On to 22nd Ave N Off	9530	300.1	F

*Vehicle density greater than 9999 pc/mi/ln; therefore failing LOS is projected

Table 6-12. (Continued) Design Year (2040) Build I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
22nd Ave N Off to 22nd Ave N On	8090	82.4	F
22nd Ave N On to 5th Ave N Off	9150	48.7	F
5th Ave N Off to I-375 Off	7180	54.8	F
I-375 Off to I-375 On	5910	35.7	E
I-375 On to I-175 Off	6670	27.5	D
I-175 Off to I-175 On	5240	29.4	D
I-175 On to 28th St S Off	6790	47.5	F
28th St S Off to 31st St S On	6300	40.3	E
31st St S On to 22nd Ave S Off	7100	30.1	D
22nd Ave S Off to 26th Ave S On	5730	33.9	D
26th Ave S On to 54th Ave S Off	6430	26.2	D
South of 54th Ave S Off	3570	30.4	D

6.2.2 Design Year (2040) I-275 Merge/Diverge Operations

The I-275 ramp merge/diverge areas were analyzed in HCS 2010 using density thresholds specified in Exhibit 13-2 of the HCM 2010. Ramp capacities were also checked. The results of the design year (2040) HCS 2010 ramp merge/diverge analysis for the AM and PM peak periods are shown in **Table 6-13** and **Table 6-14**, respectively. The results of the analysis indicate that twenty-nine merge/diverge areas are not projected to meet the adopted LOS standards in the AM peak hour and twenty-seven merge/diverge areas are not projected to meet the adopted LOS standards in the PM peak hour. This may be attributed to substandard freeway operations as, the ramps all operate well under capacity as shown in **Table 6-15**. The HCS ramp output for the design year (2040) can be found in **Appendix K**.

Table 6-13. Design Year (2040) Build I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	1290	34.0	F
54th Ave S WB On	1400	42.4	F
26th Ave S Off	630	45.2	F
22nd Ave S EB On	980	41.5	F
22nd Ave S WB On	700	26.8	C
31st St S Off	490	33.3	F
28th St S On	730	57.7	F
I-175 Off	1610	55.2	F
I-175 On	1400	64.3	F
I-375 Off	1050	51.0	F
I-375 On	1050	24.6	F
5th Ave N On	1820	42.7	F

Table 6-13. (Continued) Design Year (2040) Build I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
22nd Ave N Off	840	60.5	F
22nd Ave N On	1610	65.1	F
38th Ave N Off	910	54.2	F
38th Ave N On	1400	69.3	F
54th Ave N EB Off	730	78.5	F
54th Ave N WB Off	840	65.5	F
22nd St N On	1120	71.5	F
Southbound I-275			
54th Ave N Off	1080	36.2	F
54th Ave N WB On	980	36.8	F
54th Ave N EB On	1260	35.7	E
38th Ave N Off	840	47.0	F
38th Ave N On	1470	58.6	F
22nd Ave N Off	1050	52.9	F
22nd Ave N On	1090	56.0	F
5th Ave N Off	1680	58.7	F
I-375 Off	1890	26.4	F
I-375 On	560	48.9	E
I-175 Off	2030	15.4	B
I-175 On	560	26.0	C
28th St S Off	550	31.1	D
31st St S On	700	40.0	E
22nd Ave S Off	1260	26.0	C
26th Ave S On	500	19.8	B
54th Ave S Off	1670	*	*

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 6-14. Design Year (2040) Build I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	900	14.6	B
54th Ave S WB On	760	25.8	C
26th Ave S Off	700	29.2	D
22nd Ave S EB On	920	25.0	C
22nd Ave S WB On	670	16.1	B
31st St S Off	880	6.2	A
28th St S On	630	31.0	D
I-175 Off	980	21.7	F
I-175 On	1990	43.9	F

Table 6-14. (Continued) Design Year (2040) Build I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 On/Off Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-375 Off	530	31.3	D
I-375 On	1680	16.0	F
5th Ave N On	1860	38.8	E
22nd Ave N Off	1120	49.4	F
22nd Ave N On	1120	50.0	F
38th Ave N Off	1190	35.9	F
38th Ave N On	920	46.6	F
54th Ave N EB Off	880	53.1	F
54th Ave N WB Off	900	38.7	F
22nd St N On	740	43.9	F
Southbound I-275			
54th Ave N Off	1090	56.0	F
54th Ave N WB On	640	51.1	F
54th Ave N EB On	780	41.6	F
38th Ave N Off	1430	59.1	F
38th Ave N On	1150	62.0	F
22nd Ave N Off	1440	56.4	F
22nd Ave N On	1060	58.1	F
5th Ave N Off	1970	52.9	F
I-375 Off	1270	23.2	F
I-375 On	760	47.5	F
I-175 Off	1430	18.2	F
I-175 On	1550	40.0	F
28th St S Off	490	42.6	F
31st St S On	800	58.9	F
22nd Ave S Off	1370	38.3	F
26th Ave S On	700	36.5	E
54th Ave S Off	2860	5.4	A

Table 6-15. Design Year (2040) Build I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
Northbound I-275		
54th Ave S EB On	0.31	0.21
54th Ave S WB On	0.67	0.36
26th Ave S Off	0.30	0.33
22nd Ave S WB On	0.49	0.46
22nd Ave S EB On	0.33	0.32
31st St S Off	0.12	0.21
28th St S On	0.35	0.30

Table 6-15. (Continued) Design Year (2040) Build I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
I-175 Off	0.38	0.23
I-175 On	0.67	0.95
I-375 Off	0.50	0.25
I-375 On	0.25	0.40
5th Ave N On	0.87	0.89
22nd Ave N Off	0.40	0.53
22nd Ave N On	0.77	0.53
38th Ave N Off	0.22	0.28
38th Ave N On	0.67	0.44
54th Ave N EB Off	0.35	0.42
54th Ave N WB Off	0.42	0.45
22nd St N On	0.53	0.35
Southbound I-275		
54th Ave N Off	0.54	0.55
54th Ave N WB On	0.47	0.30
54th Ave N EB On	0.60	0.37
38th Ave N Off	0.40	0.68
38th Ave N On	0.70	0.55
22nd Ave N Off	0.50	0.69
22nd Ave N On	0.52	0.50
5th Ave N Off	0.80	0.94
I-375 Off	0.45	0.30
I-375 On	0.27	0.36
I-175 Off	0.48	0.34
I-175 On	0.27	0.74
28th St S Off	0.26	0.23
31st St S On	0.33	0.38
22nd Ave S Off	0.60	0.65
26th Ave S On	0.24	0.33
54th Ave S Off	0.40	0.68

6.2.3 Design Year (2040) I-275 Ramp Terminal Intersection Operations

Synchro models were developed for the Lane Continuity study area for the AM and PM peak periods for the operational analysis of the I-275 ramp terminal intersections. The Build Alternative assume lane geometry and traffic control improvements shown on **Figure 6.2**. HCM 2010 Signalized and TWSC intersection reports were extracted from Synchro and can be found in **Appendix K**. The results of the design year (2040) HCS 2010 signalized ramp terminal intersections analysis for the AM and PM peak periods are shown in **Table 6-16** and **Table 6-17**, respectively. Similarly, the results of the design year (2040) HCS 2010 unsignalized ramp terminal intersections analysis for the AM and PM peak periods are shown in **Table 6-18** and **Table 6-19**, respectively. The results of the

analysis indicate that all intersections (both signalized and unsignalized) are projected to meet the adopted LOS standard in the AM peak hour and two intersections (both signalized and unsignalized) are not projected to meet the adopted LOS standard in the PM peak hour.

Table 6-16. Design Year (2040) Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	9.4	A	10.6	B	--	--	18.2	B	12.8	B
26th Ave S NB Off*	6.1	A	6.5	A	8.2	A	--	--	7.1	A
22nd Ave S SB Off	27.7	C	11.5	B	--	--	27.5	C	24.9	C
31st St S SB On/NB Off*	16.7	B	19.9	B	7.9	A	9.2	A	10.6	B
28th St S SB Off*	--	--	14.4	B	6.5	A	4.6	A	7.3	A
5th Ave N SB Off	53.7	D	10.0	A	--	--	40.2	D	41.7	D
5th Ave N NB On	33.5	C	20.8	C	54.3	D	--	--	34.5	C
22nd Ave N SB On/Off	28.3	C	16.9	B	--	--	47.0	D	28.3	C
22nd Ave N NB On/Off	22.6	C	32.0	C	51.1	D	--	--	31.4	C
38th Ave N SB On/Off	68.5	E	22.7	C	--	--	44.4	D	46.2	D
38th Ave N NB On/Off	28.9	C	23.3	C	49.4	D	--	--	30.3	C
54th Ave N SB Off	21.4	C	13.3	B	--	--	29.8	C	21.0	C
Roosevelt Blvd SB Off*	12.4	B	13.8	B	--	--	42.7	D	15.9	B
Roosevelt Blvd NB On*	6.4	A	12.1	B	--	--	--	--	9.8	A

*Proposed signalized intersection

Table 6-17. Design Year (2040) Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
54th Ave S SB Off	22.5	C	19.2	B	--	--	27.0	C	23.7	C
26th Ave S NB Off*	7.2	A	7.4	A	8.1	A	--	--	7.7	A
22nd Ave S SB Off	27.7	C	13.7	B	--	--	36.1	D	28.7	C
31st St S SB On/NB Off*	21.1	C	22.6	C	10.6	B	15.2	B	16.6	B
28th St S SB Off*	--	--	14.6	B	7.6	A	6.9	A	8.4	A
5th Ave N SB Off	135.0	F	17.5	B	--	--	57.6	E	76.7	E
5th Ave N NB On	55.2	E	41.3	D	54.5	D	--	--	49.9	D
22nd Ave N SB On/Off	55.8	E	36.0	D	--	--	52.6	D	47.7	D
22nd Ave N NB On/Off	19.7	B	14.8	B	55.3	E	--	--	25.6	C
38th Ave N SB On/Off	134.1	F	28.6	C	--	--	37.7	D	71.2	E
38th Ave N NB On/Off	72.4	E	11.2	B	51.6	D	--	--	47.7	D
54th Ave N SB Off	15.4	B	19.0	B	--	--	32.1	C	20.9	C

Table 6-17. (Continued) Design Year (2040) Build I-275 Signalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

I-275 Ramp Terminal	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Roosevelt Blvd SB Off*	36.1	D	15.5	B	--	--	50.8	D	26.7	C
Roosevelt Blvd NB On*	2.7	A	5.1	A	--	--	--	--	3.9	A

*Proposed signalized intersection

Table 6-18. Design Year (2040) Build I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – AM Peak Hour

Intersection	Eastbound		Westbound		Northbound		Southbound			
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	11.8	B[1]	--	--	--	--	--	--	1.0	A
26th Ave S SB On	--	--	8.4	A[1]	---	--	--	--	1.1	A
28th St S NB On	--	--	--	--	--	--	9.4	A[1]	1.3	A

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

Table 6-19. Design Year (2040) Build I-275 Unsignalized Ramp Terminal Intersection MOEs and LOS – PM Peak Hour

Intersection	Eastbound		Westbound		Northbound		Southbound		Overall Intersection	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay[2] (sec/veh)	LOS
54th Ave S NB On	11.4	B[1]	--	--	--	--	--	--	0.5	A
26th Ave S SB On	--	--	8.6	A[1]	--	--	--	--	1.3	A
28th St S NB On	--	--	--	--	--	--	9.9	A[1]	1.7	A

[1]Control delay reported for left-turn movement from cross street onto I-275 on ramp
[2]Overall intersection delay calculated as the weighted average delay for all intersection movements

6.2.4 Design Year (2040) CORSIM Analysis

The I-275 freeway from south of Gandy Boulevard to north of 4th Street North was analyzed in CORSIM with the Master Project implemented. The on and off ramps within these limits were also analyzed. The parameters used in the calibrated CORSIM models were used in the design year (2040) Models and the modeling procedure described in Section 2.5.4 were employed. The link-node and lane diagram for the Master Project CORSIM model is shown in **Appendix K**. The peak-hour results for different MOEs were extracted from the design year (2040) CORSIM model output and averaged over the ten runs for the appropriate links and time periods. Note that the peak-hour output was used for determining the operational analysis. The three-hour analysis period results were used to produce heat diagrams, as shown in **Appendix K**. The results of the design year (2040) CORSIM analysis for the AM and PM peak periods are shown in **Table 6-20**.

Table 6-20. Design Year (2040) Master Project I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
Freeway (General Use Lanes)				
NB I-275 from South of Gandy to Gandy Off Ramp	64.7	65.4	31.7	26.3
NB I-275 from Gandy Off Ramp to Gandy On Ramp	65.6	66.7	24.8	18.7
NB I-275 from Gandy On Ramp to NB EL Slip Ramp	60.5	65.8	25.7	18.0
NB I-275 from NB EL Slip Ramp to Roosevelt/118th Off Ramp	36.6	63.2	49.3	20.2
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	67.1	67.9	9.2	10.1
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	66.3	66.2	13.1	13.4
NB I-275 from MLK On Ramp to Ulmerton On Ramp	66.0	66.2	14.8	14.6
NB I-275 from Ulmerton On Ramp to 4th On Ramp	63.2	64.0	18.9	18.0
NB I-275 from 4th On Ramp to South of NB EL Slip Ramp	62.9	64.7	23.3	20.9
NB I-275 from NB EL Slip Ramp to Howard Frankland Bridge	65.4	65.6	26.7	24.7
SB I-275 from Howard Frankland Bridge to SB EL Slip Ramp	67.1	33.0	25.0	65.4
SB I-275 from SB EL Slip Ramp to 4th Off Ramp	59.2	51.9	28.1	41.5
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	62.0	63.8	22.0	24.7
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	67.7	66.7	10.7	18.5
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	64.8	60.3	13.3	23.1
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	68.0	66.8	11.3	17.2
SB I-275 from Roosevelt On Ramp to 118th On Ramp	65.0	61.1	11.8	20.5
SB I-275 from 118th On Ramp to Gandy Off Ramp	62.0	40.3	19.8	47.8
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	66.2	60.6	18.6	31.8
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	63.9	62.9	18.3	26.7
SB I-275 Between Gandy On Ramp and EL On Ramp	63.3	62.9	18.9	24.6
SB I-275 from SB EL Slip Ramp to South of Gandy	66.0	65.0	19.3	26.0
Arterials				
EB Gandy from West of I-275 to I-275 On Ramp	19.6	45.2	64.9	21.3
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	41.9	46.7	11.4	9.0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	45.6	48.8	11.3	9.4
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	46.0	46.2	20.2	18.9
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	50.7	50.5	15.6	18.5
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	53.8	53.4	11.1	14.4
WB Gandy from SB I-275 Off Ramp to West of I-275	53.2	52.9	15.2	19.2
EB Roosevelt from West of I-275 to SB I-275 On Ramp	58.0	55.7	10.7	21.7
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	58.3	55.5	12.2	20.8
EB Roosevelt West of NB I-275 Off Ramp	54.4	47.8	16.4	26.1
EB Roosevelt from NB I-275 Off Ramp to East of I-275	52.9	53.6	22.8	21.4
WB Roosevelt from East of I-275 to NB I-275 On Ramp	57.8	48.3	23.1	29.3
WB Roosevelt West of NB I-275 On Ramp	57.4	22.0	23.3	80.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	56.8	56.3	19.6	18.4
WB Roosevelt from NB I-275 Off Ramp to West of I-275	56.7	57.4	19.5	15.7
WB 118th from SB I-275 Off Ramp to West of I-275	56.4	55.8	16.9	21.0
EB 118th from West of I-275 to SB I-275 On Ramp	56.0	54.9	27.5	28.9

Table 6-20. (Continued) Design Year (2040) Master Project I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
EB Ulmerton from West of I-275 to I-275 On Ramp	57.2	57.2	18.5	18.5
WB Ulmerton West of I-275	55.4	56.3	23.5	16.0
Ulmerton to SB I-275 On Ramp/MLK	44.6	43.7	24.3	28.9
EB Ulmerton to SB MLK	43.7	43.7	6.6	6.3
SB MLK	48.8	49.1	9.0	6.3
Freeway (Special Use Lanes)				
NB EL from East of 118th On Ramp to NB I-275 Slip Ramp	66.1	66.0	18.0	18.2
NB EL from NB I-275 Slip Ramp to Slip Ramp North of 4th	66.0	65.9	17.0	17.1
NB EL from Slip Ramp North of 4th to Howard Frankland Bridge	64.9	64.9	20.2	19.9
SB EL from Howard Frankland Bridge to SB I-275 Slip Ramp	66.0	65.3	15.1	16.2
SB EL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	65.8	66.1	17.1	17.7
SB EL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	63.0	63.7	27.0	23.6
Ramps				
NB I-275 Off Ramp to Gandy	49.4	49.1	24.1	25.1
NB I-275 Off Ramp to EB Gandy	45.1	44.9	32.6	34.0
NB I-275 Off Ramp to WB Gandy	46.7	46.8	20.0	20.7
I-275 On Ramp from EB Gandy	12.8	24.3	100.9	47.2
NB I-275 On Ramp from EB Gandy	45.9	48.6	12.4	12.3
SB I-275 Off Ramp to Gandy	48.9	48.4	13.7	18.7
SB I-275 Off Ramp to Gandy	47.1	46.7	24.5	30.1
SB I-275 On Ramp from EB Gandy	43.9	46.1	28.8	22.5
SB I-275 Loop On Ramp Loop from WB Gandy	33.1	33.2	29.5	28.8
NB I-275 Off Ramp to Roosevelt/118th	39.4	48.7	59.6	31.3
NB I-275 Off Ramp to Roosevelt/118th	41.0	46.1	47.7	27.6
NB I-275 Off Ramp to EB Roosevelt	47.3	48.9	25.2	8.5
NB I-275 Off Ramp to WB Roosevelt	48.6	49.0	23.0	15.9
NB I-275 On Ramp from WB Roosevelt	52.2	47.4	2.6	8.4
NB I-275 On Ramp from Roosevelt/118th	45.6	46.1	20.5	18.9
SB I-275 Off Ramp to Roosevelt/118th	50.2	40.1	13.6	35.3
SB I-275 On Ramp from Roosevelt	46.3	39.4	12.0	26.6
SB I-275 On Ramp from EB Roosevelt	49.4	48.2	7.1	19.8
NB I-275 Off Ramp to WB Roosevelt/118th	46.8	47.7	29.7	22.3
NB I-275 Off Ramp to 118th	48.6	48.6	12.3	11.0
NB I-275 On Ramp from 118th	46.5	47.1	31.2	24.4
SB I-275 Off Ramp to 118th	46.2	44.2	20.4	48.7
SB I-275 and SB EL Off Ramp to 118th	49.5	47.9	26.5	37.7
SB I-275 On Ramp from 118th	45.9	40.3	34.8	51.3
NB I-275 On Ramp from Ulmerton	48.0	48.2	21.8	19.9
SB I-275 Off Ramp to Ulmerton/MLK	47.0	48.2	34.0	22.2
SB I-275 On Ramp from Ulmerton	41.4	41.2	19.0	23.8
NB I-275 On Ramp from NB MLK	49.2	49.2	12.7	10.0
SB I-275 Off Ramp to MLK	48.2	48.8	12.6	7.2
NB I-275 On Ramp from 4th	57.6	58.3	14.5	10.0

Table 6-20. (Continued) Design Year (2040) Master Project I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
SB I-275 Off Ramp to 4th	58.0	56.9	10.3	19.3
NB I-275 Slip Ramp to NB EL	65.3	65.2	16.4	16.2
NB I-275 Slip Ramp to NB EL	67.9	68.0	7.0	6.1
SB EL Slip Ramp to SB I-275	66.0	64.9	6.7	11.9
SB EL Slip Ramp to SB I-275	65.6	65.6	4.6	5.4

7.0 Opening Year (2020) Traffic Operational Analysis

Traffic operational analyses of the I-275 study corridor were completed for I-275 basic freeway segments, and merge/diverge areas of the mainline/ramp junctions. The HCS 2010 was utilized to evaluate existing freeway operations on the I-275 mainline within the lane continuity section of I-275 (i.e., Segments A and B, from south of 54th Avenue South to south of Gandy Boulevard). Due to the unique traffic characteristics associated with the express lane section of I-275 (i.e., Segment C, from south of Gandy Boulevard to north of 4th Street North), CORSIM microsimulation was employed to evaluate the operations of the ELs and GULs.

7.1 Starter Project

The Starter Project improvements are similar to those of the Master Project, with the exception that instead of two express lanes proposed in each direction of I-275, only one lane is provided in each direction of I-275. The southern termini of the Starter Project express lane improvements consist of a direct connection from the 118th Avenue North/Gateway corridor to northbound I-275 via a flyover on ramp and in the southbound direction the proposed inside (i.e., towards the median) express lane transitions back into the existing southbound I-275 typical section south of 118th Avenue. The remaining limits of the Starter Project, from north of 9th Street to north of 4th Street North, involve only re-designating the existing auxiliary lane on I-275 to form an express lane to the inside. No additional travel lanes above-and-beyond the number of existing travel lanes are added under the Starter Project north of 9th Street North. Intersection lane geometry is shown on **Figure 7.1**. The distances between the interchanges of interest are displayed in **Table 4-1**. The following sections present the key MOEs obtained from the use of the HCS 2010 and CORSIM to assess the operations of the I-275 study corridor.

7.1.1 Opening Year (2020) I-275 Mainline Operations

The I-275 mainline was analyzed in HCS 2010 using density thresholds specified in Exhibit 11-5 of the HCM 2010 to determine the LOS. The results of the opening year (2020) HCS 2010 basic freeway analysis for the AM and PM peak periods are shown in **Table 7-1** and **Table 7-2**, respectively. The results of the analysis indicate that eight segments are not projected to meet the adopted LOS standards in the AM peak hour and three segments are not projected to meet the adopted LOS standards in the PM peak hour. The HCS 2010 freeway output for the opening year (2020) can be found in **Appendix L**.

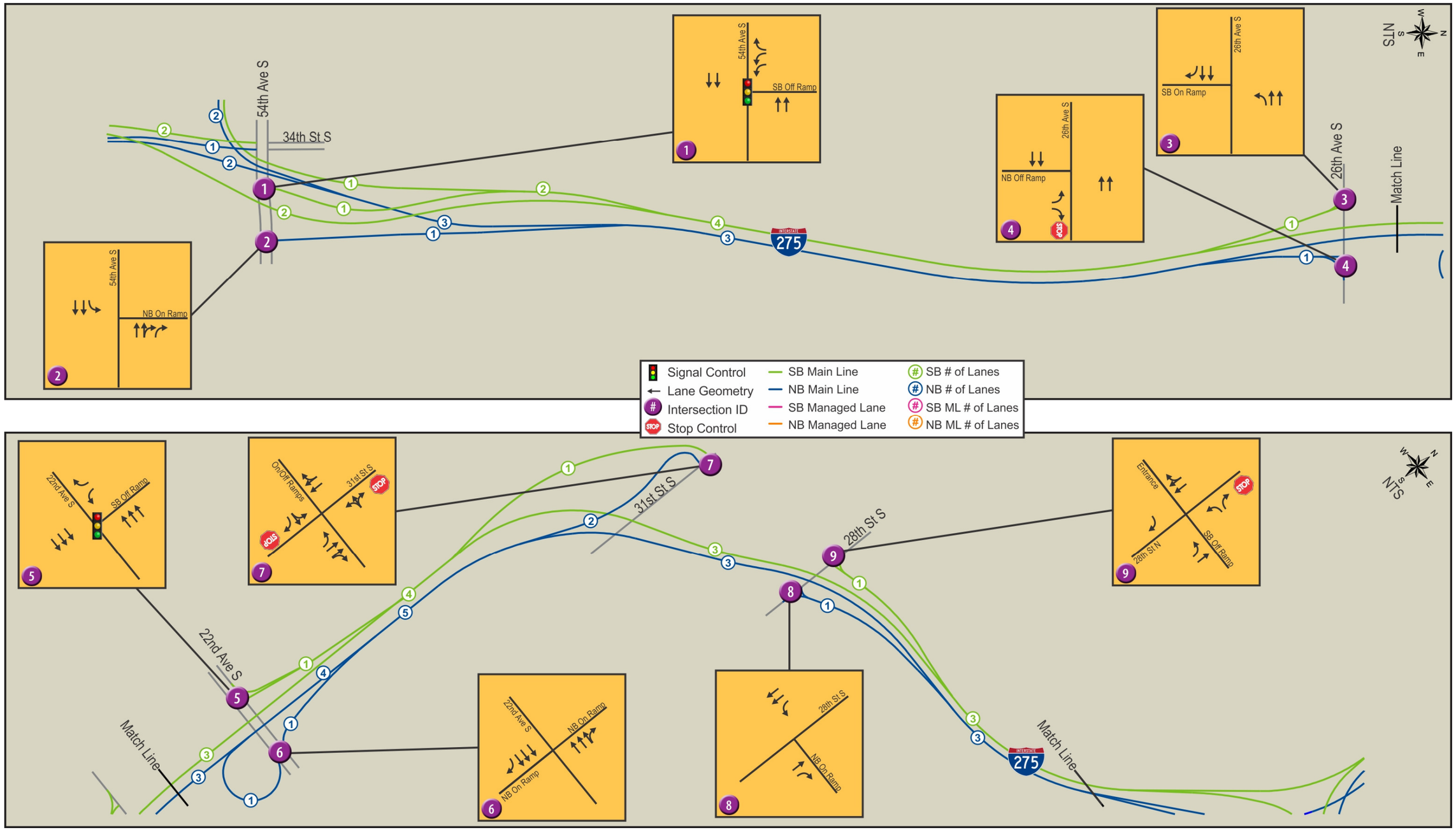


Figure 7.1. Starter Project Lane Geometry

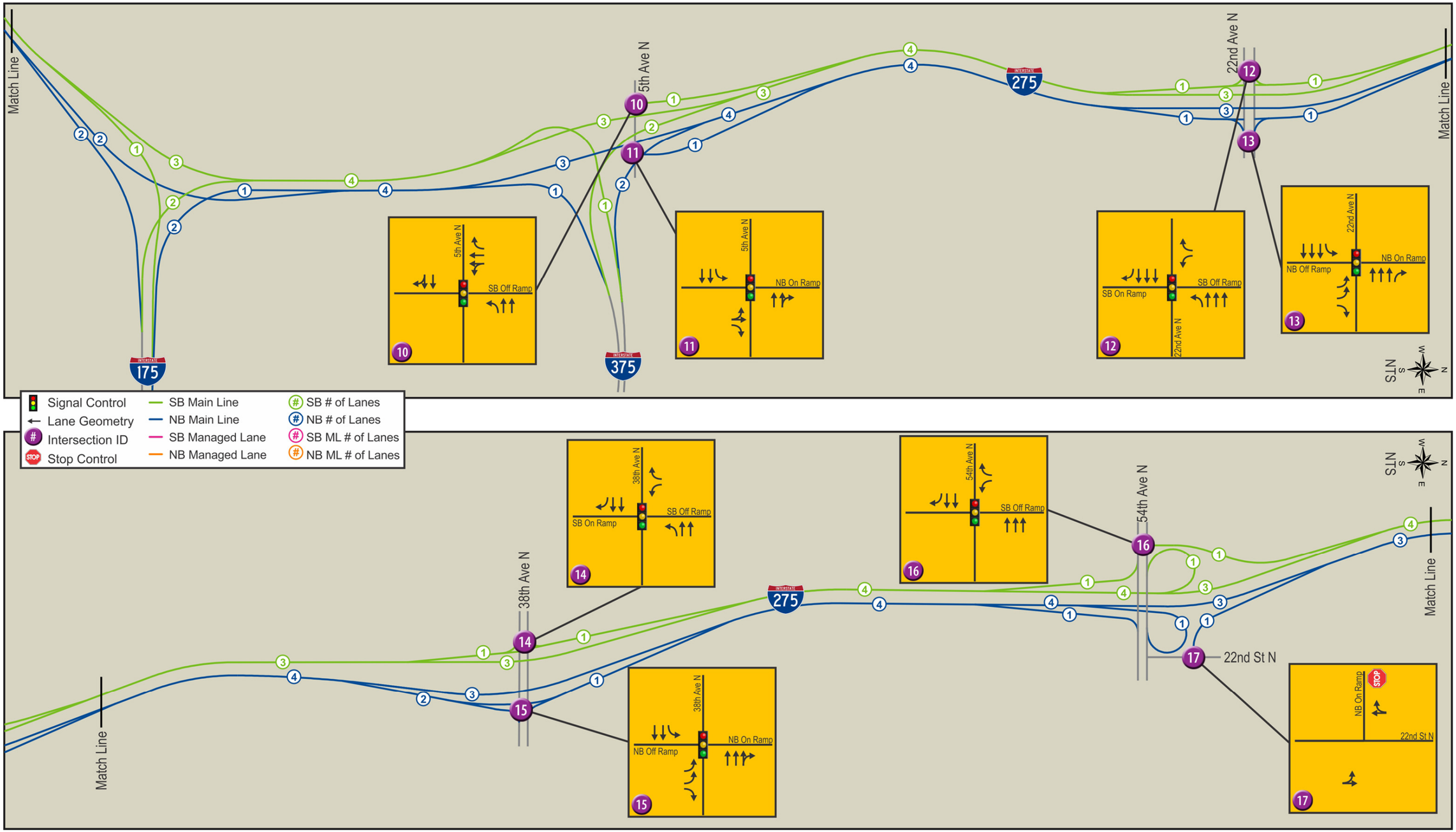


Figure 7.1. (Continued). Starter Project Lane Geometry

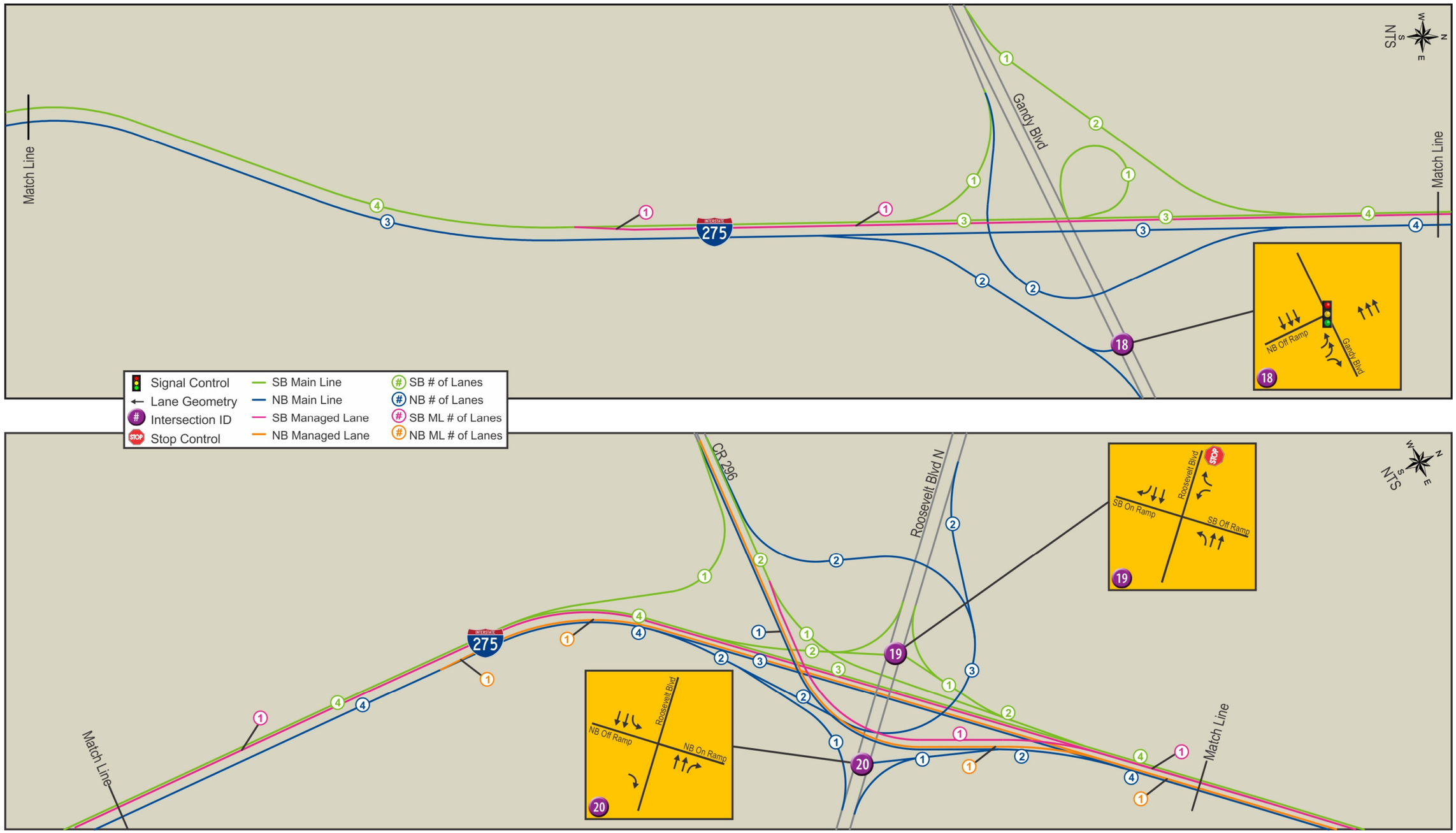


Figure 7.1. (Continued). Starter Project Lane Geometry

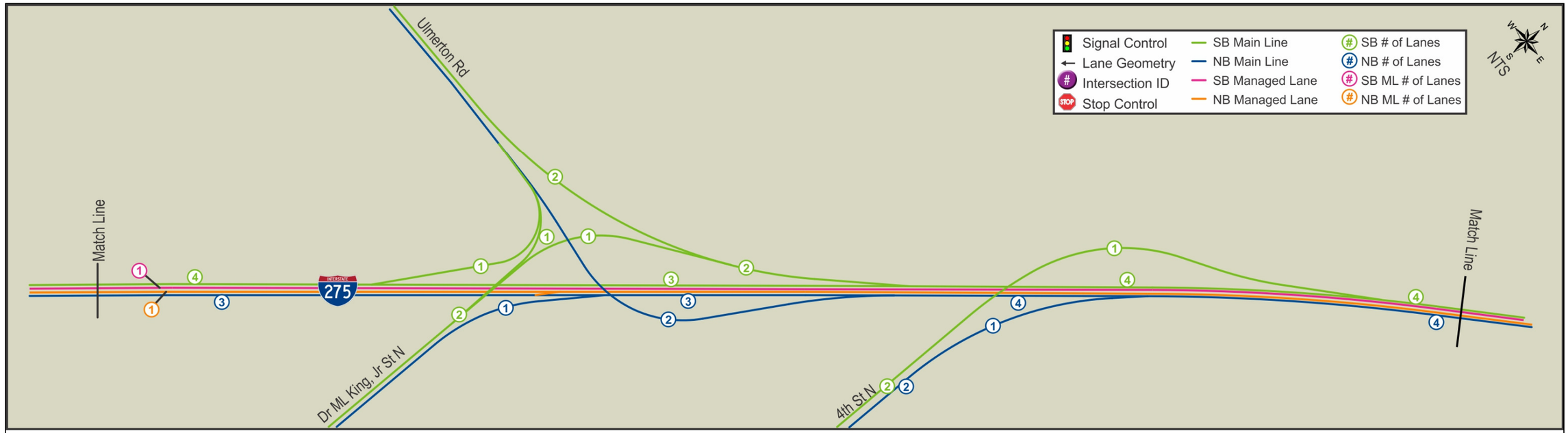


Figure 7.1. (Continued). Starter Project Lane Geometry

Table 7-1. Opening Year (2020) I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	3130	25.3	C
54th Ave S EB On to 54th Ave S WB On	4050	21.2	C
54th Ave S On to 26th Ave S Off	5050	27.9	D
26th Ave S Off to 22nd Ave S EB On	4600	24.6	C
22nd Ave S EB On to 22nd Ave S WB On	5300	20.7	C
22ndAveS WB On to 31st St S Off	5800	18.0	B
31st St S Off to 28th St S On	5450	31.2	D
28th St S On to I-175 Off	5970	35.1	E
I-175 Off to I-175 On	4820	55.9	F
I-175 On to I-375 Off	5820	23.1	C
I-375 Off to I-375 On	5070	28.0	D
I-375 On to 5th Ave N On	5820	23.1	C
5th Ave N On to 22nd Ave N Off	7120	30.3	D
22nd Ave N Off to 22nd Ave N On	6520	43.3	E
22nd Ave N On to 38th Ave N Off	7670	34.1	D
38th Ave N Off to 38th Ave N On	7020	51.6	F
8th Ave N On to 54th Ave N EB Off	8020	36.9	E
54th Ave N EB Off to 54th Ave N WB Off	7500	32.8	D
54th Ave N Off WB to 22nd St N On	6900	49.4	F
22nd St N On to Gandy Blvd Off	7700	63.6	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	4510	24.0	C
54th Ave N WB On to 54th Ave N EB On	5210	20.3	C
54th Ave N EB On to 38th Ave N Off	6110	24.5	C
38th Ave N Off to 38th Ave N On	5510	31.8	D
38th Ave N On to 22nd Ave N Off	6560	43.9	E
22nd Ave N Off to 22nd Ave N On	5810	34.7	D
22nd Ave N On to 5th Ave N Off	6590	27.1	D
5th Ave N Off to I-375 Off	5390	30.7	D
I-375 Off to I-375 On	4040	21.1	C
I-375 On to I-175 Off	4440	17.2	B
I-175 Off to I-175 On	2990	15.4	B
I-175 On to 28th St S Off	3390	17.5	B
28th St S Off to 31st St S On	3000	15.5	B
31st St S On to 22nd Ave S Off	3500	13.6	B
22nd Ave S Off to 26th Ave S On	2600	13.4	B
26th Ave S On to 54th Ave S Off	2960	11.5	B
South of 54th Ave S Off	1770	13.7	B

Table 7-2. Opening Year (2020) I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	1760	13.6	B
54th Ave S EB On to 54th Ave S WB On	2400	12.4	B
54th Ave S On to 26th Ave S Off	2940	15.2	B
26th Ave S Off to 22nd Ave S EB On	2440	12.6	B
22nd Ave S EB On to 22nd Ave S WB On	3100	12.0	B
22ndAveS WB On to 31st St S Off	3580	11.1	B
31st St S Off to 28th St S On	2950	15.2	B
28th St S On to I-175 Off	3400	17.6	B
I-175 Off to I-175 On	2700	21.2	C
I-175 On to I-375 Off	4120	16.0	B
I-375 Off to I-375 On	3740	19.4	C
I-375 On to 5th Ave N On	4940	19.2	C
5th Ave N On to 22nd Ave N Off	6270	25.4	C
22nd Ave N Off to 22nd Ave N On	5470	31.4	D
22nd Ave N On to 38th Ave N Off	6270	25.4	C
38th Ave N Off to 38th Ave N On	5420	31.0	D
8th Ave N On to 54th Ave N EB Off	6080	24.4	C
54th Ave N EB Off to 54th Ave N WB Off	5450	21.4	C
54th Ave N Off WB to 22nd St N On	4810	26.1	D
22nd St N On to Gandy Blvd Off	5340	30.3	D
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	5850	35.1	E
54th Ave N WB On to 54th Ave N EB On	6310	25.5	C
54th Ave N EB On to 38th Ave N Off	6870	28.7	D
38th Ave N Off to 38th Ave N On	5850	35.1	E
38th Ave N On to 22nd Ave N Off	6670	45.5	F
22nd Ave N Off to 22nd Ave N On	5640	33.0	D
22nd Ave N On to 5th Ave N Off	6400	26.0	D
5th Ave N Off to I-375 Off	4990	27.4	D
I-375 Off to I-375 On	4080	21.3	C
I-375 On to I-175 Off	4620	17.9	B
I-175 Off to I-175 On	3600	18.6	C
I-175 On to 28th St S Off	4710	25.4	C
28th St S Off to 31st St S On	4360	23.1	C
31st St S On to 22nd Ave S Off	4930	19.2	C
22nd Ave S Off to 26th Ave S On	3950	20.6	C
26th Ave S On to 54th Ave S Off	4450	17.2	B
South of 54th Ave S Off	2410	18.7	C

7.1.2 Opening Year (2020) I-275 Merge/Diverge Operations

The I-275 ramp merge/diverge areas were analyzed in HCS 2010 using density thresholds specified in Exhibit 13-2 of the HCM 2010. Ramp capacities were also checked. The results of the opening year (2020) HCS 2010 ramp merge/diverge analysis for the AM and PM peak periods are shown in **Table 7-3** and **Table 7-4**, respectively. The results of the analysis indicate that thirteen merge/diverge areas are not projected to meet the adopted LOS standard in the AM peak hour and five merge/diverge areas are not projected to meet the adopted LOS standard in the PM peak hour. This may be attributed to substandard freeway operations as, the ramps all operate well under capacity as shown in **Table 7-5**. The HCS ramp output for the opening year (2020) can be found in **Appendix L**.

Table 7-3. Opening Year (2020) I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	920	20.5	C
54th Ave S WB On	1000	31.2	D
26th Ave S Off	450	32.4	D
22nd Ave S EB On	700	29.2	D
22nd Ave S WB On	500	18.0	B
31st St S Off	350	10.6	B
28th St S On	520	38.8	E
I-175 Off	1150	33.0	F
I-175 On	1000	44.8	F
I-375 Off	750	31.9	D
I-375 On	750	7.7	A
5th Ave N On	1300	30.6	D
22nd Ave N Off	600	34.0	F
22nd Ave N On	1150	39.9	F
38th Ave N Off	650	25.6	F
38th Ave N On	1000	42.4	F
54th Ave N EB Off	520	48.6	F
54th Ave N WB Off	600	37.5	F
22nd St N On	800	45.6	F
Southbound I-275			
54th Ave N Off	770	22.3	C
54th Ave N WB On	700	25.3	C
54th Ave N EB On	900	25.9	C
38th Ave N Off	600	25.4	C
38th Ave N On	1050	40.5	E
22nd Ave N Off	750	28.7	D
22nd Ave N On	780	36.3	E
5th Ave N Off	1200	37.6	E

Table 7-3. (Continued) Opening Year (2020) I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
I-375 Off	1350	8.3	A
I-375 On	400	32.2	D
I-175 Off	1450	4.6	A
I-175 On	400	16.8	B
28th St S Off	390	24.3	C
31st St S On	500	28.6	D
22nd Ave S Off	900	18.7	B
26th Ave S On	360	12.6	B
54th Ave S Off	1190	*	*

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 7-4. Opening Year (2020) I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	640	6.6	A
54th Ave S WB On	540	19.3	B
26th Ave S Off	500	22.1	C
22nd Ave S EB On	660	18.0	B
22nd Ave S WB On	480	12.7	B
31st St S Off	630	*	*
28th St S On	450	21.7	C
I-175 Off	700	9.0	A
I-175 On	1420	30.2	D
I-375 Off	380	23.7	C
I-375 On	1200	4.9	A
5th Ave N On	1330	27.9	C
22nd Ave N Off	800	26.3	C
22nd Ave N On	800	32.7	D
38th Ave N Off	850	12.5	B
38th Ave N On	660	29.7	D
54th Ave N EB Off	630	32.1	D
54th Ave N WB Off	640	22.8	C
22nd St N On	530	30.9	D
Southbound I-275			
54th Ave N Off	780	29.4	D
54th Ave N WB On	460	30.4	D
54th Ave N EB On	560	26.9	C
38th Ave N Off	1020	31.6	F
38th Ave N On	820	41.8	F
22nd Ave N Off	1030	29.8	F

Table 7-4. (Continued) Opening Year (2020) I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
22nd Ave N On	760	36.3	E
5th Ave N Off	1410	33.4	D
I-375 Off	910	5.2	A
I-375 On	540	31.0	D
I-175 Off	1020	3.1	A
I-175 On	1110	26.0	C
28th St S Off	350	30.8	D
31st St S On	570	40.6	E
22nd Ave S Off	980	25.7	C
26th Ave S On	500	22.5	C
54th Ave S Off	2040	*	*

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 7-5. Opening Year (2020) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
Northbound I-275		
54th Ave S EB On	0.22	0.15
54th Ave S WB On	0.48	0.26
26th Ave S Off	0.21	0.24
22nd Ave S WB On	0.35	0.33
22nd Ave S EB On	0.24	0.23
31st St S Off	0.08	0.15
28th St S On	0.25	0.21
I-175 Off	0.27	0.17
I-175 On	0.48	0.68
I-375 Off	0.36	0.18
I-375 On	0.18	0.29
5th Ave N On	0.62	0.63
22nd Ave N Off	0.29	0.38
22nd Ave N On	0.55	0.38
38th Ave N Off	0.15	0.20
38th Ave N On	0.48	0.31
54th Ave N EB Off	0.25	0.30
54th Ave N WB Off	0.30	0.32
22nd St N On	0.38	0.25
Southbound I-275		
54th Ave N Off	0.37	0.37
54th Ave N WB On	0.35	0.23

Table 7-5. (Continued) Opening Year (2020) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
54th Ave N EB On	0.43	0.27
38th Ave N Off	0.29	0.49
38th Ave N On	0.50	0.39
22nd Ave N Off	0.36	0.49
22nd Ave N On	0.37	0.36
5th Ave N Off	0.57	0.67
I-375 Off	0.32	0.22
I-375 On	0.19	0.26
I-175 Off	0.35	0.24
I-175 On	0.19	0.53
28th St S Off	0.19	0.17
31st St S On	0.24	0.27
22nd Ave S Off	0.43	0.47
26th Ave S On	0.17	0.24
54th Ave S Off	0.28	0.49

7.1.3 Opening Year (2020) CORSIM Analysis

The I-275 freeway from south of Gandy Boulevard to north of 4th Street was analyzed in CORSIM with the Starter Project implemented. The on and off ramps within these limits were also analyzed. The parameters used in the calibrated CORSIM models were used in the opening year (2020) Models and the modeling procedure described in Section 2.5.4 was employed. The link-node and lane diagram for the Starter Project CORSIM model is shown in **Appendix L**. The peak-hour results for different MOEs were extracted from the opening year (2020) CORSIM model output and averaged over the ten runs for the appropriate links and time periods. Note that the peak-hour output was used for determining the operational analysis. The three-hour analysis period results were used to produce heat diagrams, as shown in **Appendix L**. The results of the opening year (2020) CORSIM analysis for the AM and PM peak periods are shown in **Table 7-6**.

Table 7-6. Opening Year (2020) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
Freeway (General Use Lanes)				
NB I-275 from South of Gandy to Gandy Off Ramp	61.1	64.3	35.8	27.2
NB I-275 from Gandy Off Ramp to Gandy On Ramp	65.5	66.8	25.0	17.9
NB I-275 from Gandy On Ramp to NB EL Slip Ramp	65.5	66.4	20.6	15.6
NB I-275 from NB EL Slip Ramp to Roosevelt/118th Off Ramp	60.1	64.2	23.0	16.1
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	67.7	68.3	9.3	7.2
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	66.3	66.3	12.9	11.3
NB I-275 from MLK On Ramp to Ulmerton On Ramp	66.0	66.2	15.4	13.9
NB I-275 from Ulmerton On Ramp to 4th On Ramp	64.6	65.9	17.7	15.2

Table 7-6. (Continued) Opening Year (2020) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
NB I-275 from 4th On Ramp to South of NB EL Slip Ramp	54.6	63.3	27.7	19.4
NB I-275 from NB EL Slip Ramp to Howard Frankland Bridge	65.1	66.2	27.5	23.1
SB I-275 from Howard Frankland Bridge to SB EL Slip Ramp	53.0	35.7	22.2	61.4
SB I-275 from SB EL Slip Ramp to 4th Off Ramp	39.0	54.2	27.6	38.3
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	33.1	64.2	21.1	23.3
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	18.2	66.6	23.1	17.7
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	10.0	65.2	35.3	16.2
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	64.8	67.7	2.1	12.2
SB I-275 from Roosevelt On Ramp to 118th On Ramp	63.1	63.8	5.0	15.1
SB I-275 from 118th On Ramp to Gandy Off Ramp	65.8	62.9	9.6	22.0
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	67.9	65.4	9.2	22.3
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	61.5	61.3	12.4	23.2
SB I-275 from Gandy On Ramp to EL On Ramp	62.0	60.8	15.6	24.9
SB I-275 from SB EL Slip Ramp to South of Gandy	66.2	63.4	18.6	30.0
Arterials				
EB Gandy from West of I-275 to I-275 On Ramp	47.5	48.4	19.3	15.7
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	48.0	48.9	9.6	7.6
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	43.7	44.0	11.4	9.3
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	45.8	46.2	16.5	14.7
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	46.1	46.3	18.4	19.8
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	53.1	52.9	12.5	14.5
WB Gandy from SB I-275 Off Ramp to West of I-275	52.7	51.6	14.0	18.9
EB Roosevelt from West of I-275 to SB I-275 On Ramp	58.3	57.1	8.0	16.3
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	58.6	57.9	8.6	16.1
EB Roosevelt West of NB I-275 Off Ramp	57.6	56.6	12.5	17.0
EB Roosevelt from NB I-275 Off Ramp to East of I-275	55.8	56.9	17.2	15.5
WB Roosevelt from East of I-275 to NB I-275 On Ramp	58.4	58.1	19.7	16.8
WB Roosevelt West of NB I-275 On Ramp	58.1	58.2	20.3	15.6
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	57.0	57.7	17.7	13.2
WB Roosevelt from NB I-275 Off Ramp to West of I-275	57.0	57.7	16.2	11.5
WB 118th from SB I-275 Off Ramp to West of I-275	57.2	56.7	9.1	15.1
EB 118th from West of I-275 to SB I-275 On Ramp	57.0	56.5	19.3	20.0
EB Ulmerton from West of I-275 to I-275 On Ramp	27.5	57.7	24.9	12.8
WB Ulmerton West of I-275	53.5	56.9	8.4	11.3
Ulmerton to SB I-275 On Ramp/MLK	7.3	45.1	47.1	20.5
EB Ulmerton to SB MLK	41.4	43.7	1.9	4.9
SB MLK	48.9	49.2	2.9	4.7
Freeway (Special Use Lanes)				
NB EL from East of 118th On Ramp to NB I-275 Slip Ramp	67.0	67.3	12.7	10.4
NB EL from NB I-275 Slip Ramp to Slip Ramp North of 4th	63.9	64.2	16.3	14.5
NB EL from Slip Ramp North to 4th to Howard Frankland Bridge	62.3	62.7	22.8	20.6
SB EL from Howard Frankland Bridge to SB I-275 Slip Ramp	66.1	68.4	17.3	15.5
SB EL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	62.3	64.4	20.6	17.2

Table 7-6. (Continued) Opening Year (2020) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
SB EL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	62.7	65.2	15.0	10.3
Ramps				
NB I-275 Off Ramp to Gandy	45.5	45.4	35.7	36.1
NB I-275 Off Ramp to EB Gandy	41.0	40.8	26.8	27.3
I-275 On Ramp from EB Gandy	34.6	41.3	28.2	19.6
NB I-275 On Ramp from EB Gandy	48.8	48.9	9.2	8.9
SB I-275 Off Ramp to Gandy	48.8	48.0	8.1	14.8
SB I-275 On Ramp from EB Gandy	45.9	46.6	22.6	16.4
SB I-275 Loop On Ramp Loop from WB Gandy	32.8	33.0	28.7	26.4
NB I-275 Off Ramp to Roosevelt/118th	45.8	49.1	39.3	26.9
NB I-275 Off Ramp to Roosevelt/118th	44.7	46.6	33.6	23.6
NB I-275 Off Ramp to EB Roosevelt	47.9	49.2	19.5	6.0
NB I-275 Off Ramp to WB Roosevelt	48.8	49.4	17.7	11.7
NB I-275 On Ramp from WB Roosevelt	52.6	52.3	1.3	4.7
NB I-275 On Ramp from Roosevelt/118th	46.2	46.8	13.8	13.9
SB I-275 Off Ramp to Roosevelt/118th	2.2	49.9	154.6	17.4
SB I-275 On Ramp from Roosevelt	46.4	42.9	9.9	18.9
SB I-275 On Ramp from EB Roosevelt	49.4	48.8	6.1	13.8
NB I-275 Off Ramp to WB Roosevelt/118th	47.8	48.0	22.4	19.6
NB I-275 Off Ramp to 118th	48.8	48.5	9.5	12.2
NB I-275 On Ramp from 118th	47.4	47.9	21.0	16.9
SB I-275 Off Ramp to 118th	42.7	45.0	4.4	35.7
SB I-275 and SB EL Off Ramp to 118th	51.1	48.6	11.4	23.1
SB I-275 On Ramp from 118th	46.8	46.3	25.2	31.0
NB I-275 On Ramp from Ulmerton	48.3	48.8	16.4	13.3
SB I-275 Off Ramp to Ulmerton/MLK	42.8	48.7	12.2	15.6
SB I-275 On Ramp from Ulmerton	5.8	41.5	38.2	16.9
NB I-275 On Ramp from NB MLK	49.4	49.3	6.1	7.2
SB I-275 Off Ramp to MLK	45.0	49.0	4.2	5.2
NB I-275 On Ramp from 4th	58.3	58.7	10.2	7.1
SB I-275 Off Ramp to 4th	50.9	57.7	3.7	13.1
NB I-275 Slip Ramp to NB EL	68.1	67.9	4.3	4.7
NB I-275 Slip Ramp to NB EL	66.7	67.0	5.6	5.2
SB EL Slip Ramp to SB I-275	64.6	65.6	5.2	6.7
SB EL Slip Ramp to SB I-275	64.8	68.6	3.0	3.9

8.0 Interim Year (2030) Traffic Operational Analysis

Traffic operational analyses of the I-275 study corridor were completed for I-275 basic freeway segments, and merge/diverge areas of the mainline/ramp junctions. The HCS 2010 was utilized to evaluate existing freeway operations on the I-275 mainline within the lane continuity section of I-275 (i.e., Segments A and B, from south of 54th Avenue South to south of Gandy Boulevard). Due to the unique traffic characteristics associated with the express lane section of I-275 (i.e., Segment C, from south of Gandy Boulevard to north of 4th Street North), CORSIM microsimulation was employed to evaluate the operations of the ELs and GULs.

8.1 Starter Project

The Starter Project improvements are similar to those of the Master Project, with the exception that instead of two express lanes proposed in each direction of I-275, only one lane is provided in each direction of I-275. The southern termini of the Starter Project express lane improvements consist of a direct connection from the 118th Avenue North/Gateway corridor to northbound I-275 via a flyover on ramp and in the southbound direction the proposed inside (i.e., towards the median) express lane transitions back into the existing southbound I-275 typical section south of 118th Avenue. The remaining limits of the Starter Project, from north of 9th Street to north of 4th Street North, involve only re-designating the existing auxiliary lane on I-275 to form an express lane to the inside. No additional travel lanes above-and-beyond the number of existing travel lanes are added under the Starter Project north of 9th Street North. The following sections present the key MOEs obtained from the use of the HCS 2010 and CORSIM to assess the operations of the I-275 study corridor.

8.1.1 Interim Year (2030) I-275 Mainline Operations

The I-275 mainline was analyzed in HCS 2010 using density thresholds specified in Exhibit 11-5 of the HCM 2010 to determine the LOS. The results of the interim year (2030) HCS 2010 basic freeway analysis for the AM and PM peak periods are shown in **Table 8-1** and **Table 8-2**, respectively. The results of the analysis indicate that eighteen segments are not projected to meet the adopted LOS standard in the AM peak hour and nine segments are not projected to meet the adopted LOS standard in the PM peak hour. The HCS 2010 freeway output for the interim year (2030) can be found in **Appendix M**.

Table 8-1. Interim Year (2030) I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	3760	33.0	D
54th Ave S EB On to 54th Ave S WB On	4860	26.5	D
54th Ave S On to 26th Ave S Off	6060	37.4	E
26th Ave S Off to 22nd Ave S EB On	5520	31.9	D
22nd Ave S EB On to 22nd Ave S WB On	6360	25.8	C

Table 8-1. (Continued) Interim Year (2030) I-275 Mainline MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
22ndAveS WB On to 31st St S Off	6960	21.9	C
31st St S Off to 28th St S On	6540	43.6	E
28th St S On to I-175 Off	7160	54.4	F
I-175 Off to I-175 On	5780	118.0	F
I-175 On to I-375 Off	6980	29.4	D
I-375 Off to I-375 On	6080	37.6	E
I-375 On to 5th Ave N On	6980	29.4	D
5th Ave N On to 22nd Ave N Off	8540	41.7	E
22nd Ave N Off to 22nd Ave N On	7820	72.0	F
22nd Ave N On to 38th Ave N Off	9200	49.4	F
38th Ave N Off to 38th Ave N On	8420	99.8	F
8th Ave N On to 54th Ave N EB Off	9620	55.5	F
54th Ave N EB Off to 54th Ave N WB Off	9000	46.8	F
54th Ave N Off WB to 22nd St N On	8280	91.7	F
22nd St N On to Gandy Blvd Off	9240	198.6	F
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	5320	30.1	D
54th Ave N WB On to 54th Ave N EB On	6160	24.8	C
54th Ave N EB On to 38th Ave N Off	7240	31.1	D
38th Ave N Off to 38th Ave N On	6520	43.3	E
38th Ave N On to 22nd Ave N Off	7780	68.1	F
22nd Ave N Off to 22nd Ave N On	6880	49.0	F
22nd Ave N On to 5th Ave N Off	7820	35.3	E
5th Ave N Off to I-375 Off	6380	41.4	E
I-375 Off to I-375 On	4760	25.7	C
I-375 On to I-175 Off	5240	20.5	C
I-175 Off to I-175 On	3500	18.1	C
I-175 On to 28th St S Off	3980	20.8	C
28th St S Off to 31st St S On	3510	18.1	C
31st St S On to 22nd Ave S Off	4110	15.9	B
22nd Ave S Off to 26th Ave S On	3030	15.7	B
26th Ave S On to 54th Ave S Off	3460	13.4	B
South of 54th Ave S Off	2030	15.7	B

Table 8-2. Interim Year (2030) I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275 Mainline			
South of 54th Ave S EB On	2110	16.4	B
54th Ave S EB On to 54th Ave S WB On	2880	14.9	B
54th Ave S On to 26th Ave S Off	3530	18.3	C

Table 8-2. (Continued) Interim Year (2030) I-275 Mainline MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
26th Ave S Off to 22nd Ave S EB On	2930	15.1	B
22nd Ave S EB On to 22nd Ave S WB On	3720	14.4	B
22ndAveS WB On to 31st St S Off	4300	13.3	B
31st St S Off to 28th St S On	3540	18.3	C
28th St S On to I-175 Off	4080	21.3	C
I-175 Off to I-175 On	3240	26.5	D
I-175 On to I-375 Off	4940	19.2	C
I-375 Off to I-375 On	4480	23.8	C
I-375 On to 5th Ave N On	6080	24.4	C
5th Ave N On to 22nd Ave N Off	7520	33.0	D
22nd Ave N Off to 22nd Ave N On	6560	43.9	E
22nd Ave N On to 38th Ave N Off	7520	33.0	D
38th Ave N Off to 38th Ave N On	6500	43.0	E
8th Ave N On to 54th Ave N EB Off	7290	31.4	D
54th Ave N EB Off to 54th Ave N WB Off	6530	26.7	D
54th Ave N Off WB to 22nd St N On	5760	34.2	D
22nd St N On to Gandy Blvd Off	6400	41.6	E
Southbound I-275 Mainline			
54th Ave N Off to 54th Ave N WB On	7050	52.1	F
54th Ave N WB On to 54th Ave N EB On	7600	33.6	D
54th Ave N EB On to 38th Ave N Off	8270	39.1	E
38th Ave N Off to 38th Ave N On	7050	52.1	F
38th Ave N On to 22nd Ave N Off	8030	80.0	F
22nd Ave N Off to 22nd Ave N On	6790	47.5	F
22nd Ave N On to 5th Ave N Off	7700	34.3	D
5th Ave N Off to I-375 Off	6010	36.8	E
I-375 Off to I-375 On	4920	26.9	D
I-375 On to I-175 Off	5570	21.9	C
I-175 Off to I-175 On	4350	23.0	C
I-175 On to 28th St S Off	5680	33.4	D
28th St S Off to 31st St S On	5260	29.6	D
31st St S On to 22nd Ave S Off	5940	23.7	C
22nd Ave S Off to 26th Ave S On	4760	25.7	C
26th Ave S On to 54th Ave S Off	5360	21.0	C
South of 54th Ave S Off	2910	23.1	C

8.1.2 Interim Year (2030) I-275 Merge/Diverge Operations

The I-275 ramp merge/diverge areas were analyzed in HCS 2010 using density thresholds specified in Exhibit 13-2 of the HCM 2010. Ramp capacities were also checked. The results of the interim year (2030) HCS 2010 ramp merge/diverge analysis for the AM and PM peak periods are shown in **Table 8-3** and **Table 8-4**, respectively. The results of the analysis indicate that sixteen merge/diverge areas are not projected to meet the adopted LOS standard in the AM peak hour and twelve

merge/diverge areas are not projected to meet the adopted LOS standard in the PM peak hour. This may be attributed to substandard freeway operations as, the ramps all operate well under capacity as shown in **Table 8-5**. The HCS ramp output for the interim year (2030) can be found in **Appendix M**.

Table 8-3. Interim Year (2030) I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	1100	27.2	F
54th Ave S WB On	1200	36.8	E
26th Ave S Off	540	36.8	E
22nd Ave S EB On	840	35.0	E
22nd Ave S WB On	600	22.4	C
31st St S Off	420	22.0	F
28th St S On	620	47.9	F
I-175 Off	1380	44.1	F
I-175 On	1200	54.5	F
I-375 Off	900	40.1	F
I-375 On	900	14.8	F
5th Ave N On	1560	36.6	E
22nd Ave N Off	720	47.2	F
22nd Ave N On	1380	52.2	F
38th Ave N Off	780	39.9	F
38th Ave N On	1200	55.8	F
54th Ave N EB Off	620	63.5	F
54th Ave N WB Off	720	51.5	F
22nd St N On	960	58.5	F
Southbound I-275			
54th Ave N Off	920	26.4	C
54th Ave N WB On	840	30.6	D
54th Ave N EB On	1080	30.5	D
38th Ave N Off	720	35.1	F
38th Ave N On	1260	47.2	F
22nd Ave N Off	900	39.4	F
22nd Ave N On	940	45.5	F
5th Ave N Off	1440	47.5	F
I-375 Off	1620	15.4	B
I-375 On	480	39.7	E
I-175 Off	1740	9.7	A
I-175 On	480	20.9	C
28th St S Off	470	27.5	C
31st St S On	600	33.7	D
22nd Ave S Off	1080	22.1	C

Table 8-3. (Continued) Interim Year (2030) I-275 Ramp MOEs and LOS – AM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
26th Ave S On	430	15.7	B
54th Ave S Off	1430	*	*

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 8-4. Interim Year (2030) I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
Northbound I-275			
54th Ave S EB On	770	10.6	B
54th Ave S WB On	650	22.5	C
26th Ave S Off	600	25.7	C
22nd Ave S EB On	790	21.5	C
22nd Ave S WB On	580	13.3	B
31st St S Off	760	2.2	A
28th St S On	540	26.3	C
I-175 Off	840	15.3	B
I-175 On	1700	37.0	F
I-375 Off	460	27.7	C
I-375 On	1600	11.7	B
5th Ave N On	1440	32.6	D
22nd Ave N Off	960	37.7	F
22nd Ave N On	960	41.1	F
38th Ave N Off	1020	24.2	F
38th Ave N On	790	37.4	F
54th Ave N EB Off	760	41.8	F
54th Ave N WB Off	770	28.5	D
22nd St N On	640	37.3	E
Southbound I-275			
54th Ave N Off	940	42.1	F
54th Ave N WB On	550	39.0	F
54th Ave N EB On	670	32.1	D
38th Ave N Off	1220	44.7	F
38th Ave N On	980	51.0	F
22nd Ave N Off	1240	42.4	F
22nd Ave N On	910	46.4	F
5th Ave N Off	1690	42.2	F
I-375 Off	1090	11.7	B
I-375 On	650	38.4	E
I-175 Off	1220	8.4	A
I-175 On	1330	32.2	D
28th St S Off	420	35.1	E
31st St S On	680	49.1	E

Table 8-4. (Continued) Interim Year (2030) I-275 Ramp MOEs and LOS – PM Peak Hour

I-275 Freeway Segment From Ramp/To Ramp	Vehicle Volume (veh/hr)	Vehicle Density (pc/mi/ln)	LOS
22nd Ave S Off	1180	30.2	D
26th Ave S On	600	28.9	D
54th Ave S Off	2450	*	*

*LOS results using HCM 2010 could not be determined due to geometry and magnitude of volume

Table 8-5. Interim Year (2030) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
Northbound I-275		
54th Ave S EB On	0.26	0.18
54th Ave S WB On	0.57	0.31
26th Ave S Off	0.26	0.29
22nd Ave S WB On	0.42	0.40
22nd Ave S EB On	0.29	0.28
31st St S Off	0.10	0.18
28th St S On	0.30	0.26
I-175 Off	0.33	0.20
I-175 On	0.57	0.81
I-375 Off	0.43	0.22
I-375 On	0.21	0.38
5th Ave N On	0.74	0.69
22nd Ave N Off	0.34	0.46
22nd Ave N On	0.66	0.46
38th Ave N Off	0.19	0.24
38th Ave N On	0.57	0.38
54th Ave N EB Off	0.30	0.36
54th Ave N WB Off	0.36	0.39
22nd St N On	0.46	0.30
Southbound I-275		
54th Ave N Off	0.44	0.45
54th Ave N WB On	0.42	0.28
54th Ave N EB On	0.51	0.32
38th Ave N Off	0.34	0.58
38th Ave N On	0.56	0.47
22nd Ave N Off	0.39	0.59
22nd Ave N On	0.45	0.43
5th Ave N Off	0.69	0.80
I-375 Off	0.39	0.26
I-375 On	0.23	0.31

Table 8-5. (Continued) Interim Year (2030) I-275 Ramp Capacity

I-275 On/Off Ramp	AM Peak-Hour Volume-to-Capacity Ratio	PM Peak-Hour Volume-to-Capacity Ratio
I-175 Off	0.41	0.29
I-175 On	0.23	0.63
28th St S Off	0.22	0.20
31st St S On	0.29	0.32
22nd Ave S Off	0.51	0.56
26th Ave S On	0.20	0.29
54th Ave S Off	0.34	0.58

8.1.3 Interim Year (2030) CORSIM Analysis

The I-275 freeway from south of Gandy Boulevard to north of 4th Street was analyzed in CORSIM with the Starter Project implemented. The on and off ramps within these limits were also analyzed. The parameters used in the calibrated CORSIM models were used in the interim year (2030) models and the modeling procedure described in Section 2.5.4 was employed. The link-node and lane diagram for the Starter Project CORSIM model is shown in **Appendix M**. The peak-hour results for different MOEs were extracted from the interim year (2030) CORSIM model output and averaged over the ten runs for the appropriate links and time periods. Note that the peak-hour output was used for determining the operational analysis. The three-hour analysis period results were used to produce heat diagrams, as shown in **Appendix M**. The results of the interim year (2030) CORSIM analysis for the AM and PM peak periods are shown in **Table 8-6**.

Table 8-6. Interim Year (2030) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
Freeway (General Use Lanes)				
NB I-275 from South of Gandy to Gandy Off Ramp	60.9	49.0	36.1	49.3
NB I-275 from Gandy Off Ramp to Gandy On Ramp	65.4	65.3	25.2	21.7
NB I-275 from Gandy On Ramp to NB EL Slip Ramp	65.4	65.9	21.5	18.8
NB I-275 from NB EL Slip Ramp to Roosevelt/118th Off Ramp	58.9	63.1	24.7	19.6
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	67.4	67.8	9.8	9.9
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	65.8	65.8	14.5	14.4
NB I-275 from MLK On Ramp to Ulmerton On Ramp	64.7	65.1	18.4	17.8
NB I-275 from Ulmerton On Ramp to 4th On Ramp	64.8	65.5	19.2	18.2
NB I-275 from 4th On Ramp to South of NB EL Slip Ramp	48.8	57.3	34.7	26.1
NB I-275 from NB EL Slip Ramp to Howard Frankland Bridge	64.2	65.1	31.3	28.1
SB I-275 from Howard Frankland Bridge to SB EL Slip Ramp	53.9	21.0	36.2	98.0
SB I-275 from SB EL Slip Ramp to 4th Off Ramp	55.4	53.4	35.0	41.3
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	62.6	63.9	24.2	24.9
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	67.5	66.5	11.9	18.9
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	66.3	64.9	11.5	17.7
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	68.4	67.6	8.6	13.3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	64.1	63.3	11.7	17.0

Table 8-6. (Continued) Interim Year (2030) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
SB I-275 from 118th On Ramp to Gandy Off Ramp	64.2	60.4	17.8	26.0
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	66.5	64.3	17.4	25.6
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	61.0	59.7	20.2	27.3
SB I-275 from Gandy On Ramp to EL On Ramp	56.8	55.6	25.6	31.4
SB I-275 from SB EL Slip Ramp to South of Gandy	63.6	58.3	28.4	37.6
Arterials				
EB Gandy from West of I-275 to I-275 On Ramp	44.1	47.6	24.5	18.1
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	46.3	48.1	11.5	8.1
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	43.0	44.0	13.4	9.7
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	45.4	45.5	18.2	16.4
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	45.2	44.9	20.4	23.6
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	52.9	52.6	13.3	16.7
WB Gandy from SB I-275 Off Ramp to West of I-275	52.0	51.0	17.3	21.9
EB Roosevelt from West of I-275 to SB I-275 On Ramp	57.2	56.7	16.3	18.9
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	56.2	57.7	18.9	17.7
EB Roosevelt West of NB I-275 Off Ramp	52.2	54.0	20.3	19.8
EB Roosevelt from NB I-275 Off Ramp to East of I-275	53.0	56.0	23.3	17.5
WB Roosevelt from East of I-275 to NB I-275 On Ramp	55.9	57.7	22.2	19.3
WB Roosevelt West of NB I-275 On Ramp	41.9	55.3	39.6	18.7
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	56.8	57.0	18.6	15.4
WB Roosevelt from NB I-275 Off Ramp to West of I-275	57.1	57.6	17.0	13.3
WB 118th from SB I-275 Off Ramp to West of I-275	56.6	56.6	14.1	16.1
EB 118th from West of I-275 to SB I-275 On Ramp	56.4	56.1	23.2	23.9
EB Ulmerton from West of I-275 to I-275 On Ramp	57.7	57.7	13.9	14.1
WB Ulmerton West of I-275	55.7	56.8	19.9	11.9
Ulmerton to SB I-275 On Ramp/MLK	45.3	44.6	20.5	24.7
EB Ulmerton to SB MLK	43.7	43.8	5.9	5.9
SB MLK	48.9	49.3	7.7	5.3
Freeway (Special Use Lanes)				
NB EL from East of 118th On Ramp to NB I-275 Slip Ramp	66.5	67.0	15.4	12.6
NB EL from NB I-275 Slip Ramp to Slip Ramp North of 4th	63.4	63.8	18.4	16.9
NB EL from Slip Ramp North to 4th to Howard Frankland Bridge	61.9	62.2	25.4	23.9
SB EL from Howard Frankland Bridge to SB I-275 Slip Ramp	67.9	68.1	19.1	17.7
SB EL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	63.8	64.0	22.4	19.7
SB EL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	64.3	65.3	16.2	11.2
Ramps				
NB I-275 Off Ramp to Gandy	45.5	28.6	35.8	73.7
NB I-275 Off Ramp to EB Gandy	40.6	39.5	27.2	32.2
I-275 On Ramp from EB Gandy	21.9	34.4	54.1	28.4
NB I-275 On Ramp from EB Gandy	48.6	48.7	11.0	10.8
SB I-275 Off Ramp to Gandy	48.1	47.7	14.0	17.2
SB I-275 On Ramp from EB Gandy	45.7	47.0	26.7	19.3
SB I-275 Loop On Ramp Loop from WB Gandy	32.5	32.8	33.1	31.8

Table 8-6. (Continued) Interim Year (2030) I-275 CORSIM Results

Segment	Average Speed (mph)		Density (veh/mi/ln)	
	AM	PM	AM	PM
NB I-275 Off Ramp to Roosevelt/118th	45.2	48.4	41.7	30.1
NB I-275 Off Ramp to Roosevelt/118th	44.4	46.5	35.3	26.1
NB I-275 Off Ramp to EB Roosevelt	47.7	49.2	20.1	7.0
NB I-275 Off Ramp to WB Roosevelt	48.8	49.3	18.6	13.7
NB I-275 On Ramp from WB Roosevelt	50.5	51.8	1.9	5.4
NB I-275 On Ramp from Roosevelt/118th	45.8	46.4	16.7	15.9
SB I-275 Off Ramp to Roosevelt/118th	50.8	49.6	12.6	19.0
SB I-275 On Ramp from Roosevelt	43.9	41.4	16.3	22.7
SB I-275 On Ramp from EB Roosevelt	49.0	48.7	11.8	16.8
NB I-275 Off Ramp to WB Roosevelt/118th	47.6	47.9	23.7	21.6
NB I-275 Off Ramp to 118th	48.8	48.4	10.1	12.5
NB I-275 On Ramp from 118th	46.8	47.5	26.0	20.3
SB I-275 Off Ramp to 118th	45.7	44.8	26.0	38.7
SB I-275 and SB EL Off Ramp to 118th	49.1	48.5	22.5	25.1
SB I-275 On Ramp from 118th	46.3	45.6	29.7	37.3
NB I-275 On Ramp from Ulmerton	48.7	48.8	15.2	13.8
SB I-275 Off Ramp to Ulmerton/MLK	47.5	48.7	28.5	16.5
SB I-275 On Ramp from Ulmerton	41.7	41.3	15.9	20.2
NB I-275 On Ramp from NB MLK	49.2	49.3	10.5	8.6
SB I-275 Off Ramp to MLK	48.4	49.0	10.6	5.6
NB I-275 On Ramp from 4th	57.8	58.5	12.4	8.6
SB I-275 Off Ramp to 4th	58.4	57.5	7.6	14.5
NB I-275 Slip Ramp to NB EL	68.0	68.0	3.8	5.0
NB I-275 Slip Ramp to NB EL	66.9	66.9	6.0	6.0
SB EL Slip Ramp to SB I-275	66.3	65.3	5.7	8.0
SB EL Slip Ramp to SB I-275	68.8	68.3	3.7	4.5

9.0 Conclusions

This DTTM is as a component of the I-275 PD&E Study from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida. The purpose of the DTTM was to evaluate existing and future traffic operations of the I-275 study corridor in order to define the lane geometry and traffic control features needed to meet adopted LOS standards in the design year (2040). HCS analyses were employed to analyze the proposed lane continuity improvements from south of 54th Avenue North to Gandy Boulevard, while microsimulation using CORSIM was employed to analyze the proposed Master and Starter express lane projects from south of Gandy to the northern study limit 1.0 mile south of the Howard Frankland Bridge. The key findings from this analysis are summarized below.

Existing (2012)

- Majority of I-275 mainline segments operate at LOS D or better in the AM and PM peak hours, except for the segment from 22nd Avenue North to Gandy Boulevard which operates at LOS E.

Design Year (2040)

- The No Build analysis indicates that almost all freeway segments, ramp merge/diverge locations, and ramp terminal intersections are projected to operate at failing LOS if no improvements are made.
- The lane continuity improvement provide a marked improvement in operating conditions when compared to the no build, but do not fully resolve all mainline, ramp, and intersection deficiencies.
- All general-use and special-use lanes on I-275 are projected to operate satisfactorily with the proposed express lanes.
- Ramp terminal intersection improvements are needed to provide the necessary level of operations.
- Operational deficiencies on the mainline, ramps, and intersections beyond the design year (2040) will be addressed as needed in future studies.

Opening Year (2020)

- The Starter Project will provide acceptable mainline operations within the express lane section of I-275.

Interim Year (2030)

- Improvements above and beyond the Starter Project will be needed in the interim year 2030.

10.0 References

1. *FDOT Quality/Level of Service Handbook. 2013.*
2. *FDOT Roadway Characteristics Inventory. 2013*
3. *FDOT Florida Traffic Information CD. 2013.*
4. *Transportation Research Board. Highway Capacity Manual (HCM). 2010.*
5. *M^C^Trans. Highway Capacity Software (2010). University of Florida.*
6. *Trafficware Ltd. Synchro plus SimTraffic. Version 8.0.*
7. *McTrans. Traffic Software Integrated System (TSIS). Version 6.3. University of Florida.*

Appendices

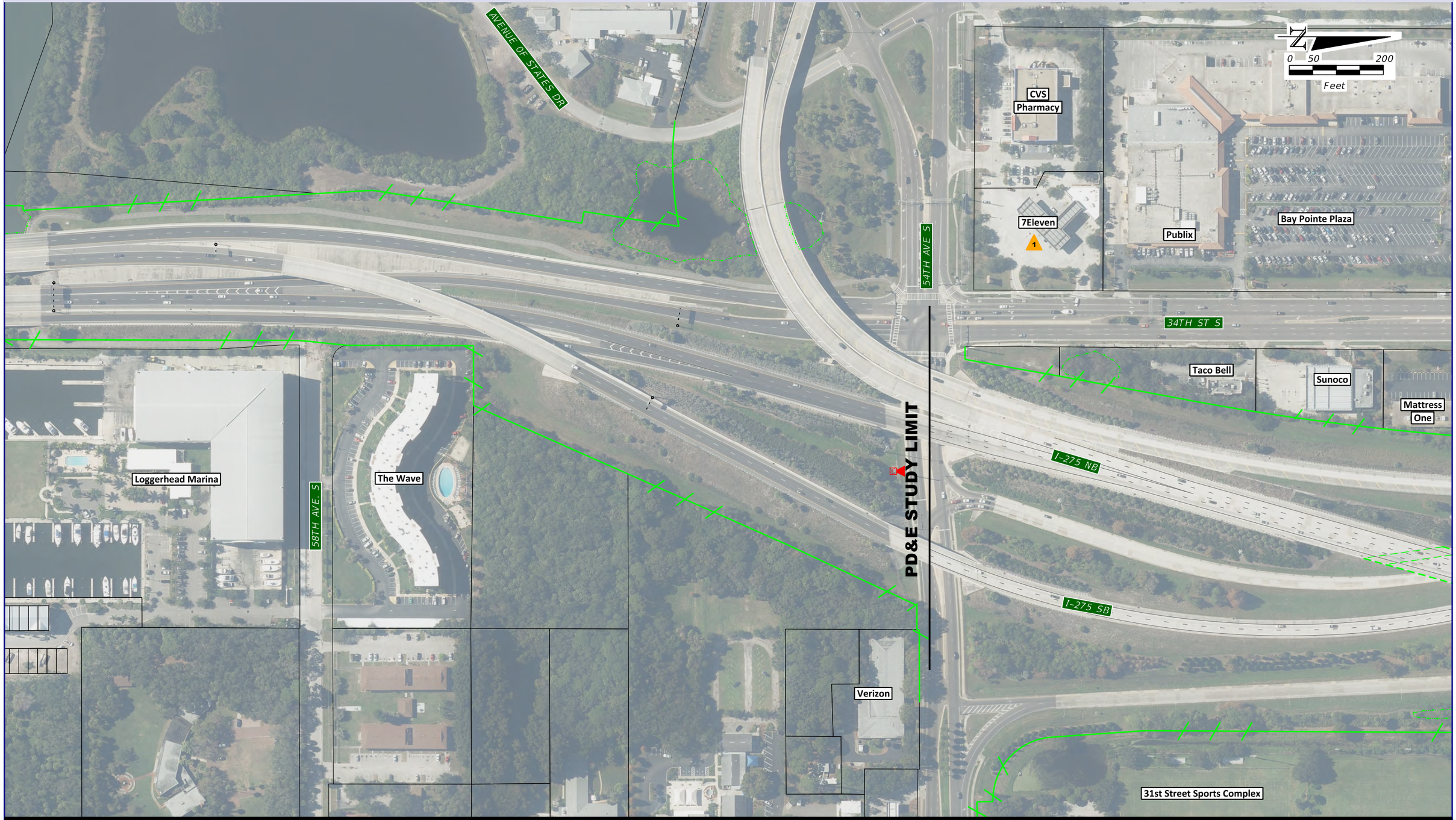
Appendix A.
Conceptual Design Plans

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

- PAVEMENT WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 1

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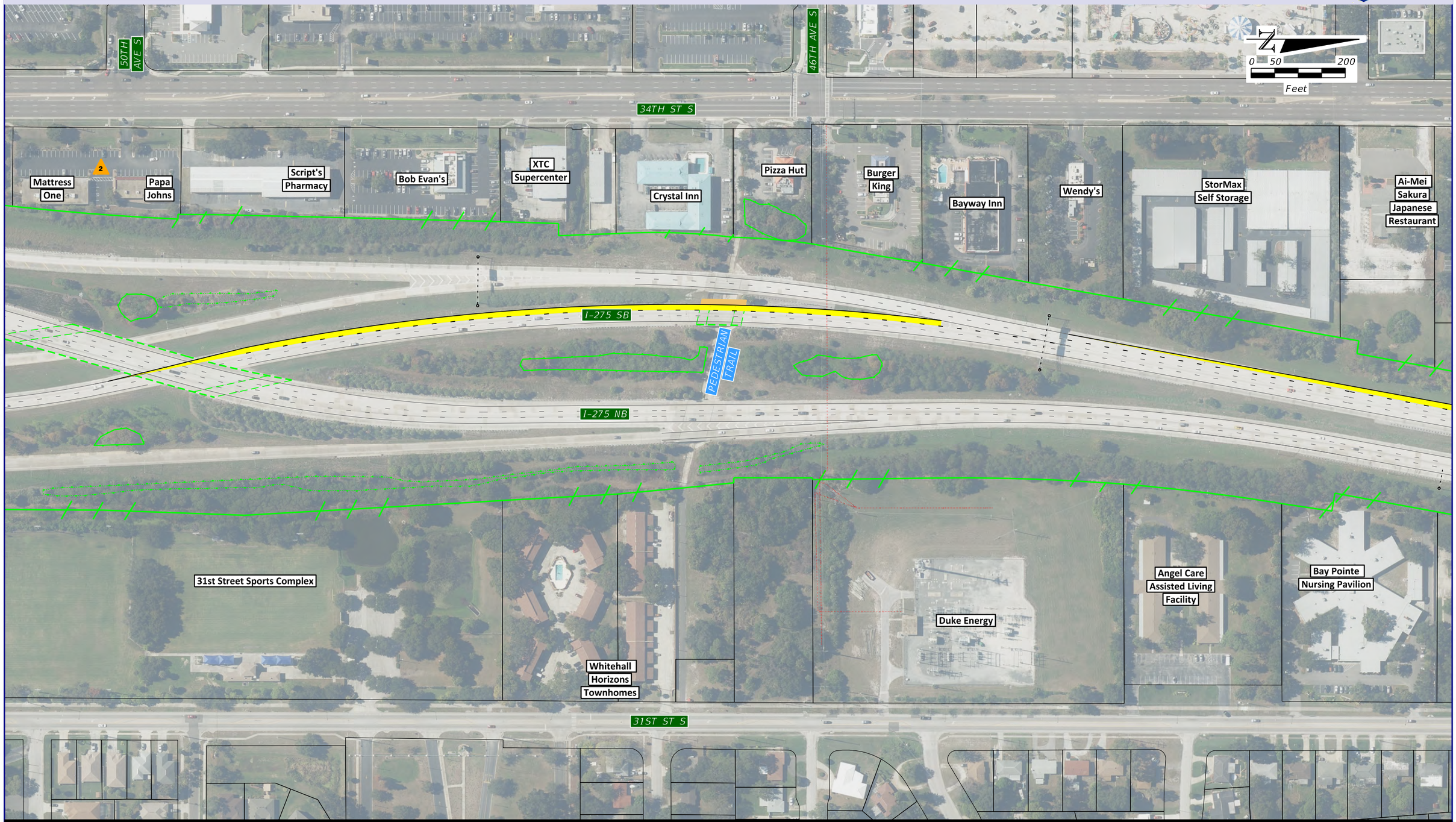
I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 2

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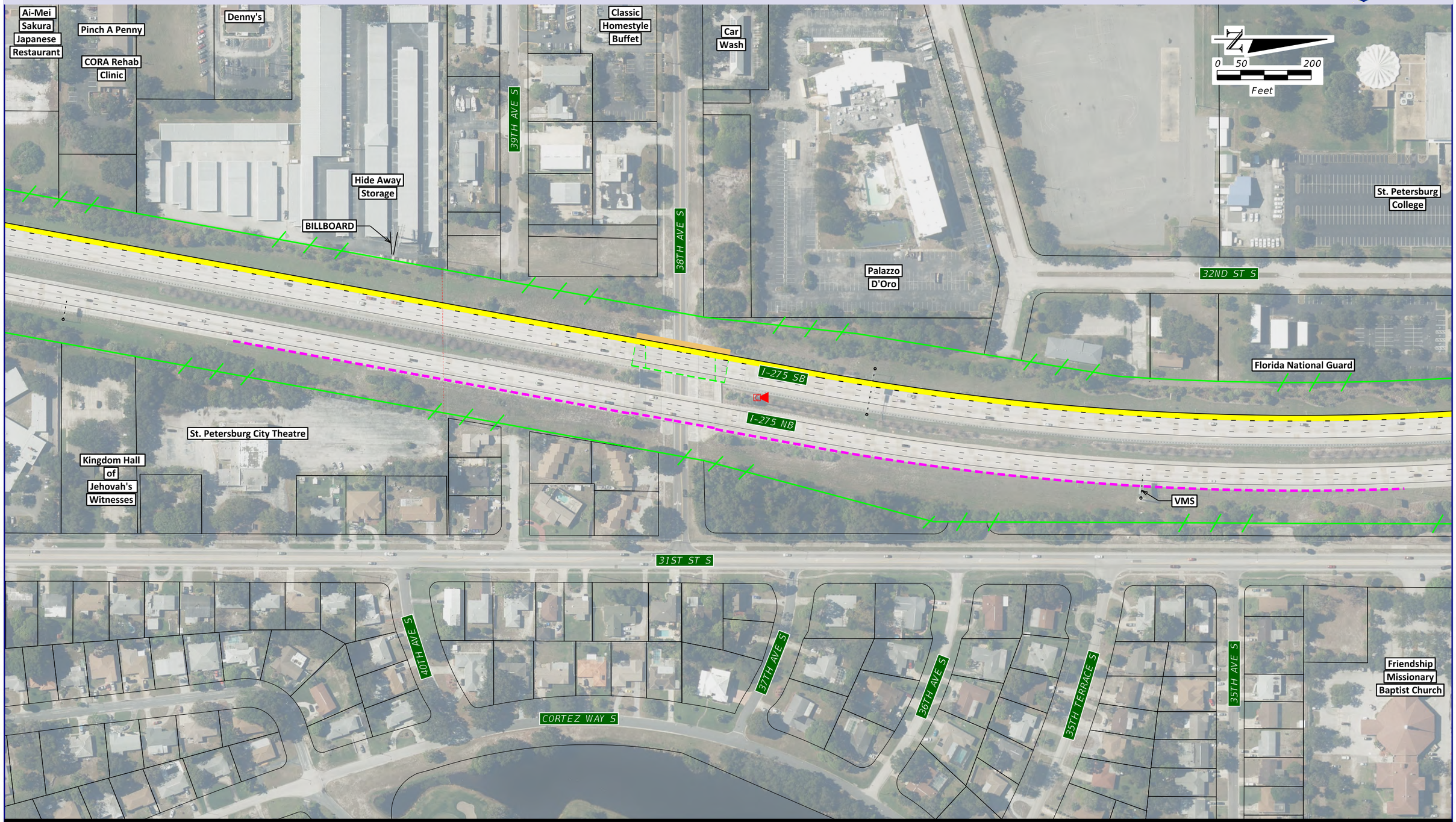
I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

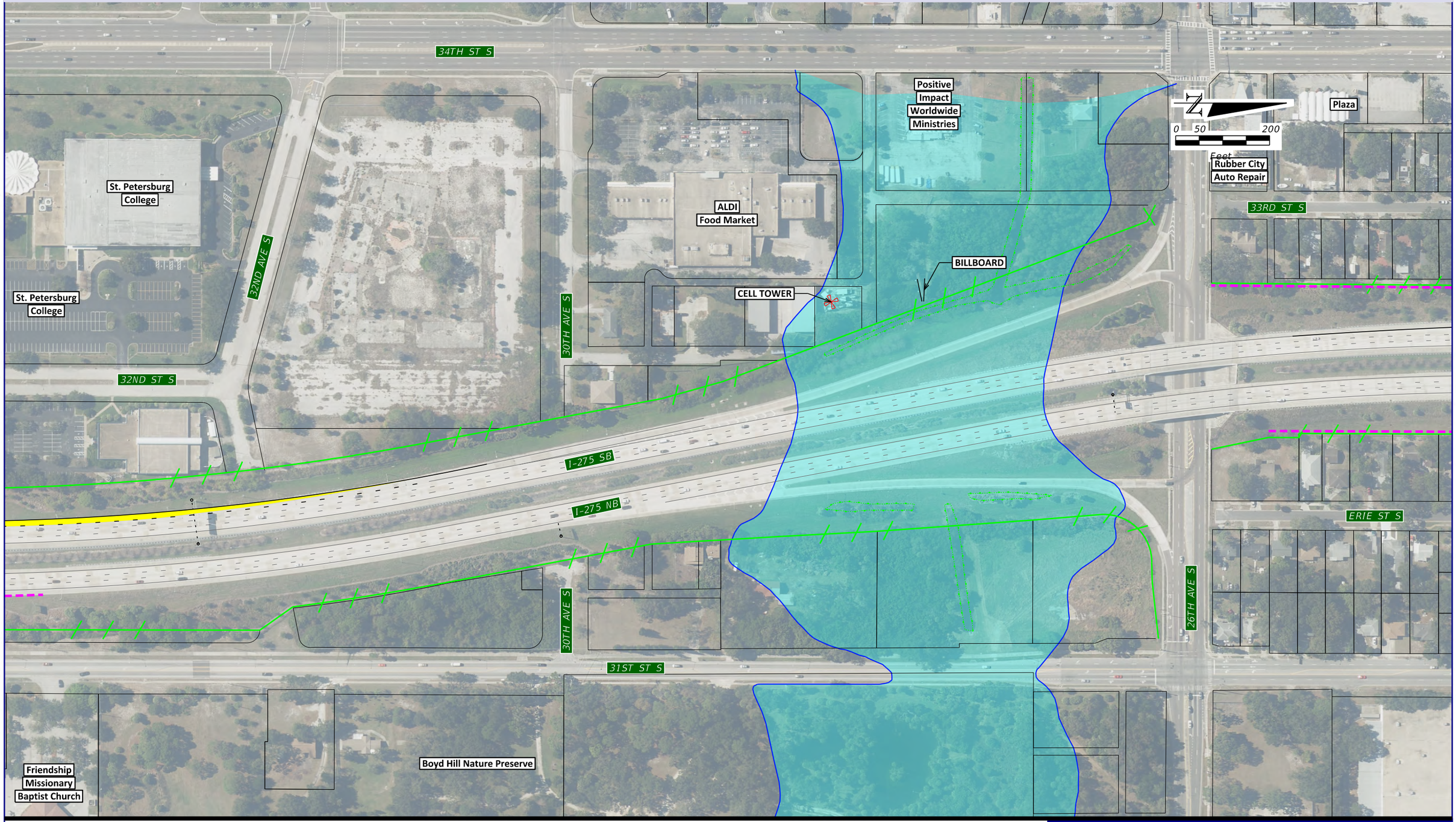
SHEET NO. 3

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BARRIER WALL
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- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 4

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

0 50 200
Feet

34TH ST S

Plaza
KFC
31st Street Neighborhood
Liberty Tax
Brake World
Twin Brooks Commons
Alma Ingram
Classic Auto Care
Pet Pal Veterinary Clinic
Shell
Chevron
Elvis Towing & Trasport
Rental Hall

22ND AVE S
18TH AVE S
QUEENSBORO AVE S
17TH AVE S

33RD ST S

BILLBOARD

VMS

I-275 SB

I-275 NB

ERIE ST S

22ND AVE S
21ST AVE S
20TH AVE S
19TH AVE S
18TH AVE S

31ST ST S

LEGEND:

- PAVEMENT WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

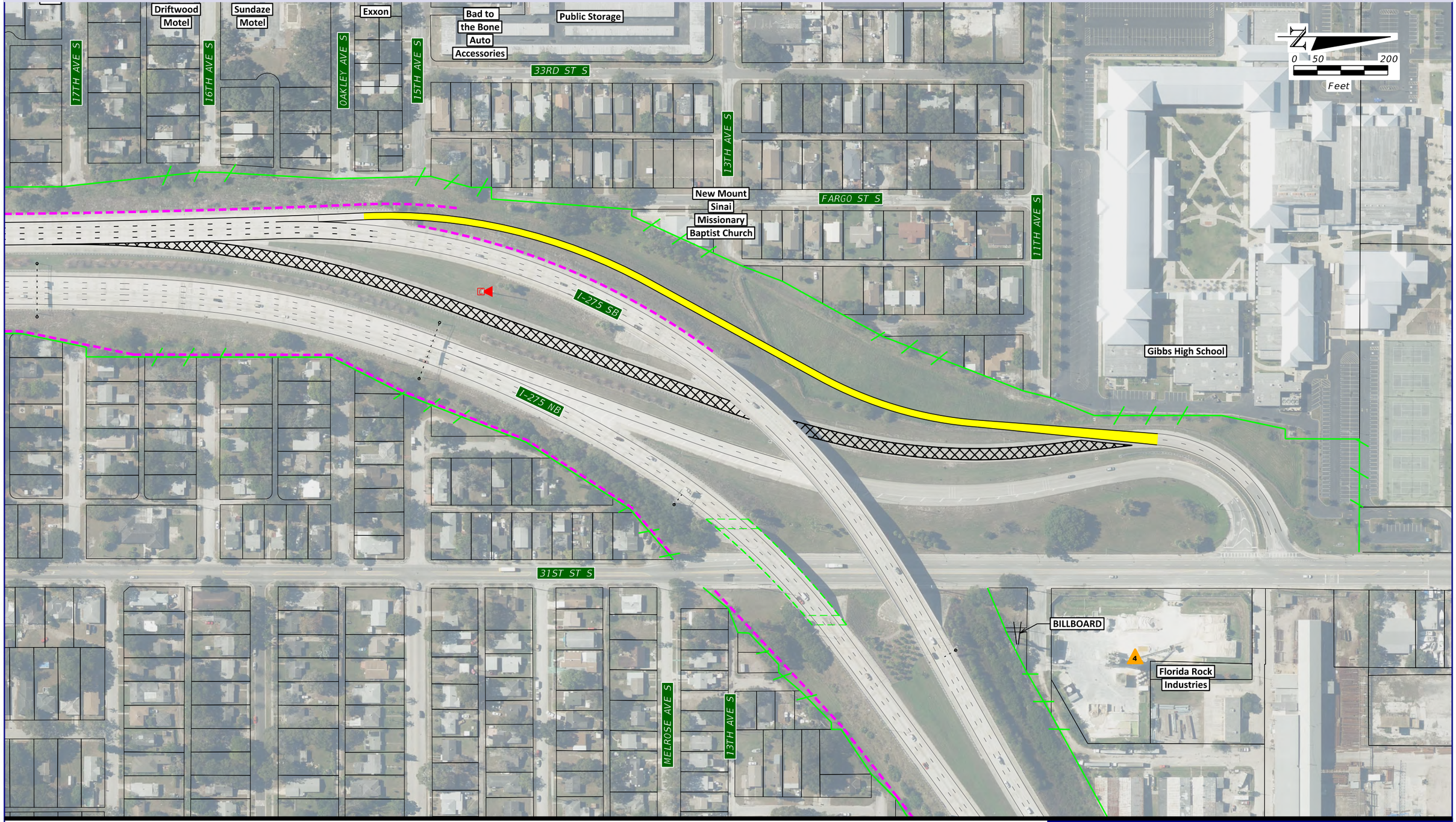
SHEET NO. 5

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

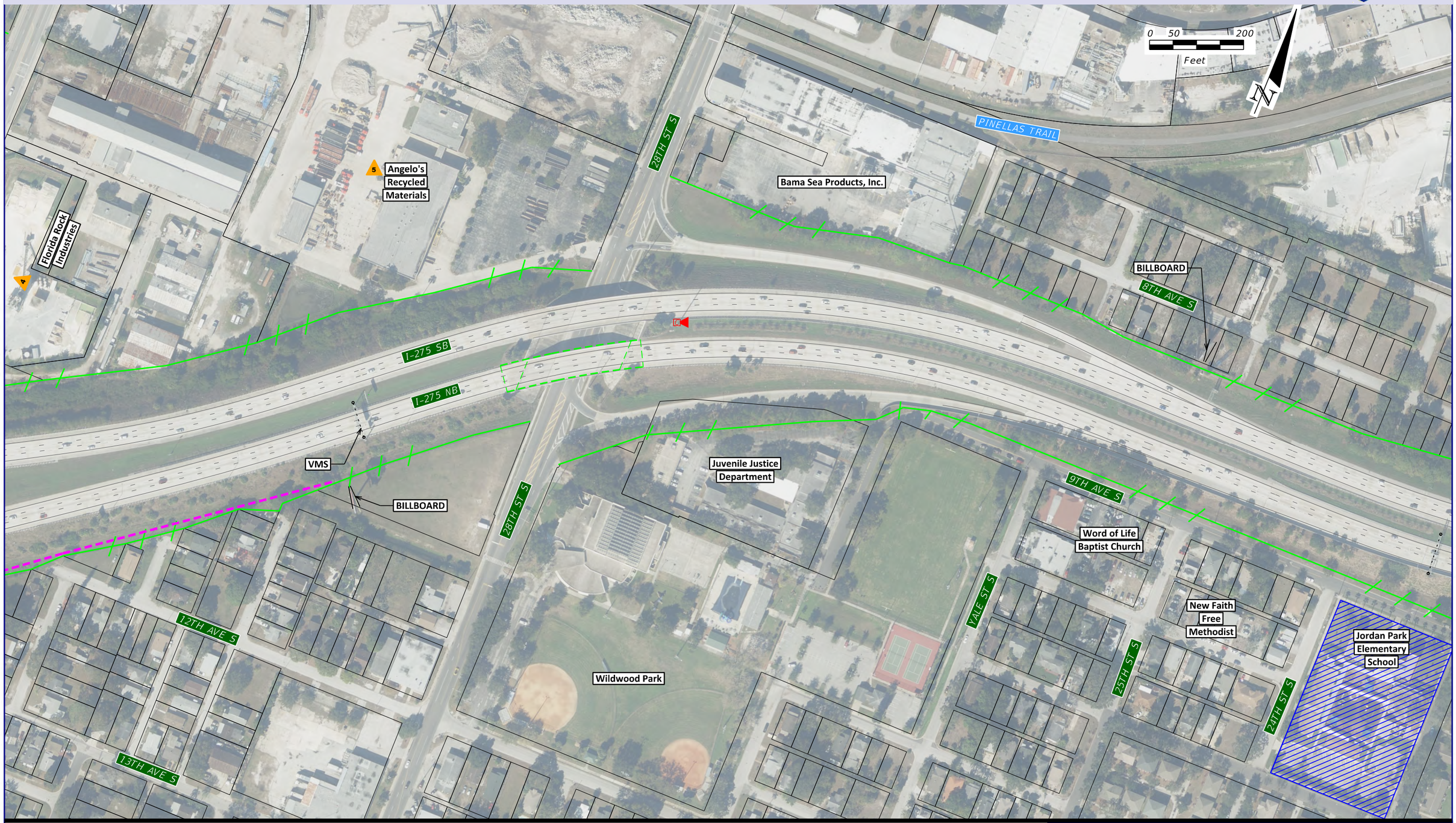
SHEET NO. 6

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



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- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

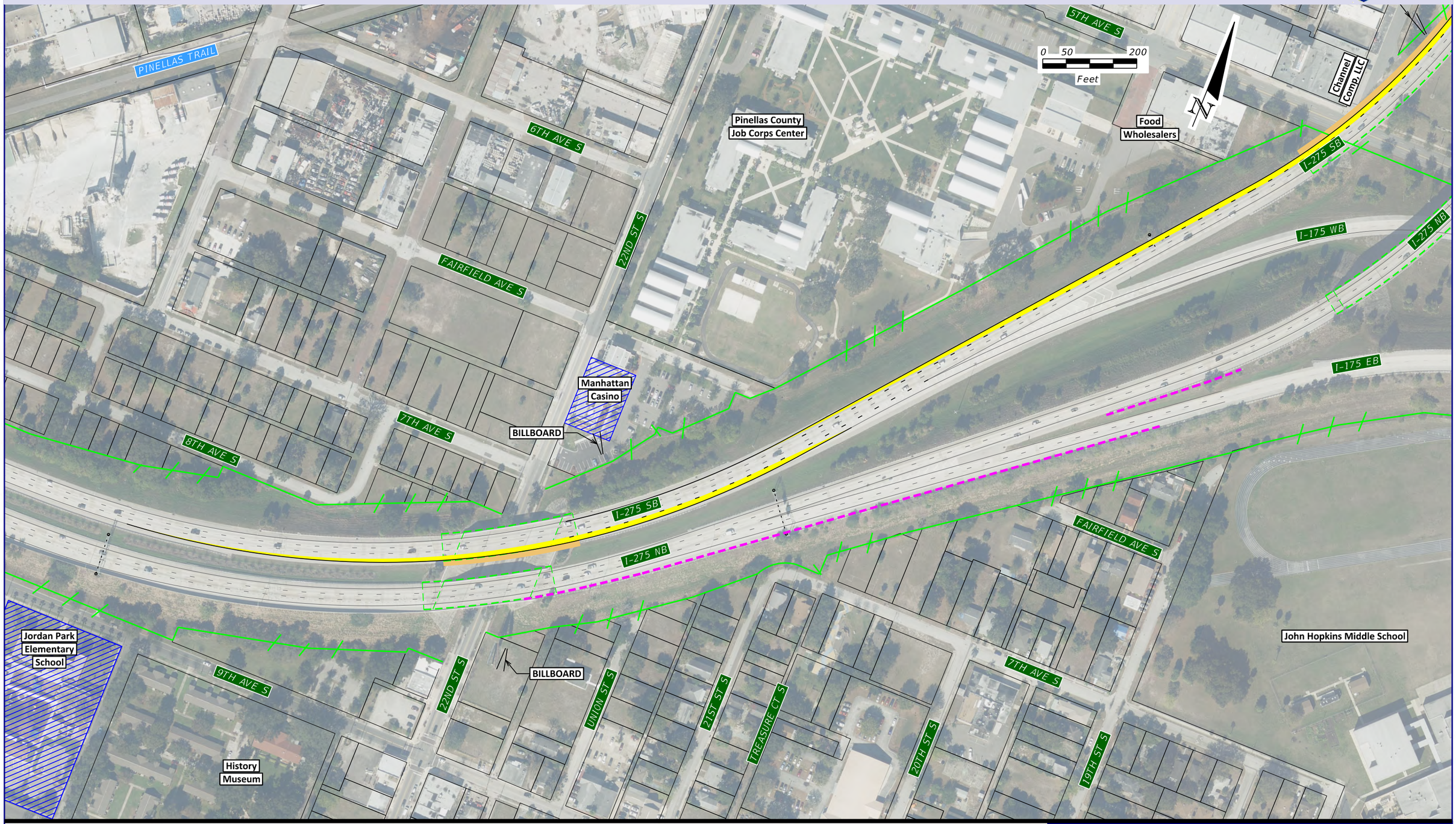
SHEET NO. 7

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

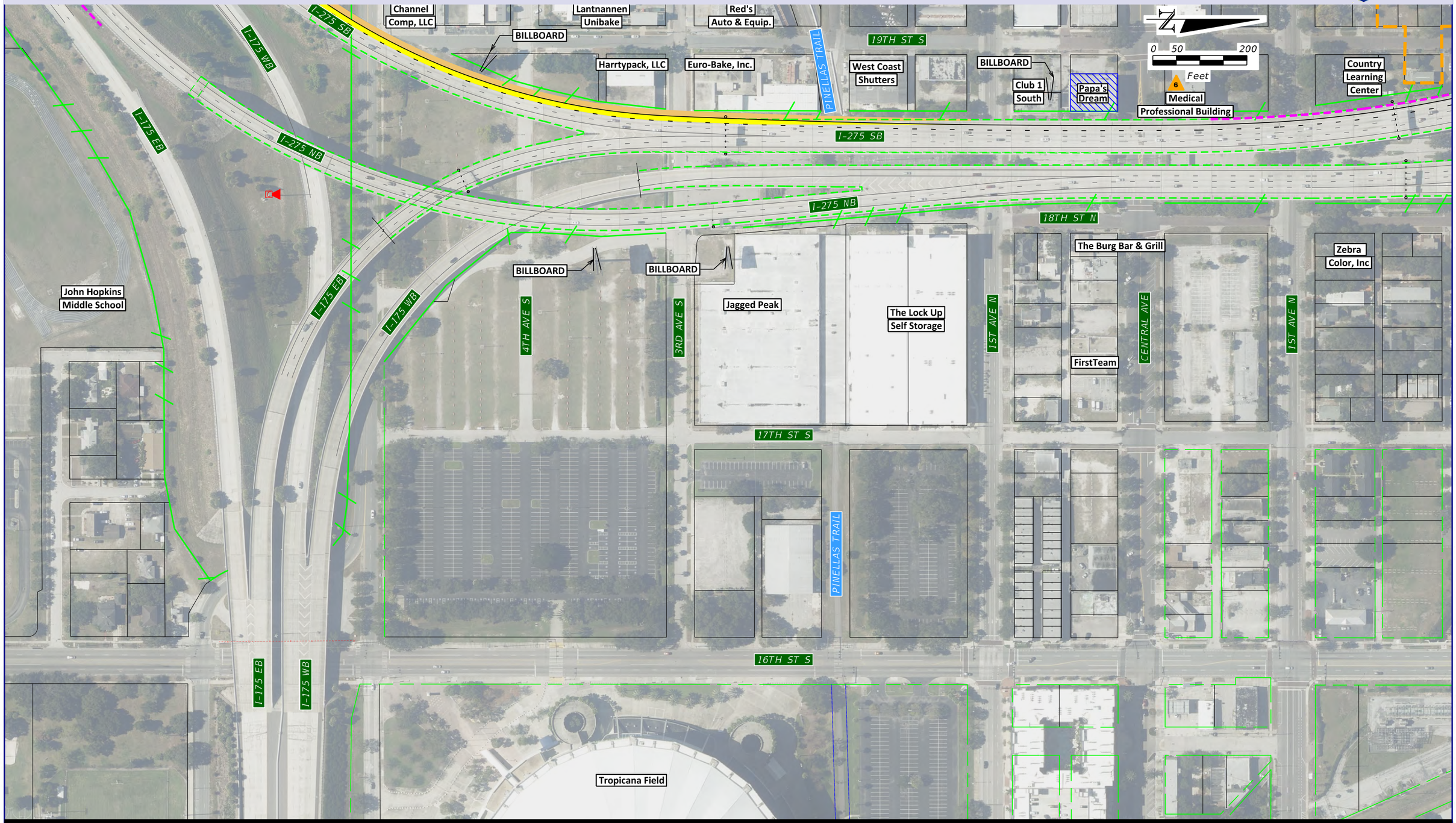
SHEET NO. 8

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 9

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

0 50 200 Feet

20TH ST N
Kenwood Dog Park
Kenwood Historic District
BURLINGTON AVE N
2ND AVE N
I-275 SB
19TH ST S
I-275 NB
Country Learning Center
Fleet Management
Turning Point
18TH ST N
Zebra Color, Inc
2ND AVE N
BURLINGTON AVE N
I-375 WB
I-375 EB
5TH AVE N
CSX RAILROAD
17TH ST S
St. Petersburg Water Resources
CSX RAILROAD

LEGEND:

- PAVEMENT WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 10

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

Edward White Hospital
Simply Delicious
9TH AVE N
Booker Creek Park
13TH AVE N
Scherer Construction West
Gold Seal
0 50 200
Feet
Emar Grinding
WDE Windows, Doors, Etc
I-275 SB
I-275 NB
BILLBOARD
CSX RAILROAD
St. Petersburg Window Sales
Carroll's Building Materials
Recycling Corporation
7
8
TECO People's Gas
BILLBOARD
9TH AVE N
13TH AVE N
CSX RAILROAD
61 Sail Sports Technologies
General Mold Co.
North Sails
Slipaway Ceramics
20TH ST N
BILLBOARD
Orange Blossom Catering
Therapeutic Recreation
Bag Master
19TH ST N
Town Mini Storage
CSX RAILROAD
18TH ST N
Woodlawn Park
Woodlawn Park

LEGEND:

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- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 11

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

Home Depot
CSX RAILROAD
U-Stor
22ND ST N
CELL TOWER
Kenny's Landscape Services
22ND AVE N
23RD AVE N
24TH AVE N
25TH AVE N
26TH AVE N
Former Norwood Secondary School
0 50 200
Feet
I-275 SB
I-275 NB
19TH ST N
Woodlawn Park
17TH AVE N
18TH AVE N
20TH AVE N
21ST AVE N

LEGEND:

- PAVEMENT WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

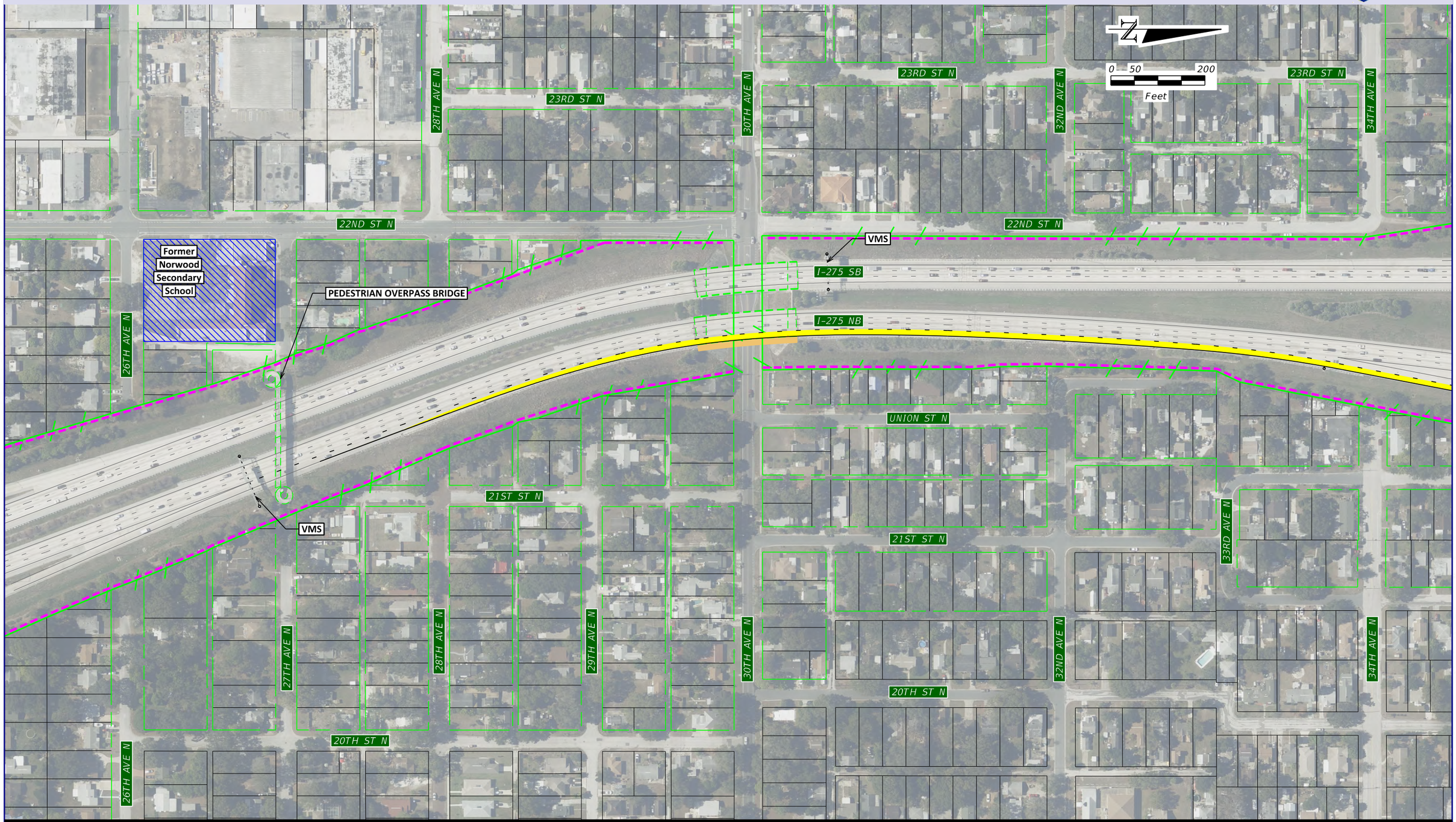
SHEET NO. 12

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



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- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

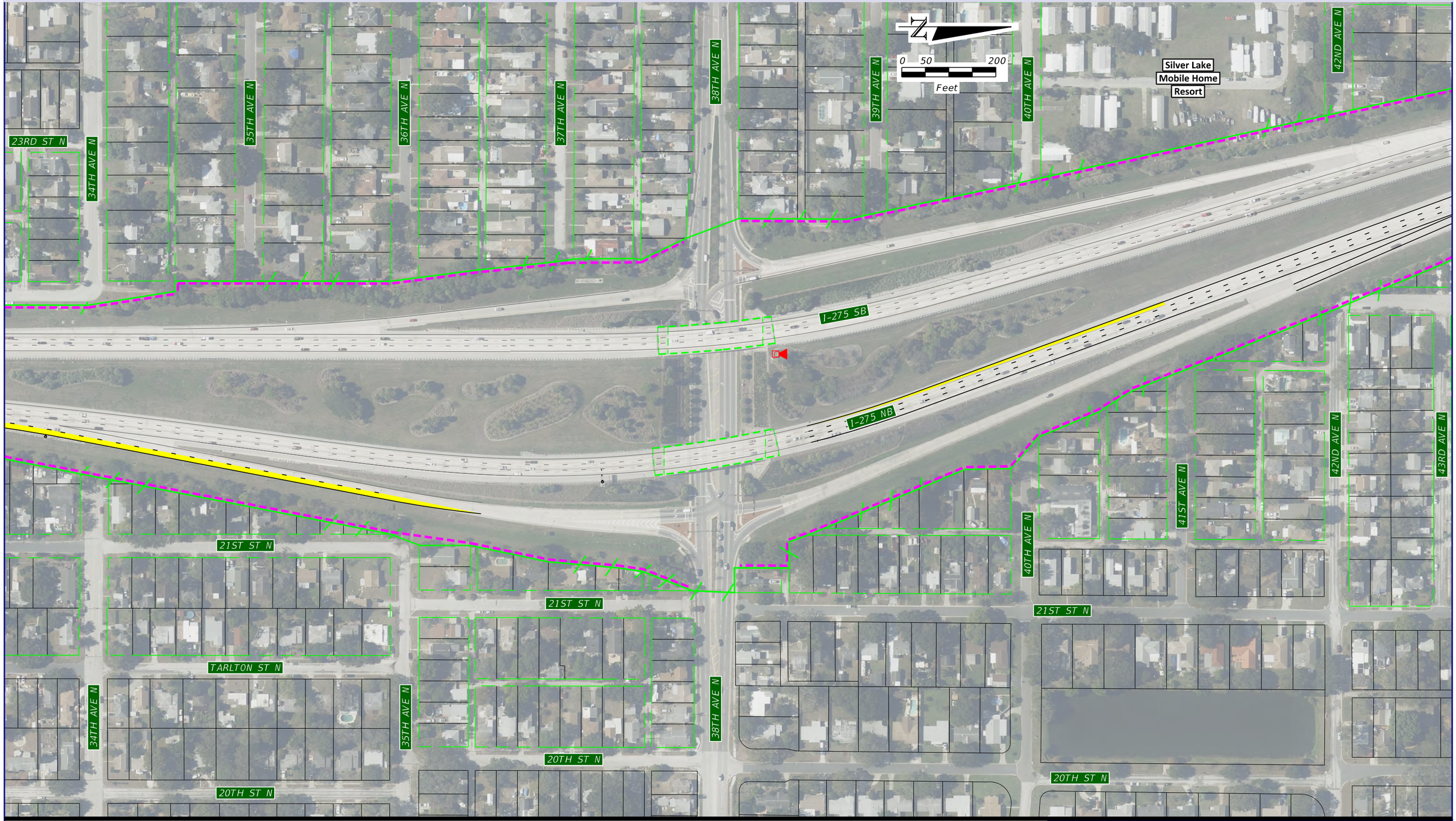
SHEET NO. 13

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



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- BARRIER WALL
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- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

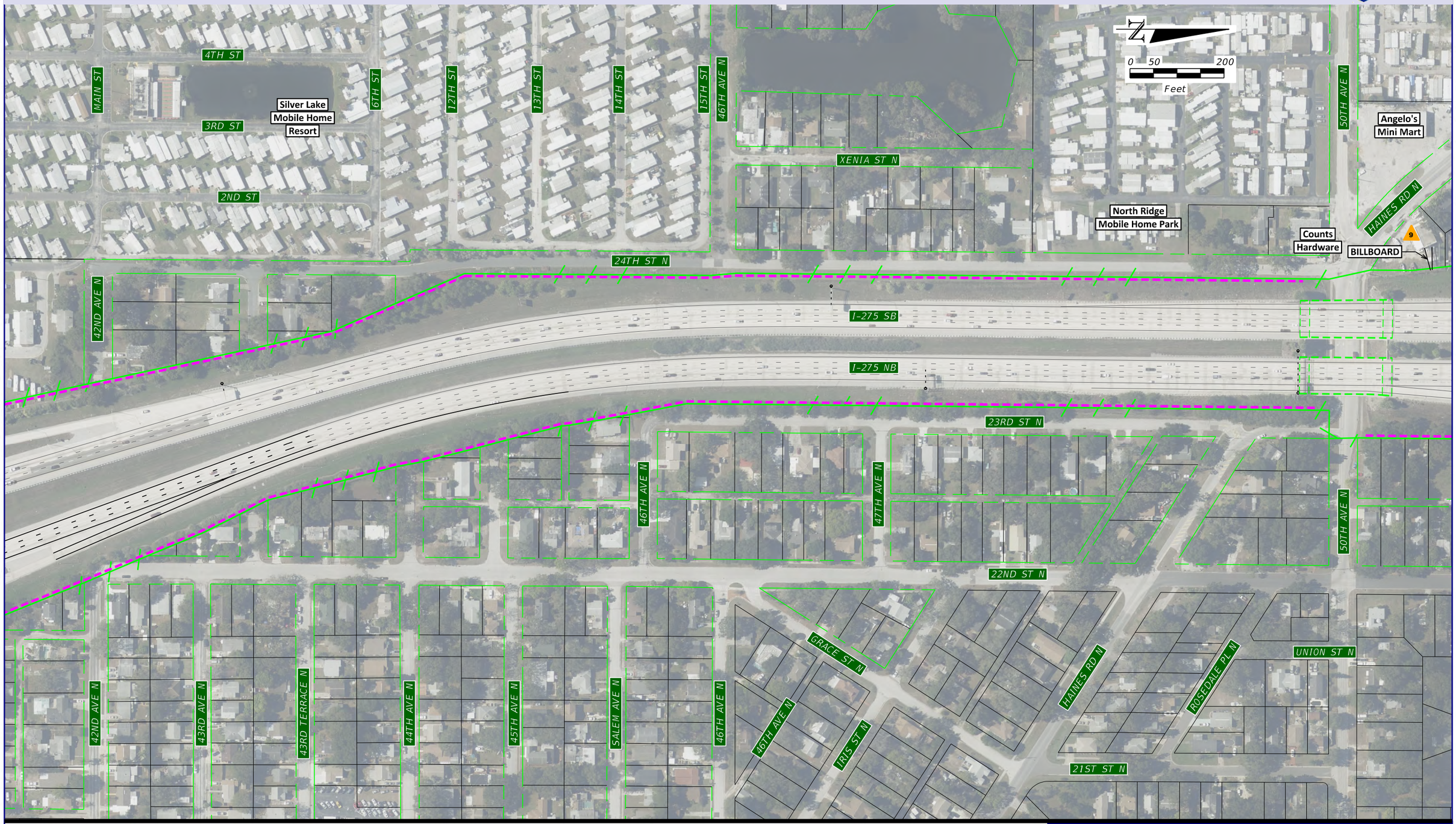
SHEET NO. 14

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



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- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

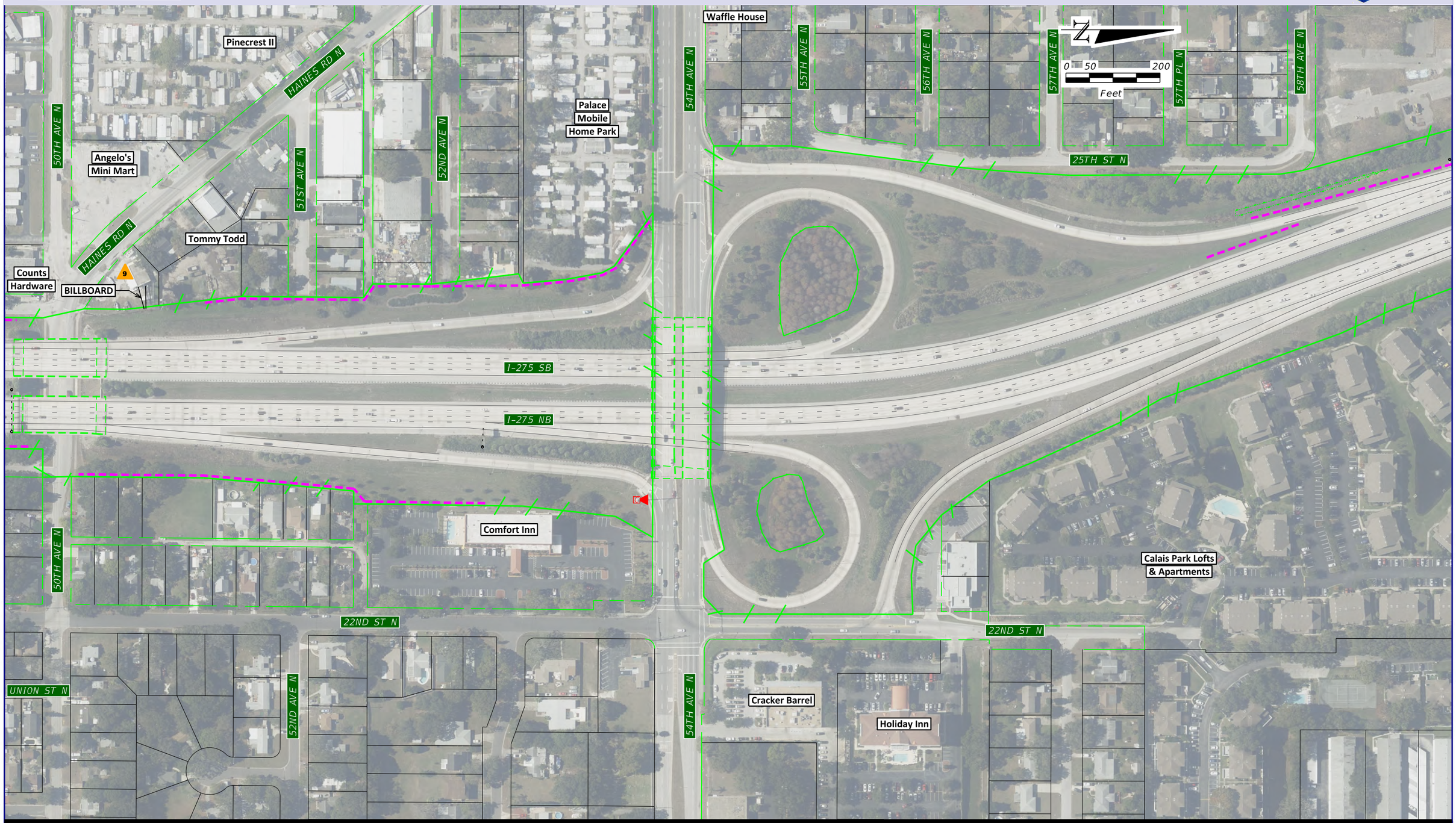
SHEET NO. 15

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 16

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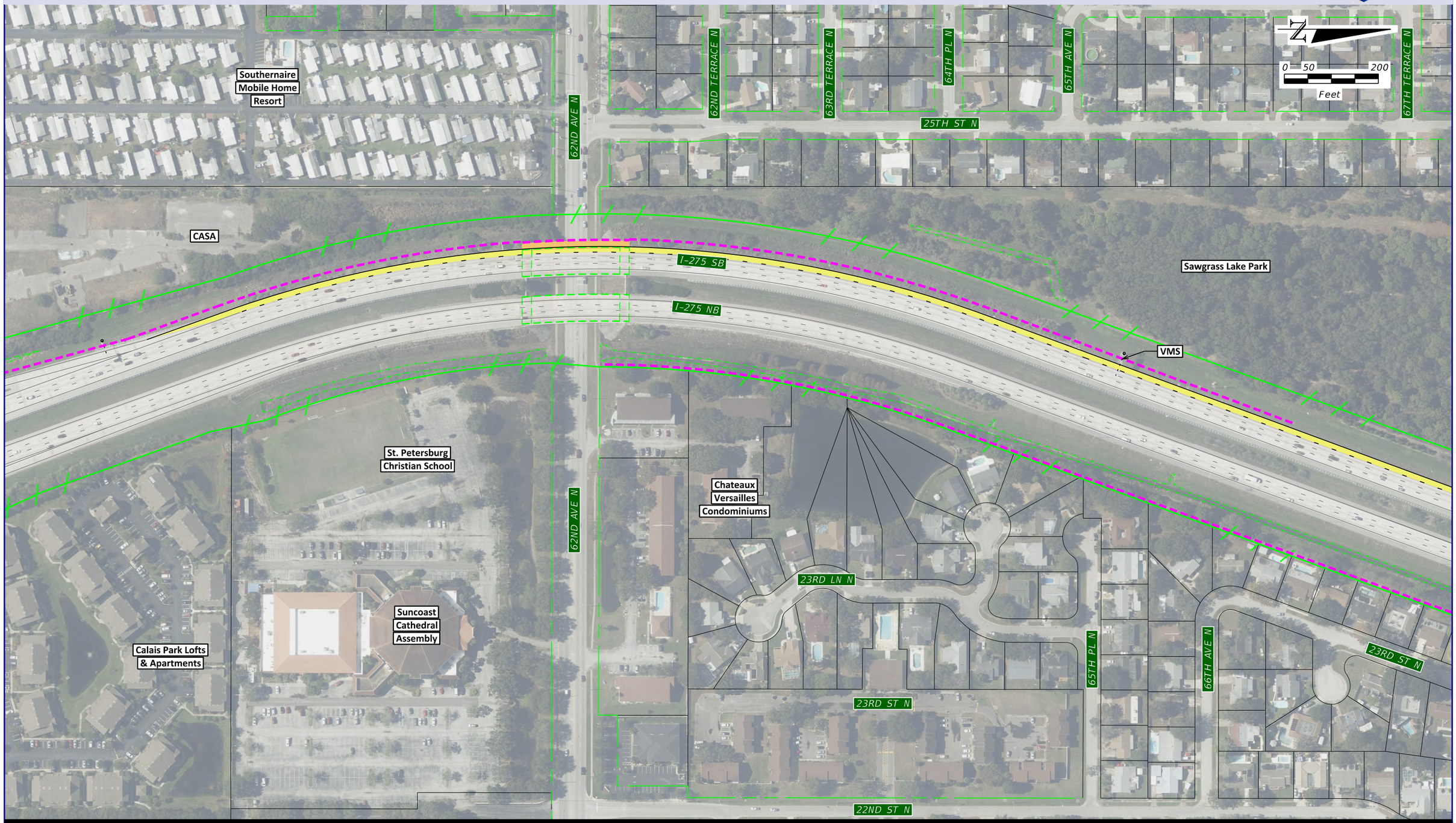
I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



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- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

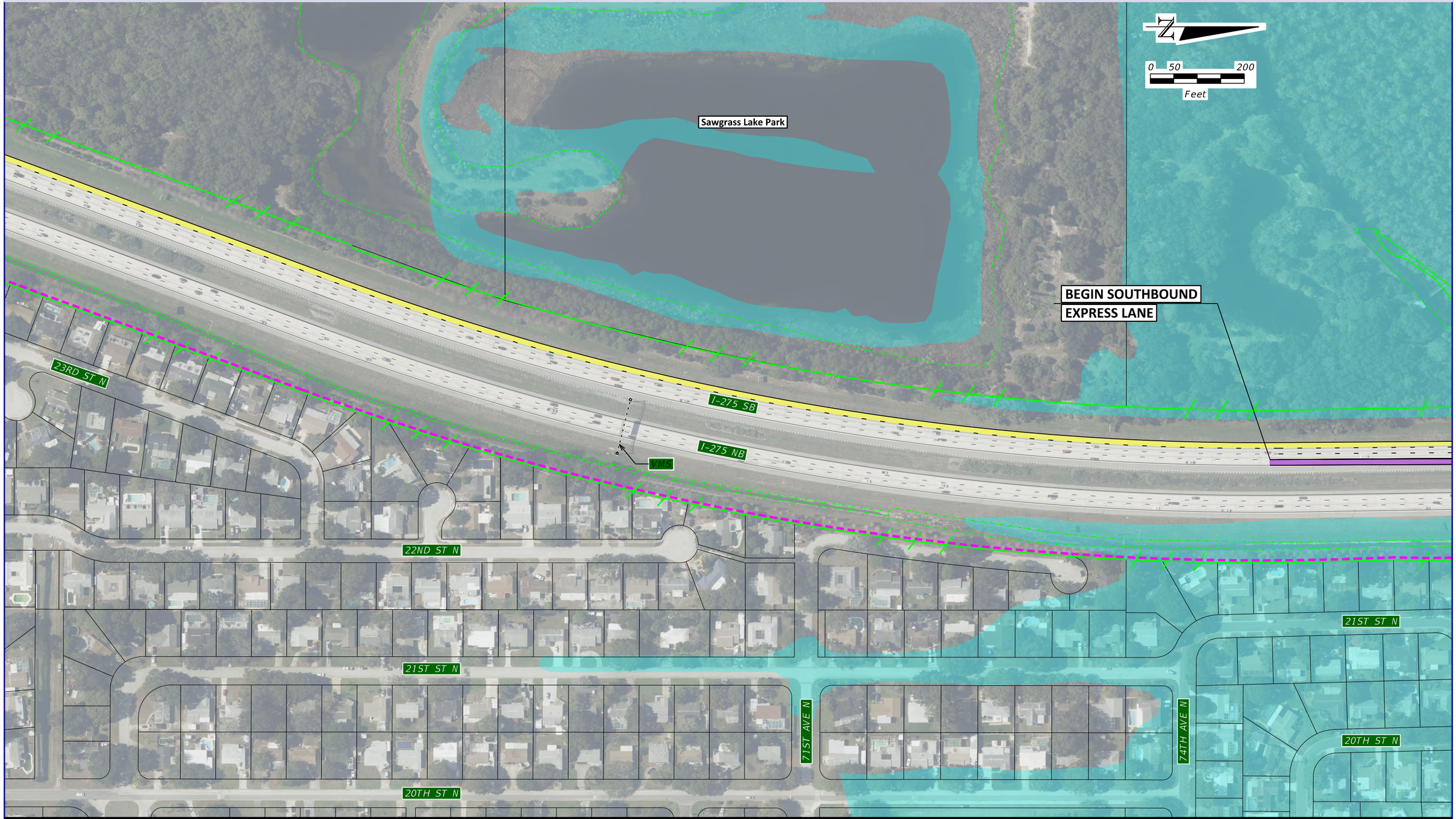
SHEET NO. 17

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTAMINATION
- OVERHEAD SIGN STRUCTURE
- NOISE WALL
- ITS CAMERA
- KENWOOD HISTORIC DISTRICT

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
LANE CONTINUITY

SHEET NO. 18

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

LEGEND:

- CONTINUITY WIDENING
- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 19

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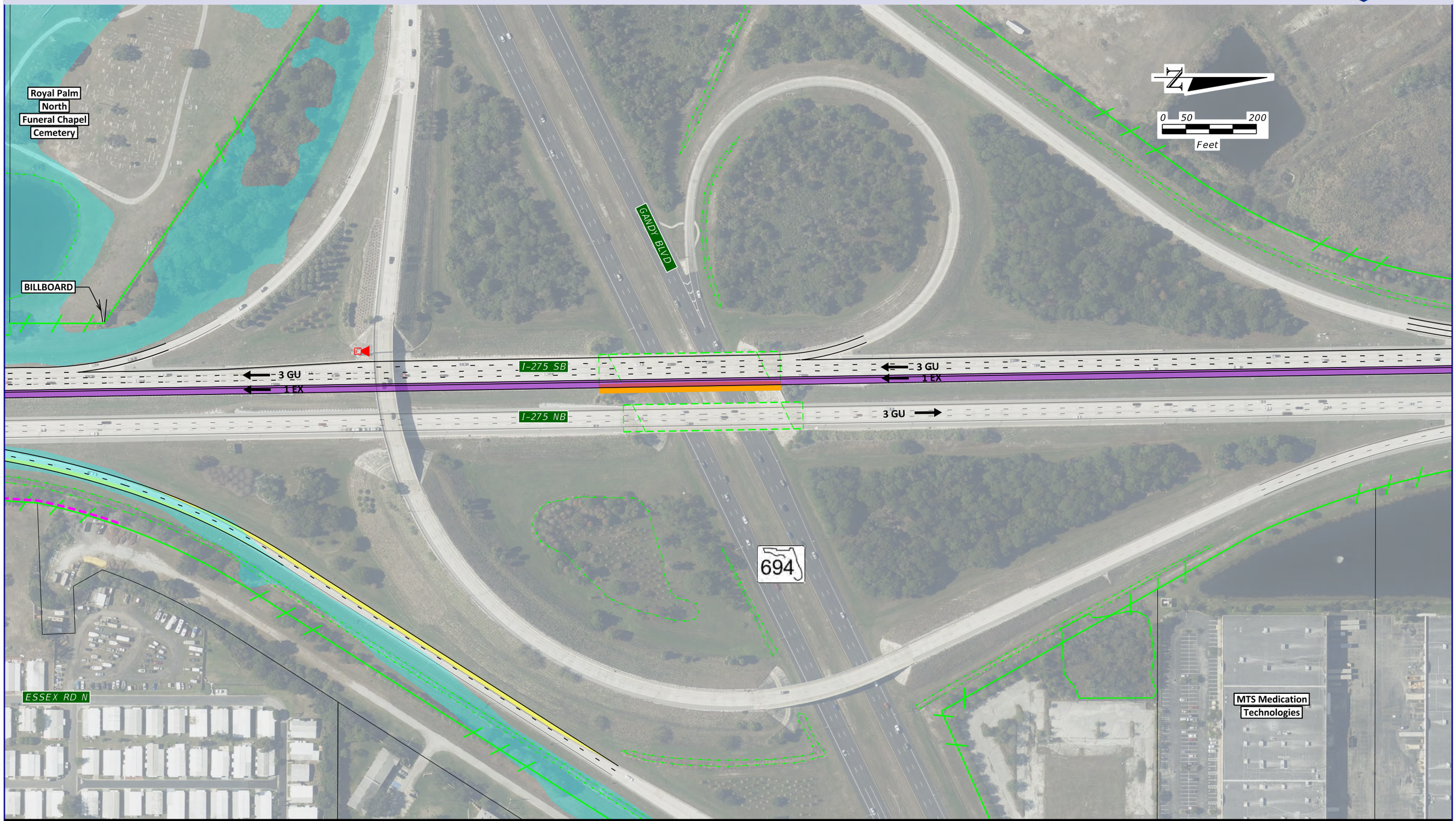
I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

- CONTINUITY WIDENING
- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 20

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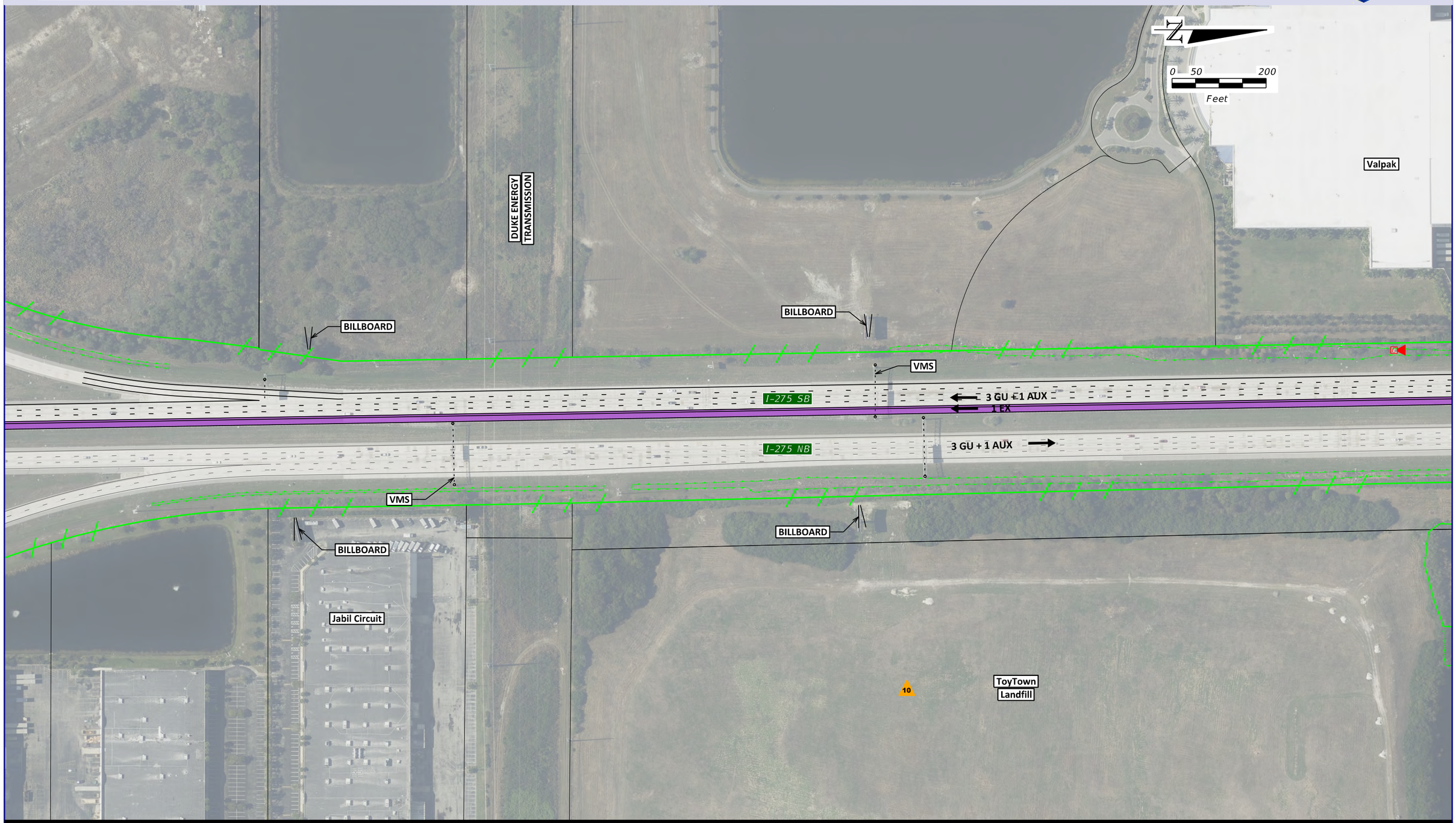
I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

- CONTINUITY WIDENING
- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

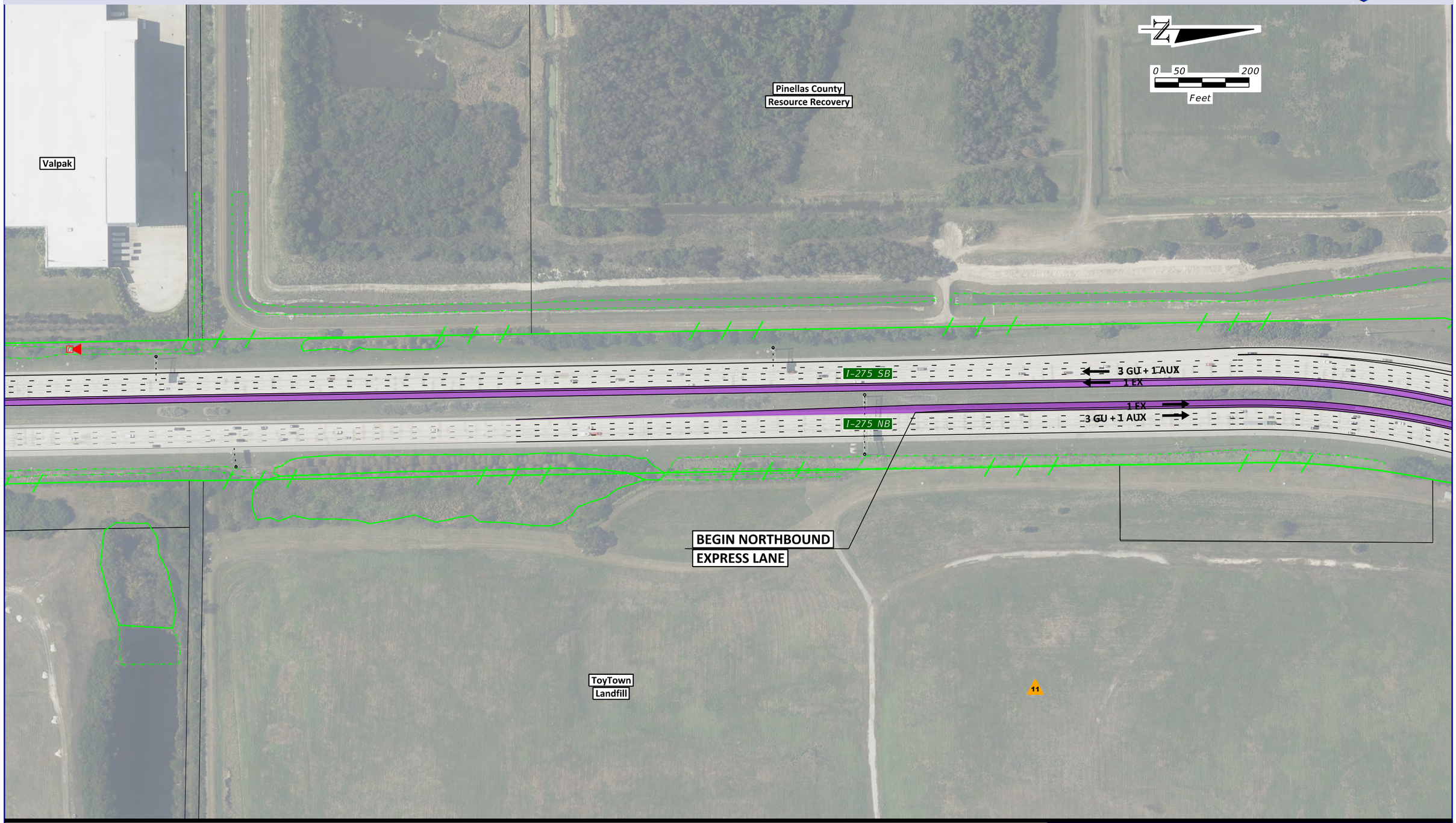
SHEET NO. 21

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

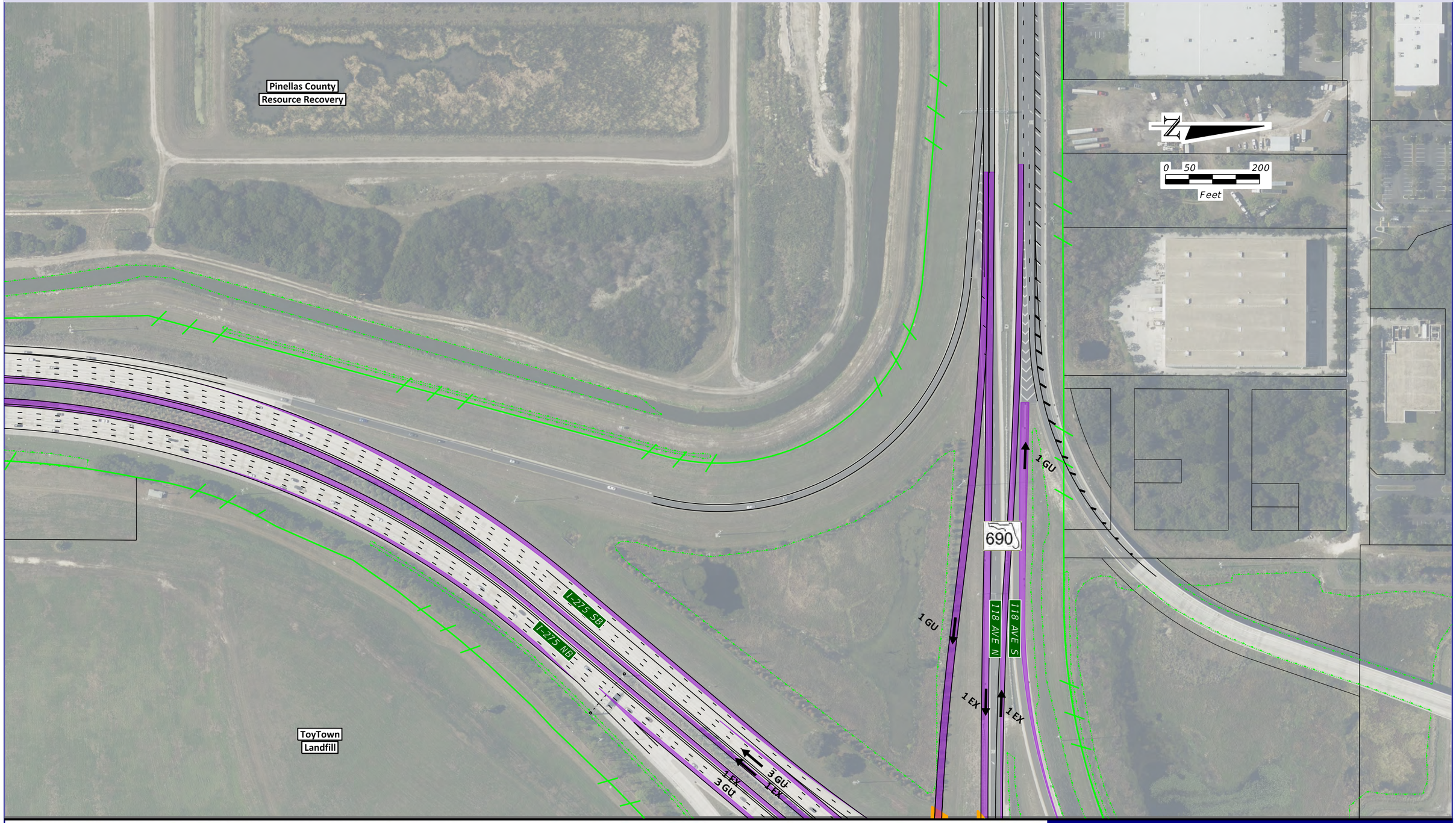
SHEET NO. 22

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 23

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

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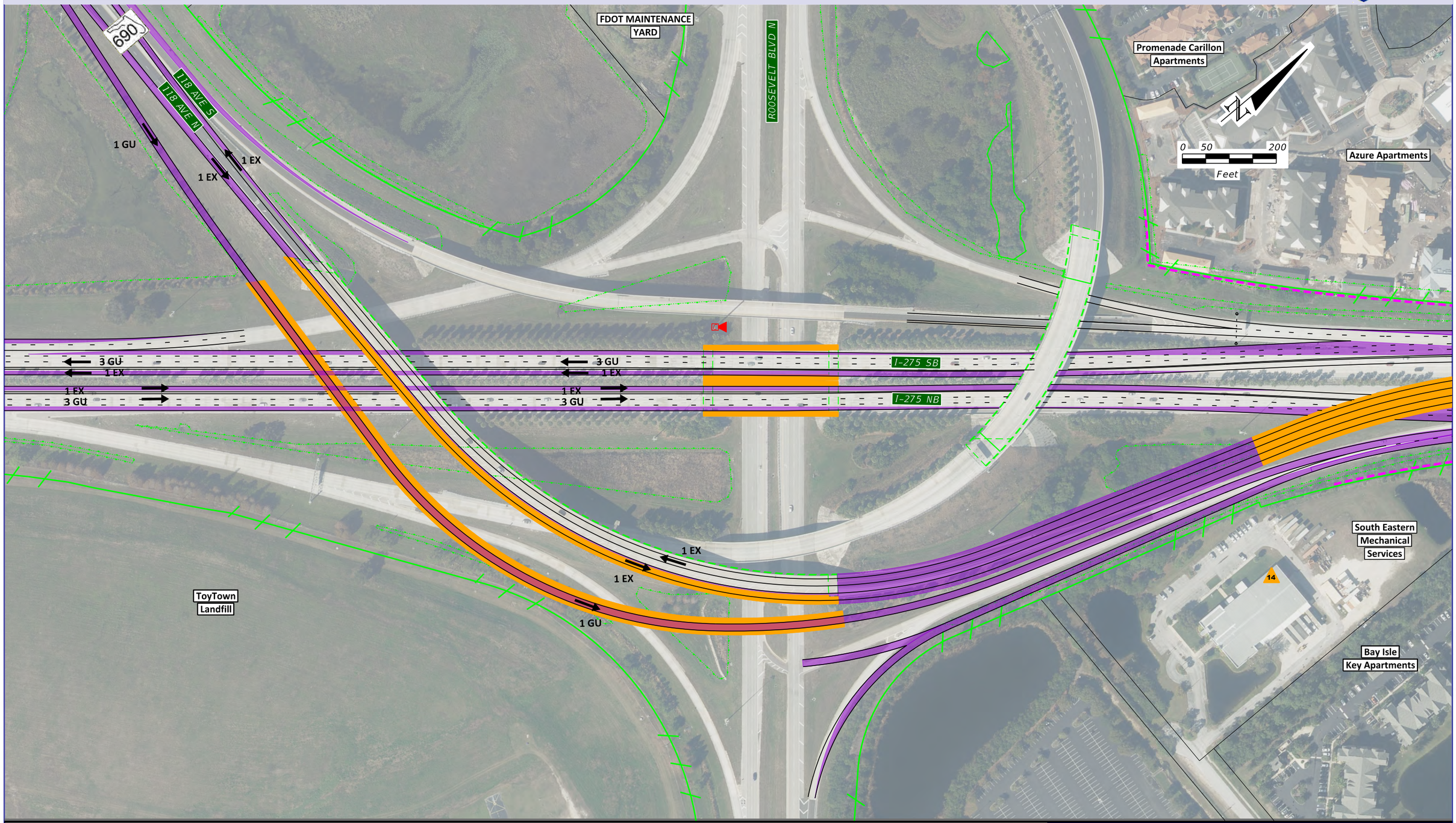
TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES

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CONCEPT PLANS
EXPRESS MASTER PLAN

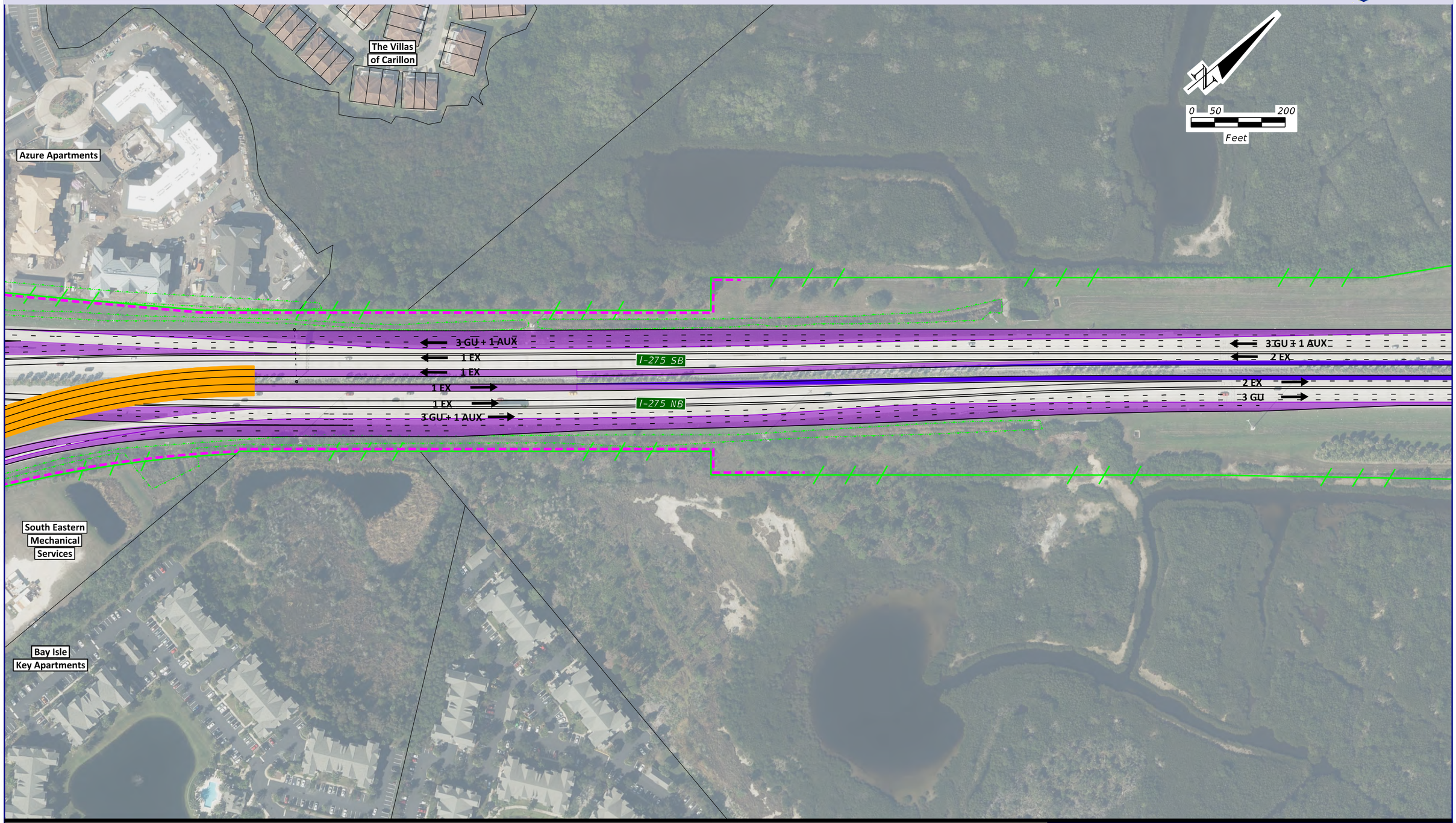
SHEET NO. 24

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

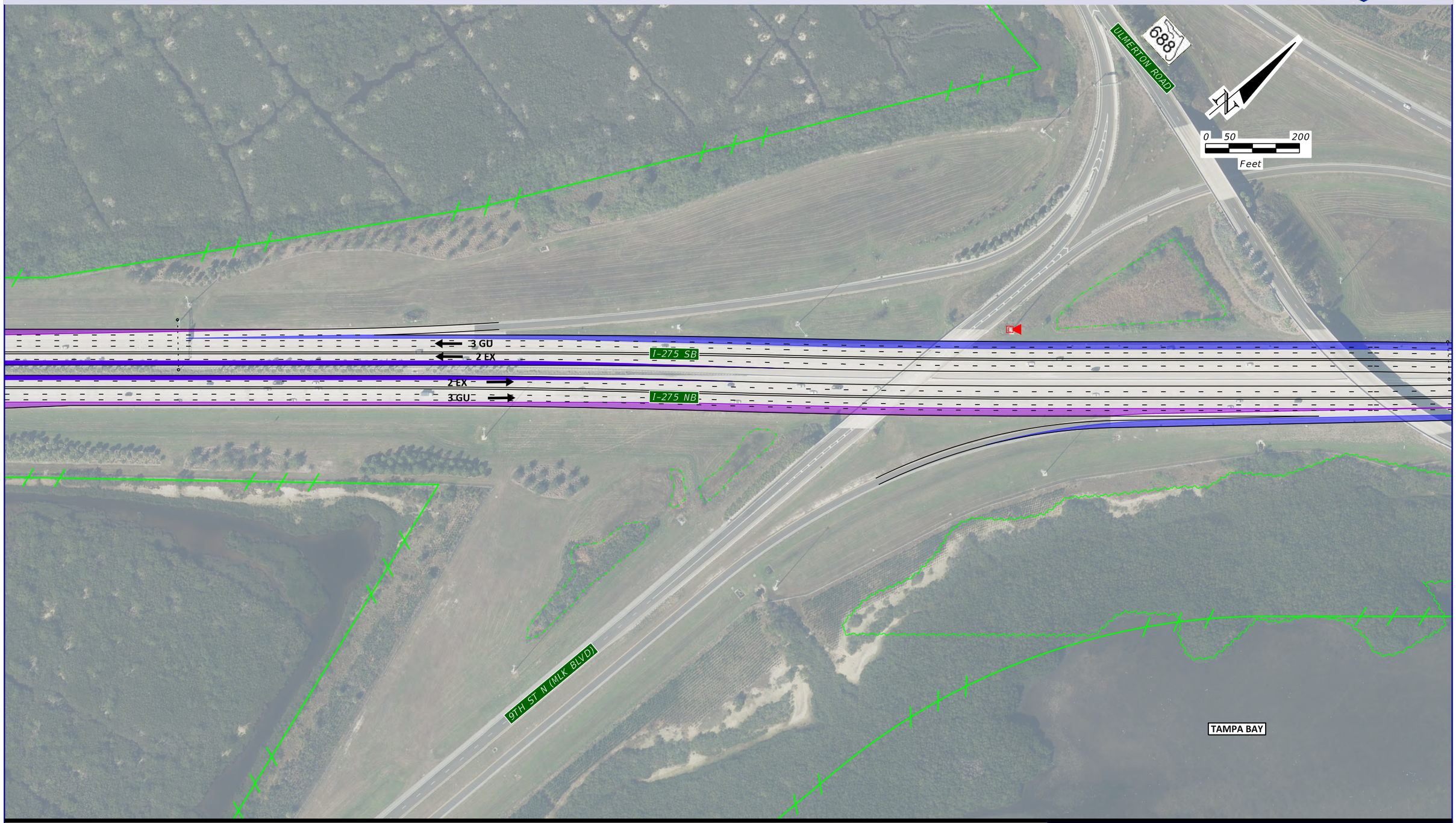
SHEET NO. 25

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

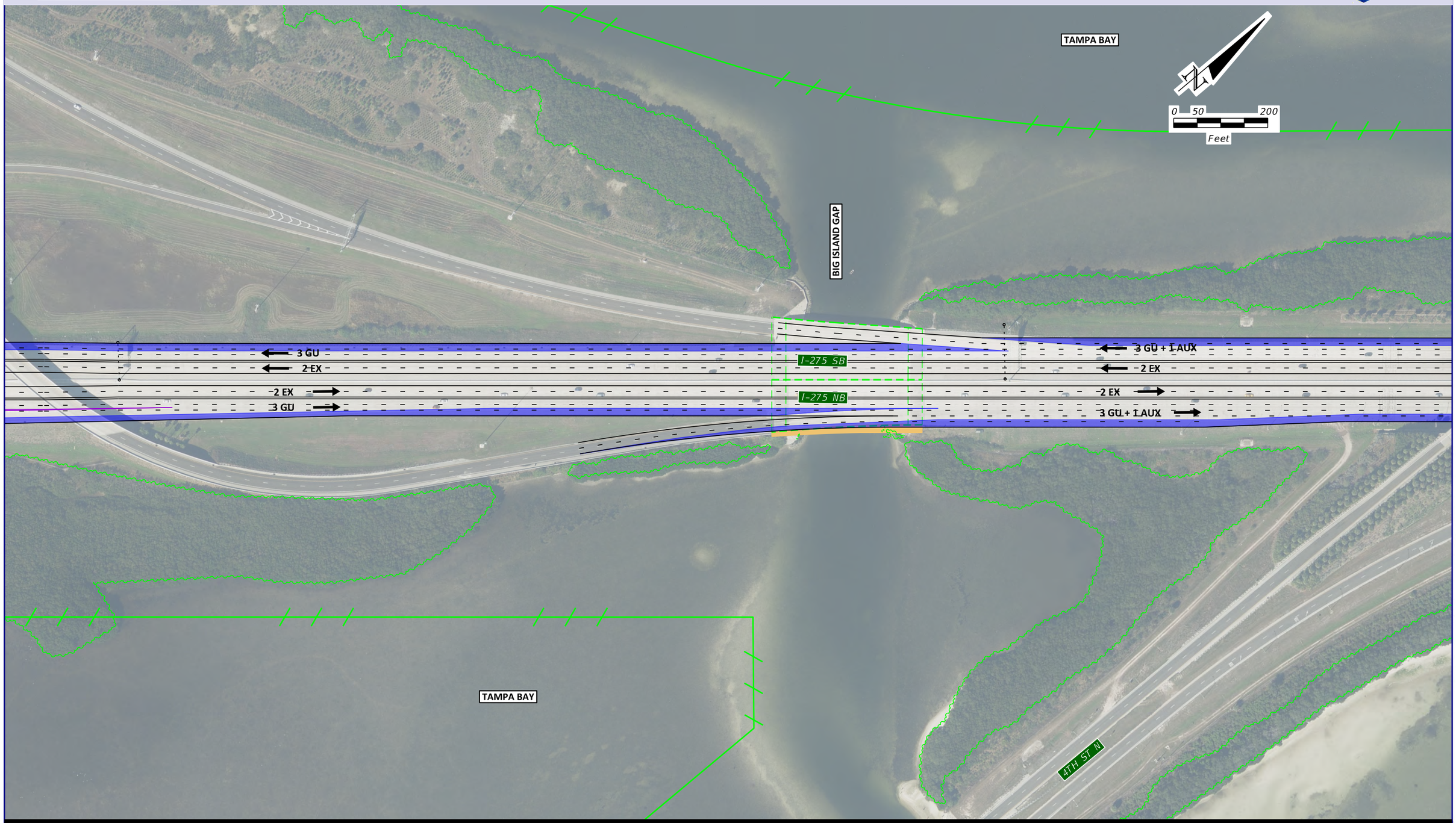
SHEET NO. 26

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- MASTER WIDENING
- STARTER WIDENING
- BRIDGE WIDENING
- BRIDGES
- BARRIER WALL
- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
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AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

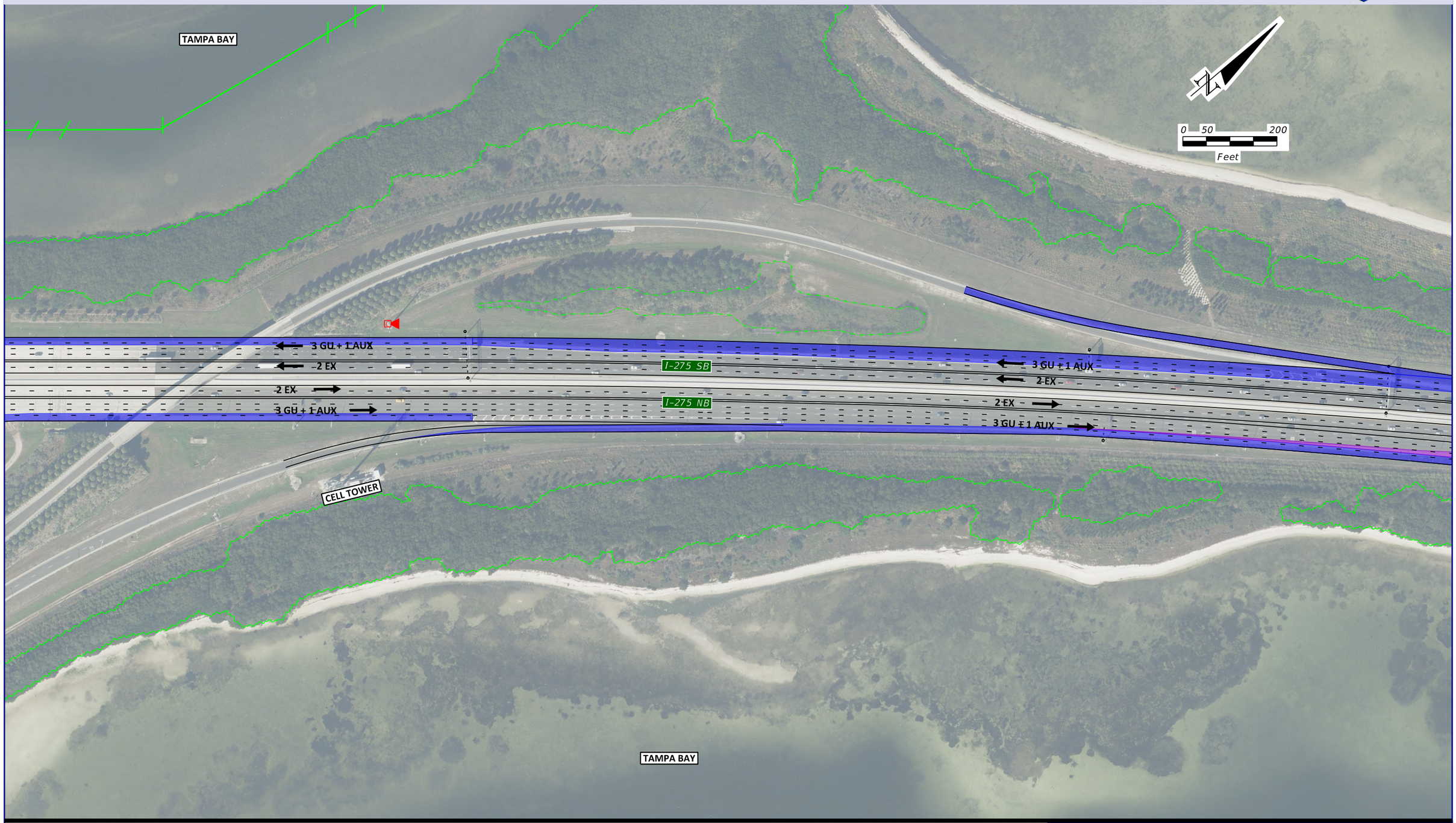
SHEET NO. 27

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
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AUX = AUXILIARY LANES

Aerial Photos Dec. '13 - Feb. '14

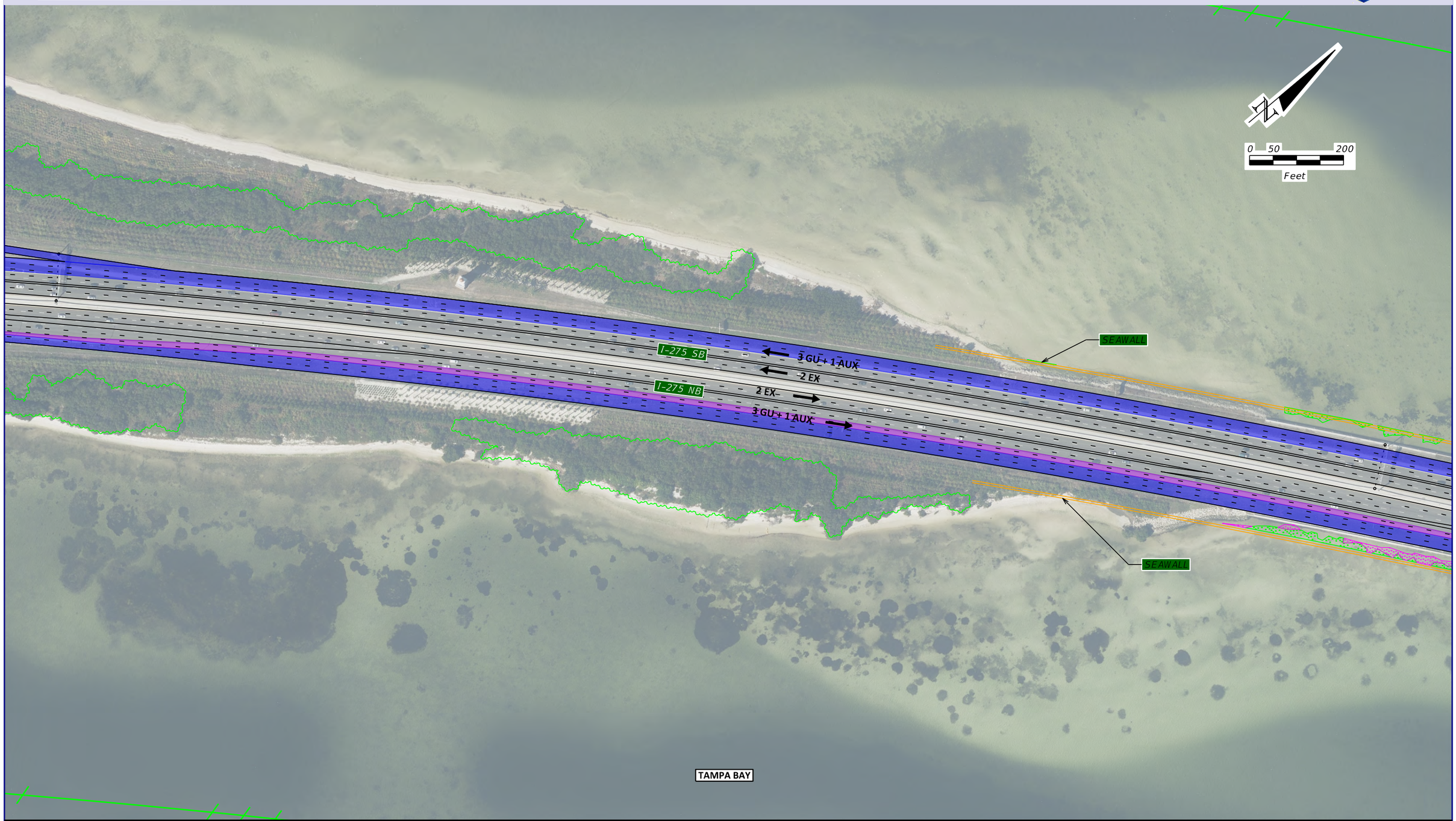
CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 28

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- HISTORIC SITE
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- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES
Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 29

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I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

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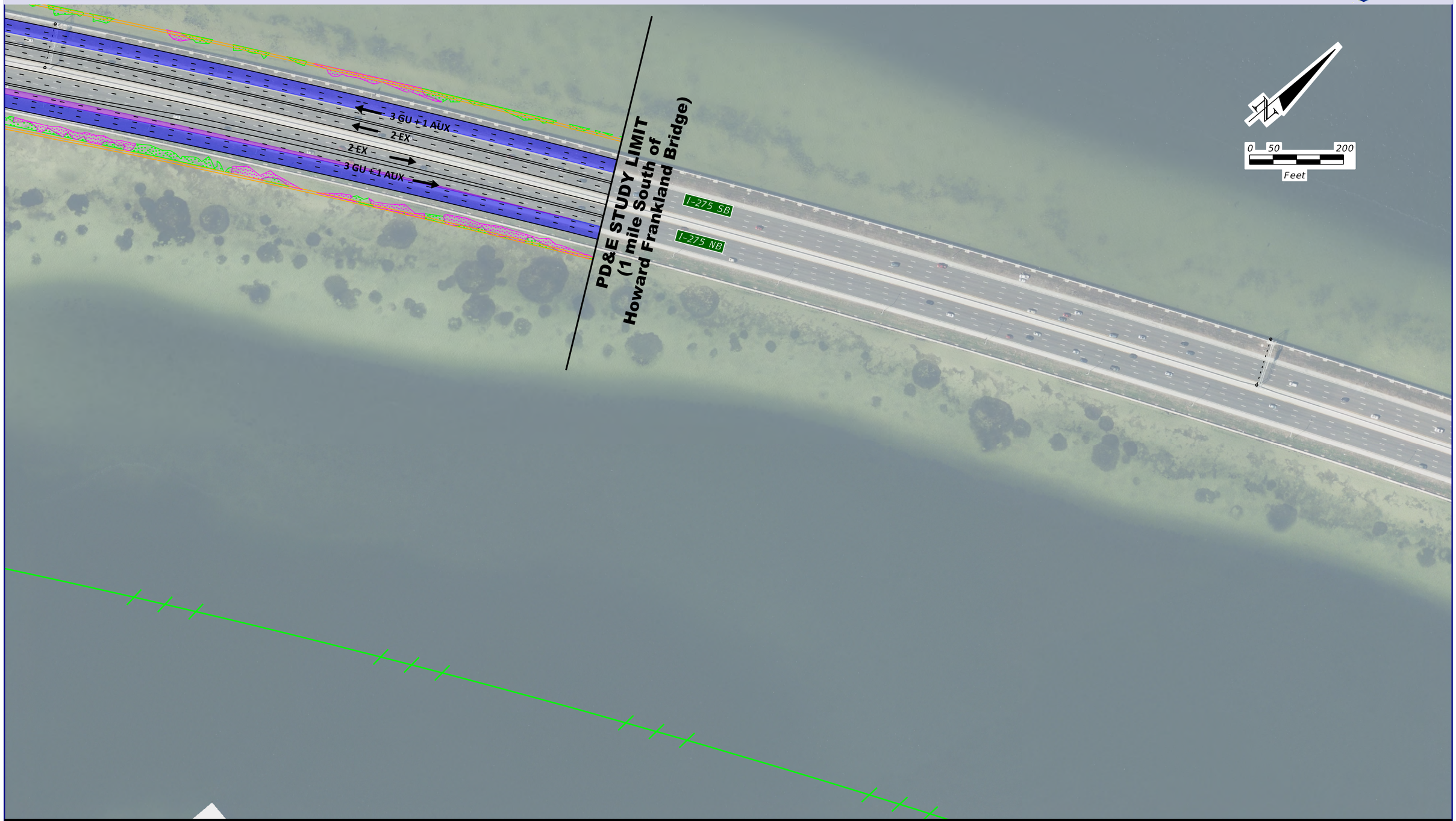
INTERSTATE 275



LEGEND:

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- STARTER WIDENING
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- BRIDGES
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- HISTORIC SITE
- WETLANDS
- SURFACE WATER
- MANGROVES
- RIGHT OF WAY
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA

EX = EXPRESS TOLL LANES
GU = GENERAL USE LANES
AUX = AUXILIARY LANES

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS MASTER PLAN

SHEET NO. 30

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I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

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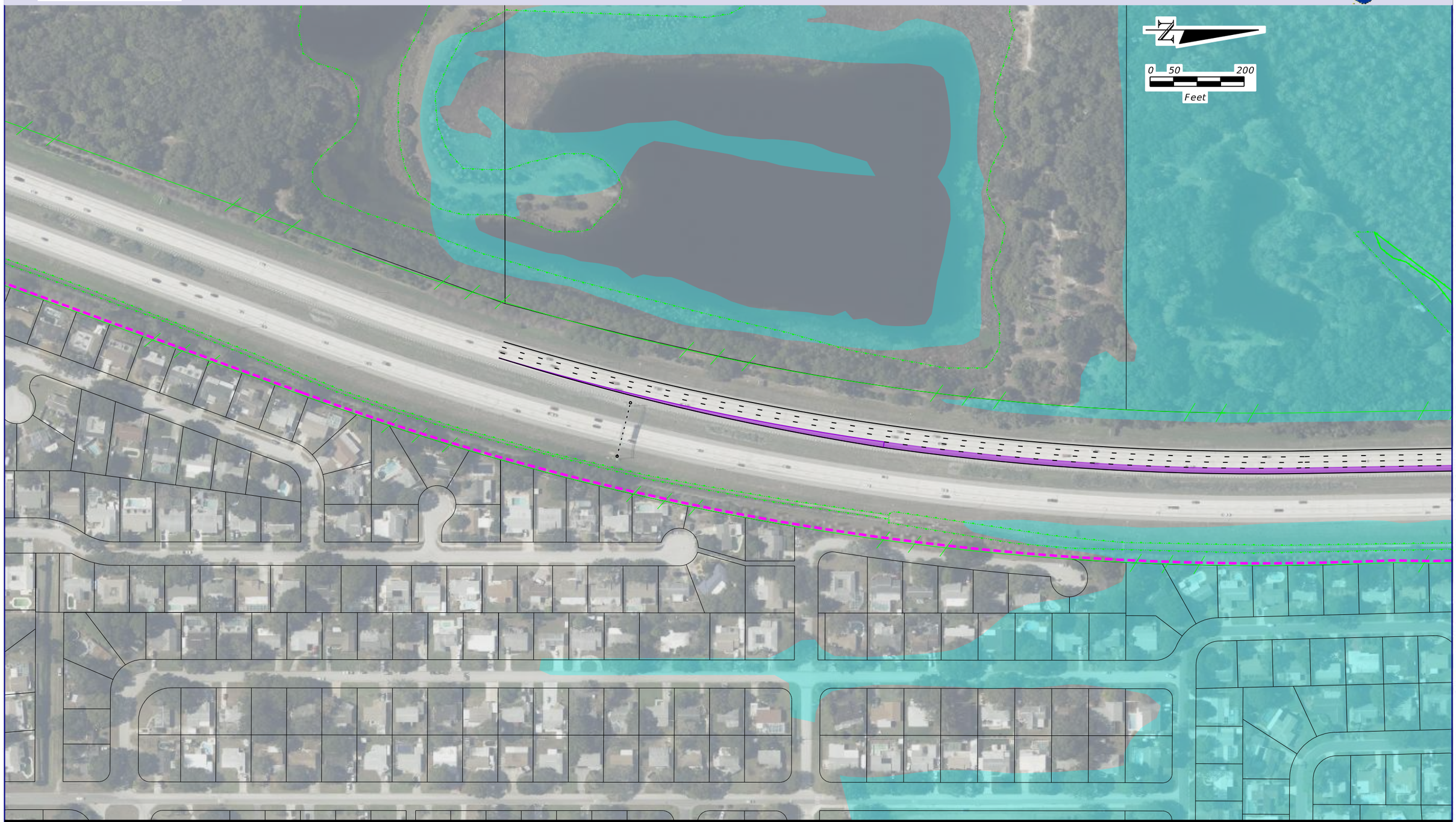
TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BARRIER WALL
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- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO.

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

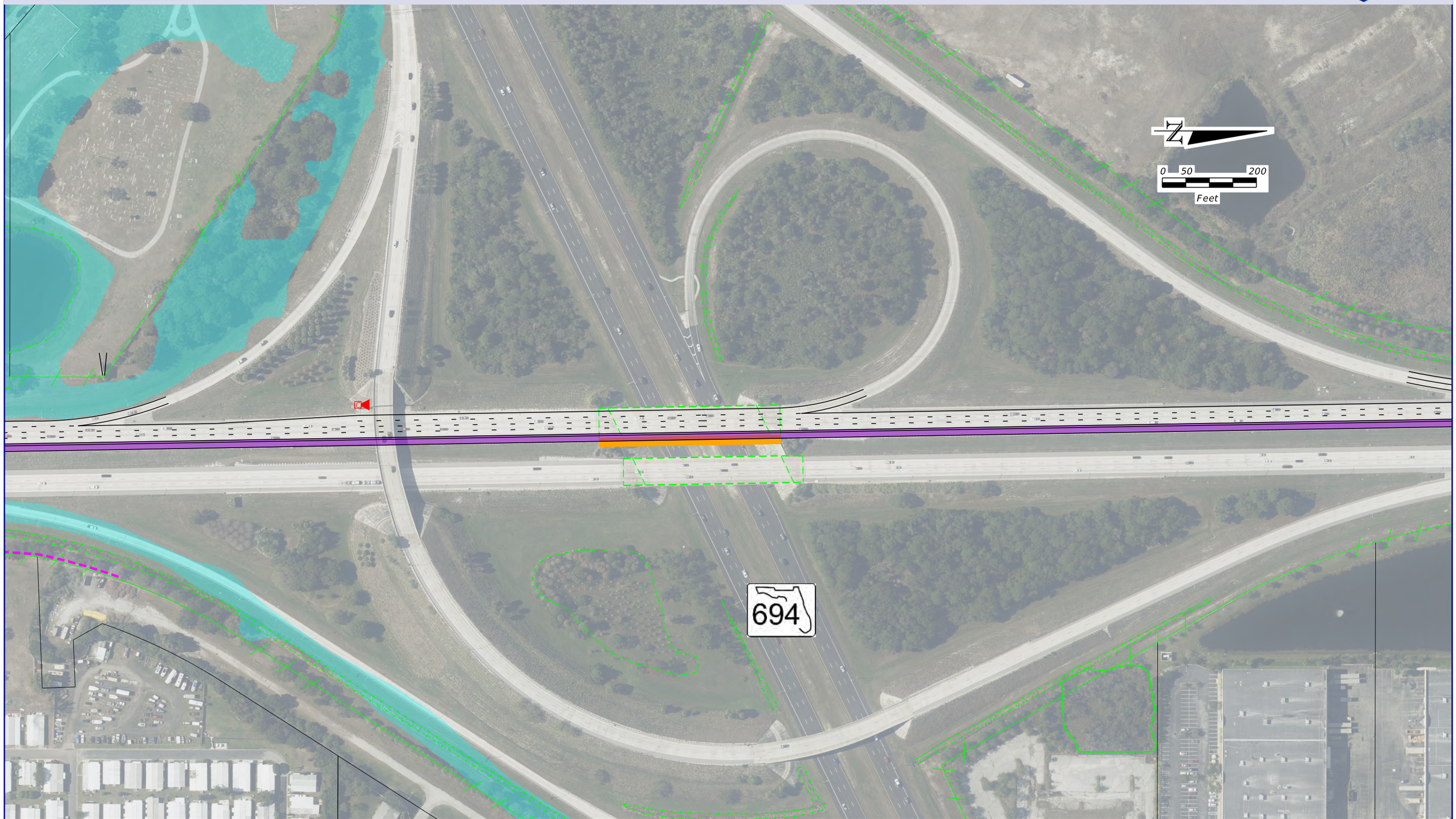
CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO.

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BARRIER WALL
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- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 33

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275

0 50 200
Feet

LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

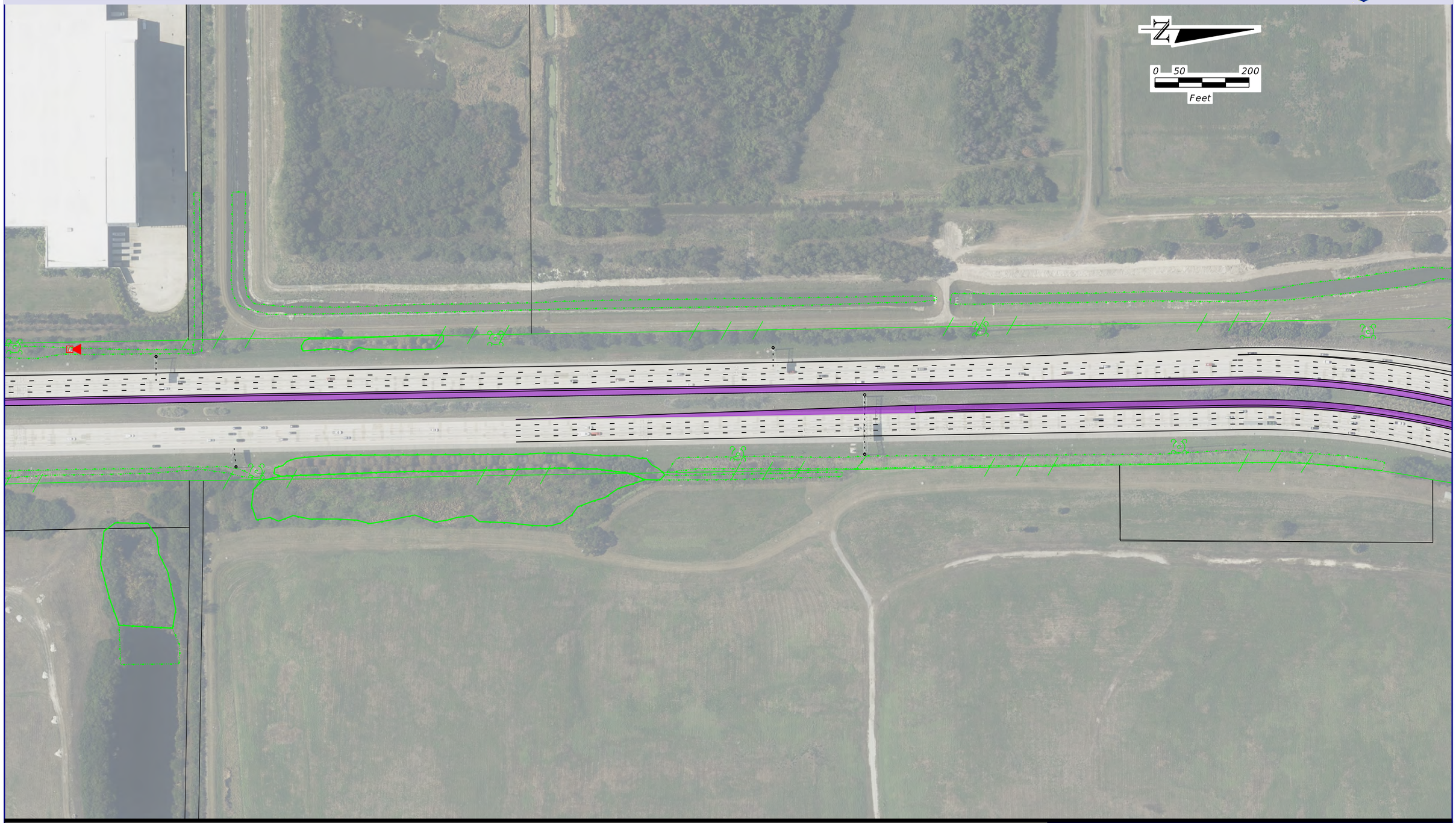
CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 34

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

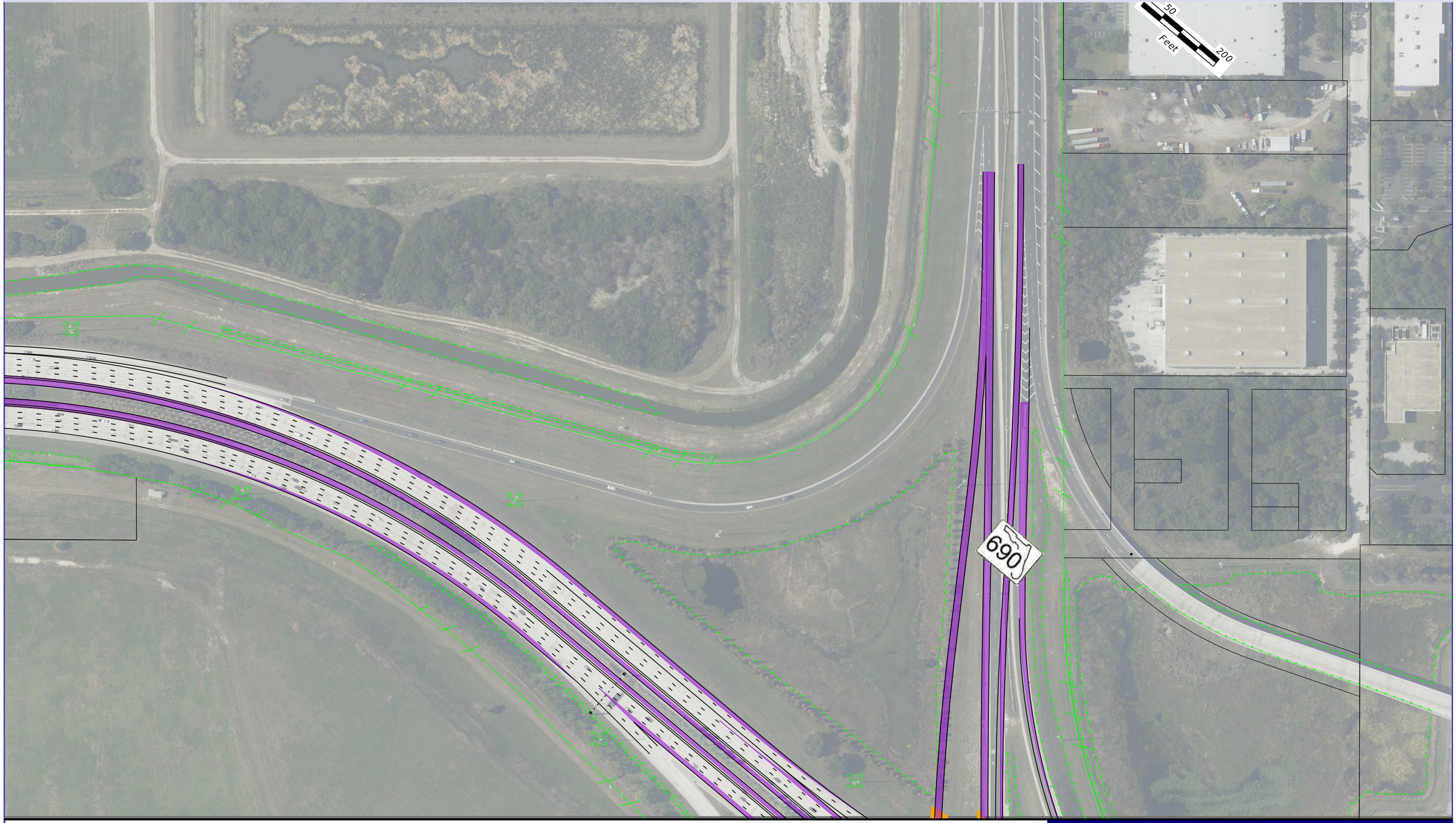
SHEET NO. 35

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 36

$USER$ $DATE$ $TIME$ $FILE$

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

FDOT

TAMPA BAY EXPRESS

INTERSTATE 275

690

FDOT MAINTENANCE YARD

Azure Apartments

South Eastern Mechanical Services

0 50 200

Feet

LEGEND:

- STARTER WIDENING
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- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

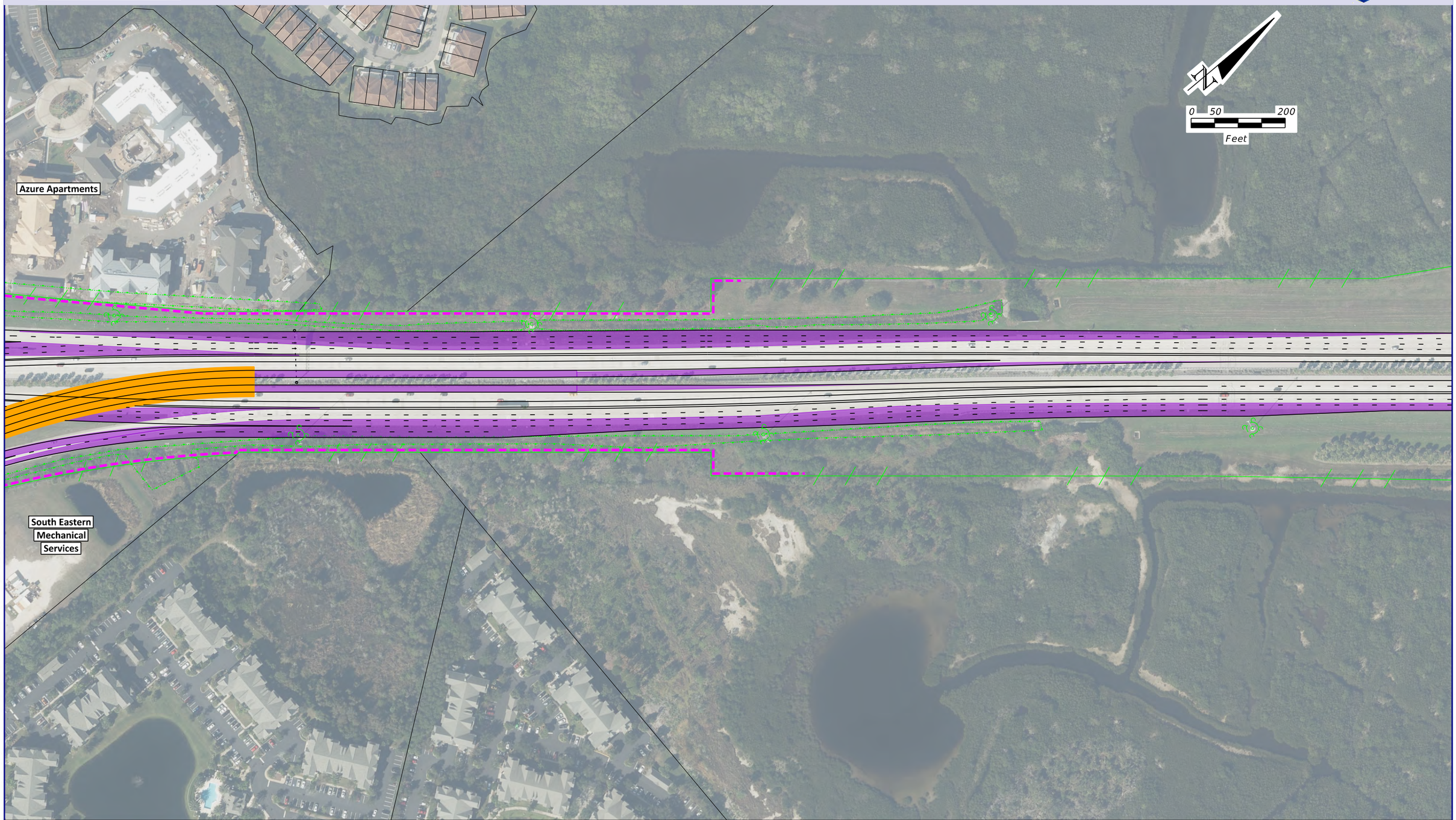
SHEET NO. 37

$USERS $DATES $TIMES $FILES

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 38

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275

LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 39

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275

0 50 200
Feet

LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 40

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275

LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

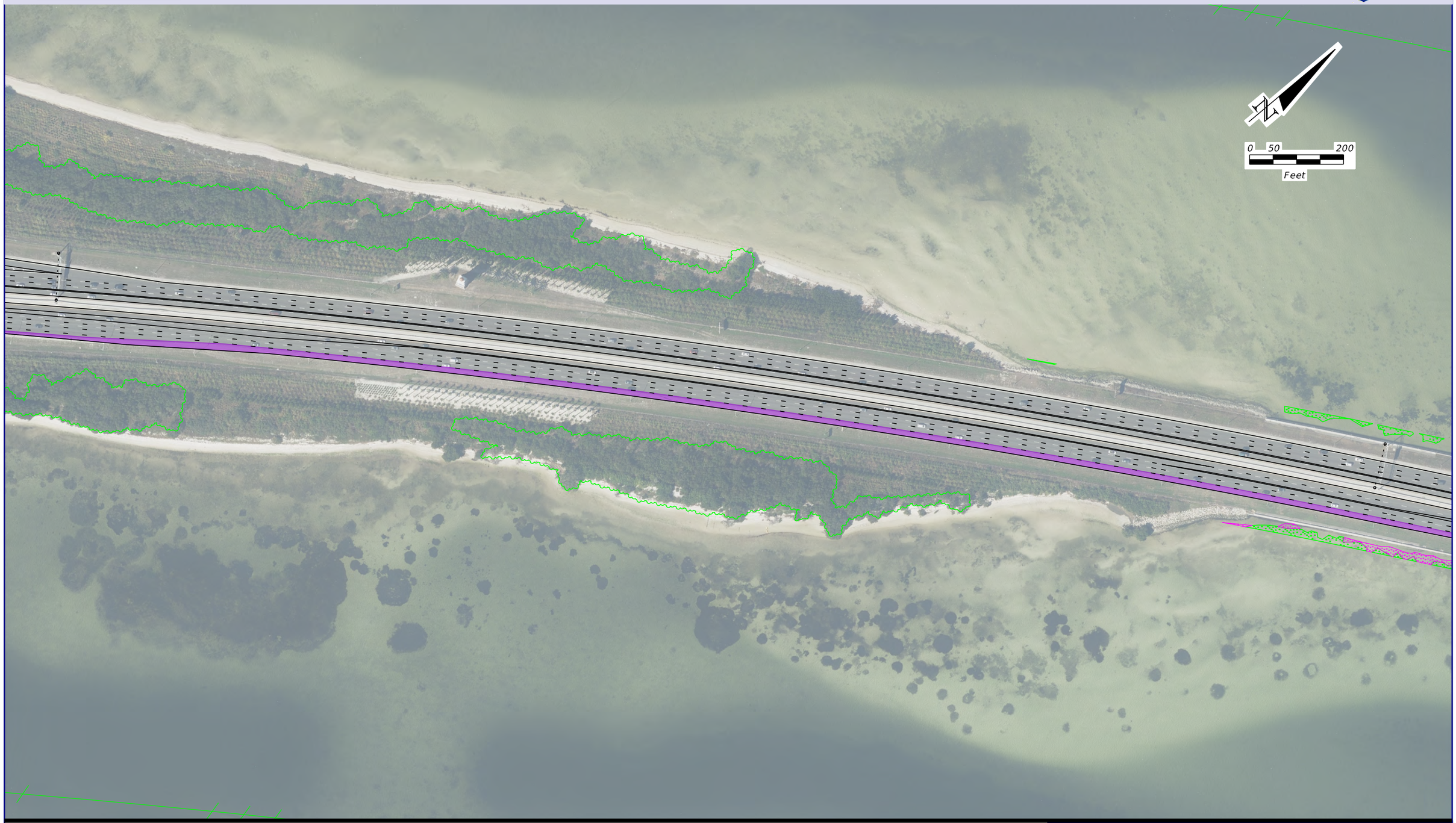
CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 41

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

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- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

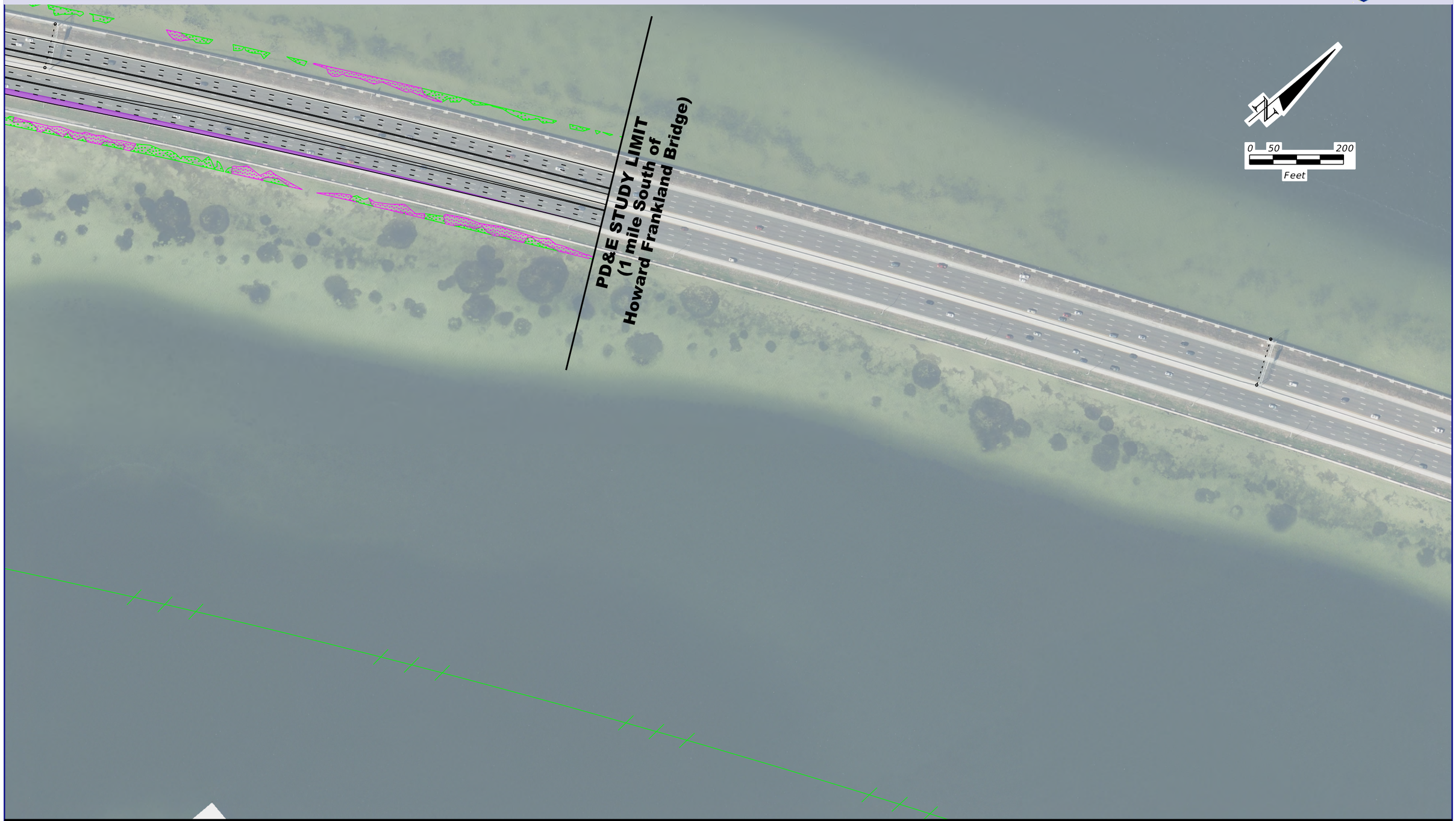
CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 42

I-275 (SR 93) PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

TAMPA BAY EXPRESS

INTERSTATE 275



LEGEND:

- STARTER WIDENING
- PAVEMENT REMOVAL
- BARRIER WALL
- BRIDGE WIDENING
- BRIDGES
- RIGHT OF WAY
- WETLANDS
- SURFACE WATER
- MANGROVES
- FLOOD PLAINS
- CONTINUOUS SEA GRASS
- DISCONTINUOUS SEA GRASS
- OVERHEAD SIGN STRUCTURE
- CONTAMINATION
- ITS CAMERA
- NOISE WALL

Aerial Photos Dec. '13 - Feb. '14

CONCEPT PLANS
EXPRESS STARTER PLAN

SHEET NO. 43

Appendix B.
Methodology Statement

Appendix B.
Methodology Statement

DRAFT Methodology Letter of Understanding (MLOU)

Interstate 275 from Howard Frankland Bridge to Hillsborough River
Systems Interchange Modification Report Update
FP No. 258355-1-32-05

Prepared for
Florida Department of Transportation (FDOT)
Federal Highway Administration (FHWA)

September 2014

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Section 1.0
INTRODUCTION AND PROJECT DESCRIPTION

1.1 INTRODUCTION/BACKGROUND

The Final Environmental Impact Statement (FEIS) prepared for the Tampa Interstate Study (TIS) and approved by the Federal Highway Administration (FHWA) in January 1997, documents the need for multi-lane improvements on Interstate 275 (I-275) from the east end of the Howard Frankland Bridge to Dr. Martin Luther King, Jr. Boulevard and on Interstate 4 from I-275 to 50th Street. The ultimate improvements for the I-275 corridor consist of a four-roadway system with a local freeway on the outside and an express freeway on the inside. The improvements documented in the FEIS also include modifications to the existing interchanges along I-275, which are detailed in the I-275 Systems Interchange Modification Report (SIMR) completed in 2001. These modifications are needed to improve the geometrics of the existing interchanges (e.g., ramp acceleration/deceleration lane lengths, vertical profiles, etc.) as well as to improve the traffic operations on mainline I-275.

The following is a chronology of the planning/design/construction milestones for the interstate within this study area:

CHRONOLOGY OF PLANNING, DESIGN AND CONSTRUCTION MILESTONES FOR THE I-275/SR 60 INTERCHANGE

1987-1997:

The TIS Master Plan project included multi-lane improvements to approximately 36.6 miles of interstate and freeway including I-275 from the Howard Frankland Bridge to north of the I-275/I-75 Apex and I-4 from the Downtown Interchange to east of I-75.

Following approval of the Master Plan, the Florida Department of Transportation (FDOT) initiated the Project Development and Environment (PD&E)/NEPA process for a portion of the Master Plan under the TIS FEIS. This document included the I-275/SR 60 interchange, south of Cypress Street. Improvements on SR 60 north of Cypress Street (The Tampa Airport Interchanges Project) were documented under the Northwest Expressway EIS and subsequent reevaluations.

During the PD&E/NEPA process for the TIS FEIS, the Master Plan concept adopted in 1989 evolved and incorporated modifications to accommodate new legislation, public sentiment, competing transportation priorities, and funding constraints. On January 31, 1997, a Record of Decision was received for the "selected" portions of the TIS Final Environmental Impact Study (FEIS) identified in the 2015 LRTP, which was adopted December 5, 1995. Remaining portions of the build out of the TIS FEIS (including the I-275/SR 60 interchange) were designated as the

"Preferred Alternative". The geometry contained in the 2001 SIMR was part of the TIS set of plans approved in 1997. Most of these improvements are capacity improvements.

1998-2010:

An SIMR was prepared to document capacity and ramping improvements to I-275 from the Howard Frankland Bridge to Ashley Street in 2001. These improvements included refinements to the TIS FEIS and provided capacity enhanced General Purpose Lanes, as an initial stage for construction of the Preferred Alternative to the TIS FEIS. An Interchange Operations Analysis Report (IOAR) was prepared in 2008 for revised ramping for the northbound exits to SR 60. FDOT and FHWA concurrence of these documents led to construction funding.

An Interchange Improvement Prioritization Study was completed in 2008. The purpose of this study was to rank and prioritize individual interchange improvement projects for staged construction of the interchange. The following needs were identified as key priorities:

- Additional capacity for northbound and southbound I-275,
- Additional capacity for the northbound I-275 to westbound SR 60 movement, and
- Improved operations for the eastbound SR 60 to northbound I-275 movement (loop replacement).

Given the benefit and costs studied, the study recommended that an alternative providing additional capacity to the northbound I-275 to westbound SR 60 movement be prioritized for the next stage of construction.

The recommendations from this study were then expanded into the **Ultimate Analysis Report**, completed in October of 2009, which evaluated two potential reconfigurations of the ultimate geometry for the I-275/SR 60 interchange relative to the currently approved TIS Final Environmental Impact Statement (FEIS) configuration.

2011- 2012

As part of line and grade development for the interchange, a **Design Refinement Study** was completed in September 2011. This design project refined the recommended concepts from previous studies, based on Traffic Control Plan (TCP), stage construction, and interim and future operations. This study included the following modifications to the preferred TIS plan:

- A dual lane flyover to the northbound I-275 to westbound SR 60 movement and connection of this flyover to both SR 60 express and general use lanes.

- Replacement of Express Lanes connections to Kennedy Boulevard with express lane connections toward the I-275 Howard Frankland Bridge, not included in the TIS FEIS.

- The addition of General Purpose capacity from two to three lanes in each direction on I-275 through the SR 60 interchange

Two construction projects have started, that will deliver more capacity to/from the I-275/SR 60 interchange:

- A $217M design-build contract was awarded in 2011 and construction began in July 2012 for the widening and reconstruction of I-275 from east of the I-275/SR 60 Interchange to the Hillsborough River. This project will incorporate most of the improvements to I-275 east of the SR 60 interchange contained in the 2001 SIMR. This I-275 reconstruction project is anticipated to be completed in 2016.

- The capacity of the SR 589/Veterans Expressway that connects to SR 60, Memorial Highway, the Courtney Campbell Causeway and Tampa International Airport is being doubled. Eleven miles will be widened from 4 to 8 lanes to add one through toll lane and one dynamically priced express lane in each direction between Memorial Highway/CR 576 and CR 685A/Van Dyke Road. The investment of $386M includes the conversion to All-Electronic Tolling, removing traffic impediments associated with cash toll collection.

2012- 2014

There are three major ongoing activities that will have a significant impact on the development of the I-275/SR 60 Interchange:

- The Department's 2013 Tolling Directive requires consideration of tolling on new capacity lanes added to the interstate be tolled will require reconfiguring of the transitional area of I-275 between the Howard Frankland Bridge and SR 60 to accommodate express lanes.

- The regional Tampa Bay Express Master Plan is currently under development by District 7. The Master Plan defines Ultimate and Starter Projects for I-275, I-75 and I-4 in Hillsborough and Pinellas County. Current options under consideration that could influence the interchange configuration include:

    - The use of delineators and stripes in lieu of barriers and shoulders to separate traffic to add capacity. The type of traffic separators has not been decided yet. It will be determined based FDOT Central Office guidance and coordination with FDOT District Seven.

    - Consideration of direct access between the surface street system and express lanes

Continuing/Upcoming Activities (2014-2016):

- Completion of the Tampa Bay Express (TBX) Master Plan in 2015.

- I-275/SR 60 SIMR Update

- Complete Reevaluation of TIS FEIS for I-275/SR 60 interchange

As it has been thirteen years since the 2001 SIMR has been approved and several interstate managed lanes studies are currently underway, this document serves as the Methodology Letter of Understanding (MLOU) between FHWA, FDOT's Office of Systems Planning (i.e., the Central Office) and FDOT's District Seven Interchange Review Team regarding the update of the 2001 SIMR for I-275 from the Howard Frankland Bridge to the Hillsborough River in Hillsborough County, Florida.

FDOT District Seven is the requestor for this MLOU and it shall serve as the outline for the SIMR update documenting the alternatives analysis. This MLOU is developed in accordance with the "Interchange Access Request User's Guide", FDOT Systems Planning Office, 2013.

The SIMR will be prepared in accordance with FDOT and FHWA's recommended format and will specifically address each of the following eight federal requirements, summarized from the Federal Register dated August 27, 2009:

1. *Existing system, even with reasonable improvements, is incapable of satisfactorily accommodating the design year traffic demands…*

2. *All reasonable alternatives to a new interchange have been considered including ramp metering, mass transit, and HOV facilities…*

3. *Proposal does not have a significant adverse impact on the operations and safety of the Interstate facility or on the local street network based on both the current and future traffic projections…*

4. *A full interchange with all traffic movements connecting to a public road is provided…*

5. *The proposal considers and is consistent with local and regional land use and transportation plans…*

6. *Consistency with long-range systems or network plans…*

7. *Coordinated with the area's development…*

8. *Request can be expected to be included as an alternative in the required environmental evaluation, review and processing.*

1.2 PURPOSE AND NEED

The purpose of the project is to evaluate capacity improvements to the existing interchanges located along I-275 from the Howard Frankland Bridge to the Hillsborough River, including an evaluation of interchange improvements not previously considered in the 2001 SIMR. Such improvements include the addition of express toll lanes along the interstate mainline within the SIMR area of influence and, specifically, for the interchange at I-275 and State Road (SR) 60 / Memorial Highway. This MLOU will summarize and document all methodology agreements reached between the FDOT's District Seven Interchange Review Team, FDOT Central Office and FHWA. The SIMR will document the existing conditions in the study area, the future year travel demand forecasts and the analysis of future conditions for express toll lanes, general use lanes, ramps and access/egress points between the interstate mainline and the express toll lanes system.

1.3 PROJECT LOCATION

The proposed improvements are located along I-275 within the City of Tampa in Hillsborough County, Florida between milepost 1.122 (Memorial Hwy/SR 60/Exit 39) on the west side and milepost 5.872 (Willow Avenue) on the east side as shown in **Figure 1**, project location. Similarly proposed interchange modifications are located along SR 60 between milepost 0.000 (Kennedy Blvd) on the south side and milepost 1.000 (Spruce Street) on the north.

1.4 AREA OF INFLUENCE (AOI)

The proposed area of influence along I-275 is from west of Memorial Hwy/SR 60 interchange (Howard Frankland Bridge) to Willow Avenue. The proposed area of influence along SR 60 is from south of I-275 to north of Spruce Street. Although I-275 is in general a north-south limited access facility, the alignment of this roadway within the area of influence is east-west. Throughout this MLOU, reference will be made to eastbound I-275 and westbound I-275, which corresponds to northbound and southbound orientations, respectively. **Figure 2** shows the proposed area of influence for the SIMR.

The SIMR project limits along I-275 extend from the eastern end of the Howard Frankland Bridge to Willow Avenue (just west of the Hillsborough River), a distance of approximately 4.75 miles. The seven existing interchanges and interchange ramps that are located within the I-275 area of influence are as follows:

- Kennedy Boulevard (S.R. 60) - Ramps to/from the west only;
- Memorial Highway - Ramps to/from the east and to/from the west;
- Westshore Boulevard
- Lois Avenue - Ramps to/from the east and to/from the west;
- Dale Mabry Highway - Ramps to/from the east and to/from the west;
- Himes Avenue - Ramps to/from the east only; and
- Howard/Armenia Avenue - Ramps to/from the east and to/from the west.

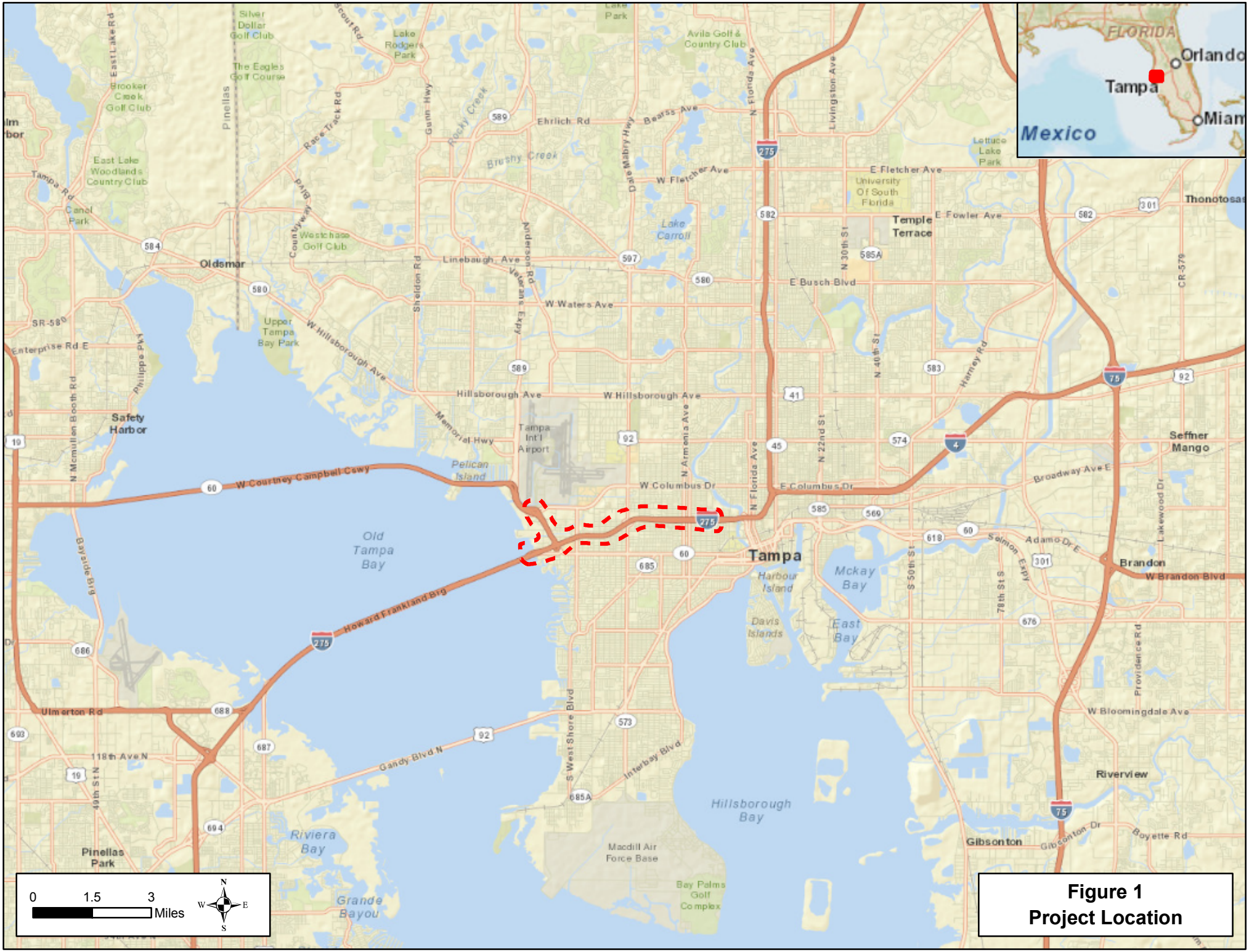


Figure 1
Project Location

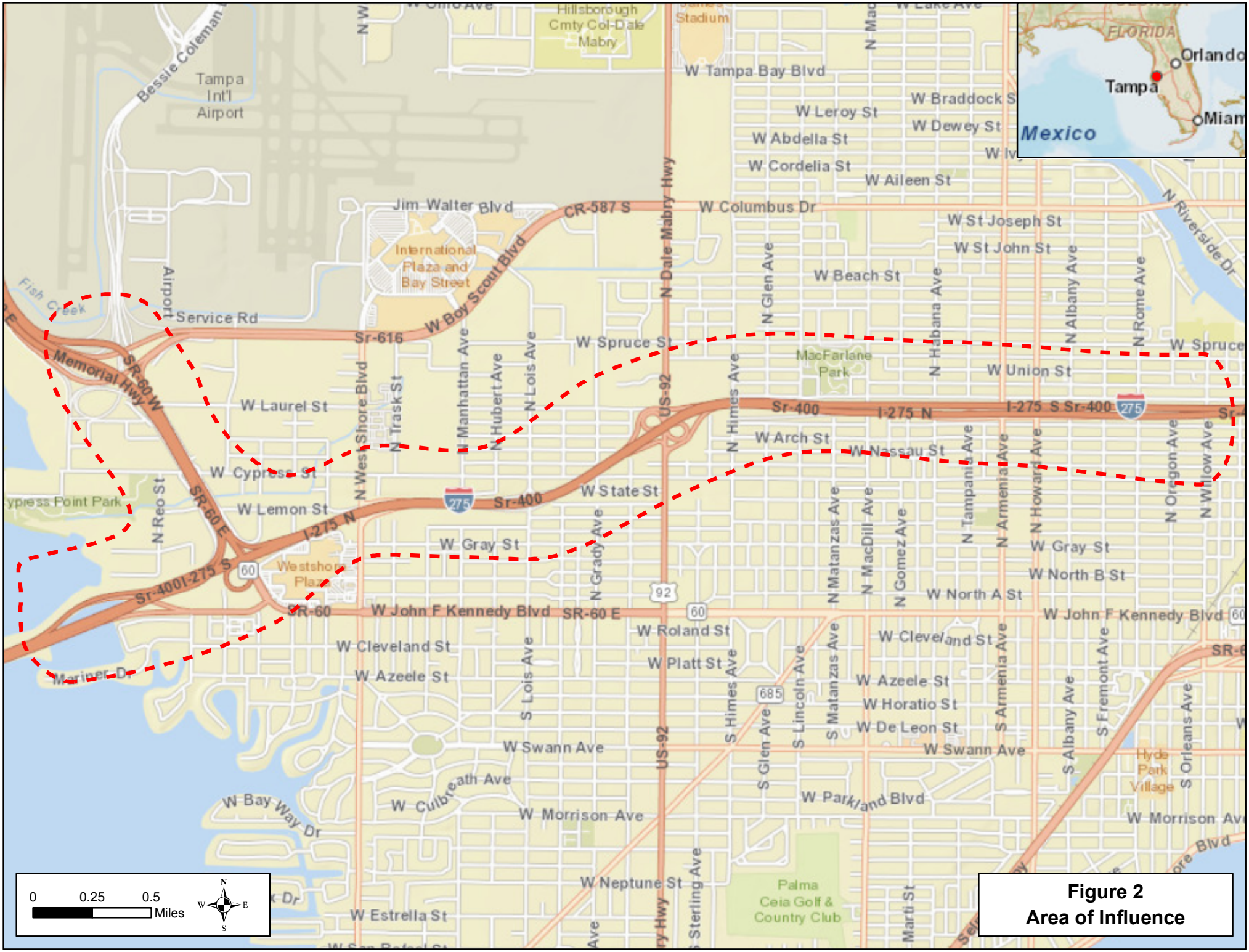


Figure 2
Area of Influence

1.5 PROJECT SCHEDULE

The proposed SIMR process is anticipated to be completed in approximately eighteen (18) months, from approval of the MLOU, as summarized in the tentative project schedule provided in **Appendix A.** A schedule of production activities (Design, ROW, and Construction) will be provided in the SIMR.

Section 2.0
ANALYSIS YEARS

2.1 FOR TRAFFIC FORECASTING

The years to be used for the travel demand forecasting:

- Base Year: 2006
- Horizon Year: 2035

The forecasting of traffic volumes is based on the Tampa Bay Regional Planning Model – Managed Lanes (TBRPM-ML) Version 24. Travel demand forecasting procedure is described in section 5 of this MLOU. Appendix C contains the TBX Master Plan traffic forecasts and the methodology used in the development of the traffic forecasts.

2.2 FOR TRAFFIC OPERATIONS ANALYSIS

The years to be used for the traffic operations analysis are as follows:

- Existing Year: 2014
- Opening Year: 2020
- Interim Year: 2030
- Design Year: 2040

Section 4, Data Collection describes the types of data to be collected and adjustments to traffic counts to be used in the SIMR. Details of types of Traffic Operational Analysis such as procedures, measures of effectiveness, software used are provided in Section 6.

The analysis years proposed for the SIMR are consistent with the PD&E study and the facility Master Plans.

Section 3.0
ALTERNATIVES

Activities anticipated for this section of the SIMR process will include the development and evaluation of alternatives for the interstate system and interchanges within the area of influence. It is anticipated that up to three alternatives will be analyzed, including the No-Build Alternative (without modification). The proposed Build Alternatives are described below and concept plans are provided in **Appendix B**.

- **No-Build Alternative** – Assumes current reconstruction of I-275 is complete by 2016

- Transportation Systems Management and Operations **(TSM&O)** Alternative – Evaluation of measures leading to improvement of traffic flows through non-capacity improvements including but not limited to Intelligent Traffic Systems deployment, intersection optimization and increased share of alternatives to single occupancy vehicles. It involves optimizing the use of existing facilities. TSM improvements would not adequately accommodate forecasted traffic volumes within the SIMR interchange area. Thus, the TSM Alternative is not considered a viable alternative for this SIMR.

- **Build Alternative** - Four general use lanes and two express toll lanes in each direction of travel; geometry for analysis years 2020 and 2030 will be based on Tampa Bay Express Starter Projects network (See Appendix B-1); geometry for analysis year 2040 will be based on Tampa Bay Express Master Plan network (See Appendix B-2).

  The improvement concept is being further refined at some locations in the AOI, especially at I-275 and SR 60 interchange with respect to ramp connections to Veterans Expressway and SR 60 from I-275 Managed Lanes. The latest version of the refined alternative is depicted in Appendix B-3.

Section 4.0
DATA COLLECTION

4.1 TRANSPORTATION SYSTEM DATA

Available existing traffic data for the I-275 freeway mainline and ramps will be obtained from FDOT District Seven. All other traffic data will be determined using the procedures described below.

4.2 EXISTING AND HISTORICAL TRAFFIC DATA

Existing daily vehicle counts and turning movement counts will be taken within the study area. Daily vehicle counts will be conducted on weekdays for up to seventy-two (72) hours; peak hour turning movement counts will be conducted from 7:00 to 9:00 a.m. and from 4:00 to 6:00 p.m. for the morning and evening peak hours, respectively. Existing traffic used in the project will be less than three years old; the turning movement counts (TMCs) and 72 hours classification counts will be collected according to guidelines in the Project Traffic Forecasting Handbook if applicable. Traffic counts should be adjusted with appropriate seasonal and axle correction factors if applicable. It is anticipated that traffic counts will be obtained from the Department or collected by URS at the following locations:

Interchanges/Intersections

- I-275/Memorial Highway Ramps
- Kennedy Boulevard and SR 60
- I-275/SR 60 Ramps
- I-275/Westshore Boulevard Ramps
- I-275/Lois Avenue Ramps
- I-275/Dale Mabry Highway Ramps
- I-275/Himes Avenue Ramps
- I-275/Armenia Avenue/Howard Avenue Ramps

Roadway Segments

- Independence Parkway
- Memorial Highway
- Westshore Boulevard
- Lois Avenue
- Dale Mabry Highway

- Himes Avenue
- Armenia Avenue
- Howard Avenue

Existing roadway characteristics including functional classification, lane geometry, pedestrian accommodations, bicycle facilities, traffic control devices, access locations and spacing, and posted speed limits will be obtained and documented in the SIMR. In addition, the data collection effort will include an evaluation of travel times and peak hour queues as necessary to calibrate the CORSIM model[1]. Travel time and delay runs will be conducted on the mainline of I-275 between 7:30 a.m. and 8:30 a.m. and between 5:00 p.m. and 6:00 p.m. for each day that traffic counts are performed. Given the ongoing construction activity on I-275 in the study area, any traffic counts collected at locations where detours or lane closures may affect the validity of the count will be noted and manual adjustments may be made by:

1. Comparing the count to any available count collected prior to the construction efforts.
2. Reasonableness check for traffic growth with a site outside the construction area.
3. Please note that additional adjustments may be made on a case by case basis. All the adjustments to traffic counts will be documented in the SIMR.

All data collected and traffic count adjustments will be summarized in an Existing Conditions Report and provided to FDOT and FHWA for review and comment.

4.3 LAND USE DATA

Existing and future land use data within the area of influence will be obtained from the adopted Comprehensive Plans of the City of Tampa and Hillsborough County; applicable information will be documented in the SIMR.

4.5 PLANNED AND PROGRAMMED PROJECTS

Planned and programmed transportation projects within the area of influence will be obtained from the latest adopted FDOT Five-Year Work Program, Strategic Intermodal System Plan(s), and State Transportation Improvement Plan; City of Tampa Capital Improvement Plan; and Hillsborough County Metropolitan Planning Organization (MPO) Long Range Transportation Plan (LRTP). Applicable information will be documented in the SIMR.

[1] Study area is under construction with varying geometrics and traffic patterns. Existing conditions calibration efforts and evaluation of existing conditions may not be reliable due to this situation.

Section 5.0
TRAVEL DEMAND FORECASTING

5.1 SELECTED TRAVEL DEMAND MODEL

The latest available version of the TBRPM-ML will be utilized to develop the future year daily traffic projections. The TBRPM-ML is based on the Florida Standard Urban Transportation Modeling Structure (FSUTMS) and is recognized by both FDOT District Seven, as well as the Tampa Bay Area MPOs, as an acceptable travel demand forecasting tool which has been used to develop Design Traffic for the ongoing Tampa Bay Express Master Plan. The ultimate roadway network to be used reflects the adopted Cost Affordable Long Range Transportation Plans for all counties within the district

5.2 PROJECT TRAFFIC FORECAST DEVELOPMENT

Forecasts of future traffic volumes will make maximum use of the version of TBRPM-ML and the Directional Design Hourly Volumes (DDHVs) obtained from the FDOT District Seven Tampa Bay Express Study. A technical memorandum with the procedure used to develop Annual Average Daily Traffic (AADT) volumes, including key post model adjustments, is included in **Appendix C.**

5.3 VALIDATION METHODOLOGY

The TBRPM-ML has been reviewed to ensure that it accurately reflects the characteristics of the study area and surrounding roadway network. The latest socioeconomic (SE) data approved and used for the Hillsborough County MPO LRTP was obtained from all Counties comprising FDOT District Seven and used in the development of the travel forecasts.

5.4 TRAFFIC ADJUSTMENT PROCEDURES

Any refinements to the TBRPM-ML and the DDHVs from the FDOT District Seven Express Lane studies due to changes in geometry or proposed design will be identified during the MLOU phase. Revisions will be made as necessary, and documented in the SIMR.

5.5 DEVELOPMENT OF DAILY AND DESIGN HOUR TRAFFIC

Daily and Design Hour Traffic was obtained from the TBRPM-ML Time of Day Model and in specific from the traffic development effort related to the Tampa Bay Express Master Plan.

The TBRPM ML provides year 2035 traffic projections, broken down into four times of day, namely:

- AM Period (2.5 hours),

- Mid-Day (6.5 hours),
- PM Period (3 hours) and
- Evening Period (12 hours).

The peak period volumes were converted to peak hour volumes by applying diurnal factors (AM 0.41; PM 0.35) corresponding to the percentage of traffic occurring during the peak hour for the AM and PM periods. An area Model Output Conversion Factor (MOCF) factor of 0.95 was used to convert daily model outputs to AADTs.

Design year volumes were compared to the year 2012 volumes. At some locations, the existing (2012) volumes were higher than the year 2035 model volumes. In order to maintain a reasonable growth pattern, manual adjustments were applied for freeway segments and ramps where design year volumes are lower than the existing conditions.

As a result of adjustments made to some of the freeway segments and ramps, the mainline volumes may deviate from the model outputs. To avoid significant deviation from the model outputs, a set of control locations were selected. Traffic volumes were adjusted to match the model outputs at the control locations to the maximum degree possible.

A complete set of reasonableness checks was conducted to ensure:

a. Volumes increased from 2012 through 2040
b. Directionality was reasonable and defensible
c. Peak to daily ratios were reasonable and defensible
d. Maximum loadings to managed lanes did not exceed the LOS D capacity of the facility

Documentation of the traffic development process and daily/peak hour future volumes are included in **Appendix C**. A TBRPM-ML model structure and list of improvements from TBRPM daily model to TBRPM time of day model is also included in Appendix C.

5.5.1 Truck Factors (T)

Truck Factors (T) to be used in the analysis will be derived by considering historical traffic data and existing measured traffic characteristics from traffic counts. Portable traffic monitoring sites [available from FDOT *Florida Traffic Information & Highway Data* (2012)] will be used to determine the historical daily truck factors (T_{24}). As outlined in the *FDOT Project Traffic Forecasting Handbook 2012* and based on the assumption that only half as many trucks travel on the roadway during the peak hour, the T-Factor(s) will be derived by dividing the daily truck factors by two. The results from both methods will be evaluated and a recommended T-Factor will be presented to FDOT District Seven for review and approval prior to initiation of the traffic analysis.

Section 6.0
TRAFFIC OPERATIONAL ANALYSIS

6.1 EXISTING AREA TYPE/TRAFFIC CONDITIONS

Traffic operations analyses for the a.m. and p.m. peak hours will be conducted to document the existing levels of service within the area of influence. The results of the existing conditions analysis will be summarized in graphical and/or tabular format and presented in the SIMR.

6.2 TRAFFIC ANALYSIS SOFTWARE

For existing conditions, a base year CORSIM (TSIS version 6.3) simulation model will be developed and the analysis will be performed based on the guidelines and recommendations contained in the FHWA *Traffic Analysis ToolBox Volume IV, Guidelines for Applying Traffic Microsimulation Software* (FHWA, 2007). In addition, an evaluation will be performed based on Highway Capacity Software (HCS 2010).

The analysis will include all ramp merge/diverge areas, signalized ramp terminal intersections, major intersections, and roadway segments within the area of influence. Queue lengths determined as a result of the analysis will also be calculated and compared to the existing field-measured queues.

Results of the CORSIM and HCS analysis will be summarized using measures of effectiveness such as density, travel speeds, v/c ratios and levels of service. Special emphasis will be made to ensure there will be adequate weaving distances in the express toll lanes access/egress points in order for traffic to enter/exit the express toll lanes via the general use lanes to the ramp terminals or vice versa. The split in traffic between the express toll and general use lanes will assume that the express toll lanes travel demand will be metered by variable tolls at such a level that their operation will be maintained at an acceptable level of service. The model volumes will be adjusted manually using CORSIM to achieve this goal.

6.3 CALIBRATION

Relevant field collected data; traffic volumes, peak hour speeds, and travel times will be used in the calibration efforts for the simulation model. The calibration methodology will be consistent with recent similar studies throughout the State dealing with express toll lanes and specific calibration criteria and targets discussed in this MLOU.

Traffic volume data, speed data and field observations (in combination with other available data sources such as RITIS data) will be used in the calibration of the CORSIM simulation model. Since no major land use changes are proposed within the area, the CORSIM model will only analyze the opening (2020) and design year (2040).

All ramp, mainline, and entry volumes will be calibrated to meet the criteria specified in the FHWA *Traffic Analysis Toolbox*. Individual link flows will be approximately 15% of field flows for more than 85% of cases. Travel times targets are anticipated to be within 15% of the field measured speeds for more than 85% of cases.

For critical locations with known bottlenecks attempt will be made to meet the calibration thresholds more aggressively (less than 15%). Queues will be verified based on documented queues observed in the field. A three hour AM and PM peak period analysis will be conducted using 15-minute flow rates. Visual Audits of the simulation will be performed to analyst's satisfaction to observe speed-flow relationships for individual links and acceptable queuing at bottlenecks. In addition to average travel speeds, individual link speeds and speed-flow diagrams will be used to evaluate the performance of the freeway segments.

For locations where unmet demand exists beyond the three hour period analyzed, the temporal limits will be expanded to a maximum of five hours using 15-minute volumes to attempt to dissipate the unmet demand. After the five-hour period, if unmet demand still remains in the model, then the processed described in the *Traffic Analysis Toolbox* will be used to quantify the unmet demand.

6.4 MEASURES OF EFFECTIVENESS

The acceptable LOS standard is "D" for the freeway, ramps and intersections within the area of influence.

Measures of Effectiveness used to evaluate and compare the Build and No-Build Alternatives will be as follows:

- Signalized intersections –Delay, LOS, v/c ratio (where applicable)
- Ramps Merge/Diverge – LOS, Density
- Freeway Segments – Density, LOS, Speed and Travel Time

The congestion and MOEs along the study corridor will be evaluated and described with the combination of Heat Diagrams, Lane Schematics in graphical format identifying congested locations and the speed ranges for those locations. Freeway segments where the simulated volumes falls below 85 percent of the actual demand volume will also be identified on the lane schematics. The combination of Heat Diagram and Lane Schematics will be used to identify congested locations, cause of congestion, duration and length of congestion. The SIMR will identify and address all impacts associated with the build alternative on the system.

Section 7.0
SAFETY ANALYSIS

Crash data will be obtained from FDOT District Seven records for the most recent five-year period on the mainline, interchanges, and major cross streets within the area of influence. The data collected shall include the number, type and location of crashes, number of fatalities and injuries, and estimates of property damage and economic loss.

Utilizing the information obtained from the crash data, the evaluation will identify needs associated with the safety of the existing facility. The SIMR will identify the source of the crash data, as well as provide tables and figures summarizing the analysis results. An objective and quantitative evaluation of the proposed improvements on traffic safety along the corridor will be performed by utilizing the FHWA Crash Modification Factor (CMF) clearinghouse and Crash Reduction Factors (CRF) associated with the counter measures where applicable. Engineering judgment and a data driven method will be used where CMFs and CRFs are not applicable.

The relationship of the proposed improvements to emergency service vehicles and hurricane response capacity will also be provided in the SIMR.

Section 8.0
PLAN CONSISTENCY

The latest adopted transportation plans available will be reviewed and a summary of the project's consistency status will be provided in the SIMR.

Section 9.0
ENVIRONMENTAL CONSIDERATIONS

An Environmental Reevaluation shall be conducted concurrent with the SIMR task. A summary of key environmental findings from the environmental reevaluation will be added to the SIMR when they become available to ensure there are no fatal flaws for the proposed improvements.

Section 10.0
COORDINATION

Relevant coordination with all agencies and stakeholders during the process will be documented in the SIMR.

Section 11.0
ANTICIPATED DESIGN EXCEPTIONS AND VARIATIONS

At the time of preparation of this MLOU, there are no known design exceptions or variations to any FDOT or FHWA policies, rules, or standards. If an exception or variation should arise, it will be processed per FHWA and FDOT standards.

Section 12.0
CONCEPTUAL SIGNING PLAN

A conceptual signing plan in accordance with FHWA guidelines will be prepared for the proposed alternatives under consideration. The purpose of the signing plan is to demonstrate the ability to provide adequate advance signing and directions to drivers entering and/or exiting the interchange under the proposed configuration. A disclaimer stating the signage is conceptual and subject to final design will be added to the SIMR signing plans, in specific the following note will be added:

"A conceptual signing plan graphic will be created for planning and discussion purposes only. This graphic is not intended for use in PD&E, Design, or Construction. When this project is programed for design; the signing, pavement markings and intelligent transportation system (ITS) improvements will be evaluated and designed as necessary for future construction"

Section 13.0
ACCESS MANAGEMENT PLAN

If determined necessary during the development of the SIMR, an access management plan will be developed within the area of influence to supplement improvements to the interchanges.

Section 14.0
FHWA POLICY POINTS

Compliance to the FHWA policy points will be discussed and documented to the maximum extent applicable.

Section 15.0
MLOU CONCURRENCE

The FHWA, FDOT Central Office Systems Planning Office, and FDOT's District Seven Interchange Review Team have reviewed the MLOU and concur that it is acceptable for use in the I-275 SIMR Update. FDOT District Seven acknowledges that this MLOU will not be binding upon the FHWA to approve the interchange proposal under any circumstances, nor will it nullify the FHWA's right to request changes to the study design or require additional data collection, analysis, or documentation at any point during the process. FDOT District Seven also acknowledges that full compliance with all of the MLOU requirements does not obligate the FHWA to approve the interchange proposal.

Requestor
FDOT District 7

Waddah Farah

Waddah Farah
District Interchange Review Coordinator
FDOT District 7

9/15/14

Statewide Interchange Coordinator
FDOT Systems Planning Office

9/22/14

Chad Thompson

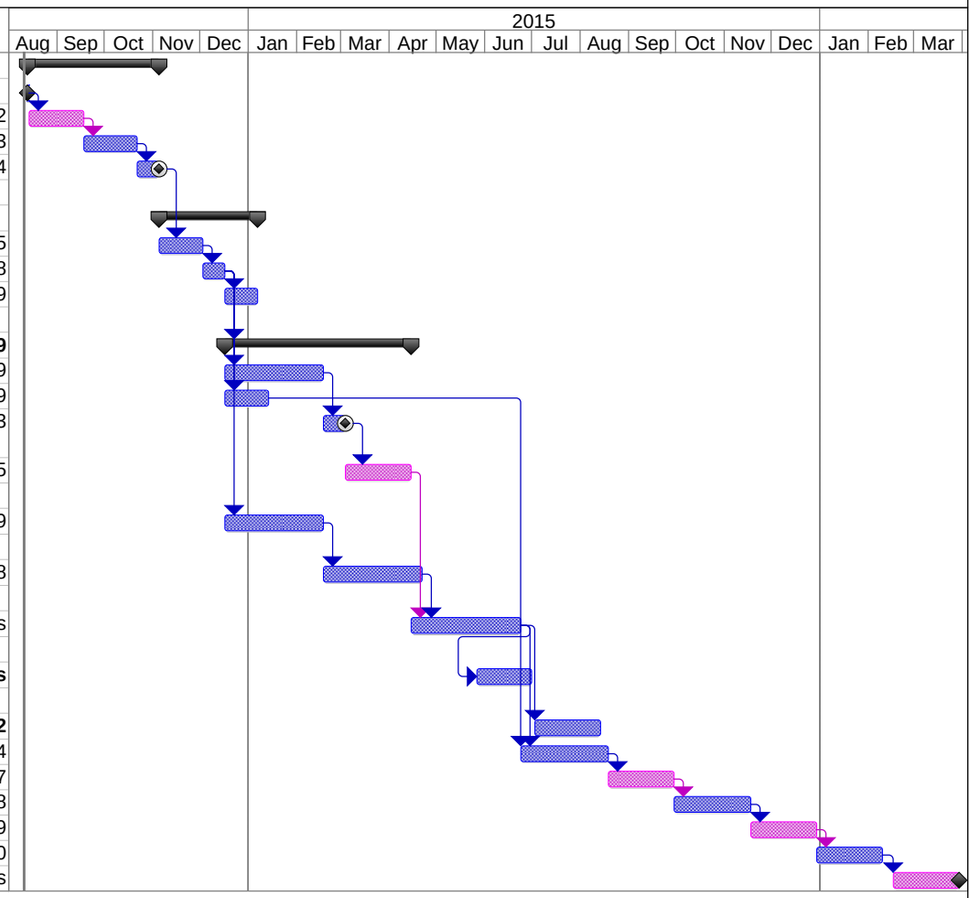
for Associate Division Administrator
Federal Highway Administration

APPENDIX A

Project Tentative Schedule

I-275 and SR 60 SIMR Update

ID	Task Name	Duration	Start	Finish	Predecessors
1	**A. Methodology Letter of Understanding**	**60 days**	**Wed 8/13/14**	**Tue 11/4/14**	
2	MLOU Meeting FHWA FDOT FDOT CO (Tentative)	1 day	Wed 8/13/14	Wed 8/13/14	
3	Update MLOU per Meeting	25 days	Thu 8/14/14	Wed 9/17/14	2
4	Agencies Review of Revised MLOU	24 days	Thu 9/18/14	Tue 10/21/14	3
5	Receive Approval of MLOU	10 days	Wed 10/22/14	Tue 11/4/14	4
6					
7	**2. Traffic and Crash Data Collection**	**45 days**	**Wed 11/5/14**	**Tue 1/6/15**	
8	Conduct TMC and Link Counts	20 days	Wed 11/5/14	Tue 12/2/14	5
9	Summarize Counts	10 days	Wed 12/3/14	Tue 12/16/14	8
10	Gather and Summarize Crash Data	15 days	Wed 12/17/14	Tue 1/6/15	9
11					
12	**3. Existing Conditions Traffic Analysis**	**85 days**	**Wed 12/17/14**	**Tue 4/14/15**	**9**
13	Existing Conditions Traffic analysis (CORSIM and HCS)	45 days	Wed 12/17/14	Tue 2/17/15	9
14	Conduct Crash Analysis	20 days	Wed 12/17/14	Tue 1/13/15	9
15	Submit Existing Conditions Analysis and CORSIM Calibration Report	10 days	Wed 2/18/15	Tue 3/3/15	13
16	FDOT and FHWA Review of CORSIM Calibration Report	30 days	Wed 3/4/15	Tue 4/14/15	15
17					
18	**4. Travel Demand Forecasting Update**	**45 days**	**Wed 12/17/14**	**Tue 2/17/15**	9
19					
20	**5. Update Directional Design Hourly Volumes (DDHVs)**	**45 days**	**Wed 2/18/15**	**Tue 4/21/15**	18
21					
22	**6. Future Conditions Traffic Analysis**	**50 days**	**Wed 4/15/15**	**Tue 6/23/15**	5 days,16FS-15 days
23					
24	**7. Prepare Concept Roadway and Signing Plans**	**25 days**	**Wed 5/27/15**	**Tue 6/30/15**	**22FS-20 days**
25					
26	**8. Prepare SIMR**	**30 days**	**Fri 7/3/15**	**Thu 8/13/15**	**22**
27	Prepare and submit Draft SIMR	40 days	Wed 6/24/15	Tue 8/18/15	22,14
28	FDOT and FHWA Review of SIMR Update	30 days	Wed 8/19/15	Tue 9/29/15	27
29	Prepare and resubmit revised SIMR incorporate comments	35 days	Wed 9/30/15	Tue 11/17/15	28
30	FDOT and FHWA Review revised Draft SIMR	30 days	Wed 11/18/15	Tue 12/29/15	29
31	Revise and submit Final SIMR Update	30 days	Wed 12/30/15	Tue 2/9/16	30
32	Review and Approval of Final SIMR Update	30 days	Wed 2/17/16	Tue 3/29/16	31FS+5 days



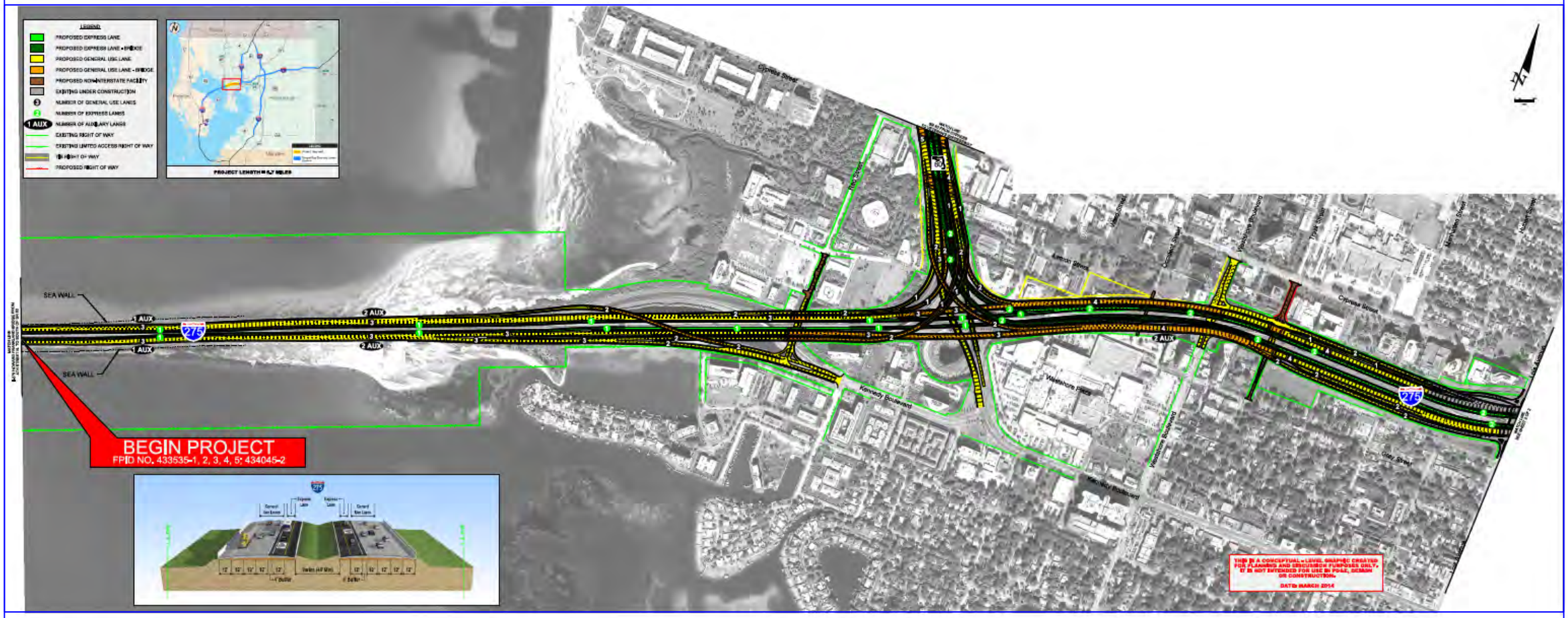
Task	External Tasks	Manual Task	Finish-only
Split	External Milestone	Duration-only	Progress
Milestone	Inactive Task	Manual Summary Rollup	Deadline
Summary	Inactive Milestone	Manual Summary	
Project Summary	Inactive Summary	Start-only	

APPENDIX B

Build Alternative Concepts

APPENDIX B-1

Starter Network Geometry (Analysis Years 2020 and 2030)



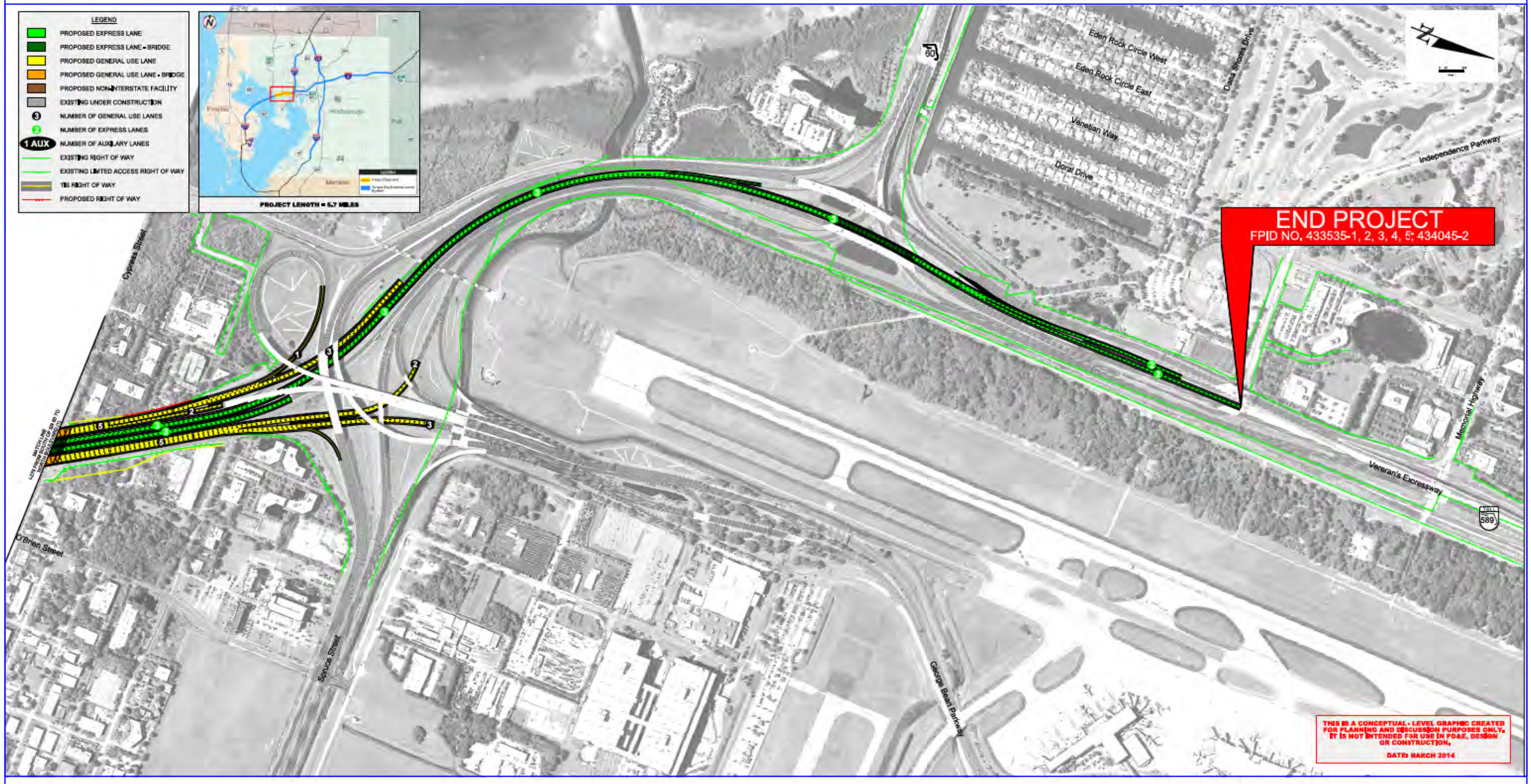
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

OPENING YEAR 2020 AND INTERIM YEAR 2030 PROPOSED GEOMETRY

SHEET NO. 1

$USERS $DATES $TIMES $FILES



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

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Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

OPENING YEAR 2020 AND INTERIM YEAR 2030 PROPOSED GEOMETRY

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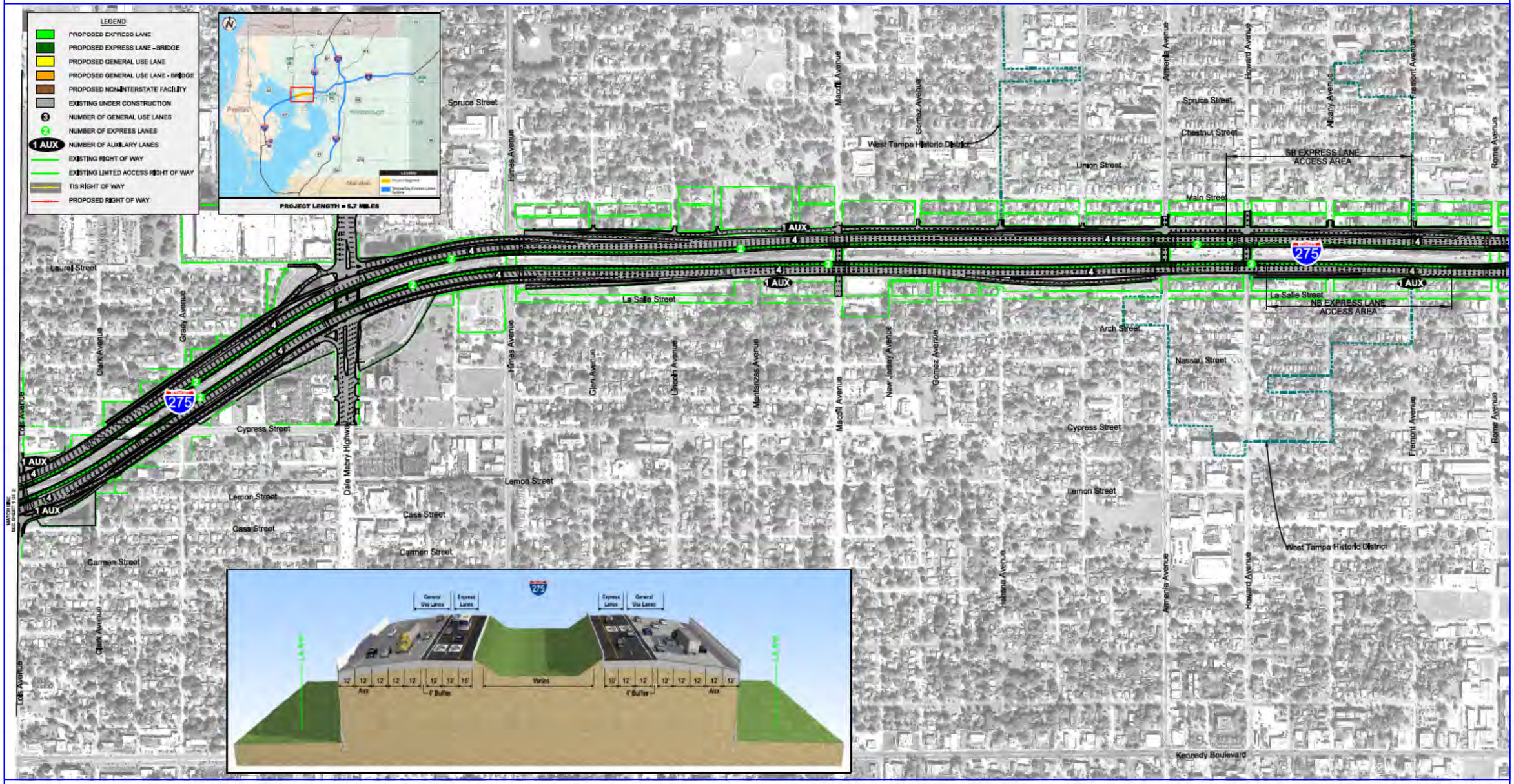


REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

OPENING YEAR 2020 AND INTERIM YEAR 2030 PROPOSED GEOMETRY

SHEET NO. 3

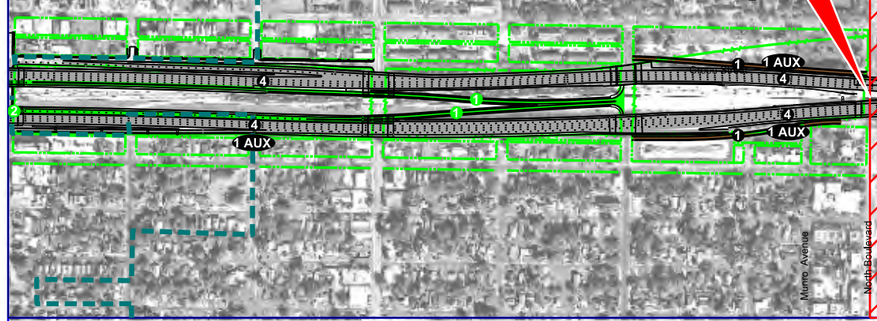
$USER$ $DATE$ $TIME$ $FILE$

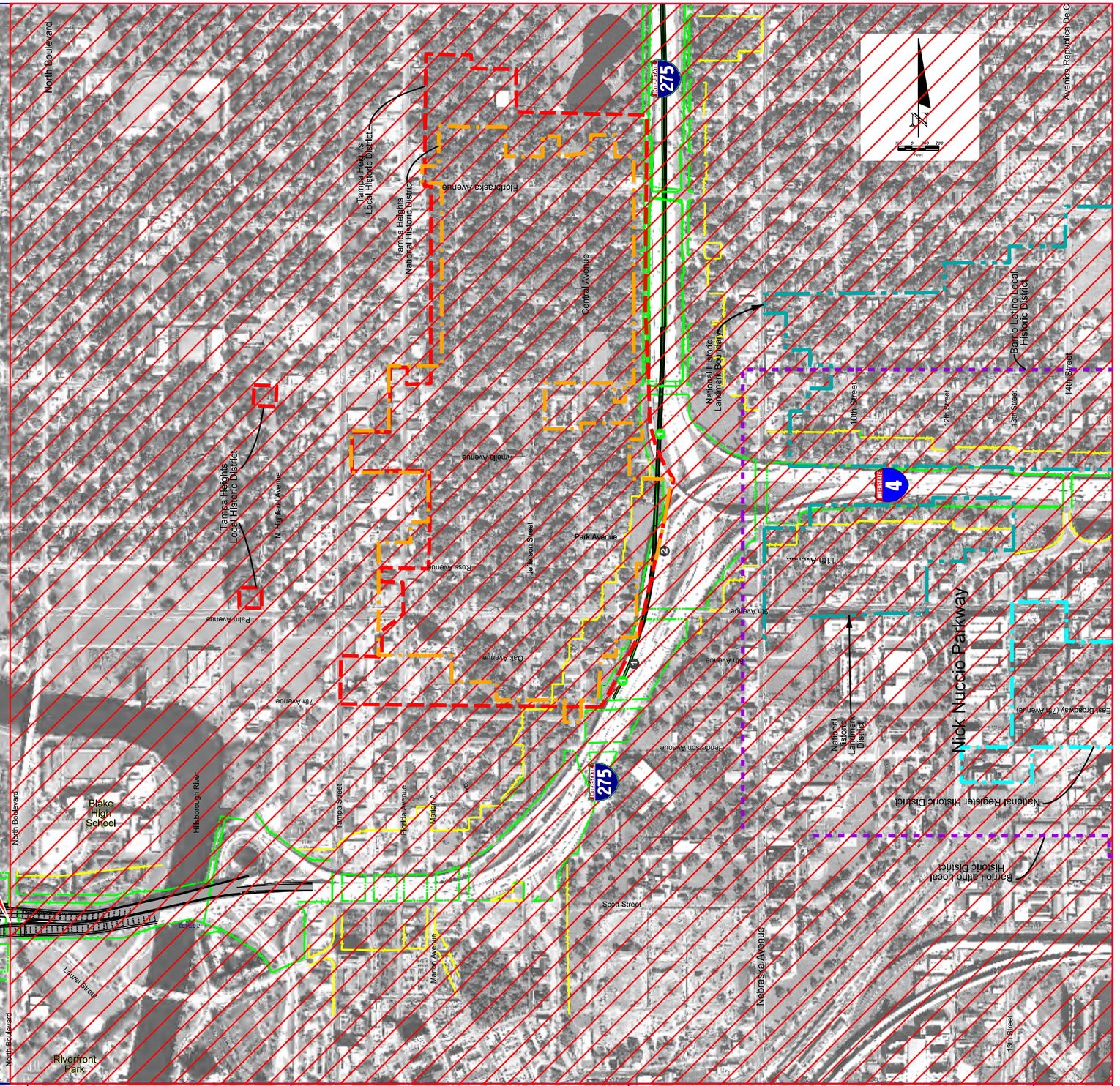
LEGEND

- PROPOSED EXPRESS LANE
- PROPOSED EXPRESS LANE - BRIDGE
- PROPOSED GENERAL USE LANE
- PROPOSED GENERAL USE LANE - BRIDGE
- PROPOSED NON-INTERSTATE FACILITY
- EXISTING UNDER CONSTRUCTION
- (3) NUMBER OF GENERAL USE LANES
- (2) NUMBER OF EXPRESS LANES
- 1 AUX NUMBER OF AUXILARY LANES
- EXISTING RIGHT OF WAY
- EXISTING LIMTED ACCESS RIGHT OF WAY
- TIS RIGHT OF WAY
- PROPOSED RIGHT OF WAY

PROJECT LENGTH = 10 MILES

BEGIN PROJECT
FPID NO. 431821-2





REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

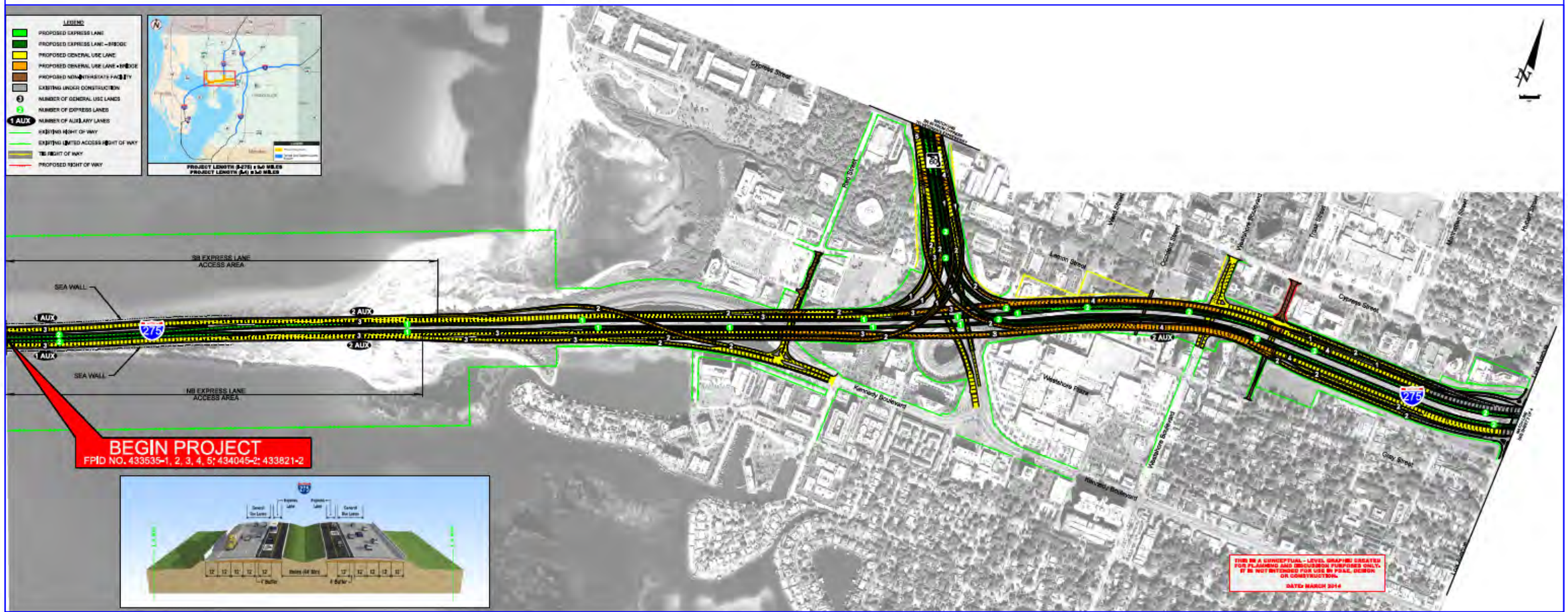
OPENING YEAR 2020 AND INTERIM YEAR 2030 PROPOSED GEOMETRY

SHEET NO. 4

$USER$ $DATE$ $TIME$ $FILE$

APPENDIX B-2

Master Plan Network Geometry(Analysis Year 2040)



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
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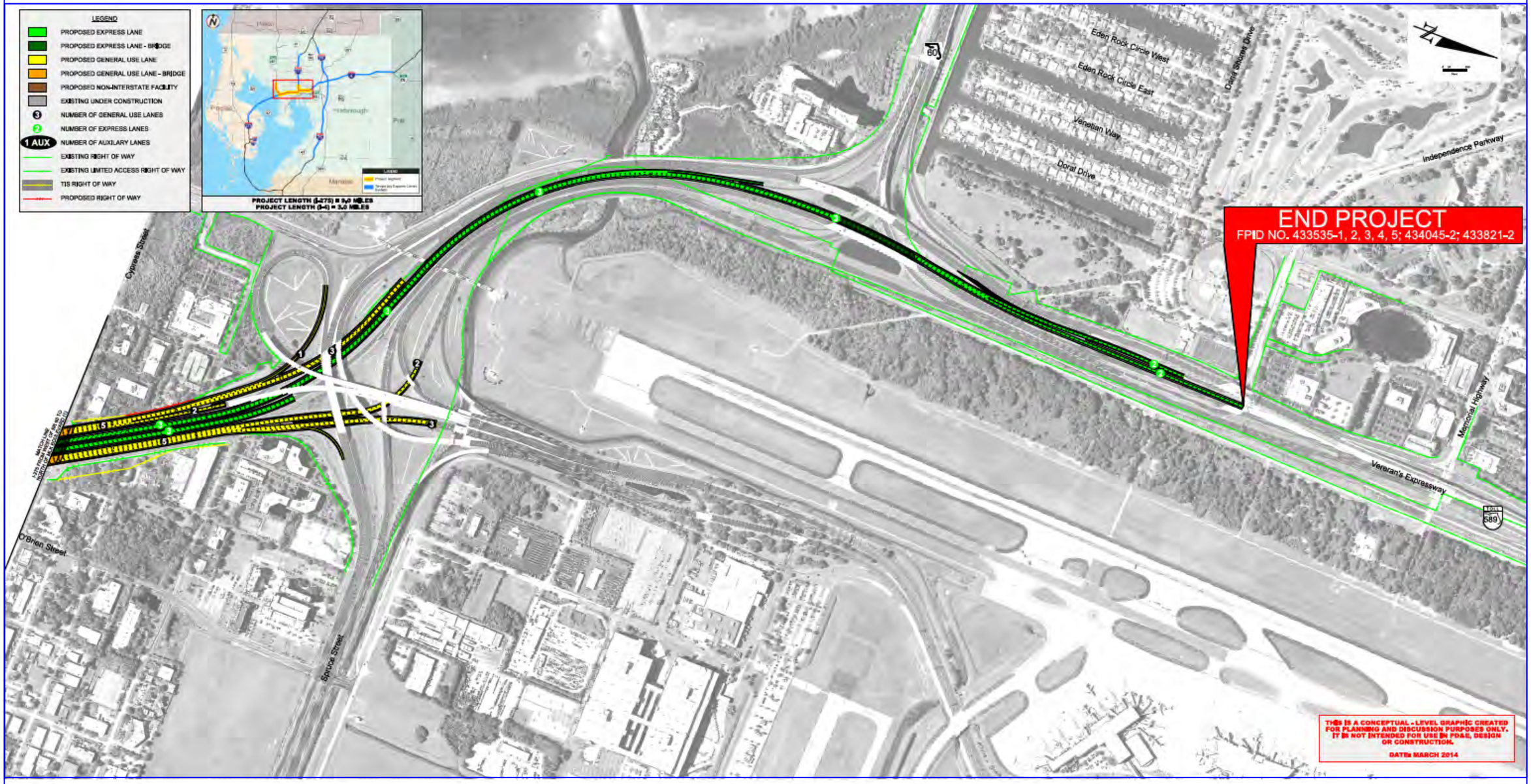
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

$USERS $DATES $TIMES $FILES

DESIGN YEAR 2040 PROPOSED GEOMETRY

SHEET NO. 1



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
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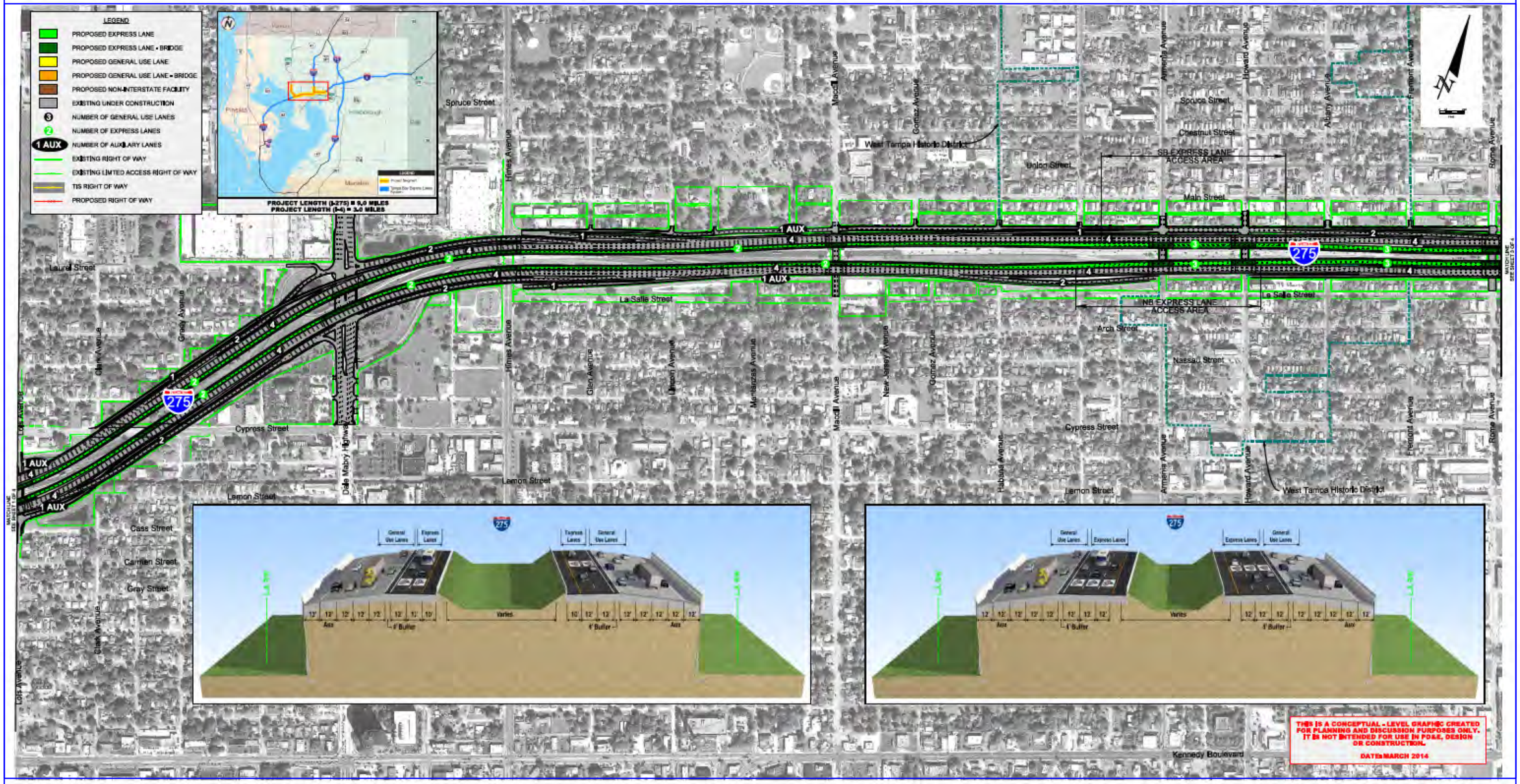
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

$USERS $DATES $TIMES $FILES

DESIGN YEAR 2040 PROPOSED GEOMETRY

SHEET NO. 2



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

$USERS $DATES $TIMES $FILES

DESIGN YEAR 2040 PROPOSED GEOMETRY

SHEET NO. 3

LEGEND

- PROPOSED EXPRESS LANE
- PROPOSED EXPRESS LANE - BRIDGE
- PROPOSED GENERAL USE LANE
- PROPOSED GENERAL USE LANE - BRIDGE
- PROPOSED NON-INTERSTATE FACILITY
- EXISTING UNDER CONSTRUCTION
- 3 NUMBER OF GENERAL USE LANES
- 2 NUMBER OF EXPRESS LANES
- 1 AUX NUMBER OF AUXILARY LANES
- EXISTING RIGHT OF WAY
- EXISTING LIMITED ACCESS RIGHT OF WAY
- TIS RIGHT OF WAY
- PROPOSED RIGHT OF WAY

PROJECT LENGTH (I-275) = 9.0 MILES
PROJECT LENGTH (I-4) = 3.0 MILES

BEGIN PROJECT
FPID NO. 431821-2

THIS IS A CONCEPTUAL - LEVEL GRAPHIC CREATED FOR PLANNING AND DISCUSSION PURPOSES ONLY. IT IS NOT INTENDED FOR USE IN POLE, DESIGN OR CONSTRUCTION.
DATE: MARCH 2014

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

URS Corporation Southern
7650 West Courtney
Campbell Causeway
Tampa, FL 33607-1462
C.A. No. 00000002

DESIGN YEAR 2040
PROPOSED GEOMETRY

SHEET NO.
4

$USERS $DATES $TIMES $FILES

APPENDIX B-3

Refined Concept

FDOT

I-275 at SR 60 (CONCEPT 1)

APPENDIX C

Tampa Bay Express Master Plan Traffic Forecasts

List of Improvements/Updates from TBRPM Daily Model to TBRPM TOD Model	
1	Define time periods: AM Peak: 6:30AM - 9:00AM Mid-day: 9:00 AM - 3:30PM PM Peak: 3:30 PM - 6:30 PM Evening: 6:30 PM - 6:30 AM
2	Generate Time-of-day factors from the 2000/2007 household survey: a) Peak splitting factors by trip purpose b) AM/PM or MD/EV splitting factors by purpose (HBW, HBNW and NHB) c) PA splitting factors by purpose (HBW, HBNW)
3	For 0 car households: a) Separate 0 car trip generation b) Trip distribution based on highway skims c) Mode choice input tables were divided into 0 car, 1 car, and 2+ car households
4	TAZ Splits in Westshore, USF and Bruce B Down; also in Pinellas and Pasco Counties; Applied Pasco County land use alternative.
5	Trip Distribution: a) Friction Factor calibration for peak and off peak periods b) AM peak trip distribution is based on congested skims from the pre-distribution and pre-assignment; Off peak trip distribution is based on free flow skims c) Feedback loops were applied to ensure the input speeds are consistent with output speeds
6	Employee survey results for major activity centers were applied to HBW person trip tables after Peak and Off peak distribution. The HBW trips were updated in zipcode level based on employee survey or CTPP for the following locations: a) Tampa CBD b) TIA c) University Community Hospital d) Busch Gardens e) Veterans Hospital f) Moffit Center g) USF h) MacDill Air Force Base i) Westshore Other trips were also updated: j) Airport Passenger Trips k) USF Student Trips
7	Transit network coding convention was re-defined and transit path building was calibrated based on FTA's requirement. Transit path was also modified based on mode choice requirement.
8	Mode Choice program was re-written and nested logit structure was modified to meet FTA's requirement; includes four time periods. Choice set concept was introduced from the Charlotte experience.
9	Four highway assignment modules were implemented in the HASSIGN step (4 periods). 24 hour assignment module is also available by combining the trips tables before the final assignment.
10	Examined capacity and speed inputs within the study area.
11	Update the EI and IE trips by TOD on Interstate facility external Stations

Development of Average Annual Daily Traffic (AADT) &
Directional Design Hourly Traffic Volumes (DDHVs) for the
Tampa Bay Express (TBX)
July 15, 2014

- **Background**

Over the past twelve months, FDOT District 7 Systems Planning Department has developed traffic forecasts for the Tampa Bay Express (TBX) system. The TBX plans include express lanes that are implementable and/or funded within the next five years (i.e. the Starter projects) and those ultimate express lane projects (i.e. the Master Plan project) for which funding or implementation will take place beyond a five-year horizon.

- **TBX Alternatives**

The three Tampa Bay Express (TBX) express lane alternatives are described below:

No-Build

The No-Build for the future design year consists of the existing geometry, on-going construction, and committed improvements. No express lanes are present in the No-Build network.

Starter Projects (Interim Improvement Projects)

The Starter Projects are projects that can be implemented in the next five years in coordination with the Florida Turnpike Enterprise (FTE) and with consideration given to those projects that are within the previously approved TIS Study limits of I-275 and I-4. Preliminary level Traffic & Revenue (T&R) analysis has been conducted by the FTE for each Starter Project.

PROPOSED EXPRESS LANES – STARTER PROJECTS

Interstate	From	To	Number of Express Lanes per Direction
I-275	118th Ave.	SR 60 (Memorial Hwy)	1
	SR 60 (Memorial Hwy)	East of Howard Ave.	2
	East of Howard Ave.	Willow Ave. with CD to North Blvd.	1
	North of Jefferson St/Orange Ave	North of Bearss Ave.	1
I-4	Crosstown Connector	East of Mango Rd.	1
I-75	North of SR 60 (Adamo Dr)	North of CR 581	1

Master Plan (Ultimate Managed Express Lane Improvements)

The Master Plan consists of managed express lanes for the ultimate managed express lanes projects. The Florida Turnpike Enterprise completed a preliminary T&R analysis for the Master Plan projects and is in the process of completing an update of the study. The system includes a new ramp (Willow Avenue/North Blvd) along I-275 just west of the I4/I275 Tampa Downtown

interchange) and ramp removals (Floribraska Ave. & Kay St in the vicinity of the I4/I275 Tampa Downtown interchange) as well as direct express-to-express lanes at the I-4/I-275 junction and the I-4/I-75 junctions.

PROPOSED EXPRESS LANES - MASTER PLAN PROJECTS

Interstate	From	To	Number of Express Lanes per direction
I-275	South of Gandy Blvd.	118th Ave.	1
	118th Ave.	Kennedy Blvd.	2
	Kennedy Blvd.	SR 60 (Memorial Hwy)	1
	SR 60 (Memorial Hwy)	Howard Ave.	2
	Howard Ave.	I-4/I-275 Junction.	3
	I-4/I-275 Junction	North of Bearss Ave.	2
I-4	I-4/I-275 Junction	Crosstown Connector	3
	Crosstown Connector	Polk Pkwy.	2
I-75	South of SR 674	North of CR 581	1

- **Existing Traffic Volumes**

The Annual Average Daily Traffic (AADT) and AM/PM peak hour volumes were obtained from the *FDOT Traffic Information DVD* counts and supplied by District Seven, adjacent Counties, and URS counts. Multi-day counts were averaged seasonally adjusted to represent typical weekday traffic conditions and balanced throughout the TBX Study area. Side streets connecting with the interstate ramps are based upon traffic counts balanced to the ramp volumes.

- **Future Traffic Volumes**

Traffic volumes for the Build alternatives were developed for opening, intermediate and design years of 2020, 2030, and 2040, respectively. The No-Build alternative volumes were developed for year 2040 conditions.

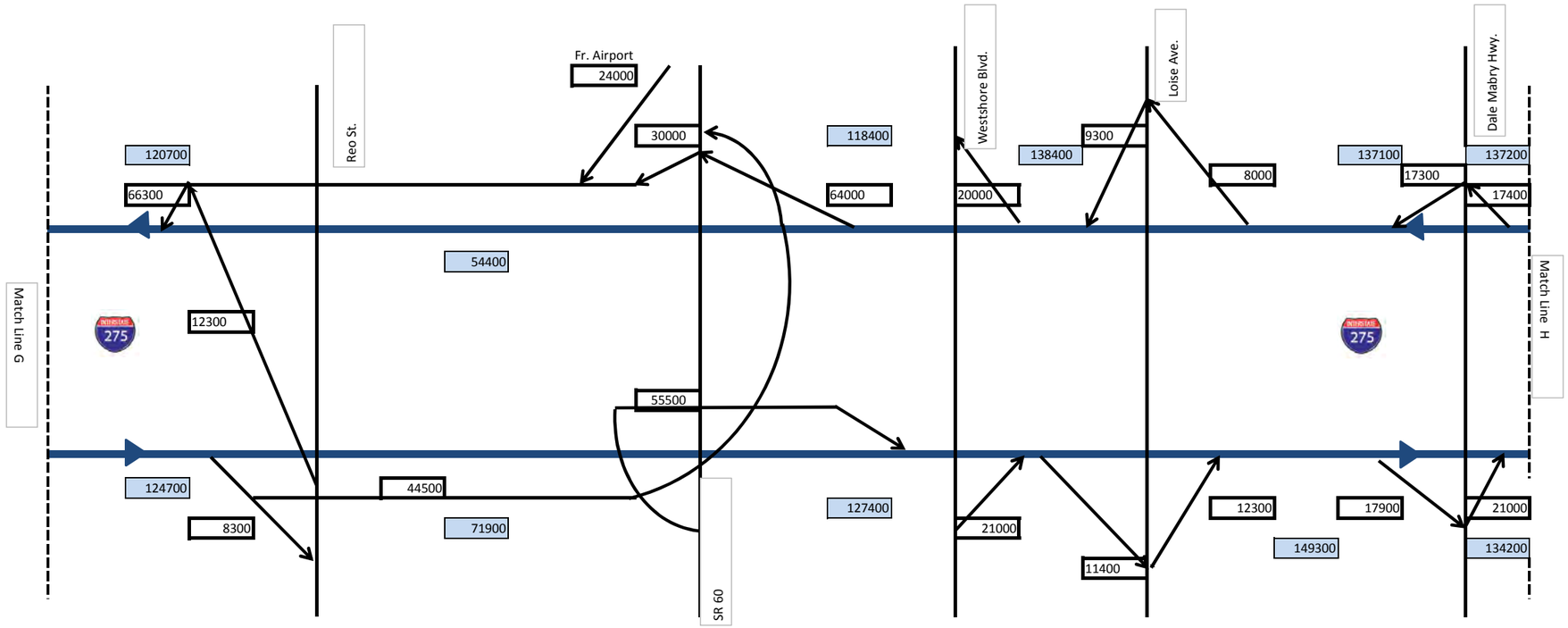
Key steps in developing the design years 2020, 2030, and 2040 volumes are described as follows:

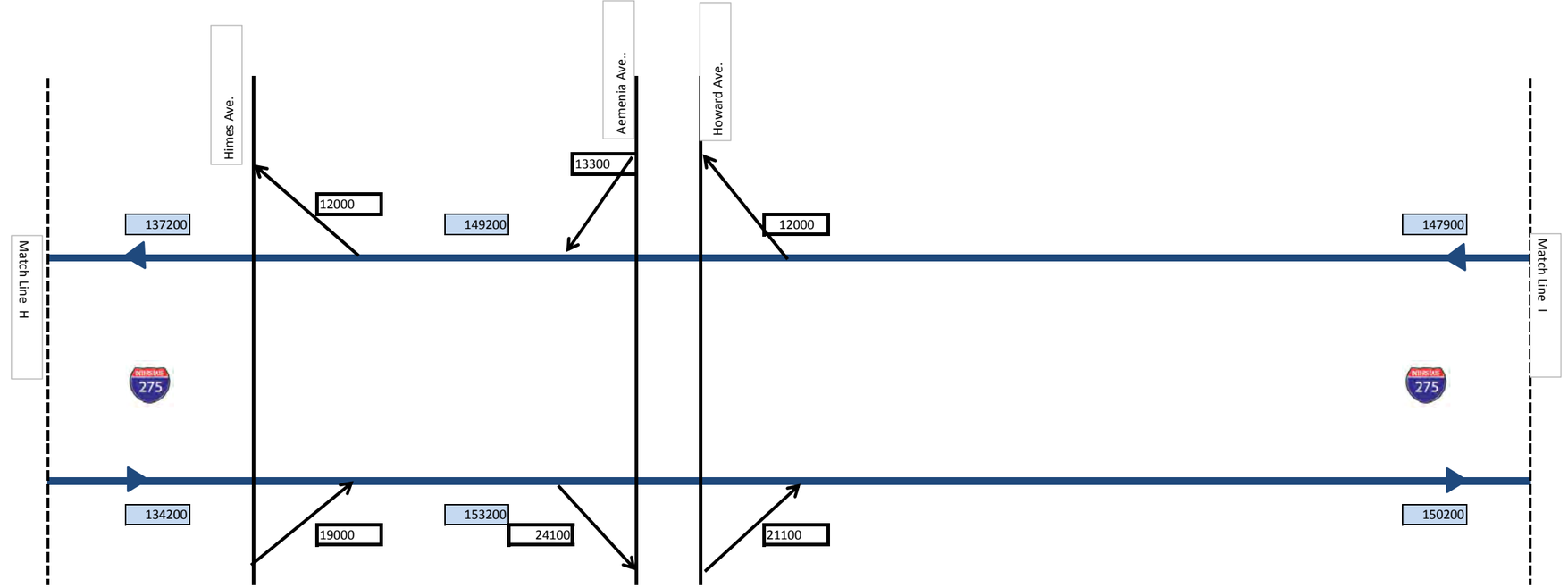
o The Tampa Bay Regional Planning Model (TBRPM-ML) Base Year model was calibrated and validated against the 2006 traffic counts by Time of Day, to ensure the Base Year model outputted volumes correctly represent the existing traffic, especially along the I-275, I-4 and I-75 corridors.

o The TBRPM-ML Time of Day Model for the No-Build Project, Starter Project, and Master Plan Project were used to obtain year 2035 volumes. Annual Average Daily Traffic (AADT) and AM/PM peak period volumes were obtained from the TBRPM-ML time of day model to develop future volumes. The TBRPM-ML peak period volumes were converted to peak hour volumes by applying diurnal factors (AM 0.41; PM 0.35). These diurnal factors are based upon the hourly traffic distribution occurring along I-4, I-75, and I-275 located within the TBX area.

- Future traffic for 2020, 2030 and 2040 was developed around five key subareas corresponding with the individual managed express lane project areas, as follows: I-275 Pinellas County, I-275 TIS study area, I-275 North of Martin Luther King Jr. Blvd, I-4, and I-75. The annual growth rates were calculated by comparing existing AADTs from the *FDOT Traffic DVD* and the year 2035 AADTs from the TBRPM-ML travel demand model.

- A complete reasonableness check was conducted to ensure that the future projected traffic volumes reasonable progression between each of the five PD&E project limits and at the beginning/end of the managed express lanes.
- A full set of AADT and DDHVs traffic volumes was completed in late June 2014 and it includes AADTS and DDHVs for the entire TBX system, which includes a total of seventy (70) interchanges
- Upcoming tasks include the evaluation of future traffic conditions under individual PD&E traffic studies encompassing the TBX system and the SIMR study for I-275 between the Howard Frankland Bridge and the Hillsborough River.





LEGEND

AADT

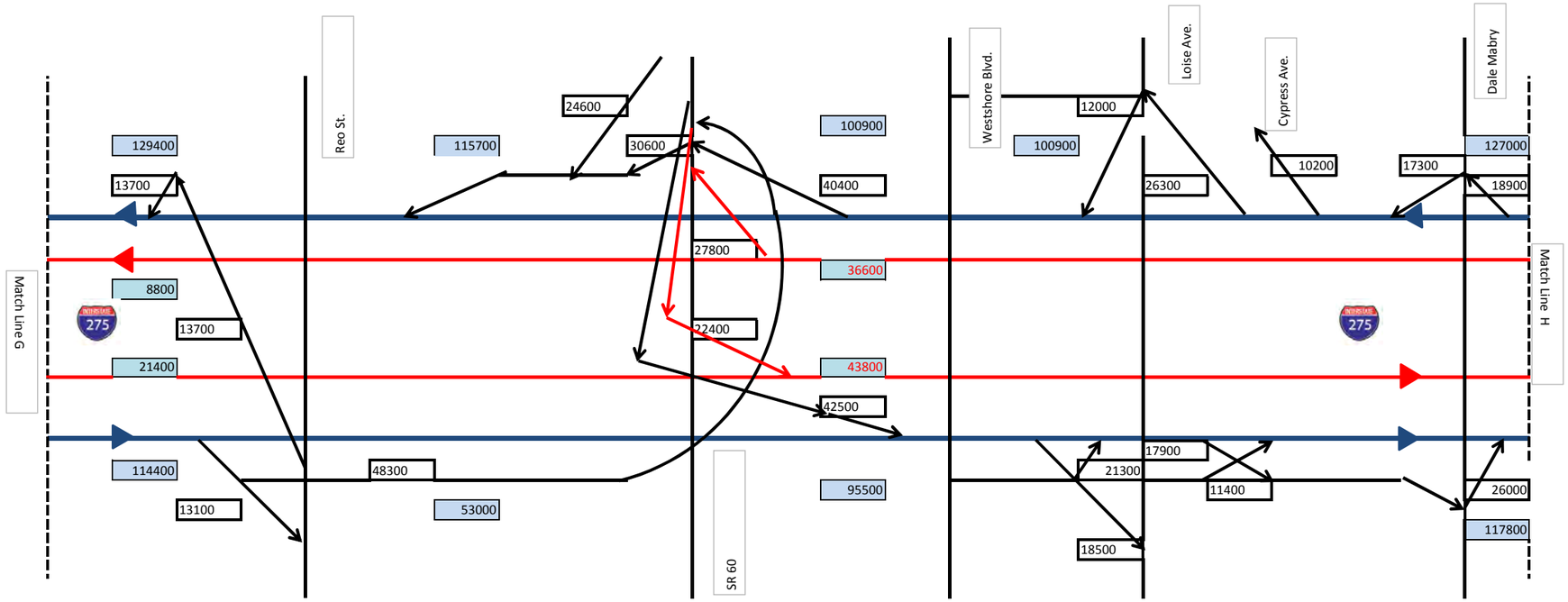
Calculated Balanced Mainline Volume

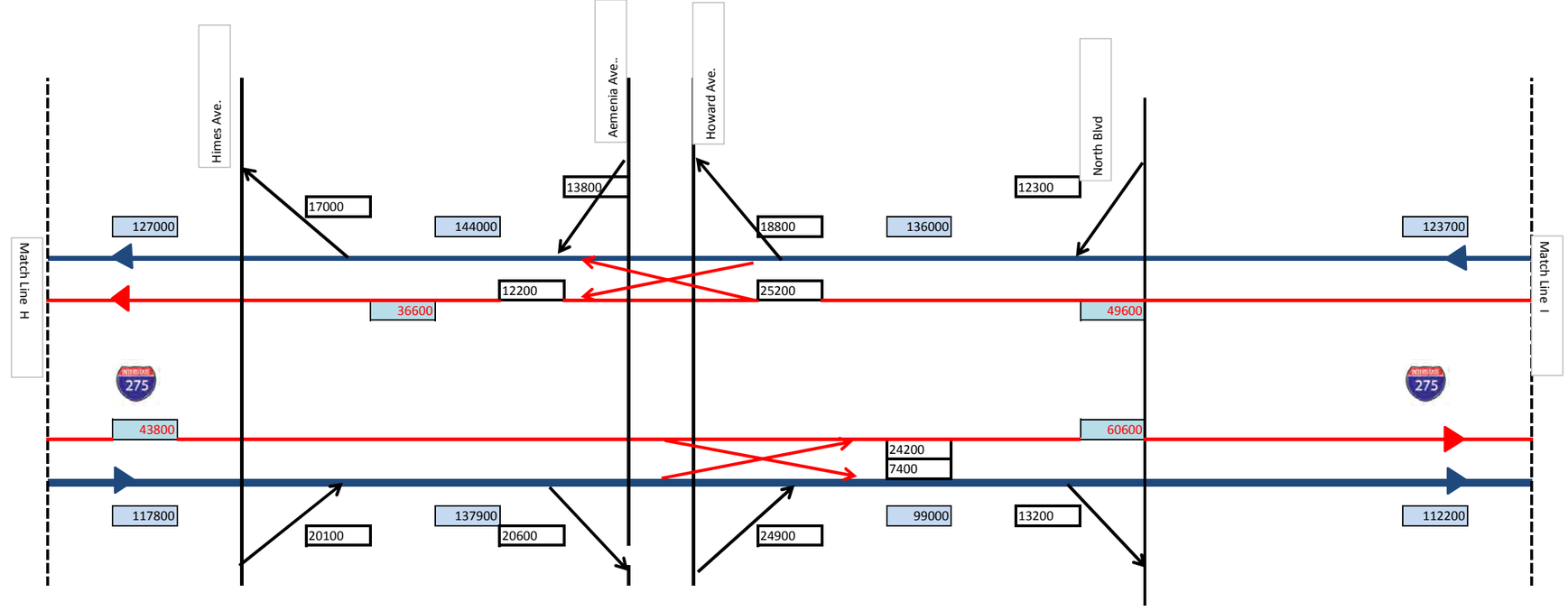
I-275 from south of SR 60 to North Blvd.

2040 No-Build

Sheet 5

Not To Scale





LEGEND

AADT

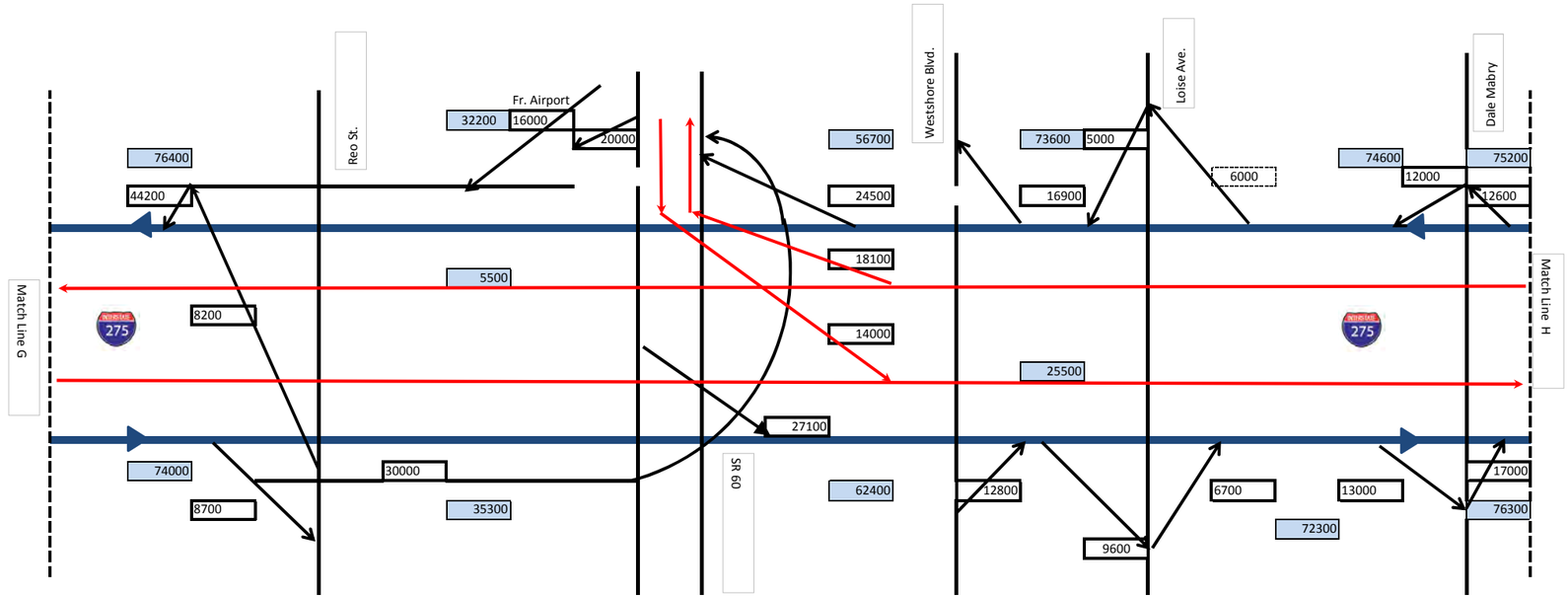
Calculated Balanced Mainline Volume

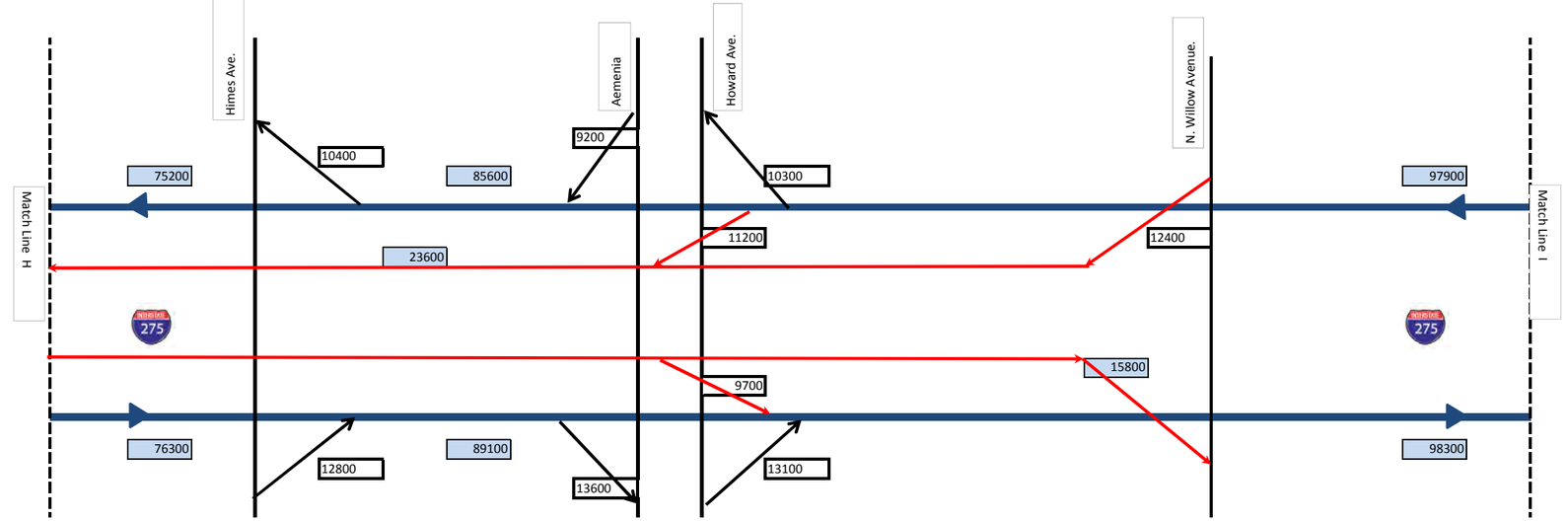
I-275 from south of SR 60 to North Blvd.

Year 2040 Master Plan

Sheet 5

Not To Scale





LEGEND

AADT

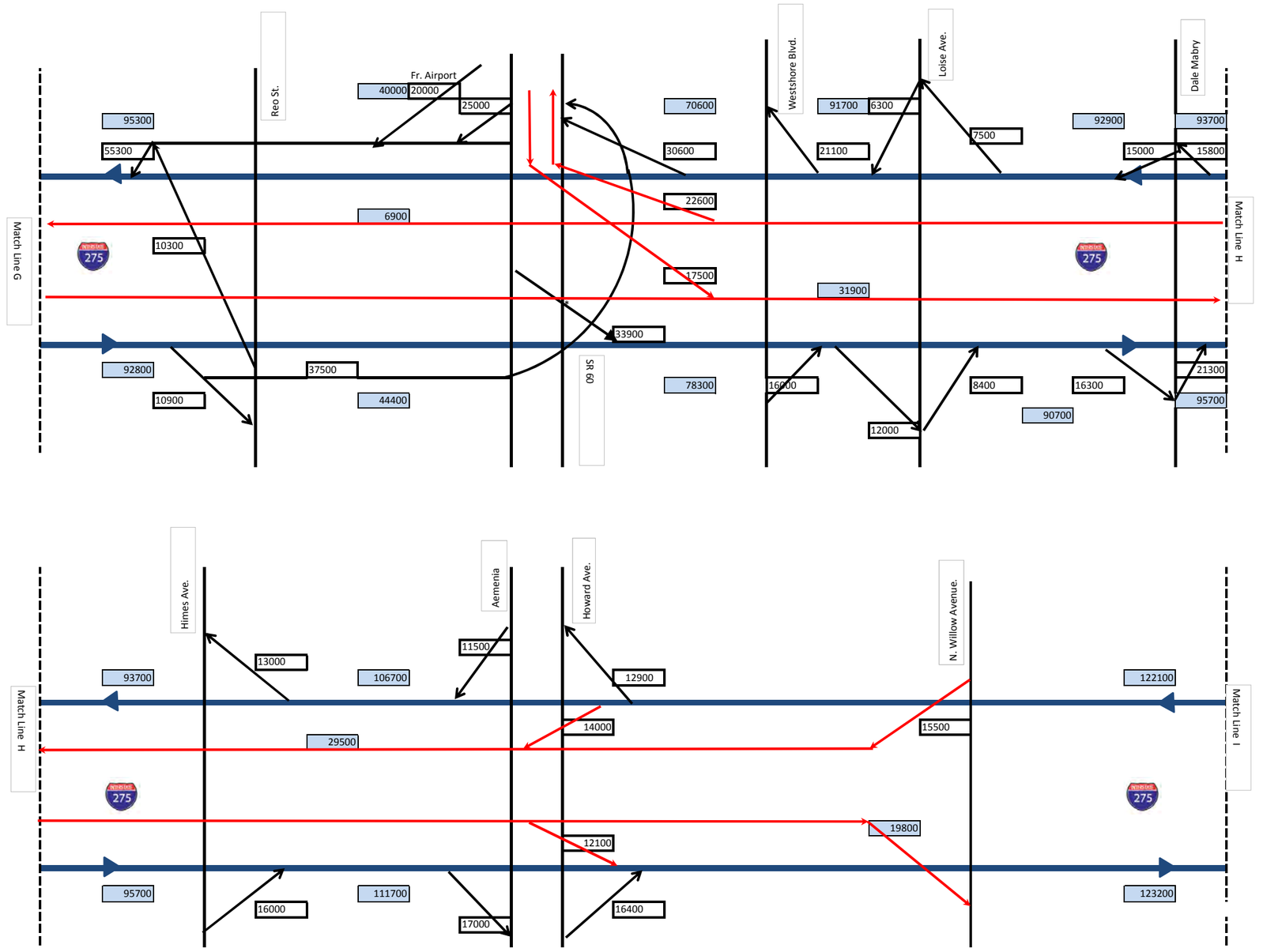
Calculated Balanced Mainline Volume

I-275 from south of SR 60 to North Blvd.

2020 Starter Projects

Sheet 5

Not To Scale



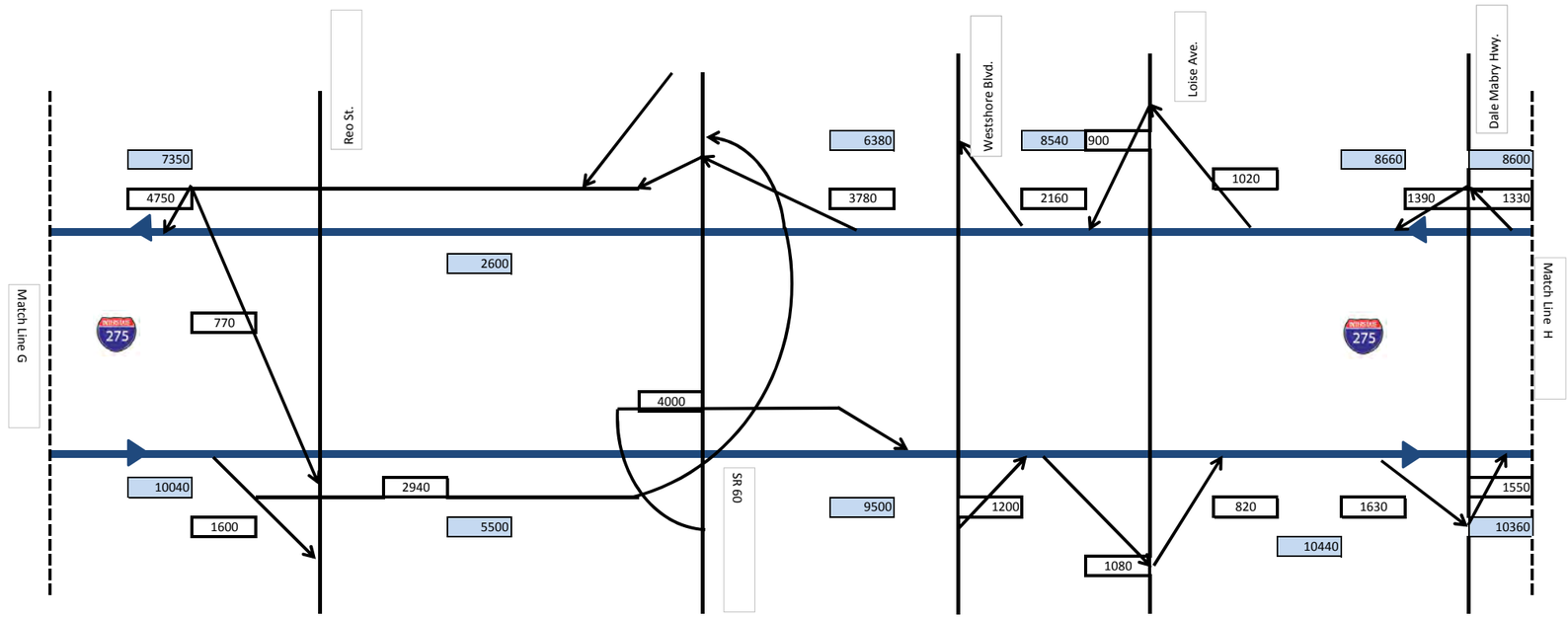
LEGEND

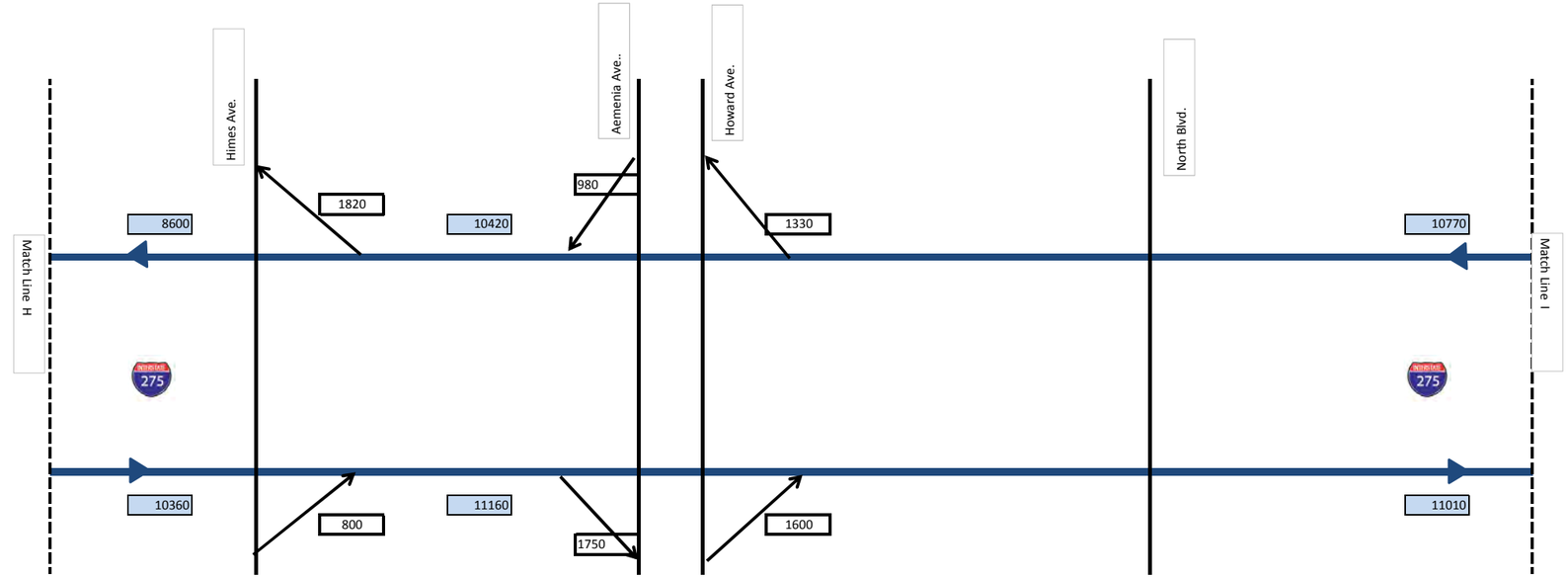
AADT	Calculated Balanced Mainline Volume	**I-275 from south of SR 60 to North Blvd.**

2030 Starter Projects

Sheet 5

Not To Scale





LEGEND

Input Data

DDHV

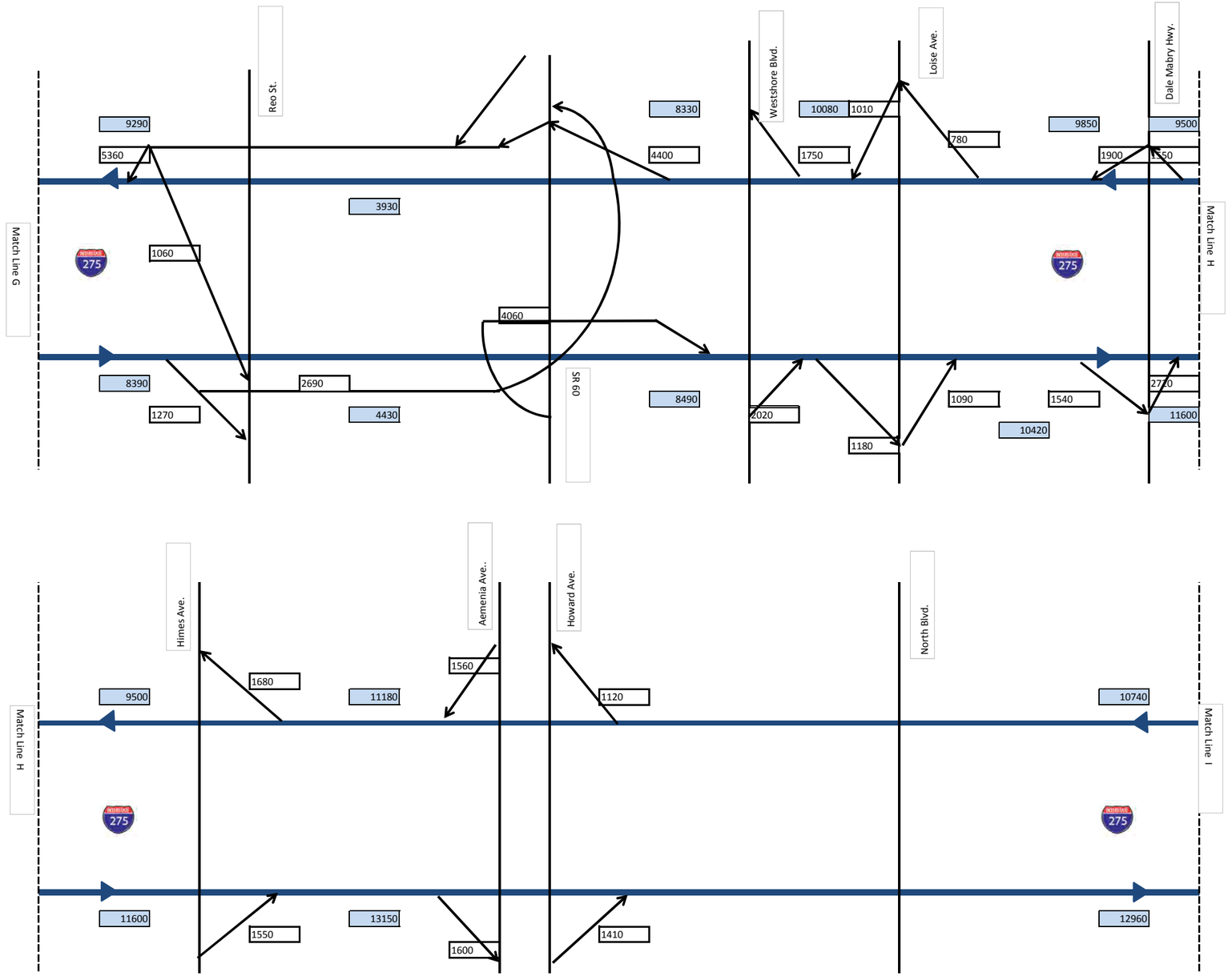
Calculated Balanced Mainline Volume

I-275 from south of SR 60 to North Blvd.

No Build 2040 AM Peak Hour

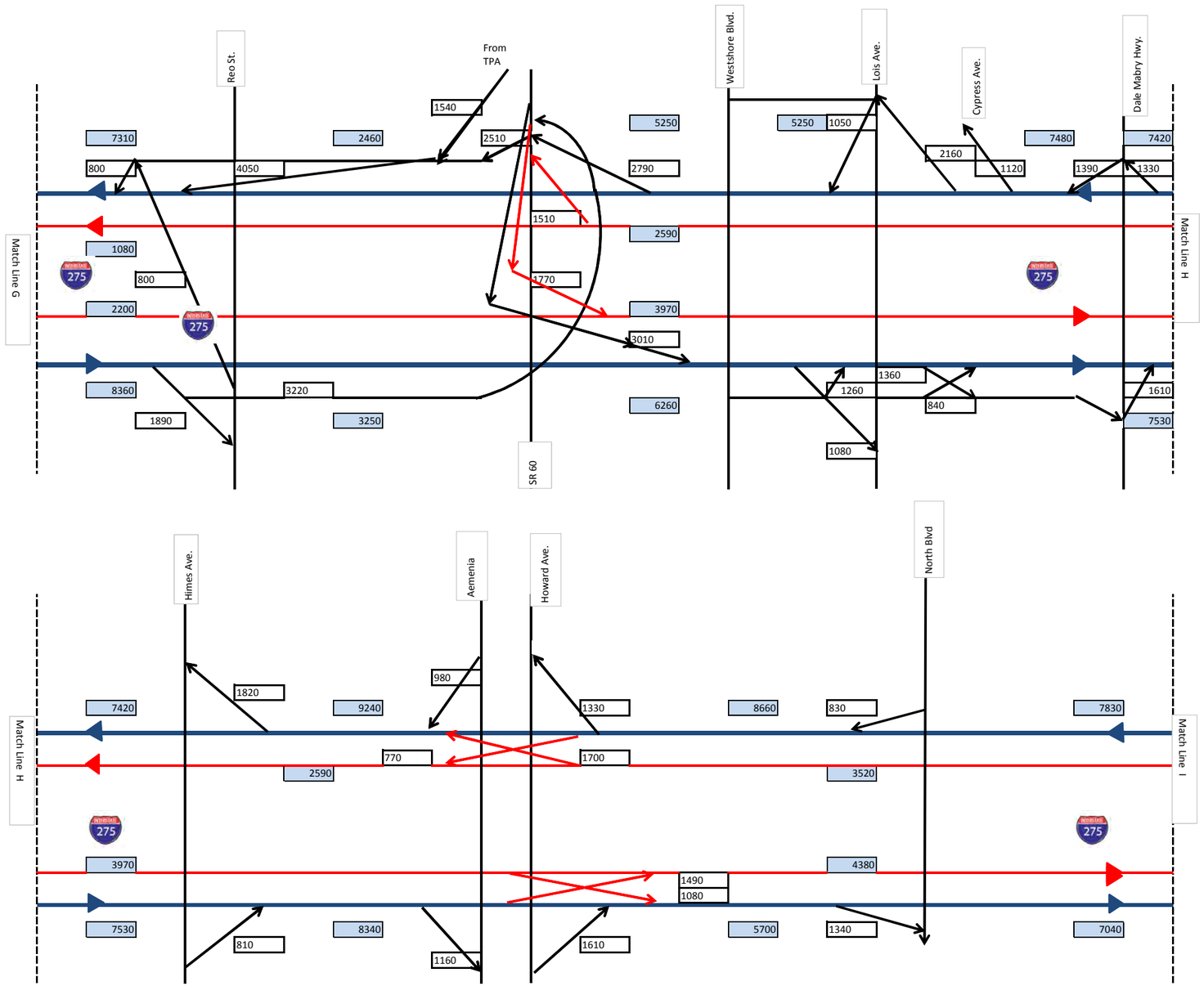
Sheet 5

Not To Scale



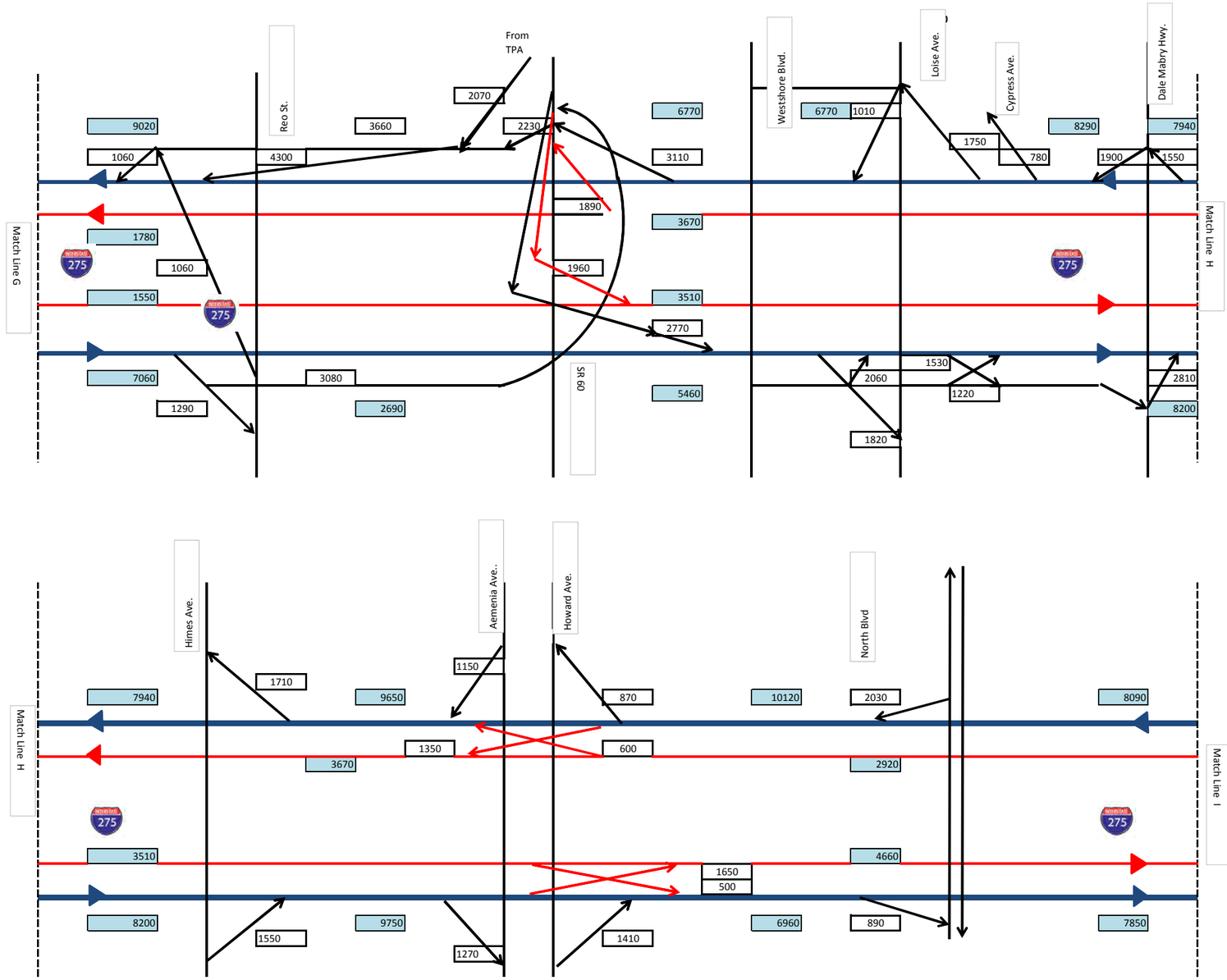
LEGEND

Input Data			
DDHV	Calculated Balanced Mainline Volume	**I-275 from south of SR 60 to North Blvd.**	**No Build 2040 PM Peak Hour**
			Sheet 5
			Not To Scale



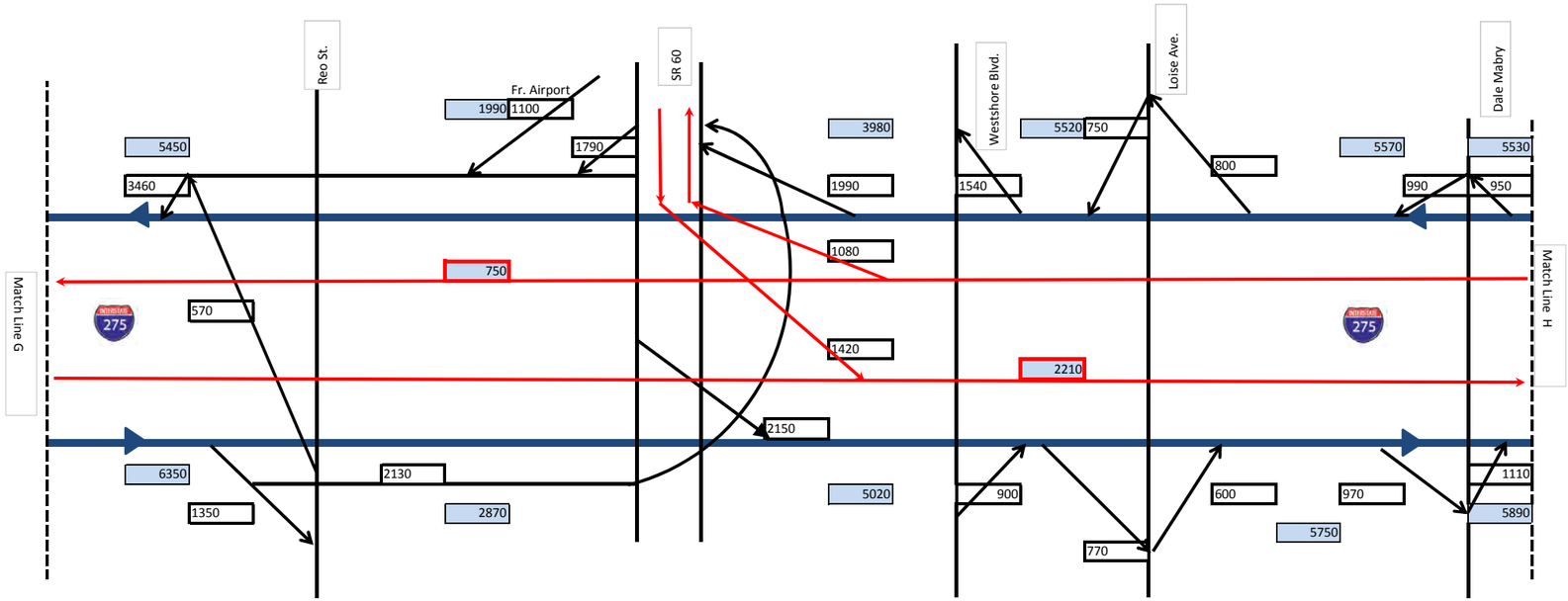
LEGEND

DDHV **Calculated Data** Cal. Balanced Mainline Vol	**I-275 from south of SR 60 to North Blvd.**	**2040 AM Peak Hour Master Plan** **Sheet 5** *Not To Scale*



LEGEND

Calculated Data DDHV Cal. Balanced Mainline Vol	**I-275 from south of SR 60 to North Blvd.**	**2040 PM Peak Hour Master Plan** **Sheet 5** *Not To Scale*



LEGEND

DDHV

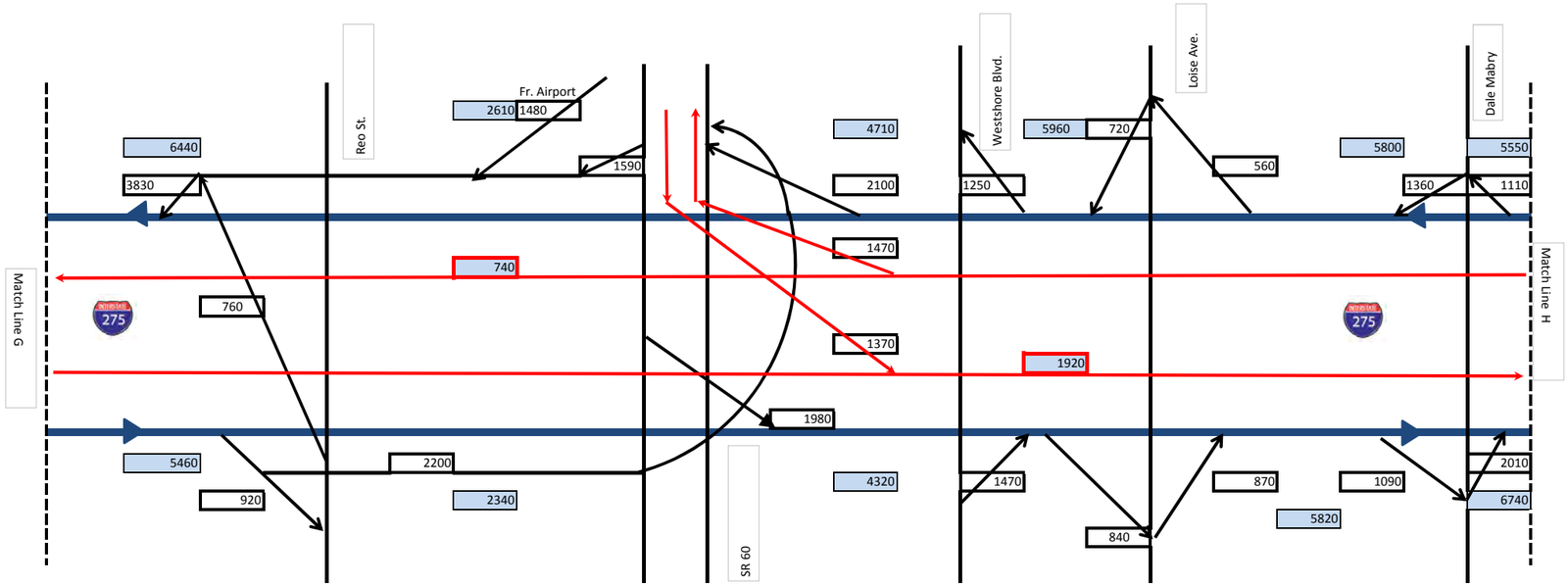
Calculated Balanced Mainline Volume

I-275 from south of SR 60 to North Blvd.

2020 AM Peak Hour Starter Projects

Sheet 5

Not To Scale



LEGEND

DDHV

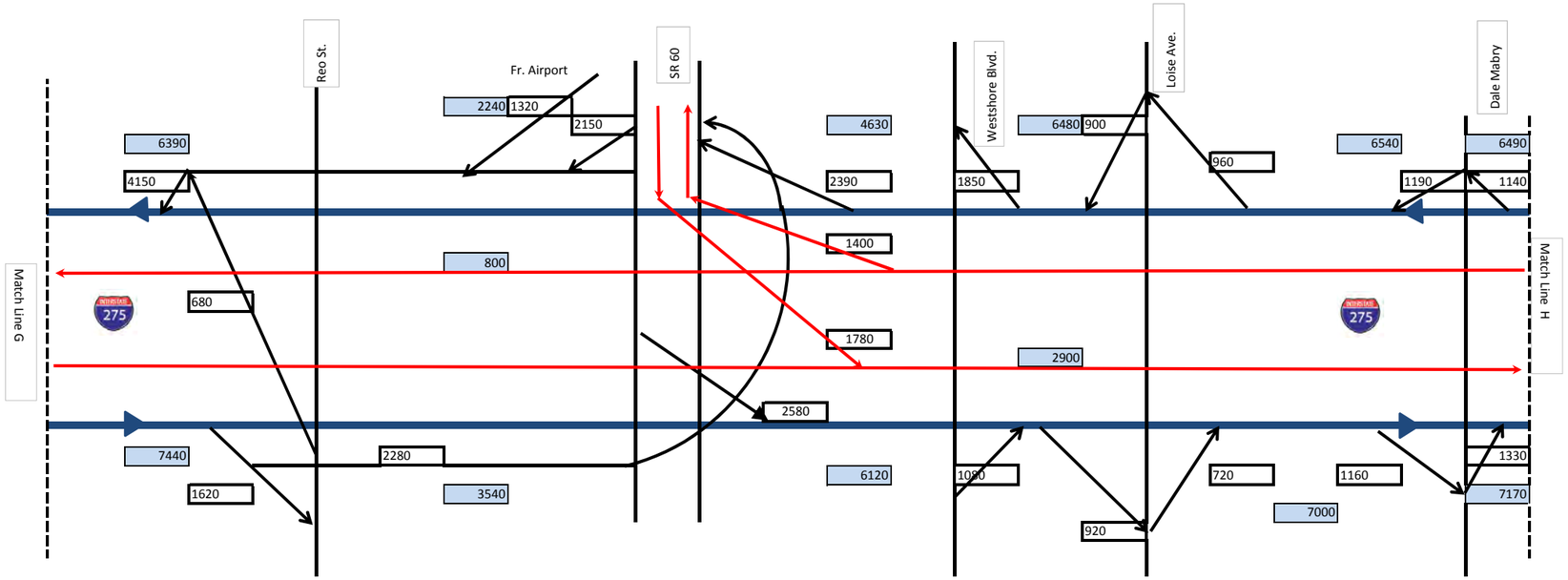
Calculated Balanced Mainline Volume

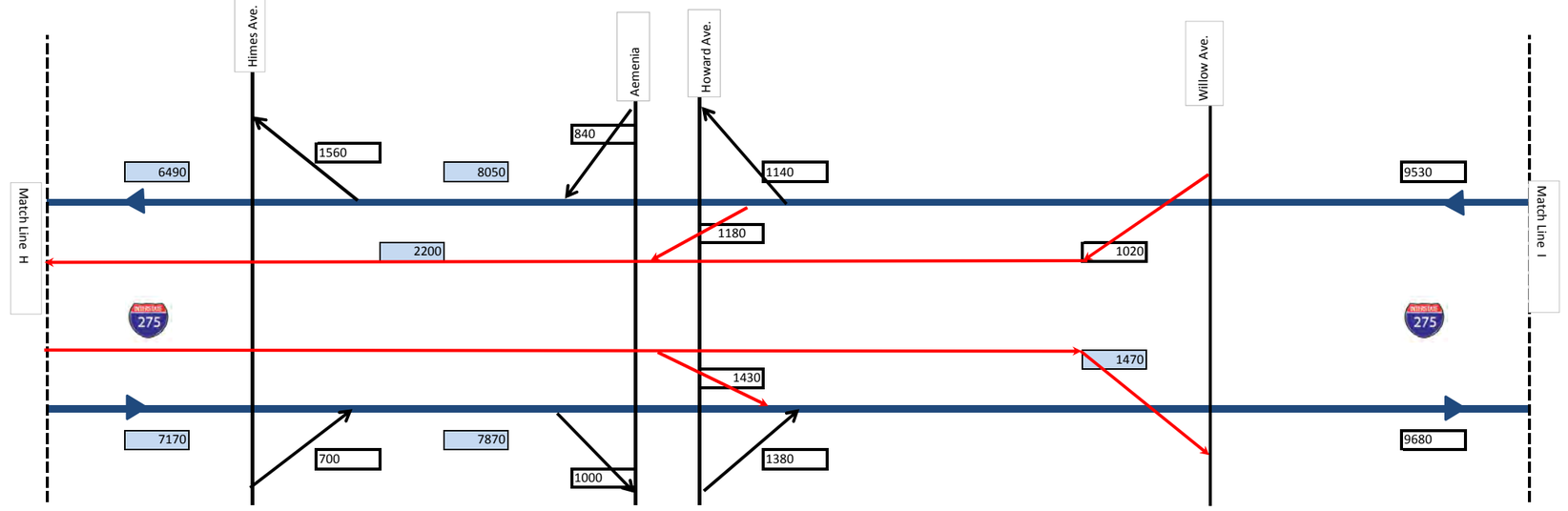
I-275 from south of SR 60 to North Blvd.

2020 PM Peak Hour Starter Projects

Sheet 5

Not To Scale





LEGEND

DDHV

Calculated Balanced Mainline Volume

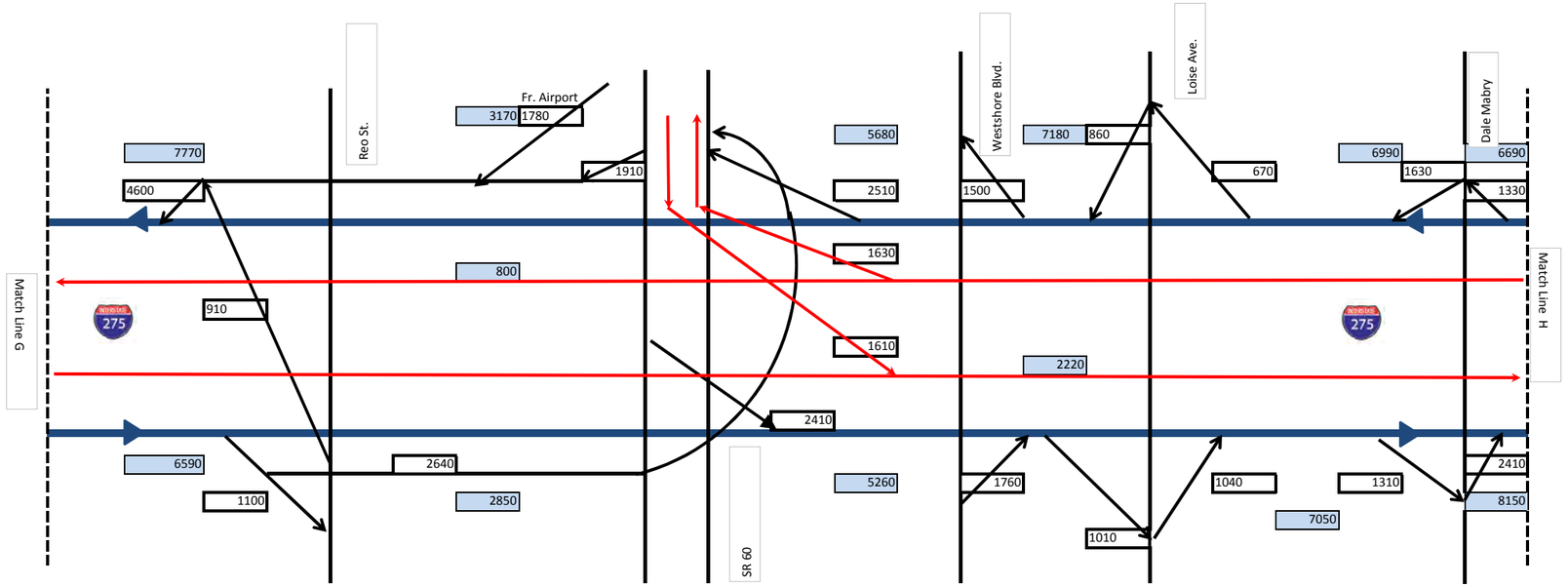
I-275 from south of SR 60 to North Blvd.

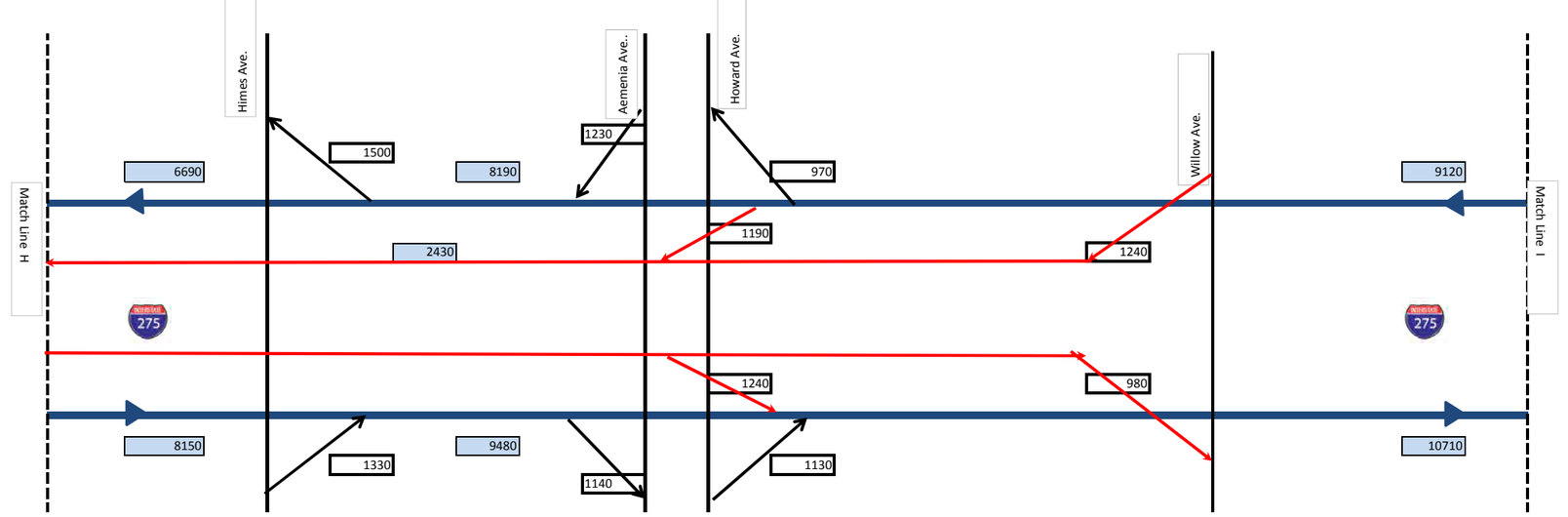
2030 AM Peak Hour Starter Projects

Sheet 5

Not To Scale

Date: July 22, 2014





LEGEND

DDHV

Calculated Balanced Mainline Volume

I-275 from south of SR 60 to North Blvd.

2030 PM Peak Hour Starter Projects

Sheet 5

Not To Scale

APPENDIX D

MLOU Review Comments and Responses
MLOU Review Meeting Minutes

Submittals Reviewed	I-75 from HFB to Hillsborough River SIMR	FAP#	-
Reviewer	Phillip Bello & Kris Milster	FPID	258355-1-32-05
Date Document Received	8/14/2014	Contract #	-
Date Comments Submitted	8/21/2014		

No.	Location	Type (Crt., Enh. Edt. Cla.)	Comment	FDOT Response	FHWA Concurrence?
1	pg. 1-4	CRT	Based on App. B, there seems to be partial interchanges proposed. As a reminder, we would recommend spending a good deal of time justifying why partials (to/from Express Lanes and to/from GP Lanes) are needed. It is recommended that if the interim condition is the justification, a solid timeframe needs to be shown in the report.	Comment noted. Justification for partial interchanges will be provided in SIMR.	
2	pg. 1-5 / Sec. 1.2	CLA	First sentence: is this an operational improvement or capacity improvement?	Most of the modifications can be characterized as capacity improvement	
3	pg. 3-1	CLA	Will I-275/I-4 modifications be analyzed in this report?	No. The I-275/I-4 interchange improvements are outside the area of influence (AOI) for this SIMR.	
4	pg. 3-1	ENH	Please briefly summarize the adjustments to accommodate the fact that the traffic data is affected by the construction.	The adjustments are described in section 4.2 of the MLOU. The traffic count review and adjustment will include 1. Comparison to a traffic count at the same location dated prior to construction 2. Reasonableness check for traffic growth with a site outside the construction area. Please note that additional adjustments may be made on a case by case basis. All the adjustments to traffic counts will be documented in the SIMR.	
5	pg. 5-1 / Sec. 5.5	CRT	Please insert a TBRPM-ML structure diagram.	A TBRPM-ML structure diagram will be provided in the MLOU.	
6	pg. 6-2 / Sec. 6.2	EDT	Please insert the version of CORSIM and HCS. Please remove reference to DTA.	Versions of HCS and CORSIM will be specified and reference to DTA will be removed.	
7	pg. 6-2 / Sec. 6.3	EDT	Please remove the GEH statistic.	Reference to GEH statistic will be removed.	
8	pg. 7-1	CLA	Are there CMFs/CRFs for these types of analyses? Wherever these do not apply, we would recommend using engineering judgment and a data-driven safety method to address the safety components (e.g., weaving).	CMFs/CRFs will be used where applicable. For other improvements engineering judgment and data driven method will be considered as recommended.	
9	pg. 15-1	EDT	Please put Associate Division Administrator, instead of Program Operations Engineer.	Will do.	
10	page 1-1/1st paragraph	EDT	include the date FEIS' approval	FEIS approval date will be added.	
11	Page 1-1, last sentence	CLA	is this an operation or capacity improvement (see page 1-2 & 1-5)	Most of the modifications can be characterized as capacity improvement	
12	Page 1-3, 3rd paragraph	EDT	spell out TIS or is it define elsewhere in the document	TIS (Tampa Interstate Study) is spelled out in section 1.1, first paragraph (page 1-1).	
13	Page 1-2, 1st sentence	CLA	is the I-275/SR 60 SIMR part of the ROD?	The geometry contained in the 2001 SIMR was part of the TIS set of plans approved in 1997; however, the SIMR per se was completed in 2001 so the ROD precedes it.	
14	Page 1-3, second to the last bulletin, under 2012-2014	CRTS	There is safety concern pertaining to the separation of traffic utilizing delineator and stripping in lieu of barriers on a highway facility. Has this separation been identified and decision been documented?	The type of traffic separators has not been decided yet. It will be determined based FDOT Central Office guidance and coordination with FDOT District Seven.	

15	Page 1-6, section 1.5	ENH	in the submittal, please include schedule of production activities (Design, ROW, and Construction) consistent with the proposed funding and opening year.	Comment noted. A schedule of production activities (Design, ROW, and Construction) will be provided in the SIMR.	
16	Page 1-5, section 1.3	GNH	please provide both graph and written description, including mile post if applicable.	Milepost information will be added in Project Description and AOI sections.	
17	Page 1-5, Area of influence	ENH	please include graphs, showing locations.	A map showing the AOI will be included.	
18	Page 2-1, section 2.1	CRT	Existing traffic used in the project should be less than three years old; the turning movement counts (TMS's) and 72 hours classification counts should be collected according to guidelines in the Project Traffic Forecasting Handbook if applicable. • Traffic counts should be adjusted with appropriate seasonal and axle correction factors if applicable. • Travel Demand Forecast – include details of travel demand forecasting methodology (model to be used, validation/calibration efforts, historical trends analysis, growth rate development, development of future year project traffic, etc.) Appropriate data to compare with older and newer data.	Comment noted. This information regarding traffic counts and travel demand forecasting is provided in sections 4 and 5. Appendix C to the MLOU contains the TBX master plan traffic forecasts.	
19	Page 2-1, section 2.2 – Operation Analysis		in addition to your brief, consider analysis years of PD&E study, facility Master Plans and other plans. • Include details of operational analysis methodology (type of analysis, main line capacity analysis, ramp analysis, queuing analysis, weave analysis, signalized intersection analysis, arterial analysis, crash analysis, etc.)	The analysis years provided in section 2.2 are consistent with the PD&E study and the facility Master Plans. Details of the operational analysis are provided in section 6.	
20	Page 3-1, section 3.1	CRT	Please include the TMS alternative(s) if any, and if any alternative has been eliminated due to site conditions include a brief justification. • In addition, Queuing analysis should be done using traffic tools/software to show back up on mainline particularly if the intersection has failing level of service.	A TSM&O alternative is not being considered under this SIMR. The Queuing analysis is described in section 6.2.	
21	Page 7-1, section 7.0		Potential safety benefits should be discussed if the proposed improvements will contribute to a reduced number or severity of accidents. Also, discuss project's relationship regarding emergency service vehicles and hurricane response capacity if appropriate.	A brief discussion of safety benefits and relationship to emergency services will be provided in the SIMR.	
22	Page 9-1, section 9.0		A potential environmental impact summary considering all NEPA elements from fatal flaw perspective for each alternative should be considered.	Agreed. A summary of key environmental findings from the environmental reevaluation will be added to the SIMR when they become available to ensure there are no fatal flaws. Section 9-1 will be modified accordingly.	

I-275 SIMR MLOU MEETING MINUTES
AUGUST 13, 2014, 1:30PM
FDOT D7 Executive Conference Room

Attendee List:

David Winkle, FDOT
Richard Griffin, FDOT
Brian Shroyer, FDOT
Kevin Dunn, FDOT
Megan Arasteh, FDOT
Amy Neidringhaus, FDOT
Mary Sheets, FDOT
Martha Hodgson, FDOT
Naomie Alexis, FDOT
Menna Yassin, FDOT
Jeff Novotny, FDOT/American
Elaine Martino, FDOT/Martino Planning
Kris Milster, FHWA
Phillip Bello, FHWA
Domingo Noriega, URS
Ron Gregory, URS
Sri Meka, URS
Kevin Gu, URS
Matt Wey, HDR

Notes:

1. Waddah Farah (FDOT) provided an introduction and an overview of the proposed project. He stated that the project is funded for 2019 and the SIMR update needs to be completed as fast as possible.

2. Domingo Noriega (URS) explained that traffic counts conducted in the study area will be compared with counts from pre-construction dates and manual adjustments will be made as needed for those locations where traffic now is not representative of normal conditions. He also explained that the Opening and Interim year analysis will use the Tampa Bay Express Starter projects, and the design year will use the Master Plan projects. Domingo then provided an overview of schedule and of the proposed alternatives.

3. Amy Neidringhaus (FDOT): A review meeting will be held to review the latest concept plans prepared by HW Lochner for the SR 60/I275 interchange. After this review meeting, decision will be made on geometric revisions to the alternatives contained in the MLOU.

4. Phillip Bello (FHWA) asked to study the impact of express lanes traffic in the area around Willow Avenue. The MLOU will be revised to specifically address this concern.

5. Kris Milster (FHWA) requested the model structure that shows pricing application to determine the mode choice/ split. Elaine Martino will follow up and provide requested references for inclusion in the SIMR .

6. Srinivas Meka(URS) described the CORSIM existing conditions calibration methodology. This will be done according to the FHWA Traffic Analysis Toolbox guidelines. However the model will be calibrated to preconstruction conditions to represent normal traffic operations.

7. Kris Milster requested that the analysis shows representative peak periods, not just average day.

8. Waddah discussed how the connection to local streets (ramp terminals) make the network fail even if the v/c ratio is adequate on freeway and ramps.

9. Phillip Bello asked Amy to coordinate with Waddah's team to make sure the SIMR update results are consistent with reevaluations (note, meeting is planned for August 19)

10. Kevin Dunn (Traffic Ops) expressed concern about adequate signing for destinations such as downtown, TIA. He indicated Willow exit ought to be signed as Willow/N Boulevard and not as downtown. Coordination with the City may be needed regarding the branding of the West Bank as "Downtown". Kevin will provide URS a copy of the conceptual signing plan developed by HW Lochner for the I275/SR 60 interchange.

11. A discussion on the conceptual signing plan focused on the need to ensure that the proposed project can be properly signed. A disclaimer will be added to the plans stating that the final signage will be part of the design efforts.

12. FHWA wants continued coordination with City of Tampa, Hillsborough county and elected officials to keep them engaged.

13. Kris Milster requested that the reference to GEH statistic and dynamic traffic assignment be removed from the MLOU.

14. Jeff Novotny and Matt Wey commented that the same methodology statement template be used for rest of the managed lanes projects in Tampa Bay that are being conducted simultaneously with this project.

15. Phil Bello (FHWA) requested to specify the CORSIM and HCS versions to be used for this study in the MLOU

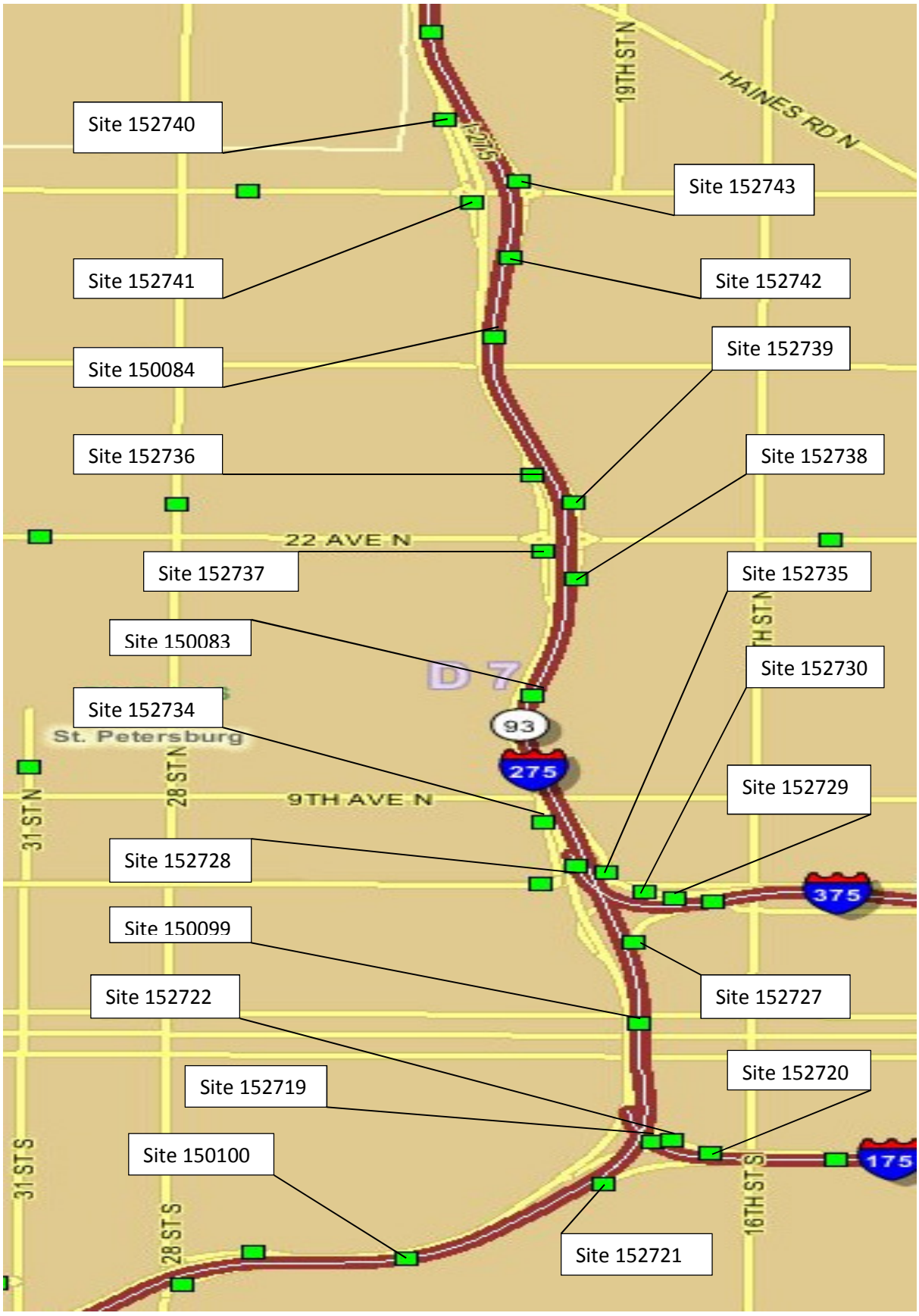
16. Waddah requested review comments on the MLOU no later than August 29th, 2014

Meeting adjourned at 3:30PM

Appendix C.
Historical Traffic Data

Appendix C.
Historical Traffic Data

Site 152715
Site 152716
Site 150102
Site 152712
Site 152714
Site 152713
Site 152710
Site 152711
Site 150104
Site 152707
Site 152706
Site 152709
Site 152708
Site 152774
Site 150100
Site 152718
Site 152717
28 ST S
275
93
55
19
31 ST S
34TH ST S
D 7
St. Petersburg
PINELLAS
FAIRWAY AVE S
I-275
54 AVE S
54TH AVE S
54TH AVE S
275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Site 152734
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Site 152728
Site 150099
Site 152727
Site 152722
Site 152720
Site 152719
Site 150100
Site 152721
19TH ST N
HAINES RD N
22 AVE N
9TH AVE N
St. Petersburg
31 ST N
28 ST N
31 ST S
28 ST S
16TH ST S
D7
93
275
375
175

Site 152751
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Site 152750
Site 152752
Site 152753
Site 152754
Site 150106
Site 152744
Site 152745
Site 152749
Site 152748
Site 152746
Site 152747
Site 150085
FRONTAGE RD N
694
28TH ST
GANDY BLVD
DR M L KING JR ST N
77 AVE N
I-275
16 ST N
AS
275
D 7
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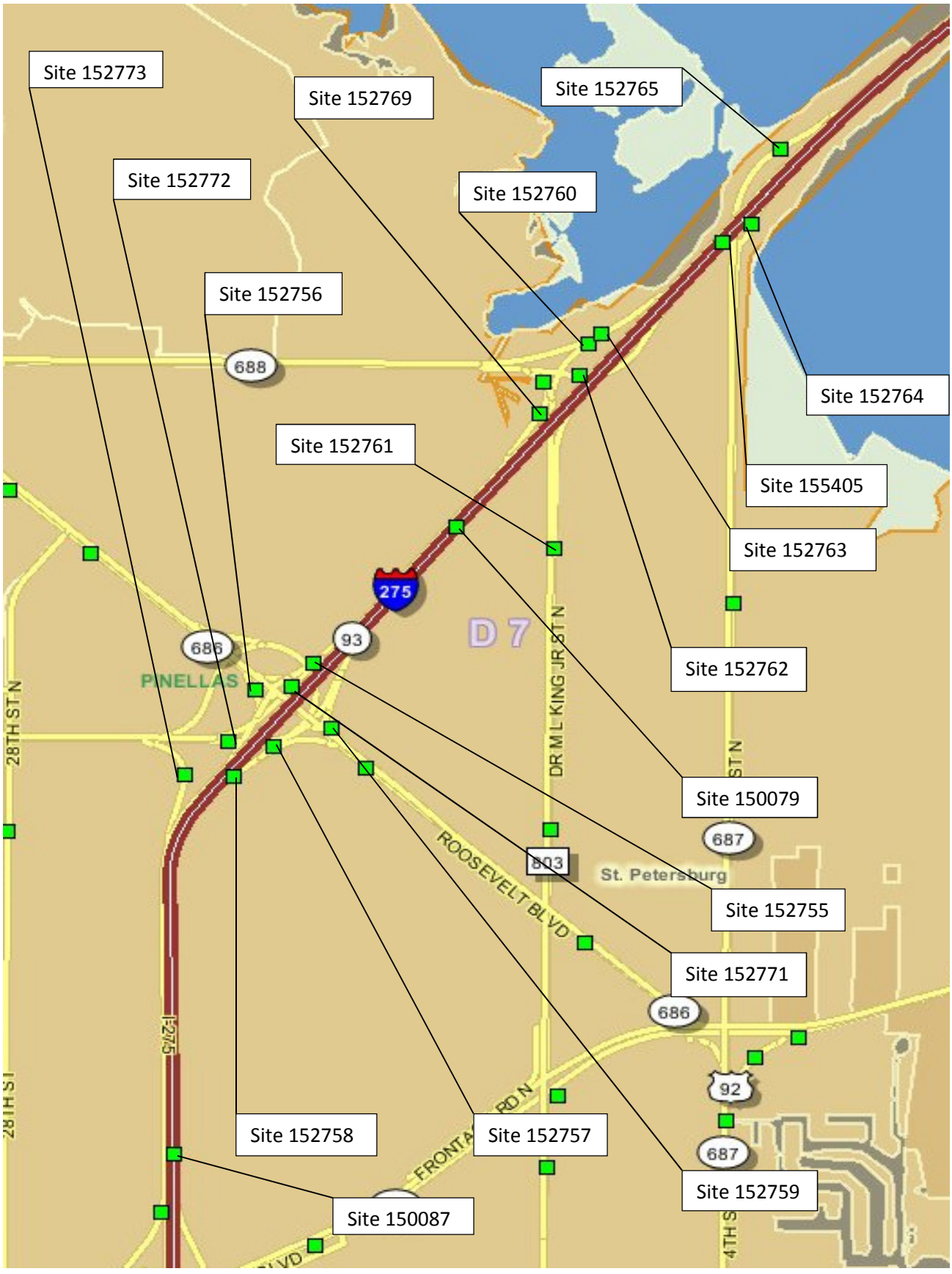
HAINES RD N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93
D 7
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PINELLAS
Site 152762
28TH ST N
DR M L KING JR ST N
Site 150079
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803
St. Petersburg
ROOSEVELT BLVD
Site 152755
Site 152771
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I-275
92
Site 152758
Site 152757
687
Site 152759
Site 150087

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0079 - SR 93/I-275, N OF SR 686/ROOSEVELT BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	97500 C	N 46500	S 51000	8.50	62.80	5.50
2012	99500 C	N 48000	S 51500	8.50	57.00	5.50
2011	91500 C	N 44000	S 47500	8.50	55.80	5.60
2010	88500 C	N 42500	S 46000	9.85	55.97	5.90
2009	90500 C	N 43500	S 47000	9.41	62.10	6.20
2008	87500 C	N 42000	S 45500	9.86	54.48	7.40
2007	85500 C	N 42000	S 43500	9.54	51.98	4.80
2006	101000 C	N 43000	S 58000	9.53	51.46	4.80
2005	102000 C	N 44000	S 58000	8.50	59.00	10.20
2003	81500 S	N 42000	S 39500	8.60	56.20	7.80
2002	70000 F	N 36000	S 34000	9.60	52.30	7.20
2001	65000 C	N 33500	S 31500	9.10	53.50	7.80
2000	68500 C	N 34500	S 34000	9.60	54.00	6.60
1999	57500 F	N 29500	S 28000	9.70	54.50	10.20
1998	57500 C	N 29500	S 28000	9.70	55.20	9.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0083 - SR 93/I-275, S OF 22ND AVE N/CR 690

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	149500 C	N 75500	S 74000	8.50	62.80	3.50
2012	148000 C	N 74500	S 73500	8.50	57.00	3.50
2011	148500 C	N 75000	S 73500	8.50	55.80	3.50
2010	137000 C	N 69500	S 67500	9.85	55.97	3.50
2009	149000 C	N 77000	S 72000	9.41	62.10	4.90
2008	150000 C	N 75500	S 74500	9.86	54.48	4.90
2006	146000 E	N 73000	S 73000	9.53	51.46	6.00
2005	142000 C	N 71000	S 71000	8.50	59.00	6.00
2004	137000 C	N 69000	S 68000	8.90	70.10	6.00
2003	114500 F	N 57500	S 57000	8.60	56.20	6.40
2002	98500 C	N 49500	S 49000	9.60	52.30	7.20
2001	77000 F	N 39000	S 38000	9.10	53.50	6.00
2000	77000 C	N 39000	S 38000	9.60	54.00	9.50
1999	86500 C	N 43000	S 43500	9.70	54.50	8.00
1998	108500 C	N 54000	S 54500	9.70	55.20	4.80

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TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0084 - SR 93/I-275, S OF 36TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	146000 C	N 72500	S 73500	8.50	62.80	3.00
2012	147000 C	N 74500	S 72500	8.50	57.00	3.00
2011	150500 C	N 76500	S 74000	8.50	55.80	3.00
2010	144000 C	N 72000	S 72000	9.85	55.97	4.50
2009	154000 C	N 78000	S 76000	9.41	62.10	4.80
2008	167500 C	N 85000	S 82500	9.86	54.48	4.50
2006	145000 E	N 71000	S 74000	9.53	51.46	5.70
2005	141500 F	N 69500	S 72000	8.50	59.00	5.70
2004	136500 C	N 67000	S 69500	8.90	70.10	5.70
2003	144000 C	N 71500	S 72500	8.60	56.20	6.00
2002	138000 C	N 70000	S 68000	9.60	52.30	4.80
2001	128500 C	N 66000	S 62500	9.10	53.50	6.30
2000	120500 C	N 65000	S 55500	9.60	54.00	8.90
1999	112000 C	N 60000	S 52000	9.70	54.50	6.90
1998	101000 C	N 50500	S 50500	9.70	55.20	6.60

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TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0085 - SR 93/I-275, SOUTH OF 42ND AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	147500 C	N 75500	S 72000	8.50	62.80	4.70
2012	152000 C	N 76500	S 75500	8.50	57.00	4.30
2011	149000 C	N 75500	S 73500	8.50	55.80	4.30
2010	151500 C	N 75500	S 76000	9.85	55.97	3.20
2009	157000 C	N 78500	S 78500	9.41	62.10	4.90
2008	149500 C	N 75500	S 74000	9.86	54.48	5.60
2006	162000 E	N 82000	S 80000	9.53	51.46	4.60
2005	158000 C	N 79500	S 78500	8.50	59.00	4.60
2004	139500 C	N 67500	S 72000	8.90	70.10	4.60
2003	168000 S	N 85000	S 83000	8.60	56.20	6.70
2002	144500 F	N 73000	S 71500	9.60	52.30	7.20
2001	134500 C	N 68000	S 66500	9.10	53.50	6.30
2000	116500 C	N 59500	S 57000	9.60	54.00	9.90
1999	116000 C	N 62000	S 54000	9.70	54.50	6.40
1998	110500 C	N 57500	S 53000	9.70	55.20	6.60

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TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0087 - SR 93/I-275, N OF SR 694/GANDY BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	127000 C	N 63500	S 63500	8.50	62.80	4.80
2012	119500 C	N 59500	S 60000	8.50	57.00	3.90
2011	123000 C	N 61500	S 61500	8.50	55.80	3.90
2010	113500 C	N 55000	S 58500	9.85	55.97	3.90
2009	123000 C	N 58500	S 64500	9.41	62.10	5.60
2008	135000 C	N 67000	S 68000	9.86	54.48	6.00
2007	115000 C	N 56500	S 58500	9.54	51.98	4.20
2006	118500 C	N 57500	S 61000	9.53	51.46	4.20
2005	125500 C	N 60000	S 65500	8.50	59.00	5.10
2004	119000 C	N 61000	S 58000	8.90	70.10	5.10
2003	90000 E	N	S	8.60	56.20	4.80
2002	85500 S	N 43500	S 42000	9.60	52.30	7.20
2001	79500 F	N 40500	S 39000	9.10	53.50	6.40
2000	79500 C	N 40500	S 39000	9.60	54.00	10.70
1999	81000 C	N 41000	S 40000	9.70	54.50	5.10
1998	95500 C	N 48000	S 47500	9.70	55.20	5.00

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*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0099 - SR 93/I-275, N OF CENTRAL AVE/CR 654

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	115500 C	N 56500	S 59000	8.50	62.80	4.60
2012	119000 C	N 58500	S 60500	8.50	57.00	4.60
2011	105500 C	N 53000	S 52500	8.50	55.80	4.20
2010	104000 C	N 53000	S 51000	9.85	55.97	4.40
2009	111000 C	N 56000	S 55000	9.41	62.10	5.10
2008	103500 C	N 52500	S 51000	9.86	54.48	5.50
2006	116000 E	N 56000	S 60000	9.53	51.46	6.30
2005	112000 C	N 54000	S 58000	8.50	59.00	6.30
2004	105500 C	N 53500	S 52000	8.90	70.10	6.30
2003	97500 C	N 49500	S 48000	8.60	56.20	6.50
2002	88000 C	N 44500	S 43500	9.60	52.30	6.80
2001	84500 S	N 44000	S 40500	9.10	53.50	6.40
2000	84500 F	N 44000	S 40500	9.60	54.00	9.70
1999	80500 C	N 42000	S 38500	9.70	54.50	16.90
1998	74000 C	N 39000	S 35000	9.70	55.20	6.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
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V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0100 - SR 93/I-275, W OF 22ND ST S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	94000 C	N 48000	S 46000	8.50	62.80	4.80
2012	96000 C	N 48000	S 48000	8.50	57.00	4.80
2011	94500 C	N 48000	S 46500	8.50	55.80	5.30
2010	91500 C	N 47000	S 44500	9.85	55.97	4.40
2009	94000 C	N 47500	S 46500	9.41	62.10	5.10
2008	91000 C	N 46500	S 44500	9.86	54.48	6.00
2007	96500 C	N 50500	S 46000	9.54	51.98	4.50
2006	99000 C	N 49500	S 49500	9.53	51.46	5.50
2005	91000 C	N 44500	S 46500	8.50	59.00	6.50
2004	97000 C	N 47000	S 50000	8.90	70.10	6.50
2003	89000 C	N 46000	S 43000	8.60	56.20	6.50
2002	90000 F	N 45000	S 45000	9.60	52.30	8.90
2001	84000 C	N 42000	S 42000	9.10	53.50	6.50
2000	70500 S	N 35000	S 35500	9.60	54.00	9.70
1999	67500 F	N 33500	S 34000	9.70	54.50	10.20
1998	67500 C	N 33500	S 34000	9.70	55.20	7.00

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0102 - SR 93/I-275, N OF 18TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	98000 C	N 50500	S 47500	8.50	62.80	4.60
2012	94500 C	N 48000	S 46500	8.50	57.00	4.60
2011	91000 E	N 46500	S 44500	8.50	55.80	5.40
2010	94000 C	N 48000	S 46000	9.85	55.97	5.50
2009	95000 C	N 49000	S 46000	9.41	62.10	5.50
2008	95500 C	N 49000	S 46500	9.86	54.48	5.00
2007	97500 C	N 49500	S 48000	9.54	51.98	5.00
2006	92500 C	N 46000	S 46500	9.53	51.46	4.50
2005	80000 C	N 40500	S 39500	8.50	59.00	10.20
2004	99000 C	N 48500	S 50500	8.90	70.10	5.80
2003	93000 C	N 46500	S 46500	8.60	56.20	6.40
2002	94500 C	N 49000	S 45500	9.60	52.30	7.20
2001	75500 C	N 38500	S 37000	9.10	53.50	6.40
2000	80500 F	N 39000	S 41500	9.60	54.00	9.70
1999	76500 C	N 37000	S 39500	9.70	54.50	10.90
1998	67000 C	N 33500	S 33500	9.70	55.20	6.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0104 - SR 93/I-275, N OF 38TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	88000 C	N 44500	S 43500	8.50	62.80	4.90
2012	82000 C	N 41000	S 41000	8.50	57.00	5.20
2011	82000 C	N 42000	S 40000	8.50	55.80	5.10
2010	86000 C	N 43500	S 42500	9.85	55.97	6.00
2009	84500 C	N 43000	S 41500	9.41	62.10	6.00
2008	87500 C	N 45500	S 42000	9.86	54.48	6.00
2007	75500 C	N 37500	S 38000	9.54	51.98	5.00
2006	80000 C	N 36500	S 43500	9.53	51.46	6.40
2005	91000 C	N 47000	S 44000	8.50	59.00	6.30
2004	78000 C	N 39500	S 38500	8.90	70.10	6.30
2003	78500 C	N 40000	S 38500	8.60	56.20	6.50
2002	77500 C	N 39500	S 38000	9.60	52.30	6.30
2001	58000 S	N 29500	S 28500	9.10	53.50	6.30
2000	58000 F	N 29500	S 28500	9.60	54.00	9.70
1999	55000 C	N 28000	S 27000	9.70	54.50	19.50
1998	56500 C	N 29000	S 27500	9.70	55.20	6.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
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2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 0106 - SR 93/I-275, S OF SR 694/GANDY BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	137500 C	N 69500	S 68000	8.50	62.80	4.60
2012	141000 C	N 71500	S 69500	8.50	57.00	6.50
2011	136500 C	N 68000	S 68500	8.50	55.80	6.50
2010	133000 C	N 66000	S 67000	9.85	55.97	6.50
2009	145000 C	N 71500	S 73500	9.41	62.10	5.30
2008	137500 C	N 68500	S 69000	9.86	54.48	5.90
2006	136000 E	N 68000	S 68000	9.53	51.46	5.40
2005	135500 C	N 67000	S 68500	8.50	59.00	5.50
2004	135000 C	N 67000	S 68000	8.90	70.10	5.50
2003	134000 C	N 67500	S 66500	8.60	56.20	6.30
2002	127500 F	N 63500	S 64000	9.60	52.30	7.20
2001	118500 C	N 59000	S 59500	9.10	53.50	5.70
2000	111000 F	N 57000	S 54000	9.60	54.00	9.70
1999	105500 C	N 54000	S 51500	9.70	54.50	7.40
1998	99500 C	N 49500	S 50000	9.70	55.20	6.20

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 5405 - SR 93/I-275, NORTH OF SR 688/ULMERTON RD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	135000 C	N 65500	S 69500	8.50	62.80	6.90
2012	114500 C	N 58000	S 56500	8.50	57.00	6.90
2011	129500 C	N 64500	S 65000	8.50	55.80	6.90
2010	126500 C	N 63000	S 63500	9.85	55.97	6.10
2009	130000 C	N 64500	S 65500	9.41	62.10	6.40
2008	143500 C	N 67000	S 76500	9.86	54.48	6.40
2007	90000 C	N 45000	S 45000	9.54	51.98	7.40
2006	117500 C	N 59500	S 58000	9.53	51.46	7.40
2005	135000 C	N 67000	S 68000	8.50	59.00	10.20
2004	122500 F	N 60000	S 62500	8.90	70.10	7.50
2003	117500 C	N 57500	S 60000	8.60	56.20	7.50
2002	120000 C	N 59500	S 60500	9.60	52.30	7.50
2001	101500 C	N 50500	S 51000	9.10	53.50	7.50
2000	106500 C	N 53000	S 53500	9.60	54.00	9.20
1999	88000 C	N 44500	S 43500	9.70	54.50	4.50
1998	97500 C	N 48500	S 49000	9.70	55.20	6.60

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2706 - RP, SB SR93/I-275 TO 34TH ST S & 54TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7800 F	0	0	9.00	99.90	4.60
2012	7800 C	S 7800	0	9.00	99.90	4.60
2011	7100 S	0	0	9.00	99.90	4.20
2010	7100 F	0	0	10.52	99.99	4.40
2009	7300 C	S 7300	0	10.53	99.99	5.10
2008	6700 C	S 6700	0	10.29	99.99	5.50
2007	6500 C	S 6500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2707 - RP, SB SR93/I-275 TO WB 54TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7400 F	0	0	9.00	99.90	4.60
2012	7400 C	W 7400	0	9.00	99.90	4.60
2011	7000 S	0	0	9.00	99.90	4.20
2010	7000 F	0	0	10.52	99.99	4.40
2009	7200 C	W 7200	0	10.53	99.99	5.10
2008	7000 C	W 7000	0	10.29	99.99	5.50
2007	8000 C	W 8000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2709 - RP, 34TH ST S & 54TH AVE S TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	8100 F	0	0	9.00	99.90	4.60
2012	8100 C	N 8100	0	9.00	99.90	4.60
2011	7700 S	0	0	9.00	99.90	4.20
2010	7700 F	0	0	10.52	99.99	4.40
2009	7900 C	N 7900	0	10.53	99.99	5.10
2008	7300 C	N 7300	0	10.29	99.99	5.50
2007	7400 C	N 7400	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2710 - RP, 26TH AVE S TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3400 F	0	0	9.00	99.90	4.60
2012	3400 C	S 3400	0	9.00	99.90	4.60
2011	3100 S	0	0	9.00	99.90	4.20
2010	3100 F	0	0	10.52	99.99	4.40
2009	3200 C	S 3200	0	10.53	99.99	5.10
2008	3200 C	S 3200	0	10.29	99.99	5.50
2007	2800 C	S 2800	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2711 - RP, NB SR93/I-275 TO 26TH AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3200 F	0	0	9.00	99.90	4.60
2012	3200 C	N 3200	0	9.00	99.90	4.60
2011	3300 S	0	0	9.00	99.90	4.20
2010	3300 F	0	0	10.52	99.99	4.40
2009	3400 C	N 3400	0	10.53	99.99	5.10
2008	3000 C	N 3000	0	10.29	99.99	5.50
2007	2600 C	N 2600	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2712 - RP, SB SR93/I-275 TO CR138/22ND AVE S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	9000 F	0	0	9.00	99.90	4.60
2012	9000 C	S 9000	0	9.00	99.90	4.60
2011	8900 S	0	0	9.00	99.90	4.20
2010	8900 F	0	0	10.52	99.99	4.40
2009	9200 C	S 9200	0	10.53	99.99	5.10
2008	8300 C	S 8300	0	10.29	99.99	5.50
2007	7500 C	S 7500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2713 - RP, EB CR138/22ND AVE S TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	6900 F	0	0	9.00	99.90	4.60
2012	6900 C	N 6900	0	9.00	99.90	4.60
2011	6500 S	0	0	9.00	99.90	4.20
2010	6500 F	0	0	10.52	99.99	4.40
2009	6700 C	N 6700	0	10.53	99.99	5.10
2008	6300 C	N 6300	0	10.29	99.99	5.50
2007	5700 C	N 5700	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2714 - RP, WB CR138/22ND AVE S TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	2900 F	0	0	9.00	99.90	4.60
2012	2900 C	N 2900	0	9.00	99.90	4.60
2011	2800 S	0	0	9.00	99.90	4.20
2010	2800 F	0	0	10.52	99.99	4.40
2009	2900 C	N 2900	0	10.53	99.99	5.10
2008	2800 C	N 2800	0	10.29	99.99	5.50
2007	2500 C	N 2500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2715 - RP, 31ST ST S TO SB SR93/I-275

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3600	F	0		0	9.00	99.90	4.60
2012	3600	C	S 3600		0	9.00	99.90	4.60
2011	3500	S	0		0	9.00	99.90	4.20
2010	3500	F	0		0	10.52	99.99	4.40
2009	3600	C	S 3600		0	10.53	99.99	5.10
2008	3400	C	S 3400		0	10.29	99.99	5.50
2007	3300	C	S 3300		0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2716 - RP, NB SR93/I-275 TO 31ST ST S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	4600 F	0	0	9.00	99.90	4.60
2012	4600 C	N 4600	0	9.00	99.90	4.60
2011	4300 S	0	0	9.00	99.90	4.20
2010	4300 F	0	0	10.52	99.99	4.40
2009	4400 C	N 4400	0	10.53	99.99	5.10
2008	4200 C	N 4200	0	10.29	99.99	5.50
2007	4400 C	N 4400	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2717 - RP, SB SR93/I-275 TO CR681/28TH ST S

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	4000 F	0	0	9.00	99.90	4.60
2012	4000 C	S 4000	0	9.00	99.90	4.60
2011	3600 S	0	0	9.00	99.90	4.20
2010	3600 F	0	0	10.52	99.99	4.40
2009	3700 C	S 3700	0	10.53	99.99	5.10
2008	3500 C	S 3500	0	10.29	99.99	5.50
2007	3800 C	S 3800	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2718 - RP, CR681/28TH ST S TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3700 F	0	0	9.00	99.90	4.60
2012	3700 C	N 3700	0	9.00	99.90	4.60
2011	3400 S	0	0	9.00	99.90	4.20
2010	3400 F	0	0	10.52	99.99	4.40
2009	3500 C	N 3500	0	10.53	99.99	5.10
2008	3400 C	N 3400	0	10.29	99.99	5.50
2007	3700 C	N 3700	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2719 - RAMP, SOUTHBOUND SR93/I-275 TO EASTBOUND SR 594/I-175

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	11500 F	0	0	9.00	99.90	4.60
2012	11500 C	E 11500	0	9.00	99.90	4.60
2011	12000 S	0	0	9.00	99.90	4.20
2010	12000 F	0	0	10.52	99.99	4.40
2009	12500 C	E 12500	0	10.53	99.99	5.10
2008	11500 C	E 11500	0	10.29	99.99	5.50
2007	10000 C	E 10000	0	10.31	56.79	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
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FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2720 - RAMP, WESTBOUND SR 594/I-175 TO SOUTHBOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	5300 F	0	0	9.00	99.90	4.60
2012	5300 C S	5300	0	9.00	99.90	4.60
2011	4800 S	0	0	9.00	99.90	4.20
2010	4800 F	0	0	10.52	99.99	4.40
2009	4900 C S	4900	0	10.53	99.99	5.10
2008	4600 C S	4600	0	10.29	99.99	5.50
2007	4600 C S	4600	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2721 - RAMP, NORTHBOUND SR 93/I-275 TO EASTBOUND SR 594/I-175

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	5200 F	0	0	9.00	99.90	4.60
2012	5200 C	E 5200	0	9.00	99.90	4.60
2011	5200 S	0	0	9.00	99.90	4.20
2010	5200 F	0	0	10.52	99.99	4.40
2009	5400 C	E 5400	0	10.53	99.99	5.10
2008	4800 C	E 4800	0	10.29	99.99	5.50
2007	5000 C	E 5000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2722 - RAMP, WESTBOUND SR 594/I-175 TO NORTHBOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	12000 F	0	0	9.00	99.90	4.60
2012	12000 C	N 12000	0	9.00	99.90	4.60
2011	11000 S	0	0	9.00	99.90	4.20
2010	11000 F	0	0	10.52	99.99	4.40
2009	11500 C	N 11500	0	10.53	99.99	5.10
2008	11500 C	N 11500	0	10.29	99.99	5.50
2007	10500 C	N 10500	0	10.31	56.79	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2727 - RAMP, NORTHBOUND SR 93/I-275 TO EASTBOUND SR 592/I-375

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3000 F	0	0	9.00	99.90	4.60
2012	3000 C	E 3000	0	9.00	99.90	4.60
2011	2900 S	0	0	9.00	99.90	4.20
2010	2900 F	0	0	10.52	99.99	4.40
2009	3000 C	E 3000	0	10.53	99.99	5.10
2008	2800 C	E 2800	0	10.29	99.99	5.50
2007	2600 C	E 2600	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2728 - RAMP, SOUTHBOUND SR93/I-275 TO EASTBOUND SR592/I-375

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	10000 F	0	0	9.00	99.90	2.90
2012	10000 C	E 10000	0	9.00	99.90	2.50
2011	8200 S	0	0	9.00	99.90	3.20
2010	8200 F	0	0	10.52	99.99	2.90
2009	8400 C	E 8400	0	10.53	99.99	3.80
2008	8200 C	E 8200	0	10.29	99.99	3.60
2007	8400 C	E 8400	0	10.31	56.79	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2729 - RP, WB SR592/I-375 TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	3400 F	0	0	9.00	99.90	3.30
2012	3400 C	S 3400	0	9.00	99.90	2.90
2011	3100 S	0	0	9.00	99.90	2.90
2010	3100 F	0	0	10.52	99.99	2.80
2009	3200 C	S 3200	0	10.53	99.99	3.10
2008	3100 C	S 3100	0	10.29	99.99	3.40
2007	2800 C	S 2800	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2730 - RAMP, WESTBOUND SR 592/I-375 TO NORTHBOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	9500 F	0	0	9.00	99.90	4.60
2012	9500 C	N 9500	0	9.00	99.90	4.60
2011	8000 S	0	0	9.00	99.90	4.20
2010	8000 F	0	0	10.52	99.99	4.40
2009	8200 C	N 8200	0	10.53	99.99	5.10
2008	8000 C	N 8000	0	10.29	99.99	5.50
2007	7900 C	N 7900	0	10.31	56.79	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2734 - RP, SB SR93/I-275 TO EB SR595/5TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	13500 F	0	0	9.00	99.90	4.60
2012	13500 C	S 13500	0	9.00	99.90	4.60
2011	14500 S	0	0	9.00	99.90	4.20
2010	14500 F	0	0	9.85	99.99	4.40
2009	14500 C	S 14500	0	9.41	99.99	5.10
2008	13000 C	S 13000	0	9.86	99.99	5.50
2007	4000 C	S 4000	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2735 - RAMP, SR 595/5TH AVE N TO NORTHOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	14000 F	0	0	9.00	99.90	4.60
2012	14000 C	N 14000	0	9.00	99.90	4.60
2011	14000 S	0	0	9.00	99.90	4.20
2010	14000 F	0	0	9.85	99.99	4.40
2009	14000 C	N 14000	0	9.41	99.99	5.10
2008	14000 C	N 14000	0	9.86	99.99	5.50
2007	14500 C	N 14500	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2736 - RP, SB SR93/I-275 TO 22ND AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	9800 F	0	0	9.00	99.90	4.60
2012	9700 C	S 9700	0	9.00	99.90	4.60
2011	10000 S	0	0	9.00	99.90	4.20
2010	10000 F	0	0	9.85	99.99	4.40
2009	10000 C	S 10000	0	9.41	99.99	5.10
2008	9500 C	S 9500	0	9.86	99.99	5.50
2007	9900 C	S 9900	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2737 - RP, 22ND AVE N TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7900 F	0	0	9.00	99.90	4.60
2012	7800 C	S 7800	0	9.00	99.90	4.60
2011	9200 S	0	0	9.00	99.90	4.20
2010	9100 F	0	0	9.85	99.99	4.40
2009	9100 C	S 9100	0	9.41	99.99	5.10
2008	7600 C	S 7600	0	9.86	99.99	5.50
2007	7900 C	S 7900	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2738 - RP, NB SR93/I-275 TO 22ND AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7900 F	0	0	9.00	99.90	4.60
2012	7800 C	N 7800	0	9.00	99.90	4.60
2011	9500 S	0	0	9.00	99.90	4.20
2010	9400 F	0	0	9.85	99.99	4.40
2009	9400 C	N 9400	0	9.41	99.99	5.10
2008	7900 C	N 7900	0	9.86	99.99	5.50
2007	8000 C	N 8000	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2739 - RP, 22ND AVE N TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	9600 F	0	0	9.00	99.90	4.60
2012	9500 C	N 9500	0	9.00	99.90	4.60
2011	10000 S	0	0	9.00	99.90	4.20
2010	10000 F	0	0	9.85	99.99	4.40
2009	10000 C	N 10000	0	9.41	99.99	5.10
2008	9700 C	N 9700	0	9.86	99.99	5.50
2007	10000 C	N 10000	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2740 - RP, SB SR93/I-275 TO CR184/38TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7900 F	0	0	9.00	99.90	4.60
2012	7800 C	S 7800	0	9.00	99.90	4.60
2011	6200 S	0	0	9.00	99.90	4.20
2010	6100 F	0	0	9.85	99.99	4.40
2009	6100 C	S 6100	0	9.41	99.99	5.10
2008	7700 C	S 7700	0	9.86	99.99	5.50
2007	8200 C	S 8200	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2741 - RP, CR184/38TH AVE N TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7600 F	0	0	9.00	99.90	4.60
2012	7500 C	S 7500	0	9.00	99.90	4.60
2011	5600 S	0	0	9.00	99.90	4.20
2010	5500 F	0	0	9.85	99.99	4.40
2009	5500 C	S 5500	0	9.41	99.99	5.10
2008	7100 C	S 7100	0	9.86	99.99	5.50
2007	6800 C	S 6800	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2742 - RP, NB SR93/I-275 TO CR184/38TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7300 F	0	0	9.00	99.90	4.60
2012	7200 C	N 7200	0	9.00	99.90	4.60
2011	5600 S	0	0	9.00	99.90	4.20
2010	5500 F	0	0	9.85	99.99	4.40
2009	5500 C	N 5500	0	9.41	99.99	5.10
2008	7000 C	N 7000	0	9.86	99.99	5.50
2007	7200 C	N 7200	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2743 - RP, CR184/38TH AVE N TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7700 F	0	0	9.00	99.90	4.60
2012	7600 C	N 7600	0	9.00	99.90	4.60
2011	6300 S	0	0	9.00	99.90	4.20
2010	6200 F	0	0	9.85	99.99	4.40
2009	6200 C	N 6200	0	9.41	99.99	5.10
2008	7500 C	N 7500	0	9.86	99.99	5.50
2007	7600 C	N 7600	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2744 - RP, SB SR93/I-275 TO 54TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	6100 F	0	0	9.00	99.90	4.60
2012	6000 C	S 6000	0	9.00	99.90	4.60
2011	7000 S	0	0	9.00	99.90	4.20
2010	6900 F	0	0	9.85	99.99	4.40
2009	6900 C	S 6900	0	9.41	99.99	5.10
2008	6600 C	S 6600	0	9.86	99.99	5.50
2007	6100 C	S 6100	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2745 - RP, WB 54TH AVE N TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	4800 F	0	0	9.00	99.90	4.60
2012	4700 C	S 4700	0	9.00	99.90	4.60
2011	5400 S	0	0	9.00	99.90	4.20
2010	5300 F	0	0	9.85	99.99	4.40
2009	5300 C	S 5300	0	9.41	99.99	5.10
2008	4900 C	S 4900	0	9.86	99.99	5.50
2007	5500 C	S 5500	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2746 - RP, EB 54TH AVE N TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	6400 F	0	0	9.00	99.90	4.60
2012	6400 C	S 6400	0	9.00	99.90	4.60
2011	6200 S	0	0	9.00	99.90	4.20
2010	6200 F	0	0	10.52	99.99	4.40
2009	6400 C	S 6400	0	10.53	99.99	5.10
2008	5500 C	S 5500	0	10.29	99.99	5.50
2007	5500 C	S 5500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2747 - RP, NB SR93/I-275 TO EB 54TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	5600 F	0	0	9.00	99.90	4.60
2012	5600 C	E 5600	0	9.00	99.90	4.60
2011	5200 S	0	0	9.00	99.90	4.20
2010	5200 F	0	0	10.52	99.99	4.40
2009	5300 C	E 5300	0	10.53	99.99	5.10
2008	5200 C	E 5200	0	10.29	99.99	5.50
2007	5000 C	E 5000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

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COUNTY: 15 - PINELLAS

SITE: 2748 - RP, NB SR93/I-275 TO WB 54TH AVE N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	6300 F	0	0	9.00	99.90	4.60
2012	6300 C	W 6300	0	9.00	99.90	4.60
2011	6100 S	0	0	9.00	99.90	4.20
2010	6100 F	0	0	10.52	99.99	4.40
2009	6300 C	W 6300	0	10.53	99.99	5.10
2008	5000 C	W 5000	0	10.29	99.99	5.50
2007	5300 C	W 5300	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2749 - RP, 54TH AVE N TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	5800 F	0	0	9.00	99.90	4.60
2012	5700 C	N 5700	0	9.00	99.90	4.60
2011	6200 S	0	0	9.00	99.90	4.20
2010	6100 F	0	0	9.85	99.99	4.40
2009	6100 C	N 6100	0	9.41	99.99	5.10
2008	5900 C	N 5900	0	9.86	99.99	5.50
2007	5600 C	N 5600	0	9.54	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2750 - RP, SB SR93/I-275 TO SR694/GANDY BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	8200 F	0	0	9.00	99.90	4.60
2012	8200 C	S 8200	0	9.00	99.90	4.60
2011	8200 S	0	0	9.00	99.90	4.20
2010	8200 F	0	0	10.52	99.99	4.40
2009	8400 C	S 8400	0	10.53	99.99	5.10
2008	8200 C	S 8200	0	10.29	99.99	5.50
2007	8300 C	S 8300	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2752 - RP, EB 54TH AVE TO SB SR93/I-275

YEAR	AADT		DIRECTION 1		DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	9100	F	0		0	9.00	99.90	4.60
2012	9100	C	S 9100		0	9.00	99.90	4.60
2011	9900	S	0		0	9.00	99.90	4.20
2010	10000	F	0		0	10.52	99.99	4.40
2009	10500	C	S 10500		0	10.53	99.99	5.10
2008	8000	C	S 8000		0	10.29	99.99	5.50
2007	8000	C	S 8000		0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2753 - RP, NB SR93/I-275 TO SR694/GANDY BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	16500 F	0	0	9.00	99.90	4.60
2012	16500 C	N 16500	0	9.00	99.90	4.60
2011	18500 S	0	0	9.00	99.90	4.20
2010	18500 F	0	0	10.52	99.99	4.40
2009	19000 C	N 19000	0	10.53	99.99	5.10
2008	17500 C	N 17500	0	10.29	99.99	5.50
2007	18000 C	N 18000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2754 - RP, EB SR694/GANDY BLVD TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	8000 F	0	0	9.00	99.90	4.60
2012	8000 C	N 8000	0	9.00	99.90	4.60
2011	7500 S	0	0	9.00	99.90	4.20
2010	7500 F	0	0	10.52	99.99	4.40
2009	7700 C	N 7700	0	10.53	99.99	5.10
2008	7800 C	N 7800	0	10.29	99.99	5.50
2007	8400 C	N 8400	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2755 - RP, SB SR93/I-275 TO WB SR686/ROOSEVELT BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	1100 F	0	0	9.00	99.90	4.60
2012	1100 C	S 1100	0	9.00	99.90	4.60
2010	1600 S	0	0	10.52	99.99	4.40
2009	1600 F	0	0	10.53	99.99	5.10
2008	1700 C	W 1700	0	10.29	99.99	5.50
2007	1100 C	W 1100	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2756 - RP, EB SR686/ROOSEVELT BLVD TO SB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	12500 F	0	0	9.00	99.90	4.60
2012	12500 C	S 12500	0	9.00	99.90	4.60
2011	13000 S	0	0	9.00	99.90	4.20
2010	13000 F	0	0	10.52	99.99	4.40
2009	13500 C	S 13500	0	10.53	99.99	5.10
2008	14000 C	S 14000	0	10.29	99.99	5.50
2007	14000 C	S 14000	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2757 - RP, NB SR93/I-275 TO WB SR686/ROOSEVELT BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	21500 F	0	0	9.00	99.90	4.60
2012	21500 C	W 21500	0	9.00	99.90	4.60
2011	17500 S	0	0	9.00	99.90	4.20
2010	17500 F	0	0	10.52	99.99	4.40
2009	18000 C	W 18000	0	10.53	99.99	5.10
2008	19500 C	W 19500	0	10.29	99.99	5.50
2007	24500 C	W 24500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2758 - RP, NB SR93/I-275 TO EB SR686/ROOSEVELT BLVD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	2300 F	0	0	9.00	99.90	4.60
2012	2300 C	E 2300	0	9.00	99.90	4.60
2011	2100 S	0	0	9.00	99.90	4.20
2010	2100 F	0	0	10.52	99.99	4.40
2009	2200 C	E 2200	0	10.53	99.99	5.10
2008	2500 C	E 2500	0	10.29	99.99	5.50
2007	2300 C	E 2300	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2759 - RP, SR686/ROOSEVELT BLVD TO NB SR93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	1800 F	0	0	9.00	99.90	4.60
2012	1800 C	N 1800	0	9.00	99.90	4.60
2011	1700 S	0	0	9.00	99.90	4.20
2010	1700 F	0	0	10.52	99.99	4.40
2009	1800 C	N 1800	0	10.53	99.99	5.10
2008	1600 C	N 1600	0	10.29	99.99	5.50
2007	8500 C	N 8500	0	10.31	99.99	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2762 - RAMP, EASTBBOUND SR 688/ULMERTON RD TO NORTHBOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	18000 F	0	0	9.00	99.90	4.60
2012	18000 C	N 18000	0	9.00	99.90	4.60
2011	16000 S	0	0	9.00	99.90	4.20
2010	16000 F	0	0	10.52	99.99	4.40
2009	16500 C	N 16500	0	10.53	99.99	5.10
2008	16000 C	N 16000	0	10.29	99.99	5.50
2007	17500 C	N 17500	0	10.31	56.79	4.80

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2763 - RAMP, SOUTHBOUND SR 93/I-275 TO WESTBOUND SR 688/ULMERTON RD

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	19500 F	0	0	9.00	99.90	
2012	19500 C	S 19500	0	9.00	99.90	2.00
2011	19000 S	0	0	9.00	99.90	2.10
2010	19000 F	0	0	9.85	99.99	2.50
2009	19000 C	S 19000	0	9.41	99.99	2.70
2008	18500 C	S 18500	0	9.86	99.99	2.20
2007	19000 C	S 19000	0	9.54	51.98	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2764 - RAMP, NORTHBOUND SR 687/US 92/4TH ST N TO NOURTHBOUND SR 93/I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7200 F	0	0	9.00	99.90	4.00
2012	7100 C	N 7100	0	9.00	99.90	2.00
2011	6900 S	0	0	9.00	99.90	2.10
2010	6800 F	0	0	9.85	99.99	2.50
2009	6800 C	N 6800	0	9.41	99.99	2.70
2008	7100 C	N 7100	0	9.86	99.99	2.20
2007	7800 C	N 7800	0	9.54	51.98	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2765 - RP, SB SR93/I-275 TO SB SR687/US92/4TH ST N

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7300 F	0	0	9.00	99.90	
2012	7200 C	S 7200	0	9.00	99.90	2.00
2011	7300 S	0	0	9.00	99.90	2.10
2010	7200 F	0	0	9.85	99.99	2.50
2009	7200 C	S 7200	0	9.41	99.99	2.70
2008	7700 C	S 7700	0	9.86	99.99	2.20
2007	7800 C	S 7800	0	9.54	51.98	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2769 - RAMP, EB ULMERTON RD TO SB I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	2800 F	0	0	9.00	99.90	
2012	2800 C	S 2800	0	9.00	99.90	2.00
2011	2500 S	S 2500	0	9.00	99.90	2.10
2009	2500 C	S 2500	0	9.41	99.99	2.70
2008	3200 C	S 3200	0	9.86	99.99	2.20
2007	2500 C	S 2500	0	9.54	51.98	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2771 - RP, SB I-275 TO WB TO WB ROOSEVELT BYPASS

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	8000 F	0	0	9.00	99.90	
2012	7900 C	S 7900	0	9.00	99.90	2.00
2011	7000 S	0	0	9.00	99.90	2.10
2010	6900 F	0	0	9.85	99.99	2.50
2009	6900 C	S 6900	0	9.41	99.99	2.70
2008	7200 C	S 7200	0	9.86	99.99	2.20
2007	7400 C	S 7400	0	9.54	99.99	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 2772 - RAMP, EB ROOSEVELT BYPASS TO NB I-275

YEAR	AADT		DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	7400	F	0	0	9.00	99.90	
2012	7300	C	N 7300	0	9.00	99.90	2.00
2011	6200	S	0	0	9.00	99.90	2.10
2010	6100	F	0	0	9.85	99.99	2.50
2009	6100	C	N 6100	0	9.41	99.99	2.70
2008	7100	C	N 7100	0	9.86	99.99	2.20
2007	7000	C	N 7000	0	9.54	99.99	3.10

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

COUNTY: 15
STATION: 0079
DESCRIPTION: SR 93/I-275, N OF SR 686/ROOSEVELT BLVD
START DATE: 10/09/2013
START TIME: 1300

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	70	95	76	50	291	148	176	163	119	606	897
0100	48	73	59	39	219	86	77	70	41	274	493
0200	41	42	37	58	178	36	45	45	44	170	348
0300	63	63	63	64	253	58	54	62	53	227	480
0400	81	95	124	147	447	49	75	82	113	319	766
0500	192	260	326	391	1169	130	169	286	342	927	2096
0600	465	714	839	905	2923	410	635	803	739	2587	5510
0700	1088	1164	936	904	4092	706	709	740	721	2876	6968
0800	972	972	927	802	3673	700	716	753	698	2867	6540
0900	719	747	753	707	2926	716	693	580	492	2481	5407
1000	704	698	653	588	2643	549	667	581	644	2441	5084
1100	592	598	625	571	2386	652	612	667	672	2603	4989
1200	603	660	634	550	2447	633	652	655	657	2597	5044
1300	618	675	670	623	2586	688	722	714	628	2752	5338
1400	622	655	675	646	2598	706	650	707	705	2768	5366
1500	763	757	906	890	3316	738	753	766	786	3043	6359
1600	856	729	807	733	3125	894	992	1075	1156	4117	7242
1700	745	746	651	578	2720	1217	1173	1192	1009	4591	7311
1800	600	631	545	453	2229	975	970	867	722	3534	5763
1900	484	403	411	363	1661	651	618	543	531	2343	4004
2000	345	312	316	296	1269	434	458	384	427	1703	2972
2100	248	292	239	209	988	411	359	363	336	1469	2457
2200	195	211	200	147	753	350	332	268	254	1204	1957
2300	155	153	111	84	503	225	235	224	223	907	1410
24-HOUR TOTALS:					45395					49406	94801

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	645	4093	645	2894	645	6987
P.M.	1515	3409	1645	4738	1630	7652
DAILY	645	4093	1645	4738	1630	7652

TRUCK PERCENTAGE 5.72 5.22 5.46

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	82	35893	6821	321	1072	118	21	298	736	19	12	1	0	0	1	2598	45395
S	78	38869	7879	309	1043	111	32	339	700	30	12	1	2	0	1	2579	49406

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0079
DESCRIPTION: SR 93/I-275, N OF SR 686/ROOSEVELT BLVD
START DATE: 10/10/2013
START TIME: 1300

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	119	125	107	65	416	214	187	145	182	728	1144
0100	51	62	43	37	193	176	112	120	105	513	706
0200	68	60	46	51	225	93	75	73	66	307	532
0300	53	63	69	66	251	56	73	68	67	264	515
0400	77	92	125	135	429	62	84	92	94	332	761
0500	180	234	323	344	1081	126	160	281	288	855	1936
0600	505	659	814	815	2793	402	538	748	698	2386	5179
0700	968	1057	897	839	3761	643	735	701	724	2803	6564
0800	938	961	853	754	3506	698	668	677	636	2679	6185
0900	762	697	756	741	2956	624	629	558	633	2444	5400
1000	726	679	599	666	2670	560	594	669	595	2418	5088
1100	616	679	670	621	2586	604	651	770	687	2712	5298
1200	641	675	699	633	2648	699	654	710	700	2763	5411
1300	566	616	628	607	2417	685	683	654	619	2641	5058
1400	645	635	658	738	2676	698	685	736	714	2833	5509
1500	735	781	921	861	3298	763	758	856	857	3234	6532
1600	833	882	826	773	3314	863	984	1044	1233	4124	7438
1700	778	797	678	673	2926	1184	1205	1086	1081	4556	7482
1800	678	615	626	553	2472	961	961	927	785	3634	6106
1900	484	459	454	429	1826	666	664	562	547	2439	4265
2000	378	332	327	300	1337	499	467	417	448	1831	3168
2100	334	299	257	215	1105	420	413	379	350	1562	2667
2200	196	197	188	181	762	392	417	416	399	1624	2386
2300	156	165	162	112	595	287	223	187	230	927	1522
24-HOUR TOTALS:					46243					50609	96852

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	700	3761	715	2858	715	6589
P.M.	1530	3497	1645	4708	1630	7840
DAILY	700	3761	1645	4708	1630	7840

TRUCK PERCENTAGE 5.80 5.28 5.53

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	76	36459	7026	332	1118	110	30	270	791	15	12	1	2	0	1	2681	46243
S	67	40016	7854	331	1082	122	21	356	720	28	9	1	1	0	1	2671	50609

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0083
DESCRIPTION: SR 93/I-275, S OF 22ND AVE N/CR 690
START DATE: 10/15/2013
START TIME: 1800

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	166	121	107	87	481	187	196	159	103	645	1126
0100	99	73	67	58	297	96	98	72	62	328	625
0200	69	55	63	64	251	54	55	50	55	214	465
0300	81	62	93	72	308	57	62	61	55	235	543
0400	88	114	163	154	519	58	59	88	102	307	826
0500	237	278	479	485	1479	127	209	294	455	1085	2564
0600	711	900	1122	1158	3891	438	681	994	1179	3292	7183
0700	1338	1562	1745	1649	6294	1032	1292	1464	1647	5435	11729
0800	1645	1521	1513	1255	5934	1393	1518	1305	1374	5590	11524
0900	1026	1047	965	925	3963	1144	1151	1077	1025	4397	8360
1000	911	904	926	870	3611	937	959	1007	922	3825	7436
1100	948	963	979	976	3866	899	912	999	981	3791	7657
1200	994	1015	965	969	3943	1000	904	927	936	3767	7710
1300	1011	1002	959	1055	4027	928	897	1060	1094	3979	8006
1400	1059	1068	1193	1184	4504	968	1072	1024	1090	4154	8658
1500	1236	1204	1398	1292	5130	1100	1201	1239	1255	4795	9925
1600	1464	1402	1537	1428	5831	1191	1031	1258	1484	4964	10795
1700	1644	1481	1412	1196	5733	1573	1517	1594	1536	6220	11953
1800	1226	1087	976	828	4117	1469	1338	1160	1015	4982	9099
1900	835	788	722	633	2978	886	896	761	776	3319	6297
2000	605	699	591	517	2412	632	639	585	572	2428	4840
2100	523	441	481	371	1816	516	480	473	429	1898	3714
2200	390	363	321	280	1354	447	386	400	381	1614	2968
2300	303	286	211	167	967	333	303	255	224	1115	2082
24-HOUR TOTALS:					73706					72379	146085

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	6601	730	6022	730	12582
P.M.	1630	6090	1700	6220	1645	12133
DAILY	715	6601	1700	6220	730	12582

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0083
DESCRIPTION: SR 93/I-275, S OF 22ND AVE N/CR 690
START DATE: 10/16/2013
START TIME: 1800

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	173	137	133	107	550	211	172	166	136	685	1235
0100	93	92	66	83	334	114	113	82	70	379	713
0200	75	62	58	71	266	48	60	46	61	215	481
0300	84	98	102	93	377	66	82	51	61	260	637
0400	85	116	173	173	547	70	71	105	108	354	901
0500	213	331	494	531	1569	142	210	277	403	1032	2601
0600	667	920	1116	1224	3927	502	743	985	1216	3446	7373
0700	1316	1594	1752	1601	6263	1071	1272	1479	1630	5452	11715
0800	1601	1549	1446	1192	5788	1443	1413	1291	1354	5501	11289
0900	1063	1129	1020	930	4142	1241	1163	1068	958	4430	8572
1000	1021	938	966	986	3911	928	997	985	993	3903	7814
1100	1034	927	928	933	3822	873	978	997	982	3830	7652
1200	1098	1037	1042	995	4172	971	997	953	937	3858	8030
1300	1035	1003	1067	1045	4150	984	936	1077	1152	4149	8299
1400	1172	1183	1216	1274	4845	1012	1139	1087	1122	4360	9205
1500	1339	1336	1375	1430	5480	1166	1248	1272	1275	4961	10441
1600	1518	1526	1603	1485	6132	1362	1413	1401	1423	5599	11731
1700	1763	1506	1390	1207	5866	1422	1523	1571	1522	6038	11904
1800	1152	1067	973	867	4059	1419	1321	1161	1040	4941	9000
1900	875	766	704	731	3076	979	819	780	737	3315	6391
2000	665	655	578	593	2491	673	700	644	636	2653	5144
2100	548	492	489	490	2019	596	570	491	469	2126	4145
2200	410	390	324	332	1456	379	366	371	308	1424	2880
2300	314	271	222	162	969	273	333	311	205	1122	2091
24-HOUR TOTALS:					76211					74033	150244

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	6548	730	5965	730	12468
P.M.	1615	6377	1700	6038	1630	12126
DAILY	715	6548	1700	6038	730	12468

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0084
DESCRIPTION: SR 93/I-275, S OF 36TH AVE N
START DATE: 10/22/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	161	122	104	81	468	228	175	190	127	720	1188
0100	78	64	69	69	280	112	101	57	60	330	610
0200	68	67	74	77	286	66	66	63	54	249	535
0300	87	68	88	104	347	81	60	71	75	287	634
0400	90	111	173	191	565	74	93	108	134	409	974
0500	226	312	472	530	1540	166	264	337	449	1216	2756
0600	650	912	1163	1269	3994	572	816	1095	1262	3745	7739
0700	1372	1609	1780	1622	6383	1164	1327	1356	1580	5427	11810
0800	1647	1626	1510	1339	6122	1407	1428	1366	1388	5589	11711
0900	1104	1085	1086	990	4265	1243	1130	1095	1003	4471	8736
1000	1014	908	956	858	3736	906	1053	966	910	3835	7571
1100	923	890	929	906	3648	846	973	968	931	3718	7366
1200	1014	936	954	937	3841	911	895	970	939	3715	7556
1300	935	983	991	1021	3930	928	908	1073	997	3906	7836
1400	1098	1092	1119	1143	4452	1035	981	1042	1045	4103	8555
1500	1190	1207	1263	1238	4898	1103	1171	1161	1283	4718	9616
1600	1422	1344	1400	1482	5648	1232	1325	1443	1604	5604	11252
1700	1529	1378	1294	1229	5430	1566	1589	1640	1533	6328	11758
1800	1219	1038	1004	825	4086	1341	1362	1257	1012	4972	9058
1900	761	719	708	586	2774	866	779	737	714	3096	5870
2000	536	572	484	481	2073	674	685	581	555	2495	4568
2100	517	443	433	354	1747	490	575	449	446	1960	3707
2200	307	335	323	244	1209	416	388	301	301	1406	2615
2300	255	210	186	155	806	294	319	239	229	1081	1887
24-HOUR TOTALS:					72528					73380	145908

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	6675	745	5781	730	12446
P.M.	1630	5789	1645	6399	1645	12082
DAILY	730	6675	1645	6399	730	12446

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0084
DESCRIPTION: SR 93/I-275, S OF 36TH AVE N
START DATE: 10/23/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	154	155	108	96	513	220	166	159	122	667	1180
0100	104	93	77	74	348	113	97	78	78	366	714
0200	66	73	68	65	272	70	44	64	58	236	508
0300	74	62	76	79	291	74	59	68	63	264	555
0400	91	113	156	162	522	75	75	118	148	416	938
0500	241	292	421	529	1483	154	217	327	427	1125	2608
0600	636	897	1071	1308	3912	477	781	1029	1172	3459	7371
0700	1404	1558	1716	1551	6229	1103	1246	1344	1530	5223	11452
0800	1482	1333	1503	1307	5625	1362	1434	1337	1315	5448	11073
0900	1146	991	1039	977	4153	1218	1217	1105	1097	4637	8790
1000	914	918	900	947	3679	966	982	985	987	3920	7599
1100	931	966	930	955	3782	953	905	981	955	3794	7576
1200	994	937	994	962	3887	980	1023	1014	1036	4053	7940
1300	1042	984	1009	993	4028	939	979	1031	1060	4009	8037
1400	1094	1138	1129	1173	4534	1070	1072	1095	1091	4328	8862
1500	1245	1298	1314	1278	5135	1167	1214	1205	1264	4850	9985
1600	1335	1498	1434	1447	5714	1243	1433	1430	1544	5650	11364
1700	1574	1463	1332	1264	5633	1597	1549	1612	1584	6342	11975
1800	1171	1193	996	913	4273	1541	1348	1211	1114	5214	9487
1900	818	774	757	733	3082	1003	947	800	749	3499	6581
2000	635	647	631	589	2502	729	717	636	587	2669	5171
2100	571	492	483	412	1958	643	583	508	502	2236	4194
2200	423	407	361	309	1500	514	453	399	321	1687	3187
2300	290	293	224	162	969	299	344	326	279	1248	2217
24-HOUR TOTALS:					74024					75340	149364

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	6307	730	5670	715	11789
P.M.	1615	5953	1700	6342	1645	12118
DAILY	715	6307	1700	6342	1645	12118

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0085
DESCRIPTION: SR 93/I-275, SOUTH OF 42ND AVE N
START DATE: 10/15/2013
START TIME: 1100

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	161	120	109	80	470	175	182	183	116	656	1126
0100	97	69	76	61	303	100	83	74	67	324	627
0200	68	68	63	60	259	65	59	67	47	238	497
0300	72	53	82	81	288	50	56	56	61	223	511
0400	105	117	188	180	590	68	74	77	119	338	928
0500	261	357	507	579	1704	143	216	280	417	1056	2760
0600	792	1063	1259	1316	4430	450	702	955	1116	3223	7653
0700	1585	1796	1678	1682	6741	1087	1295	1483	1445	5310	12051
0800	1698	1757	1714	1368	6537	1268	1341	1263	1233	5105	11642
0900	1208	1127	1145	1041	4521	1138	1070	1028	978	4214	8735
1000	1033	1018	1005	917	3973	964	927	1030	990	3911	7884
1100	984	921	926	971	3802	877	902	919	986	3684	7486
1200	969	949	1016	935	3869	993	906	928	881	3708	7577
1300	865	972	919	952	3708	888	935	1011	1018	3852	7560
1400	1020	1086	1103	1077	4286	1015	997	1108	1081	4201	8487
1500	1201	1170	1281	1199	4851	984	1204	1210	886	4284	9135
1600	1427	1349	1394	1331	5501	968	939	1093	1005	4005	9506
1700	1445	1284	1290	1162	5181	1032	1456	1676	1749	5913	11094
1800	1021	1005	993	889	3908	1663	1311	1167	1052	5193	9101
1900	833	703	676	690	2902	917	835	723	647	3122	6024
2000	599	593	566	467	2225	664	593	527	502	2286	4511
2100	526	449	384	356	1715	485	482	452	417	1836	3551
2200	349	326	252	240	1167	402	340	327	282	1351	2518
2300	220	210	216	161	807	289	278	211	193	971	1778
24-HOUR TOTALS:					73738					69004	142742

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	6854	730	5537	730	12352
P.M.	1615	5519	1715	6544	1715	11301
DAILY	715	6854	1715	6544	730	12352

TRUCK PERCENTAGE 4.56 4.82 4.69

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	237	58944	11192	483	1521	277	20	415	622	14	11	1	0	0	1	3364	73738
S	265	55222	10189	448	1595	285	38	318	614	14	13	1	2	0	0	3328	69004

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0085
DESCRIPTION: SR 93/I-275, SOUTH OF 42ND AVE N
START DATE: 10/16/2013
START TIME: 1100

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	150	133	108	93	484	206	201	165	110	682	1166
0100	88	72	70	58	288	111	104	68	81	364	652
0200	63	55	63	60	241	63	52	60	53	228	469
0300	69	69	106	91	335	55	49	55	56	215	550
0400	95	119	179	182	575	61	67	89	108	325	900
0500	254	330	507	583	1674	121	200	309	441	1071	2745
0600	780	1036	1286	1323	4425	443	699	995	1103	3240	7665
0700	1541	1751	1923	1909	7124	1030	1336	1421	1440	5227	12351
0800	1846	1789	1652	1427	6714	1284	1314	1194	1301	5093	11807
0900	1161	1139	1077	983	4360	1073	1118	989	1003	4183	8543
1000	962	919	900	907	3688	916	961	979	925	3781	7469
1100	974	967	979	921	3841	826	955	948	906	3635	7476
1200	901	946	780	931	3558	899	890	959	917	3665	7223
1300	1023	956	978	1026	3983	886	1011	958	1099	3954	7937
1400	1149	1101	1212	1116	4578	937	1018	1087	1144	4186	8764
1500	1209	1178	1373	1317	5077	1091	1199	1250	1366	4906	9983
1600	1469	1325	1446	1328	5568	1228	1438	1575	1712	5953	11521
1700	1626	1338	1319	1171	5454	1641	1677	1789	1768	6875	12329
1800	1193	1118	989	800	4100	1659	1431	1196	1052	5338	9438
1900	816	770	650	651	2887	959	964	818	810	3551	6438
2000	626	668	514	548	2356	693	691	626	584	2594	4950
2100	523	471	482	375	1851	539	495	524	460	2018	3869
2200	421	325	335	257	1338	446	442	427	417	1732	3070
2300	294	294	210	192	990	318	349	268	241	1176	2166
24-HOUR TOTALS:					75489					73992	149481

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	7467	715	5481	730	12926
P.M.	1630	5738	1715	6893	1645	12430
DAILY	730	7467	1715	6893	730	12926

TRUCK PERCENTAGE 4.69 4.62 4.66

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	221	60178	11546	485	1586	250	46	454	675	25	17	1	3	0	2	3542	75489
S	217	59386	10968	458	1610	325	52	294	654	15	10	2	0	0	1	3420	73992

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0087
DESCRIPTION: SR 93/I-275, N OF SR 694/GANDY BLVD
START DATE: 10/23/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	103	107	94	70	374	192	169	150	119	630	1004
0100	65	49	61	39	214	104	102	84	55	345	559
0200	54	41	62	63	220	62	61	62	46	231	451
0300	64	63	87	84	298	77	54	70	63	264	562
0400	88	103	155	187	533	62	68	86	118	334	867
0500	231	304	470	522	1527	138	183	296	315	932	2459
0600	594	944	1077	1275	3890	484	630	822	714	2650	6540
0700	1447	1540	1581	1639	6207	819	947	943	823	3532	9739
0800	1700	1623	1483	1280	6086	899	840	850	865	3454	9540
0900	1041	970	986	817	3814	777	834	768	802	3181	6995
1000	874	818	785	816	3293	731	790	757	731	3009	6302
1100	829	812	725	771	3137	795	823	877	883	3378	6515
1200	816	808	827	832	3283	856	821	790	774	3241	6524
1300	887	883	791	810	3371	777	830	801	867	3275	6646
1400	789	948	885	805	3427	866	860	906	889	3521	6948
1500	959	959	1102	996	4016	942	984	1093	1091	4110	8126
1600	1017	1055	1052	953	4077	1225	1271	1383	1441	5320	9397
1700	1015	981	900	803	3699	1599	1413	1675	1391	6078	9777
1800	771	836	732	631	2970	1225	1154	1034	872	4285	7255
1900	583	528	545	534	2190	889	778	695	597	2959	5149
2000	456	465	430	386	1737	587	538	506	458	2089	3826
2100	424	365	336	272	1397	516	460	403	400	1779	3176
2200	283	252	267	214	1016	391	372	298	230	1291	2307
2300	173	183	145	128	629	257	283	278	226	1044	1673
24-HOUR TOTALS:					61405					60932	122337

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	6543	715	3612	715	10072
P.M.	1530	4170	1645	6128	1645	9977
DAILY	730	6543	1645	6128	715	10072

TRUCK PERCENTAGE 4.79 4.93 4.86

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	119	49571	8771	409	1252	239	75	312	631	20	5	0	1	0	0	2944	61405
S	79	48507	9341	420	1319	296	20	324	598	20	7	0	1	0	0	3005	60932

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0087
DESCRIPTION: SR 93/I-275, N OF SR 694/GANDY BLVD
START DATE: 10/24/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	137	134	110	74	455	549	535	368	311	1763	2218
0100	77	81	72	49	279	267	253	229	185	934	1213
0200	66	61	61	66	254	174	165	90	82	511	765
0300	58	60	77	77	272	76	83	81	82	322	594
0400	93	129	139	191	552	62	63	86	121	332	884
0500	204	280	413	479	1376	133	203	246	293	875	2251
0600	596	785	942	1088	3411	400	559	742	642	2343	5754
0700	1240	1447	1548	1529	5764	772	812	875	827	3286	9050
0800	1440	1452	1307	1188	5387	777	793	831	767	3168	8555
0900	989	987	978	853	3807	731	771	768	692	2962	6769
1000	877	817	832	824	3350	775	690	858	769	3092	6442
1100	825	850	832	883	3390	869	900	889	956	3614	7004
1200	865	852	954	919	3590	923	946	914	846	3629	7219
1300	935	938	875	857	3605	904	973	957	915	3749	7354
1400	869	958	953	951	3731	843	801	878	961	3483	7214
1500	992	1030	1114	1153	4289	945	928	1065	1164	4102	8391
1600	1167	1241	1182	1099	4689	1176	1148	1354	1447	5125	9814
1700	1093	1085	1083	1019	4280	1511	1406	1342	1404	5663	9943
1800	937	954	933	952	3776	1199	1157	1093	909	4358	8134
1900	841	822	731	600	2994	836	788	688	599	2911	5905
2000	572	559	408	470	2009	659	602	489	525	2275	4284
2100	467	403	417	356	1643	477	460	482	424	1843	3486
2200	303	265	267	220	1055	438	495	486	463	1882	2937
2300	225	198	172	182	777	624	706	717	615	2662	3439
24-HOUR TOTALS:					64735					64884	129619

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	5969	715	3291	715	9255
P.M.	1545	4743	1630	5718	1630	10177
DAILY	730	5969	1630	5718	1630	10177

TRUCK PERCENTAGE 4.71 4.65 4.68

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	94	52172	9410	378	1300	239	69	350	656	41	7	1	5	0	13	3046	64735
S	93	51735	10039	372	1324	299	22	342	633	16	6	1	1	0	1	3016	64884

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0099
DESCRIPTION: SR 93/I-275, N OF CENTRAL AVE/CR 654
START DATE: 11/05/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	116	76	71	56	319	63	107	91	101	362	681
0100	55	59	55	51	220	80	75	66	53	274	494
0200	46	44	59	51	200	58	33	56	45	192	392
0300	72	47	66	74	259	47	60	52	58	217	476
0400	59	84	144	151	438	38	65	87	120	310	748
0500	190	253	363	434	1240	116	200	304	384	1004	2244
0600	487	724	932	985	3128	396	632	806	885	2719	5847
0700	1032	1227	1431	1328	5018	919	1033	1067	1166	4185	9203
0800	1221	1323	1181	1069	4794	1110	1076	927	857	3970	8764
0900	839	847	830	822	3338	830	879	828	809	3346	6684
1000	800	691	764	704	2959	710	750	796	752	3008	5967
1100	757	761	771	754	3043	690	670	779	782	2921	5964
1200	798	746	793	723	3060	778	708	705	767	2958	6018
1300	735	766	794	784	3079	723	730	782	786	3021	6100
1400	804	872	878	996	3550	820	954	880	891	3545	7095
1500	946	873	1002	990	3811	880	987	974	1030	3871	7682
1600	1052	994	1144	1144	4334	1042	1137	1125	1321	4625	8959
1700	1098	1053	988	959	4098	1323	1331	1322	1208	5184	9282
1800	930	837	814	593	3174	1172	1106	964	799	4041	7215
1900	505	557	488	427	1977	741	718	655	555	2669	4646
2000	404	402	337	332	1475	541	535	528	471	2075	3550
2100	361	300	295	253	1209	442	446	393	359	1640	2849
2200	233	251	232	170	886	331	328	272	231	1162	2048
2300	182	143	130	112	567	243	268	214	180	905	1472
24-HOUR TOTALS:					56176					58204	114380

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	5303	730	4419	730	9722
P.M.	1630	4439	1645	5297	1645	9580
DAILY	730	5303	1645	5297	730	9722

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0099
DESCRIPTION: SR 93/I-275, N OF CENTRAL AVE/CR 654
START DATE: 11/06/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	107	93	76	57	333	176	120	89	85	470	803
0100	76	68	53	55	252	74	58	60	52	244	496
0200	47	44	48	41	180	52	42	55	39	188	368
0300	51	52	49	52	204	62	56	42	72	232	436
0400	64	102	133	138	437	46	71	82	103	302	739
0500	185	252	340	408	1185	139	190	292	391	1012	2197
0600	504	688	826	1010	3028	453	603	783	894	2733	5761
0700	1015	1188	1398	1326	4927	904	1007	1027	1174	4112	9039
0800	1196	1206	1164	1063	4629	1113	1040	989	910	4052	8681
0900	854	775	799	773	3201	911	884	807	739	3341	6542
1000	731	686	697	723	2837	748	755	835	860	3198	6035
1100	700	731	672	788	2891	746	737	794	730	3007	5898
1200	797	709	788	761	3055	826	831	775	825	3257	6312
1300	731	792	812	765	3100	755	795	761	828	3139	6239
1400	792	857	906	986	3541	873	965	877	899	3614	7155
1500	893	948	943	1014	3798	959	1079	1006	1102	4146	7944
1600	972	1133	1048	1133	4286	989	1183	1153	1182	4507	8793
1700	1121	1085	1020	963	4189	1235	1306	1228	1170	4939	9128
1800	850	930	783	691	3254	1154	1104	973	850	4081	7335
1900	573	592	598	513	2276	771	677	621	564	2633	4909
2000	473	450	482	418	1823	525	526	529	480	2060	3883
2100	402	364	313	288	1367	471	488	396	385	1740	3107
2200	296	287	273	217	1073	338	407	315	248	1308	2381
2300	186	187	142	116	631	224	255	282	274	1035	1666
24-HOUR TOTALS:					56497					59350	115847

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	5126	730	4354	730	9480
P.M.	1615	4435	1645	4951	1645	9310
DAILY	730	5126	1645	4951	730	9480

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0100
DESCRIPTION: SR 93/I-275, W OF 22ND ST S
START DATE: 11/19/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	79	71	68	60	278	141	111	83	75	410	688
0100	50	44	47	42	183	44	64	41	42	191	374
0200	49	36	36	26	147	47	37	39	42	165	312
0300	40	42	56	55	193	46	38	32	52	168	361
0400	84	74	116	137	411	50	55	73	93	271	682
0500	162	229	364	385	1140	111	132	171	246	660	1800
0600	461	672	902	958	2993	296	411	519	563	1789	4782
0700	926	1216	1308	1306	4756	628	717	742	781	2868	7624
0800	1215	1198	1135	1058	4606	817	786	662	649	2914	7520
0900	838	796	669	654	2957	537	610	634	631	2412	5369
1000	643	649	667	633	2592	568	564	552	539	2223	4815
1100	615	611	668	577	2471	543	598	581	642	2364	4835
1200	612	584	611	575	2382	592	617	595	603	2407	4789
1300	641	611	646	616	2514	613	562	619	651	2445	4959
1400	658	683	798	758	2897	689	707	730	717	2843	5740
1500	761	733	806	795	3095	720	762	873	871	3226	6321
1600	784	872	801	852	3309	908	954	1029	1015	3906	7215
1700	859	838	823	760	3280	941	1061	1077	966	4045	7325
1800	719	680	571	520	2490	970	944	922	781	3617	6107
1900	471	420	357	368	1616	618	566	480	430	2094	3710
2000	277	336	329	273	1215	434	468	394	361	1657	2872
2100	230	279	278	233	1020	372	388	365	308	1433	2453
2200	211	223	199	161	794	290	291	239	229	1049	1843
2300	154	117	108	106	485	209	240	167	121	737	1222
24-HOUR TOTALS:					47824					45894	93718

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	5045	730	3126	730	8153
P.M.	1615	3384	1645	4094	1645	7466
DAILY	715	5045	1645	4094	730	8153

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0100
DESCRIPTION: SR 93/I-275, W OF 22ND ST S
START DATE: 11/20/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	76	64	38	61	239	103	121	96	63	383	622
0100	48	57	40	29	174	57	46	46	50	199	373
0200	33	35	33	29	130	46	35	25	43	149	279
0300	43	37	61	47	188	41	39	40	41	161	349
0400	55	86	134	119	394	48	60	63	62	233	627
0500	163	239	324	368	1094	111	129	183	236	659	1753
0600	453	673	874	913	2913	310	384	503	576	1773	4686
0700	937	1170	1299	1235	4641	558	728	651	744	2681	7322
0800	1125	1230	1137	944	4436	820	804	664	634	2922	7358
0900	803	745	759	680	2987	609	613	599	549	2370	5357
1000	611	699	663	660	2633	577	546	570	574	2267	4900
1100	604	618	657	623	2502	523	601	638	622	2384	4886
1200	571	667	669	661	2568	586	615	584	592	2377	4945
1300	634	641	673	680	2628	584	628	625	658	2495	5123
1400	655	732	774	850	3011	731	793	758	713	2995	6006
1500	765	782	807	800	3154	748	897	869	856	3370	6524
1600	787	822	821	894	3324	854	941	1035	1062	3892	7216
1700	915	806	849	756	3326	1156	1165	1013	944	4278	7604
1800	702	683	693	647	2725	1012	856	786	786	3440	6165
1900	458	412	355	332	1557	685	551	517	457	2210	3767
2000	329	323	279	309	1240	406	430	436	377	1649	2889
2100	262	258	296	223	1039	402	324	315	293	1334	2373
2200	211	211	223	158	803	316	310	256	234	1116	1919
2300	168	133	113	95	509	233	208	241	196	878	1387
24-HOUR TOTALS:					48215					46215	94430

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	4889	745	3032	730	7908
P.M.	1645	3464	1630	4418	1645	7860
DAILY	730	4889	1630	4418	730	7908

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0102
DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
START DATE: 11/19/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	76	63	53	49	241	128	92	74	65	359	600
0100	41	48	35	39	163	44	43	30	39	156	319
0200	45	24	31	25	125	28	32	35	30	125	250
0300	31	33	46	49	159	40	27	24	40	131	290
0400	74	66	114	127	381	51	48	61	72	232	613
0500	159	234	376	375	1144	89	117	163	214	583	1727
0600	501	764	955	1053	3273	289	402	468	571	1730	5003
0700	1033	1325	1406	1439	5203	652	687	736	762	2837	8040
0800	1285	1252	1204	1109	4850	812	763	682	644	2901	7751
0900	887	781	719	694	3081	538	619	599	605	2361	5442
1000	669	635	691	662	2657	592	546	519	536	2193	4850
1100	633	610	665	617	2525	525	589	596	600	2310	4835
1200	626	604	599	607	2436	585	614	565	606	2370	4806
1300	659	627	636	614	2536	627	574	636	666	2503	5039
1400	674	701	785	731	2891	693	741	733	700	2867	5758
1500	750	720	817	754	3041	741	821	876	928	3366	6407
1600	866	872	892	888	3518	975	1002	1091	1055	4123	7641
1700	863	854	891	799	3407	979	1173	1166	1018	4336	7743
1800	762	686	619	513	2580	1010	999	933	775	3717	6297
1900	457	381	366	332	1536	620	561	492	470	2143	3679
2000	261	336	321	259	1177	454	462	400	366	1682	2859
2100	229	297	257	225	1008	386	372	367	299	1424	2432
2200	190	211	183	151	735	299	274	234	209	1016	1751
2300	135	107	100	90	432	198	219	152	106	675	1107
24-HOUR TOTALS:					49099					46140	95239

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	5455	730	3073	730	8455
P.M.	1600	3518	1645	4373	1645	7869
DAILY	715	5455	1645	4373	730	8455

TRUCK PERCENTAGE 4.84 4.48 4.67

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	46	38348	8329	302	1158	81	12	249	542	19	11	0	1	0	1	2375	49099
S	75	38014	5973	246	837	202	11	265	412	60	5	1	30	0	9	2069	46140

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0102
DESCRIPTION: SR 93/I-275, N OF 18TH AVE S
START DATE: 11/20/2013
START TIME: 0000

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	69	57	44	48	218	94	111	82	56	343	561
0100	44	43	34	35	156	54	40	43	36	173	329
0200	27	30	29	32	118	47	27	27	28	129	247
0300	42	40	39	44	165	31	31	33	36	131	296
0400	54	83	118	117	372	43	46	53	56	198	570
0500	146	224	339	386	1095	99	110	177	223	609	1704
0600	477	719	957	991	3144	300	373	468	542	1683	4827
0700	1087	1297	1380	1343	5107	560	721	679	758	2718	7825
0800	1252	1272	1147	994	4665	780	766	658	617	2821	7486
0900	861	833	788	699	3181	575	612	559	561	2307	5488
1000	667	672	705	672	2716	580	531	553	545	2209	4925
1100	597	631	665	636	2529	532	590	638	599	2359	4888
1200	591	670	675	660	2596	584	599	578	600	2361	4957
1300	652	646	694	653	2645	569	639	635	692	2535	5180
1400	705	764	798	843	3110	749	772	747	755	3023	6133
1500	782	809	831	818	3240	744	939	879	917	3479	6719
1600	858	841	870	913	3482	897	1001	1120	1154	4172	7654
1700	934	847	915	813	3509	1242	1258	1101	1029	4630	8139
1800	716	699	724	626	2765	1047	854	832	794	3527	6292
1900	456	416	343	324	1539	683	575	525	474	2257	3796
2000	329	293	307	289	1218	433	434	440	386	1693	2911
2100	235	254	270	232	991	420	331	307	291	1349	2340
2200	211	223	209	134	777	299	285	255	229	1068	1845
2300	149	121	94	87	451	232	189	190	189	800	1251
24-HOUR TOTALS:					49789					46574	96363

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	5272	730	2983	730	8230
P.M.	1645	3609	1630	4774	1645	8364
DAILY	715	5272	1630	4774	1645	8364

TRUCK PERCENTAGE 4.68 4.41 4.55

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	38	38996	8425	309	1164	106	10	252	474	9	6	0	0	0	0	2330	49789
S	75	38516	5915	264	784	238	21	265	394	60	5	2	22	0	13	2055	46574

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0104
DESCRIPTION: SR 93/I-275, N OF 38TH AVE S
START DATE: 10/16/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	70	64	54	58	246	132	135	94	81	442	688
0100	45	39	34	31	149	65	49	47	40	201	350
0200	32	26	23	26	107	30	43	37	26	136	243
0300	26	42	55	53	176	47	36	35	34	152	328
0400	54	59	114	95	322	38	55	52	66	211	533
0500	141	210	322	376	1049	89	121	159	217	586	1635
0600	448	649	790	905	2792	285	354	401	507	1547	4339
0700	879	1179	1274	1184	4516	508	547	603	594	2252	6768
0800	1045	1111	962	879	3997	661	646	549	499	2355	6352
0900	733	746	680	648	2807	533	550	466	491	2040	4847
1000	601	615	614	640	2470	457	505	529	556	2047	4517
1100	665	500	548	608	2321	493	561	553	594	2201	4522
1200	564	544	614	625	2347	609	595	602	519	2325	4672
1300	530	560	629	576	2295	490	603	566	682	2341	4636
1400	562	619	612	610	2403	584	626	582	723	2515	4918
1500	563	609	650	626	2448	738	764	815	836	3153	5601
1600	669	754	711	685	2819	664	614	954	1001	3233	6052
1700	721	759	788	705	2973	1153	1196	1062	929	4340	7313
1800	657	650	554	525	2386	952	779	690	602	3023	5409
1900	462	429	394	381	1666	589	580	514	487	2170	3836
2000	327	330	278	287	1222	441	478	420	421	1760	2982
2100	230	240	210	177	857	428	378	318	282	1406	2263
2200	174	174	156	158	662	281	237	233	157	908	1570
2300	150	109	97	78	434	159	172	199	134	664	1098
24-HOUR TOTALS:					43464					42008	85472

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	4682	730	2504	730	7118
P.M.	1700	2973	1645	4412	1645	7365
DAILY	715	4682	1645	4412	1645	7365

TRUCK PERCENTAGE 5.11 4.69 4.90

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	106	33753	7386	320	1047	89	35	262	444	12	7	2	1	0	0	2219	43464
S	200	33393	6442	291	843	103	19	304	387	13	10	2	0	0	1	1972	42008

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0104
DESCRIPTION: SR 93/I-275, N OF 38TH AVE S
START DATE: 10/17/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	74	72	52	52	250	159	132	124	110	525	775
0100	43	39	35	38	155	77	66	45	54	242	397
0200	36	37	23	28	124	42	42	27	50	161	285
0300	30	44	45	47	166	47	44	38	38	167	333
0400	51	65	107	108	331	43	55	54	67	219	550
0500	137	208	283	347	975	73	125	150	212	560	1535
0600	411	603	780	851	2645	239	333	378	465	1415	4060
0700	812	1047	1092	1114	4065	510	524	634	616	2284	6349
0800	1028	1097	957	819	3901	603	647	597	516	2363	6264
0900	722	712	666	646	2746	532	539	517	473	2061	4807
1000	575	575	623	604	2377	536	530	523	551	2140	4517
1100	576	586	602	688	2452	543	524	594	633	2294	4746
1200	551	606	622	579	2358	686	667	661	654	2668	5026
1300	576	664	657	590	2487	619	664	681	720	2684	5171
1400	621	663	697	701	2682	634	631	675	712	2652	5334
1500	683	715	684	713	2795	750	769	855	812	3186	5981
1600	779	781	767	750	3077	924	973	972	979	3848	6925
1700	799	824	754	709	3086	1057	1017	1010	951	4035	7121
1800	682	648	641	523	2494	981	873	729	586	3169	5663
1900	484	483	421	408	1796	626	598	539	473	2236	4032
2000	331	274	248	255	1108	485	446	408	398	1737	2845
2100	238	249	246	214	947	429	383	375	337	1524	2471
2200	193	215	188	155	751	321	280	273	270	1144	1895
2300	138	117	129	81	465	227	212	161	157	757	1222
24-HOUR TOTALS:					44233					44071	88304

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	4331	730	2500	730	6831
P.M.	1630	3140	1645	4063	1645	7190
DAILY	730	4331	1645	4063	1645	7190

TRUCK PERCENTAGE 5.25 4.58 4.91

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	88	34194	7630	326	1160	97	23	243	451	11	9	1	0	0	0	2321	44233
S	186	35173	6693	295	878	84	11	344	372	18	10	3	3	0	1	2018	44071

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0106
DESCRIPTION: SR 93/I-275, S OF SR 694/GANDY BLVD
START DATE: 10/15/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	122	109	96	82	409	177	182	167	108	634	1043
0100	80	64	57	58	259	93	83	79	55	310	569
0200	51	54	66	56	227	61	57	66	42	226	453
0300	62	59	75	82	278	63	47	56	64	230	508
0400	90	120	161	186	557	60	79	85	106	330	887
0500	216	323	468	579	1586	151	200	307	373	1031	2617
0600	710	1023	1199	1302	4234	425	712	928	955	3020	7254
0700	1470	1772	1653	1689	6584	1044	1139	1328	1218	4729	11313
0800	1677	1785	1694	1441	6597	1161	1118	1191	1052	4522	11119
0900	1156	1111	1025	973	4265	1012	960	975	859	3806	8071
1000	1003	930	852	858	3643	904	876	919	898	3597	7240
1100	855	843	856	816	3370	821	873	890	850	3434	6804
1200	865	906	838	874	3483	869	814	884	842	3409	6892
1300	920	864	894	963	3641	812	946	908	973	3639	7280
1400	869	999	953	995	3816	941	928	1080	955	3904	7720
1500	1081	1084	1127	1093	4385	946	1097	1163	1213	4419	8804
1600	1225	1252	1227	1204	4908	1207	1204	1196	1127	4734	9642
1700	1233	1153	1088	899	4373	1103	1237	1641	1555	5536	9909
1800	852	900	823	716	3291	1499	1222	1079	927	4727	8018
1900	710	613	595	619	2537	841	750	670	600	2861	5398
2000	507	500	488	437	1932	590	537	481	407	2015	3947
2100	459	387	350	326	1522	460	476	409	380	1725	3247
2200	291	265	225	220	1001	367	327	303	266	1263	2264
2300	199	191	163	170	723	272	240	203	169	884	1607
24-HOUR TOTALS:					67621					64985	132606

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	745	6845	715	4846	715	11637
P.M.	1615	4916	1715	5932	1715	9924
DAILY	745	6845	1715	5932	715	11637

TRUCK PERCENTAGE 4.19 5.23 4.70

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	100	55436	9255	366	1262	263	28	347	537	14	11	1	1	0	0	2830	67621
S	73	50955	10558	434	1583	322	32	366	630	19	10	1	2	0	0	3399	64985

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 0106
DESCRIPTION: SR 93/I-275, S OF SR 694/GANDY BLVD
START DATE: 10/16/2013
START TIME: 1400

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	128	115	94	74	411	205	199	132	115	651	1062
0100	72	71	60	42	245	101	93	66	75	335	580
0200	62	45	59	51	217	55	58	58	59	230	447
0300	57	66	85	95	303	52	48	53	57	210	513
0400	89	116	165	175	545	55	64	99	102	320	865
0500	214	310	452	559	1535	128	199	292	391	1010	2545
0600	716	1010	1227	1322	4275	439	671	986	944	3040	7315
0700	1435	1772	1847	1763	6817	1006	1205	1300	1175	4686	11503
0800	1872	1775	1635	1459	6741	1122	1142	1134	1090	4488	11229
0900	1150	1072	1004	942	4168	981	994	957	887	3819	7987
1000	870	879	829	812	3390	834	885	902	852	3473	6863
1100	802	886	871	818	3377	853	928	918	911	3610	6987
1200	873	905	914	933	3625	913	820	893	854	3480	7105
1300	931	884	867	908	3590	830	861	1010	927	3628	7218
1400	981	1021	1038	1034	4074	867	951	1056	1048	3922	7996
1500	1048	1093	1171	1193	4505	1049	1103	1270	1229	4651	9156
1600	1264	1317	1259	1176	5016	1279	1390	1617	1662	5948	10964
1700	1351	1210	1150	1020	4731	1605	1656	1697	1687	6645	11376
1800	1016	1006	895	746	3663	1526	1339	1126	940	4931	8594
1900	676	695	603	598	2572	956	900	787	694	3337	5909
2000	534	560	510	475	2079	641	632	592	520	2385	4464
2100	473	428	417	370	1688	509	437	519	428	1893	3581
2200	335	298	296	258	1187	448	422	426	374	1670	2857
2300	231	262	184	178	855	346	325	262	220	1153	2008
24-HOUR TOTALS:					69609					69515	139124

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	7257	715	4802	715	12056
P.M.	1615	5103	1700	6645	1630	11536
DAILY	730	7257	1700	6645	715	12056

TRUCK PERCENTAGE 4.22 4.91 4.57

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
N	141	56998	9531	345	1330	237	52	381	561	14	17	1	0	0	1	2938	69609
S	56	54938	11104	455	1540	298	73	356	668	16	8	2	0	0	1	3416	69515

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 5405
DESCRIPTION: SR 93/I-275, NORTH OF SR 688/ULMERTON RD
START DATE: 11/12/2013
START TIME: 2200

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	120	141	86	69	416	220	168	176	130	694	1110
0100	71	74	48	62	255	108	93	81	81	363	618
0200	73	60	56	67	256	53	67	75	58	253	509
0300	76	82	85	81	324	61	76	86	70	293	617
0400	106	107	190	195	598	73	102	158	158	491	1089
0500	234	341	411	493	1479	214	323	499	512	1548	3027
0600	602	894	1151	1190	3837	642	1017	1217	1203	4079	7916
0700	1332	1451	1326	1187	5296	1241	1346	1345	1312	5244	10540
0800	1344	1187	1169	1096	4796	1239	1289	1232	1160	4920	9716
0900	974	1035	1066	966	4041	1167	1039	981	887	4074	8115
1000	899	880	902	913	3594	860	866	838	891	3455	7049
1100	889	976	911	944	3720	836	943	964	879	3622	7342
1200	859	948	939	911	3657	865	846	909	883	3503	7160
1300	888	1009	914	920	3731	902	900	940	927	3669	7400
1400	961	1002	1026	966	3955	925	993	997	996	3911	7866
1500	1127	1070	1282	1238	4717	893	1065	1075	1038	4071	8788
1600	1238	1234	1321	1177	4970	1138	1234	1312	1282	4966	9936
1700	1227	1172	1125	962	4486	1303	1395	1406	1214	5318	9804
1800	1003	1077	844	764	3688	1209	1244	1147	985	4585	8273
1900	718	640	563	483	2404	879	786	653	669	2987	5391
2000	498	467	434	368	1767	598	598	618	583	2397	4164
2100	479	389	372	281	1521	539	506	472	427	1944	3465
2200	320	262	243	187	1012	458	444	432	370	1704	2716
2300	194	176	177	137	684	277	280	259	232	1048	1732
24-HOUR TOTALS:					65204					69139	134343

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	5308	700	5244	715	10550
P.M.	1545	5031	1645	5386	1630	10189
DAILY	715	5308	1645	5386	715	10550

GENERATED BY SPS 5.0.45P

COUNTY: 15
STATION: 5405
DESCRIPTION: SR 93/I-275, NORTH OF SR 688/ULMERTON RD
START DATE: 11/13/2013
START TIME: 2200

	DIRECTION: N					DIRECTION: S					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	122	110	121	81	434	243	195	166	142	746	1180
0100	86	73	57	56	272	118	127	73	67	385	657
0200	62	79	68	73	282	56	80	68	71	275	557
0300	85	82	65	81	313	74	73	93	78	318	631
0400	103	111	165	191	570	94	128	178	167	567	1137
0500	233	323	420	502	1478	241	302	508	531	1582	3060
0600	687	923	1100	1195	3905	667	912	1199	1228	4006	7911
0700	1301	1481	1328	1221	5331	1182	1293	1294	1279	5048	10379
0800	1171	1184	1214	1119	4688	1275	1377	1236	1267	5155	9843
0900	1085	939	1050	940	4014	1130	1099	1061	899	4189	8203
1000	952	922	940	906	3720	878	868	978	864	3588	7308
1100	892	899	981	897	3669	905	887	909	919	3620	7289
1200	941	932	910	868	3651	886	867	875	952	3580	7231
1300	1005	927	1011	869	3812	953	980	935	962	3830	7642
1400	933	1010	983	990	3916	923	979	973	984	3859	7775
1500	1098	1248	1264	1345	4955	1000	1047	1031	1123	4201	9156
1600	1289	1291	1336	1104	5020	1174	1261	1343	1363	5141	10161
1700	1146	1089	1033	1042	4310	1354	1312	1322	1182	5170	9480
1800	1009	996	951	829	3785	1163	1224	1073	1043	4503	8288
1900	755	701	630	526	2612	929	820	692	724	3165	5777
2000	558	513	448	429	1948	594	629	589	538	2350	4298
2100	418	370	422	327	1537	566	600	566	549	2281	3818
2200	315	282	216	229	1042	448	488	437	302	1675	2717
2300	181	196	180	149	706	227	295	292	281	1095	1801
24-HOUR TOTALS:					65970					70329	136299

PEAK VOLUME INFORMATION

	DIRECTION: N		DIRECTION: S		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	700	5331	730	5225	700	10379
P.M.	1545	5261	1630	5372	1615	10198
DAILY	700	5331	1630	5372	700	10379

GENERATED BY SPS 5.0.45P

YEAR	AADT	DIRECTION 1		DIRECTION 2		K	D	T	AADT*K	AADT*D	AADT*T	Weighted K	Weighted D	Weighted T
SITE: 0079 - SR 93/I-275, N OF SR 686/ROOSEVELT BLVD														
2013	97500	C	N	46500	S	51000	8.50	62.80	5.50	828750	6123000	536250			
2012	99500	C	N	48000	S	51500	8.50	57.00	5.50	845750	5671500	547250			
2011	91500	C	N	44000	S	47500	8.50	55.80	5.60	777750	5105700	512400			
2010	88500	C	N	42500	S	46000	9.85	55.97	5.90	871725	4953345	522150			
2009	90500	C	N	43500	S	47000	9.41	62.10	6.20	851605	5620050	561100	9.11	56.79	6.24
2008	87500	C	N	42000	S	45500	9.86	54.48	7.40	862750	4767000	647500			
2007	85500	C	N	42000	S	43500	9.54	51.98	4.80	815670	4444290	410400			
2006	101000	C	N	43000	S	58000	9.53	51.46	4.80	962530	5197460	484800			
2005	102000	C	N	44000	S	58000	8.50	59.00	10.20	867000	6018000	1040400			
SITE: 0083 - SR 93/I-275, S OF 22ND AVE N/CR 690															
2013	149500	C	N	75500	S	74000	8.50	62.80	3.50	1270750	9388600	523250			
2012	148000	C	N	74500	S	73500	8.50	57.00	3.50	1258000	8436000	518000			
2011	148500	C	N	75000	S	73500	8.50	55.80	3.50	1262250	8286300	519750			
2010	137000	C	N	69500	S	67500	9.85	55.97	3.50	1349450	7667890	479500			
2009	149000	C	N	77000	S	72000	9.41	62.10	4.90	1402090	9252900	730100	9.06	58.68	4.63
2008	150000	C	N	75500	S	74500	9.86	54.48	4.90	1479000	8172000	735000			
2006	146000	E	N	73000	S	73000	9.53	51.46	6.00	1391380	7513160	876000			
2005	142000	C	N	71000	S	71000	8.50	59.00	6.00	1207000	8378000	852000			
2004	137000	C	N	69000	S	68000	8.90	70.10	6.00	1219300	9603700	822000			
SITE: 0084 - SR 93/I-275, S OF 36TH AVE N															
2013	146000	C	N	72500	S	73500	8.50	62.80	3.00	1241000	9168800	438000			
2012	147000	C	N	74500	S	72500	8.50	57.00	3.00	1249500	8379000	441000			
2011	150500	C	N	76500	S	74000	8.50	55.80	3.00	1279250	8397900	451500			
2010	144000	C	N	72000	S	72000	9.85	55.97	4.50	1418400	8059680	648000			
2009	154000	C	N	78000	S	76000	9.41	62.10	4.80	1449140	9563400	739200	9.08	58.61	4.42
2008	167500	C	N	85000	S	82500	9.86	54.48	4.50	1651550	9125400	753750			
2006	145000	E	N	71000	S	74000	9.53	51.46	5.70	1381850	7461700	826500			
2005	141500	F	N	69500	S	72000	8.50	59.00	5.70	1202750	8348500	806550			
2004	136500	C	N	67000	S	69500	8.90	70.10	5.70	1214850	9568650	778050			
SITE: 0085 - SR 93/I-275, SOUTH OF 42ND AVE N															
2013	147500	C	N	75500	S	72000	8.50	62.80	4.70	1253750	9263000	693250			
2012	152000	C	N	76500	S	75500	8.50	57.00	4.30	1292000	8664000	653600			
2011	149000	C	N	75500	S	73500	8.50	55.80	4.30	1266500	8314200	640700			
2010	151500	C	N	75500	S	76000	9.85	55.97	3.20	1492275	8479455	484800			
2009	157000	C	N	78500	S	78500	9.41	62.10	4.90	1477370	9749700	769300	9.07	58.60	4.53
2008	149500	C	N	75500	S	74000	9.86	54.48	5.60	1474070	8144760	837200			
2006	162000	E	N	82000	S	80000	9.53	51.46	4.60	1543860	8336520	745200			
2005	158000	C	N	79500	S	78500	8.50	59.00	4.60	1343000	9322000	726800			
2004	139500	C	N	67500	S	72000	8.90	70.10	4.60	1241550	9778950	641700			

YEAR	AADT		DIRECTION 1		DIRECTION 2		K	D	T	AADT*K	AADT*D	AADT*T	Weighted K	Weighted D	Weighted T
SITE: 0087 - SR 93/I-275, N OF SR 694/GANDY BLVD															
2013	127000	C	N	63500	S	63500	8.50	62.80	4.80	1079500	7975600	609600	9.11	58.10	4.70
2012	119500	C	N	59500	S	60000	8.50	57.00	3.90	1015750	6811500	466050			
2011	123000	C	N	61500	S	61500	8.50	55.80	3.90	1045500	6863400	479700			
2010	113500	C	N	55000	S	58500	9.85	55.97	3.90	1117975	6352595	442650			
2009	123000	C	N	58500	S	64500	9.41	62.10	5.60	1157430	7638300	688800			
2008	135000	C	N	67000	S	68000	9.86	54.48	6.00	1331100	7354800	810000			
2007	115000	C	N	56500	S	58500	9.54	51.98	4.20	1097100	5977700	483000			
2006	118500	C	N	57500	S	61000	9.53	51.46	4.20	1129305	6098010	497700			
2005	125500	C	N	60000	S	65500	8.50	59.00	5.10	1066750	7404500	640050			
2004	119000	C	N	61000	S	58000	8.90	70.10	5.10	1059100	8341900	606900			
SITE: 0099 - SR 93/I-275, N OF CENTRAL AVE/CR 654															
2013	115500	C	N	56500	S	59000	8.50	62.80	4.60	981750	7253400	531300	9.08	58.13	4.73
2012	119000	C	N	58500	S	60500	8.50	57.00	4.60	1011500	6783000	547400			
2011	105500	C	N	53000	S	52500	8.50	55.80	4.20	896750	5886900	443100			
2010	104000	C	N	53000	S	51000	9.85	55.97	4.40	1024400	5820880	457600			
2009	111000	C	N	56000	S	55000	9.41	62.10	5.10	1044510	6893100	566100			
2008	103500	C	N	52500	S	51000	9.86	54.48	5.50	1020510	5638680	569250			
2006	116000	E	N	56000	S	60000	9.53	51.46	6.30	1105480	5969360	730800			
2005	112000	C	N	54000	S	58000	8.50	59.00	6.30	952000	6608000	705600			
2004	105500	C	N	53500	S	52000	8.90	70.10	6.30	938950	7395550	664650			
SITE: 0100 - SR 93/I-275, W OF 22ND ST S															
2013	94000	C	N	48000	S	46000	8.50	62.80	4.80	799000	5903200	451200	9.09	58.05	5.06
2012	96000	C	N	48000	S	48000	8.50	57.00	4.80	816000	5472000	460800			
2011	94500	C	N	48000	S	46500	8.50	55.80	5.30	803250	5273100	500850			
2010	91500	C	N	47000	S	44500	9.85	55.97	4.40	901275	5121255	402600			
2009	94000	C	N	47500	S	46500	9.41	62.10	5.10	884540	5837400	479400			
2008	91000	C	N	46500	S	44500	9.86	54.48	6.00	897260	4957680	546000			
2007	96500	C	N	50500	S	46000	9.54	51.98	4.50	920610	5016070	434250			
2006	99000	C	N	49500	S	49500	9.53	51.46	5.50	943470	5094540	544500			
2005	91000	C	N	44500	S	46500	8.50	59.00	6.50	773500	5369000	591500			
2004	97000	C	N	47000	S	50000	8.90	70.10	6.50	863300	6799700	630500			

YEAR	AADT	DIRECTION 1		DIRECTION 2			K	D	T	AADT*K	AADT*D	AADT*T	Weighted K	Weighted D	Weighted T
SITE: 0102 - SR 93/I-275, N OF 18TH AVE S															
2013	98000	C	N	50500	S	47500	8.50	62.80	4.60	833000	6154400	450800	9.10	58.07	5.09
2012	94500	C	N	48000	S	46500	8.50	57.00	4.60	803250	5386500	434700			
2011	91000	E	N	46500	S	44500	8.50	55.80	5.40	773500	5077800	491400			
2010	94000	C	N	48000	S	46000	9.85	55.97	5.50	925900	5261180	517000			
2009	95000	C	N	49000	S	46000	9.41	62.10	5.50	893950	5899500	522500			
2008	95500	C	N	49000	S	46500	9.86	54.48	5.00	941630	5202840	477500			
2007	97500	C	N	49500	S	48000	9.54	51.98	5.00	930150	5068050	487500			
2006	92500	C	N	46000	S	46500	9.53	51.46	4.50	881525	4760050	416250			
2005	80000	C	N	40500	S	39500	8.50	59.00	10.20	680000	4720000	816000			
2004	99000	C	N	48500	S	50500	8.90	70.10	5.80	881100	6939900	574200			
SITE: 0104 - SR 93/I-275, N OF 38TH AVE S															
2013	88000	C	N	44500	S	43500	8.50	62.80	4.90	748000	5526400	431200	8.50	58.63	5.06
2012	82000	C	N	41000	S	41000	8.50	57.00	5.20	697000	4674000	426400			
2011	82000	C	N	42000	S	40000	8.50	55.80	5.10	697000	4575600	418200			
2010	86000	C	N	43500	S	42500	9.85	55.97	6.00	847100	4813420	516000			
2009	84500	C	N	43000	S	41500	9.41	62.10	6.00	795145	5247450	507000			
2008	87500	C	N	45500	S	42000	9.86	54.48	6.00	862750	4767000	525000			
2007	75500	C	N	37500	S	38000	9.54	51.98	5.00	720270	3924490	377500			
2006	80000	C	N	36500	S	43500	9.53	51.46	6.40	762400	4116800	512000			
2005	91000	C	N	47000	S	44000	8.50	59.00	6.30	773500	5369000	573300			
2004	78000	C	N	39500	S	38500	8.90	70.10	6.30	694200	5467800	491400			
SITE: 0106 - SR 93/I-275, S OF SR 694/GANDY BLVD															
2013	137500	C	N	69500	S	68000	8.50	62.80	4.60	1168750	8635000	632500	8.50	58.53	5.87
2012	141000	C	N	71500	S	69500	8.50	57.00	6.50	1198500	8037000	916500			
2011	136500	C	N	68000	S	68500	8.50	55.80	6.50	1160250	7616700	887250			
2010	133000	C	N	66000	S	67000	9.85	55.97	6.50	1310050	7444010	864500			
2009	145000	C	N	71500	S	73500	9.41	62.10	5.30	1364450	9004500	768500			
2008	137500	C	N	68500	S	69000	9.86	54.48	5.90	1355750	7491000	811250			
2006	136000	E	N	68000	S	68000	9.53	51.46	5.40	1296080	6998560	734400			
2005	135500	C	N	67000	S	68500	8.50	59.00	5.50	1151750	7994500	745250			
2004	135000	C	N	67000	S	68000	8.90	70.10	5.50	1201500	9463500	742500			

YEAR	AADT		DIRECTION 1		DIRECTION 2		K	D	T	AADT*K	AADT*D	AADT*T	Weighted K	Weighted D	Weighted T
SITE: 5405 - SR 93/I-275, NORTH OF SR 688/ULMERTON RD															
2013	135000	C	N	65500	S	69500	8.50	62.80	6.90	1147500	8478000	931500	8.50	60.14	6.90
2012	114500	C	N	58000	S	56500	8.50	57.00	6.90	973250	6526500	790050			
2011	129500	C	N	64500	S	65000	8.50	55.80	6.90	1100750	7226100	893550			
2010	126500	C	N	63000	S	63500	9.85	55.97	6.10	1246025	7080205	771650			
2009	130000	C	N	64500	S	65500	9.41	62.10	6.40	1223300	8073000	832000			
2008	143500	C	N	67000	S	76500	9.86	54.48	6.40	1414910	7817880	918400			
2007	90000	C	N	45000	S	45000	9.54	51.98	7.40	858600	4678200	666000			
2006	117500	C	N	59500	S	58000	9.53	51.46	7.40	1119775	6046550	869500			
2005	135000	C	N	67000	S	68000	8.50	59.00	10.20	1147500	7965000	1377000			
2004	122500	F	N	60000	S	62500	8.90	70.10	7.50	1090250	8587250	918750			

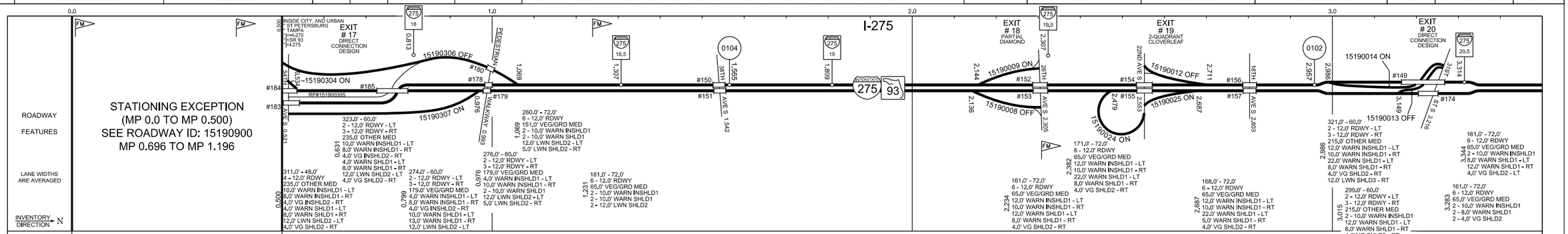
I-275	**9.08**	**58.17**	**4.88**
Total	**9.08**	**58.32**	**5.34**

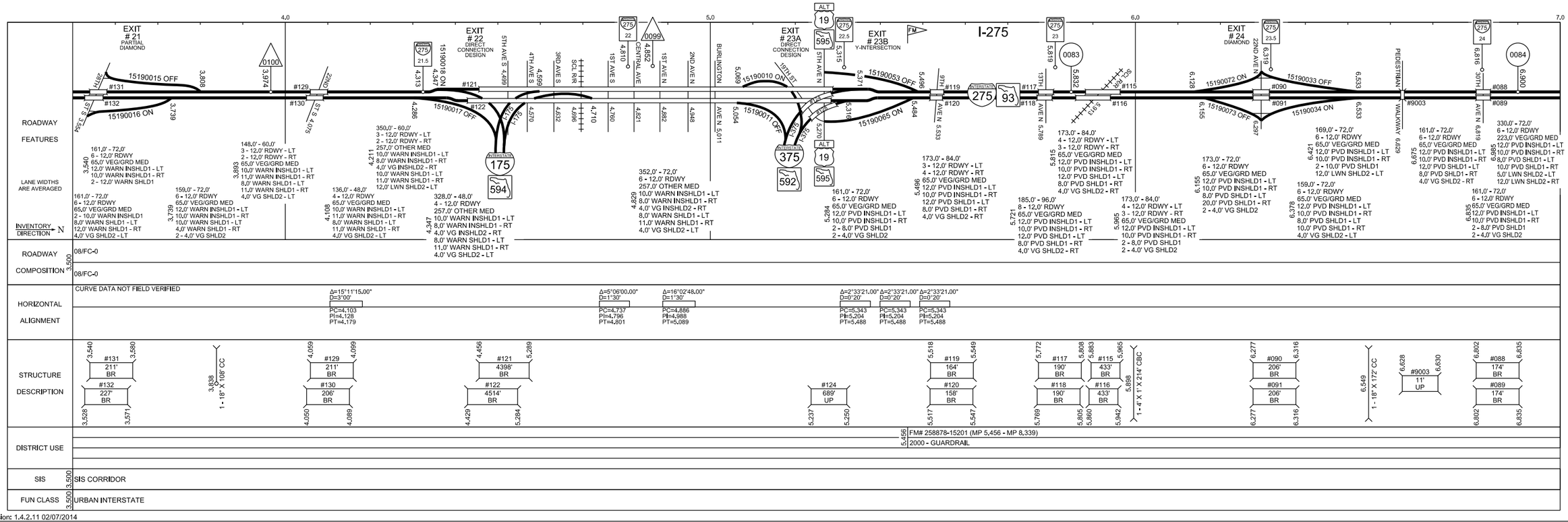
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	1/24/2014	2/17/2014				
BY	FTE / JW-KA	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
12	I-275	SR 93	PINELLAS	07	15 190 000	1 OF 3





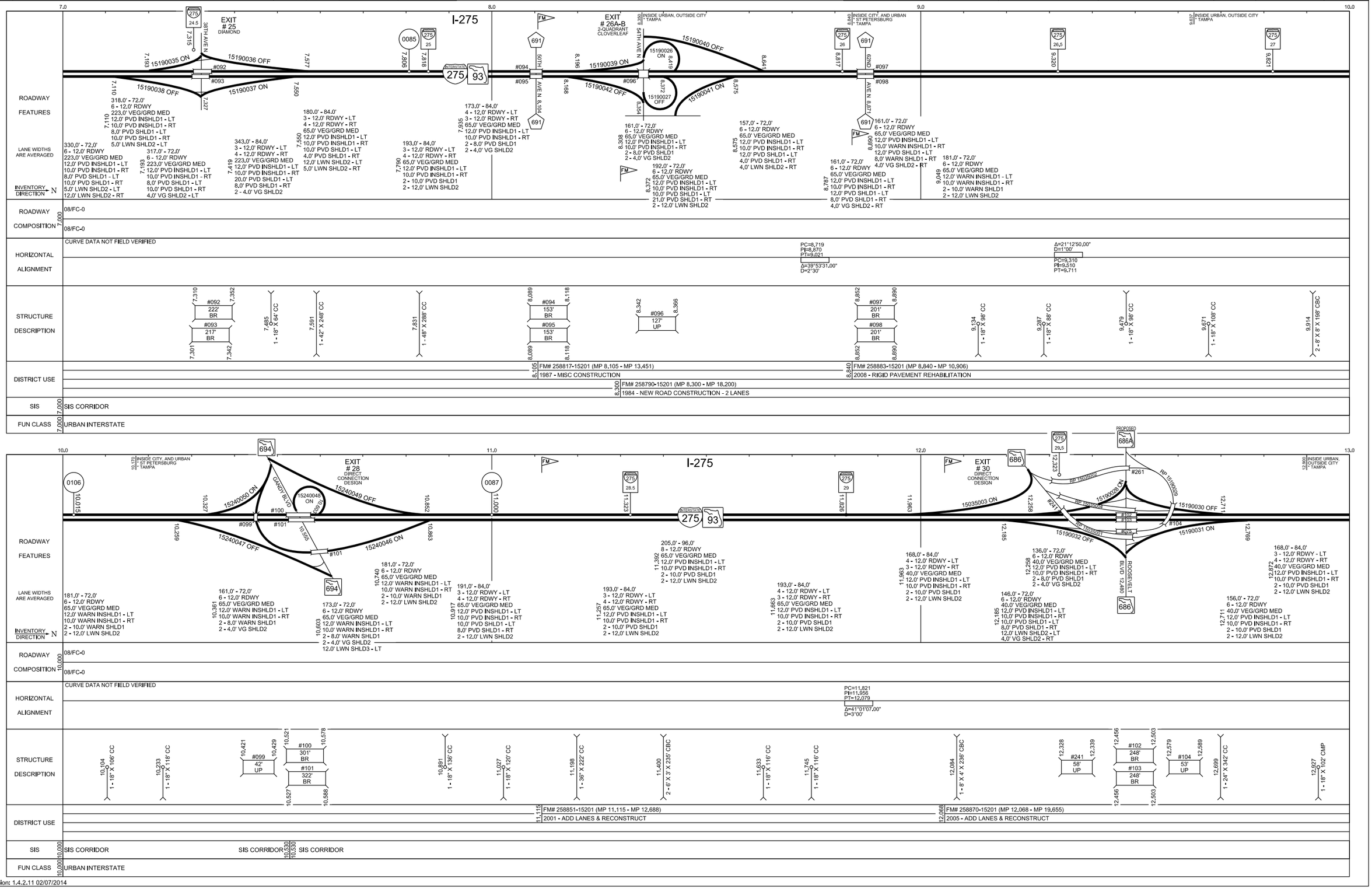
Version: 1.4.2.11 02/07/2014

	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	1/24/2014	2/17/2014	8.354	8.354		5/05/2014 FTE/KA
BY	FTE / JW-KA	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
12	I-275	SR 93	PINELLAS	07	15 190 000	2 OF 3



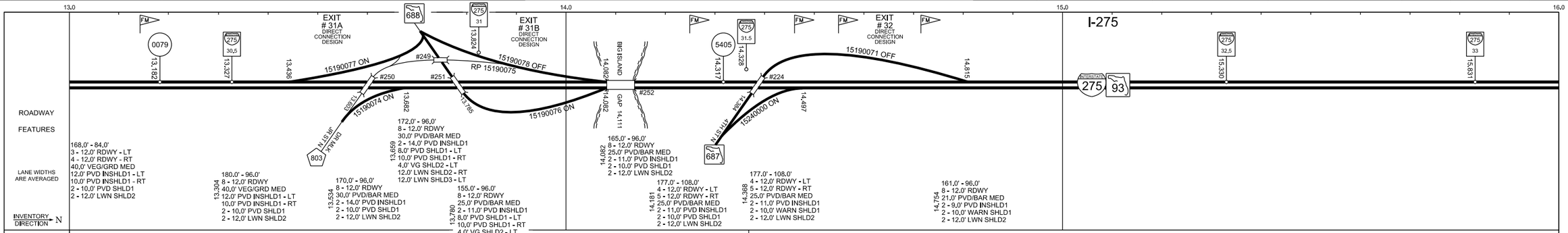
Version: 1.4.2.11 02/07/2014

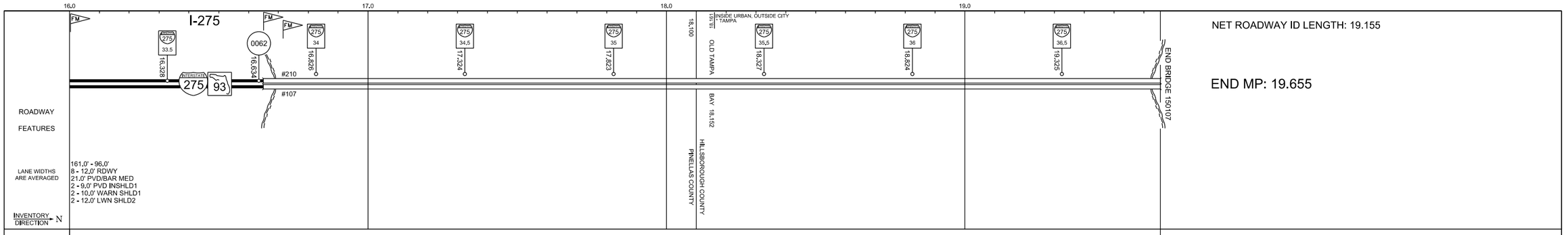
	5 YR INV	SLD REV	BMP	EMP	INV	SLD REV
DATE	1/24/2014	2/17/2014				
BY	FTE / JW-KA	FTE / KA				

FLORIDA DEPARTMENT OF TRANSPORTATION

STRAIGHT LINE DIAGRAM OF ROAD INVENTORY

SECTION STATUS	INT. or US ROUTE NO.	STATE ROAD NO.	COUNTY	DISTRICT	ROADWAY ID	SHEET NO:
12	I-275	SR 93	PINELLAS	07	15 190 000	3 OF 3





Version: 1.4.2.11 02/07/2014

Appendix D.
Traffic Count Data

Appendix D.
Traffic Count Data

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 1-I-275 NB On-ramp at 54th Ave S
Site Code: 1
Start Date: 04/09/2014

Turning Movement Data

Start Time	54th Ave S East Bound					54th Ave S West Bound					I-275 NB On-ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	20	129	0	149	0	90	165	0	255	0	0	404
7:15	0	30	172	0	202	0	108	180	0	288	0	0	490
7:30	0	25	159	0	184	0	102	198	0	300	2	0	484
7:45	0	37	187	0	224	0	140	178	0	318	0	0	542
Hourly Total	0	112	647	0	759	0	440	721	0	1161	2	0	1920
8:00	0	25	223	0	248	0	192	193	0	385	0	0	633
8:15	0	26	192	0	218	0	185	183	0	368	0	0	586
8:30	0	29	171	0	200	0	146	170	0	316	0	0	516
8:45	0	18	185	0	203	0	133	147	0	280	1	0	483
Hourly Total	0	98	771	0	869	0	656	693	0	1349	1	0	2218
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	1	33	272	0	306	1	117	95	0	213	3	0	519
16:15	0	19	271	0	290	0	126	115	0	241	1	0	531
16:30	0	23	279	0	302	0	149	77	0	226	0	0	528
16:45	1	15	308	0	324	0	129	91	0	220	1	0	544
Hourly Total	2	90	1130	0	1222	1	521	378	0	900	5	0	2122
17:00	0	21	300	0	321	0	151	98	0	249	0	0	570
17:15	1	14	337	0	352	0	141	91	0	232	0	0	584
17:30	0	24	311	0	335	0	125	83	0	208	0	0	543
17:45	1	17	259	0	277	0	145	83	0	228	0	0	505
Hourly Total	2	76	1207	0	1285	0	562	355	0	917	0	0	2202
Lights	4	371	3670	-	4045	1	2144	2123	-	4268	-	0	8313
% Lights	100.0	98.7	97.7	-	97.8	100.0	98.4	98.9	-	98.6	-	-	98.2
Other Vehicles	0	5	85	-	90	0	35	24	-	59	-	0	149
% Other Vehicles	0.0	1.3	2.3	-	2.2	0.0	1.6	1.1	-	1.4	-	-	1.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	8	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 1-I-275 NB On-ramp at 54th Ave S
Site Code: 1
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	54th Ave S East Bound					54th Ave S West Bound					I-275 NB On-ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:45	0	37	187	0	224	0	140	178	0	318	0	0	542
8:00	0	25	223	0	248	0	192	193	0	385	0	0	633
8:15	0	26	192	0	218	0	185	183	0	368	0	0	586
8:30	0	29	171	0	200	0	146	170	0	316	0	0	516
PHF	0.000	0.791	0.867	-	0.897	0.000	0.863	0.938	-	0.901	-	0.000	0.899
Lights	0	116	738	-	854	0	647	717	-	1364	-	0	2218
% Lights	-	99.1	95.5	-	96.0	-	97.6	99.0	-	98.3	-	-	97.4
Other Vehicles	0	1	35	-	36	0	16	7	-	23	-	0	59
% Other Vehicles	-	0.9	4.5	-	4.0	-	2.4	1.0	-	1.7	-	-	2.6
Pedestrians	-	-	-	0	-	-	-	-	0	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 1-I-275 NB On-ramp at 54th Ave S
Site Code: 1
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:45)

Start Time	54th Ave S East Bound					54th Ave S West Bound					I-275 NB On-ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
16:45	1	15	308	0	324	0	129	91	0	220	1	0	544
17:00	0	21	300	0	321	0	151	98	0	249	0	0	570
17:15	1	14	337	0	352	0	141	91	0	232	0	0	584
17:30	0	24	311	0	335	0	125	83	0	208	0	0	543
PHF	0.500	0.771	0.932	-	0.946	0.000	0.904	0.926	-	0.913	-	0.000	0.959
Lights	2	74	1243	-	1319	0	543	360	-	903	-	0	2222
% Lights	100.0	100.0	99.0	-	99.0	-	99.5	99.2	-	99.3	-	-	99.2
Other Vehicles	0	0	13	-	13	0	3	3	-	6	-	0	19
% Other Vehicles	0.0	0.0	1.0	-	1.0	-	0.5	0.8	-	0.7	-	-	0.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 2-I-275 SB Off-ramp at 54th Ave S
Site Code: 2
Start Date: 04/09/2014

Turning Movement Data

Start Time	54th Ave S East Bound				54th Ave S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00	0	82	0	82	0	90	0	90	67	22	0	89	261
7:15	0	132	0	132	0	109	0	109	73	12	0	85	326
7:30	0	110	0	110	0	103	0	103	77	20	2	97	310
7:45	0	134	0	134	0	142	0	142	87	30	0	117	393
Hourly Total	0	458	0	458	0	444	0	444	304	84	2	388	1290
8:00	0	153	0	153	0	189	0	189	92	26	0	118	460
8:15	0	136	2	136	0	183	0	183	83	28	0	111	430
8:30	0	125	0	125	0	143	0	143	70	25	0	95	363
8:45	0	135	0	135	0	137	0	137	67	16	0	83	355
Hourly Total	0	549	2	549	0	652	0	652	312	95	0	407	1608
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	217	0	217	0	111	0	111	88	42	0	130	458
16:15	0	201	0	201	1	129	0	130	91	44	0	135	466
16:30	0	198	0	198	1	153	0	154	104	55	1	159	511
16:45	0	208	0	208	0	136	0	136	117	50	0	167	511
Hourly Total	0	824	0	824	2	529	0	531	400	191	1	591	1946
17:00	0	203	0	203	0	148	0	148	121	58	0	179	530
17:15	0	234	0	234	0	145	0	145	121	70	0	191	570
17:30	0	217	0	217	0	121	0	121	114	55	2	169	507
17:45	0	204	1	204	0	147	0	147	70	36	1	106	457
Hourly Total	0	858	1	858	0	561	0	561	426	219	3	645	2064
Lights	0	2629	-	2629	2	2150	-	2152	1414	575	-	1989	6770
% Lights	-	97.8	-	97.8	100.0	98.4	-	98.4	98.1	97.6	-	97.9	98.0
Other Vehicles	0	60	-	60	0	36	-	36	28	14	-	42	138
% Other Vehicles	-	2.2	-	2.2	0.0	1.6	-	1.6	1.9	2.4	-	2.1	2.0
Pedestrians	-	-	3	-	-	-	0	-	-	-	6	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 2-I-275 SB Off-ramp at 54th Ave S
Site Code: 2
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	54th Ave S East Bound				54th Ave S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:45	0	134	0	134	0	142	0	142	87	30	0	117	393
8:00	0	153	0	153	0	189	0	189	92	26	0	118	460
8:15	0	136	2	136	0	183	0	183	83	28	0	111	430
8:30	0	125	0	125	0	143	0	143	70	25	0	95	363
PHF	0.000	0.895	-	0.895	0.000	0.869	-	0.869	0.902	0.908	-	0.934	0.895
Lights	0	524	-	524	0	642	-	642	321	101	-	422	1588
% Lights	-	95.6	-	95.6	-	97.7	-	97.7	96.7	92.7	-	95.7	96.5
Other Vehicles	0	24	-	24	0	15	-	15	11	8	-	19	58
% Other Vehicles	-	4.4	-	4.4	-	2.3	-	2.3	3.3	7.3	-	4.3	3.5
Pedestrians	-	-	2	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	-	-	-

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(800) 639 4851

Count Name: 2-I-275 SB Off-ramp at 54th Ave S
Site Code: 2
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:30)

Start Time	54th Ave S East Bound				54th Ave S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
16:30	0	198	0	198	1	153	0	154	104	55	1	159	511
16:45	0	208	0	208	0	136	0	136	117	50	0	167	511
17:00	0	203	0	203	0	148	0	148	121	58	0	179	530
17:15	0	234	0	234	0	145	0	145	121	70	0	191	570
PHF	0.000	0.901	-	0.901	0.250	0.951	-	0.946	0.957	0.832	-	0.911	0.931
Lights	0	835	-	835	1	577	-	578	459	230	-	689	2102
% Lights	-	99.1	-	99.1	100.0	99.1	-	99.1	99.1	98.7	-	99.0	99.1
Other Vehicles	0	8	-	8	0	5	-	5	4	3	-	7	20
% Other Vehicles	-	0.9	-	0.9	0.0	0.9	-	0.9	0.9	1.3	-	1.0	0.9
Pedestrians	-	-	0	-	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 3-I-275 NB Off-ramp at 26th Ave S
Site Code: 3
Start Date: 04/09/2014

Turning Movement Data

Start Time	26th Ave S East Bound				26th Ave S West Bound			I 275 NB Off Ramp North Bound				
	U-Turn	Thru	Peds	App. Total	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00	0	14	0	14	34	0	34	47	11	0	58	106
7:15	0	19	0	19	33	0	33	52	18	0	70	122
7:30	0	23	0	23	49	0	49	69	26	0	95	167
7:45	0	27	0	27	50	0	50	59	28	0	87	164
Hourly Total	0	83	0	83	166	0	166	227	83	0	310	559
8:00	0	34	0	34	52	0	52	56	43	0	99	185
8:15	0	39	0	39	90	0	90	76	53	1	129	258
8:30	0	41	0	41	86	0	86	62	26	0	88	215
8:45	0	39	0	39	60	0	60	44	17	1	61	160
Hourly Total	0	153	0	153	288	0	288	238	139	2	377	818
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	38	0	38	64	0	64	43	8	0	51	153
16:15	0	46	0	46	80	0	80	51	18	0	69	195
16:30	0	50	0	50	68	0	68	54	16	0	70	188
16:45	0	39	0	39	66	0	66	41	11	0	52	157
Hourly Total	0	173	0	173	278	0	278	189	53	0	242	693
17:00	0	46	0	46	85	0	85	57	19	1	76	207
17:15	0	51	0	51	63	0	63	53	21	2	74	188
17:30	0	42	0	42	68	0	68	47	27	0	74	184
17:45	0	57	0	57	53	0	53	50	20	0	70	180
Hourly Total	0	196	0	196	269	0	269	207	87	3	294	759
Lights	0	589	-	589	975	-	975	844	358	-	1202	2766
% Lights	-	97.4	-	97.4	97.4	-	97.4	98.0	98.9	-	98.3	97.8
Other Vehicles	0	16	-	16	26	-	26	17	4	-	21	63
% Other Vehicles	-	2.6	-	2.6	2.6	-	2.6	2.0	1.1	-	1.7	2.2
Pedestrians	-	-	0	-	-	0	-	-	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

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(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 3-I-275 NB Off-ramp at 26th Ave S
Site Code: 3
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	26th Ave S East Bound				26th Ave S West Bound			I 275 NB Off Ramp North Bound				
	U-Turn	Thru	Peds	App. Total	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:45	0	27	0	27	50	0	50	59	28	0	87	164
8:00	0	34	0	34	52	0	52	56	43	0	99	185
8:15	0	39	0	39	90	0	90	76	53	1	129	258
8:30	0	41	0	41	86	0	86	62	26	0	88	215
PHF	0.000	0.860	-	0.860	0.772	-	0.772	0.832	0.708	-	0.781	0.797
Lights	0	132	-	132	275	-	275	250	149	-	399	806
% Lights	-	93.6	-	93.6	98.9	-	98.9	98.8	99.3	-	99.0	98.1
Other Vehicles	0	9	-	9	3	-	3	3	1	-	4	16
% Other Vehicles	-	6.4	-	6.4	1.1	-	1.1	1.2	0.7	-	1.0	1.9
Pedestrians	-	-	0	-	-	0	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 3-I-275 NB Off-ramp at 26th Ave S
Site Code: 3
Start Date: 04/09/2014

Turning Movement Peak Hour Data (17:00)

Start Time	26th Ave S East Bound				26th Ave S West Bound			I 275 NB Off Ramp North Bound				
	U-Turn	Thru	Peds	App. Total	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
17:00	0	46	0	46	85	0	85	57	19	1	76	207
17:15	0	51	0	51	63	0	63	53	21	2	74	188
17:30	0	42	0	42	68	0	68	47	27	0	74	184
17:45	0	57	0	57	53	0	53	50	20	0	70	180
PHF	0.000	0.860	-	0.860	0.791	-	0.791	0.908	0.806	-	0.967	0.917
Lights	0	196	-	196	268	-	268	203	87	-	290	754
% Lights	-	100.0	-	100.0	99.6	-	99.6	98.1	100.0	-	98.6	99.3
Other Vehicles	0	0	-	0	1	-	1	4	0	-	4	5
% Other Vehicles	-	0.0	-	0.0	0.4	-	0.4	1.9	0.0	-	1.4	0.7
Pedestrians	-	-	0	-	-	0	-	-	-	3	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 4-I-275 SB On-ramp at 26th Ave S.
Site Code: 4
Start Date: 04/09/2014

Turning Movement Data

Start Time	26th Ave S East Bound					26th Ave S West Bound					I 275 SB On-ramp North Bound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	13	47	0	60	0	9	73	0	82	0	0	142
7:15	0	19	49	0	68	0	11	73	0	84	0	0	152
7:30	0	23	32	0	55	0	13	104	0	117	0	0	172
7:45	0	27	36	0	63	0	17	93	0	110	0	0	173
Hourly Total	0	82	164	0	246	0	50	343	0	393	0	0	639
8:00	0	34	48	0	82	0	14	90	0	104	0	0	186
8:15	0	39	50	0	89	0	19	148	0	167	1	0	256
8:30	0	41	37	0	78	0	25	124	0	149	0	0	227
8:45	0	39	38	0	77	0	16	88	0	104	1	0	181
Hourly Total	0	153	173	0	326	0	74	450	0	524	2	0	850
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	1	36	41	0	78	0	21	86	0	107	1	0	185
16:15	0	48	50	0	98	0	25	106	0	131	0	0	229
16:30	0	48	48	0	96	0	22	100	0	122	0	0	218
16:45	0	40	85	0	125	0	18	90	0	108	0	0	233
Hourly Total	1	172	224	0	397	0	86	382	0	468	1	0	865
17:00	0	46	64	0	110	0	26	115	0	141	1	0	251
17:15	0	52	61	0	113	1	24	91	0	116	1	0	229
17:30	0	41	43	0	84	0	17	100	0	117	1	0	201
17:45	0	55	45	0	100	0	22	80	0	102	0	0	202
Hourly Total	0	194	213	0	407	1	89	386	0	476	3	0	883
Lights	1	585	759	-	1345	1	293	1523	-	1817	-	0	3162
% Lights	100.0	97.3	98.1	-	97.7	100.0	98.0	97.6	-	97.6	-	-	97.7
Other Vehicles	0	16	15	-	31	0	6	38	-	44	-	0	75
% Other Vehicles	0.0	2.7	1.9	-	2.3	0.0	2.0	2.4	-	2.4	-	-	2.3
Pedestrians	-	-	-	0	-	-	-	-	0	-	6	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 4-I-275 SB On-ramp at 26th Ave S.
Site Code: 4
Start Date: 04/09/2014

Turning Movement Peak Hour Data (8:00)

Start Time	26th Ave S East Bound					26th Ave S West Bound					I 275 SB On-ramp North Bound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Int. Total
8:00	0	34	48	0	82	0	14	90	0	104	0	0	186
8:15	0	39	50	0	89	0	19	148	0	167	1	0	256
8:30	0	41	37	0	78	0	25	124	0	149	0	0	227
8:45	0	39	38	0	77	0	16	88	0	104	1	0	181
PHF	0.000	0.933	0.865	-	0.916	0.000	0.740	0.760	-	0.784	-	0.000	0.830
Lights	0	141	167	-	308	0	73	440	-	513	-	0	821
% Lights	-	92.2	96.5	-	94.5	-	98.6	97.8	-	97.9	-	-	96.6
Other Vehicles	0	12	6	-	18	0	1	10	-	11	-	0	29
% Other Vehicles	-	7.8	3.5	-	5.5	-	1.4	2.2	-	2.1	-	-	3.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 4-I-275 SB On-ramp at 26th Ave S.
Site Code: 4
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:15)

Start Time	26th Ave S East Bound					26th Ave S West Bound					I 275 SB On-ramp North Bound		
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Int. Total
16:15	0	48	50	0	98	0	25	106	0	131	0	0	229
16:30	0	48	48	0	96	0	22	100	0	122	0	0	218
16:45	0	40	85	0	125	0	18	90	0	108	0	0	233
17:00	0	46	64	0	110	0	26	115	0	141	1	0	251
PHF	0.000	0.948	0.726	-	0.858	0.000	0.875	0.893	-	0.890	-	0.000	0.927
Lights	0	182	244	-	426	0	89	396	-	485	-	0	911
% Lights	-	100.0	98.8	-	99.3	-	97.8	96.4	-	96.6	-	-	97.9
Other Vehicles	0	0	3	-	3	0	2	15	-	17	-	0	20
% Other Vehicles	-	0.0	1.2	-	0.7	-	2.2	3.6	-	3.4	-	-	2.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 5-I-275 SB Off-ramp at 22th Ave S
Site Code: 5
Start Date: 04/09/2014

Turning Movement Data

Start Time	22th Ave S East Bound			22th Ave S West Bound				I-275 SB Off-ramp South Bound				
	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00	147	0	147	1	55	0	56	28	80	0	108	311
7:15	184	0	184	0	58	0	58	43	107	0	150	392
7:30	196	0	196	2	70	0	72	37	129	0	166	434
7:45	230	0	230	0	59	0	59	45	137	0	182	471
Hourly Total	757	0	757	3	242	0	245	153	453	0	606	1608
8:00	207	0	207	0	87	0	87	87	125	0	212	506
8:15	215	0	215	1	105	0	106	85	161	0	246	567
8:30	203	0	203	0	87	0	87	34	153	0	187	477
8:45	210	0	210	0	90	0	90	24	136	0	160	460
Hourly Total	835	0	835	1	369	0	370	230	575	0	805	2010
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-
16:00	187	0	187	1	91	0	92	48	120	0	168	447
16:15	203	0	203	0	97	0	97	32	151	0	183	483
16:30	224	0	224	0	84	0	84	33	138	0	171	479
16:45	240	0	240	0	84	0	84	32	163	1	195	519
Hourly Total	854	0	854	1	356	0	357	145	572	1	717	1928
17:00	220	2	220	0	79	0	79	49	154	2	203	502
17:15	235	0	235	0	105	0	105	41	167	2	208	548
17:30	205	0	205	1	101	0	102	47	155	1	202	509
17:45	200	0	200	0	84	0	84	79	201	2	280	564
Hourly Total	860	2	860	1	369	0	370	216	677	7	893	2123
Lights	3234	-	3234	6	1294	-	1300	715	2237	-	2952	7486
% Lights	97.8	-	97.8	100.0	96.9	-	96.9	96.1	98.2	-	97.7	97.6
Other Vehicles	72	-	72	0	42	-	42	29	40	-	69	183
% Other Vehicles	2.2	-	2.2	0.0	3.1	-	3.1	3.9	1.8	-	2.3	2.4
Pedestrians	-	2	-	-	-	0	-	-	-	8	-	-
% Pedestrians	-	100.0	-	-	-	-	-	-	-	100.0	-	-

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(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 5-I-275 SB Off-ramp at 22th Ave S
Site Code: 5
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	22th Ave S East Bound			22th Ave S West Bound				I-275 SB Off-ramp South Bound				
	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:45	230	0	230	0	59	0	59	45	137	0	182	471
8:00	207	0	207	0	87	0	87	87	125	0	212	506
8:15	215	0	215	1	105	0	106	85	161	0	246	567
8:30	203	0	203	0	87	0	87	34	153	0	187	477
PHF	0.929	-	0.929	0.250	0.805	-	0.800	0.721	0.894	-	0.840	0.891
Lights	833	-	833	1	329	-	330	240	560	-	800	1963
% Lights	97.4	-	97.4	100.0	97.3	-	97.3	95.6	97.2	-	96.7	97.1
Other Vehicles	22	-	22	0	9	-	9	11	16	-	27	58
% Other Vehicles	2.6	-	2.6	0.0	2.7	-	2.7	4.4	2.8	-	3.3	2.9
Pedestrians	-	0	-	-	-	0	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-

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(FTE)
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Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 5-I-275 SB Off-ramp at 22th Ave S
Site Code: 5
Start Date: 04/09/2014

Turning Movement Peak Hour Data (17:00)

Start Time	22th Ave S East Bound			22th Ave S West Bound				I-275 SB Off-ramp South Bound				
	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
17:00	220	2	220	0	79	0	79	49	154	2	203	502
17:15	235	0	235	0	105	0	105	41	167	2	208	548
17:30	205	0	205	1	101	0	102	47	155	1	202	509
17:45	200	0	200	0	84	0	84	79	201	2	280	564
PHF	0.915	-	0.915	0.250	0.879	-	0.881	0.684	0.842	-	0.797	0.941
Lights	845	-	845	1	358	-	359	212	669	-	881	2085
% Lights	98.3	-	98.3	100.0	97.0	-	97.0	98.1	98.8	-	98.7	98.2
Other Vehicles	15	-	15	0	11	-	11	4	8	-	12	38
% Other Vehicles	1.7	-	1.7	0.0	3.0	-	3.0	1.9	1.2	-	1.3	1.8
Pedestrians	-	2	-	-	-	0	-	-	-	7	-	-
% Pedestrians	-	100.0	-	-	-	-	-	-	-	100.0	-	-

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(FTE)
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Count Name: 6-I-275 NB Off-/SB On-ramps at 31st St S
Site Code: 6
Start Date: 04/09/2014

Turning Movement Data

Start Time	I-275 NB OFF RAMP East Bound						I-275 SB ON RAMP West Bound						31st St S North Bound						31st St S South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	92	0	4	7	96	0	0	0	0	0	0	0	2	57	1	0	60	0	2	52	66	0	120	276
7:15	0	116	1	1	1	118	0	0	0	1	0	1	0	1	38	0	0	39	0	0	26	51	0	77	235
7:30	0	110	0	8	0	118	0	0	1	2	0	3	0	2	58	0	0	60	0	2	23	55	0	80	261
7:45	0	116	0	28	0	144	0	0	1	0	0	1	0	3	81	0	0	84	0	1	36	64	0	101	330
Hourly Total	0	434	1	41	8	476	0	0	2	3	0	5	0	8	234	1	0	243	0	5	137	236	0	378	1102
8:00	1	104	0	5	0	110	0	0	0	0	0	0	0	5	68	0	0	73	0	1	47	69	0	117	300
8:15	0	110	0	33	2	143	0	0	0	1	2	1	0	3	90	0	0	93	0	1	47	62	0	110	347
8:30	0	119	0	15	0	134	0	0	0	0	0	0	0	5	85	0	0	90	0	2	45	62	0	109	333
8:45	1	112	1	3	0	117	0	1	0	0	1	1	0	2	64	0	0	66	0	1	47	42	0	90	274
Hourly Total	2	445	1	56	2	504	0	1	0	1	3	2	0	15	307	0	0	322	0	5	186	235	0	426	1254
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	1	70	0	5	3	76	0	0	0	1	0	1	0	3	68	0	0	71	0	0	74	73	0	147	295
16:15	0	75	1	8	0	84	0	0	0	2	0	2	0	4	62	1	0	67	0	1	72	83	0	156	309
16:30	0	88	0	4	0	92	0	2	2	5	0	9	0	1	60	0	0	61	0	0	76	90	0	166	328
16:45	0	79	0	5	1	84	0	0	0	0	1	0	0	5	55	0	0	60	0	0	77	84	0	161	305
Hourly Total	1	312	1	22	4	336	0	2	2	8	1	12	0	13	245	1	0	259	0	1	299	330	0	630	1237
17:00	0	91	0	11	4	102	0	0	0	0	2	0	0	3	69	0	0	72	0	0	76	90	0	166	340
17:15	0	80	0	10	0	90	0	0	0	0	0	0	0	7	76	1	0	84	0	0	87	94	0	181	355
17:30	0	94	0	12	0	106	0	0	0	0	0	0	0	2	71	0	0	73	0	3	88	97	0	188	367
17:45	0	92	0	12	0	104	0	0	0	0	0	0	0	0	78	0	0	78	0	0	92	108	0	200	382
Hourly Total	0	357	0	45	4	402	0	0	0	0	2	0	0	12	294	1	0	307	0	3	343	389	0	735	1444
Lights	3	1525	3	158	-	1689	0	3	2	12	-	17	0	47	1042	3	-	1092	0	12	937	1182	-	2131	4929
% Lights	100.0	98.5	100.0	96.3	-	98.3	-	100.0	50.0	100.0	-	89.5	-	97.9	96.5	100.0	-	96.6	-	85.7	97.1	99.3	-	98.2	97.9
Other Vehicles	0	23	0	6	-	29	0	0	2	0	-	2	0	1	38	0	-	39	0	2	28	8	-	38	108
% Other Vehicles	0.0	1.5	0.0	3.7	-	1.7	-	0.0	50.0	0.0	-	10.5	-	2.1	3.5	0.0	-	3.4	-	14.3	2.9	0.7	-	1.8	2.1
Pedestrians	-	-	-	-	18	-	-	-	-	-	6	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 6-I-275 NB Off-/SB On-ramps at 31st St S
Site Code: 6
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	I-275 NB OFF RAMP East Bound						I-275 SB ON RAMP West Bound						31st St S North Bound						31st St S South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:45	0	116	0	28	0	144	0	0	1	0	0	1	0	3	81	0	0	84	0	1	36	64	0	101	330
8:00	1	104	0	5	0	110	0	0	0	0	0	0	0	5	68	0	0	73	0	1	47	69	0	117	300
8:15	0	110	0	33	2	143	0	0	0	1	2	1	0	3	90	0	0	93	0	1	47	62	0	110	347
8:30	0	119	0	15	0	134	0	0	0	0	0	0	0	5	85	0	0	90	0	2	45	62	0	109	333
PHF	0.250	0.943	0.000	0.614	-	0.922	0.000	0.000	0.250	0.250	-	0.500	0.000	0.800	0.900	0.000	-	0.914	0.000	0.625	0.931	0.931	-	0.934	0.944
Lights	1	443	0	79	-	523	0	0	0	1	-	1	0	15	311	0	-	326	0	5	167	256	-	428	1278
% Lights	100.0	98.7	-	97.5	-	98.5	-	-	0.0	100.0	-	50.0	-	93.8	96.0	-	-	95.9	-	100.0	95.4	99.6	-	97.9	97.6
Other Vehicles	0	6	0	2	-	8	0	0	1	0	-	1	0	1	13	0	-	14	0	0	8	1	-	9	32
% Other Vehicles	0.0	1.3	-	2.5	-	1.5	-	-	100.0	0.0	-	50.0	-	6.3	4.0	-	-	4.1	-	0.0	4.6	0.4	-	2.1	2.4
Pedestrians	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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(800) 639 4851

Count Name: 6-I-275 NB Off-/SB On-ramps at 31st St S
Site Code: 6
Start Date: 04/09/2014

Turning Movement Peak Hour Data (17:00)

Start Time	I-275 NB OFF RAMP East Bound						I-275 SB ON RAMP West Bound						31st St S North Bound						31st St S South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
17:00	0	91	0	11	4	102	0	0	0	0	2	0	0	3	69	0	0	72	0	0	76	90	0	166	340
17:15	0	80	0	10	0	90	0	0	0	0	0	0	0	7	76	1	0	84	0	0	87	94	0	181	355
17:30	0	94	0	12	0	106	0	0	0	0	0	0	0	2	71	0	0	73	0	3	88	97	0	188	367
17:45	0	92	0	12	0	104	0	0	0	0	0	0	0	0	78	0	0	78	0	0	92	108	0	200	382
PHF	0.000	0.949	0.000	0.938	-	0.948	0.000	0.000	0.000	0.000	-	0.000	0.000	0.429	0.942	0.250	-	0.914	0.000	0.250	0.932	0.900	-	0.919	0.945
Lights	0	352	0	44	-	396	0	0	0	0	-	0	0	12	289	1	-	302	0	1	338	388	-	727	1425
% Lights	-	98.6	-	97.8	-	98.5	-	-	-	-	-	-	-	100.0	98.3	100.0	-	98.4	-	33.3	98.5	99.7	-	98.9	98.7
Other Vehicles	0	5	0	1	-	6	0	0	0	0	-	0	0	0	5	0	-	5	0	2	5	1	-	8	19
% Other Vehicles	-	1.4	-	2.2	-	1.5	-	-	-	-	-	-	-	0.0	1.7	0.0	-	1.6	-	66.7	1.5	0.3	-	1.1	1.3
Pedestrians	-	-	-	-	4	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
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(800) 639 4851

Count Name: 7-I-275 NB On-ramp at 28th St S
Site Code: 7
Start Date: 04/09/2014

Turning Movement Data

Start Time	I-275 NB Ramp West Bound		28th St S North Bound					28th St S South Bound					
	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:00	5	0	0	25	38	0	63	0	33	66	0	99	162
7:15	0	0	0	13	42	0	55	0	32	76	0	108	163
7:30	3	0	0	45	34	0	79	0	34	69	0	103	182
7:45	1	0	0	53	45	0	98	0	21	71	0	92	190
Hourly Total	9	0	0	136	159	0	295	0	120	282	0	402	697
8:00	2	0	0	58	41	0	99	0	29	114	0	143	242
8:15	10	0	0	88	44	0	132	0	26	105	0	131	263
8:30	2	0	0	60	54	2	114	0	21	69	0	90	204
8:45	1	0	0	46	33	2	79	0	27	63	0	90	169
Hourly Total	15	0	0	252	172	4	424	0	103	351	0	454	878
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	3	0	0	52	27	0	79	0	32	97	0	129	208
16:15	0	0	0	67	39	1	106	0	34	97	1	131	237
16:30	6	0	0	38	38	1	76	0	36	124	1	160	236
16:45	4	0	0	65	38	1	103	0	43	126	0	169	272
Hourly Total	13	0	0	222	142	3	364	0	145	444	2	589	953
17:00	1	0	0	51	26	0	77	0	47	112	1	159	236
17:15	0	0	0	58	29	0	87	0	38	111	0	149	236
17:30	3	0	0	56	30	1	86	0	29	122	0	151	237
17:45	0	0	0	48	27	0	75	0	30	110	0	140	215
Hourly Total	4	0	0	213	112	1	325	0	144	455	1	599	924
Lights	-	0	0	791	575	-	1366	0	485	1498	-	1983	3349
% Lights	-	-	-	96.1	98.3	-	97.0	-	94.7	97.8	-	97.0	97.0
Other Vehicles	-	0	0	32	10	-	42	0	27	34	-	61	103
% Other Vehicles	-	-	-	3.9	1.7	-	3.0	-	5.3	2.2	-	3.0	3.0
Pedestrians	41	-	-	-	-	8	-	-	-	-	3	-	-
% Pedestrians	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 7-I-275 NB On-ramp at 28th St S
Site Code: 7
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	I-275 NB Ramp West Bound		28th St S North Bound					28th St S South Bound					
	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
7:45	1	0	0	53	45	0	98	0	21	71	0	92	190
8:00	2	0	0	58	41	0	99	0	29	114	0	143	242
8:15	10	0	0	88	44	0	132	0	26	105	0	131	263
8:30	2	0	0	60	54	2	114	0	21	69	0	90	204
PHF	-	0.000	0.000	0.736	0.852	-	0.839	0.000	0.836	0.787	-	0.797	0.855
Lights	-	0	0	246	180	-	426	0	90	344	-	434	860
% Lights	-	-	-	95.0	97.8	-	96.2	-	92.8	95.8	-	95.2	95.7
Other Vehicles	-	0	0	13	4	-	17	0	7	15	-	22	39
% Other Vehicles	-	-	-	5.0	2.2	-	3.8	-	7.2	4.2	-	4.8	4.3
Pedestrians	15	-	-	-	-	2	-	-	-	-	0	-	-
% Pedestrians	100.0	-	-	-	-	100.0	-	-	-	-	-	-	-

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Count Name: 7-I-275 NB On-ramp at 28th St S
Site Code: 7
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:15)

Start Time	I-275 NB Ramp West Bound		28th St S North Bound					28th St S South Bound					
	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Int. Total
16:15	0	0	0	67	39	1	106	0	34	97	1	131	237
16:30	6	0	0	38	38	1	76	0	36	124	1	160	236
16:45	4	0	0	65	38	1	103	0	43	126	0	169	272
17:00	1	0	0	51	26	0	77	0	47	112	1	159	236
PHF	-	0.000	0.000	0.825	0.904	-	0.854	0.000	0.851	0.911	-	0.916	0.902
Lights	-	0	0	214	140	-	354	0	154	454	-	608	962
% Lights	-	-	-	96.8	99.3	-	97.8	-	96.3	98.9	-	98.2	98.1
Other Vehicles	-	0	0	7	1	-	8	0	6	5	-	11	19
% Other Vehicles	-	-	-	3.2	0.7	-	2.2	-	3.8	1.1	-	1.8	1.9
Pedestrians	11	-	-	-	-	3	-	-	-	-	3	-	-
% Pedestrians	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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(800) 639 4851

Count Name: 8-I-275 SB Off-ramp at 28th St S
Site Code: 8
Start Date: 04/09/2014

Turning Movement Data

Start Time	28th St S East Bound				28th St S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00	0	69	0	69	0	25	0	25	34	31	0	65	159
7:15	0	58	0	58	0	14	0	14	47	30	0	77	149
7:30	0	72	0	72	0	44	0	44	30	29	1	59	175
7:45	0	61	1	61	0	51	0	51	35	48	0	83	195
Hourly Total	0	260	1	260	0	134	0	134	146	138	1	284	678
8:00	0	80	0	80	0	58	0	58	61	36	1	97	235
8:15	0	65	0	65	0	88	0	88	68	27	9	95	248
8:30	0	64	0	64	0	62	0	62	26	30	1	56	182
8:45	0	66	1	66	0	45	0	45	22	29	0	51	162
Hourly Total	0	275	1	275	0	253	0	253	177	122	11	299	827
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	93	0	93	0	53	0	53	41	32	0	73	219
16:15	0	102	0	102	0	65	0	65	27	31	0	58	225
16:30	0	123	0	123	0	41	0	41	34	53	2	87	251
16:45	0	122	0	122	0	66	0	66	41	37	2	78	266
Hourly Total	0	440	0	440	0	225	0	225	143	153	4	296	961
17:00	0	120	0	120	0	53	0	53	37	56	0	93	266
17:15	0	115	0	115	0	62	0	62	31	59	0	90	267
17:30	0	96	0	96	0	56	0	56	49	27	5	76	228
17:45	0	107	0	107	0	47	0	47	27	37	1	64	218
Hourly Total	0	438	0	438	0	218	0	218	144	179	6	323	979
Lights	0	1369	-	1369	0	799	-	799	591	571	-	1162	3330
% Lights	-	96.9	-	96.9	-	96.3	-	96.3	96.9	96.5	-	96.7	96.7
Other Vehicles	0	44	-	44	0	31	-	31	19	21	-	40	115
% Other Vehicles	-	3.1	-	3.1	-	3.7	-	3.7	3.1	3.5	-	3.3	3.3
Pedestrians	-	-	2	-	-	-	0	-	-	-	22	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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8250 Pascal Dr
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(800) 639 4851

Count Name: 8-I-275 SB Off-ramp at 28th St S
Site Code: 8
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	28th St S East Bound				28th St S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:45	0	61	1	61	0	51	0	51	35	48	0	83	195
8:00	0	80	0	80	0	58	0	58	61	36	1	97	235
8:15	0	65	0	65	0	88	0	88	68	27	9	95	248
8:30	0	64	0	64	0	62	0	62	26	30	1	56	182
PHF	0.000	0.844	-	0.844	0.000	0.736	-	0.736	0.699	0.734	-	0.853	0.867
Lights	0	257	-	257	0	248	-	248	183	134	-	317	822
% Lights	-	95.2	-	95.2	-	95.8	-	95.8	96.3	95.0	-	95.8	95.6
Other Vehicles	0	13	-	13	0	11	-	11	7	7	-	14	38
% Other Vehicles	-	4.8	-	4.8	-	4.2	-	4.2	3.7	5.0	-	4.2	4.4
Pedestrians	-	-	1	-	-	-	0	-	-	-	11	-	-
% Pedestrians	-	-	100.0	-	-	-	-	-	-	-	100.0	-	-

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(800) 639 4851

Count Name: 8-I-275 SB Off-ramp at 28th St S
Site Code: 8
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:30)

Start Time	28th St S East Bound				28th St S West Bound				I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
16:30	0	123	0	123	0	41	0	41	34	53	2	87	251
16:45	0	122	0	122	0	66	0	66	41	37	2	78	266
17:00	0	120	0	120	0	53	0	53	37	56	0	93	266
17:15	0	115	0	115	0	62	0	62	31	59	0	90	267
PHF	0.000	0.976	-	0.976	0.000	0.841	-	0.841	0.872	0.869	-	0.935	0.983
Lights	0	470	-	470	0	217	-	217	139	196	-	335	1022
% Lights	-	97.9	-	97.9	-	97.7	-	97.7	97.2	95.6	-	96.3	97.3
Other Vehicles	0	10	-	10	0	5	-	5	4	9	-	13	28
% Other Vehicles	-	2.1	-	2.1	-	2.3	-	2.3	2.8	4.4	-	3.7	2.7
Pedestrians	-	-	0	-	-	-	0	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 9-I-275 NB On-ramp at 5th Ave N.
Site Code: 9
Start Date: 04/09/2014
Page No: 1

Turning Movement Data

Start Time	5th Ave N East Bound						5th Ave N West Bound						I-275 NB On-ramp North Bound						I-275 NB On-ramp South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:00	0	138	96	0	0	234	0	0	68	28	0	96	0	1	81	2	0	84	0	0	0	0	0	0	414
7:15	0	175	142	0	0	317	0	0	49	38	0	87	0	0	73	2	0	75	0	0	0	0	1	0	479
7:30	0	168	129	0	0	297	0	0	52	47	0	99	0	0	84	6	1	90	0	0	0	0	0	0	486
7:45	0	136	183	0	0	319	0	0	73	54	0	127	0	1	78	9	0	88	0	0	0	0	0	0	534
Hourly Total	0	617	550	0	0	1167	0	0	242	167	0	409	0	2	316	19	1	337	0	0	0	0	1	0	1913
8:00	0	134	162	0	0	296	0	0	73	36	0	109	0	3	89	12	1	104	0	0	0	0	1	0	509
8:15	0	134	189	0	0	323	0	0	86	26	0	112	0	5	75	7	0	87	0	0	0	0	0	0	522
8:30	0	114	177	0	0	291	0	0	78	24	0	102	0	1	84	7	0	92	0	0	0	0	2	0	485
8:45	0	130	161	0	0	291	0	0	89	33	0	122	0	2	56	8	0	66	0	0	0	0	0	0	479
Hourly Total	0	512	689	0	0	1201	0	0	326	119	0	445	0	11	304	34	1	349	0	0	0	0	3	0	1995
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	114	100	0	0	214	0	0	133	79	0	212	0	1	70	9	1	80	0	0	0	0	0	0	506
16:15	0	116	123	0	0	239	0	0	119	67	0	186	0	3	68	5	0	76	0	0	0	0	0	0	501
16:30	0	123	121	0	0	244	0	0	130	81	0	211	0	0	80	11	1	91	0	0	0	0	2	0	546
16:45	0	116	129	0	0	245	2	0	122	69	0	193	0	3	68	7	1	78	0	0	0	0	3	0	516
Hourly Total	0	469	473	0	0	942	2	0	504	296	0	802	0	7	286	32	3	325	0	0	0	0	5	0	2069
17:00	0	109	113	0	0	222	0	0	128	83	0	211	0	5	90	6	1	101	0	0	0	0	0	0	534
17:15	0	126	136	0	0	262	0	0	133	45	0	178	0	2	63	8	0	73	0	0	0	0	1	0	513
17:30	0	98	128	0	0	226	0	0	105	54	0	159	0	5	81	6	1	92	0	0	0	0	0	0	477
17:45	0	102	116	0	0	218	0	0	72	44	0	116	0	1	59	7	0	67	0	0	0	0	1	0	401
Hourly Total	0	435	493	0	0	928	0	0	438	226	0	664	0	13	293	27	2	333	0	0	0	0	2	0	1925
Lights	0	1996	2150	0	-	4146	2	0	1471	787	-	2260	0	33	1177	106	-	1316	0	0	0	0	-	0	7722
% Lights	-	98.2	97.5	-	-	97.8	100.0	-	97.4	97.4	-	97.4	-	100.0	98.2	94.6	-	97.9	-	-	-	-	-	-	97.7
Other Vehicles	0	37	55	0	-	92	0	0	39	21	-	60	0	0	22	6	-	28	0	0	0	0	-	0	180
% Other Vehicles	-	1.8	2.5	-	-	2.2	0.0	-	2.6	2.6	-	2.6	-	0.0	1.8	5.4	-	2.1	-	-	-	-	-	-	2.3
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	11	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 9-I-275 NB On-ramp at 5th Ave N.
Site Code: 9
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:30)

Start Time	5th Ave N East Bound						5th Ave N West Bound						I-275 NB On-ramp North Bound						I-275 NB On-ramp South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
7:30	0	168	129	0	0	297	0	0	52	47	0	99	0	0	84	6	1	90	0	0	0	0	0	0	486
7:45	0	136	183	0	0	319	0	0	73	54	0	127	0	1	78	9	0	88	0	0	0	0	0	0	534
8:00	0	134	162	0	0	296	0	0	73	36	0	109	0	3	89	12	1	104	0	0	0	0	1	0	509
8:15	0	134	189	0	0	323	0	0	86	26	0	112	0	5	75	7	0	87	0	0	0	0	0	0	522
PHF	0.000	0.851	0.877	0.000	-	0.956	0.000	0.000	0.826	0.755	-	0.880	0.000	0.450	0.916	0.708	-	0.887	0.000	0.000	0.000	0.000	-	0.000	0.960
Lights	0	557	645	0	-	1202	0	0	271	158	-	429	0	9	321	34	-	364	0	0	0	0	-	0	1995
% Lights	-	97.4	97.3	-	-	97.3	-	-	95.4	96.9	-	96.0	-	100.0	98.5	100.0	-	98.6	-	-	-	-	-	-	97.3
Other Vehicles	0	15	18	0	-	33	0	0	13	5	-	18	0	0	5	0	-	5	0	0	0	0	-	0	56
% Other Vehicles	-	2.6	2.7	-	-	2.7	-	-	4.6	3.1	-	4.0	-	0.0	1.5	0.0	-	1.4	-	-	-	-	-	-	2.7
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Turning Movement Peak Hour Data (16:30)

Start Time	5th Ave N East Bound						5th Ave N West Bound						I-275 NB On-ramp North Bound						I-275 NB On-ramp South Bound						Int. Total
	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Right	Peds	App. Total	
16:30	0	123	121	0	0	244	0	0	130	81	0	211	0	0	80	11	1	91	0	0	0	0	2	0	546
16:45	0	116	129	0	0	245	2	0	122	69	0	193	0	3	68	7	1	78	0	0	0	0	3	0	516
17:00	0	109	113	0	0	222	0	0	128	83	0	211	0	5	90	6	1	101	0	0	0	0	0	0	534
17:15	0	126	136	0	0	262	0	0	133	45	0	178	0	2	63	8	0	73	0	0	0	0	1	0	513
PHF	0.000	0.940	0.917	0.000	-	0.928	0.250	0.000	0.964	0.837	-	0.940	0.000	0.500	0.836	0.727	-	0.849	0.000	0.000	0.000	0.000	-	0.000	0.966
Lights	0	470	490	0	-	960	2	0	508	269	-	779	0	10	294	31	-	335	0	0	0	0	-	0	2074
% Lights	-	99.2	98.2	-	-	98.7	100.0	-	99.0	96.8	-	98.2	-	100.0	97.7	96.9	-	97.7	-	-	-	-	-	-	98.3
Other Vehicles	0	4	9	0	-	13	0	0	5	9	-	14	0	0	7	1	-	8	0	0	0	0	-	0	35
% Other Vehicles	-	0.8	1.8	-	-	1.3	0.0	-	1.0	3.2	-	1.8	-	0.0	2.3	3.1	-	2.3	-	-	-	-	-	-	1.7
Pedestrians	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	6	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 10-I-275 SB Off-ramp at 5th Ave N
Site Code: 10
Start Date: 04/09/2014

Turning Movement Data

Start Time	5th Ave N East Bound					5th Ave N West Bound					I-275 SB Off-ramp North Bound		I-275 SB Off-ramp South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	201	2	0	203	0	2	67	0	69	0	0	42	50	101	0	193	465
7:15	0	274	4	0	278	0	1	48	0	49	0	0	46	51	104	1	201	528
7:30	0	235	5	0	240	0	2	52	0	54	0	0	66	72	120	0	258	552
7:45	0	267	10	0	277	0	1	74	0	75	0	0	62	96	138	1	296	648
Hourly Total	0	977	21	0	998	0	6	241	0	247	0	0	216	269	463	2	948	2193
8:00	0	247	3	1	250	0	4	74	0	78	0	0	44	72	92	1	208	536
8:15	0	269	6	0	275	0	4	85	0	89	0	0	52	63	121	0	236	600
8:30	0	237	4	0	241	0	3	72	0	75	0	0	63	60	141	2	264	580
8:45	0	242	10	0	252	0	5	91	0	96	0	0	49	59	135	1	243	591
Hourly Total	0	995	23	1	1018	0	16	322	0	338	0	0	208	254	489	4	951	2307
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	197	3	0	200	0	3	127	0	130	1	0	19	65	143	0	227	557
16:15	0	199	10	0	209	0	1	126	0	127	0	0	30	64	128	0	222	558
16:30	0	216	2	0	218	0	2	129	0	131	0	0	30	55	169	0	254	603
16:45	0	230	5	0	235	0	2	124	0	126	0	0	24	73	185	0	282	643
Hourly Total	0	842	20	0	862	0	8	506	0	514	1	0	103	257	625	0	985	2361
17:00	0	190	7	0	197	0	4	134	0	138	0	0	29	83	158	0	270	605
17:15	0	229	14	0	243	0	5	130	0	135	0	0	22	80	135	1	237	615
17:30	0	201	5	1	206	0	1	117	0	118	1	0	23	90	197	0	310	634
17:45	0	194	5	0	199	0	1	73	0	74	0	0	20	74	183	1	277	550
Hourly Total	0	814	31	1	845	0	11	454	0	465	1	0	94	327	673	2	1094	2404
Lights	0	3558	93	-	3651	0	41	1481	-	1522	-	0	604	1078	2216	-	3898	9071
% Lights	-	98.1	97.9	-	98.1	-	100.0	97.2	-	97.3	-	-	97.3	97.4	98.5	-	98.0	97.9
Other Vehicles	0	70	2	-	72	0	0	42	-	42	-	0	17	29	34	-	80	194
% Other Vehicles	-	1.9	2.1	-	1.9	-	0.0	2.8	-	2.7	-	-	2.7	2.6	1.5	-	2.0	2.1
Pedestrians	-	-	-	2	-	-	-	-	0	-	2	-	-	-	-	8	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 10-I-275 SB Off-ramp at 5th Ave N
Site Code: 10
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:45)

Start Time	5th Ave N East Bound					5th Ave N West Bound					I-275 SB Off-ramp North Bound		I-275 SB Off-ramp South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:45	0	267	10	0	277	0	1	74	0	75	0	0	62	96	138	1	296	648
8:00	0	247	3	1	250	0	4	74	0	78	0	0	44	72	92	1	208	536
8:15	0	269	6	0	275	0	4	85	0	89	0	0	52	63	121	0	236	600
8:30	0	237	4	0	241	0	3	72	0	75	0	0	63	60	141	2	264	580
PHF	0.000	0.948	0.575	-	0.941	0.000	0.750	0.897	-	0.890	-	0.000	0.877	0.758	0.872	-	0.848	0.912
Lights	0	1003	23	-	1026	0	12	288	-	300	-	0	218	283	480	-	981	2307
% Lights	-	98.3	100.0	-	98.4	-	100.0	94.4	-	94.6	-	-	98.6	97.3	97.6	-	97.7	97.6
Other Vehicles	0	17	0	-	17	0	0	17	-	17	-	0	3	8	12	-	23	57
% Other Vehicles	-	1.7	0.0	-	1.6	-	0.0	5.6	-	5.4	-	-	1.4	2.7	2.4	-	2.3	2.4
Pedestrians	-	-	-	1	-	-	-	-	0	-	0	-	-	-	-	4	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 10-I-275 SB Off-ramp at 5th Ave N
Site Code: 10
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:45)

Start Time	5th Ave N East Bound					5th Ave N West Bound					I-275 SB Off-ramp North Bound		I-275 SB Off-ramp South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:45	0	230	5	0	235	0	2	124	0	126	0	0	24	73	185	0	282	643
17:00	0	190	7	0	197	0	4	134	0	138	0	0	29	83	158	0	270	605
17:15	0	229	14	0	243	0	5	130	0	135	0	0	22	80	135	1	237	615
17:30	0	201	5	1	206	0	1	117	0	118	1	0	23	90	197	0	310	634
PHF	0.000	0.924	0.554	-	0.906	0.000	0.600	0.942	-	0.937	-	0.000	0.845	0.906	0.857	-	0.886	0.971
Lights	0	841	29	-	870	0	12	501	-	513	-	0	98	321	670	-	1089	2472
% Lights	-	98.9	93.5	-	98.8	-	100.0	99.2	-	99.2	-	-	100.0	98.5	99.3	-	99.1	99.0
Other Vehicles	0	9	2	-	11	0	0	4	-	4	-	0	0	5	5	-	10	25
% Other Vehicles	-	1.1	6.5	-	1.2	-	0.0	0.8	-	0.8	-	-	0.0	1.5	0.7	-	0.9	1.0
Pedestrians	-	-	-	1	-	-	-	-	0	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 11-I-275 NB On-/Off-ramps at 38th Ave N
Site Code: 11
Start Date: 04/09/2014

Turning Movement Data

Start Time	38th Ave N East Bound					38th Ave N West Bound				I-275 NB On-/Off-ramps North Bound					I-275 NB On-/Off-ramps South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	85	105	0	190	152	95	0	247	45	0	38	0	83	0	0	520
7:15	0	119	113	0	232	159	134	0	293	68	0	63	0	131	0	0	656
7:30	0	108	117	0	225	240	128	0	368	57	0	93	0	150	0	0	743
7:45	0	98	165	0	263	242	97	0	339	53	0	61	0	114	0	0	716
Hourly Total	0	410	500	0	910	793	454	0	1247	223	0	255	0	478	0	0	2635
8:00	0	93	161	0	254	263	138	0	401	49	0	44	0	93	0	0	748
8:15	0	100	174	0	274	222	131	0	353	51	0	38	0	89	0	0	716
8:30	0	80	157	0	237	222	100	0	322	38	0	35	0	73	0	0	632
8:45	0	64	190	0	254	172	103	0	275	63	0	51	2	114	0	0	643
Hourly Total	0	337	682	0	1019	879	472	0	1351	201	0	168	2	369	0	0	2739
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	70	269	0	339	190	46	0	236	75	0	74	0	149	0	0	724
16:15	0	80	229	0	309	186	34	0	220	93	0	83	0	176	0	0	705
16:30	0	64	260	0	324	214	57	0	271	66	0	77	0	143	0	0	738
16:45	0	62	253	0	315	169	44	0	213	96	0	77	1	173	0	0	701
Hourly Total	0	276	1011	0	1287	759	181	0	940	330	0	311	1	641	0	0	2868
17:00	0	64	293	0	357	233	48	0	281	87	0	66	2	153	0	0	791
17:15	0	64	282	0	346	177	35	0	212	78	0	94	0	172	0	0	730
17:30	0	49	286	0	335	225	39	0	264	55	0	76	0	131	5	0	730
17:45	0	52	246	0	298	159	35	0	194	73	1	84	2	158	0	0	650
Hourly Total	0	229	1107	0	1336	794	157	0	951	293	1	320	4	614	5	0	2901
Lights	0	1234	3239	-	4473	3169	1250	-	4419	1017	1	1042	-	2060	-	0	10952
% Lights	-	98.6	98.2	-	98.3	98.3	98.9	-	98.4	97.1	100.0	98.9	-	98.0	-	-	98.3
Other Vehicles	0	18	61	-	79	56	14	-	70	30	0	12	-	42	-	0	191
% Other Vehicles	-	1.4	1.8	-	1.7	1.7	1.1	-	1.6	2.9	0.0	1.1	-	2.0	-	-	1.7
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	7	-	5	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 11-I-275 NB On-/Off-ramps at 38th Ave N
Site Code: 11
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:30)

Start Time	38th Ave N East Bound					38th Ave N West Bound				I-275 NB On-/Off-ramps North Bound					I-275 NB On-/Off-ramps South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:30	0	108	117	0	225	240	128	0	368	57	0	93	0	150	0	0	743
7:45	0	98	165	0	263	242	97	0	339	53	0	61	0	114	0	0	716
8:00	0	93	161	0	254	263	138	0	401	49	0	44	0	93	0	0	748
8:15	0	100	174	0	274	222	131	0	353	51	0	38	0	89	0	0	716
PHF	0.000	0.924	0.886	-	0.927	0.919	0.895	-	0.911	0.921	0.000	0.634	-	0.743	-	0.000	0.977
Lights	0	394	598	-	992	954	490	-	1444	199	0	234	-	433	-	0	2869
% Lights	-	98.7	96.9	-	97.6	98.7	99.2	-	98.8	94.8	-	99.2	-	97.1	-	-	98.2
Other Vehicles	0	5	19	-	24	13	4	-	17	11	0	2	-	13	-	0	54
% Other Vehicles	-	1.3	3.1	-	2.4	1.3	0.8	-	1.2	5.2	-	0.8	-	2.9	-	-	1.8
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	0	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Turning Movement Peak Hour Data (16:30)

Start Time	38th Ave N East Bound					38th Ave N West Bound				I-275 NB On-/Off-ramps North Bound					I-275 NB On-/Off-ramps South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
16:30	0	64	260	0	324	214	57	0	271	66	0	77	0	143	0	0	738
16:45	0	62	253	0	315	169	44	0	213	96	0	77	1	173	0	0	701
17:00	0	64	293	0	357	233	48	0	281	87	0	66	2	153	0	0	791
17:15	0	64	282	0	346	177	35	0	212	78	0	94	0	172	0	0	730
PHF	0.000	0.992	0.928	-	0.940	0.851	0.807	-	0.869	0.852	0.000	0.835	-	0.926	-	0.000	0.936
Lights	0	250	1082	-	1332	775	179	-	954	320	0	313	-	633	-	0	2919
% Lights	-	98.4	99.4	-	99.3	97.7	97.3	-	97.6	97.9	-	99.7	-	98.8	-	-	98.6
Other Vehicles	0	4	6	-	10	18	5	-	23	7	0	1	-	8	-	0	41
% Other Vehicles	-	1.6	0.6	-	0.7	2.3	2.7	-	2.4	2.1	-	0.3	-	1.2	-	-	1.4
Pedestrians	-	-	-	0	-	-	-	0	-	-	-	-	3	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 12-I-275 SB On-/Off-ramps at 38th Ave N
Site Code: 12
Start Date: 04/09/2014

Turning Movement Data

Start Time	38th Ave N East Bound				38th Ave N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					Int. Total
	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
7:00	170	70	0	240	0	41	159	0	200	0	0	27	0	52	0	79	519
7:15	194	86	0	280	0	69	164	0	233	0	0	26	0	68	0	94	607
7:30	215	93	0	308	0	83	200	0	283	0	0	27	0	54	0	81	672
7:45	201	98	0	299	0	124	171	0	295	0	0	46	0	49	0	95	689
Hourly Total	780	347	0	1127	0	317	694	0	1011	0	0	126	0	223	0	349	2487
8:00	240	83	0	323	0	102	205	0	307	0	0	33	0	31	2	64	694
8:15	218	93	0	311	0	98	187	0	285	1	0	54	0	45	0	99	695
8:30	198	86	0	284	0	89	186	0	275	0	0	30	0	39	0	69	628
8:45	204	81	0	285	0	77	164	0	241	1	0	48	0	41	0	89	615
Hourly Total	860	343	0	1203	0	366	742	0	1108	2	0	165	0	156	2	321	2632
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	256	74	0	330	0	54	213	0	267	0	0	72	0	107	0	179	776
16:15	221	78	0	299	0	65	220	0	285	0	0	87	0	88	0	175	759
16:30	229	91	0	320	0	51	233	0	284	0	0	92	0	128	0	220	824
16:45	211	70	0	281	0	55	205	0	260	0	0	101	0	118	0	219	760
Hourly Total	917	313	0	1230	0	225	871	0	1096	0	0	352	0	441	0	793	3119
17:00	273	62	0	335	0	62	271	0	333	1	0	92	0	123	0	215	883
17:15	228	79	0	307	0	66	193	0	259	0	0	114	0	98	2	212	778
17:30	212	60	0	272	0	73	218	0	291	0	0	108	0	97	0	205	768
17:45	221	69	0	290	0	44	181	0	225	3	0	91	0	95	0	186	701
Hourly Total	934	270	0	1204	0	245	863	0	1108	4	0	405	0	413	2	818	3130
Lights	3423	1231	-	4654	0	1141	3100	-	4241	-	0	1033	0	1205	-	2238	11133
% Lights	98.1	96.7	-	97.7	-	99.0	97.8	-	98.1	-	-	98.6	-	97.7	-	98.1	97.9
Other Vehicles	68	42	-	110	0	12	70	-	82	-	0	15	0	28	-	43	235
% Other Vehicles	1.9	3.3	-	2.3	-	1.0	2.2	-	1.9	-	-	1.4	-	2.3	-	1.9	2.1
Pedestrians	-	-	0	-	-	-	-	0	-	6	-	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Turning Movement Peak Hour Data (7:30)

Start Time	38th Ave N East Bound				38th Ave N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					
	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30	215	93	0	308	0	83	200	0	283	0	0	27	0	54	0	81	672
7:45	201	98	0	299	0	124	171	0	295	0	0	46	0	49	0	95	689
8:00	240	83	0	323	0	102	205	0	307	0	0	33	0	31	2	64	694
8:15	218	93	0	311	0	98	187	0	285	1	0	54	0	45	0	99	695
PHF	0.910	0.936	-	0.961	0.000	0.821	0.930	-	0.953	-	0.000	0.741	0.000	0.829	-	0.856	0.989
Lights	855	357	-	1212	0	406	738	-	1144	-	0	154	0	170	-	324	2680
% Lights	97.8	97.3	-	97.7	-	99.8	96.7	-	97.8	-	-	96.3	-	95.0	-	95.6	97.5
Other Vehicles	19	10	-	29	0	1	25	-	26	-	0	6	0	9	-	15	70
% Other Vehicles	2.2	2.7	-	2.3	-	0.2	3.3	-	2.2	-	-	3.8	-	5.0	-	4.4	2.5
Pedestrians	-	-	0	-	-	-	-	0	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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8250 Pascal Dr
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Turning Movement Peak Hour Data (16:30)

Start Time	38th Ave N				38th Ave N					I-275 SB On-/Off-ramps		I-275 SB On-/Off-ramps					
	East Bound				West Bound					North Bound		South Bound					
	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:30	229	91	0	320	0	51	233	0	284	0	0	92	0	128	0	220	824
16:45	211	70	0	281	0	55	205	0	260	0	0	101	0	118	0	219	760
17:00	273	62	0	335	0	62	271	0	333	1	0	92	0	123	0	215	883
17:15	228	79	0	307	0	66	193	0	259	0	0	114	0	98	2	212	778
PHF	0.862	0.830	-	0.928	0.000	0.886	0.832	-	0.853	-	0.000	0.875	0.000	0.912	-	0.984	0.919
Lights	931	293	-	1224	0	232	885	-	1117	-	0	399	0	461	-	860	3201
% Lights	98.9	97.0	-	98.5	-	99.1	98.1	-	98.3	-	-	100.0	-	98.7	-	99.3	98.6
Other Vehicles	10	9	-	19	0	2	17	-	19	-	0	0	0	6	-	6	44
% Other Vehicles	1.1	3.0	-	1.5	-	0.9	1.9	-	1.7	-	-	0.0	-	1.3	-	0.7	1.4
Pedestrians	-	-	0	-	-	-	-	0	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 13-I-275 NB On-ramp at 22nd St N
Site Code: 13
Start Date: 04/09/2014

Turning Movement Data

Start Time	22nd St N East Bound					22nd St N West Bound					I-275 NB On-ramp South Bound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:00	0	140	18	0	158	0	16	9	0	25	0	0	0	0	0	183
7:15	0	149	11	0	160	0	19	9	0	28	0	0	0	0	0	188
7:30	0	162	7	0	169	0	13	14	0	27	0	0	0	0	0	196
7:45	0	173	10	0	183	0	33	17	0	50	0	0	0	0	0	233
Hourly Total	0	624	46	0	670	0	81	49	0	130	0	0	0	0	0	800
8:00	0	139	13	0	152	0	32	10	0	42	0	0	0	0	0	194
8:15	0	124	17	0	141	0	24	11	0	35	0	0	0	0	0	176
8:30	0	130	34	0	164	0	26	12	0	38	0	0	0	0	0	202
8:45	0	120	28	0	148	0	21	13	0	34	0	0	0	0	0	182
Hourly Total	0	513	92	0	605	0	103	46	0	149	0	0	0	0	0	754
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	59	33	0	92	0	18	4	0	22	0	0	0	0	0	114
16:15	0	76	29	0	105	0	10	7	0	17	0	0	0	0	0	122
16:30	0	68	36	0	104	0	19	3	0	22	0	0	0	0	0	126
16:45	0	65	32	0	97	0	16	2	1	18	0	0	0	1	0	115
Hourly Total	0	268	130	0	398	0	63	16	1	79	0	0	0	1	0	477
17:00	0	78	32	0	110	0	19	5	0	24	0	0	0	0	0	134
17:15	0	69	44	0	113	0	10	4	0	14	0	0	0	0	0	127
17:30	0	69	34	0	103	0	20	3	0	23	0	0	0	0	0	126
17:45	0	50	40	0	90	0	16	6	0	22	0	0	0	1	0	112
Hourly Total	0	266	150	0	416	0	65	18	0	83	0	0	0	1	0	499
Lights	0	1630	416	-	2046	0	309	126	-	435	0	0	0	-	0	2481
% Lights	-	97.5	99.5	-	97.9	-	99.0	97.7	-	98.6	-	-	-	-	-	98.1
Other Vehicles	0	41	2	-	43	0	3	3	-	6	0	0	0	-	0	49
% Other Vehicles	-	2.5	0.5	-	2.1	-	1.0	2.3	-	1.4	-	-	-	-	-	1.9
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 13-I-275 NB On-ramp at 22nd St N
Site Code: 13
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:15)

Start Time	22nd St N East Bound					22nd St N West Bound					I-275 NB On-ramp South Bound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
7:15	0	149	11	0	160	0	19	9	0	28	0	0	0	0	0	188
7:30	0	162	7	0	169	0	13	14	0	27	0	0	0	0	0	196
7:45	0	173	10	0	183	0	33	17	0	50	0	0	0	0	0	233
8:00	0	139	13	0	152	0	32	10	0	42	0	0	0	0	0	194
PHF	0.000	0.900	0.788	-	0.907	0.000	0.735	0.735	-	0.735	0.000	0.000	0.000	-	0.000	0.870
Lights	0	612	40	-	652	0	96	48	-	144	0	0	0	-	0	796
% Lights	-	98.2	97.6	-	98.2	-	99.0	96.0	-	98.0	-	-	-	-	-	98.2
Other Vehicles	0	11	1	-	12	0	1	2	-	3	0	0	0	-	0	15
% Other Vehicles	-	1.8	2.4	-	1.8	-	1.0	4.0	-	2.0	-	-	-	-	-	1.8
Pedestrians	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 13-I-275 NB On-ramp at 22nd St N
Site Code: 13
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:30)

Start Time	22nd St N East Bound					22nd St N West Bound					I-275 NB On-ramp South Bound					
	U-Turn	Left	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Right	Peds	App. Total	Int. Total
16:30	0	68	36	0	104	0	19	3	0	22	0	0	0	0	0	126
16:45	0	65	32	0	97	0	16	2	1	18	0	0	0	1	0	115
17:00	0	78	32	0	110	0	19	5	0	24	0	0	0	0	0	134
17:15	0	69	44	0	113	0	10	4	0	14	0	0	0	0	0	127
PHF	0.000	0.897	0.818	-	0.938	0.000	0.842	0.700	-	0.813	0.000	0.000	0.000	-	0.000	0.937
Lights	0	272	144	-	416	0	64	13	-	77	0	0	0	-	0	493
% Lights	-	97.1	100.0	-	98.1	-	100.0	92.9	-	98.7	-	-	-	-	-	98.2
Other Vehicles	0	8	0	-	8	0	0	1	-	1	0	0	0	-	0	9
% Other Vehicles	-	2.9	0.0	-	1.9	-	0.0	7.1	-	1.3	-	-	-	-	-	1.8
Pedestrians	-	-	-	0	-	-	-	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	100.0	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
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(800) 639 4851

Count Name: 14-I-275 SB Off-ramp at 54th Ave N
Site Code: 14
Start Date: 04/09/2014

Turning Movement Data

Start Time	54th Ave N East Bound				54th Ave N West Bound					I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:00	0	208	0	208	0	165	85	0	250	31	40	1	71	529
7:15	0	209	0	209	0	170	87	0	257	27	40	0	67	533
7:30	1	261	0	262	0	205	102	1	307	43	53	1	96	665
7:45	0	278	0	278	0	222	122	0	344	21	61	2	82	704
Hourly Total	1	956	0	957	0	762	396	1	1158	122	194	4	316	2431
8:00	0	283	0	283	0	199	77	0	276	24	35	0	59	618
8:15	0	271	0	271	0	173	73	0	246	24	55	1	79	596
8:30	0	249	0	249	1	203	89	0	293	23	58	2	81	623
8:45	0	261	0	261	0	199	71	0	270	21	33	2	54	585
Hourly Total	0	1064	0	1064	1	774	310	0	1085	92	181	5	273	2422
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	241	0	241	0	235	67	0	302	71	68	4	139	682
16:15	0	250	0	250	0	218	69	0	287	73	76	0	149	686
16:30	0	266	0	266	0	232	79	0	311	75	67	4	142	719
16:45	0	266	0	266	1	253	71	0	325	65	72	2	137	728
Hourly Total	0	1023	0	1023	1	938	286	0	1225	284	283	10	567	2815
17:00	0	292	0	292	0	266	91	0	357	74	68	0	142	791
17:15	0	294	0	294	0	240	74	0	314	65	57	0	122	730
17:30	0	275	0	275	0	254	93	0	347	81	46	0	127	749
17:45	0	267	0	267	0	188	79	0	267	78	44	1	122	656
Hourly Total	0	1128	0	1128	0	948	337	0	1285	298	215	1	513	2926
Lights	1	4053	-	4054	2	3335	1304	-	4641	780	844	-	1624	10319
% Lights	100.0	97.2	-	97.2	100.0	97.5	98.1	-	97.6	98.0	96.7	-	97.3	97.4
Other Vehicles	0	118	-	118	0	87	25	-	112	16	29	-	45	275
% Other Vehicles	0.0	2.8	-	2.8	0.0	2.5	1.9	-	2.4	2.0	3.3	-	2.7	2.6
Pedestrians	-	-	0	-	-	-	-	1	-	-	-	20	-	-
% Pedestrians	-	-	-	-	-	-	-	100.0	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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Count Name: 14-I-275 SB Off-ramp at 54th Ave N
Site Code: 14
Start Date: 04/09/2014

Turning Movement Peak Hour Data (7:30)

Start Time	54th Ave N East Bound				54th Ave N West Bound					I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
7:30	1	261	0	262	0	205	102	1	307	43	53	1	96	665
7:45	0	278	0	278	0	222	122	0	344	21	61	2	82	704
8:00	0	283	0	283	0	199	77	0	276	24	35	0	59	618
8:15	0	271	0	271	0	173	73	0	246	24	55	1	79	596
PHF	0.250	0.966	-	0.966	0.000	0.900	0.766	-	0.852	0.651	0.836	-	0.823	0.917
Lights	1	1062	-	1063	0	776	366	-	1142	108	196	-	304	2509
% Lights	100.0	97.2	-	97.2	-	97.1	97.9	-	97.4	96.4	96.1	-	96.2	97.1
Other Vehicles	0	31	-	31	0	23	8	-	31	4	8	-	12	74
% Other Vehicles	0.0	2.8	-	2.8	-	2.9	2.1	-	2.6	3.6	3.9	-	3.8	2.9
Pedestrians	-	-	0	-	-	-	-	1	-	-	-	4	-	-
% Pedestrians	-	-	-	-	-	-	-	100.0	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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Count Name: 14-I-275 SB Off-ramp at 54th Ave N
Site Code: 14
Start Date: 04/09/2014

Turning Movement Peak Hour Data (16:45)

Start Time	54th Ave N East Bound				54th Ave N West Bound					I-275 SB Off-ramp South Bound				
	U-Turn	Thru	Peds	App. Total	U-Turn	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
16:45	0	266	0	266	1	253	71	0	325	65	72	2	137	728
17:00	0	292	0	292	0	266	91	0	357	74	68	0	142	791
17:15	0	294	0	294	0	240	74	0	314	65	57	0	122	730
17:30	0	275	0	275	0	254	93	0	347	81	46	0	127	749
PHF	0.000	0.958	-	0.958	0.250	0.952	0.884	-	0.940	0.880	0.844	-	0.930	0.948
Lights	0	1107	-	1107	1	991	325	-	1317	284	242	-	526	2950
% Lights	-	98.2	-	98.2	100.0	97.8	98.8	-	98.1	99.6	99.6	-	99.6	98.4
Other Vehicles	0	20	-	20	0	22	4	-	26	1	1	-	2	48
% Other Vehicles	-	1.8	-	1.8	0.0	2.2	1.2	-	1.9	0.4	0.4	-	0.4	1.6
Pedestrians	-	-	0	-	-	-	-	0	-	-	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Data

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	10	193	0	203	368	10	0	378	0	0	581
7:15	1	7	257	0	265	384	8	0	392	0	0	657
7:30	1	11	250	0	262	551	5	0	556	0	0	818
7:45	3	8	307	0	318	552	3	0	555	0	0	873
Hourly Total	5	36	1007	0	1048	1855	26	0	1881	0	0	2929
8:00	4	4	258	0	266	538	5	0	543	1	0	809
8:15	4	8	328	0	340	551	6	0	557	0	0	897
8:30	1	5	233	0	239	481	3	0	484	1	0	723
8:45	0	7	271	0	278	454	4	0	458	0	0	736
Hourly Total	9	24	1090	0	1123	2024	18	0	2042	2	0	3165
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-
16:00	1	27	256	0	284	394	43	0	437	0	0	721
16:15	0	24	288	0	312	347	34	0	381	0	0	693
16:30	0	26	346	0	372	452	33	0	485	0	0	857
16:45	1	20	355	0	376	403	41	0	444	0	0	820
Hourly Total	2	97	1245	0	1344	1596	151	0	1747	0	0	3091
17:00	3	22	421	0	446	435	34	0	469	0	0	915
17:15	0	15	435	0	450	366	35	0	401	0	0	851
17:30	2	20	368	0	390	352	10	0	362	0	0	752
17:45	0	12	314	0	326	293	20	0	313	0	0	639
Hourly Total	5	69	1538	0	1612	1446	99	0	1545	0	0	3157
Lights	21	198	4753	-	4972	6758	291	-	7049	-	0	12021
% Lights	100.0	87.6	97.4	-	97.0	97.6	99.0	-	97.7	-	-	97.4
Other Vehicles	0	28	127	-	155	163	3	-	166	-	0	321
% Other Vehicles	0.0	12.4	2.6	-	3.0	2.4	1.0	-	2.3	-	-	2.6
Pedestrians	-	-	-	0	-	-	-	0	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Peak Hour Data (7:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:30	1	11	250	0	262	551	5	0	556	0	0	818
7:45	3	8	307	0	318	552	3	0	555	0	0	873
8:00	4	4	258	0	266	538	5	0	543	1	0	809
8:15	4	8	328	0	340	551	6	0	557	0	0	897
PHF	0.750	0.705	0.871	-	0.872	0.993	0.792	-	0.992	-	0.000	0.947
Lights	12	20	1091	-	1123	2147	19	-	2166	-	0	3289
% Lights	100.0	64.5	95.5	-	94.7	97.9	100.0	-	98.0	-	-	96.8
Other Vehicles	0	11	52	-	63	45	0	-	45	-	0	108
% Other Vehicles	0.0	35.5	4.5	-	5.3	2.1	0.0	-	2.0	-	-	3.2
Pedestrians	-	-	-	0	-	-	-	0	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

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Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Peak Hour Data (16:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
16:30	0	26	346	0	372	452	33	0	485	0	0	857
16:45	1	20	355	0	376	403	41	0	444	0	0	820
17:00	3	22	421	0	446	435	34	0	469	0	0	915
17:15	0	15	435	0	450	366	35	0	401	0	0	851
PHF	0.333	0.798	0.895	-	0.913	0.916	0.872	-	0.927	-	0.000	0.941
Lights	4	80	1545	-	1629	1626	141	-	1767	-	0	3396
% Lights	100.0	96.4	99.2	-	99.1	98.2	98.6	-	98.2	-	-	98.6
Other Vehicles	0	3	12	-	15	30	2	-	32	-	0	47
% Other Vehicles	0.0	3.6	0.8	-	0.9	1.8	1.4	-	1.8	-	-	1.4
Pedestrians	-	-	-	0	-	-	-	0	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Data

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	201	96	0	297	0	33	312	0	345	0	0	9	0	0	0	9	651
7:15	0	240	102	0	342	0	60	329	0	389	0	0	17	0	1	0	18	749
7:30	0	247	84	0	331	0	53	453	0	506	0	0	16	0	1	0	17	854
7:45	0	301	77	0	378	0	62	483	0	545	0	0	19	0	1	0	20	943
Hourly Total	0	989	359	0	1348	0	208	1577	0	1785	0	0	61	0	3	0	64	3197
8:00	0	239	76	0	315	0	46	483	0	529	0	0	22	0	0	0	22	866
8:15	0	309	92	0	401	2	39	485	0	526	0	0	22	0	0	0	22	949
8:30	0	207	81	0	288	0	55	414	0	469	0	0	22	0	0	0	22	779
8:45	0	256	114	0	370	1	40	377	0	418	0	0	23	0	0	0	23	811
Hourly Total	0	1011	363	0	1374	3	180	1759	0	1942	0	0	89	0	0	0	89	3405
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	277	188	0	465	0	64	307	0	371	1	0	8	0	1	0	9	845
16:15	0	308	219	0	527	0	60	281	0	341	0	0	4	0	0	0	4	872
16:30	0	373	246	0	619	0	67	364	0	431	0	0	4	0	0	0	4	1054
16:45	0	359	240	0	599	0	80	318	0	398	0	0	8	0	0	0	8	1005
Hourly Total	0	1317	893	0	2210	0	271	1270	0	1541	1	0	24	0	1	0	25	3776
17:00	0	451	265	0	716	4	86	342	0	432	0	0	3	0	11	0	14	1162
17:15	0	431	264	0	695	0	37	319	0	356	0	0	22	0	15	0	37	1088
17:30	0	376	181	0	557	4	35	309	0	348	0	0	13	0	13	0	26	931
17:45	0	318	187	0	505	1	45	247	0	293	0	0	7	0	11	0	18	816
Hourly Total	0	1576	897	0	2473	9	203	1217	0	1429	0	0	45	0	50	0	95	3997
Lights	0	4748	2476	-	7224	12	858	5668	-	6538	-	0	216	0	51	-	267	14029
% Lights	-	97.0	98.6	-	97.6	100.0	99.5	97.3	-	97.6	-	-	98.6	-	94.4	-	97.8	97.6
Other Vehicles	0	145	36	-	181	0	4	155	-	159	-	0	3	0	3	-	6	346
% Other Vehicles	-	3.0	1.4	-	2.4	0.0	0.5	2.7	-	2.4	-	-	1.4	-	5.6	-	2.2	2.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Peak Hour Data (7:30)

Start Time	Roosevelt Blvd N					Roosevelt Blvd N					I-275 SB On-/Off-ramps		I-275 SB On-/Off-ramps					
	East Bound					West Bound					North Bound		South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30	0	247	84	0	331	0	53	453	0	506	0	0	16	0	1	0	17	854
7:45	0	301	77	0	378	0	62	483	0	545	0	0	19	0	1	0	20	943
8:00	0	239	76	0	315	0	46	483	0	529	0	0	22	0	0	0	22	866
8:15	0	309	92	0	401	2	39	485	0	526	0	0	22	0	0	0	22	949
PHF	0.000	0.887	0.894	-	0.888	0.250	0.806	0.981	-	0.966	-	0.000	0.898	0.000	0.500	-	0.920	0.952
Lights	0	1041	314	-	1355	2	199	1863	-	2064	-	0	79	0	2	-	81	3500
% Lights	-	95.0	95.4	-	95.1	100.0	99.5	97.8	-	98.0	-	-	100.0	-	100.0	-	100.0	96.9
Other Vehicles	0	55	15	-	70	0	1	41	-	42	-	0	0	0	0	-	0	112
% Other Vehicles	-	5.0	4.6	-	4.9	0.0	0.5	2.2	-	2.0	-	-	0.0	-	0.0	-	0.0	3.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Peak Hour Data (16:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:30	0	373	246	0	619	0	67	364	0	431	0	0	4	0	0	0	4	1054
16:45	0	359	240	0	599	0	80	318	0	398	0	0	8	0	0	0	8	1005
17:00	0	451	265	0	716	4	86	342	0	432	0	0	3	0	11	0	14	1162
17:15	0	431	264	0	695	0	37	319	0	356	0	0	22	0	15	0	37	1088
PHF	0.000	0.895	0.958	-	0.918	0.250	0.785	0.922	-	0.936	-	0.000	0.420	0.000	0.433	-	0.426	0.927
Lights	0	1598	1009	-	2607	4	269	1312	-	1585	-	0	35	0	25	-	60	4252
% Lights	-	99.0	99.4	-	99.2	100.0	99.6	97.7	-	98.0	-	-	94.6	-	96.2	-	95.2	98.7
Other Vehicles	0	16	6	-	22	0	1	31	-	32	-	0	2	0	1	-	3	57
% Other Vehicles	-	1.0	0.6	-	0.8	0.0	0.4	2.3	-	2.0	-	-	5.4	-	3.8	-	4.8	1.3
Pedestrians	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

COUNTY: 15
STATION: 5505
DESCRIPTION: SR 694/GANDY BLVD, W OF I-275
START DATE: 05/22/2013
START TIME: 1000

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	116	81	50	71	318	110	66	67	58	301	619
0100	45	35	34	29	143	57	51	44	51	203	346
0200	41	34	24	31	130	29	31	31	37	128	258
0300	40	34	44	57	175	35	35	46	41	157	332
0400	49	53	70	70	242	31	46	59	66	202	444
0500	90	138	185	218	631	71	102	171	173	517	1148
0600	288	437	486	522	1733	208	326	396	444	1374	3107
0700	554	679	690	792	2715	420	540	612	593	2165	4880
0800	762	626	698	582	2668	532	481	432	499	1944	4612
0900	489	509	454	449	1901	399	403	385	370	1557	3458
1000	400	370	355	387	1512	382	353	390	385	1510	3022
1100	385	395	471	408	1659	370	461	467	488	1786	3445
1200	468	427	491	467	1853	495	476	502	494	1967	3820
1300	477	528	467	416	1888	494	456	469	405	1824	3712
1400	454	470	479	518	1921	448	430	513	445	1836	3757
1500	483	546	534	531	2094	533	515	576	586	2210	4304
1600	521	530	681	522	2254	660	682	689	694	2725	4979
1700	629	623	595	536	2383	833	737	739	643	2952	5335
1800	491	511	408	391	1801	590	565	515	430	2100	3901
1900	370	356	328	283	1337	430	407	334	345	1516	2853
2000	329	289	287	318	1223	267	312	282	235	1096	2319
2100	271	251	254	225	1001	235	202	200	188	825	1826
2200	198	207	163	137	705	178	159	170	134	641	1346
2300	132	112	91	85	420	113	144	124	73	454	874
24-HOUR TOTALS:					32707					31990	64697

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	2923	715	2277	715	5200
P.M.	1630	2455	1645	3003	1630	5408
DAILY	715	2923	1645	3003	1630	5408

GENERATED BY SPS 3.4.2

COUNTY: 15
STATION: 5505
DESCRIPTION: SR 694/GANDY BLVD, W OF I-275
START DATE: 05/23/2013
START TIME: 1000

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	107	92	83	71	353	114	84	80	85	363	716
0100	75	47	71	40	233	62	65	42	43	212	445
0200	38	35	39	36	148	34	43	42	45	164	312
0300	35	36	46	41	158	45	37	33	39	154	312
0400	43	55	63	71	232	32	41	54	91	218	450
0500	78	106	178	191	553	90	98	132	167	487	1040
0600	249	378	470	458	1555	157	288	397	412	1254	2809
0700	540	585	688	737	2550	394	454	565	569	1982	4532
0800	679	646	647	548	2520	508	533	447	485	1973	4493
0900	468	453	423	416	1760	373	377	406	400	1556	3316
1000	422	419	393	406	1640	344	315	385	386	1430	3070
1100	387	401	451	449	1688	429	441	451	463	1784	3472
1200	425	480	471	466	1842	518	485	510	441	1954	3796
1300	469	466	464	486	1885	442	470	404	427	1743	3628
1400	479	434	512	505	1930	487	490	512	458	1947	3877
1500	483	513	540	545	2081	520	541	632	584	2277	4358
1600	558	581	612	542	2293	613	614	698	694	2619	4912
1700	633	614	637	563	2447	814	765	731	683	2993	5440
1800	492	525	455	384	1856	609	633	494	436	2172	4028
1900	371	376	347	336	1430	400	343	378	302	1423	2853
2000	288	336	276	287	1187	330	299	276	278	1183	2370
2100	291	318	247	259	1115	244	284	288	194	1010	2125
2200	228	223	178	144	773	222	201	210	181	814	1587
2300	145	125	107	119	496	185	141	128	114	568	1064
24-HOUR TOTALS:					32725					32280	65005

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	2750	730	2175	730	4925
P.M.	1700	2447	1645	3004	1700	5440
DAILY	730	2750	1645	3004	1700	5440

GENERATED BY SPS 3.4.2

COUNTY: 15
STATION: 5506
DESCRIPTION: SR 694/GANDY BLVD, E OF I-275
START DATE: 06/12/2013
START TIME: 0200

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	87	89	81	50	307	80	57	46	47	230	537
0100	68	38	44	50	200	35	33	31	26	125	325
0200	36	28	25	31	120	34	28	17	11	90	210
0300	17	29	27	28	101	26	18	30	22	96	197
0400	32	44	62	85	223	13	25	32	33	103	326
0500	42	78	102	188	410	45	46	130	106	327	737
0600	243	343	381	416	1383	115	184	262	277	838	2221
0700	370	554	560	688	2172	296	400	487	504	1687	3859
0800	552	637	555	526	2270	403	432	508	388	1731	4001
0900	396	384	319	366	1465	343	332	319	282	1276	2741
1000	288	316	302	284	1190	273	318	281	298	1170	2360
1100	351	312	341	348	1352	275	311	346	330	1262	2614
1200	364	408	362	418	1552	359	343	407	345	1454	3006
1300	358	406	366	363	1493	308	333	344	296	1281	2774
1400	367	409	352	451	1579	363	352	380	364	1459	3038
1500	423	459	375	427	1684	416	394	448	387	1645	3329
1600	495	472	512	505	1984	494	471	591	562	2118	4102
1700	581	578	572	521	2252	718	639	624	565	2546	4798
1800	513	421	425	377	1736	625	508	450	389	1972	3708
1900	311	314	326	312	1263	367	281	235	227	1110	2373
2000	260	234	274	273	1041	203	196	214	150	763	1804
2100	289	226	276	278	1069	194	133	131	123	581	1650
2200	216	206	196	300	918	129	114	122	86	451	1369
2300	298	270	112	97	777	143	110	82	64	399	1176
24-HOUR TOTALS:					28541					24714	53255

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	2437	745	1847	745	4279
P.M.	1700	2252	1700	2546	1700	4798
DAILY	730	2437	1700	2546	1700	4798

TRUCK PERCENTAGE 2.76 2.82 2.79

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	240	23968	3545	6	353	129	5	173	92	4	1	0	25	0	0	788	28541
W	245	20048	3725	6	343	58	11	139	109	11	5	0	14	0	0	696	24714

GENERATED BY SPS 3.4.2

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 5505 - SR 694/GANDY BLVD, W OF I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	62500 C	E 31500	W 31000	9.00	55.20	3.80
2012	57000 C	E 29000	W 28000	9.00	55.00	3.60
2011	59000 C	E 29500	W 29500	9.00	56.50	4.10
2010	64000 C	E 31000	W 33000	10.52	55.26	3.00
2009	59500 C	E 29500	W 30000	10.53	55.79	4.20
2008	64000 C	E 30000	W 34000	10.29	58.46	4.90
2007	62000 C	E 30000	W 32000	10.31	56.79	5.00
2006	61500 C	E 30000	W 31500	9.88	58.53	4.50
2005	63000 C	E 30500	W 32500	9.90	58.50	8.60
2004	63000 C	E 31000	W 32000	9.90	59.20	4.60
2003	65500 C	E 32500	W 33000	10.00	56.00	4.50

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

FLORIDA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION STATISTICS OFFICE
2013 HISTORICAL AADT REPORT

COUNTY: 15 - PINELLAS

SITE: 5506 - SR 694/GANDY BLVD, E OF I-275

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2013	53000 C	E 28500	W 24500	9.00	55.20	2.80
2012	48000 C	E 26000	W 22000	9.00	55.00	3.00
2011	48500 F	E 25500	W 23000	9.00	56.50	2.50
2010	48500 C	E 25500	W 23000	10.52	55.26	2.50
2009	45000 C	E 23000	W 22000	10.53	55.79	3.80
2008	48500 C	E 25500	W 23000	10.29	58.46	4.30
2007	52000 C	E 27500	W 24500	10.31	56.79	4.40
2006	49500 C	E 25500	W 24000	9.88	58.53	4.70
2005	45000 C	E 20500	W 24500	9.90	58.50	5.20
2004	48500 C	E 25000	W 23500	9.90	59.20	5.20
2003	49000 C	E 25500	W 23500	10.00	56.00	4.40

AADT FLAGS: C = COMPUTED; E = MANUAL ESTIMATE; F = FIRST YEAR ESTIMATE
S = SECOND YEAR ESTIMATE; T = THIRD YEAR ESTIMATE; F = FOURTH YEAR ESTIMATE
V = FIFTH YEAR ESTIMATE; 6 = SIXTH YEAR ESTIMATE; X = UNKNOWN
*K FACTOR: STARTING WITH YEAR 2011 IS STANDARDK, PRIOR YEARS ARE K30 VALUES

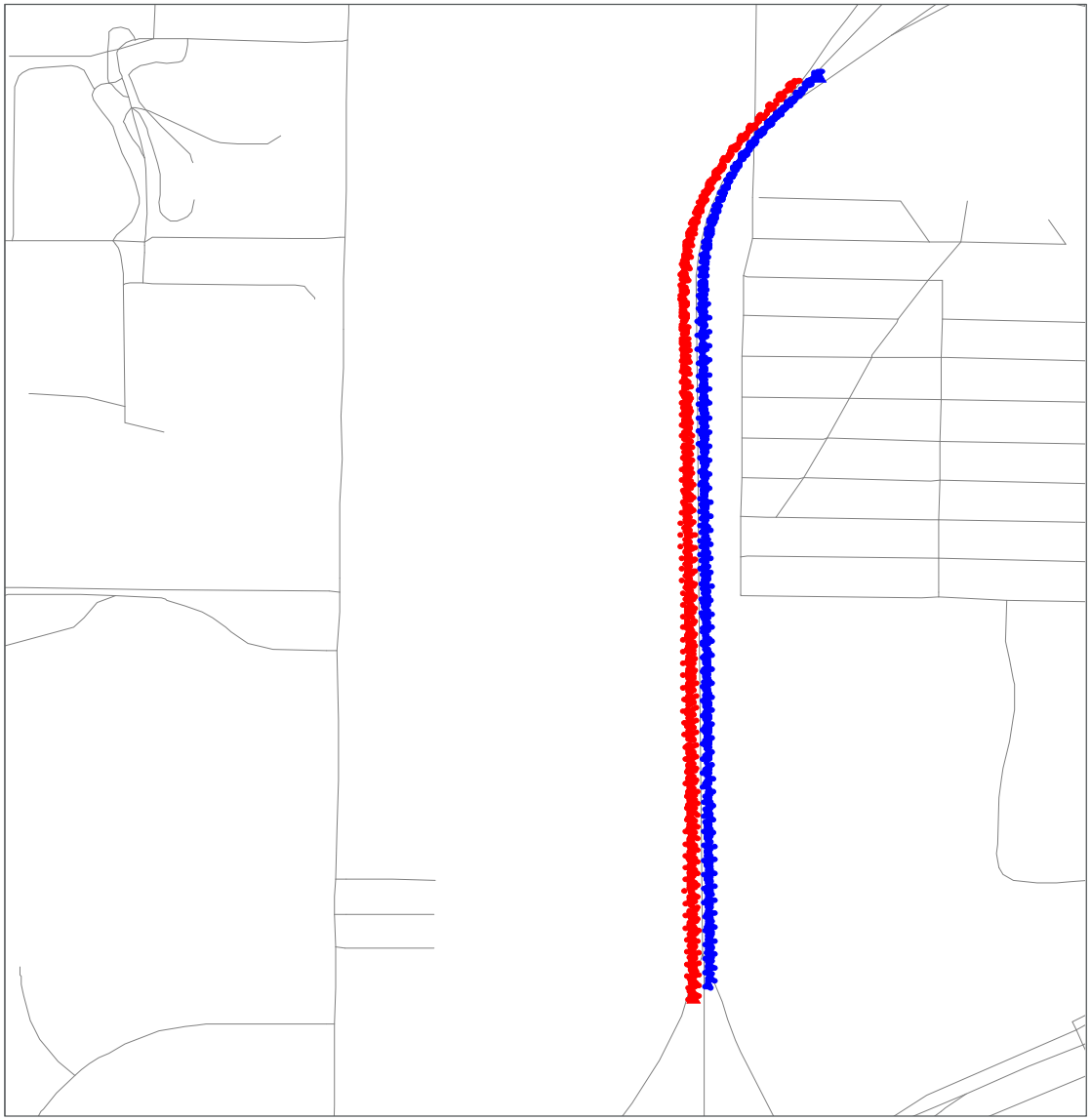
Figure 2.2

Existing Year (2012) Annual Average Daily Traffic (AADT) and Design Hour Turning Movement Volumes

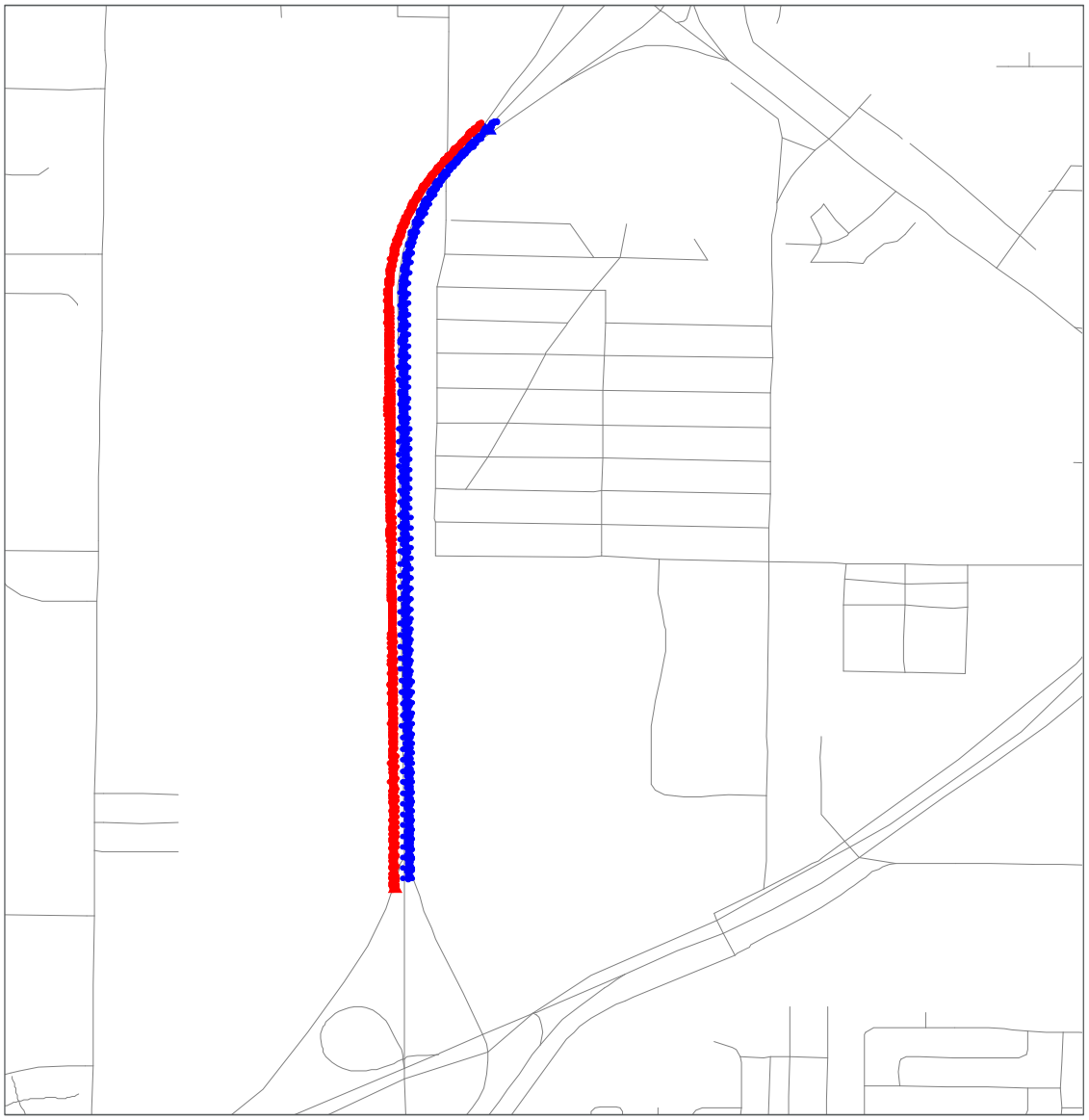
Appendix E.
Field Observations

Appendix E.
Field Observations

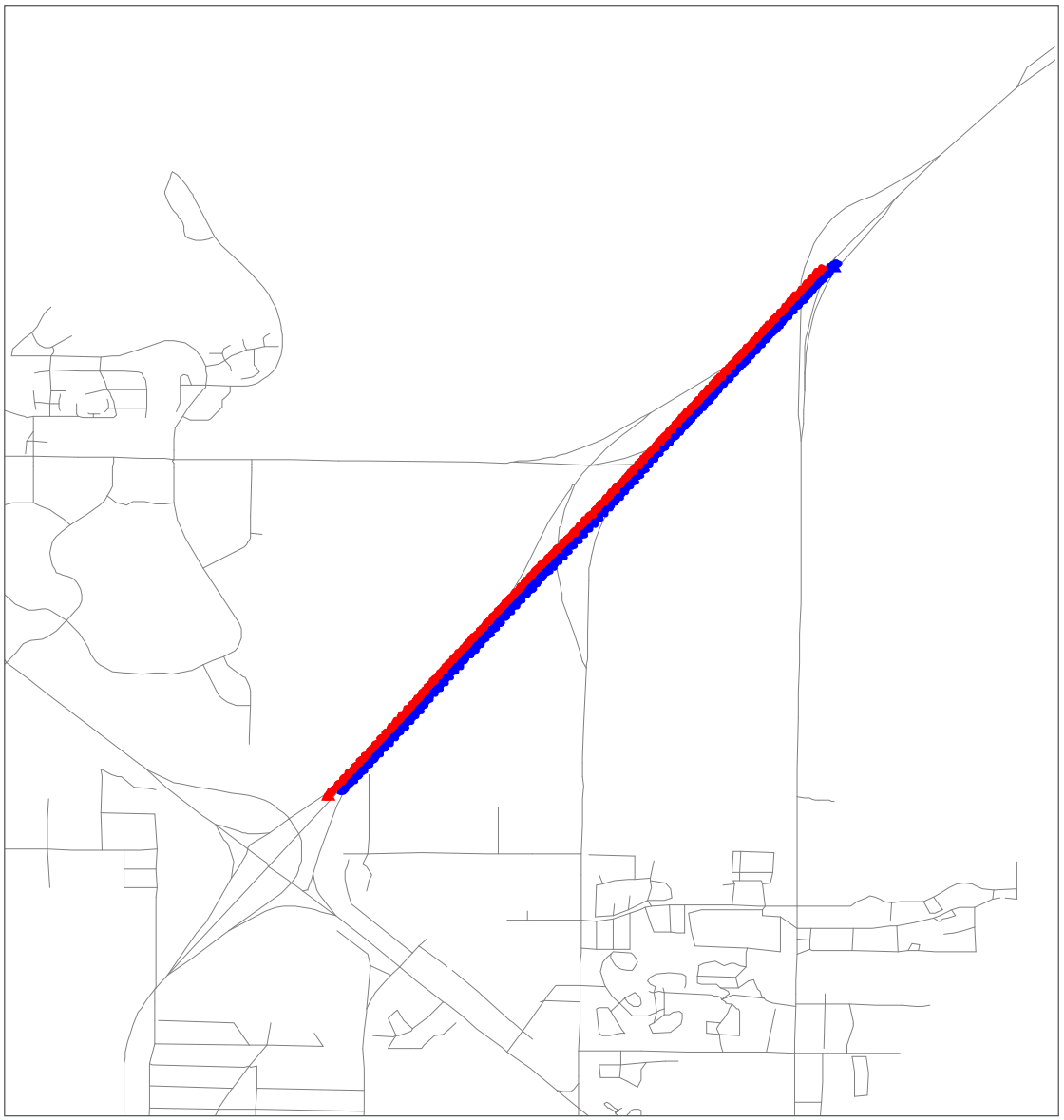
Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.32	1min 12sec	66.2	0	0min 00sec	0.05	27.51	3.35	0.65	0.78	SQLEXPRESS:iTREC/Gandy to Roosevelt AM/NB
C2	1.32	1min 14sec	64.1	0	0min 00sec	0.05	28.2	3.28	0.64	0.76	SQLEXPRESS:iTREC/Gandy to Roosevelt AM/SB



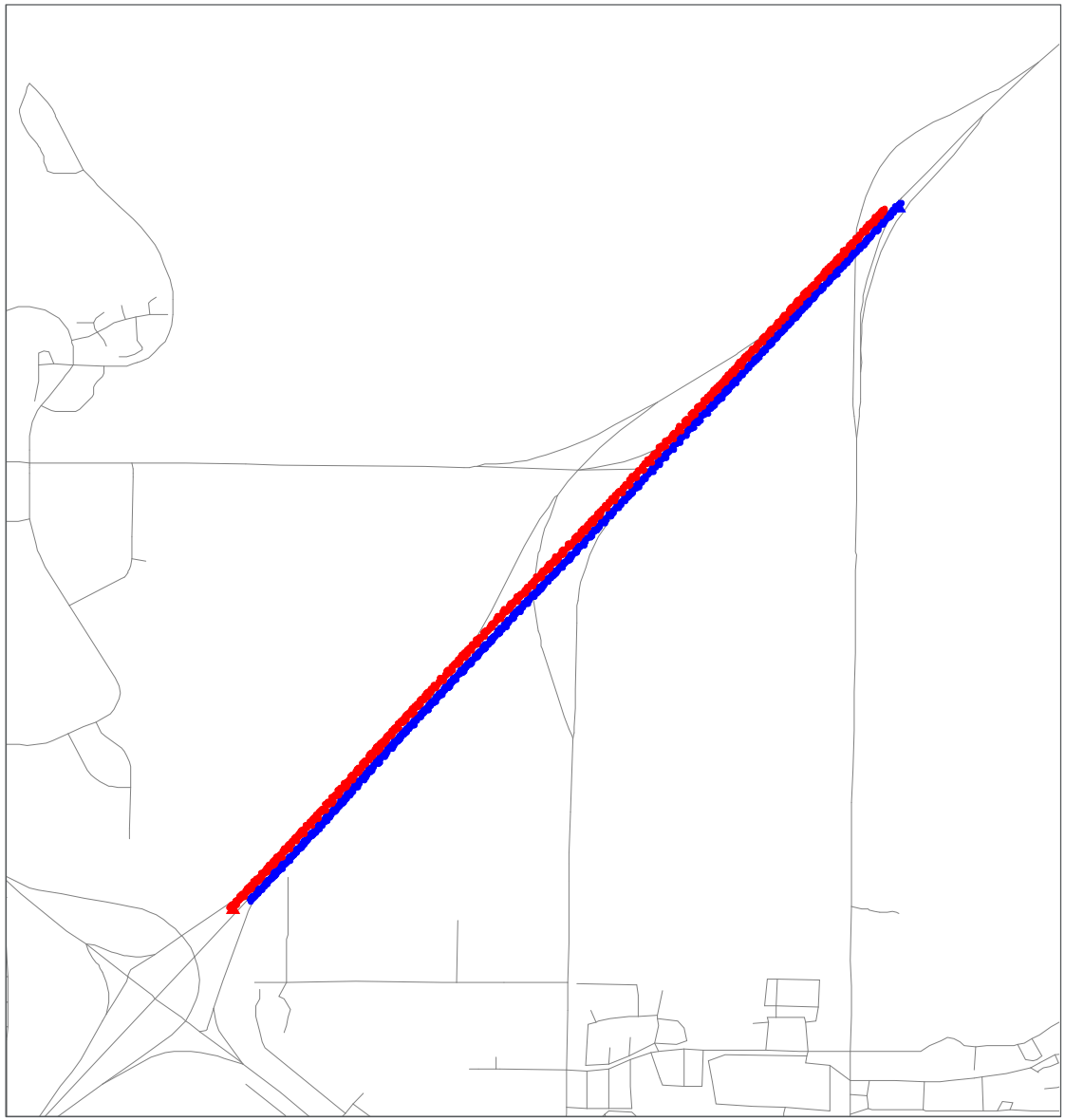
Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.29	1min 09sec	67.46	0	0min 00sec	0.05	27.18	3.32	0.65	0.77	SQLEXPRESS:iTREC/Gandy to Roosevelt PM/NB
C2	1.3	2min 32sec	42.67	1	0min 12sec	0.1	19.98	6.99	1.36	1.62	SQLEXPRESS:iTREC/Gandy to Roosevelt PM/SB



Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.76	1min 35sec	67.28	0	0min 00sec	0.06	27.25	4.53	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St AM/NB
C2	1.76	1min 35sec	66.97	0	0min 00sec	0.06	27.32	4.52	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St AM/SB



Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.76	1min 32sec	68.94	0	0min 00sec	0.07	26.74	4.6	0.9	1.07	SQLEXPRESS:iTREC/Roosevelt to 4th St PM/NB
C2	1.76	1min 35sec	67.09	0	0min 00sec	0.07	27.22	4.54	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St PM/SB



Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:02	6							
7:04	3							
7:05	5							
7:07	4							
7:08	5							
7:10	8							
7:12	6							
7:14	10							
7:16	7							
7:18	9							
7:20	5							
7:24	6							
7:26	4							
7:32	5							
7:36	5							
7:40	11							
7:42	7							
7:44	9							
7:46	7							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:48	11							
7:50	14							
7:52	10							
7:54	12							
7:56	11							
7:58	9							
8:00	10							
8:02	4							
8:04	2							
8:08	4							
8:12	4							
8:14	14							
8:16	12							
8:18	10							
8:20	13							
8:22	14							
8:24	13							
8:26	15							
8:28	14							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:30	14							
8:32	10							
8:34	10							
8:36	12							
8:38	11							
8:40	12							
8:42	4							
8:44	8							
8:46	11							
8:48	10							
8:50	7							
8:52	8							
8:54	10							
8:56	8							
8:58	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:02	2							
4:04	4							
4:06	3							
4:08	2							
4:10	6							
4:12	7							
4:14	5							
4:16	4							
4:18	6							
4:20	7							
4:22	4							
4:24	5							
4:30	4							
4:32	6							
4:34	3							
4:36	8							
4:38	10							
4:40	7							
4:42	8							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:48	3							
4:52	7							
4:58	4							
5:00	3							
5:04	2							
5:05	8							
5:06	14							
5:08	10							
5:10	11							
5:12	14							
5:14	12							
5:16	6							
5:18	3							
5:20	3							
5:22	9							
5:24	10							
5:26	10							
5:28	11							
5:30	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB off At 31st S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:32	3							
5:34	10							
5:36	14+							
5:38	12							
5:40	14+							
5:42	14+							
5:44	14+							
5:46	14+							
5:48	14+							
5:50	14+							
5:52	14+							
5:54	8							
5:56	5							
5:58	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I-275 NB on-off Ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	1	1						
7:02	0	2						
7:04	3	7						
7:06	1	2						
7:08	1	3						
7:10	1	4						
7:12	6	9						
7:14	6	5						
7:16	1	1						
7:18	4	5						
7:20	3	3						
7:22	6	6						
7:24	3	5						
7:26	4	10						
7:28	4	2						
7:30	6	4						
7:32	0	3						
7:34	5	6						
7:36	2	3						

4

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I-275 NB on-off Ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:38	4	4						
7:40	5	4						
7:42	4	3						
7:44	2	5						
7:46	5	1						
7:48	2	5						
7:50	1	4						
7:52	5	3						
7:54	4	4						
7:56	2	2						
7:58	5	3						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I-275 NB on-off Ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	2	5						
8:02	2	2						
8:04	3	3						
8:06	4	3						
8:08	4	4						
8:10	2	3						
8:12	2	0						
8:14	3	4						
8:16	4	4						
8:18	4	3						
8:20	4	3						
8:22	3	2						
8:24	1	1						
8:26	2	0						
8:28	2	3						
8:30	2	2						
8:32	2	2						
8:34	3	3						
8:36	1	1						

4

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I-275 NB on-off Ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:38	3	4						
8:40	4	1						
8:42	4	3						
8:44	1	1						
8:46	1	3						
8:48	1	3						
8:50	3	3						
8:52	4	2						
8:54	2	2						
8:56	8	6						
8:58	1	2						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I-275 NB on-off Ramp At 38 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:02	4	3						
4:04	6	3						
4:06	2	2						
4:08	5	5						
4:10	1	3						
4:12	5	7						
4:14	2	2						
4:16	1	1						
4:18	8	6						
4:20	4	4						
4:22	4	4						
4:24	10	4						
4:26	8	7						
4:28	2	4						
4:30	1	3						
4:32	7	2						
4:34	2	2						
4:36	5	5						
4:38	0	2						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I 275 NB on-off Ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:40	2	1						
4:42	3	3						
4:44	6	6						
4:46	3	4						
4:48	5	6						
4:50	6	5						
4:52	6	7						
4:54	4	4						
4:56	2	4						
4:58	8	8						
5:00	5	3						
5:02	4	2						
5:04	6	7						
5:06	3	6						
5:08	5	5						
5:10	4	5						
5:12	4	3						
5:14	2	4						
5:16	5	7						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 NB on-off ramp at 38 ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:18	0	0						
5:20	6	2						
5:22	4	4						
5:24	2	1						
5:26	5	5						
5:28	4	3						
5:30	4	3						
5:32	0	2						
5:34	3	3						
5:36	2	4						
5:38	2	4						
5:40	2	1						
5:42	5	3						
5:44	1	3						
5:46	4	6						
5:48	4	4						
5:50	4	1						
5:52	6	2						
5:54	5	7						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information									
Analyst:	Nathan Sutton	Intersection:	I 275 NB on - off ramp At 38 Ave N								
Agency:	FTE	Area Type:									
Date:	4/9/2014	Approach:	NB	X	SB		EB		WB		
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right				

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:56	2	2						
5:58	3	3						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:01	1							
7:02	1							
7:07	1							
7:09	1							
7:14	2							
7:17	4							
7:19	1							
7:20	2							
7:22	2							
7:28	1							
7:31	1							
7:33	2							
7:36	1							
7:38	2							
7:40	1							
7:42	1							
7:46	1							
7:48	1							
7:51	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:53	3							
7:55	1							
7:59	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	1							
8:02	2							
8:04	2							
8:06	2							
8:08	3							
8:10	4							
8:12	2							
8:14	5							
8:19	2							
8:23	1							
8:26	4							
8:28	1							
8:30	4							
8:34	4							
8:36	3							
8:38	2							
8:40	3							
8:42	3							
8:46	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:50	1							
8:54	1							
8:56	3							
8:59	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 5:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:02	2							
4:06	1							
4:09	1							
4:13	3							
4:36	2							
4:40	1							
4:46	1							
4:54	1							
4:58	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	5:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:03	1							
5:08	1							
5:12	1							
5:15	1							
5:19	1							
5:21	2							
5:22	5							
5:25	1							
5:29	2							
5:36	3							
5:46	2							
5:50	1							
5:51	2							
5:58	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	5							
7:02	5							
7:04	6							
7:06	4							
7:08	8							
7:10	10							
7:12	5							
7:14	1							
7:16	7							
7:18	3							
7:20	6							
7:22	3							
7:24	3							
7:26	4							
7:28	5							
7:30	7							
7:32	6							
7:34	3							
7:36	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:38	2							
7:40	2							
7:42	3							
7:44	3							
7:46	7							
7:48	5							
7:52	6							
7:54	8							
7:56	4							
7:58	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	4							
8:02	3							
8:04	1							
8:06	3							
8:12	3							
8:14	3							
8:16	3							
8:20	4							
8:22	5							
8:24	2							
8:26	3							
8:28	2							
8:30	3							
8:32	4							
8:34	1							
8:36	1							
8:38	3							
8:40	2							
8:44	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:46	1							
8:48	1							
8:50	2							
8:52	2							
8:54	1							
8:56	2							
8:58	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	10							
4:02	3							
4:03	10							
4:05	2							
4:07	5							
4:09	5							
4:11	8							
4:13	12							
4:15	7							
4:17	9							
4:19	12							
4:21	10							
4:23	8							
4:25	4							
4:27	5							
4:29	8							
4:31	10							
4:33	3							
4:35	11							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:37	2							
4:39	12							
4:41	8							
4:43	10							
4:45	3							
4:47	11							
4:49	9							
4:51	8							
4:53	13							
4:55	3							
5:57	10							
4:59	11							
5:02	3							
5:03	5							
5:05	9							
5:07	4							
5:09	9							
5:11	9							
5:13	13							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:15	12							
5:17	7							
5:19	6							
5:21	7							
5:23	8							
5:25	7							
5:27	8							
5:29	9							
5:31	8							
5:33	9							
5:35	5							
5:37	10							
5:39	8							
5:41	9							
5:43	8							
5:45	5							
5:47	8							
5:49	13							
5:51	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 54 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:54	2							
5:55	5							
5:57	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:02	1							
7:04	3							
7:06	1							
7:08	3							
7:10	3							
7:11	6							
7:13	5							
7:16	2							
7:18	3							
7:20	3							
7:22	5							
7:24	1							
7:26	5							
7:28	2							
7:30	1							
7:32	2							
7:34	3							
7:36	5							
7:38	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off At 38 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:40	3							
7:42	2							
7:44	3							
7:46	3							
7:48	6							
7:50	1							
7:52	3							
7:54	9							
7:56	7							
7:58	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:02	2							
8:04	2							
8:06	3							
8:08	6							
8:10	3							
8:12	4							
8:14	4							
8:16	6							
8:18	8							
8:20	5							
8:22	9							
8:24	7							
8:26	6							
8:28	5							
8:30	9							
8:32	4							
8:34	6							
8:36	3							
8:38	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:40	3							
8:42	2							
8:44	3							
8:46	6							
8:48	5							
8:50	5							
8:52	6							
8:54	5							
8:56	8							
8:58	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:01	9							
4:02	4							
4:04	7							
4:06	3							
4:08	8							
4:10	6							
4:12	9							
4:14	7							
4:16	6							
4:18	17							
4:20	8							
4:22	9							
4:24	6							
4:26	15							
4:29	8							
4:30	14							
4:32	8							
4:34	11							
4:36	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:38	11							
4:40	10							
4:42	5							
4:44	5							
4:46	12							
4:48	7							
4:50	10							
4:52	12							
4:54	12							
4:56	8							
4:58	7							
5:00	7							
5:02	11							
5:04	10							
5:06	9							
5:08	11							
5:10	9							
5:12	12							
5:14	11							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:16	12							
5:18	11							
5:20	10							
5:22	12							
5:24	8							
5:26	12							
5:28	11							
5:30	9							
5:32	14							
5:34	11							
5:36	11							
5:38	6							
5:40	11							
5:42	10							
5:44	8							
5:46	12							
5:48	11							
5:50	10							
5:52	10							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off at 38 Ave N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:54	7							
5:56	8							
5:58	12							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:02	3							
7:02	2							
7:04	4							
7:06	4							
7:08	3							
7:10	5							
7:14	4							
7:16	4							
7:18	5							
7:20	7							
7:22	2							
7:24	4							
7:26	6							
7:28	2							
7:30	4							
7:32	4							
7:34	2							
7:36	5							
7:38	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:40	3							
7:42	6							
7:44	4							
7:46	2							
7:48	7							
7:50	3							
7:52	5							
7:54	7							
7:56	7							
7:58	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	7							
8:02	1							
8:04	7							
8:06	8							
8:09	7							
8:10	9							
8:12	6							
8:14	12							
8:16	7							
8:18	9							
8:20	10							
8:22	11							
8:24	9							
8:26	8							
8:28	5							
8:30	5							
8:32	2							
8:34	4							
8:36	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:38	5							
8:40	4							
8:42	1							
8:44	4							
8:46	5							
8:48	2							
8:50	2							
8:52	2							
8:54	2							
8:56	4							
8:58	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 5:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	4							
4:02	3							
4:04	7							
4:06	6							
4:08	10							
4:10	5							
4:12	4							
4:14	6							
4:16	3							
4:18	3							
4:20	6							
4:22	2							
4:24	7							
4:26	6							
4:28	2							
4:30	5							
4:32	3							
4:36	3							
4:38	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 5:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:40	3							
4:42	2							
4:44	8							
4:46	2							
4:48	6							
4:50	3							
4:52	2							
4:54	9							
4:56	3							
4:58	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	5:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:00	3							
5:02	6							
5:04	8							
5:06	6							
5:08	9							
5:10	5							
5:12	5							
5:14	5							
5:16	5							
5:18	4							
5:20	2							
5:22	6							
5:24	8							
5:26	7							
5:28	3							
5:30	5							
5:32	2							
5:35	4							
5:37	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off ramp at 2nd Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	5:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:39	4							
5:41	1							
5:43	4							
5:46	2							
5:50	8							
5:52	9							
5:54	8							
5:56	9							
5:58	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	2	1						
7:01	2	2						
7:03	4	1						
7:05	5							
7:07	3	1						
7:09	4	4						
7:11	8	3						
7:13	5	7						
7:15		3						
7:17	4	9						
7:19	6	5						
7:21	7	6						
7:23	5	1						
7:25	11	3						
7:27	7	1						
7:29	7	4						
7:31	3	2						
7:33	9	5						
7:35	8	5						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:37	4	4						
7:39	7	5						
7:41	9	2						
7:43	10	6						
7:45	11	7						
7:47	10	8						
7:49	10	6						
7:51	11	5						
7:53	12	2						
7:55	9	5						
7:57	7	5						
7:59	2	3						
8:00	4	3						
8:01	7	8						
8:03	10	8						
8:05	6	2						
8:07	5	5						
8:09	8	3						
8:11	8	7						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:13	12	10						
8:15	1	1						
8:17	9	3						
8:19	8	3						
8:21	4	7						
8:23	6	5						
8:25	5	2						
8:27	9	8						
8:29	4	2						
8:31	8	3						
8:33	11	3						
8:35	6							
8:37	9	3						
8:39	7	4						
8:41	7	5						
8:42	7	3						
8:45	9	5						
8:47	8	4						
8:49	7	4						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:51	7	3						
8:53	9	4						
8:55	7	3						
8:57	9	4						
8:59	6	3						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	3	7						
4:02	5	3						
4:03	4	4						
4:05	8	4						
4:07	4	4						
4:09	7	5						
4:11	2	3						
4:13	3	2						
4:15	8	3						
4:17	5	4						
4:19	9	5						
4:21	4	4						
4:23	6	4						
4:25	5	3						
4:27	3	2						
4:29	2	5						
4:31	6	3						
4:33	7	2						
4:35	1	1						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:37	8	2						
4:39	3	5						
4:41	10	2						
4:43	9	1						
4:45	6	3						
4:47	5	3						
4:49	7	4						
4:51	5	3						
4:53	4	2						
4:55	4	3						
4:57	4	5						
4:59	3	4						
5:01	4	5						
5:03	5	7						
5:05	10	3						
5:07	4	2						
5:09	5	4						
5:11	3	5						
5:13	10	6						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:15	8	4						
5:17	7	3						
5:19	3	3						
5:21	5	4						
5:23	5	6						
5:25	8	5						
5:27	2	4						
5:29	6	3						
5:31	8	3						
5:33	9	6						
5:35	7	2						
5:37	5	3						
5:39	6	5						
5:41	3	4						
5:43	6	4						
5:45	5	4						
5:47	5	5						
5:49	5	4						
5:51	1	3						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off ramp and 5th Ave							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:53	4	6						
5:55	3	4						
5:57	8	7						
5:58	5	4						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	2							
7:01	2							
7:02	1							
7:03	2							
7:04	1							
7:07	3							
7:08	4							
7:09	1							
7:11	4							
7:13	7							
7:14	2							
7:15	2							
7:17	3							
7:18	4							
7:21	3							
7:22	3							
7:24	8							
7:25	3							
7:26	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:27	2							
7:28	6							
7:29	2							
7:30	6							
7:31	1							
7:32	2							
7:34	1							
7:36	1							
7:37	4							
7:38	1							
7:39	2							
7:41	4							
7:43	3							
7:44	1							
7:45	2							
7:46	4							
7:47	1							
7:48	3							
7:49	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:50	1							
7:51	2							
7:52	1							
7:53	1							
7:56	4							
7:57	2							
7:58	4							
7:59	2							
8:00	7							
8:01	2							
8:02	4							
8:03	5							
8:05	3							
8:06	4							
8:07	3							
8:08	14							
8:11	5							
8:12	2							
8:13	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:14	2							
8:15	4							
8:16	8							
8:17	7							
8:18	4							
8:19	3							
8:20	7							
8:21	4							
8:22	5							
8:23	6							
8:24	2							
8:25	5							
8:26	9							
8:28	8							
8:29	5							
8:31	5							
8:32	1							
8:34	1							
8:35	6							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:37	3							
8:38	2							
8:39	4							
8:41	1							
8:44	2							
8:48	3							
8:50	3							
8:51	2							
8:52	2							
8:53	1							
8:54	3							
8:56	2							
8:57	3							
8:59	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	3							
4:01	3							
4:03	4							
4:04	2							
4:05	2							
4:06	1							
4:07	5							
4:08	4							
4:09	4							
4:10	2							
4:11	2							
0:00	2							
4:14	4							
4:15	1							
4:16	1							
4:17	2							
4:18	3							
4:19	3							
4:20	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:21	2							
4:25	1							
4:26	1							
4:27	2							
4:28	1							
4:29	7							
4:31	2							
4:33	3							
4:34	2							
4:36	2							
4:37	3							
4:38	1							
4:39	2							
4:40	6							
4:42	2							
4:43	4							
4:44	7							
4:46	5							
4:47	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:48	2							
4:50	4							
4:51	8							
4:52	3							
4:53	4							
4:54	3							
4:56	1							
4:57	2							
4:58	4							
4:59	2							
5:00	5							
5:01	3							
5:02	2							
5:03	4							
5:04	3							
5:06	5							
5:09	3							
5:10	2							
5:11	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:12	1							
5:14	3							
5:15	2							
5:16	3							
5:17	2							
5:18	3							
5:19	4							
5:20	3							
5:22	2							
5:23	2							
5:24	1							
5:26	1							
5:27	3							
5:29	2							
5:31	7							
5:32	6							
5:33	5							
5:35	6							
5:36	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off and 28th St							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:37	6							
5:39	4							
5:40	3							
5:41	3							
5:42	4							
5:44	3							
5:45	3							
5:46	1							
5:47	1							
5:48	2							
5:49	1							
5:50	6							
5:51	2							
5:53	3							
5:54	3							
5:55	2							
5:57	1							
5:58	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	9							
7:01	2							
7:02	8							
7:04	9							
7:06	7							
7:08	12							
7:10	7							
7:12	13							
7:15	7							
7:17	9							
7:18	10							
7:20	9							
7:22	11							
7:24	7							
7:26	5							
7:28	5							
7:30	2							
7:32	4							
7:34	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:36	5							
7:38	4							
7:40	1							
7:42	5							
7:45	5							
7:47	2							
7:49	2							
7:51	3							
7:52	2							
7:53	3							
7:54	4							
7:56	4							
7:58	3							
8:00	10							
8:01	1							
8:02	7							
8:04	9							
8:06	7							
8:08	8							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:10	5							
8:12	11							
8:15	7							
8:16	7							
8:17	9							
8:19	10							
8:21	11							
8:23	10							
8:25	7							
8:27	5							
8:28	5							
8:31	4							
8:35	5							
8:37	5							
8:39	4							
8:41	1							
8:42	5							
8:45	5							
8:47	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:49	2							
8:50	2							
8:52	3							
8:54	4							
8:56	3							
8:58	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	5							
4:01	4							
4:03	7							
4:04	6							
4:05	10							
4:08	5							
4:09	4							
4:11	4							
4:13	6							
4:16	1							
4:18	1							
4:21	2							
4:22	7							
4:24	6							
4:26	2							
4:28	5							
4:30	3							
4:34	4							
4:36	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:38	3							
4:41	2							
4:42	7							
4:44	2							
4:46	6							
4:49	3							
4:51	11							
4:55	3							
4:57	4							
4:58	3							
5:01	6							
5:02	8							
5:04	6							
5:06	8							
5:08	5							
5:10	5							
5:13	5							
5:14	6							
5:17	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:18	2							
5:20	6							
5:22	7							
5:24	7							
5:26	3							
5:28	6							
5:31	2							
5:32	3							
5:34	4							
5:36	6							
5:38	1							
5:39	4							
5:40	3							
5:41	1							
5:42	1							
5:43	4							
5:45	2							
5:46	3							
5:47	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off at 22nd Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:48	10							
5:51	9							
5:52	11							
5:54	9							
5:57	6							
5:58	12							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 - 8:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	5							
7:01	7							
7:02	2							
7:03	4							
7:04	3							
7:05	1							
7:06	2							
7:07	5							
7:08	4							
7:09	5							
7:10	0							
7:11	2							
7:12	2							
7:13	2							
7:14	4							
7:15	1							
7:16	4							
7:17	1							
7:18	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 - 8:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:19	4							
7:20	5							
7:21	6							
7:22	7							
7:23	3							
7:24	0							
7:25	3							
7:26	7							
7:27	1							
7:28	5							
7:29	2							
7:30	3							
7:31	5							
7:32	7							
7:33	5							
7:34	6							
7:35	3							
7:36	0							
7:37	6							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 - 8:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:38	6							
7:39	1							
7:40	5							
7:41	6							
7:42	4							
7:43	6							
7:44	7							
7:45	4							
7:46	2							
7:47	3							
7:48	4							
7:49	6							
7:50	2							
7:51	2							
7:52	6							
7:53	4							
7:54	3							
7:55	6							
7:56	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 - 8:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:57	5							
7:58	6							
7:59	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	8:00 - 9:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	4							
8:01	2							
8:02	5							
8:03	3							
8:04	5							
8:05	6							
8:06	6							
8:07	0							
8:08	4							
8:09	5							
8:10	2							
8:11	4							
8:12	3							
8:13	3							
8:14	5							
8:15	6							
8:16	4							
8:17	4							
8:18	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	8:00 - 9:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:19	4							
8:20	10							
8:21	3							
8:22	8							
8:23	11							
8:24	2							
8:25	7							
8:26	3							
8:27	5							
8:28	1							
8:29	6							
8:30	5							
8:31	7							
8:32	3							
8:33	4							
8:34	3							
8:35	3							
8:36	5							
8:37	6							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	8:00 - 9:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:38	2							
8:39	6							
8:40	3							
8:41	5							
8:42	4							
8:43	3							
8:44	3							
8:45	1							
8:46	1							
8:47	4							
8:48	2							
8:49	5							
8:50	6							
8:51	5							
8:52	1							
8:53	5							
8:54	4							
8:55	3							
8:56	0							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	8:00 - 9:00 AM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:57	3							
8:58	2							
8:59	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 - 5:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	3							
4:01	3							
4:02	6							
4:03	2							
4:04	2							
4:05	2							
4:06	1							
4:07	1							
4:08	5							
4:09	2							
4:10	2							
4:11	6							
4:12	2							
4:13	4							
4:14	2							
4:15	2							
4:16	0							
4:17	7							
4:18	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 - 5:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:19	3							
4:20	4							
4:21	0							
4:22	2							
4:23	4							
4:24	4							
4:25	3							
4:26	6							
4:27	4							
4:28	5							
4:29	4							
4:30	4							
4:31	3							
4:32	3							
4:33	2							
4:34	5							
4:35	4							
4:36	4							
4:37	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 - 5:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:38	3							
4:39	6							
4:40	6							
4:41	1							
4:42	5							
4:43	3							
4:44	4							
4:45	3							
4:46	2							
4:47	3							
4:48	3							
4:49	0							
4:50	3							
4:51	0							
4:52	3							
4:53	4							
4:54	2							
4:55	4							
4:56	4							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 - 5:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:57	4							
4:58	1							
4:59	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	5:00 - 6:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:00	7							
5:01	0							
5:02	4							
5:03	2							
5:04	1							
5:05	6							
5:06	8							
5:07	3							
5:08	5							
5:09	2							
5:10	4							
5:11	1							
5:12	6							
5:13	3							
5:14	5							
5:15	3							
5:16	2							
5:17	2							
5:18	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	5:00 - 6:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:19	2							
5:20	5							
5:21	1							
5:22	4							
5:23	6							
5:24	8							
5:25	4							
5:26	0							
5:27	4							
5:28	4							
5:29	3							
5:30	3							
5:31	3							
5:32	3							
5:33	3							
5:34	4							
5:35	6							
5:36	2							
5:37	5							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	5:00 - 6:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:38	4							
5:38	3							
5:40	3							
5:41	1							
5:42	2							
5:43	2							
5:44	4							
5:45	4							
5:46	6							
5:47	1							
5:48	3							
5:49	4							
5:50	2							
5:51	1							
5:52	2							
5:53	1							
5:54	1							
5:55	1							
5:56	9							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB Off at 26 Acres							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	5:00 - 6:00 PM	Movements:	Left		Thru		Right			

Lane Movement Input

N-S Street:

N

E-W Street:

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:57	8							
5:58	3							
5:59	3							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Carolyn	Intersection:	I 275 SB off at 54th Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:00	7	5						
7:01	4	5						
7:03	3	3						
7:05	1	3						
7:07	8	5						
7:09	3	4						
7:12	4	2						
7:14	4	2						
7:16	6	5						
7:18	8	3						
7:20	7	5						
7:22	8	4						
7:24	3	3						
7:26	6	6						
7:29	5	5						
7:31	5	4						
7:33	2	4						
7:35	4	5						
7:37	6	4						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Carolyn	Intersection:	I 275 SB off at 54th Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:40	4	6						
7:42	5	7						
7:44	5	5						
7:47	5	5						
7:48	4	6						
7:51	6	5						
7:53	5	6						
7:55	6	5						
7:57	6	6						
7:57	8	7						
8:01	7	9						
8:04	4	4						
8:06	4	6						
8:08	5	5						
8:10	3	5						
8:12	4	4						
8:14	3	5						
8:17	4	3						
8:19	4	4						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Carolyn	Intersection:	I 275 SB off at 54th Ave S						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	7:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:21	4	3						
8:23	7	5						
8:25	7	5						
8:28	7	3						
8:30	0	3						
8:32	5	5						
8:34	3	4						
8:36	2	4						
8:38	7	6						
8:40	3	3						
8:42	1	4						
8:44	6	6						
8:47	6	3						
8:49	5	3						
8:52	5	3						
8:53	4	4						
8:56	3	5						
8:58	5	6						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off At 54th Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:00	9	7						
4:01	3	8						
4:03	8	7						
4:05	3	5						
4:07	5	6						
4:09	3	3						
4:11	6	3						
4:13	6	4						
4:15	4	8						
4:10	7	5						
4:20	7	4						
4:22	5	6						
4:25	5	6						
4:26	6	7						
4:29	8	7						
4:31	7	6						
4:33	9	7						
4:35	5	5						
4:37	5	8						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off At 54th Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:39	7	8						
4:41	8	6						
4:44	7	5						
4:46	7	6						
4:48	10	7						
4:50	8	7						
4:52	7	7						
4:54	7	6						
4:56	8	6						
4:58	7	3						
5:01	7	7						
5:03	10	9						
5:05	8	7						
5:07	6	6						
5:10	6	7						
5:12	9	8						
5:14	5	7						
5:16	8	2						
5:18	7	7						

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	David	Intersection:	I 275 SB off At 54th Ave S							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	x	EB		WB	
Time Period:	4:00 PM - 6:00 PM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:20	7	6						
5:22	5	8						
5:25	7	4						
5:27	7	6						
5:29	3	5						
5:31	9	9						
5:33	6	5						
5:35	8	7						
5:37	8	6						
5:40	6	3						
5:42	7	9						
5:44	8	6						
5:46	3	2						
5:49	4	4						
5:51	1							
5:53	2	3						
5:55	6	3						
5:57	10	4						

Field Observations and Notes

Appendix F.
Signal Timing Plans

Appendix F.
Signal Timing Plans

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & 54 AVENUE S

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 7/17/14

2. CONTROLLER 1. TIMING DATA	**BLT** PHASE 1	**EB/WB** PHASE 2	**BLT** PHASE 3	**SB** PHASE 4	**BLT** PHASE 5	**B** PHASE 6	**BLT** PHASE 7	**B** PHASE 8
MIN GREEN		6		10				
WALK		7		7				
PED CLEAR		13		20				
VEH EXT.		2		3				
MAX 1		50		30				
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW		4.4		4.0				
RED CLR		2.0		2.4				
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X				
VEHICLE RECALL								
PED RECALL		X						
RECALL TO MAX		X						
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X						
EXTERNAL START (**GREEN**)		X						
ENTRY REM FLASH				X				
EXIT REM FLASH		X						

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X						
NONACTUATED II								
DUAL ENTRY								
COND SERVICE								
REST IN WALK		X						
(**NEXT PAGE**)								
DUAL ENTRY	OFF (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	3
RESPONSE DELAY	200

NOTES
INTERSECTION # **630**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	120	
OFFSET	100	
C/O/S	111	

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)		79		41				
SPLITS(PATTERN 2)								

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X						
COORD PHASES (PATTERN 2)								

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	1	1	1	1	1	1	1
WEEK 2							

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	00:00	0	
STEP 2	1	15:30	1	
STEP 3	1	18:30	0	

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						
TOD PROG STEP 2						
TOD PROG STEP 3						
TOD PROG STEP 4						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1	2	3	4	5	6	7	8
R1	1	2	3	4				
R2	5	6	7	8				
CG PRESS 0 (TOGGLE) TO CHANGE DATA		^			^			

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE		X		X				
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
1								
2								
3								
4								
5								
6								
7								
8								

NOTES

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & 22 AVENUE S.

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 2/19/08

2. CONTROLLER 1. TIMING DATA	**BLT** PHASE 1	**WB** PHASE 2	**BLT** PHASE 3	**B** PHASE 4	**BLT** PHASE 5	**EB** PHASE 6	**BLT** PHASE 7	**SB** PHASE 8
MIN GREEN		6				6		10
WALK		6				6		6
PED CLEAR		15				15		25
VEH EXT.		3				3		3
MAX 1		40				40		35
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW	4	4	4	4	4	4	4	4
RED CLR		1				1		1
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X				X		X
VEHICLE RECALL								
PED RECALL		X						
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM FLASH								X
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY								
COND SERVICE								
REST IN WALK		X						
(**NEXT PAGE**)								
DUAL ENTRY	OFF (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	5
RESPONSE DELAY	200

NOTES
INTERSECTION # **638**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	ON
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH		
OFFSET		
C/O/S	FREE	

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)								
SPLITS(PATTERN 2)								

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)								
COORD PHASES (PATTERN 2)								

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	1	1	1	1	1	1	1
WEEK 2							

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1				
STEP 2				
STEP 3				

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						
TOD PROG STEP 2						
TOD PROG STEP 3						
TOD PROG STEP 4						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1	2	3	4	5	6	7	8
R1	1	2	3	4				
R2	5	6	7	8				
CG PRESS 0 (TOGGLE) TO CHANGE DATA		^			^			

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE		X				X		X
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
1								
2								
3								
4								
5								
6								
7								
8								

NOTES

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & 5 AVENUE N.

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 7/9/14

2. CONTROLLER 1. TIMING DATA	**EBLT** PHASE 1	**WB** PHASE 2	**BLT** PHASE 3	**NB** PHASE 4	**WBLT** PHASE 5	**EB** PHASE 6	**BLT** PHASE 7	**SB** PHASE 8
MIN GREEN	6	6		12	6	6		12
WALK		7		7		7		7
PED CLEAR		18		18		18		18
VEH EXT.	2	4		4	2	4		4
MAX 1	20	35		35	20	35		35
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW	4.4	4.4		4.0	4.4	4.4		4.0
RED CLR	2.0	2.0		2.0	2.0	2.0		2.0
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X		X		X
VEHICLE RECALL								
PED RECALL		X				X		
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM FLASH				X				X
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY		X		X		X		X
COND SERVICE								
REST IN WALK		X				X		
(**NEXT PAGE**)								
DUAL ENTRY	ON (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	5
RESPONSE DELAY	1000

NOTES
Phases 1 & 5 are lagging
OLA = Phases 1 & 2 & 5
OLB = Phases 1 & 5 & 6
Overlaps & Configuration Do Not Load from Laptops; Must Be Loaded Manually
SEE PAGE 4 FOR OVERLAP & CONFIGUARATION Data
INTERSECTION # **482**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	120	
OFFSET	18	
C/O/S	111	

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)	30	50		40	30	50		40
SPLITS(PATTERN 2)								

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X				X		
COORD PHASES (PATTERN 2)								

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	1	1	1	1	1	1	1
WEEK 2							

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	00:00	0	
STEP 2	1	06:00	1	
STEP 3	1	23:00	0	

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						
TOD PROG STEP 2						
TOD PROG STEP 3						
TOD PROG STEP 4						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1		2		3		4		5		6		7		8	
R1	2		1	|	3		4	|								
R2	6		5	|	7		8	|								
CG PRESS 0 (TOGGLE) TO CHANGE DATA				^				^								

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE	X	X		X	X	X		X
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

NOTE: OVERLAPS CANNOT BE DOWNLOADED FROM LAPTOP

6.DETECTORS 2. PHASE ASSIGNMENT	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
1								
2								
3								
4								
5								
6								
7								
8								

2.CONTROLLER 5. OVERLAP DATA OVERLAP	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
A (STANDARD)	X	X			X			
(NEXT PAGE) CURSOR DOWN								
B (STANDARD)	X				X	X		
(NEXT PAGE) CURSOR DOWN								
C (STANDARD)								

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & 22 AVENUE N

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 1/6/14

2. CONTROLLER 1. TIMING DATA	**EBLT** PHASE 1	**WB** PHASE 2	PHASE 3	**NB** PHASE 4	**WBLT** PHASE 5	**EB** PHASE 6	PHASE 7	**SB** PHASE 8
MIN GREEN	6	6		12	6	6		12
WALK		7		7		7		7
PED CLEAR		24		8		24		8
VEH EXT.	2	4		4	2	4		4
MAX 1	14	35		24	14	35		24
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW	4.4	4.4		4	4.4	4.4		4
RED CLR	2	2		2.9	2	2		2.9
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X		X		X
VEHICLE RECALL								
PED RECALL		X				X		
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM START				X				X
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY		X		X		X		X
COND SERVICE								
REST IN WALK		X				X		
(**NEXT PAGE**)								
DUAL ENTRY	ON (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	9
RESPONSE DELAY	200

NOTES
BEFORE PUTTING INTO OPS
MUST MANUALLY LOAD
CONFIGURATION (LAG LT)
AND OVERLAPS (A=1+2+5, B=1+5+6)
DIRECTIONS ON PG 4
(CONTROLLER CONFIGURATION)
INTERSECTION **#** **488**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	120	
OFFSET	9	
C/O/S	111	

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)	30	55		35	30	55		35
SPLITS(PATTERN 2)								

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X				X		
COORD PHASES (PATTERN 2)								

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	1	1	1	1	1	1	1
WEEK 2							

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	06:00	1	
STEP 2	1	23:00	0	X
STEP 3				

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						
TOD PROG STEP 2						
TOD PROG STEP 3						
TOD PROG STEP 4						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1		2		3		4		5		6		7		8	
R1	2		1	|	3		4	|								
R2	6		5	|	7		8	|								
CG PRESS 0 (TOGGLE) TO CHANGE DATA				^				^								

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE	X	X		X	X	X		X
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

NOTE: OVERLAPS CANNOT BE DOWNLOADED FROM LAPTOP

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8
	PRESS 0 (TOGGLE) TO CHANGE DATA							
1								
2								
3								
4								
5								
6								
7								
8								

2.CONTROLLER 5. OVERLAP DATA OVERLAP	PHASE NUMBER 1	2	3	4	5	6	7	8
	PRESS 0 (TOGGLE) TO CHANGE DATA							
A (STANDARD)	X	X			X			
(NEXT PAGE) CURSOR DOWN								
B (STANDARD)	X				X	X		
(NEXT PAGE) CURSOR DOWN								
C (STANDARD)								

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & 38AVENUE N

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 5/14/14

2. CONTROLLER 1. TIMING DATA	**EBLT** PHASE 1	**WB** PHASE 2	PHASE 3	**NB** PHASE 4	**WBLT** PHASE 5	**EB** PHASE 6	PHASE 7	**SB** PHASE 8
MIN GREEN	5	6		10	5	6		10
WALK		7		7		7		7
PED CLEAR		16		10		16		10
VEH EXT.	2	3		4	2	3		4
MAX 1	15	30		30	15	30		30
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW	4.4	4.4	4	4	4.4	4.4	4	4
RED CLR	2	2		2.7	2	2		2.7
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X	X	X		X
VEHICLE RECALL								
PED RECALL		X				X		
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM START				X				X
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY		X		X		X		X
COND SERVICE								
REST IN WALK		X				X		
(**NEXT PAGE**)								
DUAL ENTRY	ON (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	1
RESPONSE DELAY	200

NOTES
BEFORE PUTTING INTO OPS
MUST MANUALLY LOAD
CONFIGURATION (LAG LT)
AND OVERLAPS (A=1+2+5, B=1+5+6)
DIRECTIONS ON PG 4
(CONTROLLER CONFIGURATION)
INTERSECTION **#** **508**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	120	
OFFSET	8	
C/O/S	111	

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)	30	52		38	30	52		38
SPLITS(PATTERN 2)								

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X				X		
COORD PHASES (PATTERN 2)								

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	1	1	1	1	1	1	1
WEEK 2							

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	06:00	1	
STEP 2	1	23:00	0	X
STEP 3				

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						
TOD PROG STEP 2						
TOD PROG STEP 3						
TOD PROG STEP 4						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1	2	3	4	5	6	7	8
R1	2	1	3	4				
R2	6	5	7	8				
CG PRESS 0 (TOGGLE) TO CHANGE DATA								

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE	X	X		X	X	X		X
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

NOTE: OVERLAPS CANNOT BE DOWNLOADED FROM LAPTOP

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8
	PRESS 0 (TOGGLE) TO CHANGE DATA							
1								
2								
3								
4								
5								
6								
7								
8								

2.CONTROLLER 5. OVERLAP DATA OVERLAP	PHASE NUMBER 1	2	3	4	5	6	7	8
	PRESS 0 (TOGGLE) TO CHANGE DATA							
A (STANDARD)	X	X			X			
(NEXT PAGE) CURSOR DOWN								
B (STANDARD)	X				X	X		
(NEXT PAGE) CURSOR DOWN								
C (STANDARD)								

Report Date: **07/21/2014**
Run Time: 01:12 PM

Intersection 908

Main Street: 54TH AVE
Side Street: I-275 EXIT RAMP
Jurisdiction: STATE/COUNTY
Section #: 37 MTCS
Comm. Addrs: 9 IP: Gateway: Subnet:
Pre-empt: Y

Phase #	Street Name	Direction		Left Turn Type
1				
2	54TH AVE. N.	WB		
3	I-275 EXIT RAMP	SB		
4				
5				
6	54TH AVE N	EB		
7				
8				

Timing & Phasing

PHASE	1	2	3	4	5	6	7	8
Min. Green		15	8			15		
Extension		4	4			4		
Yellow CL		4.0	4.0			4.0		
RED CL		1.0	1.0			1.0		
Max 1		35	25			35		
Max 2								
Max 3								
Walk		6				6		
FDW		12				12		
Min Recall		X				X		
Max Recall								
Ped Recall								
Non-Lock								
CNA 1		X				X		
CNA 2								
Phase Omit	X			X	X		X	X
Ped Omit	X		X	X	X		X	X
Flash		Y				Y		
Delay Det.								

Last Timing Change Date: 07/12/2005	**Database Modified: 04/12/2012**
Technician Initials:	**Control Room Pers. Initials:**

CYCLE / OFFSET

Cycle	Sec.
1	100
3	90
4	120

Offset	Sec. / %	
1	30	
3	30	
4	85	25

SPLIT PLANS

	Ph 1 Sec / %	Ph 2 Sec / %	Ph 3 Sec / %	Ph 4 Sec / %	Ph 5 Sec / %	Ph 6 Sec / %	Ph 7 Sec / %	Ph 8 Sec / %
PLAN 1	0	70 70	30 30	0	0	70 70	0	0
PLAN 2	0	0	0	0	0	0	0	0
PLAN 3	0	60 66	30 34	0	0	60 66	0	0
PLAN 4	0	72 60	48 40	0	0	72 60	0	0

BASE DAY PLANS

Time	Plan #	Cycle	Offset	Split	Circuit	On/Off
BASE DAY 1						
0615					FREE	OFF
0615		4	4	4		
2000					FREE	ON
BASE DAY 2						
0800					FREE	OFF
0800		4	4	4		
2000					FREE	ON

WEEK PLAN

	S	M	T	W	T	F	S
1	2	1	1	1	1	1	2

Notes: PH 6 PED TIMES FOR CNA PROGRAM ONLY
OPTICOM

ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & Gandy

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 11/14/13

2. CONTROLLER 1. TIMING DATA	**BLT** PHASE 1	**EB** PHASE 2	**BLT** PHASE 3	**NB** PHASE 4	**BLT** PHASE 5	**WB** PHASE 6	**BLT** PHASE 7	**B** PHASE 8
MIN GREEN		6		10		6		
WALK		7		7		7		
PED CLEAR		20		20		20		
VEH EXT.		3		3		3		
MAX 1		50		38		50		
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW		5.1		4.4		5.1		
RED CLR		2		4		2		
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X		X		
VEHICLE RECALL								
PED RECALL		X				X		
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM FLASH				X				
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY		X				X		
COND SERVICE								
REST IN WALK		X				X		
(**NEXT PAGE**)								
DUAL ENTRY	ON (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	8
RESPONSE DELAY	200

NOTES
INTERSECTION **#** **500**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	180	120
OFFSET	158	58
C/O/S	111	222

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)		120		60		120		
SPLITS(PATTERN 2)		85		35		85		

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X				X		
COORD PHASES (PATTERN 2)		X				X		

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	2	1	1	1	1	1	2

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	00:00	2	
STEP 2	1	06:00	1	
STEP 3	1	09:00	2	
STEP 4	1	15:00	1	
STEP 5	1	18:00	2	
STEP 6	2	00:00	2	

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1		2		3		4		5		6		7		8	
R1	1		2	|	3		4	|								
R2	5		6	|	7		8	|								
CG PRESS 0 (TOGGLE) TO CHANGE DATA				^				^								

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE		X		X		X		
EXCLUSIVE PED								

LAPTOP PORT

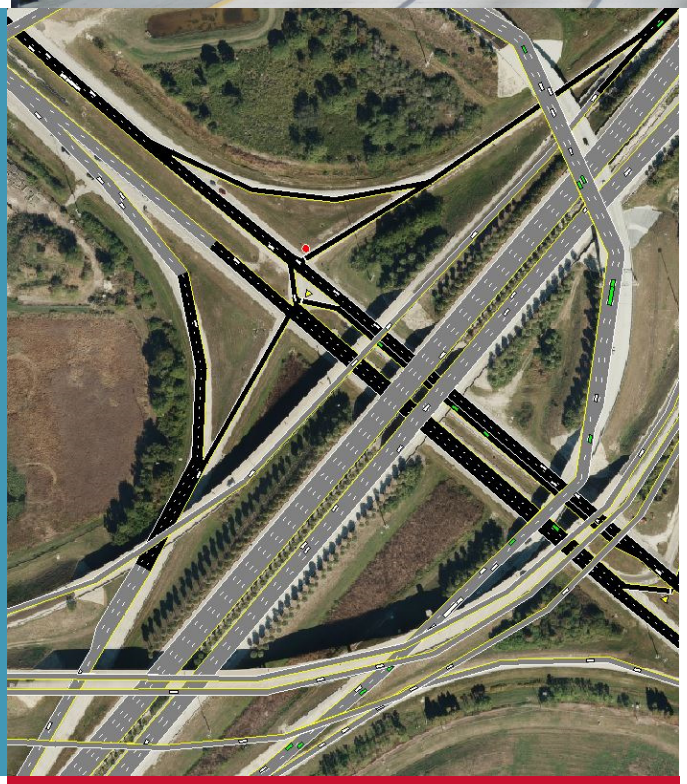
1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
1								
2								
3								
4								
5								
6								
7								
8								

NOTES

Appendix G.
CORSIM Calibration Memorandum

Appendix G.
CORSIM Calibration Memorandum



CORSIM Calibration Memorandum

I-275 PD&E Study
For Proposed Express Lanes On
I-275 From South Of
Gandy Boulevard To North Of
4th Street North

Pinellas County, Florida

FINANCIAL PROJECT ID:424501-1-22-01

June 2015

PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY

Work Program Item Segment No: 424501-1

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Attachments

Attachment A Field Data
Attachment B Link-Node Diagram
Attachment C Volume Calibration Results
Attachment D Travel Time Calibration Results

1.0 Introduction

The Florida Department of Transportation (FDOT) has proposed an express lanes project for the three interstates (I-4, I-75, and I-275) within the Tampa Bay Area as a strategy for reducing congestion on these facilities. TSIS-CORSIM[1], better-known as CORSIM, is a stochastic simulation software program that was originally developed by the Federal Highway Administration (FHWA) and is now maintained by McTrans at the University of Florida. CORSIM has been accepted by the FDOT as a reliable, user-friendly traffic simulation tool and is widely used throughout the industry. Therefore, CORSIM version 6.3 was chosen as the tool to be used in analyzing the Tampa Bay Express Lanes (TBX) Projects.

This memorandum documents the field observations and CORSIM calibration process employed to replicate existing year (2012) AM and PM peak-period conditions for the I-275 express lanes from south of Gandy Boulevard to north of 4th Street North. CORSIM models were developed to analyze the operational benefits of the improvements on I-275 for the design year (2040) No Build and Master Project, the opening year (2020) Starter Project, and the interim year (2030) Starter Project scenarios for both the AM and PM peak periods, in addition to the existing year (2012) No Build scenario, using the same parameters that were used to calibrate the existing year (2012) CORSIM models.

2.0 Field Observations and Data Collection

Travel times were measured on April 8-10, 2014 during the AM and PM peak periods (7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, respectively) using Holux m-241 GPS data loggers on the following four segments:

- Northbound I-275 from the Gandy Boulevard on ramp to the Roosevelt Boulevard/118th Avenue North off ramp
- Northbound I-275 from the Roosevelt Boulevard/118th Avenue North on ramp to the 4th Street North on ramp
- Southbound I-275 from south of the 4th Street North off ramp to south of the Roosevelt Boulevard/118th Avenue North off ramp
- Southbound I-275 from the Roosevelt Boulevard on ramp to the Gandy Boulevard off ramp

Signal timing plans were obtained from the City of St. Petersburg for the signalized intersection at the northbound I-275 off ramp to Gandy Boulevard for use in developing the CORSIM models. Traffic volumes were provided by FDOT for the northbound and southbound I-275 mainline and ramps within the study area. Turning movement counts were collected at the I-275/Roosevelt Boulevard ramp terminals on April 29, 2014. The I-275/Gandy Boulevard ramp terminal synopsis counts were obtained from the 2013 Florida Traffic Information[2] (FTI) CD and used in the development of the CORSIM models. Queuing data was collected on May 9, 2014 at the southbound I-275/Roosevelt Boulevard off ramp. All field data can be found in **Attachment A**.

3.0 CORSIM Model Development Methodology

CORSIM[1] version 6.3 was used to complete the traffic simulation analyses for this project. Procedures documented in the FHWA Traffic Analysis Toolbox Volumes III and IV[3] were used to perform the CORSIM calibration and analysis.

3.1 Network Development

The CORSIM modeling limits include the I-275 freeway from south of Gandy Boulevard to north of 4th Street North. The modeling limits also include ramp terminal intersections of the crossing arterials, Gandy Boulevard and Roosevelt Boulevard, to adequately model traffic platooning onto I-275. The following cross streets were included in the CORSM model network:

- Gandy Boulevard
- 118th Avenue North
- Roosevelt Boulevard
- Ulmerton Road
- Dr. Martin Luther King Jr Street
- 4th Street North

The modeling limits are shown graphically on **Figure 3.1**. The CORSIM link-node diagram for the existing configuration is shown in **Attachment B**. The plan sheets for each Alternative can be found in the appendices of the I-275 PD&E Design Traffic Technical Memorandum[4] (DTTM), dated June, 2015, as well as the link-node diagrams for the Starter Project and Master Project CORSIM Models.

3.2 Model Inputs

The percentage of trucks entering the system at all entry nodes (i.e. 8000 nodes) was specified as 3 percent in both the AM and PM peak periods for all twelve fifteen-minute time periods. The truck percentage was developed using the methodology in the FDOT Project Traffic Forecasting Handbook[5] and truck data obtained from the 2013 FTI[2] CD. The Free-Flow Speeds (FFSs) for each link in the model varied based on the posted speed limit of the segment. Five miles per hour (mph) was added to the posted speed limit to determine the FFS. FFSs were input as 35 mph for loop ramps and 50 mph for conventional diamond ramps. Signal timing plans were obtained from the City of St. Petersburg for the signalized intersection at the northbound I-275 off ramp to Gandy Boulevard and the pertinent information was input into the CORSIM model. All other intersections were either stop-controlled or free-flowing.

3.3 Volume Development

Existing conditions CORSIM analysis was completed using existing year (2012) volumes on the existing (no-build) network. Freeway and ramp traffic volumes were provided by the FDOT and were developed from the 2013 FTI[2] CD for the AM and PM peak periods. These volumes were developed as part of the larger TBX Projects that include various segments of I-275, I-4, and I-75 in the Tampa Bay Region.

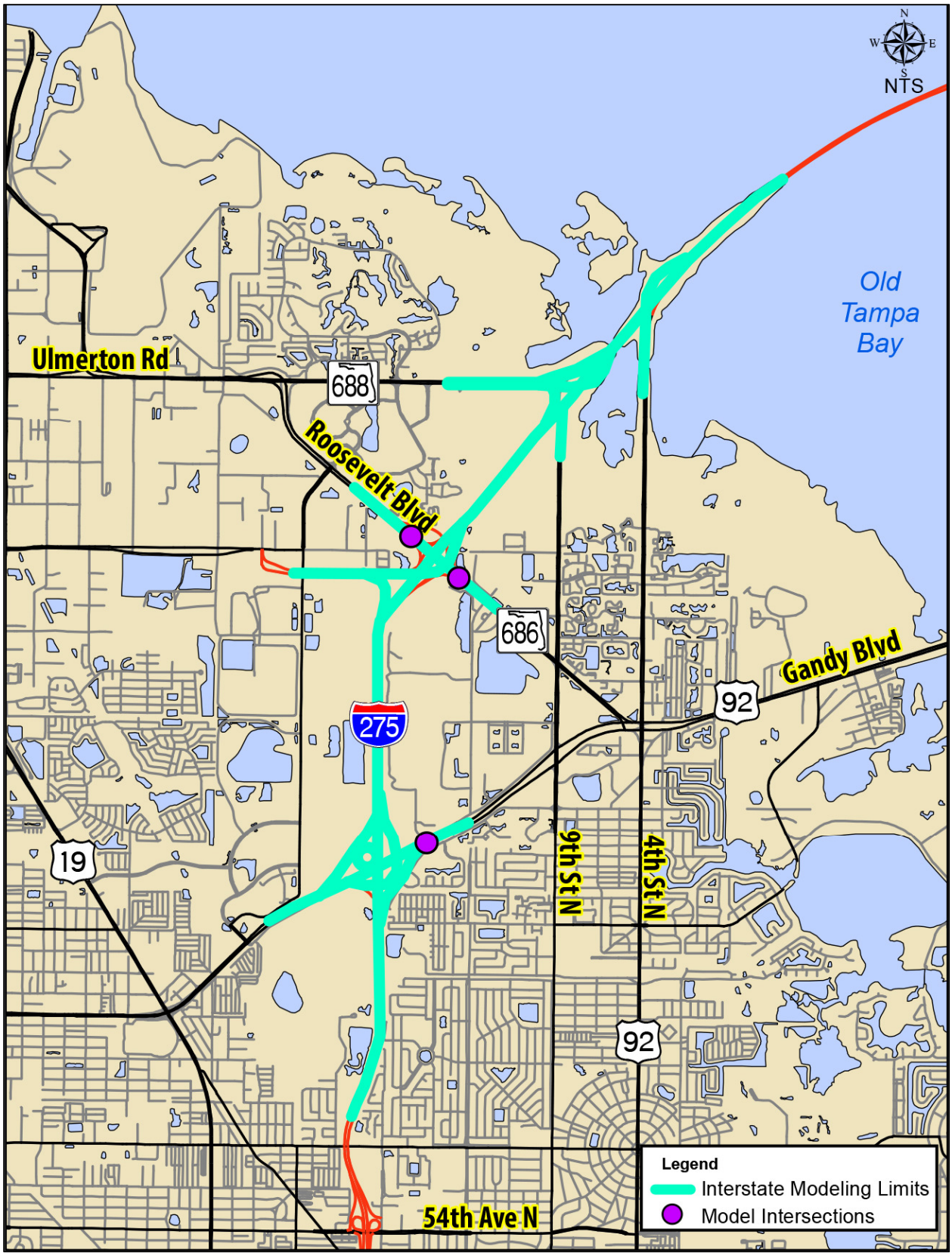


Figure 3.1. Modeling Limits

Turning movement counts were collected at all ramp terminals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on April 9 and 10, 2014, except for Gandy Boulevard, which were obtained from the 2013 FTI[2] CD, and 22nd Avenue North, which were obtained from a recent study. The turning movement counts were smoothed proportionately to balance with the ramp volumes, which were held as the control volumes at the ramp terminals. The ramp terminals allowed platooning of vehicles onto the freeway to be replicated in the model. The Origin-Destination (OD) patterns in the CORSIM models were determined proportionately by the volume splits on a node-to-node basis. Conditional turning movements were coded as necessary to prevent vehicles from performing counterintuitive movements, such as using an off ramp and then using an on ramp going in the return direction.

3.4 Temporal Limits

A three-hour multiple-period analysis was performed to capture the effects of congestion building before the peak hour and remaining after the peak hour. Each run was divided into twelve fifteen-minute time periods. The hour preceding the peak hour was comprised of time periods one through four, the peak hour was comprised of time periods five through eight, and the hour succeeding the peak hour was comprised of time periods nine through twelve. The AM and PM global peak hours were determined to occur from 7:00 AM to 8:00 AM and from 4:45 PM to 5:45 PM, respectively.

The volumes of the hours adjacent to the peak hour were determined by applying a factor to the peak-hour volumes in order to proportionately scale the balanced peak-hour volumes. FTI[2] synopsis data was used to determine global scale factors for both the AM and PM peak periods. The scale factors were determined by the ratio of adjacent peak-hour volumes to actual peak-hour volumes and weighting those ratios by the peak-hour volumes in order to obtain one overall global ratio. Scale factors of 0.76 and 0.89 were used for the adjacent hour before the peak hour for the AM and PM peak period, respectively, and scale factors of 0.83 and 0.82 were used for the adjacent hour after the peak hour for the AM and PM peak period, respectively. All three analysis hours were adjusted by the peak-hour factor of 0.95 to account for the variability in flow rate within the four fifteen-minute periods of each of the three hours. Note that the peak-hour results were used for the CORSIM model calibration. The three-hour analysis period results were used to produce heat diagrams, as shown in the appendices of the I-275 PD&E DTTM[4], dated June, 2015.

3.5 Model Error Checking

Ten different model runs were performed for both the AM and PM peak periods to ensure that a variety of random occurrences that could result from the stochastic nature of the software program were captured and to ensure that an appropriate sample size was used to average the output results of the different Measures of Effectiveness (MOEs) used in the analysis. Model links were sorted and aggregated to make up each freeway, ramp, and arterial segment. Network inputs were reviewed in the single-run output file for correctness and the modeled peak-hour volumes were compared to the demand volumes. In cases where there was a high percent error between the modeled volumes and demand volumes, the models were checked for volume input errors and other link coding errors that could lead to high percent errors. The calibration process was initiated after the models were determined to be free of errors.

4.0 CORSIM Model Calibration

Volume was used as the primary calibration target and travel times were used as the secondary calibration target. A visual inspection of queuing patterns was performed to ensure reasonableness. Note that NETSIM link information is not included in the results of the calibration process as the focus of the project is on freeway improvements. Crossing arterials were only included in the model to create a vehicle platooning pattern onto the freeway. However, NETSIM links were checked for coding correctness during the error checking process.

4.1 Parameter Modifications

Global factors in the models were inspected and tested to create a model that better-represented real world conditions. The output was compared between a model with and without alterations made to determine if the change in the global factor improved or worsened the model. The final result was a modification to the Pitt car-following constant. Originally a value of 10 feet, this parameter was adjusted to 9 feet in order to increase capacity, allowing more vehicles to traverse the network and lowering the amount of links with a volume discrepancy. Car-following sensitivity multipliers were not modified from the default values, ranging from 35 percent to 125 percent, as shown in **Figure 4.1**.

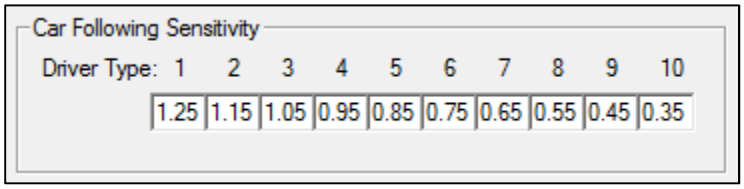


Figure 4.1. Default Car Following Sensitivity Multipliers

At the local (link-node) level, car-following sensitivity multipliers and reaction point (warning sign) distances were inspected. Greater link car-following sensitivity multipliers indicate a desire for greater headway between vehicles that result in slower moving traffic and increased congestion. Car-following sensitivity-multiplier adjustments primarily focus on areas with observed congestion. These multipliers were left unaffected due to the effectiveness of altering the Pitt car-following constant. Car-following sensitivity multipliers for links vary between models to capture variations in congestion within the various times of the day.

The warning sign distances for exit ramps and the anticipatory lane change positions for entrance ramps were reviewed. Changes to warning sign locations impact lane-changing behavior. In many cases, the warning sign locations are dictated by the network geometry since they were placed at locations that would allow for realistic volume throughput instead of placing them for proper lane utilization far upstream. The speed thresholds for initiating lane changes and the reaction distance near entrance ramps varied throughout the model. The default warning sign distances in the CORSIM models were used as the lane-changing behavior appeared to be realistic as compared to field observations.

4.2 Volume Calibration Results

Volume was used as a primary measure to calibrate the existing year (2012) CORSIM models. The output of each of the twelve time periods was averaged among all ten runs. The average volumes of the peak hour were then totaled to get the volume for each link. The modeled peak-hour volumes,

comprised of volumes extracted from time periods five through eight, were compared to the peak-hour demand volumes during the calibration process. The difference in vehicles or the percent difference between modeled and demand volumes were compared to the FHWA TAT[3] acceptable thresholds. Individual link flow calibration has three criteria that vary based on the magnitude of the demand volume and one based on the Geoffrey E. Havers (GEH) statistic, which is calculated as:

$$GEH = \sqrt{\frac{(E-V)^2}{(E+V)/2}}$$

where:

$E = model\ estimated\ volumes$

$V = field\ count$

The individual link flow calibration thresholds are as follows:

- If the demand volume is less than 700 veh/hr, then the difference between measured volumes and modeled volumes should be less than 100 veh/hr.
- If the demand volume is between 700 and 2,700 veh/hr, then the percent difference between measured volumes and modeled volumes should be less than fifteen percent.
- If the demand volume is greater than 2,700 veh/hr, then the difference between measured volumes and modeled volumes should be less than 400 veh/hr.
- The GEH statistic should be less than 5.

The individual link flow calibration thresholds must be met for 85 percent of all links for each criterion. The total network is considered to be calibrated when the sum of all modeled link volumes is within 5 percent of the sum of all counts and when the GEH statistic is less than 4. The volume calibration results can be found in **Attachment C** for both the AM and PM peak periods. All links were within the acceptable error thresholds in both the AM and PM CORSIM models.

4.3 Travel Time Calibration Results

Travel times were used as a secondary measure to calibrate the existing year (2012) CORSIM models. Since there was not substantial variability between each individual field-measured travel time run, the average of the field-measured travel time runs on each segment was used in the calibration. The percent difference between modeled and field-measured travel times were compared to the FHWA TAT[3] acceptable threshold of a 15 percent difference for 85 percent of the links or one minute. The travel time limits in the CORSIM model are comprised of multiple links. Travel time output from the CORSIM models were aggregated for comparison with the field-measured travel times. The limits of the travel time runs are similar between the true roadway segment and the CORSIM modeled network. Travel times on three of the four segments from the CORSIM model reasonably replicated the travel times measured in the field with percent differences less than 7.0 percent for both the AM and PM peak periods.

One segment in the CORSIM model did not produce results as observed on southbound I-275 from the Roosevelt Boulevard on ramp to the Gandy Boulevard off ramp in the PM peak period. Congestion was experienced during the PM peak period travel time run in the field, causing the

difference between field-measured and modeled travel times to nearly double. One possible explanation for why the southbound I-275 observed travel times were not able to be adequately replicated in the PM CORSIM model is that design hour volumes were provided by the FDOT and, therefore, raw counts measured simultaneously with the travel time data collection were not used in the calibration process. The time-space trajectories of the AM and PM peak period travel times using GPS data loggers and the existing year (2012) CORSIM model are presented graphically in **Figure 4.2**, **Figure 4.3**, **Figure 4.4**, and **Figure 4.5**. The volume calibration results can be found in **Attachment D** for both the AM and PM peak periods.

4.4 Queuing Calibration Results

The locations of modeled congestion are comparable to those captured during the field observations, with the exception of southbound I-275 during the PM peak period. A visual observation of the queuing patterns in the CORSIM models was performed for comparison with the queuing field data. One limitation in matching observed queuing and congestion within the CORSIM model to field-measured data is that design hour volumes were provided by the FDOT and, therefore, raw counts measured simultaneously with the queue data collection were not used in the calibration process. This is a possible explanation for why the southbound I-275 observed congestion was not able to be adequately replicated in the PM CORSIM model. All other queuing observations appeared to be reasonable. Congestion was observed along various locations of I-275 throughout the modeling area during both the AM and PM peak periods. Most freeway entrance and exit ramps had limited queuing and did not impact mainline or cross-street operations. Queue data can be found in **Attachment A**.

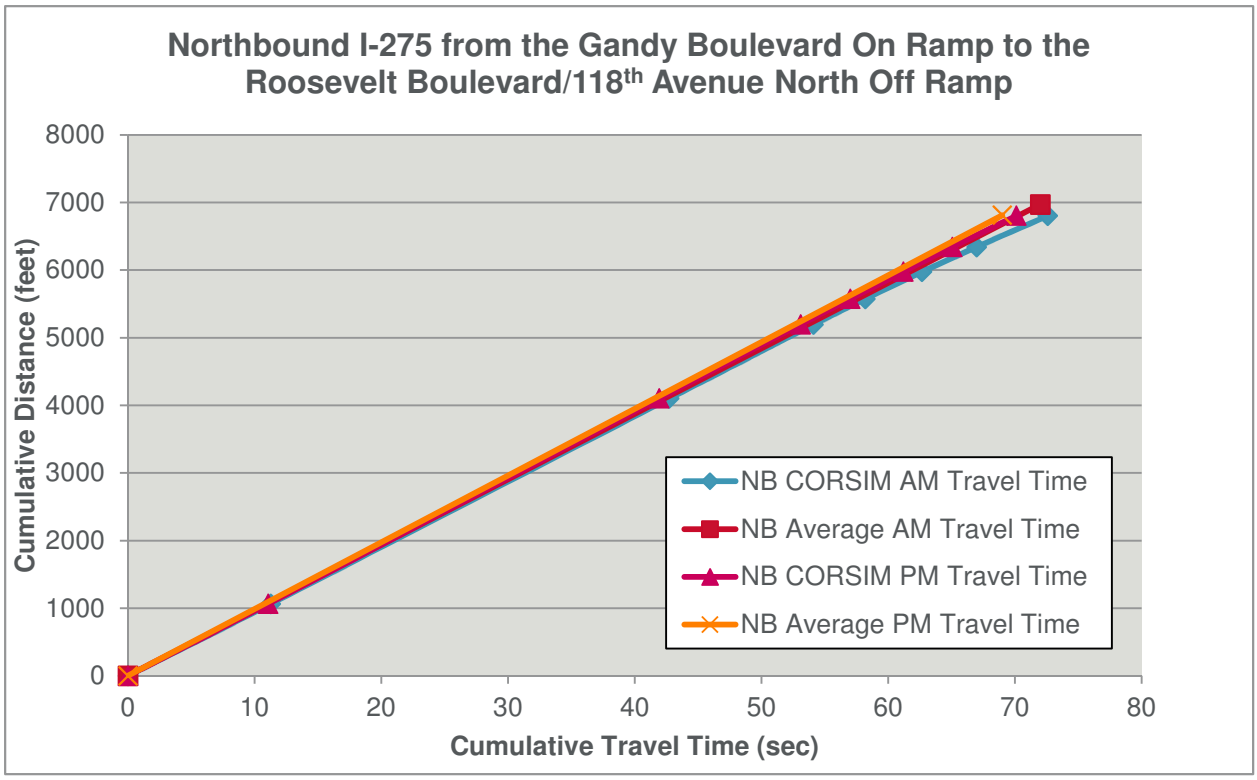


Figure 4.2. Travel Times on Northbound I-275 – Segment 1

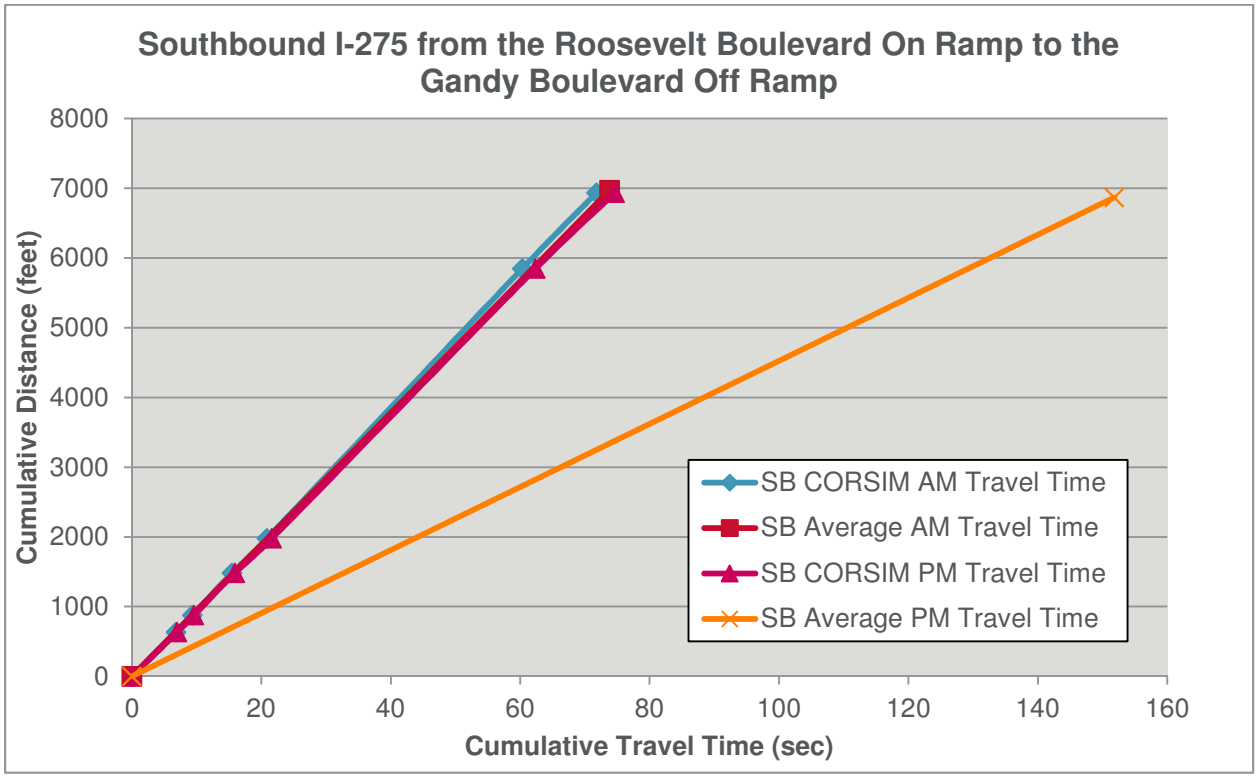


Figure 4.3. Travel Times on Southbound I-275 – Segment 1

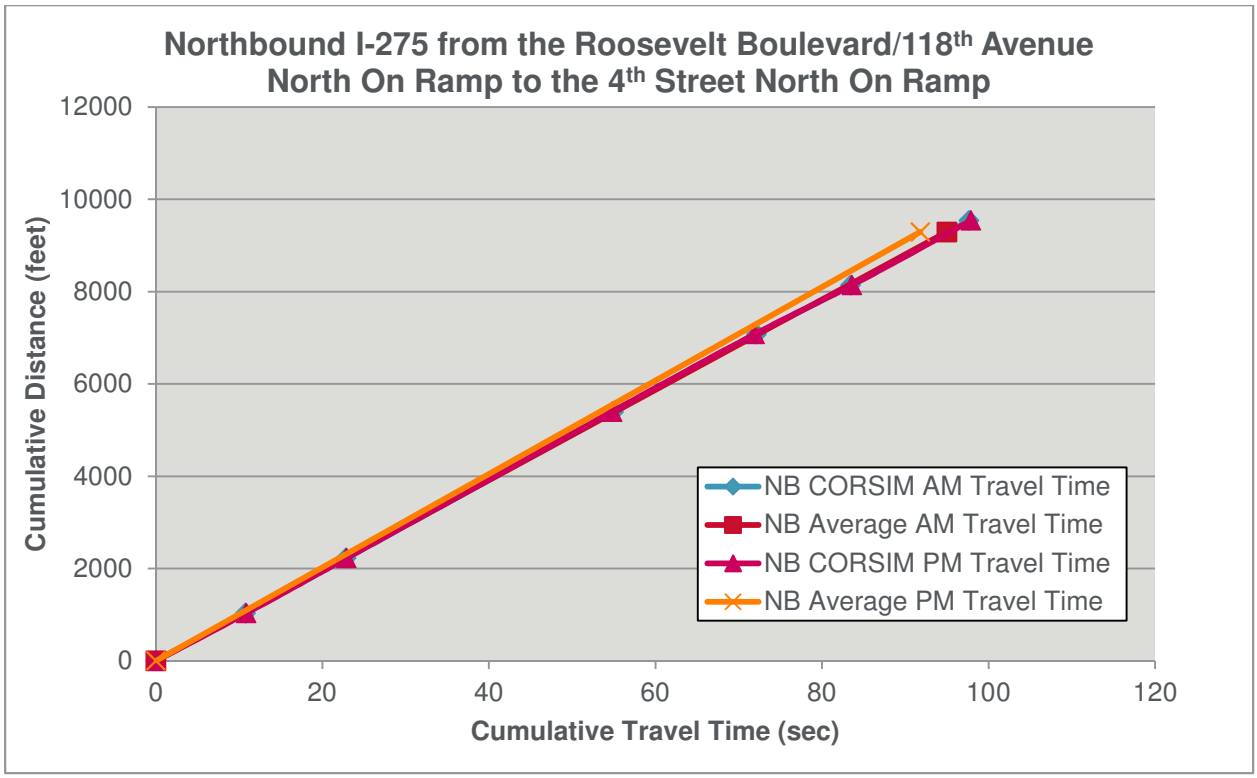


Figure 4.4. Travel Times on Northbound I-275 – Segment 2

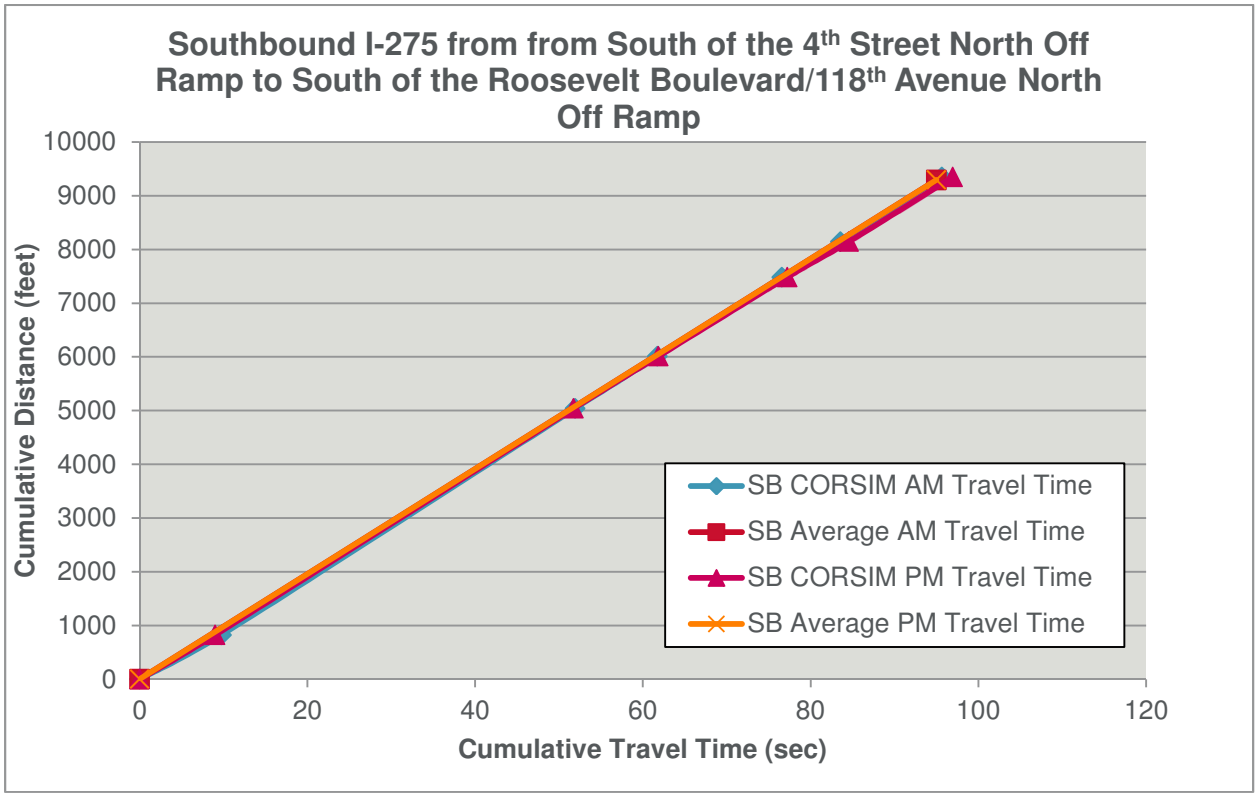


Figure 4.5. Travel Times on Southbound I-275 – Segment 2

5.0 Conclusions

The first step in conducting the CORSIM analyses for each scenario was to develop calibrated existing year (2012) AM and PM models. The models were created with existing signal timings, free flow speeds, and traffic volumes provided by FDOT. Global and local modifications were made where necessary until the existing year (2012) CORSIM models were calibrated within the allowable percent error thresholds set forth in the FHWA TAT[3] for travel time and volume. The models were also visually inspected for reasonable queuing patterns. The final modified global and local inputs and modeling procedures specified in Section 4.1 that were used in the calibrated models were also used in the design year (2040) No Build and Master Project, opening year (2020) Starter Project, and interim year (2030) Starter Project CORSIM models for both the AM and PM peak period scenarios.

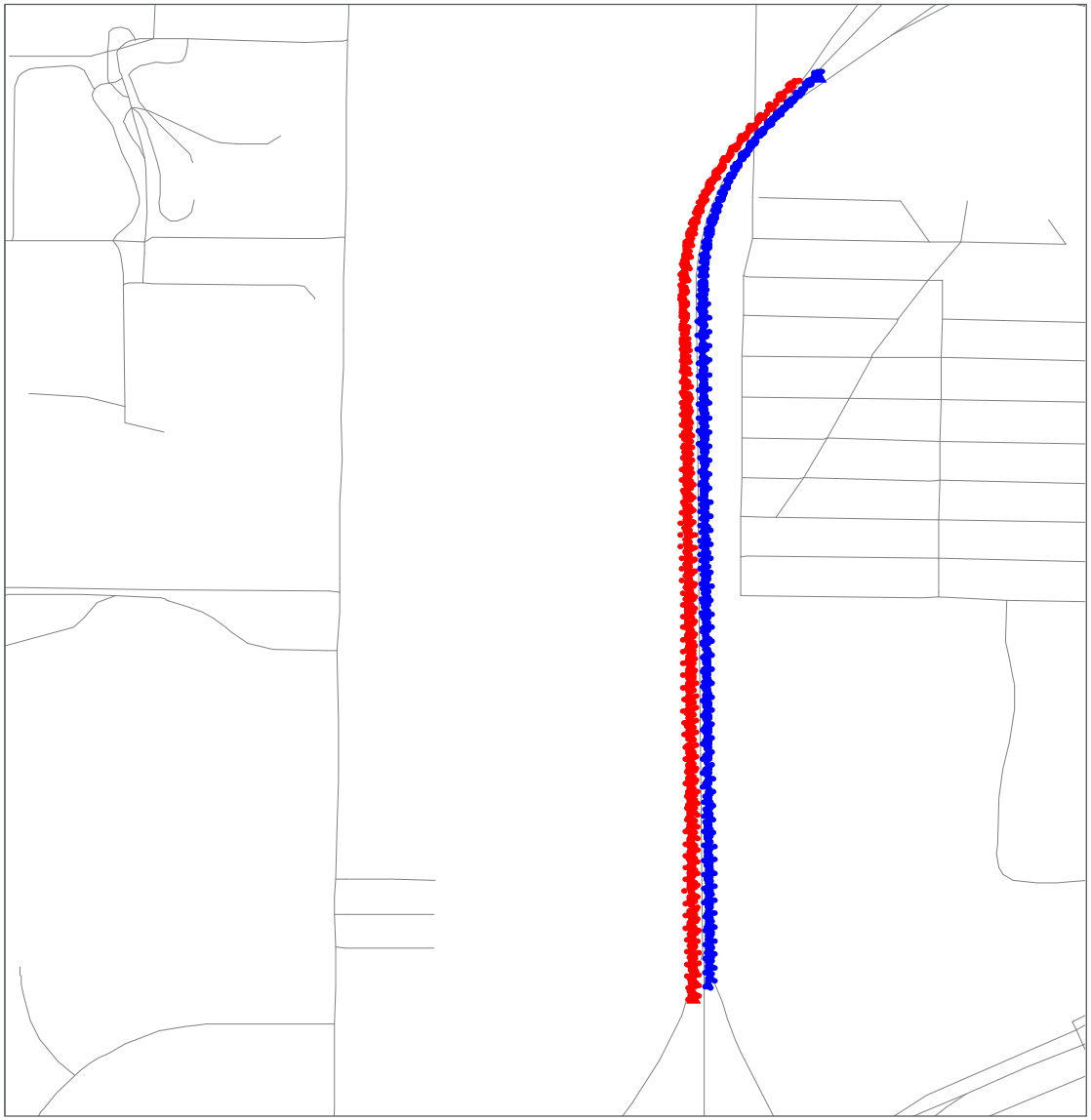
6.0 References

1. *McTrans. Traffic Software Integrated System (TSIS). Version 6.3. University of Florida.*
2. *Florida Department of Transportation. Florida Traffic Information Online. 2013.*
3. *Federal Highway Administration. Traffic Analysis Toolbox, Volumes III and IV.*
4. *I-275 Project Development and Environment Study from South of 54th Avenue South to North of 4th Street North, Design Traffic Technical Memorandum, Florida Department of Transportation, District Seven, FPID 424501-1-22-01.*
5. *Florida Department of Transportation. Project Traffic Forecasting Handbook. 2012.*

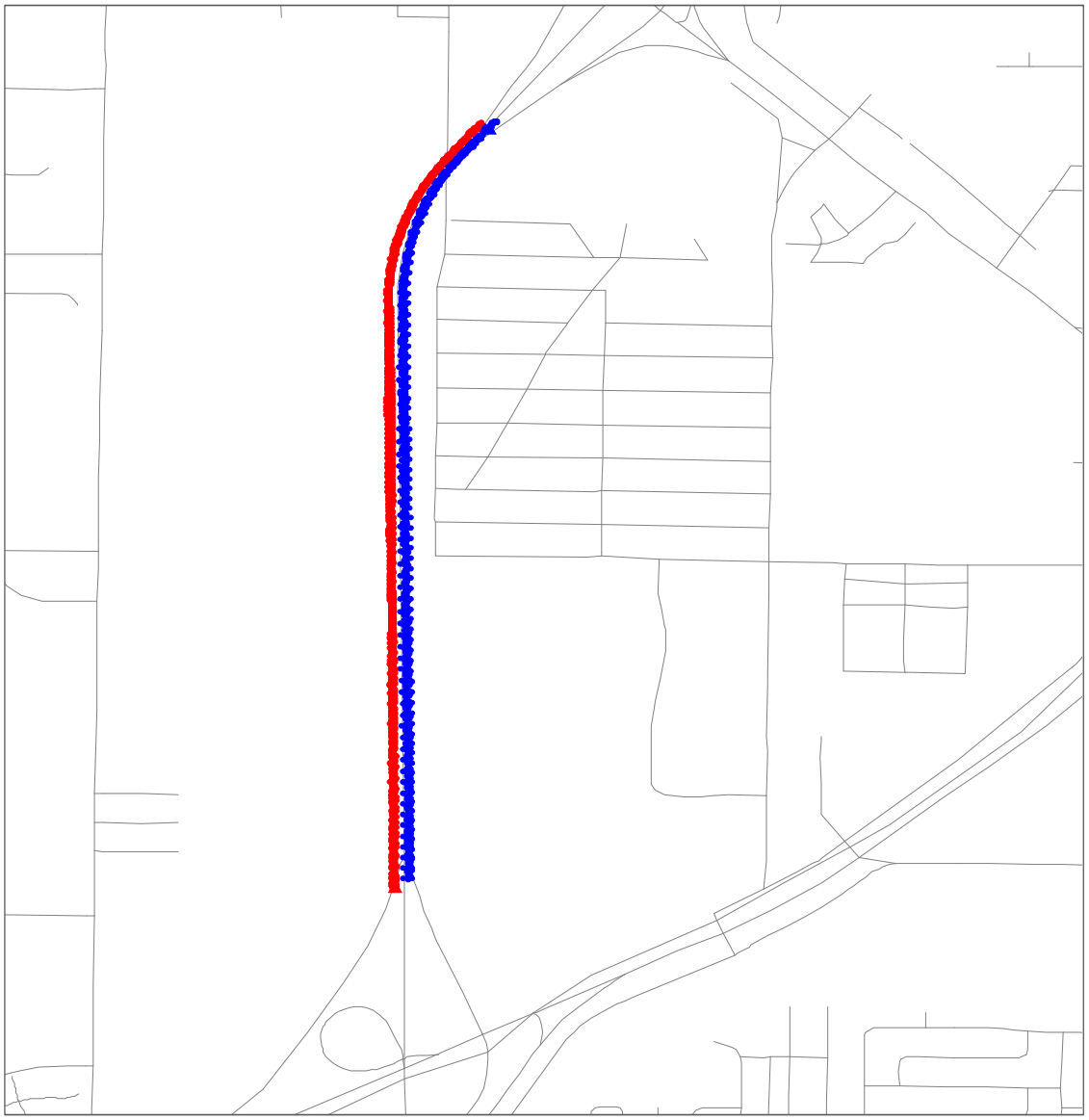
Attachments

Attachment A
Field Data

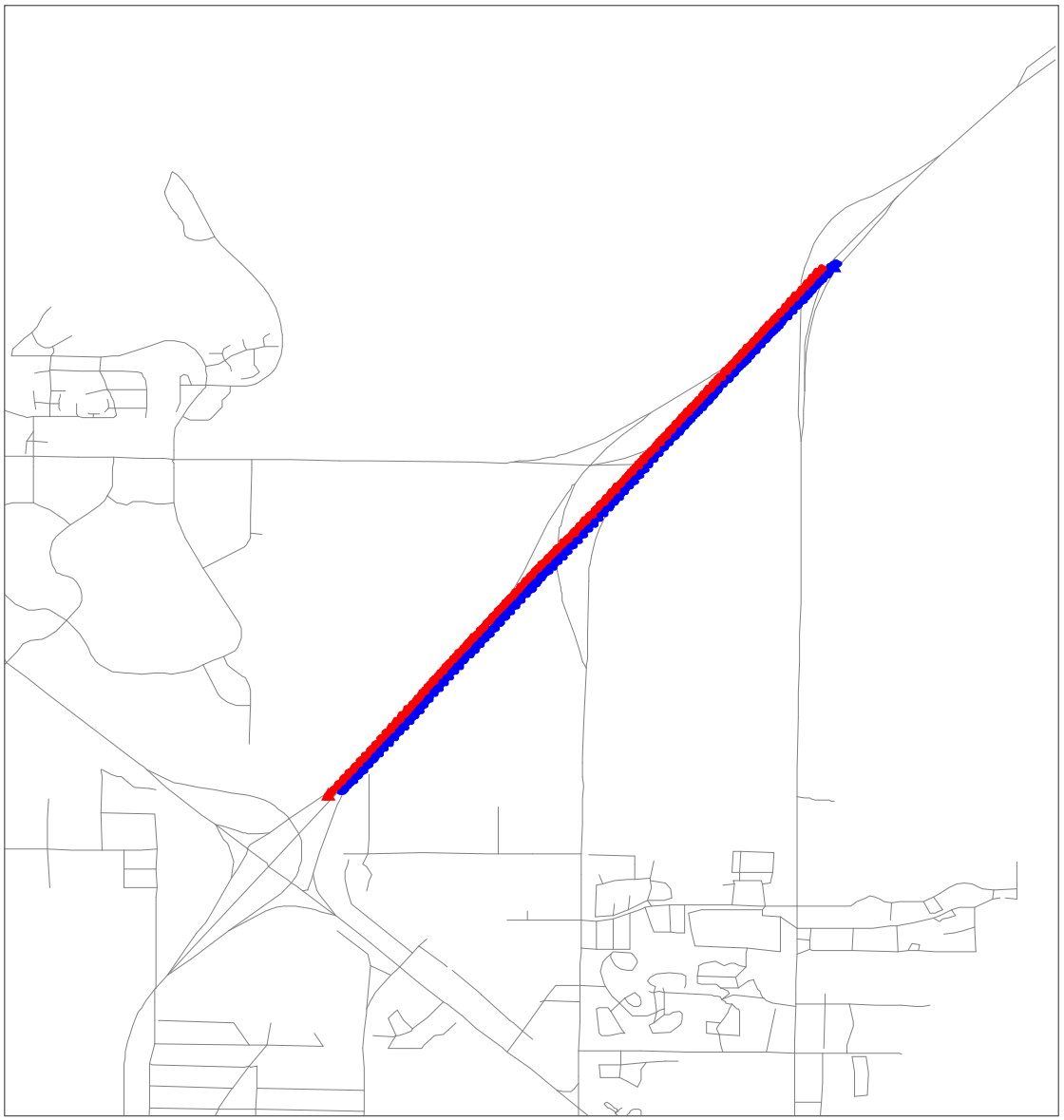
Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.32	1min 12sec	66.2	0	0min 00sec	0.05	27.51	3.35	0.65	0.78	SQLEXPRESS:iTREC/Gandy to Roosevelt AM/NB
C2	1.32	1min 14sec	64.1	0	0min 00sec	0.05	28.2	3.28	0.64	0.76	SQLEXPRESS:iTREC/Gandy to Roosevelt AM/SB



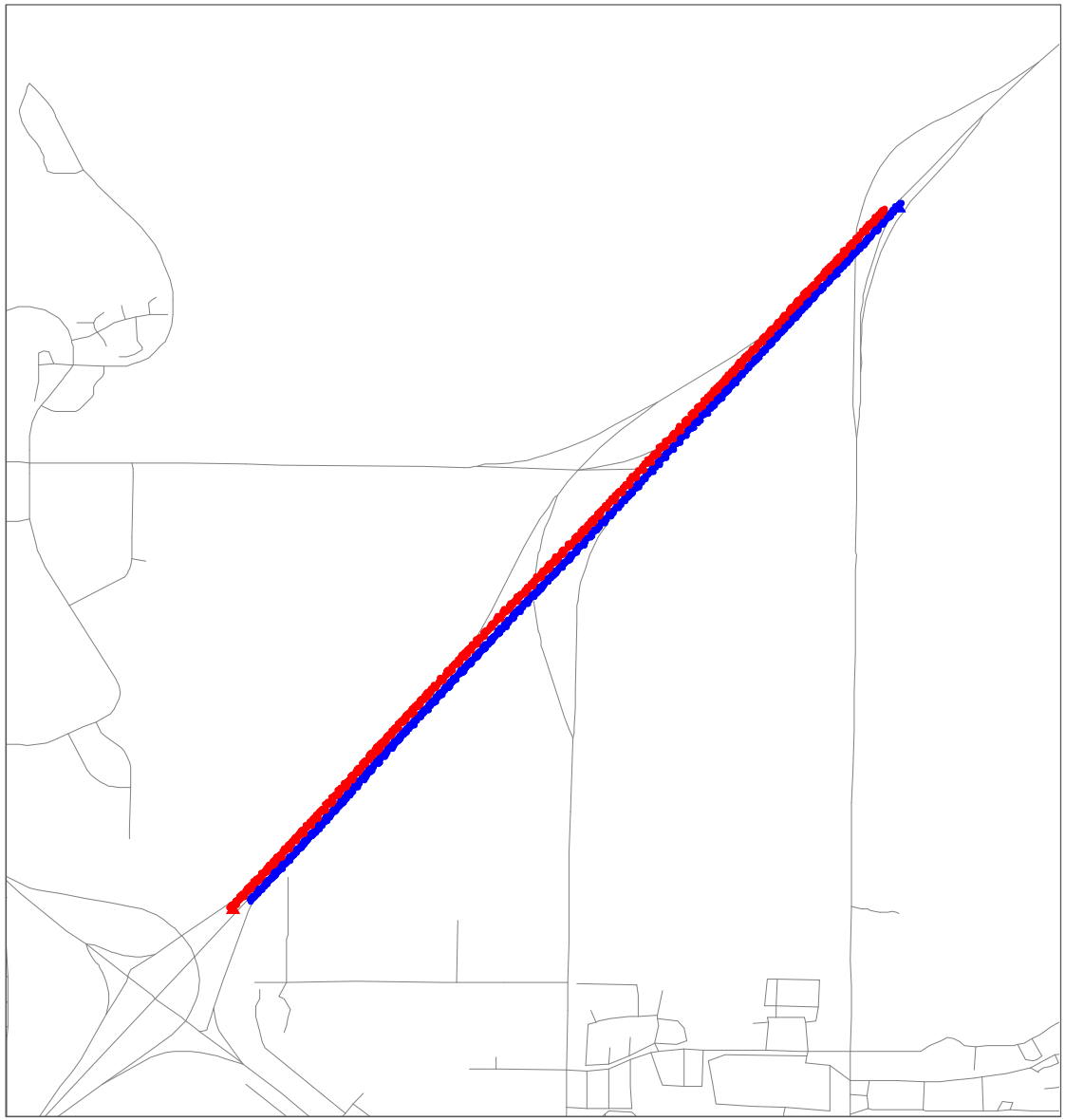
Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.29	1min 09sec	67.46	0	0min 00sec	0.05	27.18	3.32	0.65	0.77	SQLEXPRESS:iTREC/Gandy to Roosevelt PM/NB
C2	1.3	2min 32sec	42.67	1	0min 12sec	0.1	19.98	6.99	1.36	1.62	SQLEXPRESS:iTREC/Gandy to Roosevelt PM/SB



Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.76	1min 35sec	67.28	0	0min 00sec	0.06	27.25	4.53	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St AM/NB
C2	1.76	1min 35sec	66.97	0	0min 00sec	0.06	27.32	4.52	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St AM/SB



Run No.	Length(Miles)	Travel Time	Avg Spd(MPH)	No. of Stop	Stopped Delay	Fuel (GAL)	MPG	CO (g)	NOx (g)	VOC (g)	Name
C1	1.76	1min 32sec	68.94	0	0min 00sec	0.07	26.74	4.6	0.9	1.07	SQLEXPRESS:iTREC/Roosevelt to 4th St PM/NB
C2	1.76	1min 35sec	67.09	0	0min 00sec	0.07	27.22	4.54	0.88	1.05	SQLEXPRESS:iTREC/Roosevelt to 4th St PM/SB



ST. PETERSBURG TRAFFIC ENGINEERING

CONTROLLER TIMINGS

LOCATION: I-275 & Gandy

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

EFFECTIVE DATE: 11/14/13

2. CONTROLLER 1. TIMING DATA	**BLT** PHASE 1	**EB** PHASE 2	**BLT** PHASE 3	**NB** PHASE 4	**BLT** PHASE 5	**WB** PHASE 6	**BLT** PHASE 7	**B** PHASE 8
MIN GREEN		6		10		6		
WALK		7		7		7		
PED CLEAR		20		20		20		
VEH EXT.		3		3		3		
MAX 1		50		38		50		
MAX 2								
(**NEXT SCREEN**) CURSOR DOWN								
YELLOW		5.1		4.4		5.1		
RED CLR		2		4		2		
2. CONTROLLER 4. RECALL DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
LOCKING MEMORY		X		X		X		
VEHICLE RECALL								
PED RECALL		X				X		
RECALL TO MAX		X				X		
2.CONTROLLER 6. START/FLASH DATA	PRESS 0 (TOGGLE) TO CHANGE DATA							
POWER START (**GREEN**)		X				X		
EXTERNAL START (**GREEN**)		X				X		
ENTRY REM FLASH				X				
EXIT REM FLASH		X				X		

COMMUNICATIONS PORT

2. CONTROLLER 9. OPTION DATA	1	2	3	4	5	6	7	8
NONACTUATED I		X				X		
NONACTUATED II								
DUAL ENTRY		X				X		
COND SERVICE								
REST IN WALK		X				X		
(**NEXT PAGE**)								
DUAL ENTRY	ON (PRESS 0 [TOGGLE] TO CHANGE ENTRY)							

1.CONFIGURATION 6.PORT3	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	P90
ENABLE	YES
DUPLEX	FULL
MODEM	1200
DATA	8,E,1
TELEMETRY ADDRESS	8
RESPONSE DELAY	200

NOTES
INTERSECTION **#** **500**

COORDINATION DATA

NOTE: 1. TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

NOTE:
TO CLEAR ALL PREVIOUS COORDINATION DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR COORDINATOR DATA (X) ACTIVATES MEMORY CLEAR

3. COORDINATOR 1.OPTIONS	PRESS 0 (TOGGLE) TO CHANGE DATA
SPLIT UNITS	SEC
OFFSET UNITS	SEC
INTERCNT FMT	PLAN
INTERCNT SRC	NIC
RESYNC COUNT	0
TRANSITION	SMOOTH
DWELL PERIOD	0
ACT CRD PHASE	
ACT WALK/REST	
INHIBIT MAX	X
MAX2 SELECT	
FLOAT FORCE OFF	X

3.COORDINATOR 2.MANUAL & SPLIT DEMAND	PRESS 0 (TOGGLE) TO CHANGE DATA
MANUAL ENABLE	OFF
MANUAL PATTERN	0
NOTE: WHEN ENABLE = ON & PATTERN = 0 PLACES CONTROLLER FREE	

3. COORDINATOR 4. PATTERN DATA (**NOTE:** NEXT SCREEN FOR ADDITIONAL PATTERNS)	COORD PATTERN 1	COORD PATTERN 2
CYCLE LENGTH	180	120
OFFSET	158	58
C/O/S	111	222

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
SPLITS(PATTERN 1)		120		60		120		
SPLITS(PATTERN 2)		85		35		85		

VEH PERMISSIVE [1]	0	
(Next Screen) CURSOR RIGHT		

3. COORDINATOR 4. PATTERN DATA	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8
COORD PHASES (PATTERN 1)		X				X		
COORD PHASES (PATTERN 2)		X				X		

NIC/TOD FUNCTIONS

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)

5. NIC/TOD 1. CLOCK/CALENDAR	DATE & TIME IS SET IN THIS MENU PRESS ENTER TO SET TIME PRESS 0 (TOGGLE) TO CHANGE DATA			
WEEK 1 BEGIN ON 1ST SUN	X			
DST BEGIN ON LAST SUN				

5. NIC/TOD 2. WEEKLY PLAN	SUN	MON	TUE	WED	THU	FRI	SAT
WEEK 1	2	1	1	1	1	1	2

NOTE:
TO CLEAR ALL PREVIOUS NIC/TOD DATA
a). PRESS 8. UTILITIES
b). PRESS 2. MEMORY CLEAR
c). TOGGLE (0) CLEAR NIC/TOD DATA (X) ACTIVATES MEMORY CLEAR

5. NIC/TOD
3. YEARLY PROGRAM

WEEK	PROG	WEEK	PROG	WEEK	PROG	WEEK	PROG
1	1	14	1	27	1	40	1
2	1	15	1	28	1	41	1
3	1	16	1	29	1	42	1
4	1	17	1	30	1	43	1
5	1	18	1	31	1	44	1
6	1	19	1	32	1	45	1
7	1	20	1	33	1	46	1
8	1	21	1	34	1	47	1
9	1	22	1	35	1	48	1
10	1	23	1	36	1	49	1
11	1	24	1	37	1	50	1
12	1	25	1	38	1	51	1
13	1	26	1	39	1	52	1

5. NIC/TOD 5. NIC PROG STEPS	PGM	TIME	PATTERN	OVER RIDE
STEP 1	1	00:00	2	
STEP 2	1	06:00	1	
STEP 3	1	09:00	2	
STEP 4	1	15:00	1	
STEP 5	1	18:00	2	
STEP 6	2	00:00	2	

5. NIC/TOD 6. TOD PROG STEPS	DAY PGM NUM	STEP BEGIN	FLASH		(Next Screen) MAX 2 ENABLE	
TOD PROG STEP 1						

CONTROLLER CONFIGURATION

NOTE: TO START ALL DATA ENTRIES PRESS "**MAIN MENU**" (F1)
TO RETURN TO PREVIOUS MENU PRESS "**SUB MENU**" (F3)

WARNING
CONTROLLER SEQUENCE SHOULD NOT BE CHANGED IN THE FIELD
WHILE CONTROLLER IS IN OPERATION.

NOTE:
AFTER MAKING SEQUENCE CHANGES PRESS "**SUB MENU"**(F3) THERE YOU WILL BE PROMPTED TO PRESS **"ENTER"** TO CONTINUE OR PRESS **"CLEAR"** TO ABORT. WAIT FOR CONTROLLER TO UPDATE.

1.CONFIGURATION 1. CONTROLLER SEQ	PRIORITY 1		2		3		4		5		6		7		8	
R1	1		2	|	3		4	|								
R2	5		6	|	7		8	|								
CG PRESS 0 (TOGGLE) TO CHANGE DATA				^				^								

THE ABOVE CONFIGURATION IS FOR A STANDARD 8 PHASE

NOTE: SEQUENCE CHANGES CANNOT BE DOWNLOADED FROM LAPTOP

1.CONFIGURATION 2. PHASES IN USE PRESS 0 (TOGGLE) TO CHANGE DATA	PHASE NUMBER 1	2	3	4	5	6	7	8
PHASE IN USE		X		X		X		
EXCLUSIVE PED								

LAPTOP PORT

1.CONFIGURATION 5.PORT2	PRESS 0 (TOGGLE) TO CHANGE DATA
PROTOCALL	TERNL
ENABLE	YES
MODEM	9600
DATA	7,E,1

6.DETECTORS 4. CROSS SWITCHING DETECTOR	PHASE NUMBER 1	2	3	4	5	6	7	8 PRESS 0 (TOGGLE) TO CHANGE DATA
1								
2								
3								
4								
5								
6								
7								
8								

NOTES

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Data

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:00	0	10	193	0	203	368	10	0	378	0	0	581
7:15	1	7	257	0	265	384	8	0	392	0	0	657
7:30	1	11	250	0	262	551	5	0	556	0	0	818
7:45	3	8	307	0	318	552	3	0	555	0	0	873
Hourly Total	5	36	1007	0	1048	1855	26	0	1881	0	0	2929
8:00	4	4	258	0	266	538	5	0	543	1	0	809
8:15	4	8	328	0	340	551	6	0	557	0	0	897
8:30	1	5	233	0	239	481	3	0	484	1	0	723
8:45	0	7	271	0	278	454	4	0	458	0	0	736
Hourly Total	9	24	1090	0	1123	2024	18	0	2042	2	0	3165
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-
16:00	1	27	256	0	284	394	43	0	437	0	0	721
16:15	0	24	288	0	312	347	34	0	381	0	0	693
16:30	0	26	346	0	372	452	33	0	485	0	0	857
16:45	1	20	355	0	376	403	41	0	444	0	0	820
Hourly Total	2	97	1245	0	1344	1596	151	0	1747	0	0	3091
17:00	3	22	421	0	446	435	34	0	469	0	0	915
17:15	0	15	435	0	450	366	35	0	401	0	0	851
17:30	2	20	368	0	390	352	10	0	362	0	0	752
17:45	0	12	314	0	326	293	20	0	313	0	0	639
Hourly Total	5	69	1538	0	1612	1446	99	0	1545	0	0	3157
Lights	21	198	4753	-	4972	6758	291	-	7049	-	0	12021
% Lights	100.0	87.6	97.4	-	97.0	97.6	99.0	-	97.7	-	-	97.4
Other Vehicles	0	28	127	-	155	163	3	-	166	-	0	321
% Other Vehicles	0.0	12.4	2.6	-	3.0	2.4	1.0	-	2.3	-	-	2.6
Pedestrians	-	-	-	0	-	-	-	0	-	2	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
(FTE)
8250 Pascal Dr
Punta Gorda, Florida, United States 33950
(800) 639 4851

Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Peak Hour Data (7:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
7:30	1	11	250	0	262	551	5	0	556	0	0	818
7:45	3	8	307	0	318	552	3	0	555	0	0	873
8:00	4	4	258	0	266	538	5	0	543	1	0	809
8:15	4	8	328	0	340	551	6	0	557	0	0	897
PHF	0.750	0.705	0.871	-	0.872	0.993	0.792	-	0.992	-	0.000	0.947
Lights	12	20	1091	-	1123	2147	19	-	2166	-	0	3289
% Lights	100.0	64.5	95.5	-	94.7	97.9	100.0	-	98.0	-	-	96.8
Other Vehicles	0	11	52	-	63	45	0	-	45	-	0	108
% Other Vehicles	0.0	35.5	4.5	-	5.3	2.1	0.0	-	2.0	-	-	3.2
Pedestrians	-	-	-	0	-	-	-	0	-	1	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	100.0	-	-

Florida Transportation Engineering, Inc.
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Count Name: 15-I-275 NB On-Ramp at Roosevelt Blvd N
Site Code: 15
Start Date: 04/10/2014

Turning Movement Peak Hour Data (16:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound				I-275 NB On-Ramp South Bound		
	U-Turn	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Peds	App. Total	Int. Total
16:30	0	26	346	0	372	452	33	0	485	0	0	857
16:45	1	20	355	0	376	403	41	0	444	0	0	820
17:00	3	22	421	0	446	435	34	0	469	0	0	915
17:15	0	15	435	0	450	366	35	0	401	0	0	851
PHF	0.333	0.798	0.895	-	0.913	0.916	0.872	-	0.927	-	0.000	0.941
Lights	4	80	1545	-	1629	1626	141	-	1767	-	0	3396
% Lights	100.0	96.4	99.2	-	99.1	98.2	98.6	-	98.2	-	-	98.6
Other Vehicles	0	3	12	-	15	30	2	-	32	-	0	47
% Other Vehicles	0.0	3.6	0.8	-	0.9	1.8	1.4	-	1.8	-	-	1.4
Pedestrians	-	-	-	0	-	-	-	0	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Data

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:00	0	201	96	0	297	0	33	312	0	345	0	0	9	0	0	0	9	651
7:15	0	240	102	0	342	0	60	329	0	389	0	0	17	0	1	0	18	749
7:30	0	247	84	0	331	0	53	453	0	506	0	0	16	0	1	0	17	854
7:45	0	301	77	0	378	0	62	483	0	545	0	0	19	0	1	0	20	943
Hourly Total	0	989	359	0	1348	0	208	1577	0	1785	0	0	61	0	3	0	64	3197
8:00	0	239	76	0	315	0	46	483	0	529	0	0	22	0	0	0	22	866
8:15	0	309	92	0	401	2	39	485	0	526	0	0	22	0	0	0	22	949
8:30	0	207	81	0	288	0	55	414	0	469	0	0	22	0	0	0	22	779
8:45	0	256	114	0	370	1	40	377	0	418	0	0	23	0	0	0	23	811
Hourly Total	0	1011	363	0	1374	3	180	1759	0	1942	0	0	89	0	0	0	89	3405
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16:00	0	277	188	0	465	0	64	307	0	371	1	0	8	0	1	0	9	845
16:15	0	308	219	0	527	0	60	281	0	341	0	0	4	0	0	0	4	872
16:30	0	373	246	0	619	0	67	364	0	431	0	0	4	0	0	0	4	1054
16:45	0	359	240	0	599	0	80	318	0	398	0	0	8	0	0	0	8	1005
Hourly Total	0	1317	893	0	2210	0	271	1270	0	1541	1	0	24	0	1	0	25	3776
17:00	0	451	265	0	716	4	86	342	0	432	0	0	3	0	11	0	14	1162
17:15	0	431	264	0	695	0	37	319	0	356	0	0	22	0	15	0	37	1088
17:30	0	376	181	0	557	4	35	309	0	348	0	0	13	0	13	0	26	931
17:45	0	318	187	0	505	1	45	247	0	293	0	0	7	0	11	0	18	816
Hourly Total	0	1576	897	0	2473	9	203	1217	0	1429	0	0	45	0	50	0	95	3997
Lights	0	4748	2476	-	7224	12	858	5668	-	6538	-	0	216	0	51	-	267	14029
% Lights	-	97.0	98.6	-	97.6	100.0	99.5	97.3	-	97.6	-	-	98.6	-	94.4	-	97.8	97.6
Other Vehicles	0	145	36	-	181	0	4	155	-	159	-	0	3	0	3	-	6	346
% Other Vehicles	-	3.0	1.4	-	2.4	0.0	0.5	2.7	-	2.4	-	-	1.4	-	5.6	-	2.2	2.4
Pedestrians	-	-	-	0	-	-	-	-	0	-	1	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	100.0	-	-	-	-	-	-	-

Florida Transportation Engineering, Inc.
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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Peak Hour Data (7:30)

Start Time	Roosevelt Blvd N					Roosevelt Blvd N					I-275 SB On-/Off-ramps		I-275 SB On-/Off-ramps					
	East Bound					West Bound					North Bound		South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
7:30	0	247	84	0	331	0	53	453	0	506	0	0	16	0	1	0	17	854
7:45	0	301	77	0	378	0	62	483	0	545	0	0	19	0	1	0	20	943
8:00	0	239	76	0	315	0	46	483	0	529	0	0	22	0	0	0	22	866
8:15	0	309	92	0	401	2	39	485	0	526	0	0	22	0	0	0	22	949
PHF	0.000	0.887	0.894	-	0.888	0.250	0.806	0.981	-	0.966	-	0.000	0.898	0.000	0.500	-	0.920	0.952
Lights	0	1041	314	-	1355	2	199	1863	-	2064	-	0	79	0	2	-	81	3500
% Lights	-	95.0	95.4	-	95.1	100.0	99.5	97.8	-	98.0	-	-	100.0	-	100.0	-	100.0	96.9
Other Vehicles	0	55	15	-	70	0	1	41	-	42	-	0	0	0	0	-	0	112
% Other Vehicles	-	5.0	4.6	-	4.9	0.0	0.5	2.2	-	2.0	-	-	0.0	-	0.0	-	0.0	3.1
Pedestrians	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Count Name: 16-I-275 SB On-/Off-ramps at Roosevelt Blvd N
Site Code: 16
Start Date: 04/10/2014

Turning Movement Peak Hour Data (16:30)

Start Time	Roosevelt Blvd N East Bound					Roosevelt Blvd N West Bound					I-275 SB On-/Off-ramps North Bound		I-275 SB On-/Off-ramps South Bound					
	U-Turn	Thru	Right	Peds	App. Total	U-Turn	Left	Thru	Peds	App. Total	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:30	0	373	246	0	619	0	67	364	0	431	0	0	4	0	0	0	4	1054
16:45	0	359	240	0	599	0	80	318	0	398	0	0	8	0	0	0	8	1005
17:00	0	451	265	0	716	4	86	342	0	432	0	0	3	0	11	0	14	1162
17:15	0	431	264	0	695	0	37	319	0	356	0	0	22	0	15	0	37	1088
PHF	0.000	0.895	0.958	-	0.918	0.250	0.785	0.922	-	0.936	-	0.000	0.420	0.000	0.433	-	0.426	0.927
Lights	0	1598	1009	-	2607	4	269	1312	-	1585	-	0	35	0	25	-	60	4252
% Lights	-	99.0	99.4	-	99.2	100.0	99.6	97.7	-	98.0	-	-	94.6	-	96.2	-	95.2	98.7
Other Vehicles	0	16	6	-	22	0	1	31	-	32	-	0	2	0	1	-	3	57
% Other Vehicles	-	1.0	0.6	-	0.8	0.0	0.4	2.3	-	2.0	-	-	5.4	-	3.8	-	4.8	1.3
Pedestrians	-	-	-	0	-	-	-	-	0	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

COUNTY: 15
STATION: 5505
DESCRIPTION: SR 694/GANDY BLVD, W OF I-275
START DATE: 05/22/2013
START TIME: 1000

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	116	81	50	71	318	110	66	67	58	301	619
0100	45	35	34	29	143	57	51	44	51	203	346
0200	41	34	24	31	130	29	31	31	37	128	258
0300	40	34	44	57	175	35	35	46	41	157	332
0400	49	53	70	70	242	31	46	59	66	202	444
0500	90	138	185	218	631	71	102	171	173	517	1148
0600	288	437	486	522	1733	208	326	396	444	1374	3107
0700	554	679	690	792	2715	420	540	612	593	2165	4880
0800	762	626	698	582	2668	532	481	432	499	1944	4612
0900	489	509	454	449	1901	399	403	385	370	1557	3458
1000	400	370	355	387	1512	382	353	390	385	1510	3022
1100	385	395	471	408	1659	370	461	467	488	1786	3445
1200	468	427	491	467	1853	495	476	502	494	1967	3820
1300	477	528	467	416	1888	494	456	469	405	1824	3712
1400	454	470	479	518	1921	448	430	513	445	1836	3757
1500	483	546	534	531	2094	533	515	576	586	2210	4304
1600	521	530	681	522	2254	660	682	689	694	2725	4979
1700	629	623	595	536	2383	833	737	739	643	2952	5335
1800	491	511	408	391	1801	590	565	515	430	2100	3901
1900	370	356	328	283	1337	430	407	334	345	1516	2853
2000	329	289	287	318	1223	267	312	282	235	1096	2319
2100	271	251	254	225	1001	235	202	200	188	825	1826
2200	198	207	163	137	705	178	159	170	134	641	1346
2300	132	112	91	85	420	113	144	124	73	454	874
24-HOUR TOTALS:					32707					31990	64697

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	715	2923	715	2277	715	5200
P.M.	1630	2455	1645	3003	1630	5408
DAILY	715	2923	1645	3003	1630	5408

GENERATED BY SPS 3.4.2

COUNTY: 15
STATION: 5505
DESCRIPTION: SR 694/GANDY BLVD, W OF I-275
START DATE: 05/23/2013
START TIME: 1000

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	107	92	83	71	353	114	84	80	85	363	716
0100	75	47	71	40	233	62	65	42	43	212	445
0200	38	35	39	36	148	34	43	42	45	164	312
0300	35	36	46	41	158	45	37	33	39	154	312
0400	43	55	63	71	232	32	41	54	91	218	450
0500	78	106	178	191	553	90	98	132	167	487	1040
0600	249	378	470	458	1555	157	288	397	412	1254	2809
0700	540	585	688	737	2550	394	454	565	569	1982	4532
0800	679	646	647	548	2520	508	533	447	485	1973	4493
0900	468	453	423	416	1760	373	377	406	400	1556	3316
1000	422	419	393	406	1640	344	315	385	386	1430	3070
1100	387	401	451	449	1688	429	441	451	463	1784	3472
1200	425	480	471	466	1842	518	485	510	441	1954	3796
1300	469	466	464	486	1885	442	470	404	427	1743	3628
1400	479	434	512	505	1930	487	490	512	458	1947	3877
1500	483	513	540	545	2081	520	541	632	584	2277	4358
1600	558	581	612	542	2293	613	614	698	694	2619	4912
1700	633	614	637	563	2447	814	765	731	683	2993	5440
1800	492	525	455	384	1856	609	633	494	436	2172	4028
1900	371	376	347	336	1430	400	343	378	302	1423	2853
2000	288	336	276	287	1187	330	299	276	278	1183	2370
2100	291	318	247	259	1115	244	284	288	194	1010	2125
2200	228	223	178	144	773	222	201	210	181	814	1587
2300	145	125	107	119	496	185	141	128	114	568	1064
24-HOUR TOTALS:					32725					32280	65005

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	2750	730	2175	730	4925
P.M.	1700	2447	1645	3004	1700	5440
DAILY	730	2750	1645	3004	1700	5440

GENERATED BY SPS 3.4.2

COUNTY: 15
STATION: 5506
DESCRIPTION: SR 694/GANDY BLVD, E OF I-275
START DATE: 06/12/2013
START TIME: 0200

	DIRECTION: E					DIRECTION: W					COMBINED
TIME	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL	TOTAL
0000	87	89	81	50	307	80	57	46	47	230	537
0100	68	38	44	50	200	35	33	31	26	125	325
0200	36	28	25	31	120	34	28	17	11	90	210
0300	17	29	27	28	101	26	18	30	22	96	197
0400	32	44	62	85	223	13	25	32	33	103	326
0500	42	78	102	188	410	45	46	130	106	327	737
0600	243	343	381	416	1383	115	184	262	277	838	2221
0700	370	554	560	688	2172	296	400	487	504	1687	3859
0800	552	637	555	526	2270	403	432	508	388	1731	4001
0900	396	384	319	366	1465	343	332	319	282	1276	2741
1000	288	316	302	284	1190	273	318	281	298	1170	2360
1100	351	312	341	348	1352	275	311	346	330	1262	2614
1200	364	408	362	418	1552	359	343	407	345	1454	3006
1300	358	406	366	363	1493	308	333	344	296	1281	2774
1400	367	409	352	451	1579	363	352	380	364	1459	3038
1500	423	459	375	427	1684	416	394	448	387	1645	3329
1600	495	472	512	505	1984	494	471	591	562	2118	4102
1700	581	578	572	521	2252	718	639	624	565	2546	4798
1800	513	421	425	377	1736	625	508	450	389	1972	3708
1900	311	314	326	312	1263	367	281	235	227	1110	2373
2000	260	234	274	273	1041	203	196	214	150	763	1804
2100	289	226	276	278	1069	194	133	131	123	581	1650
2200	216	206	196	300	918	129	114	122	86	451	1369
2300	298	270	112	97	777	143	110	82	64	399	1176
24-HOUR TOTALS:					28541					24714	53255

PEAK VOLUME INFORMATION

	DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS	
	HOUR	VOLUME	HOUR	VOLUME	HOUR	VOLUME
A.M.	730	2437	745	1847	745	4279
P.M.	1700	2252	1700	2546	1700	4798
DAILY	730	2437	1700	2546	1700	4798

TRUCK PERCENTAGE 2.76 2.82 2.79

CLASSIFICATION SUMMARY DATABASE

DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	240	23968	3545	6	353	129	5	173	92	4	1	0	25	0	0	788	28541
W	245	20048	3725	6	343	58	11	139	109	11	5	0	14	0	0	696	24714

GENERATED BY SPS 3.4.2

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:01	1							
7:02	1							
7:07	1							
7:09	1							
7:14	2							
7:17	4							
7:19	1							
7:20	2							
7:22	2							
7:28	1							
7:31	1							
7:33	2							
7:36	1							
7:38	2							
7:40	1							
7:42	1							
7:46	1							
7:48	1							
7:51	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	7:00 AM - 8:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
7:53	3							
7:55	1							
7:59	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information								
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N							
Agency:	FTE	Area Type:								
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right			

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:00	1							
8:02	2							
8:04	2							
8:06	2							
8:08	3							
8:10	4							
8:12	2							
8:14	5							
8:19	2							
8:23	1							
8:26	4							
8:28	1							
8:30	4							
8:34	4							
8:36	3							
8:38	2							
8:40	3							
8:42	3							
8:46	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	8:00 AM - 9:00 AM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
8:50	1							
8:54	1							
8:56	3							
8:59	1							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	4:00 PM - 5:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
4:02	2							
4:06	1							
4:09	1							
4:13	3							
4:36	2							
4:40	1							
4:46	1							
4:54	1							
4:58	2							

Field Observations and Notes

Queue Length Data Collection Worksheet

General Information		Site Information							
Analyst:	Nathan Sutton	Intersection:	I 275 SB off Ramp at Roosevelt Blvd N						
Agency:	FTE	Area Type:							
Date:	4/9/2014	Approach:	NB		SB	X	EB		WB	
Time Period:	5:00 PM - 6:00 PM	Movements:	Left		Thru		Right		

Field Measurements

	Total Number of Vehicles Stopped in the Approach at Beginning of Green							
Time :	Lane 1	Lane 2	Lane 3	Lane 4	Lane 5	Lane 6	Lane 7	Lane 8
5:03	1							
5:08	1							
5:12	1							
5:15	1							
5:19	1							
5:21	2							
5:22	5							
5:25	1							
5:29	2							
5:36	3							
5:46	2							
5:50	1							
5:51	2							
5:58	1							

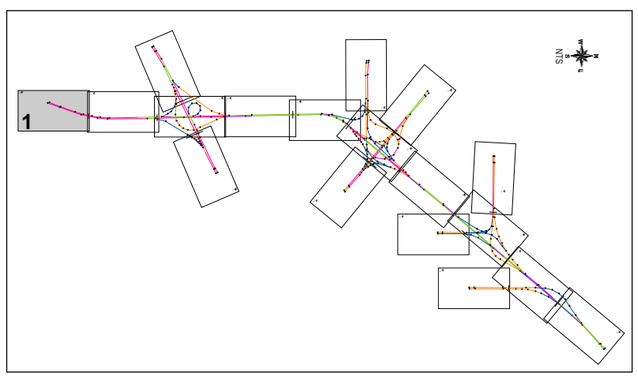
Field Observations and Notes

Attachment B
Link-Node Diagram

NTS

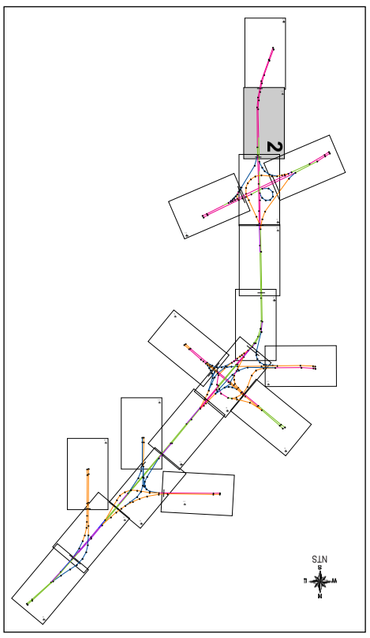
8100
8111
299
425
424
300
423

Match Line Sheet 2



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Match Line Sheet 1

422
301
421
302
420
303
304

Match Line Sheet 3

Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS
S
E
W
N

NTS

Match Line Sheet 2

Match Line Sheet 4

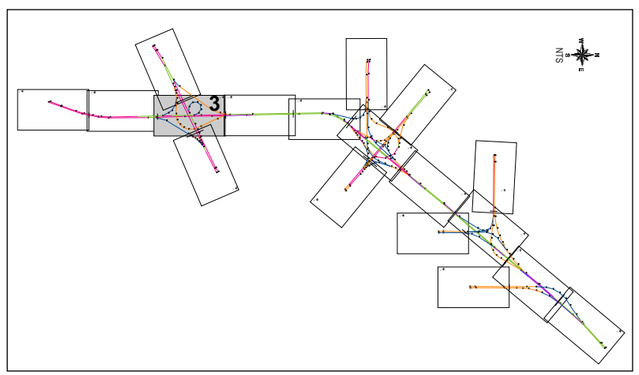
Match Line Sheet 5

Match Line Sheet 6

620 7004 7005 621 622 623 624 625 626 627 628 629 630 640 641 642 643 644 645 660 661 522 521 520 7003 601 7001 600 304 305 306 307 417 418 419

Legend

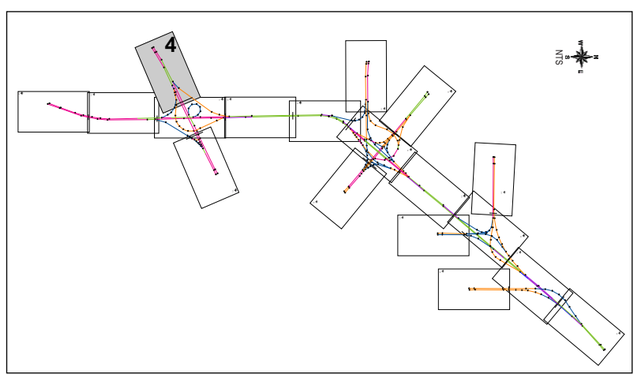
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



N
W
E
S
NTS

Match Line Sheet 3

662
523
524
525
8211
8200
499
500
501
502
7012
7002
619
620
7004
7005



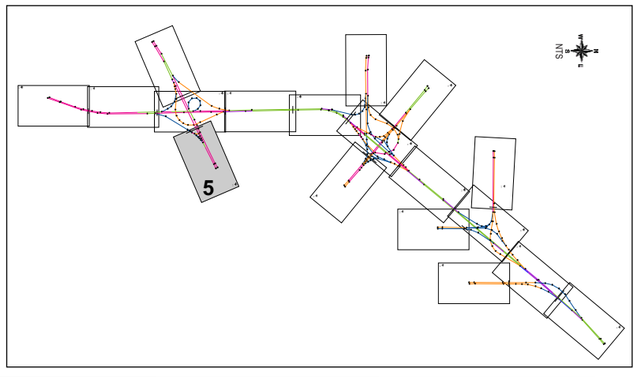
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 3

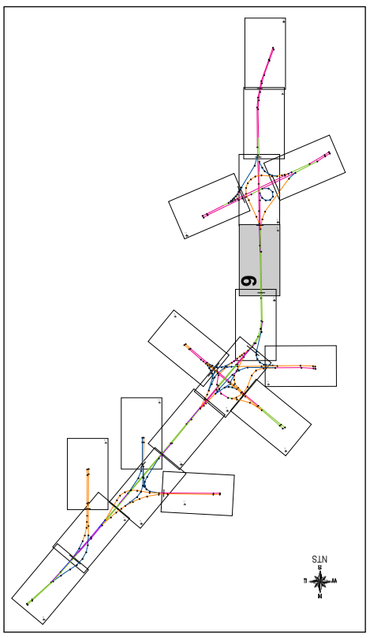
N
W
E
S
NTS

7003
519
503
504
7019
505
506
518
3210
507
8201
606
605
7013
604
603
602
7001



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Match Line Sheet 3

416

308

415

Match Line Sheet 7

Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

S

E W

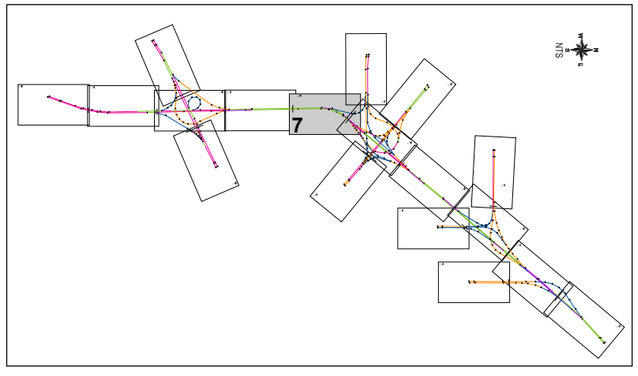
N

NTS

Match Line Sheet 6

Match Line Sheet 8

309 310 311 312 313 314 410 411 412 413 414 700 701 7007 7008 746 747 748



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 11

Match Line Sheet 10

Match Line Sheet 7

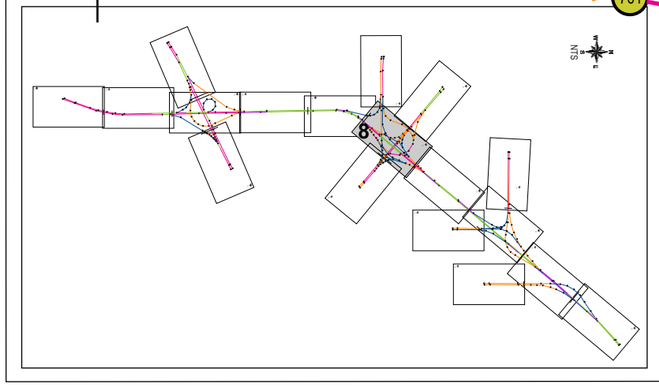
Match Line Sheet 12

Match Line Sheet 9

NTS

Legend

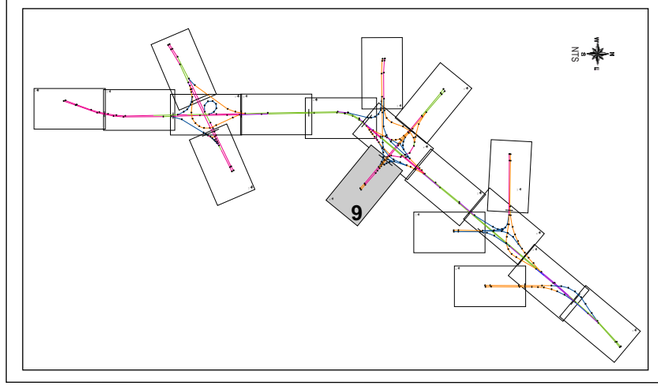
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 8

8401
548
547
706
707
8410
557
558
559
560
7017
561
562
546
7006
545
757
7016
758



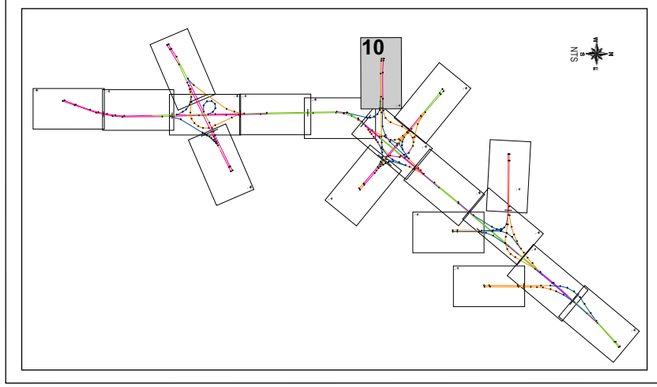
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
W
E
S
NTS

8310
725
724
723
8300
740
741
742
743

Match Line Sheet 8

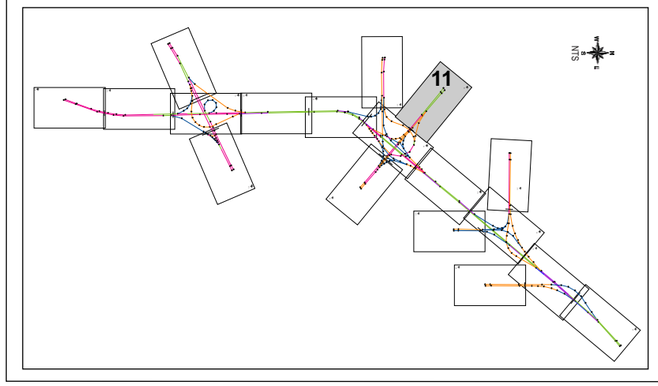


Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

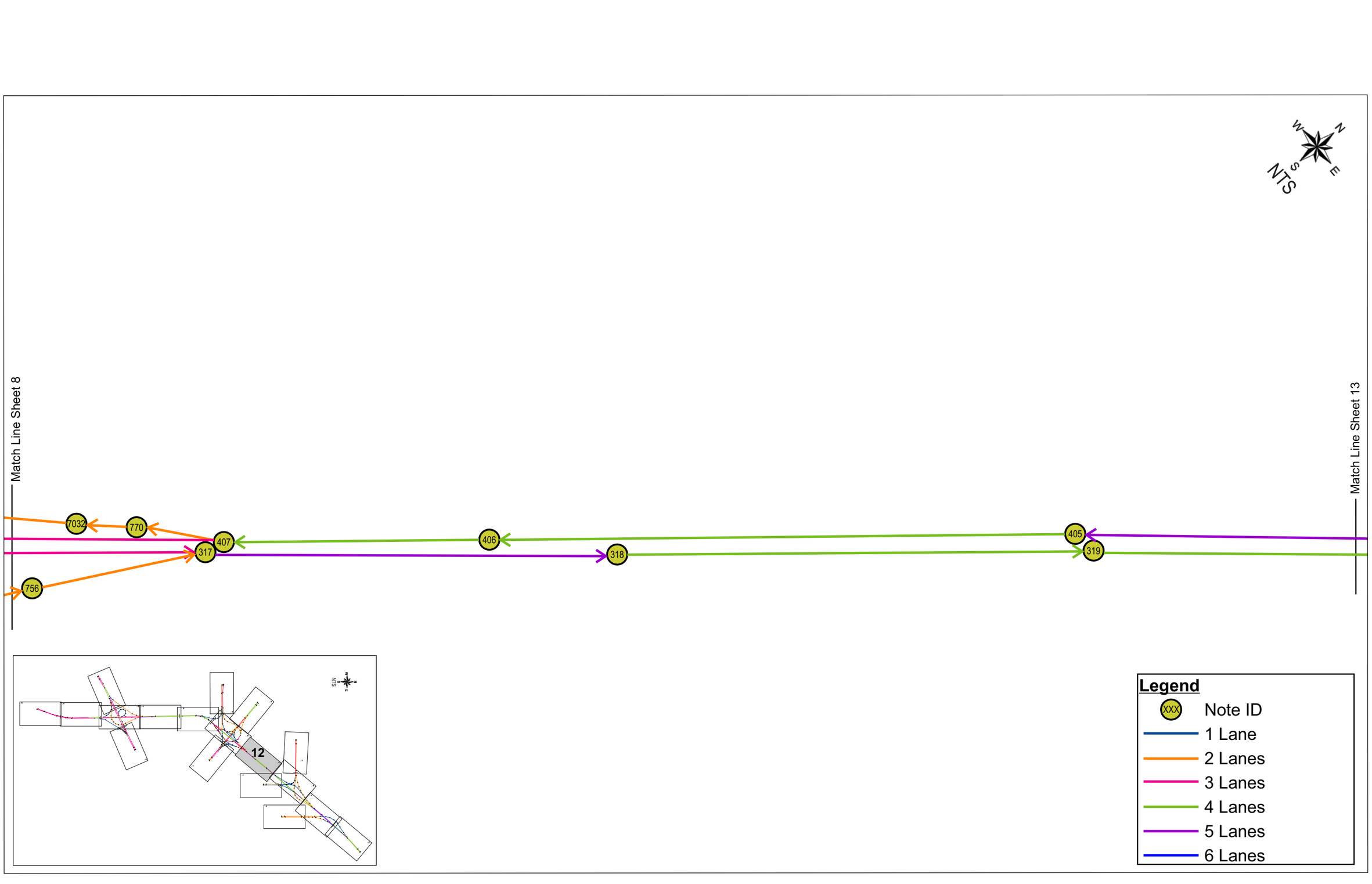
Match Line Sheet 8

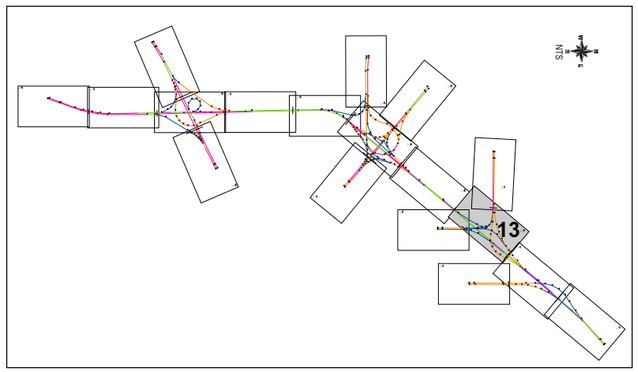
541
540
8400
567
588
569
570
8411
716



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes


Match Line Sheet 8
7032
770
407
317
756
406
318
405
319
Match Line Sheet 13
N
W
E
S
NTS
12
Legend
XXX
Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 15

Match Line Sheet 16

Match Line Sheet 12

Match Line Sheet 14

836 835 801 834 811 802 7014 803 7015 833 839 808 804 838 840 809 832 812 7036 810 805 404 841 813 320 853 814 852 815 816 806 851

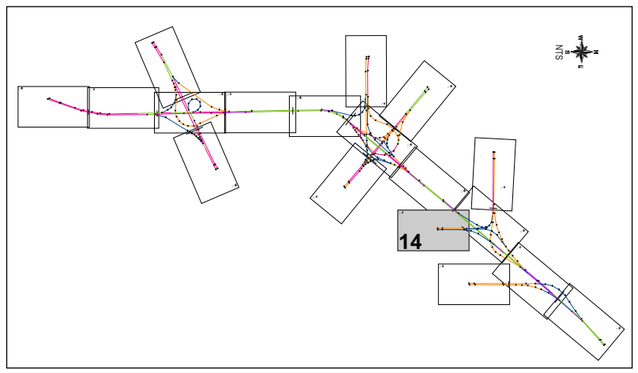
NTS

404

Match Line Sheet 13

8501 807 806

3520 850 851



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N

W E

S

NTS

Match Line Sheet 13

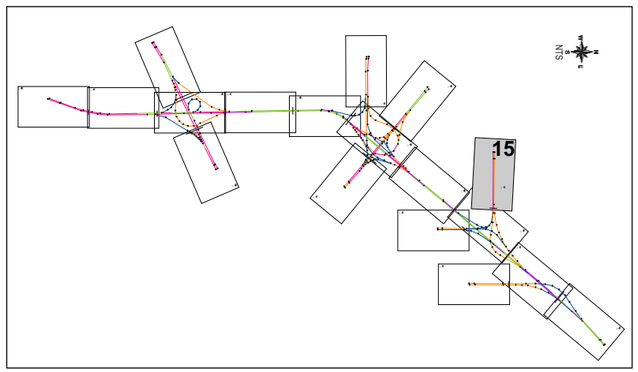
836

837

800

8510

8500



Legend

XXX Note ID

1 Lane

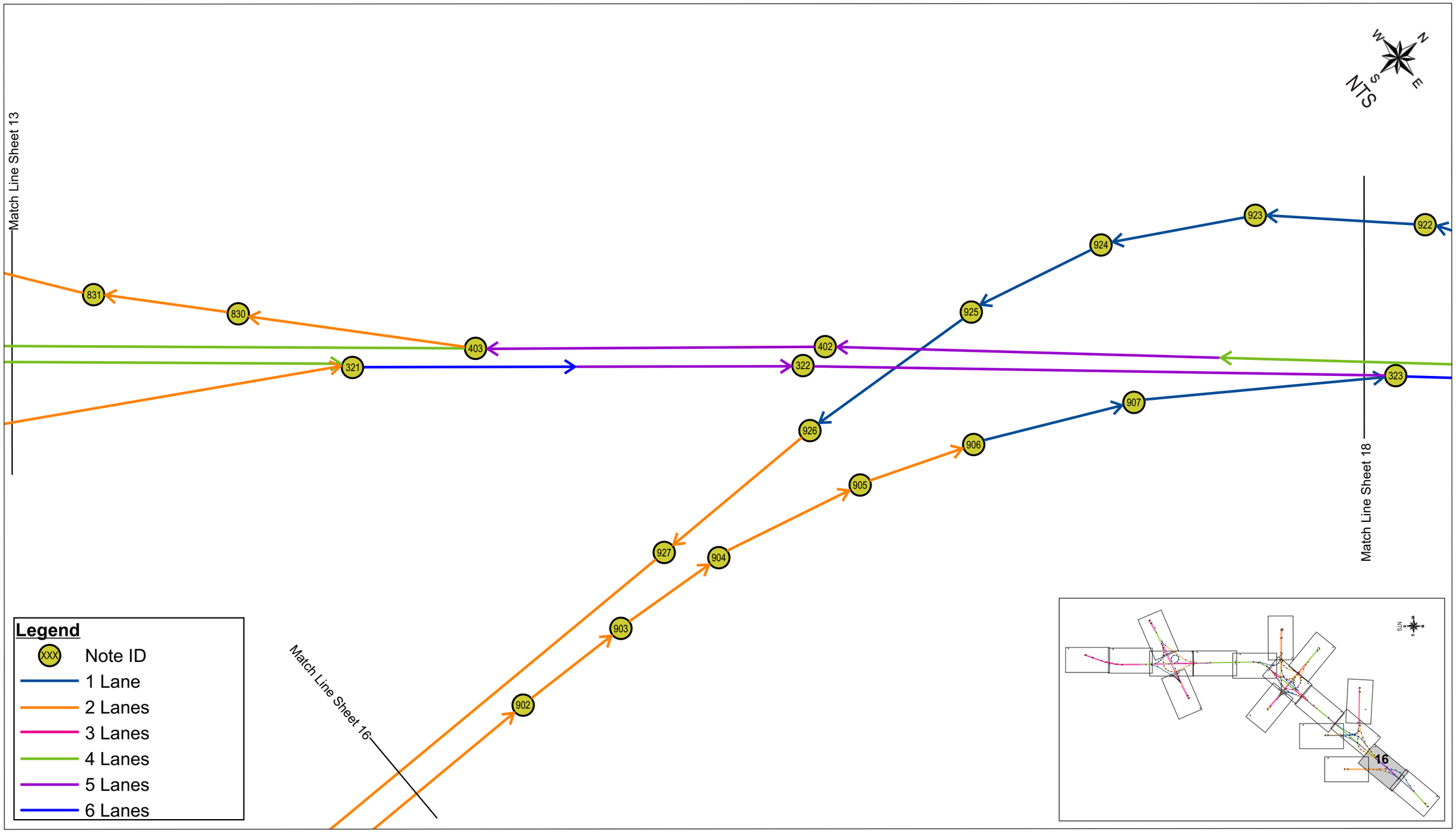
2 Lanes

3 Lanes

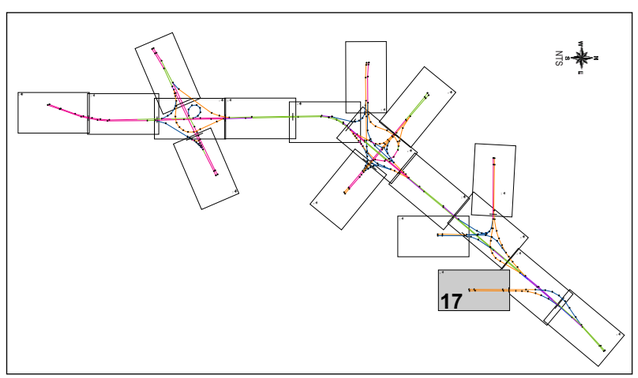
4 Lanes

5 Lanes

6 Lanes


NTS
N
E
S
W
Match Line Sheet 13
Match Line Sheet 18
Match Line Sheet 16
831
830
403
321
402
322
925
924
923
922
323
926
907
906
927
905
904
903
902
Legend
XXX
Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes
16

NTS



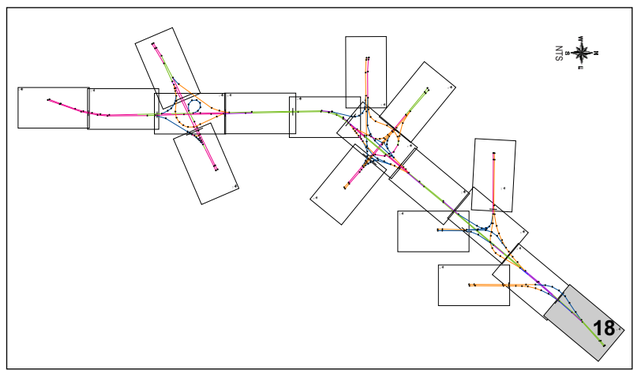
Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 16

NTS

922
921
920
323
324
401
325
400
326
8110
8101



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Attachment C
Volume Calibration Results

Existing Year (2012) AM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
I275NB2	299, 300	1087	70	3	6881	6670	-211	-3.1%	+/- 400 vph	Yes	2.6	Yes
I275NB3	300, 301	805	70	3	6881	6666	-215	-3.1%	+/- 400 vph	Yes	2.6	Yes
I275NB4	301, 302	478	70	3	6881	6663	-218	-3.2%	+/- 400 vph	Yes	2.6	Yes
I275NB5	302, 303	2687	70	3	6881	6643	-238	-3.5%	+/- 400 vph	Yes	2.9	Yes
I275NB6	303, 304	382	70	4	6881	6639	-242	-3.5%	+/- 400 vph	Yes	2.9	Yes
I275NB7	304, 305	1375	70	3	5335	5143	-192	-3.6%	+/- 400 vph	Yes	2.6	Yes
I275NB8	305, 306	1306	70	3	5335	5140	-195	-3.7%	+/- 400 vph	Yes	2.7	Yes
I275NB9	306, 307	591	70	3	5335	5139	-196	-3.7%	+/- 400 vph	Yes	2.7	Yes
I275NB10	307, 308	1065	70	5	6190	5991	-199	-3.2%	+/- 400 vph	Yes	2.5	Yes
I275NB11	308, 309	3035	70	5	6190	5978	-212	-3.4%	+/- 400 vph	Yes	2.7	Yes
I275NB12	309, 310	1095	70	4	6190	5970	-220	-3.6%	+/- 400 vph	Yes	2.8	Yes
I275NB13	310, 311	380	70	4	6190	5966	-224	-3.6%	+/- 400 vph	Yes	2.9	Yes
I275NB14	311, 312	399	70	4	6190	5963	-227	-3.7%	+/- 400 vph	Yes	2.9	Yes
I275NB15	312, 313	368	70	4	6190	5961	-229	-3.7%	+/- 400 vph	Yes	2.9	Yes
I275NB16	313, 314	460	70	4	6190	5957	-233	-3.8%	+/- 400 vph	Yes	3.0	Yes
I275NB17	314, 315	886	70	3	3171	2977	-194	-6.1%	+/- 400 vph	Yes	3.5	Yes
I275NB18	315, 316	1317	70	3	3171	2974	-197	-6.2%	+/- 400 vph	Yes	3.6	Yes
I275NB19	316, 317	1361	70	3	3171	2971	-200	-6.3%	+/- 400 vph	Yes	3.6	Yes
I275NB20	317, 318	1032	70	5	3940	3742	-198	-5.0%	+/- 400 vph	Yes	3.2	Yes
I275NB21	318, 319	1191	70	5	3940	3739	-201	-5.1%	+/- 400 vph	Yes	3.2	Yes
I275NB22	319, 320	3175	70	4	3940	3734	-206	-5.2%	+/- 400 vph	Yes	3.3	Yes
I275NB23	320, 321	1678	70	4	4220	4011	-209	-5.0%	+/- 400 vph	Yes	3.3	Yes
I275NB24	321, 322	1064	70	5	5432	5222	-210	-3.9%	+/- 400 vph	Yes	2.9	Yes
I275NB25	322, 323	1398	70	5	5432	5218	-214	-3.9%	+/- 400 vph	Yes	2.9	Yes
I275NB26	323, 324	817	70	5	6291	6074	-217	-3.5%	+/- 400 vph	Yes	2.8	Yes
I275NB27	324, 325	683	70	5	6291	6070	-222	-3.5%	+/- 400 vph	Yes	2.8	Yes
I275NB28	325, 326	1898	70	4	6291	6061	-230	-3.7%	+/- 400 vph	Yes	2.9	Yes
I275SB2	400, 401	2040	70	4	5460	5454	-7	-0.1%	+/- 400 vph	Yes	0.1	Yes
I275SB3	401, 402	2745	70	4	5123	5112	-11	-0.2%	+/- 400 vph	Yes	0.2	Yes
I275SB4	402, 403	825	70	5	5123	5108	-15	-0.3%	+/- 400 vph	Yes	0.2	Yes
I275SB5	403, 404	4213	70	4	2594	2585	-9	-0.3%	+/- 15%	Yes	0.2	Yes
I275SB6	404, 405	972	70	4	2804	2789	-15	-0.5%	+/- 400 vph	Yes	0.3	Yes
I275SB7	405, 406	1472	70	4	2804	2786	-18	-0.6%	+/- 400 vph	Yes	0.3	Yes
I275SB8	406, 407	662	70	4	2804	2784	-20	-0.7%	+/- 400 vph	Yes	0.4	Yes
I275SB9	407, 408	1201	70	3	2066	2023	-43	-2.1%	+/- 15%	Yes	1.0	Yes
I275SB10	408, 409	1585	70	3	2066	2021	-45	-2.2%	+/- 15%	Yes	1.0	Yes
I275SB11	409, 410	458	70	3	2066	2020	-46	-2.2%	+/- 15%	Yes	1.0	Yes
I275SB12	410, 411	631	70	5	2958	2934	-24	-0.8%	+/- 400 vph	Yes	0.4	Yes
I275SB13	411, 412	244	70	5	2958	2934	-24	-0.8%	+/- 400 vph	Yes	0.4	Yes
I275SB14	412, 413	608	70	4	2958	2935	-23	-0.8%	+/- 400 vph	Yes	0.4	Yes
I275SB15	413, 414	492	70	4	3777	3741	-36	-1.0%	+/- 400 vph	Yes	0.6	Yes
I275SB16	414, 415	3870	70	4	3777	3734	-43	-1.1%	+/- 400 vph	Yes	0.7	Yes
I275SB17	415, 416	1086	70	4	3777	3731	-46	-1.2%	+/- 400 vph	Yes	0.8	Yes
I275SB18	416, 417	1385	70	3	3290	3186	-104	-3.2%	+/- 400 vph	Yes	1.8	Yes
I275SB19	417, 418	343	70	3	3290	3187	-103	-3.1%	+/- 400 vph	Yes	1.8	Yes
I275SB20	418, 419	1507	70	3	4144	4004	-140	-3.4%	+/- 400 vph	Yes	2.2	Yes
I275SB21	419, 420	3297	70	3	5063	4852	-211	-4.2%	+/- 400 vph	Yes	3.0	Yes
I275SB22	420, 421	430	70	3	5063	4850	-213	-4.2%	+/- 400 vph	Yes	3.0	Yes
I275SB23	421, 422	403	70	3	5063	4848	-215	-4.3%	+/- 400 vph	Yes	3.1	Yes
I275SB24	422, 423	426	70	3	5063	4846	-217	-4.3%	+/- 400 vph	Yes	3.1	Yes
I275SB25	423, 424	412	70	3	5063	4846	-217	-4.3%	+/- 400 vph	Yes	3.1	Yes
I275SB26	424, 425	734	70	3	5063	4840	-223	-4.4%	+/- 400 vph	Yes	3.2	Yes
GandyEB2	499, 500	841	50	3	2946	2944	-2	-0.1%	+/- 400 vph	Yes	0.0	Yes
GandyEB3	500, 501	954	50	4	2946	2942	-4	-0.1%	+/- 400 vph	Yes	0.1	Yes
GandyEB4	501, 502	174	50	5	2946	2942	-4	-0.1%	+/- 400 vph	Yes	0.1	Yes
GandyEB5	502, 7012	178	50	3	1172	1222	50	4.3%	+/- 15%	Yes	1.4	Yes
GandyEB9	7019, 505	99	50	3	1172	1220	48	4.1%	+/- 15%	Yes	1.4	Yes
GandyEB10	505, 506	119	50	3	1172	1220	48	4.1%	+/- 15%	Yes	1.4	Yes
GandyEB11	506, 507	1167	50	3	2122	2106	-16	-0.7%	+/- 15%	Yes	0.3	Yes
GandyWB4	7003, 520	181	55	3	2646	2636	-10	-0.4%	+/- 15%	Yes	0.2	Yes
GandyWB5	520, 521	291	55	3	2646	2635	-11	-0.4%	+/- 15%	Yes	0.2	Yes
GandyWB6	521, 522	590	55	4	2646	2632	-14	-0.5%	+/- 15%	Yes	0.3	Yes
GandyWB7	522, 523	1768	55	3	1792	1806	14	0.8%	+/- 15%	Yes	0.3	Yes
GandyWB8	523, 524	1179	55	3	2279	2350	71	3.1%	+/- 15%	Yes	1.5	Yes
GandyWB9	524, 525	455	55	3	2279	2346	67	2.9%	+/- 15%	Yes	1.4	Yes
GdyNBoff1	304, 600	525	50	1	1546	1485	-61	-3.9%	+/- 15%	Yes	1.6	Yes
GdyNBoff2	600, 601	1220	50	1	1546	1486	-61	-3.9%	+/- 15%	Yes	1.6	Yes
GdyNBoff3	601, 7001	135	50	2	1546	1485	-61	-4.0%	+/- 15%	Yes	1.6	Yes
GdyNBoff8	7013, 605	84	50	1	950	890	-60	-6.3%	+/- 15%	Yes	2.0	Yes
GdyNBoff9	605, 606	107	50	1	950	890	-60	-6.3%	+/- 15%	Yes	2.0	Yes
GdyNBoff10	606, 506	158	50	1	950	890	-60	-6.3%	+/- 15%	Yes	2.0	Yes
GdyNBon1	502, 7002	179	50	2	1774	1720	-54	-3.1%	+/- 15%	Yes	1.3	Yes
GdyNBon5	7004, 623	501	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon6	623, 624	299	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon7	624, 625	253	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes

Existing Year (2012) AM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
GdyNBon8	625, 626	238	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon9	626, 627	242	50	2	855	858	3	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon10	627, 628	277	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon11	628, 629	337	50	2	855	857	2	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon12	629, 630	877	50	2	855	858	3	0.3%	+/- 15%	Yes	0.1	Yes
GdyNBon13	630, 307	344	50	2	855	858	3	0.3%	+/- 15%	Yes	0.1	Yes
GdySBoff1	416, 660	481	50	2	487	544	57	11.6%	+/- 100 vph	Yes	2.5	Yes
GdySBoff2	660, 661	394	50	2	487	544	57	11.6%	+/- 100 vph	Yes	2.5	Yes
GdySBoff3	661, 662	1949	50	2	487	543	56	11.4%	+/- 100 vph	Yes	2.4	Yes
GdySBoff4	662, 523	424	50	1	487	542	55	11.3%	+/- 100 vph	Yes	2.4	Yes
GdySBon2	7005, 621	286	50	1	919	862	-57	-6.2%	+/- 15%	Yes	1.9	Yes
GdySBon3	621, 622	204	50	1	919	862	-58	-6.3%	+/- 15%	Yes	1.9	Yes
GdySBon4	622, 419	319	50	1	919	861	-58	-6.3%	+/- 15%	Yes	1.9	Yes
GdySBonLoop1	522, 640	302	35	1	854	826	-28	-3.3%	+/- 15%	Yes	1.0	Yes
GdySBonLoop2	640, 641	259	35	1	854	826	-28	-3.3%	+/- 15%	Yes	1.0	Yes
GdySBonLoop3	641, 642	227	35	1	854	827	-27	-3.2%	+/- 15%	Yes	0.9	Yes
GdySBonLoop4	642, 643	211	35	1	854	827	-27	-3.2%	+/- 15%	Yes	0.9	Yes
GdySBonLoop5	643, 644	211	35	1	854	827	-28	-3.2%	+/- 15%	Yes	0.9	Yes
GdySBonLoop6	644, 645	207	35	1	854	826	-28	-3.2%	+/- 15%	Yes	1.0	Yes
GdySBonLoop7	645, 418	252	35	1	854	826	-28	-3.3%	+/- 15%	Yes	1.0	Yes
RvEB2	540, 541	1418	60	4	1649	1646	-3	-0.2%	+/- 15%	Yes	0.1	Yes
RvEB3	541, 542	1028	60	3	1649	1647	-2	-0.1%	+/- 15%	Yes	0.1	Yes
RvEB4	542, 7010	513	60	2	1096	1093	-3	-0.3%	+/- 15%	Yes	0.1	Yes
RvEB9	7006, 546	120	60	2	1191	1194	3	0.3%	+/- 15%	Yes	0.1	Yes
RvEB10	546, 547	165	60	2	1191	1194	3	0.2%	+/- 15%	Yes	0.1	Yes
RvEB11	547, 548	1053	60	2	1552	1555	3	0.2%	+/- 15%	Yes	0.1	Yes
RvWB2	557, 558	756	60	2	2263	2260	-3	-0.1%	+/- 15%	Yes	0.1	Yes
RvWB3	558, 559	146	60	2	2263	2260	-3	-0.1%	+/- 15%	Yes	0.1	Yes
RvWB4	559, 560	151	60	3	2263	2260	-4	-0.2%	+/- 15%	Yes	0.1	Yes
RvWB5	560, 7017	125	60	2	2243	2240	-3	-0.2%	+/- 15%	Yes	0.1	Yes
RvWB13	7018, 567	133	60	2	1907	1876	-31	-1.6%	+/- 15%	Yes	0.7	Yes
RvWB14	567, 568	750	60	2	1907	1874	-33	-1.7%	+/- 15%	Yes	0.8	Yes
RvWB15	568, 569	281	60	2	1907	1873	-34	-1.8%	+/- 15%	Yes	0.8	Yes
RvWB16	569, 570	1137	60	4	3616	3510	-106	-2.9%	+/- 400 vph	Yes	1.8	Yes
RvNBoff1	314, 7007	228	50	2	3019	2977	-42	-1.4%	+/- 400 vph	Yes	0.8	Yes
RvNBoff4	7008, 701	168	50	2	3019	2975	-44	-1.5%	+/- 400 vph	Yes	0.8	Yes
RvNBoff5	701, 702	198	50	2	3019	2974	-45	-1.5%	+/- 400 vph	Yes	0.8	Yes
RvNBoff6	702, 703	130	50	3	3019	2973	-46	-1.5%	+/- 400 vph	Yes	0.8	Yes
RvNBoff7	703, 704	336	50	1	361	363	2	0.6%	+/- 100 vph	Yes	0.1	Yes
RvNBoff8	704, 705	200	50	1	361	363	2	0.6%	+/- 100 vph	Yes	0.1	Yes
RvNBoff9	705, 706	223	50	1	361	363	2	0.6%	+/- 100 vph	Yes	0.1	Yes
RvNBoff10	706, 707	262	50	1	361	363	2	0.6%	+/- 100 vph	Yes	0.1	Yes
RvNBoff11	707, 547	264	50	1	361	363	2	0.6%	+/- 100 vph	Yes	0.1	Yes
RvNBoff20	714, 715	248	50	2	1709	1641	-68	-4.0%	+/- 15%	Yes	1.7	Yes
RvNBoff21	715, 716	642	50	2	1709	1640	-69	-4.0%	+/- 15%	Yes	1.7	Yes
RvNBoff22	716, 569	670	50	2	1709	1640	-70	-4.1%	+/- 15%	Yes	1.7	Yes
RvNBon3	560, 757	296	50	1	20	20	0	-1.5%	+/- 100 vph	Yes	0.1	Yes
RvNBon4	757, 7016	127	50	1	20	20	0	-1.5%	+/- 100 vph	Yes	0.1	Yes
RvNBon9	7030, 756	261	50	2	769	772	3	0.4%	+/- 15%	Yes	0.1	Yes
RvNBon10	756, 317	444	50	2	769	771	2	0.2%	+/- 15%	Yes	0.1	Yes
RvSBoff1	407, 770	223	50	2	738	759	21	2.8%	+/- 15%	Yes	0.7	Yes
RvSBoff2	770, 7032	150	50	2	738	758	20	2.7%	+/- 15%	Yes	0.7	Yes
RvSBon4	7023, 793	102	50	3	892	916	24	2.7%	+/- 15%	Yes	0.8	Yes
RvSBon5	793, 410	655	50	3	892	916	24	2.7%	+/- 15%	Yes	0.8	Yes
RvSBon10	542, 790	270	50	2	553	553	0	0.0%	+/- 100 vph	Yes	0.0	Yes
RvSBon11	790, 7011	250	50	2	553	553	0	0.0%	+/- 100 vph	Yes	0.0	Yes
118NBoff1	703, 708	311	50	2	2658	2609	-49	-1.8%	+/- 15%	Yes	1.0	Yes
118NBoff2	708, 710	567	50	2	2658	2608	-50	-1.9%	+/- 15%	Yes	1.0	Yes
118NBoff3	710, 711	460	50	2	2658	2608	-50	-1.9%	+/- 15%	Yes	1.0	Yes
118NBoff4	711, 712	472	50	3	2658	2607	-51	-1.9%	+/- 15%	Yes	1.0	Yes
118NBoff5	712, 713	395	50	3	2658	2605	-54	-2.0%	+/- 15%	Yes	1.0	Yes
118NBoff6	713, 714	188	50	4	2658	2604	-54	-2.0%	+/- 15%	Yes	1.1	Yes
118NBoff7	714, 717	212	50	2	949	961	12	1.2%	+/- 15%	Yes	0.4	Yes
118NBoff8	717, 718	389	50	2	949	960	11	1.2%	+/- 15%	Yes	0.4	Yes
118NBoff9	718, 719	373	50	2	949	959	10	1.1%	+/- 15%	Yes	0.3	Yes
118NBoff10	719, 720	589	50	2	949	959	10	1.1%	+/- 15%	Yes	0.3	Yes
118NBoff11	720, 721	311	50	2	949	959	10	1.0%	+/- 15%	Yes	0.3	Yes
118NBoff12	721, 722	381	50	2	949	958	9	0.9%	+/- 15%	Yes	0.3	Yes
118NBoff13	722, 723	562	50	2	949	957	8	0.9%	+/- 15%	Yes	0.3	Yes
118NBoff14	723, 724	1252	60	3	1546	1560	14	0.9%	+/- 15%	Yes	0.4	Yes
118NBoff15	724, 725	575	60	3	1546	1558	12	0.8%	+/- 15%	Yes	0.3	Yes
118NBon2	740, 741	611	60	2	1525	1529	4	0.2%	+/- 15%	Yes	0.1	Yes
118NBon3	741, 742	1107	60	2	1525	1525	0	0.0%	+/- 15%	Yes	0.0	Yes
118NBon4	742, 749	758	50	2	706	713	7	0.9%	+/- 15%	Yes	0.3	Yes
118NBon5	749, 750	1140	50	2	706	711	5	0.7%	+/- 15%	Yes	0.2	Yes

Existing Year (2012) AM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
118NBon6	750, 751	304	50	1	706	711	5	0.7%	+/- 15%	Yes	0.2	Yes
118NBon7	751, 752	341	50	1	706	710	4	0.6%	+/- 15%	Yes	0.2	Yes
118NBon8	752, 753	406	50	1	706	710	4	0.6%	+/- 15%	Yes	0.1	Yes
118NBon9	753, 754	250	50	1	706	710	4	0.5%	+/- 15%	Yes	0.1	Yes
118NBon10	754, 7009	349	50	1	706	709	3	0.5%	+/- 15%	Yes	0.1	Yes
118SBoff2	7034, 775	147	50	1	597	607	10	1.6%	+/- 100 vph	Yes	0.4	Yes
118SBoff3	775, 776	934	50	1	597	607	10	1.6%	+/- 100 vph	Yes	0.4	Yes
118SBoff4	776, 777	371	50	1	597	606	9	1.5%	+/- 100 vph	Yes	0.4	Yes
118SBoff5	777, 778	446	50	1	597	605	8	1.3%	+/- 100 vph	Yes	0.3	Yes
118SBoff6	778, 723	1329	50	1	597	604	7	1.2%	+/- 100 vph	Yes	0.3	Yes
118SBon1	742, 743	227	50	1	819	811	-8	-1.0%	+/- 15%	Yes	0.3	Yes
118SBon2	743, 744	418	50	1	819	811	-8	-1.0%	+/- 15%	Yes	0.3	Yes
118SBon3	744, 745	223	50	1	819	810	-9	-1.1%	+/- 15%	Yes	0.3	Yes
118SBon4	745, 746	201	50	1	819	809	-10	-1.2%	+/- 15%	Yes	0.3	Yes
118SBon5	746, 747	200	50	1	819	809	-10	-1.2%	+/- 15%	Yes	0.3	Yes
118SBon6	747, 748	166	50	1	819	809	-10	-1.3%	+/- 15%	Yes	0.4	Yes
118SBon7	748, 413	973	50	1	819	808	-11	-1.4%	+/- 15%	Yes	0.4	Yes
UlmNBon2	800, 801	2420	60	3	1638	1638	-1	0.0%	+/- 15%	Yes	0.0	Yes
UlmNBon3	801, 811	647	50	2	1212	1224	12	1.0%	+/- 15%	Yes	0.4	Yes
UlmNBon4	811, 812	590	50	2	1212	1223	11	0.9%	+/- 15%	Yes	0.3	Yes
UlmNBon5	812, 813	323	50	2	1212	1223	11	0.9%	+/- 15%	Yes	0.3	Yes
UlmNBon6	813, 814	328	50	2	1212	1222	10	0.8%	+/- 15%	Yes	0.3	Yes
UlmNBon7	814, 815	288	50	2	1212	1221	9	0.7%	+/- 15%	Yes	0.3	Yes
UlmNBon8	815, 816	273	50	2	1212	1221	9	0.8%	+/- 15%	Yes	0.3	Yes
UlmNBon9	816, 321	1098	50	2	1212	1221	9	0.7%	+/- 15%	Yes	0.2	Yes
UlmSBoff1	403, 830	573	50	2	2529	2516	-13	-0.5%	+/- 15%	Yes	0.3	Yes
UlmSBoff2	830, 831	346	50	2	2529	2517	-12	-0.5%	+/- 15%	Yes	0.2	Yes
UlmSBoff3	831, 7036	283	50	2	2529	2516	-13	-0.5%	+/- 15%	Yes	0.3	Yes
UlmSBoff7	7014, 834	398	50	2	2119	2106	-13	-0.6%	+/- 15%	Yes	0.3	Yes
UlmSBoff8	834, 835	584	60	2	2119	2104	-15	-0.7%	+/- 15%	Yes	0.3	Yes
UlmSBoff9	835, 836	481	60	2	2119	2103	-16	-0.7%	+/- 15%	Yes	0.3	Yes
UlmSBoff10	836, 837	2160	60	2	2119	2100	-20	-0.9%	+/- 15%	Yes	0.4	Yes
UlmSBon1	801, 802	493	35	1	426	412	-15	-3.4%	+/- 100 vph	Yes	0.7	Yes
UlmSBon2	802, 803	214	35	1	426	411	-15	-3.5%	+/- 100 vph	Yes	0.7	Yes
UlmSBon3	803, 808	163	35	1	210	205	-5	-2.4%	+/- 100 vph	Yes	0.3	Yes
UlmSBon4	808, 809	163	35	1	210	205	-5	-2.5%	+/- 100 vph	Yes	0.4	Yes
UlmSBon5	809, 810	228	35	1	210	205	-5	-2.5%	+/- 100 vph	Yes	0.4	Yes
UlmSBon6	810, 404	1030	50	1	210	205	-6	-2.6%	+/- 100 vph	Yes	0.4	Yes
UlmSBMLK1	803, 804	201	35	1	216	207	-9	-4.3%	+/- 100 vph	Yes	0.6	Yes
UlmSBMLK2	804, 805	361	50	1	216	206	-10	-4.4%	+/- 100 vph	Yes	0.7	Yes
UlmSBMLK3	805, 806	499	50	1	216	206	-10	-4.5%	+/- 100 vph	Yes	0.7	Yes
UlmSBMLK4	806, 807	1171	50	2	626	611	-15	-2.4%	+/- 100 vph	Yes	0.6	Yes
MLKNBon2	850, 851	1080	50	1	280	281	1	0.4%	+/- 100 vph	Yes	0.1	Yes
MLKNBon3	851, 852	350	50	1	280	281	1	0.4%	+/- 100 vph	Yes	0.1	Yes
MLKNBon4	852, 853	370	50	1	280	281	1	0.2%	+/- 100 vph	Yes	0.0	Yes
MLKNBon5	853, 320	885	50	1	280	280	0	0.1%	+/- 100 vph	Yes	0.0	Yes
MLKSBoff3	7015, 839	294	50	1	410	407	-3	-0.8%	+/- 100 vph	Yes	0.2	Yes
MLKSBoff4	839, 840	336	50	1	410	407	-4	-0.9%	+/- 100 vph	Yes	0.2	Yes
MLKSBoff5	840, 841	395	50	1	410	406	-4	-1.0%	+/- 100 vph	Yes	0.2	Yes
MLKSBoff6	841, 806	539	50	1	410	406	-4	-1.0%	+/- 100 vph	Yes	0.2	Yes
4thNBon2	900, 901	1270	60	2	859	859	0	0.0%	+/- 15%	Yes	0.0	Yes
4thNBon3	901, 902	634	60	2	859	859	0	0.0%	+/- 15%	Yes	0.0	Yes
4thNBon4	902, 903	322	60	2	859	859	0	0.0%	+/- 15%	Yes	0.0	Yes
4thNBon5	903, 904	279	60	2	859	858	-1	-0.1%	+/- 15%	Yes	0.0	Yes
4thNBon6	904, 905	388	60	2	859	858	-1	-0.1%	+/- 15%	Yes	0.0	Yes
4thNBon7	905, 906	313	60	1	859	858	-1	-0.1%	+/- 15%	Yes	0.0	Yes
4thNBon8	906, 907	300	60	1	859	858	-1	-0.1%	+/- 15%	Yes	0.0	Yes
4thNBon9	907, 323	684	60	1	859	857	-2	-0.2%	+/- 15%	Yes	0.1	Yes
4thSBoff1	401, 920	467	60	1	337	331	-6	-1.7%	+/- 100 vph	Yes	0.3	Yes
4thSBoff2	920, 921	492	60	1	337	331	-6	-1.7%	+/- 100 vph	Yes	0.3	Yes
4thSBoff3	921, 922	420	60	1	337	331	-6	-1.8%	+/- 100 vph	Yes	0.3	Yes
4thSBoff4	922, 923	393	60	1	337	331	-6	-1.9%	+/- 100 vph	Yes	0.3	Yes
4thSBoff5	923, 924	384	60	1	337	330	-7	-2.0%	+/- 100 vph	Yes	0.4	Yes
4thSBoff6	924, 925	354	60	1	337	330	-7	-2.0%	+/- 100 vph	Yes	0.4	Yes
4thSBoff7	925, 926	501	60	1	337	330	-7	-2.0%	+/- 100 vph	Yes	0.4	Yes
4thSBoff8	926, 927	416	60	1	337	330	-7	-2.0%	+/- 100 vph	Yes	0.4	Yes
4thSBoff9	927, 928	1153	60	2	337	330	-7	-2.1%	+/- 100 vph	Yes	0.4	Yes
4thSBoff10	928, 929	1242	60	2	337	330	-7	-2.2%	+/- 100 vph	Yes	0.4	Yes
Total					435846	426832	-9014	-2.1%		100.0%		100.0%

Existing Year (2012) PM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
I275NB2	299, 300	1087	70	3	5080	5079	-1	0.0%	+/- 400 vph	Yes	0.0	Yes
I275NB3	300, 301	805	70	3	5080	5077	-3	-0.1%	+/- 400 vph	Yes	0.0	Yes
I275NB4	301, 302	478	70	3	5080	5075	-5	-0.1%	+/- 400 vph	Yes	0.1	Yes
I275NB5	302, 303	2687	70	3	5080	5068	-12	-0.2%	+/- 400 vph	Yes	0.2	Yes
I275NB6	303, 304	382	70	4	5080	5068	-12	-0.2%	+/- 400 vph	Yes	0.2	Yes
I275NB7	304, 305	1375	70	3	3456	3431	-25	-0.7%	+/- 400 vph	Yes	0.4	Yes
I275NB8	305, 306	1306	70	3	3456	3433	-23	-0.7%	+/- 400 vph	Yes	0.4	Yes
I275NB9	306, 307	591	70	3	3456	3433	-23	-0.7%	+/- 400 vph	Yes	0.4	Yes
I275NB10	307, 308	1065	70	5	4052	4043	-9	-0.2%	+/- 400 vph	Yes	0.1	Yes
I275NB11	308, 309	3035	70	5	4052	4036	-16	-0.4%	+/- 400 vph	Yes	0.2	Yes
I275NB12	309, 310	1095	70	4	4052	4035	-18	-0.4%	+/- 400 vph	Yes	0.3	Yes
I275NB13	310, 311	380	70	4	4052	4033	-19	-0.5%	+/- 400 vph	Yes	0.3	Yes
I275NB14	311, 312	399	70	4	4052	4033	-19	-0.5%	+/- 400 vph	Yes	0.3	Yes
I275NB15	312, 313	368	70	4	4052	4032	-20	-0.5%	+/- 400 vph	Yes	0.3	Yes
I275NB16	313, 314	460	70	4	4052	4031	-22	-0.5%	+/- 400 vph	Yes	0.3	Yes
I275NB17	314, 315	886	70	3	2172	2123	-49	-2.3%	+/- 15%	Yes	1.1	Yes
I275NB18	315, 316	1317	70	3	2172	2121	-52	-2.4%	+/- 15%	Yes	1.1	Yes
I275NB19	316, 317	1361	70	3	2172	2121	-51	-2.4%	+/- 15%	Yes	1.1	Yes
I275NB20	317, 318	1032	70	5	3045	2989	-57	-1.9%	+/- 400 vph	Yes	1.0	Yes
I275NB21	318, 319	1191	70	5	3045	2986	-59	-1.9%	+/- 400 vph	Yes	1.1	Yes
I275NB22	319, 320	3175	70	4	3045	2987	-59	-1.9%	+/- 400 vph	Yes	1.1	Yes
I275NB23	320, 321	1678	70	4	3369	3307	-62	-1.8%	+/- 400 vph	Yes	1.1	Yes
I275NB24	321, 322	1064	70	5	4994	4947	-47	-0.9%	+/- 400 vph	Yes	0.7	Yes
I275NB25	322, 323	1398	70	5	4994	4945	-49	-1.0%	+/- 400 vph	Yes	0.7	Yes
I275NB26	323, 324	817	70	5	5434	5386	-48	-0.9%	+/- 400 vph	Yes	0.6	Yes
I275NB27	324, 325	683	70	5	5434	5385	-50	-0.9%	+/- 400 vph	Yes	0.7	Yes
I275NB28	325, 326	1898	70	4	5434	5378	-56	-1.0%	+/- 400 vph	Yes	0.8	Yes
I275SB2	400, 401	2040	70	4	6314	6316	2	0.0%	+/- 400 vph	Yes	0.0	Yes
I275SB3	401, 402	2745	70	4	5389	5395	6	0.1%	+/- 400 vph	Yes	0.1	Yes
I275SB4	402, 403	825	70	5	5389	5394	5	0.1%	+/- 400 vph	Yes	0.1	Yes
I275SB5	403, 404	4213	70	4	3962	3959	-3	-0.1%	+/- 400 vph	Yes	0.1	Yes
I275SB6	404, 405	972	70	4	4497	4484	-13	-0.3%	+/- 400 vph	Yes	0.2	Yes
I275SB7	405, 406	1472	70	4	4497	4481	-16	-0.4%	+/- 400 vph	Yes	0.2	Yes
I275SB8	406, 407	662	70	4	4497	4484	-14	-0.3%	+/- 400 vph	Yes	0.2	Yes
I275SB9	407, 408	1201	70	3	3161	3085	-76	-2.4%	+/- 400 vph	Yes	1.4	Yes
I275SB10	408, 409	1585	70	3	3161	3083	-78	-2.5%	+/- 400 vph	Yes	1.4	Yes
I275SB11	409, 410	458	70	3	3161	3082	-80	-2.5%	+/- 400 vph	Yes	1.4	Yes
I275SB12	410, 411	631	70	5	4717	4641	-77	-1.6%	+/- 400 vph	Yes	1.1	Yes
I275SB13	411, 412	244	70	5	4717	4640	-78	-1.6%	+/- 400 vph	Yes	1.1	Yes
I275SB14	412, 413	608	70	4	4717	4638	-79	-1.7%	+/- 400 vph	Yes	1.2	Yes
I275SB15	413, 414	492	70	4	5730	5644	-86	-1.5%	+/- 400 vph	Yes	1.1	Yes
I275SB16	414, 415	3870	70	4	5730	5641	-89	-1.6%	+/- 400 vph	Yes	1.2	Yes
I275SB17	415, 416	1086	70	4	5730	5636	-95	-1.6%	+/- 400 vph	Yes	1.3	Yes
I275SB18	416, 417	1385	70	3	4768	4568	-200	-4.2%	+/- 400 vph	Yes	2.9	Yes
I275SB19	417, 418	343	70	3	4768	4568	-201	-4.2%	+/- 400 vph	Yes	2.9	Yes
I275SB20	418, 419	1507	70	3	5472	5235	-237	-4.3%	+/- 400 vph	Yes	3.2	Yes
I275SB21	419, 420	3297	70	3	6260	5977	-283	-4.5%	+/- 400 vph	Yes	3.6	Yes
I275SB22	420, 421	430	70	3	6260	5976	-284	-4.5%	+/- 400 vph	Yes	3.6	Yes
I275SB23	421, 422	403	70	3	6260	5977	-284	-4.5%	+/- 400 vph	Yes	3.6	Yes
I275SB24	422, 423	426	70	3	6260	5977	-283	-4.5%	+/- 400 vph	Yes	3.6	Yes
I275SB25	423, 424	412	70	3	6260	5979	-281	-4.5%	+/- 400 vph	Yes	3.6	Yes
I275SB26	424, 425	734	70	3	6260	5975	-285	-4.6%	+/- 400 vph	Yes	3.6	Yes
GandyEB2	499, 500	841	50	3	2423	2423	0	0.0%	+/- 15%	Yes	0.0	Yes
GandyEB3	500, 501	954	50	4	2423	2424	1	0.0%	+/- 15%	Yes	0.0	Yes
GandyEB4	501, 502	174	50	5	2423	2424	1	0.0%	+/- 15%	Yes	0.0	Yes
GandyEB5	502, 7012	178	50	3	1039	1059	20	1.9%	+/- 15%	Yes	0.6	Yes
GandyEB9	7019, 505	99	50	3	1039	1058	19	1.8%	+/- 15%	Yes	0.6	Yes
GandyEB10	505, 506	119	50	3	1039	1058	19	1.8%	+/- 15%	Yes	0.6	Yes
GandyEB11	506, 507	1167	50	3	1874	1945	71	3.8%	+/- 15%	Yes	1.6	Yes
GandyWB4	7003, 520	181	55	3	2972	2921	-51	-1.7%	+/- 400 vph	Yes	0.9	Yes
GandyWB5	520, 521	291	55	3	2972	2920	-52	-1.7%	+/- 400 vph	Yes	1.0	Yes
GandyWB6	521, 522	590	55	4	2972	2921	-51	-1.7%	+/- 400 vph	Yes	0.9	Yes
GandyWB7	522, 523	1768	55	3	2268	2256	-12	-0.5%	+/- 15%	Yes	0.3	Yes
GandyWB8	523, 524	1179	55	3	3230	3311	81	2.5%	+/- 400 vph	Yes	1.4	Yes
GandyWB9	524, 525	455	55	3	3230	3306	76	2.3%	+/- 400 vph	Yes	1.3	Yes
GdyNBoff1	304, 600	525	50	1	1624	1639	15	0.9%	+/- 15%	Yes	0.4	Yes
GdyNBoff2	600, 601	1220	50	1	1624	1637	13	0.8%	+/- 15%	Yes	0.3	Yes
GdyNBoff3	601, 7001	135	50	2	1624	1636	12	0.8%	+/- 15%	Yes	0.3	Yes
GdyNBoff8	7013, 605	84	50	1	835	889	54	6.5%	+/- 15%	Yes	1.8	Yes
GdyNBoff9	605, 606	107	50	1	835	889	54	6.5%	+/- 15%	Yes	1.8	Yes
GdyNBoff10	606, 506	158	50	1	835	889	54	6.4%	+/- 15%	Yes	1.8	Yes
GdyNBon1	502, 7002	179	50	2	1384	1366	-19	-1.3%	+/- 15%	Yes	0.5	Yes
GdyNBon5	7004, 623	501	50	2	596	614	18	3.0%	+/- 100 vph	Yes	0.7	Yes
GdyNBon6	623, 624	299	50	2	596	614	18	3.1%	+/- 100 vph	Yes	0.7	Yes
GdyNBon7	624, 625	253	50	2	596	614	18	3.0%	+/- 100 vph	Yes	0.7	Yes

Existing Year (2012) PM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
GdyNBon8	625, 626	238	50	2	596	614	18	3.0%	+/- 100 vph	Yes	0.7	Yes
GdyNBon9	626, 627	242	50	2	596	614	18	3.0%	+/- 100 vph	Yes	0.7	Yes
GdyNBon10	627, 628	277	50	2	596	613	17	2.9%	+/- 100 vph	Yes	0.7	Yes
GdyNBon11	628, 629	337	50	2	596	612	16	2.7%	+/- 100 vph	Yes	0.7	Yes
GdyNBon12	629, 630	877	50	2	596	612	16	2.6%	+/- 100 vph	Yes	0.6	Yes
GdyNBon13	630, 307	344	50	2	596	611	15	2.5%	+/- 100 vph	Yes	0.6	Yes
GdySBoff1	416, 660	481	50	2	962	1061	99	10.3%	+/- 15%	Yes	3.1	Yes
GdySBoff2	660, 661	394	50	2	962	1060	98	10.2%	+/- 15%	Yes	3.1	Yes
GdySBoff3	661, 662	1949	50	2	962	1061	99	10.3%	+/- 15%	Yes	3.1	Yes
GdySBoff4	662, 523	424	50	1	962	1062	100	10.3%	+/- 15%	Yes	3.1	Yes
GdySBon2	7005, 621	286	50	1	788	751	-37	-4.6%	+/- 15%	Yes	1.3	Yes
GdySBon3	621, 622	204	50	1	788	751	-37	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBon4	622, 419	319	50	1	788	751	-37	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBonLoop1	522, 640	302	35	1	704	671	-33	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBonLoop2	640, 641	259	35	1	704	671	-33	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBonLoop3	641, 642	227	35	1	704	671	-33	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBonLoop4	642, 643	211	35	1	704	671	-33	-4.7%	+/- 15%	Yes	1.3	Yes
GdySBonLoop5	643, 644	211	35	1	707	671	-36	-5.0%	+/- 15%	Yes	1.4	Yes
GdySBonLoop6	644, 645	207	35	1	704	672	-33	-4.6%	+/- 15%	Yes	1.2	Yes
GdySBonLoop7	645, 418	252	35	1	704	671	-33	-4.7%	+/- 15%	Yes	1.3	Yes
RvEB2	540, 541	1418	60	4	2840	2843	3	0.1%	+/- 400 vph	Yes	0.1	Yes
RvEB3	541, 542	1028	60	3	2840	2842	2	0.1%	+/- 400 vph	Yes	0.0	Yes
RvEB4	542, 7010	513	60	2	1615	1617	2	0.1%	+/- 15%	Yes	0.0	Yes
RvEB9	7006, 546	120	60	2	1573	1574	1	0.1%	+/- 15%	Yes	0.0	Yes
RvEB10	546, 547	165	60	2	1573	1574	1	0.1%	+/- 15%	Yes	0.0	Yes
RvEB11	547, 548	1053	60	2	1759	1758	-1	0.0%	+/- 15%	Yes	0.0	Yes
RvWB2	557, 558	756	60	2	1829	1832	3	0.1%	+/- 15%	Yes	0.1	Yes
RvWB3	558, 559	146	60	2	1829	1831	2	0.1%	+/- 15%	Yes	0.0	Yes
RvWB4	559, 560	151	60	3	1829	1831	2	0.1%	+/- 15%	Yes	0.0	Yes
RvWB5	560, 7017	125	60	2	1674	1684	10	0.6%	+/- 15%	Yes	0.2	Yes
RvWB13	7018, 567	133	60	2	1381	1378	-3	-0.2%	+/- 15%	Yes	0.1	Yes
RvWB14	567, 568	750	60	2	1381	1378	-3	-0.2%	+/- 15%	Yes	0.1	Yes
RvWB15	568, 569	281	60	2	1381	1379	-3	-0.2%	+/- 15%	Yes	0.1	Yes
RvWB16	569, 570	1137	60	4	2347	2349	2	0.1%	+/- 15%	Yes	0.0	Yes
RvNBoff1	314, 7007	228	50	2	1880	1907	27	1.4%	+/- 15%	Yes	0.6	Yes
RvNBoff4	7008, 701	168	50	2	1880	1907	27	1.4%	+/- 15%	Yes	0.6	Yes
RvNBoff5	701, 702	198	50	2	1880	1907	27	1.4%	+/- 15%	Yes	0.6	Yes
RvNBoff6	702, 703	130	50	3	1880	1907	27	1.4%	+/- 15%	Yes	0.6	Yes
RvNBoff7	703, 704	336	50	1	186	185	-1	-0.5%	+/- 100 vph	Yes	0.1	Yes
RvNBoff8	704, 705	200	50	1	186	185	-1	-0.5%	+/- 100 vph	Yes	0.1	Yes
RvNBoff9	705, 706	223	50	1	186	185	-1	-0.5%	+/- 100 vph	Yes	0.1	Yes
RvNBoff10	706, 707	262	50	1	186	185	-1	-0.5%	+/- 100 vph	Yes	0.1	Yes
RvNBoff11	707, 547	264	50	1	186	186	0	-0.2%	+/- 100 vph	Yes	0.0	Yes
RvNBoff20	714, 715	248	50	2	966	970	4	0.4%	+/- 15%	Yes	0.1	Yes
RvNBoff21	715, 716	642	50	2	966	970	4	0.4%	+/- 15%	Yes	0.1	Yes
RvNBoff22	716, 569	670	50	2	966	969	3	0.3%	+/- 15%	Yes	0.1	Yes
RvNBon3	560, 757	296	50	1	155	147	-8	-5.2%	+/- 100 vph	Yes	0.7	Yes
RvNBon4	757, 7016	127	50	1	155	147	-8	-5.2%	+/- 100 vph	Yes	0.7	Yes
RvNBon9	7030, 756	261	50	2	873	870	-3	-0.3%	+/- 15%	Yes	0.1	Yes
RvNBon10	756, 317	444	50	2	873	869	-4	-0.4%	+/- 15%	Yes	0.1	Yes
RvSBoff1	407, 770	223	50	2	1336	1395	59	4.4%	+/- 15%	Yes	1.6	Yes
RvSBoff2	770, 7032	150	50	2	1336	1395	59	4.4%	+/- 15%	Yes	1.6	Yes
RvSBon4	7023, 793	102	50	3	1556	1561	5	0.3%	+/- 15%	Yes	0.1	Yes
RvSBon5	793, 410	655	50	3	1556	1561	5	0.3%	+/- 15%	Yes	0.1	Yes
RvSBon10	542, 790	270	50	2	1225	1223	-2	-0.2%	+/- 15%	Yes	0.1	Yes
RvSBon11	790, 7011	250	50	2	1225	1222	-3	-0.3%	+/- 15%	Yes	0.1	Yes
118NBoff1	703, 708	311	50	2	1694	1722	28	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff2	708, 710	567	50	2	1694	1722	28	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff3	710, 711	460	50	2	1694	1722	28	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff4	711, 712	472	50	3	1694	1723	29	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff5	712, 713	395	50	3	1694	1723	29	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff6	713, 714	188	50	4	1694	1722	28	1.7%	+/- 15%	Yes	0.7	Yes
118NBoff7	714, 717	212	50	2	728	752	24	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff8	717, 718	389	50	2	728	753	25	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff9	718, 719	373	50	2	728	753	25	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff10	719, 720	589	50	2	728	753	25	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff11	720, 721	311	50	2	728	753	25	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff12	721, 722	381	50	2	728	753	25	3.4%	+/- 15%	Yes	0.9	Yes
118NBoff13	722, 723	562	50	2	728	752	24	3.3%	+/- 15%	Yes	0.9	Yes
118NBoff14	723, 724	1252	60	3	1973	2055	82	4.1%	+/- 15%	Yes	1.8	Yes
118NBoff15	724, 725	575	60	3	1973	2054	81	4.1%	+/- 15%	Yes	1.8	Yes
118NBon2	740, 741	611	60	2	1636	1632	-4	-0.2%	+/- 15%	Yes	0.1	Yes
118NBon3	741, 742	1107	60	2	1636	1632	-4	-0.2%	+/- 15%	Yes	0.1	Yes
118NBon4	742, 749	758	50	2	623	626	3	0.4%	+/- 100 vph	Yes	0.1	Yes
118NBon5	749, 750	1140	50	2	623	625	2	0.3%	+/- 100 vph	Yes	0.1	Yes

Existing Year (2012) PM Peak Hour CORSIM Volume Calibration Results

Link Name	Link ID No.	Length (ft)	FFS (mph)	No. Full Lanes	Demand Volume (vph)	Modeled Volume (vph)	Difference (vph)	Percent Difference	FHWA TAT III Measure	Standard Met?	GEH Statistic	Standard Met?
118NBon6	750, 751	304	50	1	623	626	3	0.5%	+/- 100 vph	Yes	0.1	Yes
118NBon7	751, 752	341	50	1	623	626	3	0.5%	+/- 100 vph	Yes	0.1	Yes
118NBon8	752, 753	406	50	1	623	626	3	0.4%	+/- 100 vph	Yes	0.1	Yes
118NBon9	753, 754	250	50	1	623	627	4	0.6%	+/- 100 vph	Yes	0.1	Yes
118NBon10	754, 7009	349	50	1	623	627	4	0.6%	+/- 100 vph	Yes	0.2	Yes
118SBoff2	7034, 775	147	50	1	1245	1303	58	4.7%	+/- 15%	Yes	1.6	Yes
118SBoff3	775, 776	934	50	1	1245	1303	58	4.7%	+/- 15%	Yes	1.6	Yes
118SBoff4	776, 777	371	50	1	1245	1303	58	4.6%	+/- 15%	Yes	1.6	Yes
118SBoff5	777, 778	446	50	1	1245	1302	57	4.6%	+/- 15%	Yes	1.6	Yes
118SBoff6	778, 723	1329	50	1	1245	1304	59	4.7%	+/- 15%	Yes	1.6	Yes
118SBon1	742, 743	227	50	1	1013	1007	-6	-0.6%	+/- 15%	Yes	0.2	Yes
118SBon2	743, 744	418	50	1	1013	1007	-6	-0.6%	+/- 15%	Yes	0.2	Yes
118SBon3	744, 745	223	50	1	1013	1008	-5	-0.5%	+/- 15%	Yes	0.2	Yes
118SBon4	745, 746	201	50	1	1013	1008	-6	-0.5%	+/- 15%	Yes	0.2	Yes
118SBon5	746, 747	200	50	1	1013	1007	-6	-0.6%	+/- 15%	Yes	0.2	Yes
118SBon6	747, 748	166	50	1	1013	1007	-6	-0.6%	+/- 15%	Yes	0.2	Yes
118SBon7	748, 413	973	50	1	1013	1007	-6	-0.6%	+/- 15%	Yes	0.2	Yes
UlmNBon2	800, 801	2420	60	3	2376	2379	3	0.1%	+/- 15%	Yes	0.1	Yes
UlmNBon3	801, 811	647	50	2	1625	1652	27	1.6%	+/- 15%	Yes	0.7	Yes
UlmNBon4	811, 812	590	50	2	1625	1650	25	1.5%	+/- 15%	Yes	0.6	Yes
UlmNBon5	812, 813	323	50	2	1625	1650	25	1.5%	+/- 15%	Yes	0.6	Yes
UlmNBon6	813, 814	328	50	2	1625	1649	24	1.5%	+/- 15%	Yes	0.6	Yes
UlmNBon7	814, 815	288	50	2	1625	1648	23	1.4%	+/- 15%	Yes	0.6	Yes
UlmNBon8	815, 816	273	50	2	1625	1647	22	1.4%	+/- 15%	Yes	0.6	Yes
UlmNBon9	816, 321	1098	50	2	1625	1645	20	1.2%	+/- 15%	Yes	0.5	Yes
UlmSBoff1	403, 830	573	50	2	1427	1432	5	0.4%	+/- 15%	Yes	0.1	Yes
UlmSBoff2	830, 831	346	50	2	1427	1431	4	0.3%	+/- 15%	Yes	0.1	Yes
UlmSBoff3	831, 7036	283	50	2	1427	1431	4	0.3%	+/- 15%	Yes	0.1	Yes
UlmSBoff7	7014, 834	398	50	2	1183	1188	5	0.4%	+/- 15%	Yes	0.1	Yes
UlmSBoff8	834, 835	584	60	2	1183	1187	4	0.3%	+/- 15%	Yes	0.1	Yes
UlmSBoff9	835, 836	481	60	2	1183	1187	4	0.3%	+/- 15%	Yes	0.1	Yes
UlmSBoff10	836, 837	2160	60	2	1183	1188	5	0.4%	+/- 15%	Yes	0.1	Yes
UlmSBon1	801, 802	493	35	1	751	726	-25	-3.4%	+/- 15%	Yes	0.9	Yes
UlmSBon2	802, 803	214	35	1	751	726	-25	-3.4%	+/- 15%	Yes	0.9	Yes
UlmSBon3	803, 808	163	35	1	535	529	-6	-1.2%	+/- 100 vph	Yes	0.3	Yes
UlmSBon4	808, 809	163	35	1	535	529	-6	-1.2%	+/- 100 vph	Yes	0.3	Yes
UlmSBon5	809, 810	228	35	1	535	529	-6	-1.2%	+/- 100 vph	Yes	0.3	Yes
UlmSBon6	810, 404	1030	50	1	535	529	-6	-1.2%	+/- 100 vph	Yes	0.3	Yes
UlmSBMLK1	803, 804	201	35	1	216	197	-19	-9.0%	+/- 100 vph	Yes	1.4	Yes
UlmSBMLK2	804, 805	361	50	1	216	196	-20	-9.1%	+/- 100 vph	Yes	1.4	Yes
UlmSBMLK3	805, 806	499	50	1	216	196	-20	-9.2%	+/- 100 vph	Yes	1.4	Yes
UlmSBMLK4	806, 807	1171	50	2	460	438	-22	-4.7%	+/- 100 vph	Yes	1.0	Yes
MLKNBon2	850, 851	1080	50	1	324	324	0	0.1%	+/- 100 vph	Yes	0.0	Yes
MLKNBon3	851, 852	350	50	1	324	324	0	0.0%	+/- 100 vph	Yes	0.0	Yes
MLKNBon4	852, 853	370	50	1	324	324	0	-0.1%	+/- 100 vph	Yes	0.0	Yes
MLKNBon5	853, 320	885	50	1	324	324	-1	-0.2%	+/- 100 vph	Yes	0.0	Yes
MLKSBoff3	7015, 839	294	50	1	244	242	-2	-0.7%	+/- 100 vph	Yes	0.1	Yes
MLKSBoff4	839, 840	336	50	1	244	243	-2	-0.6%	+/- 100 vph	Yes	0.1	Yes
MLKSBoff5	840, 841	395	50	1	244	243	-1	-0.6%	+/- 100 vph	Yes	0.1	Yes
MLKSBoff6	841, 806	539	50	1	244	242	-2	-0.7%	+/- 100 vph	Yes	0.1	Yes
4thNBon2	900, 901	1270	60	2	440	440	0	0.1%	+/- 100 vph	Yes	0.0	Yes
4thNBon3	901, 902	634	60	2	440	441	1	0.3%	+/- 100 vph	Yes	0.1	Yes
4thNBon4	902, 903	322	60	2	440	441	1	0.2%	+/- 100 vph	Yes	0.0	Yes
4thNBon5	903, 904	279	60	2	440	441	1	0.2%	+/- 100 vph	Yes	0.0	Yes
4thNBon6	904, 905	388	60	2	440	441	1	0.1%	+/- 100 vph	Yes	0.0	Yes
4thNBon7	905, 906	313	60	1	440	440	0	0.0%	+/- 100 vph	Yes	0.0	Yes
4thNBon8	906, 907	300	60	1	440	441	1	0.1%	+/- 100 vph	Yes	0.0	Yes
4thNBon9	907, 323	684	60	1	440	441	1	0.3%	+/- 100 vph	Yes	0.1	Yes
4thSBoff1	401, 920	467	60	1	925	915	-10	-1.1%	+/- 15%	Yes	0.3	Yes
4thSBoff2	920, 921	492	60	1	925	914	-11	-1.2%	+/- 15%	Yes	0.4	Yes
4thSBoff3	921, 922	420	60	1	925	914	-11	-1.2%	+/- 15%	Yes	0.4	Yes
4thSBoff4	922, 923	393	60	1	925	914	-11	-1.2%	+/- 15%	Yes	0.4	Yes
4thSBoff5	923, 924	384	60	1	925	913	-12	-1.3%	+/- 15%	Yes	0.4	Yes
4thSBoff6	924, 925	354	60	1	925	913	-12	-1.3%	+/- 15%	Yes	0.4	Yes
4thSBoff7	925, 926	501	60	1	925	912	-13	-1.4%	+/- 15%	Yes	0.4	Yes
4thSBoff8	926, 927	416	60	1	925	913	-13	-1.4%	+/- 15%	Yes	0.4	Yes
4thSBoff9	927, 928	1153	60	2	925	913	-12	-1.3%	+/- 15%	Yes	0.4	Yes
4thSBoff10	928, 929	1242	60	2	925	912	-13	-1.4%	+/- 15%	Yes	0.4	Yes
Total					422751	420217	-2534	-0.6%		100.0%		100.0%

Attachment D
Travel Time Calibration Results

Gandy to Roosevelt NB (AM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
307	308	1065	1065	11.28	11.28
308	309	3035	4100	31.43	42.71
309	310	1095	5195	11.39	54.10
310	311	380	5575	4.10	58.20
311	312	399	5974	4.47	62.67
312	313	368	6342	4.30	66.97
313	314	460	6802	5.63	72.60

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.32	6970	1.20	72.00

Percent Difference

-6.98%

Gandy to Roosevelt NB (PM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
307	308	1065	1065	11.08	11.08
308	309	3035	4100	30.86	41.94
309	310	1095	5195	11.15	53.09
310	311	380	5575	3.93	57.01
311	312	399	5974	4.18	61.19
312	313	368	6342	3.86	65.06
313	314	460	6802	5.05	70.10

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.29	6811	1.15	69.00

Percent Difference

1.60%

Gandy to Roosevelt SB (AM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
410	411	631	631	6.79	6.79
411	412	244	875	2.52	9.31
412	413	608	1483	6.16	15.47
413	414	492	1975	5.38	20.86
414	415	3870	5845	39.46	60.32
415	416	1086	6931	11.46	71.77

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.32	6970	1.23	73.80

Percent Difference

-2.75%

Gandy to Roosevelt SB (PM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
410	411	631	631	6.96	6.96
411	412	244	875	2.60	9.56
412	413	608	1483	6.34	15.90
413	414	492	1975	5.69	21.59
414	415	3870	5845	40.77	62.36
415	416	1086	6931	12.25	74.61

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.30	6864	2.53	151.80

Percent Difference

-50.85%

Roosevelt to 4th NB (AM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
317	318	1032	1032	10.78	10.78
318	319	1191	2223	12.07	22.85
319	320	3175	5398	32.12	54.97
320	321	1678	7076	17.16	72.13
321	322	1064	8140	11.30	83.43
322	323	1398	9538	14.21	97.64

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.76	9293	1.58	94.98

Percent Difference

2.80%

Roosevelt to 4th NB (PM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
317	318	1032	1032	10.86	10.86
318	319	1191	2223	12.02	22.87
319	320	3175	5398	31.91	54.79
320	321	1678	7076	17.11	71.90
321	322	1064	8140	11.70	83.59
322	323	1398	9538	14.29	97.88

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.76	9293	1.53	91.80

Percent Difference

6.63%

Roosevelt to 4th SB (AM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
402	403	825	825	9.74	9.74
403	404	4213	5038	42.16	51.90
404	405	972	6010	9.83	61.73
405	406	1472	7482	14.84	76.57
406	407	662	8144	6.99	83.55
407	408	1201	9345	12.08	95.63

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.76	9293	1.583	94.98

Percent Difference

0.69%

Roosevelt to 4th SB (PM)

CORSIM Simulated Travel Times

Begin Node	End Node	Distance (ft)	Cumulative Distance (ft)	Travel Time (s/veh)	Cumulative Travel Time (s/veh)
		0	0	0	0
402	403	825	825	9.00	9.00
403	404	4213	5038	42.73	51.72
404	405	972	6010	10.11	61.83
405	406	1472	7482	15.37	77.20
406	407	662	8144	7.35	84.55
407	408	1201	9345	12.38	96.93

Field-Measured Average Travel Times

Distance (mi)	Distance (ft)	Travel Time (min/veh)	Cumulative Travel Time (s/veh)
0	0	0	0
1.76	9293	1.58	94.98

Percent Difference

2.05%

Appendix H.
Existing Year (2012) Traffic Operational Analysis Output

Appendix H.
Existing Year (2012) Traffic Operational Analysis Output

Existing Year (2012) HCS 2010 Output
I-275 Mainline

BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2207*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1203*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3010*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1094*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3928*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1427*	pc/h/ln
S	*69.4*	mph
D = v_p / S	*20.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*10/3/2014 1:13:48 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3560*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1294*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4222*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1151*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4632*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1010*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4291*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1559*	pc/h/ln
S	*68.5*	mph
D = v_p / S	*22.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4653*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1691*	pc/h/ln
S	*67.2*	mph
D = v_p / S	*25.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3847*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2097*	pc/h/ln
S	*60.7*	mph
D = v_p / S	*34.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4713*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1285*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4369*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1588*	pc/h/ln
S	*68.3*	mph
D = v_p / S	*23.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4959*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1352*	pc/h/ln
S	*69.7*	mph
D = v_p / S	*19.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6140*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1673*	pc/h/ln
S	*67.4*	mph
D = v_p / S	*24.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5599*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2035*	pc/h/ln
S	*61.9*	mph
D = v_p / S	*32.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6610*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2402*	pc/h/ln
S	*53.2*	mph
D = v_p / S	*45.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
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Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6061*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2203*	pc/h/ln
S	*58.3*	mph
D = v_p / S	*37.8*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7035*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1917*	pc/h/ln
S	*64.0*	mph
D = v_p / S	*29.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6722*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1832*	pc/h/ln
S	*65.4*	mph
D = v_p / S	*28.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6218*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2260*	pc/h/ln
S	*57.0*	mph
D = v_p / S	*39.7*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*2/19/2015 3:33:08 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6881*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2451*	pc/h/ln
S	*51.8*	mph
D = v_p / S	*47.3*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4706*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1710*	pc/h/ln
S	*67.0*	mph
D = v_p / S	*25.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5154*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1405*	pc/h/ln
S	*69.5*	mph
D = v_p / S	*20.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5764*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1571*	pc/h/ln
S	*68.4*	mph
D = v_p / S	*23.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5401*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1963*	pc/h/ln
S	*63.2*	mph
D = v_p / S	*31.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6259*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2275*	pc/h/ln
S	*56.6*	mph
D = v_p / S	*40.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5641*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2050*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6352*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1731*	pc/h/ln
S	*66.7*	mph
D = v_p / S	*25.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5248*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1430*	pc/h/ln
S	*69.4*	mph
D = v_p / S	*20.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3970*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1443*	pc/h/ln
S	*69.3*	mph
D = v_p / S	*20.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4179*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1519*	pc/h/ln
S	*68.8*	mph
D = v_p / S	*22.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2877*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1568*	pc/h/ln
S	*68.4*	mph
D = v_p / S	*22.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3084*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1121*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2758*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1002*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2992*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*815*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2157*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*784*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2384*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*866*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*12.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:13:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*785*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1221*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*666*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*9.5*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1845*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*670*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*9.6*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*54thAveS On to 26thAveS Off*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2285*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*830*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2047*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*744*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*10.6*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2597*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*708*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*10.1*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3011*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*657*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*9.4*	pc/mi/ln
LOS	*A*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2707*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*984*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3011*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1094*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2679*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1460*	pc/h/ln
S	*69.2*	mph
D = v_p / S	*21.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4005*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1092*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3751*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1363*	pc/h/ln
S	*69.7*	mph
D = v_p / S	*19.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4938*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1346*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*5thAveN On to 22ndAveN Off*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6142*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1674*	pc/h/ln
S	*67.4*	mph
D = v_p / S	*24.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5416*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1968*	pc/h/ln
S	*63.2*	mph
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6074*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2207*	pc/h/ln
S	*58.2*	mph
D = v_p / S	*37.9*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5399*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1962*	pc/h/ln
S	*63.3*	mph
D = v_p / S	*31.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5870*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1600*	pc/h/ln
S	*68.1*	mph
D = v_p / S	*23.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5259*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1433*	pc/h/ln
S	*69.4*	mph
D = v_p / S	*20.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4673*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1698*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1846*	pc/h/ln
S	*65.2*	mph
D = v_p / S	*28.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5638*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2049*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6008*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1638*	pc/h/ln
S	*67.8*	mph
D = v_p / S	*24.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*54thAveN On EB to 38thAveN Off*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6506*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1773*	pc/h/ln
S	*66.2*	mph
D = v_p / S	*26.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*38thAveN Off to On*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5558*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2020*	pc/h/ln
S	*62.2*	mph
D = v_p / S	*32.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6118*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2223*	pc/h/ln
S	*57.9*	mph
D = v_p / S	*38.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5165*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1877*	pc/h/ln
S	*64.7*	mph
D = v_p / S	*29.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5817*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1585*	pc/h/ln
S	*68.3*	mph
D = v_p / S	*23.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4641*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1265*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*18.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3827*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1391*	pc/h/ln
S	*69.6*	mph
D = v_p / S	*20.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4153*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1509*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3233*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1762*	pc/h/ln
S	*66.3*	mph
D = v_p / S	*26.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4003*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1455*	pc/h/ln
S	*69.2*	mph
D = v_p / S	*21.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3677*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1336*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4069*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1109*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.8*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*22ndAveS Off to 26thAveS On*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3204*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1164*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*26thAveS On to 54thAveS Off*
Date Performed	*10/3/2014 1:30:14 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3478*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1264*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*18.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:30:14 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2012 Existing*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1868*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*3*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.985*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1018*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Existing Year (2012) HCS 2010 Output
I-275 Ramps

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2207	
	Ramp Volume, V_R: 803	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2207	0.95	Level	3	0	0.985	0.98	2406
Ramp	803	0.95	Level	3	0	0.985	0.98	875
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2406 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3281	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3569	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 11.9 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.159 (Exibit 13-11)

S_R = 65.5 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 65.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3010	
	Ramp Volume, V_R: 918	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3010	0.95	Level	3	0	0.985	0.98	3282
Ramp	918	0.95	Level	3	0	0.985	0.98	1001
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 1931 pc/h

V_3 or V_{av34} = 1351 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1931 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4283	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2932	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.355 (Exibit 13-11)

S_R = 60.1 mph (Exhibit 13-11)

S_0 = 66.9 mph (Exhibit 13-11)

S = 62.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 5385 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 918 veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 3928	
	Ramp Volume, V_R: 368	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3928	0.95	Level	3	0	0.985	0.98	4282
Ramp	368	0.95	Level	3	0	0.985	0.98	401
UpStream	918	0.95	Level	3	0	0.985	0.98	1001
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7200.92 (Equation 13-12 or 13-13)

P_{FD} = 0.662 using Equation (Exhibit 13-7)

V_{12} = 2971 pc/h

V_3 or V_{av34} 1311 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4282	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3881	Exhibit 13-8	7200	No
V_R	401	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2971	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.0 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.269 (Exhibit 13-12)

S_R= 62.5 mph (Exhibit 13-12)

S_0= 75.6 mph (Exhibit 13-12)

S = 66.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 368 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3560	
	Ramp Volume, V_R: 662	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3560	0.95	Level	3	0	0.985	0.98	3881
Ramp	662	0.95	Level	3	0	0.985	0.98	722
UpStream	368	0.95	Level	3	0	0.985	0.98	401
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 779.54 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 2331 pc/h

V_3 or V_{av34} 1550 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2331 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4603	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3053	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 23.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.346 (Exibit 13-11)

S_R = 60.3 mph (Exhibit 13-11)

S_0 = 66.2 mph (Exhibit 13-11)

S = 62.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4222	
	Ramp Volume, V_R: 410	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4222	0.95	Level	3	0	0.985	0.98	4603
Ramp	410	0.95	Level	3	0	0.985	0.98	447
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.162 using Equation (Exhibit 13-6)

V_{12} = 745 pc/h

V_3 or V_{av34} = 1929 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1841 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5050	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2288	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 13.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.209 (Exibit 13-11)

S_R = 64.1 mph (Exhibit 13-11)

S_0 = 66.8 mph (Exhibit 13-11)

S = 65.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/6/2015 12:51:52 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1825 ft
V_u = 410 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	700
Freeway Volume, V_F	4632
Ramp Volume, V_R	341
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4632	0.95	Level	3	0	0.985	0.98	5050
Ramp	341	0.95	Level	3	0	0.985	0.98	372
UpStream	410	0.95	Level	3	0	0.985	0.98	447
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2477 pc/h
V_3 or V_{av34} 2573 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2885 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5050	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4678	Exhibit 13-8	7200	No
V_R	372	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2477	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 4.2 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.266 (Exhibit 13-12)
S_R= 62.5 mph (Exhibit 13-12)
S_0= 72.8 mph (Exhibit 13-12)
S = 66.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 806 veh/h
	Freeway Volume, V_F: 4291	
	Ramp Volume, V_R: 362	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4291	0.95	Level	3	0	0.985	0.98	4678
Ramp	362	0.95	Level	3	0	0.985	0.98	395
UpStream								
DownStream	806	0.95	Level	3	0	0.985	0.98	879

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5234.79 (Equation 13-6 or 13-7)

P_{FM} = 0.661 using Equation (Exhibit 13-6)

V_{12} = 3090 pc/h

V_3 or V_{av34} 1588 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3090 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5073	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3485	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.394 (Exibit 13-11)

S_R = 59.0 mph (Exhibit 13-11)

S_0 = 66.1 mph (Exhibit 13-11)

S = 61.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4653
Ramp Volume, V_R	806
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4653	0.95	Level	3	0	0.985	0.98	5073
Ramp	806	0.95	Level	3	0	0.985	0.98	879
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 5073 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5073	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	4194	Exhibit 13-8	4800	No
V_R	879	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5073	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 20.9 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.312 (Exhibit 13-12)
S_R = 61.3 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 61.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	3847	V_D =	veh/h
		Ramp Volume, V_R	866		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3847	0.95	Level	3	0	0.985	0.98	4194
Ramp	866	0.95	Level	3	0	0.985	0.98	944
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4194 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5138	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5641	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.270 (Exibit 13-11)

S_R = 34.4 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 34.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 650 ft
V_u = 866 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	4713
Ramp Volume, V_R	344
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4713	0.95	Level	3	0	0.985	0.98	5138
Ramp	344	0.95	Level	3	0	0.985	0.98	375
UpStream	866	0.95	Level	3	0	0.985	0.98	944
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5875.25 (Equation 13-12 or 13-13)
P_{FD} = 0.614 using Equation (Exhibit 13-7)
V_{12} = 3301 pc/h
V_3 or V_{av34} 1837 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5138	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4763	Exhibit 13-8	7200	No
V_R	375	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3301	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 26.6 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.267 (Exhibit 13-12)
S_R= 62.5 mph (Exhibit 13-12)
S_0= 73.5 mph (Exhibit 13-12)
S = 66.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 344 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4369	
	Ramp Volume, V_R: 590	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4369	0.95	Level	3	0	0.985	0.98	4763
Ramp	590	0.95	Level	3	0	0.985	0.98	643
UpStream	344	0.95	Level	3	0	0.985	0.98	375
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 2643 pc/h

V_3 or V_{av34} 2120 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2721 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5406	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3364	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 3.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = -0.016 (Exibit 13-11)

S_R= 70.5 mph (Exhibit 13-11)

S_0= 64.4 mph (Exhibit 13-11)

S = 68.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4959	
	Ramp Volume, V_R: 1181	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4959	0.95	Level	3	0	0.985	0.98	5406
Ramp	1181	0.95	Level	3	0	0.985	0.98	1288
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.057 using Equation (Exhibit 13-6)

V_{12} = 307 pc/h

V_3 or V_{av34} = 2549 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2162 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6694	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3450	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.366 (Exibit 13-11)

S_R = 59.8 mph (Exhibit 13-11)

S_0 = 66.0 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2785 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1181 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6140	
	Ramp Volume, V_R: 541	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6140	0.95	Level	3	0	0.985	0.98	6694
Ramp	541	0.95	Level	3	0	0.985	0.98	590
UpStream	1181	0.95	Level	3	0	0.985	0.98	1288
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7150.71 (Equation 13-12 or 13-13)

P_{FD} = 0.566 using Equation (Exhibit 13-7)

V_{12} = 4042 pc/h

V_3 or V_{av34} 2652 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6694	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6104	Exhibit 13-8	7200	No
V_R	590	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4042	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.286 (Exhibit 13-12)

S_R= 62.0 mph (Exhibit 13-12)

S_0= 70.3 mph (Exhibit 13-12)

S = 65.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 665	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 549 veh/h
	Freeway Volume, V_F: 5599	
	Ramp Volume, V_R: 1011	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5599	0.95	Level	3	0	0.985	0.98	6104
Ramp	1011	0.95	Level	3	0	0.985	0.98	1102
UpStream								
DownStream	549	0.95	Level	3	0	0.985	0.98	599

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3313.88 (Equation 13-6 or 13-7)

P_{FM} = 0.616 using Equation (Exhibit 13-6)

V_{12} = 3763 pc/h

V_3 or V_{av34} 2341 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3763 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7206	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4865	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 38.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.760 (Exibit 13-11)

S_R = 48.7 mph (Exhibit 13-11)

S_0 = 63.2 mph (Exhibit 13-11)

S = 52.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	170	L_{down} =	ft
V_u =	1011 veh/h	Freeway Volume, V_F	6610	V_D =	veh/h
		Ramp Volume, V_R	549		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6610	0.95	Level	3	0	0.985	0.98	7206
Ramp	549	0.95	Level	3	0	0.985	0.98	599
UpStream	1011	0.95	Level	3	0	0.985	0.98	1102
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5763.18 (Equation 13-12 or 13-13)

P_{FD} = 0.552 using Equation (Exhibit 13-7)

V_{12} = 4248 pc/h

V_3 or V_{av34} 2958 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4506 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7206	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6607	Exhibit 13-8	7200	No
V_R	599	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4248	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 41.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.287 (Exhibit 13-12)

S_R= 62.0 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 635	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6061	
	Ramp Volume, V_R: 974	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6061	0.95	Level	3	0	0.985	0.98	6608
Ramp	974	0.95	Level	3	0	0.985	0.98	1062
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.595 using Equation (Exhibit 13-6)

V_{12} = 3934 pc/h

V_3 or V_{av34} = 2674 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3934 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7670	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4996	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 40.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.834 (Exibit 13-11)

S_R = 46.6 mph (Exhibit 13-11)

S_0 = 61.2 mph (Exhibit 13-11)

S = 50.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2470 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 974 veh/h	Deceleration Lane Length L_D: 810	V_D = veh/h
	Freeway Volume, V_F: 7035	
	Ramp Volume, V_R: 313	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7035	0.95	Level	3	0	0.985	0.98	7670
Ramp	313	0.95	Level	3	0	0.985	0.98	341
UpStream	974	0.95	Level	3	0	0.985	0.98	1062
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3536 pc/h

V_3 or V_{av34} 2067 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7670	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	7329	Exhibit 13-8	9600	No
V_R	341	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3536	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 27.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.264 (Exhibit 13-12)

S_R= 62.6 mph (Exhibit 13-12)

S_0= 72.6 mph (Exhibit 13-12)

S = 67.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6722	
	Ramp Volume, V_R: 504	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6722	0.95	Level	3	0	0.985	0.98	7328
Ramp	504	0.95	Level	3	0	0.985	0.98	549
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.552 using Equation (Exhibit 13-7)

V_{12} = 4288 pc/h

V_3 or V_{av34} 3040 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = 4628 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7328	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6779	Exhibit 13-8	7200	No
V_R	549	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4288	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 30.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.477 (Exhibit 13-12)

S_R= 56.6 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 61.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1546 veh/h
	Freeway Volume, V_F: 6218	
	Ramp Volume, V_R: 663	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6218	0.95	Level	3	0	0.985	0.98	6779
Ramp	663	0.95	Level	3	0	0.985	0.98	723
UpStream								
DownStream	1546	0.95	Level	3	0	0.985	0.98	1685

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 9846.60 (Equation 13-6 or 13-7)

P_{FM} = 0.603 using Equation (Exhibit 13-6)

V_{12} = 4086 pc/h

V_3 or V_{av34} 2693 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4086 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7502	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4809	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 39.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.742 (Exibit 13-11)

S_R = 49.2 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 52.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 1221	
	Ramp Volume, V_R: 624	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1221	0.95	Level	3	0	0.985	0.98	1331
Ramp	624	0.95	Level	3	0	0.985	0.98	680
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1331 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2011	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2170	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 2.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.055 (Exibit 13-11)

S_R = 68.5 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 68.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 1845	
	Ramp Volume, V_R: 440	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1845	0.95	Level	3	0	0.985	0.98	2011
Ramp	440	0.95	Level	3	0	0.985	0.98	480
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 1183 pc/h

V_3 or V_{av34} = 828 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1183 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2491	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1663	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 15.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.303 (Exibit 13-11)

S_R = 61.5 mph (Exhibit 13-11)

S_0 = 68.8 mph (Exhibit 13-11)

S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 2285	
	Ramp Volume, V_R: 238	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2285	0.95	Level	3	0	0.985	0.98	2491
Ramp	238	0.95	Level	3	0	0.985	0.98	259
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.686 using Equation (Exhibit 13-7)

V_{12} = 1790 pc/h

V_3 or V_{av34} 701 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2491	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2232	Exhibit 13-8	7200	No
V_R	259	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1790	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 17.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.256 (Exhibit 13-12)

S_R = 62.8 mph (Exhibit 13-12)

S_0 = 76.8 mph (Exhibit 13-12)

S = 66.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 238 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2047	
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2047	0.95	Level	3	0	0.985	0.98	2232
Ramp	550	0.95	Level	3	0	0.985	0.98	600
UpStream	238	0.95	Level	3	0	0.985	0.98	259
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 400.55 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 1341 pc/h

V_3 or V_{av34} 891 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1341 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2832	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1941	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R = 61.9 mph (Exhibit 13-11)

S_0 = 68.6 mph (Exhibit 13-11)

S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2597	
	Ramp Volume, V_R: 414	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2597	0.95	Level	3	0	0.985	0.98	2831
Ramp	414	0.95	Level	3	0	0.985	0.98	451
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.496 using Equation (Exhibit 13-6)

V_{12} = 1404 pc/h

V_3 or V_{av34} = 713 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1404 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3282	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1855	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 10.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.196 (Exibit 13-11)

S_R = 64.5 mph (Exhibit 13-11)

S_0 = 69.2 mph (Exhibit 13-11)

S = 66.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	414 veh/h	Freeway Volume, V_F	3011	V_D =	veh/h
		Ramp Volume, V_R	304		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3011	0.95	Level	3	0	0.985	0.98	3283
Ramp	304	0.95	Level	3	0	0.985	0.98	331
UpStream	414	0.95	Level	3	0	0.985	0.98	451
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 1659 pc/h

V_3 or V_{av34} 1624 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1876 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3283	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2952	Exhibit 13-8	7200	No
V_R	331	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	1659	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -4.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.263 (Exhibit 13-12)

S_R= 62.6 mph (Exhibit 13-12)

S_0= 75.6 mph (Exhibit 13-12)

S = 67.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2707	
	Ramp Volume, V_R: 304	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2707	0.95	Level	3	0	0.985	0.98	2951
Ramp	304	0.95	Level	3	0	0.985	0.98	331
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.593 using Equation (Exhibit 13-6)

V_{12} = 1749 pc/h

V_3 or V_{av34} = 1202 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1749 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3282	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2080	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 18.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.298 (Exibit 13-11)

S_R = 61.7 mph (Exhibit 13-11)

S_0 = 67.5 mph (Exhibit 13-11)

S = 63.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 3011	
	Ramp Volume, V_R: 332	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3011	0.95	Level	3	0	0.985	0.98	3283
Ramp	332	0.95	Level	3	0	0.985	0.98	362
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 3283 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3283	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	2921	Exhibit 13-8	4800	No
V_R	362	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3283	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 5.5 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.266 (Exhibit 13-12)

S_R = 62.6 mph (Exhibit 13-12)

S_0 = N/A mph (Exhibit 13-12)

S = 62.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	2679	V_D =	veh/h
		Ramp Volume, V_R	1326		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2679	0.95	Level	3	0	0.985	0.98	2921
Ramp	1326	0.95	Level	3	0	0.985	0.98	1446
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2921 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4367	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4717	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 29.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.607 (Exibit 13-11)

S_R = 53.0 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 53.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 650 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1326 veh/h	Deceleration Lane Length L_D: 675	V_D = veh/h
	Freeway Volume, V_F: 4005	
	Ramp Volume, V_R: 254	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4005	0.95	Level	3	0	0.985	0.98	4366
Ramp	254	0.95	Level	3	0	0.985	0.98	277
UpStream	1326	0.95	Level	3	0	0.985	0.98	1446
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 9616.54 (Equation 13-12 or 13-13)

P_{FD} = 0.638 using Equation (Exhibit 13-7)

V_{12} = 2886 pc/h

V_3 or V_{av34} 1480 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4366	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4089	Exhibit 13-8	7200	No
V_R	277	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2886	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 23.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.258 (Exhibit 13-12)

S_R= 62.8 mph (Exhibit 13-12)

S_0= 74.9 mph (Exhibit 13-12)

S = 66.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 254 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3751	
	Ramp Volume, V_R: 1187	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3751	0.95	Level	3	0	0.985	0.98	4089
Ramp	1187	0.95	Level	3	0	0.985	0.98	1294
UpStream	254	0.95	Level	3	0	0.985	0.98	277
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 2269 pc/h

V_3 or V_{av34} = 1820 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2336 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5383	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3630	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 5.0 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.018 (Exibit 13-11)

S_R = 69.5 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 68.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4938	
	Ramp Volume, V_R: 1204	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4938	0.95	Level	3	0	0.985	0.98	5384
Ramp	1204	0.95	Level	3	0	0.985	0.98	1313
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.054 using Equation (Exhibit 13-6)

V_{12} = 289 pc/h

V_3 or V_{av34} = 2547 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2153 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6697	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3466	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 27.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.368 (Exibit 13-11)

S_R = 59.7 mph (Exhibit 13-11)

S_0 = 66.0 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1204 veh/h	Freeway Volume, V_F	6142	V_D =	veh/h
		Ramp Volume, V_R	726		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6142	0.95	Level	3	0	0.985	0.98	6696
Ramp	726	0.95	Level	3	0	0.985	0.98	792
UpStream	1204	0.95	Level	3	0	0.985	0.98	1313
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7966.46 (Equation 13-12 or 13-13)

P_{FD} = 0.556 using Equation (Exhibit 13-7)

V_{12} = 4076 pc/h

V_3 or V_{av34} 2620 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6696	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5904	Exhibit 13-8	7200	No
V_R	792	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4076	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.304 (Exhibit 13-12)

S_R= 61.5 mph (Exhibit 13-12)

S_0= 70.5 mph (Exhibit 13-12)

S = 64.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 665	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 675 veh/h
	Freeway Volume, V_F: 5416	
	Ramp Volume, V_R: 658	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5416	0.95	Level	3	0	0.985	0.98	5905
Ramp	658	0.95	Level	3	0	0.985	0.98	717
UpStream								
DownStream	675	0.95	Level	3	0	0.985	0.98	736

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4071.81 (Equation 13-6 or 13-7)

P_{FM} = 0.632 using Equation (Exhibit 13-6)

V_{12} = 3731 pc/h

V_3 or V_{av34} 2174 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3731 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6622	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4448	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.588 (Exibit 13-11)

S_R = 53.5 mph (Exhibit 13-11)

S_0 = 64.0 mph (Exhibit 13-11)

S = 56.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	170	L_{down} =	ft
V_u =	658 veh/h	Freeway Volume, V_F	6074	V_D =	veh/h
		Ramp Volume, V_R	675		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6074	0.95	Level	3	0	0.985	0.98	6622
Ramp	675	0.95	Level	3	0	0.985	0.98	736
UpStream	658	0.95	Level	3	0	0.985	0.98	717
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4283.92 (Equation 13-12 or 13-13)

P_{FD} = 0.561 using Equation (Exhibit 13-7)

V_{12} = 4036 pc/h

V_3 or V_{av34} 2586 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6622	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5886	Exhibit 13-8	7200	No
V_R	736	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4036	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 37.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.299 (Exhibit 13-12)

S_R= 61.6 mph (Exhibit 13-12)

S_0= 70.6 mph (Exhibit 13-12)

S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 635	L_{down} = 2470 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 611 veh/h
	Freeway Volume, V_F: 5399	
	Ramp Volume, V_R: 471	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5399	0.95	Level	3	0	0.985	0.98	5886
Ramp	471	0.95	Level	3	0	0.985	0.98	513
UpStream								
DownStream	611	0.95	Level	3	0	0.985	0.98	666

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3751.16 (Equation 13-6 or 13-7)

P_{FM} = 0.620 using Equation (Exhibit 13-6)

V_{12} = 3647 pc/h

V_3 or V_{av34} 2239 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3647 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6399	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4160	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 33.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.507 (Exibit 13-11)

S_R = 55.8 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 58.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	4	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2470 ft	Deceleration Lane Length L_D	810	L_{down} =	ft
V_u =	471 veh/h	Freeway Volume, V_F	5870	V_D =	veh/h
		Ramp Volume, V_R	611		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5870	0.95	Level	3	0	0.985	0.98	6400
Ramp	611	0.95	Level	3	0	0.985	0.98	666
UpStream	471	0.95	Level	3	0	0.985	0.98	513
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 3166 pc/h

V_3 or V_{av34} 1617 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6400	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	5734	Exhibit 13-8	9600	No
V_R	666	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3166	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 24.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.293 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 74.4 mph (Exhibit 13-12)

S = 67.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5259	
	Ramp Volume, V_R: 586	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5259	0.95	Level	3	0	0.985	0.98	5733
Ramp	586	0.95	Level	3	0	0.985	0.98	639
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.587 using Equation (Exhibit 13-7)

V_{12} = 3631 pc/h

V_3 or V_{av34} 2102 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5733	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5094	Exhibit 13-8	7200	No
V_R	639	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3631	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 22.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.486 (Exhibit 13-12)

S_R = 56.4 mph (Exhibit 13-12)

S_0 = 72.5 mph (Exhibit 13-12)

S = 61.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1624 veh/h
	Freeway Volume, V_F: 4673	
	Ramp Volume, V_R: 407	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4673	0.95	Level	3	0	0.985	0.98	5095
Ramp	407	0.95	Level	3	0	0.985	0.98	444
UpStream								
DownStream	1624	0.95	Level	3	0	0.985	0.98	1771

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 10349.16 (Equation 13-6 or 13-7)

P_{FM} = 0.606 using Equation (Exhibit 13-6)

V_{12} = 3085 pc/h

V_3 or V_{av34} 2010 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3085 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5539	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3529	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.396 (Exibit 13-11)

S_R = 58.9 mph (Exhibit 13-11)

S_0 = 64.6 mph (Exhibit 13-11)

S = 60.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 160	V_D = veh/h
	Freeway Volume, V_F: 5063	
	Ramp Volume, V_R: 357	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5063	0.95	Level	3	0	0.985	0.98	5520
Ramp	357	0.95	Level	3	0	0.985	0.98	389
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.604 using Equation (Exhibit 13-7)

V_{12} = 3489 pc/h

V_3 or V_{av34} 2031 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5520	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5131	Exhibit 13-8	7200	No
V_R	389	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3489	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 32.8 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.268 (Exhibit 13-12)

S_R = 62.5 mph (Exhibit 13-12)

S_0 = 72.8 mph (Exhibit 13-12)

S = 65.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No ☐ Off
L_{up} =	1685 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	357 veh/h	Freeway Volume, V_F	4706	V_D = veh/h
		Ramp Volume, V_R	448	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4706	0.95	Level	3	0	0.985	0.98	5131
Ramp	448	0.95	Level	3	0	0.985	0.98	488
UpStream	357	0.95	Level	3	0	0.985	0.98	389
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1296.67 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 3179 pc/h

V_3 or V_{av34} 1952 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3179 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5619	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3667	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.369 (Exibit 13-11)

S_R= 59.7 mph (Exhibit 13-11)

S_0= 64.8 mph (Exhibit 13-11)

S = 61.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5154	
	Ramp Volume, V_R: 610	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5154	0.95	Level	3	0	0.985	0.98	5619
Ramp	610	0.95	Level	3	0	0.985	0.98	665
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.135 using Equation (Exhibit 13-6)

V_{12} = 757 pc/h

V_3 or V_{av34} = 2431 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2247 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6284	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2912	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 23.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.323 (Exibit 13-11)

S_R = 61.0 mph (Exhibit 13-11)

S_0 = 65.7 mph (Exhibit 13-11)

S = 63.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2360 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 610 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5764	
	Ramp Volume, V_R: 363	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5764	0.95	Level	3	0	0.985	0.98	6284
Ramp	363	0.95	Level	3	0	0.985	0.98	396
UpStream	610	0.95	Level	3	0	0.985	0.98	665
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3586.14 (Equation 13-12 or 13-13)

P_{FD} = 0.585 using Equation (Exhibit 13-7)

V_{12} = 3839 pc/h

V_3 or V_{av34} 2445 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6284	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5888	Exhibit 13-8	7200	No
V_R	396	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3839	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 23.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.269 (Exhibit 13-12)

S_R= 62.5 mph (Exhibit 13-12)

S_0= 71.2 mph (Exhibit 13-12)

S = 65.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 618 veh/h
	Freeway Volume, V_F: 5401	
	Ramp Volume, V_R: 858	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5401	0.95	Level	3	0	0.985	0.98	5888
Ramp	858	0.95	Level	3	0	0.985	0.98	935
UpStream								
DownStream	618	0.95	Level	3	0	0.985	0.98	674

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4438.15 (Equation 13-6 or 13-7)

P_{FM} = 0.611 using Equation (Exhibit 13-6)

V_{12} = 3599 pc/h

V_3 or V_{av34} 2289 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3599 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6823	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4534	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 37.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.645 (Exibit 13-11)

S_R = 51.9 mph (Exhibit 13-11)

S_0 = 63.6 mph (Exhibit 13-11)

S = 55.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	858 veh/h	Freeway Volume, V_F	6259	V_D =	veh/h
		Ramp Volume, V_R	618		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6259	0.95	Level	3	0	0.985	0.98	6824
Ramp	618	0.95	Level	3	0	0.985	0.98	674
UpStream	858	0.95	Level	3	0	0.985	0.98	935
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5290.62 (Equation 13-12 or 13-13)

P_{FD} = 0.558 using Equation (Exhibit 13-7)

V_{12} = 4108 pc/h

V_3 or V_{av34} 2716 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4124 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6824	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6150	Exhibit 13-8	7200	No
V_R	674	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4108	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1104 veh/h
	Freeway Volume, V_F: 5641	
	Ramp Volume, V_R: 711	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5641	0.95	Level	3	0	0.985	0.98	6150
Ramp	711	0.95	Level	3	0	0.985	0.98	775
UpStream								
DownStream	1104	0.95	Level	3	0	0.985	0.98	1204

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4457.61 (Equation 13-6 or 13-7)

P_{FM} = 0.681 using Equation (Exhibit 13-6)

V_{12} = 4185 pc/h

V_3 or V_{av34} 1965 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4185 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6925	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4960	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 34.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.727 (Exibit 13-11)

S_R = 49.6 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 53.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	6352
Ramp Volume, V_R	1104
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 750 ft
V_D = 1278 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6352	0.95	Level	3	0	0.985	0.98	6925
Ramp	1104	0.95	Level	3	0	0.985	0.98	1204
UpStream								
DownStream	1278	0.95	Level	3	0	0.985	0.98	1393

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 2881.90 (Equation 13-12 or 13-13)
P_{FD} = 0.701 using Equation (Exhibit 13-7)
V_{12} = 5214 pc/h
V_3 or V_{av34} 1711 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6925	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5721	Exhibit 13-8	7200	No
V_R	1204	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5214	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = 47.3 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.341 (Exhibit 13-12)
S_R= 60.4 mph (Exhibit 13-12)
S_0= 74.0 mph (Exhibit 13-12)
S = 63.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5248	
	Ramp Volume, V_R: 1278	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5248	0.95	Level	3	0	0.985	0.98	5722
Ramp	1278	0.95	Level	3	0	0.985	0.98	1393
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3341 pc/h

V_3 or V_{av34} 2381 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5722	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4329	Exhibit 13-8	7200	No
V_R	1393	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3341	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 7.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.358 (Exhibit 13-12)

S_R = 60.0 mph (Exhibit 13-12)

S_0 = 72.1 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 615	L_{down} = ft
V_u = 1278 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3970	
	Ramp Volume, V_R: 209	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3970	0.95	Level	3	0	0.985	0.98	4328
Ramp	209	0.95	Level	3	0	0.985	0.98	228
UpStream	1278	0.95	Level	3	0	0.985	0.98	1393
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1461.04 (Equation 13-6 or 13-7)

P_{FM} = 0.595 using Equation (Exhibit 13-6)

V_{12} = 2574 pc/h

V_3 or V_{av34} 1754 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 2574 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4556	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2802	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 23.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.324 (Exibit 13-11)

S_R= 60.9 mph (Exhibit 13-11)

S_0= 65.5 mph (Exhibit 13-11)

S = 62.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4179
Ramp Volume, V_R	1302
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4179	0.95	Level	3	0	0.985	0.98	4556
Ramp	1302	0.95	Level	3	0	0.985	0.98	1419
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 4556 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4556	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	3137	Exhibit 13-8	4800	No
V_R	1419	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4556	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 16.4 (pc/mi/ln)
LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.361 (Exhibit 13-12)
S_R = 59.9 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 59.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No ☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	veh/h	Freeway Volume, V_F	2877	V_D = veh/h
		Ramp Volume, V_R	207	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2877	0.95	Level	3	0	0.985	0.98	3137
Ramp	207	0.95	Level	3	0	0.985	0.98	226
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3137 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3363	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3739	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.335 (Exibit 13-11)

S_R = 60.6 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 60.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 207 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 3084	
	Ramp Volume, V_R: 326	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3084	0.95	Level	3	0	0.985	0.98	3362
Ramp	326	0.95	Level	3	0	0.985	0.98	355
UpStream	207	0.95	Level	3	0	0.985	0.98	226
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1862.44 (Equation 13-12 or 13-13)

P_{FD} = 0.671 using Equation (Exhibit 13-7)

V_{12} = 2372 pc/h

V_3 or V_{av34} 990 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3362	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3007	Exhibit 13-8	7200	No
V_R	355	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2372	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 22.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.265 (Exhibit 13-12)

S_R= 62.6 mph (Exhibit 13-12)

S_0= 76.8 mph (Exhibit 13-12)

S = 66.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 835 veh/h
	Freeway Volume, V_F: 2758	
	Ramp Volume, V_R: 234	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2758	0.95	Level	3	0	0.985	0.98	3007
Ramp	234	0.95	Level	3	0	0.985	0.98	255
UpStream								
DownStream	835	0.95	Level	3	0	0.985	0.98	910

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3369.12 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3007 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3262	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3622	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.2 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.317 (Exibit 13-11)

S_R = 61.1 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 60.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 50 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 234 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 2992	
	Ramp Volume, V_R: 835	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2992	0.95	Level	3	0	0.985	0.98	3262
Ramp	835	0.95	Level	3	0	0.985	0.98	910
UpStream	234	0.95	Level	3	0	0.985	0.98	255
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3317.46 (Equation 13-12 or 13-13)

P_{FD} = 0.637 using Equation (Exhibit 13-7)

V_{12} = 2407 pc/h

V_3 or V_{av34} 855 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3262	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2352	Exhibit 13-8	7200	No
V_R	910	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2407	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 11.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)

S_R= 61.2 mph (Exhibit 13-12)

S_0= 76.8 mph (Exhibit 13-12)

S = 64.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 944 veh/h
	Freeway Volume, V_F: 2157	
	Ramp Volume, V_R: 227	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2157	0.95	Level	3	0	0.985	0.98	2352
Ramp	227	0.95	Level	3	0	0.985	0.98	247
UpStream								
DownStream	944	0.95	Level	3	0	0.985	0.98	1029

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5577.24 (Equation 13-6 or 13-7)

P_{FM} = 0.605 using Equation (Exhibit 13-6)

V_{12} = 1424 pc/h

V_3 or V_{av34} 928 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1424 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2599	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	1671	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 14.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.272 (Exibit 13-11)

S_R = 62.4 mph (Exhibit 13-11)

S_0 = 68.5 mph (Exhibit 13-11)

S = 64.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/6/2015 12:19:27 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 585	V_D = veh/h
	Freeway Volume, V_F: 2384	
	Ramp Volume, V_R: 944	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2384	0.95	Level	3	0	0.985	0.98	2599
Ramp	944	0.95	Level	3	0	0.985	0.98	1029
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 2599 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	2599	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	1570	Exhibit 13-8	4800	No
V_R	1029	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2599	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 2.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R = 60.9 mph (Exhibit 13-12)

S_0 = N/A mph (Exhibit 13-12)

S = 60.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 160	V_D = veh/h
	Freeway Volume, V_F: 6260	
	Ramp Volume, V_R: 622	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6260	0.95	Level	3	0	0.985	0.98	6825
Ramp	622	0.95	Level	3	0	0.985	0.98	678
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.558 using Equation (Exhibit 13-7)

V_{12} = 4109 pc/h

V_3 or V_{av34} 2716 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = 4125 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6825	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6147	Exhibit 13-8	7200	No
V_R	678	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4109	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 38.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	1685 ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	622 veh/h	Freeway Volume, V_F	5638	V_D =	veh/h
		Ramp Volume, V_R	370		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	35.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5638	0.95	Level	3	0	0.985	0.98	6147
Ramp	370	0.95	Level	3	0	0.985	0.98	403
UpStream	622	0.95	Level	3	0	0.985	0.98	678
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1495.90 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 3808 pc/h

V_3 or V_{av34} 2339 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3808 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6550	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4211	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.479 (Exibit 13-11)

S_R= 56.6 mph (Exhibit 13-11)

S_0= 63.2 mph (Exhibit 13-11)

S = 58.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6008	
	Ramp Volume, V_R: 498	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6008	0.95	Level	3	0	0.985	0.98	6550
Ramp	498	0.95	Level	3	0	0.985	0.98	543
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.150 using Equation (Exhibit 13-6)

V_{12} = 982 pc/h

V_3 or V_{av34} = 2784 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2620 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7093	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3163	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.343 (Exibit 13-11)

S_R = 60.4 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 62.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2360 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	498 veh/h	Freeway Volume, V_F	6506	V_D =	veh/h
		Ramp Volume, V_R	948		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6506	0.95	Level	3	0	0.985	0.98	7093
Ramp	948	0.95	Level	3	0	0.985	0.98	1034
UpStream	498	0.95	Level	3	0	0.985	0.98	543
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3490.73 (Equation 13-12 or 13-13)

P_{FD} = 0.535 using Equation (Exhibit 13-7)

V_{12} = 4276 pc/h

V_3 or V_{av34} 2817 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4393 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7093	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6059	Exhibit 13-8	7200	No
V_R	1034	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4276	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 28.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.326 (Exhibit 13-12)

S_R= 60.9 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 953 veh/h
	Freeway Volume, V_F: 5558	
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5558	0.95	Level	3	0	0.985	0.98	6059
Ramp	560	0.95	Level	3	0	0.985	0.98	611
UpStream								
DownStream	953	0.95	Level	3	0	0.985	0.98	1039

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6841.60 (Equation 13-6 or 13-7)

P_{FM} = 0.645 using Equation (Exhibit 13-6)

V_{12} = 3909 pc/h

V_3 or V_{av34} 2150 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3909 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6670	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4520	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 38.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.640 (Exibit 13-11)

S_R = 52.1 mph (Exhibit 13-11)

S_0 = 64.1 mph (Exhibit 13-11)

S = 55.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	560 veh/h	Freeway Volume, V_F	6118	V_D =	veh/h
		Ramp Volume, V_R	953		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6118	0.95	Level	3	0	0.985	0.98	6670
Ramp	953	0.95	Level	3	0	0.985	0.98	1039
UpStream	560	0.95	Level	3	0	0.985	0.98	611
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4200.87 (Equation 13-12 or 13-13)

P_{FD} = 0.545 using Equation (Exhibit 13-7)

V_{12} = 4110 pc/h

V_3 or V_{av34} 2560 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6670	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5631	Exhibit 13-8	7200	No
V_R	1039	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4110	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.1 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.327 (Exhibit 13-12)

S_R= 60.9 mph (Exhibit 13-12)

S_0= 70.7 mph (Exhibit 13-12)

S = 64.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1176 veh/h
	Freeway Volume, V_F: 5165	
	Ramp Volume, V_R: 652	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5165	0.95	Level	3	0	0.985	0.98	5631
Ramp	652	0.95	Level	3	0	0.985	0.98	711
UpStream								
DownStream	1176	0.95	Level	3	0	0.985	0.98	1282

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4746.39 (Equation 13-6 or 13-7)

P_{FM} = 0.689 using Equation (Exhibit 13-6)

V_{12} = 3880 pc/h

V_3 or V_{av34} 1751 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3880 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6342	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4591	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 31.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.556 (Exibit 13-11)

S_R = 54.4 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 57.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = 750 ft
V_u = veh/h	Deceleration Lane Length L_D: 195	V_D = 814 veh/h
	Freeway Volume, V_F: 5817	
	Ramp Volume, V_R: 1176	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5817	0.95	Level	3	0	0.985	0.98	6342
Ramp	1176	0.95	Level	3	0	0.985	0.98	1282
UpStream								
DownStream	814	0.95	Level	3	0	0.985	0.98	887

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1874.07 (Equation 13-12 or 13-13)

P_{FD} = 0.629 using Equation (Exhibit 13-7)

V_{12} = 4467 pc/h

V_3 or V_{av34} 1875 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6342	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5060	Exhibit 13-8	7200	No
V_R	1282	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4467	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.348 (Exhibit 13-12)

S_R= 60.2 mph (Exhibit 13-12)

S_0= 73.4 mph (Exhibit 13-12)

S = 63.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4641
Ramp Volume, V_R	814
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4641	0.95	Level	3	0	0.985	0.98	5060
Ramp	814	0.95	Level	3	0	0.985	0.98	887
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2765 pc/h
V_3 or V_{av34} 2295 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 2891 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5060	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4173	Exhibit 13-8	7200	No
V_R	887	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2765	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 3.4 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.313 (Exhibit 13-12)
S_R= 61.2 mph (Exhibit 13-12)
S_0= 72.8 mph (Exhibit 13-12)
S = 65.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 920 veh/h
	Freeway Volume, V_F: 3827	
	Ramp Volume, V_R: 326	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3827	0.95	Level	3	0	0.985	0.98	4172
Ramp	326	0.95	Level	3	0	0.985	0.98	355
UpStream								
DownStream	920	0.95	Level	3	0	0.985	0.98	1003

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5718.19 (Equation 13-6 or 13-7)

P_{FM} = 0.709 using Equation (Exhibit 13-6)

V_{12} = 2958 pc/h

V_3 or V_{av34} 1214 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2958 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4527	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3313	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 27.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.367 (Exibit 13-11)

S_R = 59.7 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 61.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4153
Ramp Volume, V_R	920
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4153	0.95	Level	3	0	0.985	0.98	4528
Ramp	920	0.95	Level	3	0	0.985	0.98	1003
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 4528 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4528	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	3525	Exhibit 13-8	4800	No
V_R	1003	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4528	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$
D_R = 16.2 (pc/mi/ln)
LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.323 (Exhibit 13-12)
S_R = 60.9 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 60.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	3233	V_D =	veh/h
		Ramp Volume, V_R	770		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3233	0.95	Level	3	0	0.985	0.98	3525
Ramp	770	0.95	Level	3	0	0.985	0.98	839
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3525 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4364	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4787	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.639 (Exibit 13-11)

S_R = 52.1 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 52.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 770 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 4003	
	Ramp Volume, V_R: 326	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4003	0.95	Level	3	0	0.985	0.98	4364
Ramp	326	0.95	Level	3	0	0.985	0.98	355
UpStream	770	0.95	Level	3	0	0.985	0.98	839
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5810.57 (Equation 13-12 or 13-13)

P_{FD} = 0.635 using Equation (Exhibit 13-7)

V_{12} = 2899 pc/h

V_3 or V_{av34} 1465 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4364	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4009	Exhibit 13-8	7200	No
V_R	355	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2899	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 27.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.265 (Exhibit 13-12)

S_R= 62.6 mph (Exhibit 13-12)

S_0= 75.0 mph (Exhibit 13-12)

S = 66.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 865 veh/h
	Freeway Volume, V_F: 3677	
	Ramp Volume, V_R: 392	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3677	0.95	Level	3	0	0.985	0.98	4009
Ramp	392	0.95	Level	3	0	0.985	0.98	427
UpStream								
DownStream	865	0.95	Level	3	0	0.985	0.98	943

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3491.30 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4009 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4436	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4917	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 34.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.704 (Exibit 13-11)

S_R = 50.3 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 48.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	50 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	392 veh/h	Freeway Volume, V_F	4069	V_D =	veh/h
		Ramp Volume, V_R	865		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4069	0.95	Level	3	0	0.985	0.98	4436
Ramp	865	0.95	Level	3	0	0.985	0.98	943
UpStream	392	0.95	Level	3	0	0.985	0.98	427
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4212.71 (Equation 13-12 or 13-13)

P_{FD} = 0.606 using Equation (Exhibit 13-7)

V_{12} = 3059 pc/h

V_3 or V_{av34} 1377 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4436	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3493	Exhibit 13-8	7200	No
V_R	943	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3059	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 17.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.318 (Exhibit 13-12)

S_R= 61.1 mph (Exhibit 13-12)

S_0= 75.3 mph (Exhibit 13-12)

S = 64.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1610 veh/h
	Freeway Volume, V_F: 3204	
	Ramp Volume, V_R: 274	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3204	0.95	Level	3	0	0.985	0.98	3493
Ramp	274	0.95	Level	3	0	0.985	0.98	299
UpStream								
DownStream	1610	0.95	Level	3	0	0.985	0.98	1755

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 9512.20 (Equation 13-6 or 13-7)

P_{FM} = 0.645 using Equation (Exhibit 13-6)

V_{12} = 2254 pc/h

V_3 or V_{av34} 1239 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2254 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3792	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2553	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 20.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.301 (Exibit 13-11)

S_R = 61.6 mph (Exhibit 13-11)

S_0 = 67.3 mph (Exhibit 13-11)

S = 63.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/6/2015 2:08:38 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2012 Existing

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 585	V_D = veh/h
	Freeway Volume, V_F: 3478	
	Ramp Volume, V_R: 1610	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3478	0.95	Level	3	0	0.985	0.98	3792
Ramp	1610	0.95	Level	3	0	0.985	0.98	1755
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 3792 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3792	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	2037	Exhibit 13-8	4800	No
V_R	1755	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3792	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 12.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.391 (Exhibit 13-12)

S_R= 59.1 mph (Exhibit 13-12)

S_0= N/A mph (Exhibit 13-12)

S = 59.1 mph (Exhibit 13-13)

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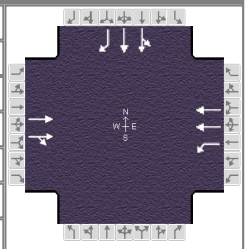
Existing Year (2012) HCS 2010 Output
I-275 Ramp Terminal Intersections

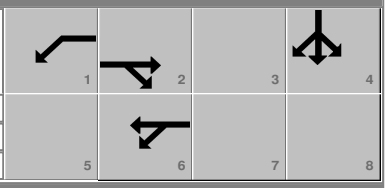
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_AM_(A).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1057	23	12	305					243	320	541

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	52.8	2.1	46.3	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		59.2	8.5	67.7				52.3
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					44.2
Green Extension Time (g_e), s		0.0	0.7	0.0				2.1
Phase Call Probability			0.34					1.00
Max Out Probability			0.00					0.09

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		571	566	13	321					304	288	569
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1845	1831	1757	1756					1770	1845	1563
Queue Service Time (g_s), s		34.2	26.3	0.0	4.0					15.3	13.6	42.2
Cycle Queue Clearance Time (g_c), s		34.2	26.3	0.0	4.0					15.3	13.6	42.2
Green Ratio (*g/C*)		0.44	0.44	0.44	0.51					0.39	0.39	0.39
Capacity (*c*), veh/h		812	806	158	1794					683	712	603
Volume-to-Capacity Ratio (*X*)		0.702	0.702	0.080	0.179					0.446	0.405	0.944
Available Capacity (c_a), veh/h		812	806	473	1794					819	854	723
Back of Queue (*Q*), veh/ln (50th percentile)		10.5	10.6	0.3	1.5					6.2	5.7	18.0
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.04	0.11					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		19.2	19.6	43.9	10.0					27.3	26.8	35.6
Incremental Delay (d_2), s/veh		5.0	5.1	0.1	0.2					0.2	0.1	17.9
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		24.3	24.7	44.0	10.2					27.5	27.0	53.6
Level of Service (LOS)		C	C	D	B					C	C	D
Approach Delay, s/veh / LOS	24.5	C		11.5	B		0.0			40.1	D	
Intersection Delay, s/veh / LOS	29.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.4	A	0.8	A			1.4	A

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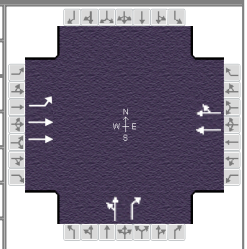
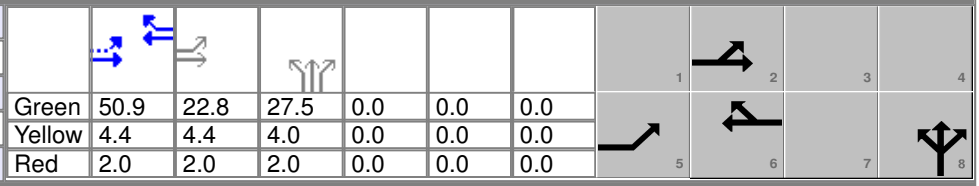
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_AM_(B).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	637	663			308	181	9	363	34			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	50.9	22.8	27.5	0.0	0.0	0.0			
Yellow	4.4	4.4	4.0	0.0	0.0	0.0			
Red	2.0	2.0	2.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	29.2	86.5		57.3		33.5		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	24.8					27.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.07		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	671	698			271	244		392	36			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1756			1845	1617		1842	1563			
Queue Service Time (g_s), s	22.8	3.6			12.7	11.8		25.0	2.2			
Cycle Queue Clearance Time (g_c), s	22.8	3.6			12.7	11.8		25.0	2.2			
Green Ratio (*g/C*)	0.60	0.67			0.42	0.42		0.23	0.23			
Capacity (*c*), veh/h	657	2344			783	686		422	358			
Volume-to-Capacity Ratio (*X*)	1.021	0.298			0.346	0.355		0.927	0.100			
Available Capacity (c_a), veh/h	657	2344			783	686		522	443			
Back of Queue (*Q*), veh/ln (50th percentile)	26.0	1.1			3.9	4.5		13.4	0.8			
Queue Storage Ratio (*RQ*) (50th percentile)	3.51	0.08			0.00	0.00		0.00	0.00			
Uniform Delay (d_1), s/veh	35.8	2.4			17.1	22.0		45.3	36.5			
Incremental Delay (d_2), s/veh	40.5	0.3			1.2	1.4		18.7	0.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (*d*), s/veh	76.2	2.7			18.3	23.4		64.0	36.5			
Level of Service (LOS)	F	A			B	C		E	D			
Approach Delay, s/veh / LOS	38.7	D		20.7	C		61.7	E		0.0		
Intersection Delay, s/veh / LOS	39.0						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.6	A	1.9	A	2.8	C	2.9	C
Bicycle LOS Score / LOS	1.6	A	0.9	A	1.2	A		

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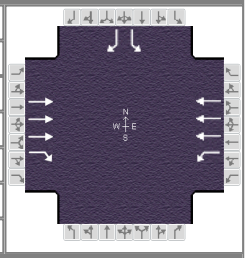
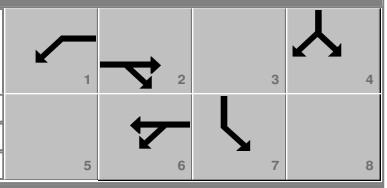
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_AM_(A).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1281	471	240	955					220		398

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	59.3	6.6	34.5	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.9	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		65.7	13.0	78.6				41.4
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			5.6					33.3
Green Extension Time (g_e), s		0.0	1.0	0.0				1.1
Phase Call Probability			1.00					1.00
Max Out Probability			0.01					0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1348	496	253	1005					232		419
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1675	1563	1757	1675					1757		1563
Queue Service Time (g_s), s		17.1	28.2	3.6	6.5					13.0		31.3
Cycle Queue Clearance Time (g_c), s		17.1	28.2	3.6	6.5					13.0		31.3
Green Ratio (*g/C*)		0.49	0.49	0.53	0.60					0.29		0.29
Capacity (*c*), veh/h		2483	772	290	3025					504		449
Volume-to-Capacity Ratio (*X*)		0.543	0.642	0.872	0.332					0.459		0.933
Available Capacity (c_a), veh/h		2483	772	539	3025					661		588
Back of Queue (*Q*), veh/ln (50th percentile)		5.2	10.7	7.5	1.9					5.4		13.5
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.91	1.04	0.20					0.00		0.00
Uniform Delay (d_1), s/veh		13.3	22.5	43.3	5.3					35.1		41.7
Incremental Delay (d_2), s/veh		0.9	4.1	3.2	0.3					0.2		16.9
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		14.1	26.6	46.5	5.6					35.4		58.6
Level of Service (LOS)		B	C	D	A					D		E
Approach Delay, s/veh / LOS	17.5	B		13.9	B		0.0			50.3	D	
Intersection Delay, s/veh / LOS	22.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.0	A	1.7	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.5	A	1.2	A				F

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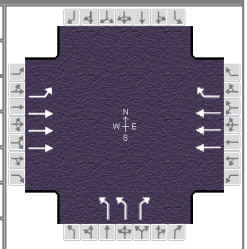
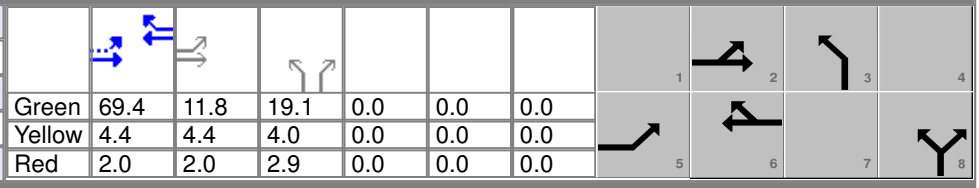
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_AM_(B).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	491	1010			859	520	336		205			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	69.4	11.8	19.1	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	18.2	94.0		75.8		26.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	11.6					18.2		
Green Extension Time (g_e), s	0.1	0.0		0.0		1.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.01		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	517	1063			904	547	354		216			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1675			1675	1563	1706		1563			
Queue Service Time (g_s), s	9.6	1.0			6.5	27.3	11.7		16.2			
Cycle Queue Clearance Time (g_c), s	9.6	1.0			6.5	27.3	11.7		16.2			
Green Ratio (*g/C*)	0.66	0.73			0.58	0.58	0.16		0.16			
Capacity (*c*), veh/h	540	3667			2902	903	544		249			
Volume-to-Capacity Ratio (*X*)	0.957	0.290			0.312	0.606	0.650		0.866			
Available Capacity (c_a), veh/h	542	3667			2902	903	799		366			
Back of Queue (*Q*), veh/ln (50th percentile)	18.6	0.3			2.0	9.8	4.8		6.7			
Queue Storage Ratio (*RQ*) (50th percentile)	2.51	0.03			0.00	0.00	0.00		0.00			
Uniform Delay (d_1), s/veh	31.7	0.5			6.6	16.5	47.3		49.2			
Incremental Delay (d_2), s/veh	27.8	0.2			0.3	3.0	0.5		9.8			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	59.5	0.7			6.9	19.5	47.8		59.0			
Level of Service (LOS)	E	A			A	B	D		E			
Approach Delay, s/veh / LOS	19.9	B		11.6	B		52.0	D		0.0		
Intersection Delay, s/veh / LOS	21.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	2.0	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.4	A	1.3	A		F		

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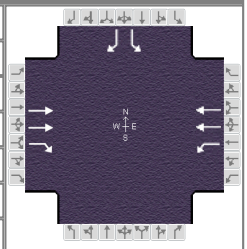
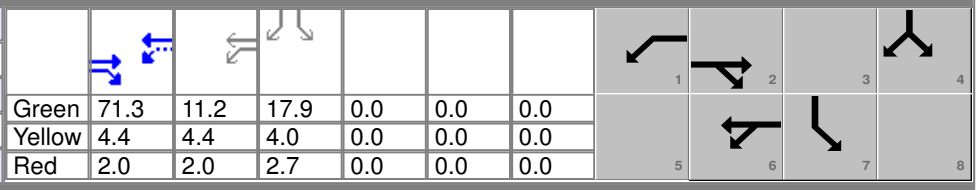
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_AM_(A).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		882	407	451	763					170		193

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	71.3	11.2	17.9	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		77.7	17.6	95.4				24.6
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			9.8					17.2
Green Extension Time (g_e), s		0.0	1.2	0.0				0.7
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		928	428	475	803					179		203
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1756	1563	1757	1756					1757		1563
Queue Service Time (g_s), s		10.3	18.5	7.8	0.5					11.6		15.2
Cycle Queue Clearance Time (g_c), s		10.3	18.5	7.8	0.5					11.6		15.2
Green Ratio (*g/C*)		0.59	0.59	0.67	0.74					0.15		0.15
Capacity (*c*), veh/h		2079	925	515	2604					263		234
Volume-to-Capacity Ratio (*X*)		0.447	0.463	0.922	0.308					0.681		0.869
Available Capacity (c_a), veh/h		2079	925	1014	2604					952		847
Back of Queue (*Q*), veh/ln (50th percentile)		3.0	6.5	13.6	0.2					5.0		6.0
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.92	1.04	0.01					0.00		0.00
Uniform Delay (d_1), s/veh		6.2	13.8	32.3	0.2					48.3		49.9
Incremental Delay (d_2), s/veh		0.7	1.7	3.1	0.3					1.2		3.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		6.9	15.4	35.3	0.5					49.5		53.7
Level of Service (LOS)		A	B	D	A					D		D
Approach Delay, s/veh / LOS	9.6	A		13.4	B		0.0			51.7	D	
Intersection Delay, s/veh / LOS	16.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.0	A	1.6	A	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.6	A	1.5	A				F

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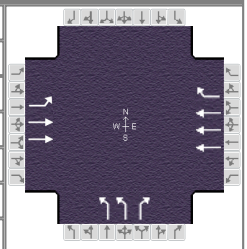
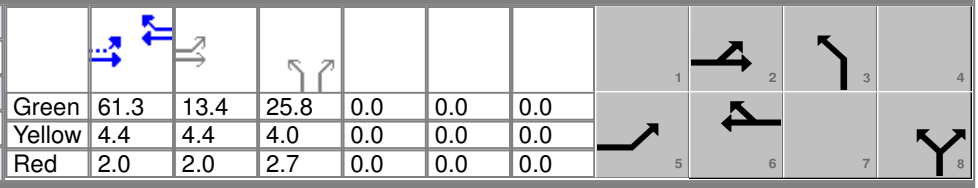
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_AM_(B).xus				
Project Description	2012 Existing AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	435	617			956	539	258		291			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	61.3	13.4	25.8	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	19.8	87.5		67.7		32.5		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	13.3					25.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.8		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.15		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	458	649			1006	567	272		306			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1756			1675	1563	1706		1563			
Queue Service Time (g_s), s	11.3	2.9			10.5	33.5	8.1		23.0			
Cycle Queue Clearance Time (g_c), s	11.3	2.9			10.5	33.5	8.1		23.0			
Green Ratio (*g/C*)	0.61	0.68			0.51	0.51	0.21		0.21			
Capacity (*c*), veh/h	481	2375			2565	798	733		336			
Volume-to-Capacity Ratio (*X*)	0.952	0.273			0.392	0.711	0.371		0.913			
Available Capacity (c_a), veh/h	482	2375			2565	798	890		408			
Back of Queue (*Q*), veh/ln (50th percentile)	16.8	0.9			3.4	12.7	3.3		10.4			
Queue Storage Ratio (*RQ*) (50th percentile)	1.56	0.06			0.00	1.55	0.00		0.00			
Uniform Delay (d_1), s/veh	36.9	2.1			11.1	22.6	40.2		46.0			
Incremental Delay (d_2), s/veh	28.8	0.3			0.5	5.3	0.1		20.1			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	65.7	2.3			11.5	27.9	40.3		66.1			
Level of Service (LOS)	E	A			B	C	D		E			
Approach Delay, s/veh / LOS	28.5	C		17.4	B		54.0	D		0.0		
Intersection Delay, s/veh / LOS	27.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	2.0	A	3.0	C	3.2	C
Bicycle LOS Score / LOS	1.4	A	1.4	A		F		

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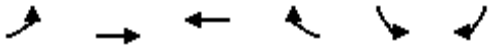


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	548	663	0	340	110
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	0	577	698	0	358	116
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	3
Cap, veh/h	0	2378	2378	0	503	232
Arrive On Green	0.00	0.68	0.68	0.00	0.15	0.15
Sat Flow, veh/h	0	3689	3689	0	3408	1568
Grp Volume(v), veh/h	0	577	698	0	358	116
Grp Sat Flow(s),veh/h/ln	0	1752	1752	0	1704	1568
Q Serve(g_s), s	0.0	4.7	5.9	0.0	7.4	5.0
Cycle Q Clear(g_c), s	0.0	4.7	5.9	0.0	7.4	5.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2378	2378	0	503	232
V/C Ratio(X)	0.00	0.24	0.29	0.00	0.71	0.50
Avail Cap(c_a), veh/h	0	2378	2378	0	1388	638
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	4.6	4.8	0.0	29.9	28.9
Incr Delay (d2), s/veh	0.0	0.2	0.3	0.0	1.9	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.3	2.9	0.0	3.6	2.3
LnGrp Delay(d),s/veh	0.0	4.8	5.1	0.0	31.8	30.6
LnGrp LOS		A	A		C	C
Approach Vol, veh/h		577	698		474	
Approach Delay, s/veh		4.8	5.1		31.5	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		56.4		17.3		56.4		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		50.0		30.0		50.0		
Max Q Clear Time (g_c+I1), s		6.7		9.4		7.9		
Green Ext Time (p_c), s		6.2		1.5		6.2		

Intersection Summary	
HCM 2010 Ctrl Delay	12.1
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	120	768	0	0	663	798	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	126	808	0	0	698	840	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	698	0	0	808	0	0	1410	1759	404
Stage 1	-	-	-	-	-	-	1061	1061	-
Stage 2	-	-	-	-	-	-	349	698	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	888	-	-	807	-	0	128	83	593
Stage 1	-	-	-	-	-	0	292	296	-
Stage 2	-	-	-	-	-	0	682	438	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	888	-	-	807	-	-	110	0	593
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	0	-
Stage 1	-	-	-	-	-	-	251	0	-
Stage 2	-	-	-	-	-	-	682	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.3	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	888	-	-	807	-
HCM Lane V/C Ratio	-	0.142	-	-	-	-
HCM Control Delay (s)	0	9.7	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	141	157	70	450	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	3	3	3	3	2	3	2	3	2	2	2
Mvmt Flow	0	148	165	74	474	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	474	0	-	148	0	0	695	769	237
Stage 1	-	-	-	-	-	-	621	621	-
Stage 2	-	-	-	-	-	-	74	148	-
Critical Hdwy	4.14	-	-	4.16	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.23	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1084	-	0	1424	-	-	376	330	764
Stage 1	-	-	0	-	-	-	498	477	-
Stage 2	-	-	0	-	-	-	940	774	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1084	-	-	1424	-	-	356	0	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	0	-
Stage 1	-	-	-	-	-	-	472	0	-
Stage 2	-	-	-	-	-	-	940	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1084	-	1424	-	-	-
HCM Lane V/C Ratio	-	-	0.052	-	-	-
HCM Control Delay (s)	0	-	7.7	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.2	-	-	-

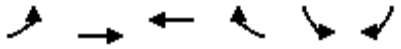
Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	141	0	0	292	228	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	148	0	0	307	240	147

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	302	74
Stage 1	-	-	-	-	148	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1424	-	663	969
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1424	-	663	969
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	663	969	-	-	1424	-
HCM Lane V/C Ratio	0.362	0.152	-	-	-	-
HCM Control Delay (s)	13.5	9.4	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	1.7	0.5	-	-	0	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	855	338	0	251	584
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	0	900	356	0	264	615
Adj No. of Lanes	0	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	3
Cap, veh/h	0	1413	2382	0	718	641
Arrive On Green	0.00	0.47	0.47	0.00	0.41	0.41
Sat Flow, veh/h	0	4685	5368	0	1757	1568
Grp Volume(v), veh/h	0	900	356	0	264	615
Grp Sat Flow(s),veh/h/ln	0	996	1679	0	1757	1568
Q Serve(g_s), s	0.0	19.2	3.4	0.0	8.8	32.3
Cycle Q Clear(g_c), s	0.0	19.2	3.4	0.0	8.8	32.3
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1413	2382	0	718	641
V/C Ratio(X)	0.00	0.64	0.15	0.00	0.37	0.96
Avail Cap(c_a), veh/h	0	1413	2382	0	727	649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	16.8	12.6	0.0	17.4	24.3
Incr Delay (d2), s/veh	0.0	2.2	0.1	0.0	0.3	25.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	1.6	0.0	4.3	18.4
LnGrp Delay(d),s/veh	0.0	19.0	12.8	0.0	17.7	49.8
LnGrp LOS		B	B		B	D
Approach Vol, veh/h		900	356		879	
Approach Delay, s/veh		19.0	12.8		40.2	
Approach LOS		B	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		39.6
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		5.4				21.2		34.3
Green Ext Time (p_c), s		10.7				8.4		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	289	0	52	0	1	1	16	324	0	5	175	217
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	-	133	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	304	0	55	0	1	1	17	341	0	5	184	228

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	400	570	92	478	570	171	184	0	0	341	0	0
Stage 1	195	195	-	375	375	-	-	-	-	-	-	-
Stage 2	205	375	-	103	195	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	532	428	944	468	428	840	1381	-	-	1208	-	0
Stage 1	785	736	-	615	613	-	-	-	-	-	-	0
Stage 2	775	613	-	889	736	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	523	421	944	435	421	840	1381	-	-	1208	-	-
Mov Cap-2 Maneuver	523	421	-	435	421	-	-	-	-	-	-	-
Stage 1	775	732	-	607	605	-	-	-	-	-	-	-
Stage 2	763	605	-	833	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.2	11.4	0.4	0.2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1381	-	-	523	944	561	1208	-
HCM Lane V/C Ratio	0.012	-	-	0.582	0.058	0.004	0.004	-
HCM Control Delay (s)	7.6	-	-	21	9	11.4	8	0
HCM Lane LOS	A	-	-	C	A	B	A	A
HCM 95th %tile Q(veh)	0	-	-	3.7	0.2	0	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	185	0	141	0	259	0	0	299	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	195	0	148	0	273	0	0	315	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	588	588	157	430	588	273	315	0	0	273	0	0
Stage 1	315	315	-	273	273	-	-	-	-	-	-	-
Stage 2	273	273	-	157	315	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.945	7.345	6.545	6.245	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.23	-	-	2.227	-	-
Pot Cap-1 Maneuver	404	419	858	520	419	762	1235	-	-	1284	-	-
Stage 1	669	653	-	730	681	-	-	-	-	-	-	-
Stage 2	730	681	-	827	653	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	325	419	858	520	419	762	1235	-	-	1284	-	-
Mov Cap-2 Maneuver	325	419	-	520	419	-	-	-	-	-	-	-
Stage 1	669	653	-	730	681	-	-	-	-	-	-	-
Stage 2	588	681	-	827	653	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	13.8	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1235	-	-	-	520	762	1284	-	-
HCM Lane V/C Ratio	-	-	-	-	0.374	0.195	-	-	-
HCM Control Delay (s)	0	-	-	0	16	10.9	0	-	-
HCM Lane LOS	A	-	-	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.7	0.7	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	259	237	125	359	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	273	249	132	378	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	914	914	189	378	0	0	273	0	0
Stage 1	641	641	-	-	-	-	-	-	-
Stage 2	273	273	-	-	-	-	-	-	-
Critical Hdwy	6.645	6.545	6.945	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	5.845	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	2.23	-	-	2.227	-	-
Pot Cap-1 Maneuver	286	271	819	1170	-	-	1284	-	-
Stage 1	485	467	-	-	-	-	-	-	-
Stage 2	769	681	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	257	0	819	1170	-	-	1284	-	-
Mov Cap-2 Maneuver	257	0	-	-	-	-	-	-	-
Stage 1	435	0	-	-	-	-	-	-	-
Stage 2	769	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1170	-	-	-	1284	-	-
HCM Lane V/C Ratio	-	-	-	-	0.102	-	-
HCM Control Delay (s)	0	-	-	0	8.1	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1081	610	0	858	0	0	0	0	109	0	248
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	0				1845	0	1845
Adj Flow Rate, veh/h	0	1138	642	0	903	0				115	0	261
Adj No. of Lanes	0	2	1	0	3	0				1	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	0				3	0	3
Cap, veh/h	0	2390	1069	0	3434	0				350	0	312
Arrive On Green	0.00	0.68	0.68	0.00	0.68	0.00				0.20	0.00	0.20
Sat Flow, veh/h	0	3597	1568	0	5368	0				1757	0	1568
Grp Volume(v), veh/h	0	1138	642	0	903	0				115	0	261
Grp Sat Flow(s),veh/h/ln	0	1752	1568	0	1679	0				1757	0	1568
Q Serve(g_s), s	0.0	12.8	18.5	0.0	5.8	0.0				4.7	0.0	13.4
Cycle Q Clear(g_c), s	0.0	12.8	18.5	0.0	5.8	0.0				4.7	0.0	13.4
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2390	1069	0	3434	0				350	0	312
V/C Ratio(X)	0.00	0.48	0.60	0.00	0.26	0.00				0.33	0.00	0.84
Avail Cap(c_a), veh/h	0	2713	1214	0	3898	0				523	0	467
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.3	7.2	0.0	5.2	0.0				28.8	0.0	32.3
Incr Delay (d2), s/veh	0.0	0.2	0.9	0.0	0.1	0.0				0.8	0.0	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.2	8.1	0.0	2.7	0.0				2.3	0.0	6.7
LnGrp Delay(d),s/veh	0.0	6.5	8.1	0.0	5.2	0.0				29.6	0.0	42.4
LnGrp LOS		A	A		A					C		D
Approach Vol, veh/h		1780			903						376	
Approach Delay, s/veh		7.1			5.2						38.5	
Approach LOS		A			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		62.3		21.7		62.3		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		65.0		25.0		65.0		
Max Q Clear Time (g_c+I1), s		20.5		15.4		7.8		
Green Ext Time (p_c), s		36.7		1.3		45.0		

Intersection Summary	
HCM 2010 Ctrl Delay	10.4
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1172	0	0	2050	596	950
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	0	1845	1845	1845
Adj Flow Rate, veh/h	1234	0	0	2158	627	1000
Adj No. of Lanes	3	0	0	3	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	0	0	3	3	3
Cap, veh/h	3159	0	0	2777	977	449
Arrive On Green	0.63	0.00	0.00	0.63	0.29	0.29
Sat Flow, veh/h	5368	0	0	5165	3408	1568
Grp Volume(v), veh/h	1234	0	0	2158	627	1000
Grp Sat Flow(s),veh/h/ln	1679	0	0	1476	1704	1568
Q Serve(g_s), s	21.8	0.0	0.0	63.8	28.9	51.6
Cycle Q Clear(g_c), s	21.8	0.0	0.0	63.8	28.9	51.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3159	0	0	2777	977	449
V/C Ratio(X)	0.39	0.00	0.00	0.78	0.64	2.22
Avail Cap(c_a), veh/h	3159	0	0	2777	977	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	0.0	24.4	56.1	64.2
Incr Delay (d2), s/veh	0.4	0.0	0.0	2.2	1.4	558.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	0.0	0.0	26.3	13.9	92.1
LnGrp Delay(d),s/veh	16.9	0.0	0.0	26.6	57.6	622.5
LnGrp LOS	B			C	E	F
Approach Vol, veh/h	1234			2158	1627	
Approach Delay, s/veh	16.9			26.6	404.8	
Approach LOS	B			C	F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		120.0				120.0		60.0
Change Period (Y+Rc), s		7.1				7.1		8.4
Max Green Setting (Gmax), s		112.9				112.9		51.6
Max Q Clear Time (g_c+I1), s		23.8				65.8		53.6
Green Ext Time (p_c), s		66.1				39.8		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	146.8
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	224.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1096	0	339	1904	0	0	0	0	138	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	450	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1154	0	357	2004	0	0	0	0	145	0	0

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	2004	0	0	1154	0	0				3295	3872	1002
Stage 1	-	-	-	-	-	-				2718	2718	-
Stage 2	-	-	-	-	-	-				577	1154	-
Critical Hdwy	4.16	-	-	4.16	-	-				6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-				5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-				3.53	4.03	3.33
Pot Cap-1 Maneuver	278	-	-	595	-	-				~ 6	3	239
Stage 1	-	-	-	-	-	-				~ 35	43	-
Stage 2	-	-	-	-	-	-				522	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	278	-	-	595	-	-				~ 2	0	239
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 12	0	-
Stage 1	-	-	-	-	-	-				~ 14	0	-
Stage 2	-	-	-	-	-	-				522	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	3	$ 5610.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	278	-	-	595	-	-	12
HCM Lane V/C Ratio	-	-	-	0.6	-	-	12.105
HCM Control Delay (s)	0	-	-	19.7	-	-	$ 5610.4
HCM Lane LOS	A	-	-	C	-	-	F
HCM 95th %tile Q(veh)	0	-	-	4	-	-	19.5

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	43	1191	0	0	2243	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	45	1254	0	0	2361	0	0	0	0	0	0	0

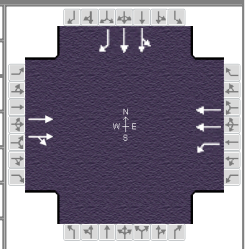
Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	2361	0	0	1254	0	0	2525	3705	627
Stage 1	-	-	-	-	-	-	1344	1344	-
Stage 2	-	-	-	-	-	-	1181	2361	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	201	-	-	545	-	-	22	4	424
Stage 1	-	-	-	-	-	-	206	217	-
Stage 2	-	-	-	-	-	-	252	66	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	201	-	-	545	-	-	17	0	424
Mov Cap-2 Maneuver	-	-	-	-	-	-	90	0	-
Stage 1	-	-	-	-	-	-	160	0	-
Stage 2	-	-	-	-	-	-	252	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	201	-	-	545	-	-
HCM Lane V/C Ratio	-	0.225	-	-	-	-	-
HCM Control Delay (s)	0	28	-	-	0	-	-
HCM Lane LOS	A	D	-	-	A	-	-
HCM 95th %tile Q(veh)	-	0.8	-	-	0	-	-

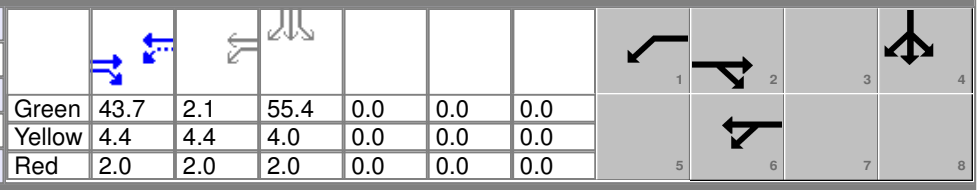
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_PM_(A).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		936	31	12	511					105	349	722

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.7	2.1	55.4	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		50.1	8.5	58.6				61.4
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					57.3
Green Extension Time (g_e), s		0.0	1.3	0.0				0.0
Phase Call Probability			0.34					1.00
Max Out Probability			0.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		512	506	13	538					248	230	760
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1845	1823	1757	1756					1804	1845	1563
Queue Service Time (g_s), s		29.3	27.2	0.0	9.7					10.3	9.2	55.3
Cycle Queue Clearance Time (g_c), s		29.3	27.2	0.0	9.7					10.3	9.2	55.3
Green Ratio (*g/C*)		0.36	0.36	0.37	0.43					0.46	0.46	0.46
Capacity (*c*), veh/h		674	667	150	1532					831	850	720
Volume-to-Capacity Ratio (*X*)		0.759	0.759	0.084	0.351					0.298	0.271	1.056
Available Capacity (c_a), veh/h		674	667	465	1532					835	854	723
Back of Queue (*Q*), veh/ln (50th percentile)		12.0	12.0	0.3	3.6					4.1	3.7	28.8
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.05	0.26					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		26.5	26.9	46.9	16.2					20.2	19.9	32.4
Incremental Delay (d_2), s/veh		7.8	7.9	0.1	0.6					0.1	0.1	49.2
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		34.3	34.8	47.0	16.8					20.3	20.0	81.6
Level of Service (LOS)		C	C	D	B					C	C	F
Approach Delay, s/veh / LOS	34.6	C		17.5	B		0.0			57.9	E	
Intersection Delay, s/veh / LOS	41.5						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.3	A	0.9	A			1.5	A

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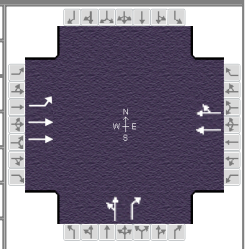
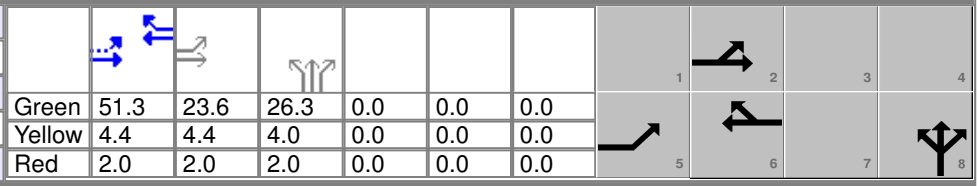
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_PM_(B).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	542	499			513	318	10	344	32			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	51.3	23.6	26.3	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	30.0	87.7		57.7		32.3		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					25.8		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.03		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	571	525			467	408		373	34			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1756			1845	1607		1842	1563			
Queue Service Time (g_s), s	23.6	2.2			24.5	22.8		23.8	2.1			
Cycle Queue Clearance Time (g_c), s	23.6	2.2			24.5	22.8		23.8	2.1			
Green Ratio (*g/C*)	0.61	0.68			0.43	0.43		0.22	0.22			
Capacity (*c*), veh/h	535	2379			789	687		404	343			
Volume-to-Capacity Ratio (*X*)	1.067	0.221			0.592	0.593		0.923	0.098			
Available Capacity (c_a), veh/h	535	2379			789	687		522	443			
Back of Queue (*Q*), veh/ln (50th percentile)	23.2	0.7			7.7	8.9		12.6	0.8			
Queue Storage Ratio (*RQ*) (50th percentile)	3.12	0.05			0.00	0.00		0.00	0.00			
Uniform Delay (d_1), s/veh	41.0	2.0			19.0	25.0		45.9	37.4			
Incremental Delay (d_2), s/veh	58.0	0.2			3.3	3.7		17.0	0.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (*d*), s/veh	99.0	2.2			22.3	28.8		62.8	37.4			
Level of Service (LOS)	F	A			C	C		E	D			
Approach Delay, s/veh / LOS	52.6	D		25.3	C		60.7	E		0.0		
Intersection Delay, s/veh / LOS	43.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.6	A	1.9	A	2.8	C	2.9	C
Bicycle LOS Score / LOS	1.4	A	1.2	A	1.2	A		

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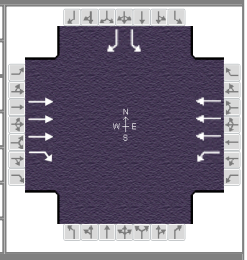
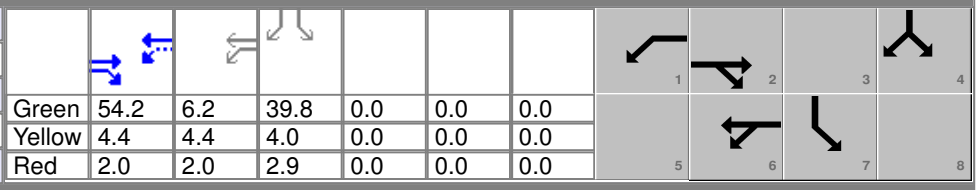
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_PM_(A).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1006	409	243	1237					490		463

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	54.2	6.2	39.8	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.9	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		60.6	12.6	73.3				46.7
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			3.2					38.3
Green Extension Time (g_e), s		0.0	3.1	0.0				1.5
Phase Call Probability			1.00					1.00
Max Out Probability			0.02					0.26

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1059	431	256	1302					516		487
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1675	1563	1757	1675					1757		1563
Queue Service Time (g_s), s		14.0	25.0	1.2	12.2					33.3		36.3
Cycle Queue Clearance Time (g_c), s		14.0	25.0	1.2	12.2					33.3		36.3
Green Ratio (*g/C*)		0.45	0.45	0.49	0.56					0.33		0.33
Capacity (*c*), veh/h		2272	707	319	2800					583		519
Volume-to-Capacity Ratio (*X*)		0.466	0.609	0.802	0.465					0.885		0.939
Available Capacity (c_a), veh/h		2272	707	573	2800					666		593
Back of Queue (*Q*), veh/ln (50th percentile)		4.7	9.6	7.4	3.5					15.3		16.1
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.82	1.00	0.38					0.00		0.00
Uniform Delay (d_1), s/veh		15.8	24.9	41.4	8.4					37.9		38.9
Incremental Delay (d_2), s/veh		0.7	3.9	1.8	0.6					11.4		20.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		16.5	28.7	43.2	9.0					49.3		59.5
Level of Service (LOS)		B	C	D	A					D		E
Approach Delay, s/veh / LOS	20.1	C		14.6	B		0.0			54.2	D	
Intersection Delay, s/veh / LOS	26.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.0	A	1.7	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.3	A	1.3	A				F

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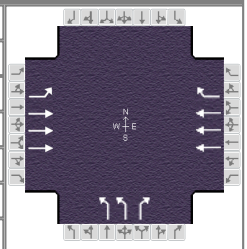
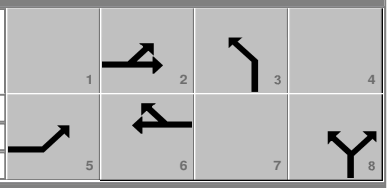
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_PM_(B).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	423	1073			996	235	484		242			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	67.0	11.0	22.3	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	17.4	90.8		73.4		29.2		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.2		
Queue Clearance Time (g_s), s	10.9					21.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		1.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.17		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	445	1129			1048	247	509		255			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1675			1675	1563	1706		1563			
Queue Service Time (g_s), s	8.9	2.4			8.9	10.0	17.1		19.0			
Cycle Queue Clearance Time (g_c), s	8.9	2.4			8.9	10.0	17.1		19.0			
Green Ratio (*g/C*)	0.63	0.70			0.56	0.56	0.19		0.19			
Capacity (*c*), veh/h	469	3534			2801	871	634		291			
Volume-to-Capacity Ratio (*X*)	0.949	0.320			0.374	0.284	0.803		0.876			
Available Capacity (c_a), veh/h	470	3534			2801	871	799		366			
Back of Queue (*Q*), veh/ln (50th percentile)	16.3	0.6			2.7	3.6	7.5		8.5			
Queue Storage Ratio (*RQ*) (50th percentile)	2.20	0.07			0.00	0.61	0.00		0.00			
Uniform Delay (d_1), s/veh	35.0	1.2			8.0	14.0	46.7		47.5			
Incremental Delay (d_2), s/veh	28.7	0.2			0.4	0.8	3.7		15.2			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	63.6	1.4			8.3	14.8	50.4		62.7			
Level of Service (LOS)	E	A			A	B	D		E			
Approach Delay, s/veh / LOS	19.0	B		9.6	A		54.5	D		0.0		
Intersection Delay, s/veh / LOS	23.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	2.0	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.4	A	1.2	A		F		

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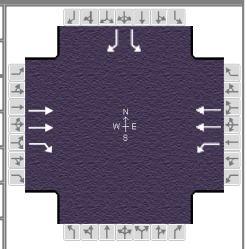
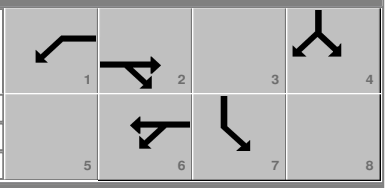
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_PM_(A).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		927	316	244	902					437		511

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	48.0	8.5	44.0	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.7	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		54.4	14.9	69.3				50.7
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			8.0					41.9
Green Extension Time (g_e), s		0.0	0.6	0.0				2.1
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		976	333	257	949					460		538
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1756	1563	1757	1756					1757		1563
Queue Service Time (g_s), s		24.6	19.4	6.0	15.3					27.0		39.9
Cycle Queue Clearance Time (g_c), s		24.6	19.4	6.0	15.3					27.0		39.9
Green Ratio (*g/C*)		0.40	0.40	0.46	0.52					0.37		0.37
Capacity (*c*), veh/h		1409	627	287	1842					644		573
Volume-to-Capacity Ratio (*X*)		0.693	0.530	0.896	0.516					0.715		0.939
Available Capacity (c_a), veh/h		1409	627	831	1842					1005		894
Back of Queue (*Q*), veh/ln (50th percentile)		9.1	7.6	7.7	4.8					10.9		15.7
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	1.08	0.59	0.31					0.00		0.00
Uniform Delay (d_1), s/veh		22.4	27.3	48.3	10.9					32.6		36.7
Incremental Delay (d_2), s/veh		2.8	3.2	4.0	1.0					0.6		9.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		25.3	30.5	52.3	11.9					33.2		46.3
Level of Service (LOS)		C	C	D	B					C		D
Approach Delay, s/veh / LOS	26.6	C		20.5	C		0.0			40.2	D	
Intersection Delay, s/veh / LOS	28.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.0	A	1.7	A	2.9	C	2.9	C
Bicycle LOS Score / LOS	1.6	A	1.5	A				F

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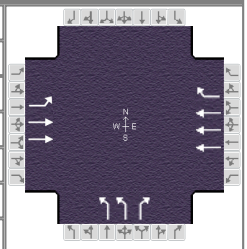
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_PM_(B).xus				
Project Description	2012 Existing PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	273	1091			802	198	344		331			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	66.7	5.0	28.8	0.0	0.0	0.0	5	6	7	8
Yellow	4.4	4.4	4.0	0.0	0.0	0.0				
Red	2.0	2.0	2.7	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	11.4	84.5		73.1		35.5		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	2.0					28.2		
Green Extension Time (g_e), s	1.4	0.0		0.0		0.6		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.98		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	287	1148			844	208	362		348			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1757	1756			1675	1563	1706		1563			
Queue Service Time (g_s), s	0.0	9.2			6.7	8.2	10.8		26.2			
Cycle Queue Clearance Time (g_c), s	0.0	9.2			6.7	8.2	10.8		26.2			
Green Ratio (*g/C*)	0.58	0.65			0.56	0.56	0.24		0.24			
Capacity (*c*), veh/h	444	2286			2793	869	819		375			
Volume-to-Capacity Ratio (*X*)	0.647	0.502			0.302	0.240	0.442		0.929			
Available Capacity (c_a), veh/h	444	2286			2793	869	890		408			
Back of Queue (*Q*), veh/ln (50th percentile)	6.8	2.3			2.2	2.9	4.4		12.3			
Queue Storage Ratio (*RQ*) (50th percentile)	0.63	0.15			0.00	0.36	0.00		0.00			
Uniform Delay (d_1), s/veh	24.5	3.4			7.8	13.7	38.8		44.6			
Incremental Delay (d_2), s/veh	2.6	0.8			0.3	0.7	0.1		25.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	27.1	4.2			8.0	14.3	38.9		70.1			
Level of Service (LOS)	C	A			A	B	D		E			
Approach Delay, s/veh / LOS	8.8	A		9.3	A		54.2	D		0.0		
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	2.0	A	3.0	C	3.2	C
Bicycle LOS Score / LOS	1.7	A	1.1	A		F		

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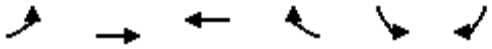


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	785	582	0	547	275
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	0	826	613	0	576	289
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	3
Cap, veh/h	0	2327	2327	0	746	343
Arrive On Green	0.00	0.22	0.66	0.00	0.22	0.22
Sat Flow, veh/h	0	3689	3689	0	3408	1568
Grp Volume(v), veh/h	0	826	613	0	576	289
Grp Sat Flow(s),veh/h/ln	0	1752	1752	0	1704	1568
Q Serve(g_s), s	0.0	21.8	7.8	0.0	17.4	19.3
Cycle Q Clear(g_c), s	0.0	21.8	7.8	0.0	17.4	19.3
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2327	2327	0	746	343
V/C Ratio(X)	0.00	0.35	0.26	0.00	0.77	0.84
Avail Cap(c_a), veh/h	0	2327	2327	0	1079	496
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	22.9	7.5	0.0	40.1	40.9
Incr Delay (d2), s/veh	0.0	0.4	0.3	0.0	2.2	8.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.8	3.8	0.0	8.4	9.2
LnGrp Delay(d),s/veh	0.0	23.3	7.8	0.0	42.3	49.5
LnGrp LOS		C	A		D	D
Approach Vol, veh/h		826	613		865	
Approach Delay, s/veh		23.3	7.8		44.7	
Approach LOS		C	A		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		89.7		30.3		89.7		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		72.6		34.6		72.6		
Max Q Clear Time (g_c+I1), s		23.8		21.3		9.8		
Green Ext Time (p_c), s		7.3		2.6		7.4		

Intersection Summary	
HCM 2010 Ctrl Delay	27.2
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	76	1256	0	0	582	364	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	80	1322	0	0	613	383	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	613	0	0	1322	0	0	1788	2095	661
Stage 1	-	-	-	-	-	-	1482	1482	-
Stage 2	-	-	-	-	-	-	306	613	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	955	-	-	513	-	0	72	51	403
Stage 1	-	-	-	-	-	0	173	186	-
Stage 2	-	-	-	-	-	0	717	479	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	955	-	-	513	-	-	66	0	403
Mov Cap-2 Maneuver	-	-	-	-	-	-	66	0	-
Stage 1	-	-	-	-	-	-	159	0	-
Stage 2	-	-	-	-	-	-	717	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.5	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	955	-	-	513	-
HCM Lane V/C Ratio	-	0.084	-	-	-	-
HCM Control Delay (s)	0	9.1	-	-	0	-
HCM Lane LOS	A	A	-	-	A	-
HCM 95th %tile Q(veh)	-	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	196	200	74	411	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	3	3	3	3	2	3	2	3	2	2	2
Mvmt Flow	0	206	211	78	433	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	433	0	-	206	0	0	691	794	216
Stage 1	-	-	-	-	-	-	588	588	-
Stage 2	-	-	-	-	-	-	103	206	-
Critical Hdwy	4.14	-	-	4.16	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.23	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	1123	-	0	1355	-	-	378	319	789
Stage 1	-	-	0	-	-	-	518	494	-
Stage 2	-	-	0	-	-	-	910	730	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1123	-	-	1355	-	-	356	0	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	0	-
Stage 1	-	-	-	-	-	-	488	0	-
Stage 2	-	-	-	-	-	-	910	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.2	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1123	-	1355	-	-	-
HCM Lane V/C Ratio	-	-	0.057	-	-	-
HCM Control Delay (s)	0	-	7.8	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.2	-	-	-

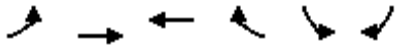
Intersection	
Int Delay, s/veh	3.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	196	0	0	317	168	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3
Mvmt Flow	206	0	0	334	177	74

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	206	0	373	103
Stage 1	-	-	-	-	206	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.16	-	6.86	6.96
Critical Hdwy Stg 1	-	-	-	-	5.86	-
Critical Hdwy Stg 2	-	-	-	-	5.86	-
Follow-up Hdwy	-	-	2.23	-	3.53	3.33
Pot Cap-1 Maneuver	-	-	1355	-	598	929
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1355	-	598	929
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	598	929	-	-	1355	-
HCM Lane V/C Ratio	0.296	0.079	-	-	-	-
HCM Control Delay (s)	13.5	9.2	-	-	0	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	1.2	0.3	-	-	0	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	867	369	0	209	656
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	1845
Adj Flow Rate, veh/h	0	913	388	0	220	691
Adj No. of Lanes	0	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	3
Cap, veh/h	0	1406	2370	0	723	646
Arrive On Green	0.00	0.47	0.47	0.00	0.41	0.41
Sat Flow, veh/h	0	4685	5368	0	1757	1568
Grp Volume(v), veh/h	0	913	388	0	220	691
Grp Sat Flow(s),veh/h/ln	0	996	1679	0	1757	1568
Q Serve(g_s), s	0.0	19.8	3.8	0.0	7.2	35.0
Cycle Q Clear(g_c), s	0.0	19.8	3.8	0.0	7.2	35.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1406	2370	0	723	646
V/C Ratio(X)	0.00	0.65	0.16	0.00	0.30	1.07
Avail Cap(c_a), veh/h	0	1406	2370	0	723	646
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	17.2	12.9	0.0	16.8	25.0
Incr Delay (d2), s/veh	0.0	2.3	0.1	0.0	0.2	55.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.7	1.8	0.0	3.5	25.1
LnGrp Delay(d),s/veh	0.0	19.5	13.1	0.0	17.0	80.7
LnGrp LOS		B	B		B	F
Approach Vol, veh/h		913	388		911	
Approach Delay, s/veh		19.5	13.1		65.3	
Approach LOS		B	B		E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		40.0
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		5.8				21.8		37.0
Green Ext Time (p_c), s		11.1				8.5		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	37.2
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	270	0	34	0	0	0	12	294	1	3	343	380
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	-	133	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	284	0	36	0	0	0	13	309	1	3	361	400

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	547	703	181	522	702	155	361	0	0	311	0	0
Stage 1	367	367	-	335	335	-	-	-	-	-	-	-
Stage 2	180	336	-	187	367	-	-	-	-	-	-	-
Critical Hdwy	7.56	6.56	6.96	7.56	6.56	6.96	4.16	-	-	4.16	-	-
Critical Hdwy Stg 1	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.56	5.56	-	6.56	5.56	-	-	-	-	-	-	-
Follow-up Hdwy	3.53	4.03	3.33	3.53	4.03	3.33	2.23	-	-	2.23	-	-
Pot Cap-1 Maneuver	418	358	827	435	359	860	1187	-	-	1239	-	0
Stage 1	622	618	-	650	639	-	-	-	-	-	-	0
Stage 2	801	638	-	794	618	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	414	353	827	412	354	860	1187	-	-	1239	-	-
Mov Cap-2 Maneuver	414	353	-	412	354	-	-	-	-	-	-	-
Stage 1	615	616	-	643	632	-	-	-	-	-	-	-
Stage 2	792	631	-	757	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.3	0	0.3	0.1
HCM LOS	D	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1187	-	-	414	827	-	1239	-
HCM Lane V/C Ratio	0.011	-	-	0.686	0.043	-	0.003	-
HCM Control Delay (s)	8.1	-	-	30.7	9.6	0	7.9	0
HCM Lane LOS	A	-	-	D	A	A	A	A
HCM 95th %tile Q(veh)	0	-	-	5	0.1	-	0	-

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	133	0	193	0	221	0	0	488	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	140	0	203	0	233	0	0	514	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	747	747	257	490	747	233	514	0	0	233	0	0
Stage 1	514	514	-	233	233	-	-	-	-	-	-	-
Stage 2	233	233	-	257	514	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.545	6.945	7.345	6.545	6.245	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.545	5.545	-	6.145	5.545	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.145	5.545	-	6.545	5.545	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285	3.5285	4.0285	3.3285	2.23	-	-	2.227	-	-
Pot Cap-1 Maneuver	313	339	740	473	339	803	1041	-	-	1329	-	-
Stage 1	510	532	-	767	709	-	-	-	-	-	-	-
Stage 2	767	709	-	723	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	234	339	740	473	339	803	1041	-	-	1329	-	-
Mov Cap-2 Maneuver	234	339	-	473	339	-	-	-	-	-	-	-
Stage 1	510	532	-	767	709	-	-	-	-	-	-	-
Stage 2	573	709	-	723	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	13	0	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1041	-	-	-	473	803	1329	-	-
HCM Lane V/C Ratio	-	-	-	-	0.296	0.253	-	-	-
HCM Control Delay (s)	0	-	-	0	15.8	11	0	-	-
HCM Lane LOS	A	-	-	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.2	1	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	221	142	162	459	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	0	0	0	0	0	0	233	149	171	483	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1057	1057	242				483	0	0	233	0	0
Stage 1	824	824	-				-	-	-	-	-	-
Stage 2	233	233	-				-	-	-	-	-	-
Critical Hdwy	6.645	6.545	6.945				4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	5.845	5.545	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.445	5.545	-				-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.0285	3.3285				2.23	-	-	2.227	-	-
Pot Cap-1 Maneuver	233	223	757				1069	-	-	1329	-	-
Stage 1	390	385	-				-	-	-	-	-	-
Stage 2	802	709	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	203	0	757				1069	-	-	1329	-	-
Mov Cap-2 Maneuver	203	0	-				-	-	-	-	-	-
Stage 1	340	0	-				-	-	-	-	-	-
Stage 2	802	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.1
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	1069	-	-	-	1329	-	-
HCM Lane V/C Ratio	-	-	-	-	0.128	-	-
HCM Control Delay (s)	0	-	-	0	8.1	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	529	498	0	1299	0	0	0	0	320	0	302
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1845	1845	0	1845	0				1845	0	1845
Adj Flow Rate, veh/h	0	557	524	0	1367	0				337	0	318
Adj No. of Lanes	0	2	1	0	3	0				1	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	3	3	0	3	0				3	0	3
Cap, veh/h	0	2238	1001	0	3216	0				423	0	378
Arrive On Green	0.00	0.64	0.64	0.00	0.64	0.00				0.24	0.00	0.24
Sat Flow, veh/h	0	3597	1568	0	5368	0				1757	0	1568
Grp Volume(v), veh/h	0	557	524	0	1367	0				337	0	318
Grp Sat Flow(s),veh/h/ln	0	1752	1568	0	1679	0				1757	0	1568
Q Serve(g_s), s	0.0	5.7	15.1	0.0	11.2	0.0				15.0	0.0	16.0
Cycle Q Clear(g_c), s	0.0	5.7	15.1	0.0	11.2	0.0				15.0	0.0	16.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2238	1001	0	3216	0				423	0	378
V/C Ratio(X)	0.00	0.25	0.52	0.00	0.43	0.00				0.80	0.00	0.84
Avail Cap(c_a), veh/h	0	2744	1228	0	3943	0				529	0	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	6.4	8.1	0.0	7.4	0.0				29.6	0.0	30.0
Incr Delay (d2), s/veh	0.0	0.1	0.6	0.0	0.1	0.0				7.6	0.0	11.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	6.6	0.0	5.1	0.0				8.1	0.0	8.1
LnGrp Delay(d),s/veh	0.0	6.5	8.8	0.0	7.6	0.0				37.2	0.0	41.9
LnGrp LOS		A	A		A					D		D
Approach Vol, veh/h		1081			1367						655	
Approach Delay, s/veh		7.6			7.6						39.5	
Approach LOS		A			A						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		58.0		25.0		58.0		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		65.0		25.0		65.0		
Max Q Clear Time (g_c+I1), s		17.1		18.0		13.2		
Green Ext Time (p_c), s		36.0		2.0		38.1		

Intersection Summary	
HCM 2010 Ctrl Delay	14.3
HCM 2010 LOS	B

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1039	0	0	2183	789	835
Number	2	12	1	6	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	0	0	1845	1845	1845
Adj Flow Rate, veh/h	1094	0	0	2298	831	879
Adj No. of Lanes	3	0	0	3	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	0	0	3	3	3
Cap, veh/h	3159	0	0	3159	977	449
Arrive On Green	0.63	0.00	0.00	0.63	0.29	0.29
Sat Flow, veh/h	5368	0	0	5368	3408	1568
Grp Volume(v), veh/h	1094	0	0	2298	831	879
Grp Sat Flow(s),veh/h/ln	1679	0	0	1679	1704	1568
Q Serve(g_s), s	18.6	0.0	0.0	56.3	41.4	51.6
Cycle Q Clear(g_c), s	18.6	0.0	0.0	56.3	41.4	51.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	3159	0	0	3159	977	449
V/C Ratio(X)	0.35	0.00	0.00	0.73	0.85	1.96
Avail Cap(c_a), veh/h	3159	0	0	3159	977	449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.0	0.0	0.0	23.0	60.6	64.2
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.5	7.2	438.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	0.0	0.0	26.4	20.5	77.0
LnGrp Delay(d),s/veh	16.3	0.0	0.0	24.5	67.8	502.3
LnGrp LOS	B			C	E	F
Approach Vol, veh/h	1094			2298	1710	
Approach Delay, s/veh	16.3			24.5	291.1	
Approach LOS	B			C	F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		120.0				120.0		60.0
Change Period (Y+Rc), s		7.1				7.1		8.4
Max Green Setting (Gmax), s		112.9				112.9		51.6
Max Q Clear Time (g_c+I1), s		20.6				58.3		53.6
Green Ext Time (p_c), s		68.6				45.4		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	112.1
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	180.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1615	0	331	1343	0	0	0	0	55	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	450	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	0	1700	0	348	1414	0	0	0	0	58	0	0

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	1414	0	0	1700	0	0				2961	3811	707
Stage 1	-	-	-	-	-	-				2111	2111	-
Stage 2	-	-	-	-	-	-				850	1700	-
Critical Hdwy	4.16	-	-	4.16	-	-				6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-				5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-				3.53	4.03	3.33
Pot Cap-1 Maneuver	473	-	-	366	-	-				~ 11	4	375
Stage 1	-	-	-	-	-	-				78	89	-
Stage 2	-	-	-	-	-	-				377	145	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	473	-	-	366	-	-				~ 1	0	375
Mov Cap-2 Maneuver	-	-	-	-	-	-				~ 3	0	-
Stage 1	-	-	-	-	-	-				~ 4	0	-
Stage 2	-	-	-	-	-	-				377	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	13.8	$ 10553.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	473	-	-	366	-	-	3
HCM Lane V/C Ratio	-	-	-	0.952	-	-	19.298
HCM Control Delay (s)	0	-	-	69.8	-	-	$ 10553.9
HCM Lane LOS	A	-	-	F	-	-	F
HCM 95th %tile Q(veh)	0	-	-	10.4	-	-	9.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	95	1573	0	0	1674	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3
Mvmt Flow	100	1656	0	0	1762	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	1762	0	0	1656	0	0	2737	3618	828
Stage 1	-	-	-	-	-	-	1856	1856	-
Stage 2	-	-	-	-	-	-	881	1762	-
Critical Hdwy	4.16	-	-	4.16	-	-	6.86	6.56	6.96
Critical Hdwy Stg 1	-	-	-	-	-	-	5.86	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.86	5.56	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.53	4.03	3.33
Pot Cap-1 Maneuver	346	-	-	381	-	-	16	5	312
Stage 1	-	-	-	-	-	-	108	121	-
Stage 2	-	-	-	-	-	-	363	135	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	346	-	-	381	-	-	11	0	312
Mov Cap-2 Maneuver	-	-	-	-	-	-	58	0	-
Stage 1	-	-	-	-	-	-	77	0	-
Stage 2	-	-	-	-	-	-	363	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.1	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	346	-	-	381	-	-
HCM Lane V/C Ratio	-	0.289	-	-	-	-	-
HCM Control Delay (s)	0	19.6	-	-	0	-	-
HCM Lane LOS	A	C	-	-	A	-	-
HCM 95th %tile Q(veh)	-	1.2	-	-	0	-	-

Existing Year (2012) CORSIM Output

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6881	70	3	1087	26.4	27.8	26.6	25.0	34.0	34.2	34.5	34.3	33.6	30.6	29.0	27.5	26.1	27.6	26.2	24.7	34.2	35.0	35.6	35.1	34.4	30.4	28.9	27.2
	300, 301	I275NB3	6881	70	3	805	25.9	27.2	26.1	24.5	33.2	33.4	33.7	33.6	32.9	30.0	28.5	26.9												
	301, 302	I275NB4	6881	70	3	478	26.3	27.8	26.5	24.8	33.8	34.2	34.4	34.3	33.7	30.5	29.0	27.4												
	302, 303	I275NB5	6881	70	3	2687	26.8	28.4	26.8	25.3	35.6	36.7	37.8	37.0	36.2	31.3	29.8	28.0												
	303, 304	I275NB6	6881	70	4	382	20.7	21.8	20.6	19.4	27.6	28.8	29.1	28.9	28.1	24.1	23.1	21.5												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5335	70	3	1375	20.4	21.4	20.5	19.3	26.0	26.6	26.9	26.8	26.4	23.4	22.4	21.4	20.4	21.3	20.6	19.3	25.8	26.3	26.6	26.6	26.3	23.4	22.4	21.4
	305, 306	I275NB8	5335	70	3	1306	20.3	21.3	20.6	19.3	25.6	26.1	26.3	26.4	26.1	23.3	22.4	21.4												
	306, 307	I275NB9	5335	70	3	591	20.3	21.3	20.6	19.3	25.6	26.2	26.4	26.6	26.3	23.4	22.5	21.4												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6190	70	5	1065	14.6	15.0	14.7	13.6	18.1	18.8	18.8	18.7	18.3	16.6	15.9	15.2	17.4	18.0	17.5	16.3	21.7	22.6	22.9	22.6	22.2	20.0	19.1	18.3
	308, 309	I275NB11	6190	70	5	3035	17.4	17.9	17.5	16.3	21.5	22.4	22.5	22.3	21.9	19.9	19.0	18.2												
	309, 310	I275NB12	6190	70	4	1095	17.8	18.4	18.0	16.7	21.9	23.1	23.2	22.9	22.6	20.4	19.5	18.8												
	310, 311	I275NB13	6190	70	4	380	18.3	18.9	18.5	17.1	22.6	23.9	24.1	23.9	23.5	21.0	20.1	19.3												
	311, 312	I275NB14	6190	70	4	399	18.6	19.3	18.8	17.4	23.5	24.7	25.2	24.7	24.6	21.7	20.5	19.7												
	312, 313	I275NB15	6190	70	4	368	18.8	19.6	19.0	17.6	24.4	25.6	26.7	25.6	25.5	22.3	21.0	19.9												
	313, 314	I275NB16	6190	70	4	460	19.7	20.5	20.1	18.6	25.5	26.7	27.8	26.9	26.7	23.4	22.2	20.9												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3171	70	3	886	12.0	12.3	12.0	11.1	14.3	15.6	15.7	15.5	15.4	13.6	13.5	12.4	11.8	12.1	11.8	10.9	13.9	15.2	15.3	15.1	15.0	13.4	13.2	12.2
	315, 316	I275NB18	3171	70	3	1317	11.8	12.0	11.8	10.9	13.8	15.0	15.1	14.9	14.8	13.3	13.1	12.1												
	316, 317	I275NB19	3171	70	3	1361	11.8	12.0	11.8	10.9	13.7	15.0	15.1	14.9	14.8	13.3	13.2	12.1												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3940	70	5	1032	9.1	9.3	9.1	8.5	10.8	11.8	11.8	11.4	11.1	10.3	10.1	9.4	10.5	10.7	10.5	9.8	12.3	13.6	13.6	13.2	12.7	11.9	11.6	10.8
	318, 319	I275NB21	3940	70	5	1191	10.2	10.4	10.2	9.5	12.0	13.2	13.2	12.9	12.4	11.6	11.3	10.5												
	319, 320	I275NB22	3940	70	4	3175	11.0	11.2	11.0	10.3	12.9	14.3	14.3	13.9	13.4	12.6	12.2	11.4												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	4220	70	4	1678	10.8	11.1	10.9	10.1	12.7	14.2	14.2	13.7	13.0	12.4	12.0	11.3	10.8	11.1	10.9	10.1	12.7	14.2	14.2	13.7	13.0	12.4	12.0	11.3
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	5432	70	5	1064	11.2	11.6	11.3	10.5	13.6	14.9	14.8	14.3	13.3	12.9	12.3	11.7	11.7	12.1	11.6	11.0	14.7	16.1	15.5	14.9	13.1	13.3	12.8	12.3
	322, 323	I275NB25	5432	70	5	1398	12.1	12.6	12.3	11.4	14.6	16.1	16.1	15.5	14.5	14.0	13.5	12.8												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	6291	70	5	817	12.7	13.3	12.9	12.0	15.6	17.2	17.0	16.4	15.1	14.7	14.2	13.4	16.1	16.9	16.4	15.3	20.2	22.8	22.5	21.2	19.5	18.9	18.2	17.1
	324, 325	I275NB27	6291	70	5	683	15.2	16.0	15.5	14.4	19.8	23.4	22.5	20.7	18.7	18.0	17.2	16.1												
	325, 326	I275NB28	6291	70	4	1898	18.0	18.8	18.2	17.0	22.2	25.1	24.8	23.4	21.6	21.0	20.2	19.0												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	5460	70	4	2040	15.3	16.2	15.4	14.5	20.3	21.6	20.3	19.5	16.9	17.7	16.8	16.0	15.3	16.2	15.4	14.5	20.3	21.6	20.3	19.5	16.9	17.7	16.8	16.0
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5123	70	4	2745	13.6	14.3	13.6	12.7	17.8	19.3	18.1	17.2	15.1	15.5	14.9	14.1	13.4	11.9	11.4	10.8	14.4	15.8	15.2	14.6	12.7	13.0	12.5	12.1
	402, 403	I275SB4	5123	70	5	825	12.9	13.6	13.1	12.1	17.2	19.3	17.6	16.6	14.6	14.9	14.3	13.4												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	2594	70	4	4213	7.2	7.6	7.2	6.7	9.3	9.9	9.6	9.3	7.9	8.2	8.1	7.6	7.2	7.6	7.2	6.7	9.3	9.9	9.6	9.3	7.9	8.2	8.1	7.6
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	2804	70	4	972	6.4	6.8	6.3	6.1	8.1	8.7	8.5	8.2	6.9	7.3	7.1	6.8	7.4	12.3	11.7	11.2	14.8	16.2	15.7	15.1	13.1	13.5	12.9	12.5
	405, 406	I275SB7	2804	70	4	1472	7.8	8.3	7.7	7.4	10.0	10.7	10.4	10.1	8.5	9.0	8.7	8.4												
	406, 407	I275SB8	2804	70	4	662	8.1	8.7	8.1	7.7	10.4	11.2	10.9	10.6	9.0	9.4	9.1	8.7												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2066	70	3	1201	7.6	8.0	7.4	7.2	9.6	10.5	10.1	9.7	8.2	8.7	8.5	8.2	7.6	12.8	12.2	11.7	15.4	16.9	16.3	15.7	13.7	14.1	13.5	13.0
	408, 409	I275SB10	2066	70	3	1585	7.6	7.9	7.4	7.2	9.5	10.4	10.1	9.6	8.2	8.7	8.4	8.1												
	409, 410	I275SB11	2066	70	3	458	7.5	7.9	7.4	7.2	9.5	10.3	10.1	9.6	8.2	8.7	8.4	8.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	2958	70	5	631	7.0	7.4	7.0	6.8	9.0	9.7	9.4	9.0	7.7	8.1	7.8	7.5	7.5	7.9	7.5	7.2	9.6	10.4	10.0	9.6	8.3	8.6	8.3	8.0
	411, 412	I275SB13	2958	70	5	244	6.9	7.3	6.9	6.6	8.8	9.6	9.2	8.9	7.6	7.9	7.7	7.4												
	412, 413	I275SB14	2958	70	4	608	8.3	8.7	8.2	7.9	10.5	11.4	11.0	10.6	9.1	9.5	9.1	8.9												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	3777	70	4	492	9.4	9.8	9.3	9.0	12.1	13.0	12.5	12.2	10.5	10.8	10.3	10.0	10.6	11.1	10.5	10.1	13.4	14.6	14.1	13.6	11.8	12.1	11.6	11.3
	414, 415	I275SB16	3777	70	4	3870	10.6	11.1	10.6	10.2	13.5	14.6	14.1	13.7	11.8	12.2	11.7	11.4												
	415, 416	I275SB17	3777	70	4	1086	11.0	11.4	10.9	10.4	13.7	15.1	14.7	14.2	12.2	12.6	12.0	11.8												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	3290	70	3	1385	12.1	12.7	12.1	11.7	15.1	16.6	16.1	15.7	13.6	13.9	13.2	13.1	12.1	12.7	12.1	11.6	15.1	16.6	16.1	15.7	13.6	13.9	13.2	13.0
	417, 418	I275SB19	3290	70	3	343	12.0	12.6	12.1	11.6	15.0	16.5	16.0	15.6	13.6	13.8	13.2	13.0												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	4144	70	3	1507	13.3	13.9	13.3	12.7	16.6	18.7	17.8	17.3	15.1	15.4	14.7	14.2	13.3	13.9	13.3	12.7	16.6	18.7	17.8	17.3	15.1	15.4	14.7	14.2
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	5063	70	3	3297	16.9	18.0	17.4	16.6	21.6	24.0	23.2	22.3	19.4	19.9	19.0	18.4	17.6	18.6	18.0	17.3	22.2	24.7	23.9	23.1	20.1	20.5	19.8	19.0
	420, 421	I275SB22	5063	70	3	430	18.5	19.5	19.0	18.2	23.1	25.7	24.9	24.2	21.1	21.5	20.7	19.9												
	421, 422	I275SB23	5063	70	3	403	18.5	19.5	19.0	18.2	23.1	25.8	25.0	24.2	21.2	21.5	20.8	19.9												
	422, 423	I275SB24	5063	70	3	426	18.5	19.5	19.0	18.2	23.1	25.8	25.0	24.2	21.2	21.5	20.8	19.9												
	423, 424	I275SB25	5063	70	3	412	18.5	19.4	18.9	18.2	23.1	25.8	25.0	24.3	21.2	21.5	20.8	19.9												
	424, 425	I275SB26	5063	70	3	734	18.5	19.4	19.0	18.3	22.9	25.8	25.0	24.2	21.2	21.5	20.8	19.9												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2946	50	3	841	15.3	16.1	15.4	14.6	20.4	21.7	20.5	19.3	16.9	17.7	16.8	16.0	12.7	13.4	12.8	12.2	17.0	18.1	17.0	16.0	14.0	14.7	14.0	13.4
	500, 501	GandyEB3	2946	50	4	954	11.1	11.6	11.1	10.6	14.6	15.6	14.7	13.9	12.2	12.7	12.1	11.6												
	501, 502	GandyEB4	2946	50	5	174	9.4	9.8	9.4	9.0	12.9	14.1	12.9	12.0	10.4	10.9	10.4	10.0												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1172	50	3	178	6.1	6.6	6.2	6.1	8.3	9.0	8.3	8.0	6.8	7.2	6.8	6.5	6.1	6.6	6.2	6.1	8.3	9.0	8.3	8.0	6.8	7.2	6.8	6.5
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1172	50	3	99	8.4	9.2	8.8	8.2	11.3	12.2	11.8	11.1	9.3	9.8	9.7	9.3	7.4	8.0	7.7	7.2	9.9	10.7	10.3	9.8	8.2	8.7	8.5	8.1
	505, 506	GandyEB10	1172	50	3	119	6.6	7.1	6.8	6.4	8.8	9.4	9.1	8.7	7.3	7.7	7.5	7.1												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2122	50	3	1167	10.9	11.6	10.9	10.4	13.8	15.0	14.7	14.2	12.8	12.6	12.4	11.4	10.9	11.6	10.9	10.4	13.8	15.0	14.7	14.2	12.8	12.6	12.4	11.4
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2646	55	3	181	17.6	18.1	17.7	16.6	22.5	23.9	23.4	22.5	20.0	20.1	19.1	18.4	12.5	12.8	12.6	11.8	16.2	17.0	16.7	16.0	14.1	14.3	13.6	12.9
	520, 521	GandyWB5	2646	55	3	291	12.8	13.2	12.9	12.2	16.3	17.2	16.9	16.3	14.5	14.7	13.8	13.3												
	521, 522	GandyWB6	2646	55	4	590	10.8	11.0	10.9	10.2	14.1	14.7	14.6	13.8	12.1	12.4	11.7	11.0												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	1792	55	3	1768	8.6	8.9	8.7	8.4	11.1	11.6	11.5	11.1	9.9	9.9	9.5	9.1	8.6	8.9	8.7	8.4	11.1	11.6	11.5	11.1	9.9	9.9	9.5	9.1
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2279	55	3	1179	8.5	8.8	8.5	8.2	10.7	11.6	11.4	11.0	9.7	9.7	9.4	9.1	9.3	17.6	16.5	16.0	20.6	22.5	22.1	21.8	20.9	19.3	18.6	17.4
	524, 525	GandyWB9	2279	55	3	455	11.3	11.6	11.1	10.8	14.1	15.3	15.0	14.5	12.9	12.7	12.4	12.0												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1546	50	1	525	23.5	25.0	23.2	22.6	29.3	31.9	31.7	31.4	31.1	27.5	26.5	24.1	23.0	24.4	22.8	22.3	28.1	30.6	30.2	30.1	29.8	26.8	25.8	23.7
	600, 601	GdyNBoff2	1546	50	1	1220	23.9	25.3	23.7	23.2	28.9	31.4	31.0	30.9	30.5	27.8	26.6	24.7												
	601, 7001	GdyNBoff3	1546	50	2	135	13.4	13.8	12.9	12.7	16.2	18.4	17.5	17.9	17.6	15.5	15.0	13.8												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	950	50	1	84	22.9	24.4	21.4	20.9	27.3	30.3	30.0	30.2	29.2	26.8	26.0	23.1	18.0	19.1	17.0	16.6	21.4	23.6	23.4	23.5	22.7	21.0	20.5	18.2
	605, 606	GdyNBoff9	950	50	1	107	16.7	17.7	15.8	15.4	19.8	21.8	21.7	21.8	21.1	19.5	19.0	16.9												
	606, 506	GdyNBoff10	950	50	1	158	16.2	17.3	15.5	15.1	19.2	21.2	21.0	21.0	20.3	18.9	18.4	16.4												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1774	50	2	179	15.2	15.7	15.2	14.2	22.6	26.0	22.1	20.4	17.7	18.2	17.2	16.7	15.2	15.7	15.2	14.2	22.6	26.0	22.1	20.4	17.7	18.2	17.2	16.7
	7004, 623	GdyNBon5	855	50	2	501	7.8	7.2	7.4	6.7	9.2	10.1	9.7	9.0	8.3	8.5	8.0	7.6												

2012 Existing AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from EB Gandy	623, 624	GdyNBon6	855	50	2	299	7.2	6.7	6.9	6.2	8.5	9.3	9.0	8.4	7.6	7.8	7.4	7.1	7.3	6.8	6.9	6.3	8.5	9.3	9.1	8.5	7.7	7.9	7.4	7.1
	624, 625	GdyNBon7	855	50	2	253	7.2	6.7	6.9	6.2	8.5	9.3	9.0	8.4	7.6	7.8	7.3	7.0												
	625, 626	GdyNBon8	855	50	2	238	7.2	6.7	6.9	6.2	8.5	9.2	8.9	8.4	7.6	7.8	7.3	7.0												
	626, 627	GdyNBon9	855	50	2	242	7.2	6.7	6.8	6.2	8.4	9.2	8.9	8.4	7.6	7.8	7.3	7.0												
	627, 628	GdyNBon10	855	50	2	277	7.2	6.7	6.8	6.2	8.4	9.2	8.9	8.4	7.6	7.8	7.3	7.0												
	628, 629	GdyNBon11	855	50	2	337	7.2	6.7	6.8	6.2	8.4	9.2	8.9	8.4	7.6	7.8	7.3	7.0												
	629, 630	GdyNBon12	855	50	2	877	7.2	6.7	6.8	6.2	8.3	9.2	8.9	8.4	7.5	7.7	7.3	7.0												
	630, 307	GdyNBon13	855	50	2	344	7.2	6.7	6.8	6.1	8.4	9.2	8.9	8.4	7.5	7.7	7.3	7.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	487	50	2	481	4.4	4.4	4.0	4.0	5.2	5.9	5.7	5.3	4.6	4.9	4.7	4.5	5.1	5.0	4.6	4.5	5.9	6.8	6.5	6.1	5.3	5.5	5.4	5.2
	660, 661	GdySBoff2	487	50	2	394	4.4	4.3	4.0	4.0	5.1	5.9	5.7	5.3	4.6	4.8	4.7	4.5												
	661, 662	GdySBoff3	487	50	2	1949	4.5	4.4	4.1	4.0	5.2	6.0	5.8	5.4	4.7	4.9	4.8	4.7												
	662, 523	GdySBoff4	487	50	1	424	8.9	8.9	8.1	8.0	10.3	12.1	11.6	10.8	9.6	9.7	9.6	9.4												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	919	50	1	286	15.4	16.9	16.0	15.8	21.2	21.6	21.1	20.1	17.4	18.3	17.7	17.1	14.1	15.5	14.7	14.6	19.4	19.8	19.4	18.4	15.9	16.7	16.2	15.7
	621, 622	GdySBon3	919	50	1	204	13.5	14.8	14.1	13.9	18.6	19.0	18.6	17.6	15.3	16.0	15.6	15.1												
	622, 419	GdySBon4	919	50	1	319	13.3	14.7	14.0	13.8	18.3	18.8	18.4	17.4	15.1	15.9	15.3	14.9												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	854	35	1	302	19.4	20.0	19.6	18.2	24.9	26.7	25.2	23.9	22.2	23.0	21.4	19.5	19.3	20.0	19.5	18.3	24.5	26.8	25.1	24.0	22.1	22.8	21.3	19.7
	640, 641	GdySBonLoop2	854	35	1	259	19.2	19.8	19.4	18.1	24.4	26.5	24.9	23.6	21.9	22.7	21.1	19.6												
	641, 642	GdySBonLoop3	854	35	1	227	19.2	19.9	19.4	18.2	24.4	26.5	25.0	23.7	22.0	22.6	21.2	19.6												
	642, 643	GdySBonLoop4	854	35	1	211	19.3	19.9	19.5	18.3	24.5	26.8	25.1	24.0	22.1	22.8	21.4	19.8												
	643, 644	GdySBonLoop5	854	35	1	211	19.2	20.0	19.5	18.4	24.5	27.0	25.1	24.1	22.1	22.7	21.4	19.9												
	644, 645	GdySBonLoop6	854	35	1	207	19.3	20.0	19.5	18.4	24.5	27.1	25.2	24.2	22.2	22.7	21.4	20.0												
	645, 418	GdySBonLoop7	854	35	1	252	19.3	20.0	19.5	18.4	24.3	27.1	25.2	24.2	22.2	22.7	21.4	19.9												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1649	60	4	1418	5.5	5.7	5.5	5.2	7.2	7.6	7.2	6.8	6.0	6.3	6.0	5.7	6.2	6.5	6.3	5.9	8.2	8.6	8.2	7.7	6.8	7.2	6.8	6.5
	541, 542	RvEB3	1649	60	3	1028	7.2	7.5	7.3	6.8	9.5	10.1	9.6	9.0	7.9	8.3	7.9	7.5												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1096	60	2	513	7.1	7.4	7.4	6.5	9.4	9.7	9.3	8.8	7.6	8.1	7.7	7.4	7.1	7.4	7.4	6.5	9.4	9.7	9.3	8.8	7.6	8.1	7.7	7.4
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1191	60	2	120	9.1	9.5	9.5	8.4	11.9	12.5	12.4	11.6	10.0	10.3	10.2	9.6	8.3	8.7	8.7	7.6	10.8	11.4	11.3	10.6	9.1	9.4	9.3	8.7
	546, 547	RvEB10	1191	60	2	165	7.7	8.0	8.0	7.1	10.1	10.6	10.4	9.8	8.5	8.7	8.6	8.1												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1552	60	2	1053	8.6	9.0	9.0	8.0	11.2	11.5	11.7	11.1	9.8	9.8	9.7	9.1	8.6	9.0	9.0	8.0	11.2	11.5	11.7	11.1	9.8	9.8	9.7	9.1
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2263	60	2	756	14.9	15.6	15.0	14.1	19.7	20.8	19.6	18.7	16.5	17.1	16.3	15.6	13.8	14.5	14.0	13.1	18.3	19.3	18.2	17.4	15.3	15.9	15.1	14.4
	558, 559	RvWB3	2263	60	2	146	12.5	13.2	12.7	11.9	16.6	17.5	16.5	15.7	13.9	14.4	13.7	13.1												
	559, 560	RvWB4	2263	60	3	151	9.7	10.2	9.8	9.2	12.8	13.6	12.8	12.2	10.7	11.1	10.6	10.1												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2243	60	2	125	14.4	15.2	14.6	13.7	19.1	20.3	19.1	18.2	16.0	16.6	15.9	15.1	14.4	15.2	14.6	13.7	19.1	20.3	19.1	18.2	16.0	16.6	15.9	15.1
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1907	60	2	133	14.5	15.4	14.7	13.6	19.0	20.9	19.5	18.6	16.4	16.9	16.2	15.2	12.5	13.2	12.7	11.8	16.2	17.8	16.7	16.0	14.1	14.5	13.9	13.1
	567, 568	RvWB14	1907	60	2	750	12.3	13.0	12.4	11.6	15.9	17.4	16.3	15.6	13.7	14.2	13.6	12.8												
	568, 569	RvWB15	1907	60	2	281	12.3	13.0	12.4	11.6	15.8	17.3	16.4	15.6	13.8	14.2	13.6	12.9												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3616	60	4	1137	12.0	12.5	12.0	11.6	15.0	16.1	15.5	15.0	14.3	13.7	13.1	12.5	12.0	12.5	12.0	11.6	15.0	16.1	15.5	15.0	14.3	13.7	13.1	12.5
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3019	50	2	228	23.9	24.8	24.2	23.0	30.2	31.1	31.7	31.4	30.9	28.0	25.8	25.3	23.9	24.8	24.2	23.0	30.2	31.1	31.7	31.4	30.9	28.0	25.8	25.3
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3019	50	2	168	28.4	29.7	28.9	27.5	35.3	36.7	36.8	36.8	36.3	33.0	30.7	30.1	20.6	21.8	21.1	20.1	25.7	26.8	26.9	26.8	26.5	24.1	22.4	21.9
	701, 702	RvNBoff5	3019	50	2	198	17.1	18.1	17.4	16.7	21.3	22.2	22.3	22.2	22.0	20.0	18.6	18.1												
	702, 703	RvNBoff6	3019	50	3	130	16.2	17.2	16.5	15.8	20.1	21.0	21.1	21.0	20.8	18.8	17.6	17.2												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	361	50	1	336	5.9	6.0	5.8	5.5	7.4	6.9	7.9	7.6	7.3	6.5	6.3	6.1	5.9	5.9	5.8	5.4	7.3	6.8	7.9	7.5	7.3	6.5	6.3	6.1
	704, 705	RvNBoff8	361	50	1	200	5.9	5.9	5.8	5.5	7.3	6.8	7.9	7.5	7.3	6.5	6.3	6.1												
	705, 706	RvNBoff9	361	50	1	223	5.9	5.9	5.8	5.4	7.3	6.8	7.9	7.5	7.3	6.5	6.3	6.1												
	706, 707	RvNBoff10	361	50	1	262	5.9	5.9	5.8	5.4	7.3	6.8	7.9	7.5	7.2	6.5	6.3	6.1												
	707, 547	RvNBoff11	361	50	1	264	5.9	5.9	5.8	5.4	7.3	6.9	7.9	7.6	7.3	6.5	6.3	6.2												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1709	50	2	248	13.9	14.6	14.0	13.7	17.4	18.1	17.7	17.5	18.0	16.0	15.2	14.6	13.6	14.2	13.6	13.4	16.7	17.5	17.2	16.9	17.4	15.5	14.7	14.2
	715, 716	RvNBoff21	1709	50	2	642	13.6	14.2	13.6	13.4	16.8	17.5	17.2	16.9	17.4	15.5	14.7	14.2												
	716, 569	RvNBoff22	1709	50	2	670	13.4	14.1	13.4	13.3	16.5	17.3	17.0	16.7	17.2	15.3	14.6	14.0												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	20	50	1	296	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.2	0.4	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.2	0.3
	757, 7016	RvNBon4	20	50	1	127	0.3	0.3	0.3	0.3	0.5	0.4	0.4	0.3	0.4	0.4	0.3	0.3												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	769	50	2	261	6.7	7.1	6.7	6.4	8.9	9.5	8.9	8.2	7.2	7.8	7.4	6.9	6.3	6.6	6.2	6.0	8.3	8.8	8.3	7.7	6.7	7.3	6.9	6.4
	756, 317	RvNBon10	769	50	2	444	6.0	6.4	6.0	5.8	7.9	8.4	8.0	7.3	6.5	7.0	6.6	6.2												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	738	50	2	223	5.6	6.3	6.0	5.4	7.4	7.6	7.8	7.7	6.8	6.6	6.4	6.2	5.6	6.3	6.0	5.4	7.4	7.6	7.8	7.8	6.8	6.6	6.4	6.2
	770, 7032	RvSBoff2	738	50	2	150	5.7	6.3	6.0	5.5	7.5	7.7	7.8	7.8	6.8	6.6	6.4	6.2												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	892	50	3	102	5.8	6.3	6.1	5.9	8.0	8.4	7.9	7.7	6.7	6.9	6.5	6.2	6.8	7.3	7.0	6.7	9.2	9.7	9.2	8.9	7.7	8.0	7.5	7.1
	793, 410	RvSBon5	892	50	3	655	6.9	7.4	7.1	6.8	9.4	9.9	9.3	9.1	7.9	8.1	7.7	7.3												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	553	50	2	270	4.2	4.4	4.1	4.2	5.4	6.0	5.6	5.4	4.8	4.9	4.7	4.3	4.2	4.4	4.1	4.2	5.4	6.0	5.6	5.4	4.8	4.9	4.7	4.3
	790, 7011	RvSBon11	553	50	2	250	4.2	4.4	4.1	4.2	5.4	6.0	5.6	5.4	4.8	4.9	4.7	4.3												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2658	50	2	311	21.1	22.3	21.7	20.8	26.2	27.8	27.3	27.2	27.3	24.7	23.0	22.6	16.8	17.7	17.2	16.5	20.8	22.1	21.7	21.6	21.8	19.6	18.3	17.9
	708, 710	118NBoff2	2658	50	2	567	21.6	22.7	22.1	21.2	26.8	28.5	28.0	27.9	28.0	25.2	23.6	23.0												
	710, 711	118NBoff3	2658	50	2	460	16.1	17.0	16.5	15.9	20.0	21.3	21.0	20.8	21.0	18.9	17.7	17.2												
	711, 712	118NBoff4	2658	50	3	472	14.1	14.8	14.4	13.8	17.3	18.4	18.1	17.9	18.1	16.4	15.4	15.0												
	712, 713	118NBoff5	2658	50	3	395	13.3	13.9	13.6	13.0	16.3	17.3	17.0	16.9	17.1	15.5	14.5	14.1												
	713, 714	118NBoff6	2658	50	4	188	10.8	11.4	11.2	10.6	13.5	14.3	14.0	13.8	14.4	12.7	11.9	11.6												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	949	50	2	212	7.6	8.0	8.1	7.4	9.3	10.3	10.1	10.0	10.2	9.2	8.5	8.5	7.5	7.9	7.9	7.4	9.0	10.2	9.9	9.9	9.9	9.2	8.3	8.4
	717, 718	118NBoff8	949	50	2	389	7.5	7.9	7.9	7.4	9.1	10.1	10.0	9.9	10.0	9.1	8.3	8.4												
	718, 719	118NBoff9	949	50	2	373	7.5	7.9	7.9	7.3	9.1	10.1	9.9	9.9	9.9	9.1	8.3	8.4												
	719, 720	118NBoff10	949	50	2	589	7.5	7.9	7.9	7.4	9.0	10.2	9.9	9.9	9.9	9.1	8.3	8.4												
	720, 721	118NBoff11	949	50	2	311	7.5	7.9	7.9	7.4	9.0	10.2	9.9	9.9	9.9	9.2	8.3	8.4												
	721, 722	118NBoff12	949	50	2	381	7.5	7.9	7.9	7.4	9.0	10.2	9.9	9.9	9.9	9.2	8.3	8.4												
	722, 723	118NBoff13	949	50	2	562	7.5	7.9	8.0	7.3	9.0	10.1	9.9	9.8	9.9	9.3	8.3	8.4												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1546	60	3	1252	7.1	7.5	7.5	6.8	8.6	9.5	9.3	9.3	9.0	8.5	7.8	7.7	7.0	7.4	7.4	6.8	8.5	9.4	9.2	9.2	8.9	8.4	7.7	7.6
	724, 725	118NBoff15	1546	60	3	575	6.8	7.2	7.2	6.6	8.2	9.2	8.9	8.9	8.7	8.2	7.5	7.4												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1525	60	2	611	10.0	10.7	10.1	9.5	13.5	14.0	13.3	12.8	11.0	11.7	11.1	10.5	10.1	10.8	10.2	9.6	13.6	14.2	13.4	12.9	11.1	11.8	11.2	10.6
	741, 742	118NBon3	1525	60	2	1107	10.2	10.8	10.2	9.7	13.6	14.3	13.5	13.0	11.2	11.9	11.2	10.7												
	742, 749	118NBon4	706	50	2	758	5.2	5.5	5.1	5.0	6.8	7.4	6.9	6.4	5.5	6.1	5.7	5.2												

2012 Existing AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from 118th	749, 750	118NBon5	706	50	2	1140	5.7	6.1	5.7	5.5	7.5	8.3	7.7	7.1	6.1	6.7	6.3	5.8	8.1	8.6	8.1	7.8	10.7	11.7	10.9	10.0	8.7	9.5	9.0	8.2
	750, 751	118NBon6	706	50	1	304	11.1	11.7	11.1	10.6	14.6	16.0	14.8	13.6	11.9	12.9	12.2	11.3												
	751, 752	118NBon7	706	50	1	341	11.1	11.8	11.0	10.7	14.6	16.0	14.9	13.6	12.0	12.9	12.3	11.2												
	752, 753	118NBon8	706	50	1	406	11.2	11.8	11.0	10.7	14.6	16.0	15.0	13.7	12.0	13.0	12.3	11.3												
	753, 754	118NBon9	706	50	1	250	11.2	11.8	11.1	10.7	14.6	16.0	15.1	13.8	12.0	13.1	12.3	11.3												
	754, 7009	118NBon10	706	50	1	349	11.2	11.8	11.2	10.8	14.7	16.0	15.1	13.8	12.0	13.1	12.4	11.3												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	597	50	1	147	15.1	16.5	15.9	14.8	19.5	20.3	20.1	20.3	18.1	18.0	16.7	16.1	9.9	10.7	10.5	9.6	12.6	13.4	13.1	13.3	11.9	11.6	10.8	10.5
	775, 776	118SBoff3	597	50	1	934	9.7	10.6	10.3	9.5	12.5	13.2	12.9	13.2	11.7	11.5	10.7	10.4												
	776, 777	118SBoff4	597	50	1	371	9.6	10.3	10.1	9.3	12.1	12.9	12.6	12.9	11.5	11.2	10.4	10.1												
	777, 778	118SBoff5	597	50	1	446	9.6	10.3	10.2	9.3	12.1	13.0	12.7	12.9	11.6	11.2	10.4	10.2												
	778, 723	118SBoff6	597	50	1	1329	9.6	10.3	10.2	9.3	12.2	13.0	12.7	12.8	11.7	11.3	10.5	10.2												
SB I-275 On Ramp from 118th	742, 743	118SBon1	819	50	1	227	12.7	13.5	12.9	12.0	16.9	17.4	16.7	16.5	14.4	14.8	14.2	13.6	12.9	13.6	12.9	12.2	16.8	17.6	16.8	16.6	14.5	14.9	14.3	13.7
	743, 744	118SBon2	819	50	1	418	12.7	13.5	12.9	12.0	16.9	17.4	16.7	16.5	14.4	14.8	14.2	13.5												
	744, 745	118SBon3	819	50	1	223	12.7	13.5	12.8	12.1	16.8	17.4	16.7	16.5	14.4	14.8	14.2	13.5												
	745, 746	118SBon4	819	50	1	201	12.7	13.6	12.8	12.2	16.7	17.5	16.7	16.5	14.5	14.8	14.3	13.6												
	746, 747	118SBon5	819	50	1	200	12.8	13.6	12.9	12.2	16.8	17.6	16.8	16.6	14.5	14.9	14.3	13.7												
	747, 748	118SBon6	819	50	1	166	12.9	13.7	12.9	12.2	16.8	17.6	16.9	16.6	14.6	15.0	14.3	13.7												
	748, 413	118SBon7	819	50	1	973	13.0	13.7	12.9	12.3	16.8	17.8	17.0	16.6	14.7	15.0	14.3	13.9												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	1638	60	3	2420	7.2	7.6	7.2	6.9	9.4	10.1	9.5	9.0	7.9	8.3	7.9	7.5	7.2	7.6	7.2	6.9	9.4	10.1	9.5	9.0	7.9	8.3	7.9	7.5
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1212	50	2	647	9.5	10.0	9.5	8.8	12.5	13.3	12.3	11.9	10.4	10.8	10.2	9.8	9.6	10.0	9.5	8.8	12.4	13.2	12.3	12.0	10.4	10.8	10.2	9.8
	811, 812	UlmNBon4	1212	50	2	590	9.6	10.0	9.5	8.8	12.4	13.2	12.3	11.9	10.4	10.8	10.2	9.8												
	812, 813	UlmNBon5	1212	50	2	323	9.6	10.0	9.5	8.8	12.5	13.2	12.3	12.0	10.4	10.8	10.2	9.8												
	813, 814	UlmNBon6	1212	50	2	328	9.6	10.0	9.5	8.8	12.4	13.2	12.3	12.0	10.4	10.8	10.2	9.8												
	814, 815	UlmNBon7	1212	50	2	288	9.6	10.0	9.5	8.8	12.4	13.2	12.4	12.0	10.5	10.8	10.2	9.8												
	815, 816	UlmNBon8	1212	50	2	273	9.6	10.0	9.5	8.8	12.4	13.1	12.4	12.0	10.5	10.8	10.1	9.8												
	816, 321	UlmNBon9	1212	50	2	1098	9.6	10.0	9.5	8.8	12.4	13.2	12.4	12.0	10.5	10.8	10.2	9.8												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2529	50	2	573	20.0	20.9	20.6	19.0	25.9	28.8	26.9	24.9	22.9	23.1	21.7	20.4	19.9	20.8	20.4	18.9	25.7	28.4	26.7	24.8	22.7	23.0	21.6	20.3
	830, 831	UlmSBoff2	2529	50	2	346	19.7	20.6	20.2	18.8	25.4	27.9	26.3	24.5	22.5	22.7	21.4	20.1												
	831, 7036	UlmSBoff3	2529	50	2	283	19.9	20.8	20.3	18.9	25.7	28.3	26.7	24.8	22.7	23.0	21.6	20.3												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2119	50	2	398	17.4	18.3	17.7	16.4	22.4	25.0	23.6	21.7	19.8	20.0	19.0	18.0	14.3	15.1	14.6	13.5	18.4	20.5	19.4	18.0	16.3	16.5	15.6	14.9
	834, 835	UlmSBoff8	2119	60	2	584	14.9	15.6	15.2	14.0	19.2	21.3	20.2	18.6	16.9	17.1	16.2	15.4												
	835, 836	UlmSBoff9	2119	60	2	481	13.7	14.4	14.0	13.0	17.6	19.5	18.6	17.2	15.6	15.8	15.0	14.3												
	836, 837	UlmSBoff10	2119	60	2	2160	13.7	14.5	14.0	13.0	17.6	19.6	18.7	17.3	15.7	15.8	14.9	14.3												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	426	35	1	493	5.8	6.4	6.2	6.3	7.4	8.4	8.5	7.6	6.6	7.1	7.0	6.5	6.4	7.1	6.8	7.0	8.2	9.4	9.5	8.4	7.4	7.9	7.7	7.2
	802, 803	UlmSBon2	426	35	1	214	7.9	8.7	8.4	8.6	10.1	11.6	11.7	10.4	9.1	9.8	9.5	8.9												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	210	35	1	163	4.5	5.0	4.3	4.8	5.6	6.2	6.3	5.7	4.6	5.5	5.1	5.1	3.8	4.2	3.6	4.0	4.7	5.2	5.3	4.8	3.9	4.6	4.2	4.3
	808, 809	UlmSBon4	210	35	1	163	4.6	4.9	4.3	4.8	5.6	6.2	6.3	5.7	4.6	5.5	5.1	5.1												
	809, 810	UlmSBon5	210	35	1	228	4.6	4.9	4.3	4.8	5.6	6.2	6.3	5.7	4.7	5.5	5.1	5.1												
	810, 404	UlmSBon6	210	50	1	1030	3.4	3.7	3.2	3.6	4.2	4.6	4.7	4.3	3.5	4.1	3.8	3.8												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	4.1	4.6	4.9	4.6	5.4	6.3	6.5	5.6	5.2	5.1	5.3	4.6	3.2	3.7	3.9	3.7	4.4	5.0	5.2	4.6	4.2	4.1	4.2	3.7
	804, 805	UlmSBMLK2	216	50	1	361	3.4	3.8	4.1	3.8	4.6	5.2	5.4	4.7	4.3	4.3	4.4	3.8												
	805, 806	UlmSBMLK3	216	50	1	499	2.8	3.3	3.5	3.2	3.9	4.4	4.5	4.0	3.6	3.6	3.7	3.2												
SB MLK	806, 807	UlmSBMLK4	626	50	2	1171	4.5	4.9	5.1	4.9	5.9	6.6	6.5	5.9	5.6	5.7	5.2	4.8	4.5	4.9	5.1	4.9	5.9	6.6	6.5	5.9	5.6	5.7	5.2	4.8
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	280	50	1	1080	4.3	4.5	4.4	4.1	5.7	5.9	5.7	5.6	4.6	5.1	4.7	4.5	4.3	4.5	4.4	4.1	5.7	6.0	5.6	5.6	4.6	5.0	4.7	4.4
	851, 852	MLKNBon3	280	50	1	350	4.3	4.5	4.3	4.0	5.7	5.9	5.6	5.5	4.6	5.0	4.7	4.4												
	852, 853	MLKNBon4	280	50	1	370	4.3	4.5	4.4	4.0	5.7	5.9	5.6	5.6	4.6	5.0	4.7	4.4												
	853, 320	MLKNBon5	280	50	1	885	4.3	4.5	4.4	4.1	5.6	6.0	5.6	5.6	4.6	5.0	4.7	4.4												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	410	50	1	294	6.8	7.2	7.4	7.2	8.8	9.7	9.1	8.5	8.2	8.4	7.3	6.9	6.4	6.8	7.0	6.8	8.3	9.1	8.5	8.1	7.7	7.9	6.8	6.5
	839, 840	MLKSBoff4	410	50	1	336	6.3	6.7	6.9	6.7	8.1	9.0	8.4	8.0	7.6	7.8	6.7	6.4												
	840, 841	MLKSBoff5	410	50	1	395	6.3	6.6	6.9	6.7	8.2	9.0	8.4	8.0	7.6	7.8	6.7	6.4												
	841, 806	MLKSBoff6	410	50	1	539	6.3	6.7	6.8	6.7	8.2	8.9	8.4	7.9	7.6	7.8	6.7	6.4												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	859	60	2	1270	5.5	5.9	5.5	5.3	7.3	7.7	7.4	7.0	6.1	6.4	6.0	5.8	7.3	7.8	7.3	7.1	9.7	10.2	9.9	9.3	8.1	8.5	8.0	7.8
	901, 902	4thNBon3	859	60	2	634	5.5	5.8	5.4	5.2	7.2	7.6	7.3	6.9	6.0	6.3	6.0	5.8												
	902, 903	4thNBon4	859	60	2	322	5.5	5.9	5.5	5.3	7.3	7.7	7.4	7.0	6.1	6.4	6.0	5.8												
	903, 904	4thNBon5	859	60	2	279	5.6	6.0	5.6	5.4	7.4	7.8	7.5	7.1	6.1	6.5	6.1	5.9												
	904, 905	4thNBon6	859	60	2	388	6.0	6.6	6.1	5.9	8.1	8.6	8.2	7.8	6.7	7.1	6.7	6.5												
	905, 906	4thNBon7	859	60	1	313	11.1	12.0	11.3	10.8	14.8	15.7	15.1	14.3	12.3	12.9	12.4	11.9												
	906, 907	4thNBon8	859	60	1	300	11.1	11.9	11.2	10.8	14.8	15.6	15.1	14.3	12.3	12.9	12.4	11.9												
	907, 323	4thNBon9	859	60	1	684	11.2	11.9	11.3	10.8	14.7	15.6	15.2	14.3	12.4	13.0	12.3	11.9												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	337	60	1	467	3.9	4.5	4.1	4.5	5.6	6.1	5.6	5.3	4.3	5.2	5.0	4.4	2.9	3.3	3.0	3.3	4.0	4.4	4.1	3.8	3.2	3.8	3.7	3.2
	920, 921	4thSBoff2	337	60	1	492	3.9	4.5	4.0	4.5	5.6	6.0	5.6	5.2	4.3	5.2	5.0	4.4												
	921, 922	4thSBoff3	337	60	1	420	3.9	4.5	4.0	4.5	5.6	6.1	5.6	5.2	4.3	5.2	5.1	4.4												
	922, 923	4thSBoff4	337	60	1	393	4.0	4.5	4.0	4.5	5.6	6.1	5.6	5.2	4.4	5.2	5.1	4.4												
	923, 924	4thSBoff5	337	60	1	384	4.0	4.5	4.0	4.5	5.6	6.1	5.6	5.2	4.4	5.2	5.1	4.4												
	924, 925	4thSBoff6	337	60	1	354	4.0	4.5	4.0	4.6	5.6	6.1	5.7	5.2	4.4	5.2	5.1	4.4												
	925, 926	4thSBoff7	337	60	1	501	4.0	4.5	4.0	4.6	5.5	6.1	5.7	5.3	4.4	5.2	5.1	4.4												
	926, 927	4thSBoff8	337	60	1	416	3.8	4.3	3.9	4.4	5.3	5.9	5.5	5.1	4.2	5.1	4.9	4.2												
	927, 928	4thSBoff9	337	60	2	1153	2.0	2.2	2.0	2.3	2.8	3.0	2.8	2.6	2.2	2.6	2.5	2.2												
	928, 929	4thSBoff10	337	60	2	1242	2.0	2.2	2.0	2.2	2.7	3.0	2.8	2.6	2.2	2.6	2.5	2.2												

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Speed (mph)												Weighted Speed (mph)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6881	70	3	1087	67.2	66.8	67.1	67.3	66.2	66.2	66.1	66.1	66.2	66.7	66.8	66.9	65.6	65.0	65.6	65.8	63.1	62.5	61.8	62.4	62.7	64.6	64.9	65.4
	300, 301	I275NB3	6881	70	3	805	67.4	67.0	67.3	67.5	66.5	66.5	66.3	66.4	66.5	66.9	67.0	67.2												
	301, 302	I275NB4	6881	70	3	478	66.4	65.8	66.2	66.5	65.1	65.1	64.9	64.9	65.1	65.6	65.8	66.1												
	302, 303	I275NB5	6881	70	3	2687	64.6	63.9	64.7	64.9	60.9	60.0	58.7	59.8	60.2	63.2	63.6	64.3												
	303, 304	I275NB6	6881	70	4	382	63.4	62.8	63.8	64.2	59.0	58.0	57.4	58.0	58.9	62.1	62.4	63.6												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5335	70	3	1375	66.4	66.1	66.4	66.6	64.9	64.6	64.2	64.5	64.7	65.9	66.1	66.3	66.5	66.2	66.4	66.6	65.4	65.2	64.9	65.0	65.2	66.0	66.1	66.3
	305, 306	I275NB8	5335	70	3	1306	66.5	66.3	66.4	66.7	65.8	65.8	65.5	65.5	65.6	66.1	66.3	66.3												
	306, 307	I275NB9	5335	70	3	591	66.4	66.1	66.2	66.5	65.5	65.5	65.4	65.2	65.3	66.0	66.0	66.1												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6190	70	5	1065	65.1	65.1	65.1	65.4	64.5	64.4	64.3	64.3	64.5	64.9	64.9	65.1	65.5	65.3	65.4	65.7	64.2	64.2	63.8	64.0	64.1	64.7	65.0	65.2
	308, 309	I275NB11	6190	70	5	3035	66.7	66.5	66.6	66.8	65.9	65.9	65.8	65.7	65.8	66.2	66.4	66.4												
	309, 310	I275NB12	6190	70	4	1095	66.5	66.4	66.5	66.7	65.7	65.6	65.5	65.4	65.6	66.0	66.2	66.2												
	310, 311	I275NB13	6190	70	4	380	64.9	64.8	64.9	65.2	63.5	63.4	62.9	62.9	63.2	64.1	64.4	64.4												
	311, 312	I275NB14	6190	70	4	399	63.6	63.4	63.6	64.1	61.1	61.2	60.3	60.8	60.7	62.2	62.9	63.1												
	312, 313	I275NB15	6190	70	4	368	63.0	62.5	62.8	63.5	58.7	59.1	57.0	58.7	58.6	60.2	61.5	62.2												
	313, 314	I275NB16	6190	70	4	460	60.2	59.7	59.6	60.3	56.2	56.6	54.5	55.8	55.9	57.6	58.2	59.5												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3171	70	3	886	66.4	66.2	66.2	66.5	65.3	65.1	64.6	65.1	64.8	65.5	65.5	66.1	67.4	67.4	67.4	67.5	66.9	66.8	66.7	66.8	66.7	67.1	67.0	67.3
	315, 316	I275NB18	3171	70	3	1317	67.8	67.8	67.8	67.9	67.5	67.4	67.4	67.4	67.3	67.6	67.5	67.8												
	316, 317	I275NB19	3171	70	3	1361	67.7	67.7	67.8	67.8	67.5	67.3	67.4	67.4	67.3	67.6	67.5	67.7												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3940	70	5	1032	65.7	65.6	65.7	65.7	65.3	65.2	65.3	65.4	65.5	65.4	65.5	65.7	67.3	67.3	67.3	67.5	67.1	66.9	66.9	67.0	67.1	67.1	67.2	67.3
	318, 319	I275NB21	3940	70	5	1191	67.6	67.6	67.6	67.8	67.4	67.2	67.2	67.2	67.3	67.4	67.4	67.6												
	319, 320	I275NB22	3940	70	4	3175	67.8	67.7	67.8	67.9	67.6	67.3	67.3	67.4	67.5	67.5	67.6	67.7												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	4220	70	4	1678	67.2	67.1	67.1	67.3	66.9	66.6	66.5	66.7	66.8	66.9	66.9	67.1	67.2	67.1	67.1	67.3	66.9	66.6	66.5	66.7	66.8	66.9	66.9	67.1
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	5432	70	5	1064	65.0	64.8	64.9	65.2	64.2	64.1	64.2	64.3	64.7	64.6	64.8	64.9	66.5	66.3	66.4	66.7	65.9	65.7	65.7	65.9	66.1	66.1	66.2	66.4
	322, 323	I275NB25	5432	70	5	1398	67.7	67.5	67.6	67.8	67.2	67.0	66.8	67.1	67.2	67.3	67.3	67.5												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	6291	70	5	817	66.6	66.4	66.4	66.7	65.6	65.2	65.2	65.6	66.0	66.1	66.1	66.4	65.8	65.4	65.6	65.8	63.4	61.8	62.4	63.6	64.4	64.7	64.9	65.6
	324, 325	I275NB27	6291	70	5	683	64.0	63.2	63.8	64.0	59.3	55.2	57.1	59.7	61.2	62.4	62.9	63.8												
	325, 326	I275NB28	6291	70	4	1898	66.1	65.8	66.0	66.1	64.0	62.8	63.1	64.2	64.8	64.9	65.1	65.9												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	5460	70	4	2040	68.2	68.0	68.2	68.4	67.5	67.2	67.6	67.4	68.0	67.9	68.0	68.1	68.2	68.0	68.2	68.4	67.5	67.2	67.6	67.4	68.0	67.9	68.0	68.1
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5123	70	4	2745	67.3	67.1	67.3	67.6	66.3	65.7	66.2	66.4	66.9	66.9	67.0	67.3	65.7	65.5	65.6	66.1	64.4	63.5	64.4	64.6	65.2	65.2	65.4	65.7
	402, 403	I275SB4	5123	70	5	825	60.4	60.2	60.1	61.0	58.2	56.1	58.2	58.7	59.6	59.5	59.9	60.3												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	2594	70	4	4213	68.4	68.4	68.5	68.8	68.2	68.0	68.1	68.2	68.4	68.5	68.4	68.5	68.4	68.4	68.5	68.8	68.2	68.0	68.1	68.2	68.4	68.5	68.4	68.5
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	2804	70	4	972	67.6	67.6	67.7	67.8	67.5	67.4	67.4	67.4	67.8	67.6	67.6	67.7	67.2	67.2	67.4	67.6	67.0	66.9	66.9	66.9	67.3	67.2	67.2	67.4
	405, 406	I275SB7	2804	70	4	1472	67.9	68.0	68.1	68.4	67.7	67.6	67.6	67.7	68.1	67.9	67.9	68.2												
	406, 407	I275SB8	2804	70	4	662	65.2	64.9	65.1	65.6	64.8	64.5	64.5	64.5	65.0	65.1	65.0	65.3												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2066	70	3	1201	68.1	68.2	68.3	68.5	68.0	67.7	67.8	67.7	68.2	68.1	68.1	68.3	68.3	68.4	68.5	68.8	68.2	68.0	68.1	68.0	68.5	68.3	68.4	68.5
	408, 409	I275SB10	2066	70	3	1585	68.5	68.5	68.6	68.9	68.4	68.2	68.3	68.2	68.6	68.5	68.5	68.7												
	409, 410	I275SB11	2066	70	3	458	68.4	68.5	68.7	68.8	68.3	68.1	68.2	68.2	68.5	68.4	68.5	68.6												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	2958	70	5	631	63.8	63.7	63.7	63.8	63.2	63.3	63.5	63.4	63.6	63.7	63.7	63.8	65.8	65.7	65.8	66.0	65.3	65.4	65.5	65.5	65.7	65.8	65.8	65.9
	411, 412	I275SB13	2958	70	5	244	66.6	66.4	66.5	66.8	66.0	66.1	66.1	66.2	66.4	66.6	66.5	66.6												
	412, 413	I275SB14	2958	70	4	608	67.7	67.6	67.7	67.9	67.2	67.3	67.3	67.3	67.6	67.7	67.6	67.7												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	3777	70	4	492	63.3	63.2	63.4	63.4	62.3	62.3	62.6	62.1	62.7	62.9	63.2	63.0	66.7	66.7	66.8	66.9	66.0	65.9	66.0	66.0	66.4	66.5	66.7	66.6
	414, 415	I275SB16	3777	70	4	3870	67.5	67.4	67.5	67.7	66.8	66.8	66.9	66.9	67.2	67.3	67.5	67.5												
	415, 416	I275SB17	3777	70	4	1086	65.6	65.6	65.8	66.0	64.9	64.4	64.4	64.8	65.3	65.3	65.5	65.4												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	3290	70	3	1385	67.4	67.4	67.5	67.6	66.9	66.8	66.8	66.9	67.2	67.3	67.4	67.4	67.4	67.4	67.5	67.6	67.0	66.8	66.9	67.0	67.3	67.3	67.5	67.4
	417, 418	I275SB19	3290	70	3	343	67.5	67.5	67.6	67.7	67.3	67.2	67.3	67.3	67.5	67.6	67.6	67.6												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	4144	70	3	1507	63.1	62.9	63.3	63.6	62.2	61.4	61.9	62.2	62.8	62.6	62.7	63.2	63.1	62.9	63.3	63.6	62.2	61.4	61.9	62.2	62.8	62.6	62.7	63.2
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	5063	70	3	3297	65.8	65.3	65.3	65.7	64.2	63.8	63.9	64.4	65.1	64.8	65.1	65.3	66.2	65.9	65.8	66.2	64.9	64.6	64.8	65.1	65.7	65.5	65.7	65.9
	420, 421	I275SB22	5063	70	3	430	66.9	66.6	66.7	66.9	66.1	66.0	66.0	66.2	66.5	66.5	66.6	66.7												
	421, 422	I275SB23	5063	70	3	403	66.9	66.6	66.6	66.9	66.0	65.9	65.9	66.0	66.5	66.5	66.5	66.7												
	422, 423	I275SB24	5063	70	3	426	66.8	66.6	66.6	66.9	66.0	65.8	65.9	66.0	66.4	66.5	66.5	66.7												
	423, 424	I275SB25	5063	70	3	412	66.8	66.6	66.6	66.9	65.9	65.7	65.9	66.0	66.4	66.5	66.5	66.7												
	424, 425	I275SB26	5063	70	3	734	66.8	66.7	66.7	66.9	66.0	65.8	65.9	66.1	66.5	66.5	66.5	66.7												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2946	50	3	841	48.7	48.8	48.7	48.8	48.2	47.9	48.2	48.5	48.8	48.5	48.8	48.7	48.7	48.7	48.7	48.7	48.0	47.7	48.1	48.5	48.7	48.5	48.7	48.6
	500, 501	GandyEB3	2946	50	4	954	48.8	48.9	48.8	48.8	48.4	48.3	48.5	48.7	48.9	48.7	48.8	48.8												
	501, 502	GandyEB4	2946	50	5	174	47.7	47.8	47.7	47.9	45.2	44.0	45.9	46.7	47.2	47.0	47.0	47.0												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1172	50	3	178	49.2	49.1	49.2	49.1	48.6	48.2	48.6	48.9	49.1	49.0	49.2	49.0	49.2	49.1	49.2	49.1	48.6	48.2	48.6	48.9	49.1	49.0	49.2	49.0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1172	50	3	99	42.5	42.2	41.8	42.6	42.0	41.6	41.9	42.1	42.3	41.8	42.0	41.3	44.3	44.1	43.8	44.4	43.8	43.4	43.7	43.9	44.1	43.6	43.9	43.2
	505, 506	GandyEB10	1172	50	3	119	45.7	45.7	45.5	46.0	45.3	44.9	45.2	45.4	45.7	45.1	45.5	44.8												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2122	50	3	1167	46.9	46.8	47.0	47.0	46.4	46.0	46.1	46.2	46.6	46.2	46.8	46.5	46.9	46.8	47.0	47.0	46.4	46.0	46.1	46.2	46.6	46.2	46.8	46.5
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2646	55	3	181	42.6	42.7	42.7	43.1	42.2	42.0	42.0	42.0	42.5	42.6	42.5	42.4	47.1	47.5	47.0	47.7	46.2	46.3	46.0	46.4	47.3	47.1	46.9	47.4
	520, 521	GandyWB5	2646	55	3	291	49.6	49.7	49.6	49.9	49.2	49.2	49.1	49.2	49.5	49.5	49.4	49.5												
	521, 522	GandyWB6	2646	55	4	590	47.3	47.9	47.1	48.0	46.0	46.1	45.7	46.4	47.7	47.2	47.1	47.8												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	1792	55	3	1768	53.4	53.5	53.6	53.5	53.2	53.2	53.0	53.3	53.5	53.4	53.5	53.3	53.4	53.5	53.6	53.5	53.2	53.2	53.0	53.3	53.5	53.4	53.5	53.3
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2279	55	3	1179	53.2	53.3	53.4	53.3	53.0	52.8	52.8	53.0	53.2	53.2	53.2	53.1	53.3	53.3	53.4	53.4	53.1	52.9	52.9	53.0	53.3	53.3	53.3	53.2
	524, 525	GandyWB9	2279	55	3	455	53.5	53.5	53.6	53.6	53.2	53.1	53.2	53.3	53.4	53.5	53.5	53.4												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1546	50	1	525	50.2	49.7	50.2	50.3	48.3	47.9	47.4	47.9	48.0	49.5	49.3	50.2	48.1	47.8	48.0	48.1	47.1	46.7	46.7	46.9	47.0	47.7	47.6	48.0
	600, 601	GdyNBoff2	1546	50	1	1220	47.6	47.2	47.4	47.4	47.0	46.8	46.8	47.0	47.1	47.3	47.2	47.4												
	601, 7001	GdyNBoff3	1546	50	2	135	44.3	45.0	45.1	45.0	43.6	41.6	43.0	42.3	42.4	44.0	43.7	44.2												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	950	50	1	84	38.2	38.3	39.7	39.1	37.9	36.7	37.0	36.6	37.6	37.5	38.2	38.5	42.3	42.2	43.3	43.0	42.0	41.0	41.3	40.9	42.0	41.6	42.2	42.3
	605, 606	GdyNBoff9	950	50	1	107	42.8	42.8	43.9	43.5	42.6	41.6	41.8	41.4	42.5	42.1	42.7	42.8												
	606, 506	GdyNBoff10	950	50	1	158	44.1	43.9	44.8	44.6	43.9	42.9	43.2	42.9	44.0	43.5	44.1	44.0												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1774	50	2	179	43.9	43.5	43.7	44.4	38.0	35.2	39.3	40.3	41.5	41.4	42.0	41.8	43.9	43.5	43.7	44.4	38.0	35.2	39.3	40.3	41.5	41.4	42.0	41.8
	7004, 623	GdyNBon5	855	50	2	501	46.8	47.8	47.0	47.3	46.7	46.8	46.6	47.2	47.0	46.6	46.9	47.1												

2012 Existing AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from EB Gandy	623, 624	GdyNBon6	855	50	2	299	48.6	49.3	48.7	48.8	48.6	48.7	48.6	49.0	48.9	48.6	48.7	48.8	48.6	49.3	48.8	48.9	48.7	48.7	48.6	49.0	48.9	48.7	48.8	48.8
	624, 625	GdyNBon7	855	50	2	253	48.7	49.4	48.9	49.0	48.9	48.9	48.8	49.1	49.1	48.8	48.9	49.0												
	625, 626	GdyNBon8	855	50	2	238	48.8	49.5	49.0	49.1	49.0	49.0	48.9	49.2	49.1	48.9	49.0	49.1												
	626, 627	GdyNBon9	855	50	2	242	48.9	49.5	49.1	49.1	49.1	49.1	49.0	49.3	49.2	49.0	49.1	49.1												
	627, 628	GdyNBon10	855	50	2	277	48.9	49.6	49.1	49.1	49.1	49.1	49.0	49.3	49.2	49.1	49.2	49.1												
	628, 629	GdyNBon11	855	50	2	337	48.9	49.6	49.1	49.2	49.2	49.2	49.1	49.3	49.3	49.1	49.2	49.2												
	629, 630	GdyNBon12	855	50	2	877	49.0	49.6	49.2	49.2	49.2	49.2	49.1	49.3	49.4	49.2	49.3	49.2												
	630, 307	GdyNBon13	855	50	2	344	49.0	49.6	49.2	49.3	49.2	49.2	49.1	49.3	49.4	49.3	49.3	49.2												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	487	50	2	481	49.4	49.6	49.6	49.7	49.4	49.3	49.3	49.3	49.6	49.5	49.4	49.4	49.2	49.3	49.4	49.4	49.2	48.9	49.0	49.1	49.3	49.3	49.2	49.2
	660, 661	GdySBoff2	487	50	2	394	49.5	49.7	49.7	49.8	49.5	49.4	49.4	49.5	49.7	49.7	49.6	49.5												
	661, 662	GdySBoff3	487	50	2	1949	49.2	49.3	49.4	49.4	49.1	48.9	48.9	49.0	49.3	49.3	49.2	49.2												
	662, 523	GdySBoff4	487	50	1	424	48.8	48.8	49.0	48.7	48.7	48.2	48.2	48.5	48.7	48.9	48.7	48.8												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	919	50	1	286	44.2	44.1	43.6	44.1	43.8	43.8	43.8	44.0	43.7	43.7	43.3	43.9	46.3	46.1	45.8	46.1	45.9	45.9	45.8	46.1	45.9	45.8	45.5	46.0
	621, 622	GdySBon3	919	50	1	204	47.2	46.9	46.6	47.0	46.7	46.7	46.6	47.0	46.6	46.7	46.2	46.9												
	622, 419	GdySBon4	919	50	1	319	47.7	47.4	47.2	47.4	47.3	47.2	47.1	47.4	47.4	47.3	47.0	47.4												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	854	35	1	302	33.3	33.5	33.3	33.5	32.7	32.7	32.7	33.0	33.1	32.8	32.7	33.5	33.3	33.4	33.2	33.4	32.9	32.8	32.9	33.1	33.1	33.0	33.0	33.3
	640, 641	GdySBonLoop2	854	35	1	259	33.6	33.6	33.5	33.6	33.2	33.1	33.3	33.4	33.4	33.2	33.3	33.5												
	641, 642	GdySBonLoop3	854	35	1	227	33.5	33.6	33.4	33.6	33.1	33.1	33.2	33.4	33.2	33.2	33.2	33.4												
	642, 643	GdySBonLoop4	854	35	1	211	33.3	33.3	33.2	33.4	32.9	32.8	32.9	33.0	33.0	33.0	33.0	33.2												
	643, 644	GdySBonLoop5	854	35	1	211	33.2	33.3	33.2	33.3	32.8	32.7	32.9	33.0	33.0	32.9	32.9	33.1												
	644, 645	GdySBonLoop6	854	35	1	207	33.1	33.2	33.0	33.2	32.8	32.6	32.8	32.9	32.9	32.9	32.9	33.0												
	645, 418	GdySBonLoop7	854	35	1	252	33.2	33.2	33.0	33.2	32.8	32.7	32.8	32.9	32.9	32.9	32.9	33.1												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1649	60	4	1418	59.0	59.4	59.2	59.1	59.0	58.8	59.2	59.2	59.2	59.1	59.1	59.2	58.5	58.7	58.6	58.5	58.4	58.2	58.5	58.6	58.6	58.5	58.5	58.6
	541, 542	RvEB3	1649	60	3	1028	57.7	57.9	57.8	57.6	57.6	57.4	57.6	57.7	57.7	57.7	57.6	57.8												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1096	60	2	513	58.9	59.1	59.0	58.9	58.9	58.6	58.8	58.9	59.0	58.9	58.9	59.0	58.9	59.1	59.0	58.9	58.9	58.6	58.8	58.9	59.0	58.9	58.9	59.0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1191	60	2	120	57.2	57.7	57.4	57.5	57.4	56.7	56.8	57.3	57.3	57.3	57.3	57.3	57.9	58.3	58.2	58.2	58.1	57.6	57.7	58.0	58.0	58.1	58.1	58.0
	546, 547	RvEB10	1191	60	2	165	58.5	58.8	58.7	58.7	58.6	58.2	58.3	58.6	58.6	58.6	58.6	58.6												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1552	60	2	1053	57.7	57.7	57.8	57.8	57.3	57.4	57.4	57.5	57.5	57.6	57.6	57.7	57.7	57.7	57.8	57.8	57.3	57.4	57.4	57.5	57.5	57.6	57.6	57.7
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2263	60	2	756	59.1	58.9	59.0	59.0	58.6	58.6	58.8	58.9	58.8	59.0	59.0	58.9	59.1	59.0	59.1	59.1	58.6	58.6	58.8	58.9	58.9	59.0	59.1	58.9
	558, 559	RvWB3	2263	60	2	146	59.2	59.1	59.2	59.2	58.7	58.7	58.9	59.0	59.0	59.1	59.2	59.1												
	559, 560	RvWB4	2263	60	3	151	59.1	59.0	59.1	59.1	58.5	58.5	58.7	58.8	58.8	59.0	59.0	58.9												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2243	60	2	125	58.9	58.8	58.9	58.9	58.3	58.2	58.5	58.6	58.6	58.7	58.8	58.7	58.9	58.8	58.9	58.9	58.3	58.2	58.5	58.6	58.6	58.7	58.8	58.7
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1907	60	2	133	56.0	55.6	56.2	56.4	55.1	54.2	55.3	55.3	55.4	55.6	56.0	55.6	57.9	57.6	58.0	58.1	57.3	56.8	57.4	57.4	57.5	57.6	57.8	57.6
	567, 568	RvWB14	1907	60	2	750	58.1	57.9	58.2	58.3	57.6	57.1	57.7	57.7	57.8	57.9	58.1	57.8												
	568, 569	RvWB15	1907	60	2	281	58.0	57.9	58.2	58.2	57.5	57.1	57.6	57.7	57.6	57.9	58.0	57.8												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3616	60	4	1137	57.3	57.3	57.4	57.4	57.0	56.9	57.1	57.1	57.0	57.3	57.3	57.2	57.3	57.3	57.4	57.4	57.0	56.9	57.1	57.1	57.0	57.3	57.3	57.2
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3019	50	2	228	49.0	49.4	49.4	49.6	47.9	48.3	47.6	47.7	48.1	48.6	48.9	49.3	49.0	49.4	49.4	49.6	47.9	48.3	47.6	47.7	48.1	48.6	48.9	49.3
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3019	50	2	168	45.8	45.9	46.0	46.2	45.5	45.6	45.5	45.3	45.5	45.8	45.9	46.1	47.1	46.8	47.3	47.3	46.8	46.8	46.7	46.4	46.7	47.0	47.1	47.3
	701, 702	RvNBoff5	3019	50	2	198	47.6	47.1	47.7	47.7	47.2	47.3	47.1	46.8	47.0	47.3	47.5	47.8												
	702, 703	RvNBoff6	3019	50	3	130	48.1	47.6	48.3	48.3	47.8	47.7	47.8	47.4	47.8	48.0	48.2	48.3												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	361	50	1	336	48.6	48.9	49.3	48.8	48.8	48.9	48.9	48.8	48.7	49.0	49.1	48.9	48.9	49.2	49.5	49.0	48.9	49.1	49.1	49.1	49.0	49.2	49.3	49.1
	704, 705	RvNBoff8	361	50	1	200	48.9	49.3	49.5	49.1	48.9	49.1	49.2	49.2	49.0	49.2	49.3	49.1												
	705, 706	RvNBoff9	361	50	1	223	49.0	49.4	49.6	49.2	49.0	49.2	49.2	49.3	49.1	49.3	49.3	49.2												
	706, 707	RvNBoff10	361	50	1	262	49.0	49.4	49.6	49.1	49.0	49.2	49.2	49.3	49.1	49.3	49.4	49.2												
	707, 547	RvNBoff11	361	50	1	264	49.0	49.3	49.5	49.1	49.0	49.1	49.2	49.2	49.0	49.2	49.4	49.2												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1709	50	2	248	47.0	46.9	47.0	47.3	46.4	46.3	46.6	46.4	46.4	46.7	46.8	46.8	48.3	48.4	48.3	48.4	48.0	48.0	48.1	48.0	48.1	48.2	48.2	48.1
	715, 716	RvNBoff21	1709	50	2	642	48.2	48.4	48.3	48.4	48.0	48.0	48.1	48.0	48.1	48.2	48.2	48.1												
	716, 569	RvNBoff22	1709	50	2	670	48.8	48.9	48.8	49.0	48.7	48.6	48.7	48.7	48.7	48.8	48.7	48.7												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	20	50	1	296	56.5	54.2	54.9	53.6	54.0	54.1	55.6	55.3	54.1	56.0	54.5	54.8	54.9	52.8	53.5	52.3	52.7	52.9	54.2	53.7	52.6	54.5	53.0	53.4
	757, 7016	RvNBon4	20	50	1	127	51.1	49.6	50.2	49.1	49.8	50.0	50.9	49.9	49.2	51.0	49.5	50.0												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	769	50	2	261	47.0	47.1	47.0	47.2	46.5	46.3	46.4	46.9	46.9	46.5	46.7	47.1	48.2	48.2	48.2	48.3	48.0	47.8	47.8	48.1	48.1	47.9	48.0	48.2
	756, 317	RvNBon10	769	50	2	444	48.9	48.8	48.8	48.9	48.8	48.8	48.7	48.9	48.8	48.7	48.7	48.9												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	738	50	2	223	49.7	49.5	49.8	49.9	49.8	49.6	49.4	49.7	49.5	49.8	49.7	49.7	49.5	49.4	49.6	49.7	49.6	49.5	49.3	49.6	49.4	49.7	49.5	49.6
	770, 7032	RvSBoff2	738	50	2	150	49.3	49.2	49.4	49.4	49.4	49.3	49.1	49.4	49.2	49.5	49.3	49.4												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	892	50	3	102	46.1	45.4	45.2	45.3	44.6	45.5	45.5	45.3	45.8	45.7	45.4	45.9	47.3	46.7	46.7	47.1	46.0	46.7	46.7	46.7	47.1	47.0	46.8	47.4
	793, 410	RvSBon5	892	50	3	655	47.5	46.9	46.9	47.3	46.2	46.9	46.9	46.9	47.2	47.2	47.0	47.6												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	553	50	2	270	49.7	49.6	49.6	49.3	49.4	49.4	49.6	49.6	49.7	49.5	49.3	49.4	49.7	49.6	49.6	49.3	49.4	49.4	49.6	49.6	49.7	49.6	49.3	49.4
	790, 7011	RvSBon11	553	50	2	250	49.7	49.6	49.6	49.3	49.4	49.4	49.7	49.6	49.7	49.6	49.3	49.4												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2658	50	2	311	48.4	48.4	48.5	48.6	48.2	48.1	48.1	47.9	48.2	48.3	48.4	48.4	48.0	48.0	48.0	48.2	47.7	47.6	47.6	47.6	47.6	47.8	47.9	47.9
	708, 710	118NBoff2	2658	50	2	567	47.5	47.4	47.5	47.6	47.0	46.9	47.0	46.8	47.0	47.3	47.3	47.4												
	710, 711	118NBoff3	2658	50	2	460	47.5	47.4	47.5	47.5	47.1	46.9	46.8	46.8	46.9	47.2	47.1	47.3												
	711, 712	118NBoff4	2658	50	3	472	48.6	48.7	48.7	48.7	48.5	48.5	48.4	48.4	48.5	48.5	48.5	48.5												
	712, 713	118NBoff5	2658	50	3	395	48.7	48.8	48.7	48.9	48.6	48.6	48.6	48.6	48.5	48.6	48.6	48.7												
	713, 714	118NBoff6	2658	50	4	188	47.4	47.4	46.6	47.9	46.5	46.9	47.0	47.0	45.9	46.9	47.1	47.0												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	949	50	2	212	48.9	48.9	48.5	49.0	48.4	48.6	48.4	48.4	48.1	48.5	48.3	48.6	49.3	49.3	49.3	49.5	49.3	49.3	49.1	49.0	49.2	49.3	49.1	49.3
	717, 718	118NBoff8	949	50	2	389	49.4	49.3	49.2	49.5	49.3	49.3	49.0	49.0	49.2	49.3	49.0	49.3												
	718, 719	118NBoff9	949	50	2	373	49.4	49.3	49.4	49.5	49.4	49.4	49.1	49.1	49.3	49.4	49.1	49.4												
	719, 720	118NBoff10	949	50	2	589	49.3	49.3	49.4	49.5	49.4	49.3	49.2	49.0	49.3	49.4	49.2	49.4												
	720, 721	118NBoff11	949	50	2	311	49.3	49.3	49.4	49.5	49.4	49.3	49.1	49.0	49.2	49.4	49.1	49.4												
	721, 722	118NBoff12	949	50	2	381	49.4	49.3	49.4	49.5	49.4	49.3	49.1	49.0	49.3	49.3	49.2	49.3												
	722, 723	118NBoff13	949	50	2	562	49.3	49.3	49.4	49.5	49.4	49.3	49.1	49.0	49.3	49.3	49.2	49.3												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1546	60	3	1252	56.9	56.8	56.9	56.9	56.8	56.7	56.7	56.5	56.8	56.9	56.7	56.9	57.6	57.5	57.6	57.6	57.6	57.4	57.4	57.2	57.5	57.6	57.4	57.6
	724, 725	118NBoff15	1546	60	3	575	59.2	59.0	59.2	59.2	59.2	59.0	58.9	58.8	59.0	59.2	58.9	59.2												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1525	60	2	611	59.0	59.0	59.1	59.1	58.8	58.9	58.7	59.0	59.0	58.8	59.0	58.9	57.4	57.4	57.5	57.5	57.1	57.1	57.0	57.3	57.3	57.1	57.4	57.2
	741, 742	118NBon3	1525	60	2	1107	56.5	56.4	56.6	56.7	56.1	56.1	56.1	56.4	56.4	56.2	56.5	56.3												
	742, 749	118NBon4	706	50	2	758	51.9	51.9	51.9	52.0	51.8	51.6	51.7	52.0	51.9	51.4	51.8	52.0												

2012 Existing AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from 118th	749, 750	118NBon5	706	50	2	1140	48.7	48.8	48.7	49.0	48.6	48.2	48.3	48.7	48.6	48.3	48.5	48.8	49.2	49.3	49.1	49.4	49.0	48.7	48.8	49.2	49.1	48.7	49.0	49.2
	750, 751	118NBon6	706	50	1	304	48.5	48.6	48.4	48.8	48.4	47.9	48.0	48.5	48.4	48.1	48.3	48.5												
	751, 752	118NBon7	706	50	1	341	48.4	48.5	48.3	48.6	48.2	47.8	47.9	48.4	48.3	48.0	48.2	48.4												
	752, 753	118NBon8	706	50	1	406	48.2	48.3	48.2	48.5	48.0	47.6	47.7	48.2	48.1	47.8	48.1	48.2												
	753, 754	118NBon9	706	50	1	250	48.1	48.2	48.1	48.4	47.9	47.5	47.6	48.0	48.0	47.6	47.9	48.1												
	754, 7009	118NBon10	706	50	1	349	48.0	48.1	47.9	48.3	47.7	47.4	47.4	47.9	47.9	47.5	47.8	48.0												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	597	50	1	147	34.2	34.4	34.3	34.2	34.1	34.3	34.3	34.0	34.3	34.1	34.1	34.3	47.1	47.1	47.2	47.0	47.0	46.9	47.0	46.7	46.9	47.1	47.0	47.2
	775, 776	118SBoff3	597	50	1	934	47.0	47.2	47.2	46.9	46.9	47.0	47.2	46.5	47.0	46.9	46.8	47.3												
	776, 777	118SBoff4	597	50	1	371	48.2	48.2	48.3	48.0	48.1	48.0	48.1	47.7	48.0	48.2	48.1	48.4												
	777, 778	118SBoff5	597	50	1	446	48.2	48.1	48.2	47.9	48.1	47.8	47.9	47.7	47.8	48.2	48.1	48.2												
	778, 723	118SBoff6	597	50	1	1329	48.0	47.9	48.0	47.9	47.8	47.6	47.6	47.7	47.6	48.0	47.9	48.0												
SB I-275 On Ramp from 118th	742, 743	118SBon1	819	50	1	227	48.3	48.3	48.4	48.4	48.0	48.1	48.0	48.1	48.2	48.1	48.3	48.1	48.1	48.1	48.1	48.1	47.8	47.8	47.8	47.8	47.9	47.8	48.1	47.9
	743, 744	118SBon2	819	50	1	418	48.4	48.4	48.5	48.5	48.1	48.2	48.2	48.2	48.3	48.1	48.4	48.3												
	744, 745	118SBon3	819	50	1	223	48.5	48.4	48.4	48.5	48.2	48.2	48.2	48.2	48.3	48.2	48.4	48.3												
	745, 746	118SBon4	819	50	1	201	48.3	48.2	48.3	48.4	48.0	48.1	48.1	48.0	48.1	48.0	48.3	48.1												
	746, 747	118SBon5	819	50	1	200	48.1	48.1	48.1	48.2	47.8	47.9	47.8	47.8	47.9	47.8	48.1	47.9												
	747, 748	118SBon6	819	50	1	166	48.0	48.0	48.0	48.0	47.7	47.7	47.6	47.7	47.8	47.6	48.0	47.7												
	748, 413	118SBon7	819	50	1	973	47.8	47.8	47.8	47.8	47.5	47.5	47.4	47.5	47.6	47.5	47.8	47.6												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	1638	60	3	2420	57.9	57.9	58.0	58.0	57.9	57.9	58.0	57.9	57.9	57.9	57.9	58.1	57.9	57.9	58.0	58.0	57.9	57.9	58.0	57.9	57.9	57.9	57.9	58.1
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1212	50	2	647	49.3	49.2	49.3	49.4	49.1	49.1	49.1	49.1	49.3	49.1	49.2	49.3	49.3	49.2	49.2	49.3	48.9	48.9	49.0	49.0	49.2	49.1	49.1	49.2
	811, 812	UlmNBon4	1212	50	2	590	49.3	49.2	49.3	49.4	49.1	49.1	49.1	49.1	49.3	49.1	49.2	49.3												
	812, 813	UlmNBon5	1212	50	2	323	49.2	49.2	49.2	49.3	48.9	48.9	49.0	49.0	49.2	49.0	49.1	49.2												
	813, 814	UlmNBon6	1212	50	2	328	49.2	49.2	49.2	49.3	48.9	48.9	49.0	49.0	49.2	49.1	49.0	49.2												
	814, 815	UlmNBon7	1212	50	2	288	49.2	49.1	49.2	49.3	48.9	48.9	49.0	49.0	49.2	49.1	49.1	49.2												
	815, 816	UlmNBon8	1212	50	2	273	49.2	49.1	49.2	49.3	48.9	48.9	49.0	49.0	49.1	49.1	49.1	49.2												
	816, 321	UlmNBon9	1212	50	2	1098	49.2	49.1	49.2	49.2	48.8	48.8	48.9	48.9	49.1	49.0	49.1	49.2												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2529	50	2	573	48.0	47.8	47.9	48.2	47.4	46.9	47.3	47.5	47.8	47.6	47.8	48.0	48.3	48.1	48.2	48.4	47.8	47.5	47.7	47.8	48.1	47.9	48.0	48.2
	830, 831	UlmSBoff2	2529	50	2	346	48.7	48.6	48.7	48.8	48.4	48.3	48.4	48.4	48.5	48.4	48.5	48.7												
	831, 7036	UlmSBoff3	2529	50	2	283	48.2	48.1	48.3	48.4	47.8	47.6	47.7	47.9	48.0	47.9	48.1	48.3												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2119	50	2	398	48.2	48.0	48.2	48.5	47.5	47.3	47.5	47.9	48.1	47.9	48.0	48.2	56.4	56.2	56.5	56.6	55.7	55.5	55.6	56.0	56.3	56.0	56.2	56.3
	834, 835	UlmSBoff8	2119	60	2	584	53.8	53.7	53.9	54.1	53.1	52.8	53.0	53.4	53.7	53.5	53.6	53.9												
	835, 836	UlmSBoff9	2119	60	2	481	58.3	58.2	58.4	58.5	57.7	57.6	57.6	58.0	58.2	57.9	58.1	58.3												
	836, 837	UlmSBoff10	2119	60	2	2160	58.2	58.0	58.3	58.3	57.5	57.3	57.4	57.7	58.0	57.8	58.0	58.1												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	426	35	1	493	51.4	51.4	51.6	51.5	51.7	51.4	51.6	51.5	51.2	51.2	51.1	51.8	47.2	47.2	47.4	47.3	47.5	47.2	47.4	47.3	47.0	47.0	47.0	47.7
	802, 803	UlmSBon2	426	35	1	214	37.6	37.5	37.8	37.6	37.9	37.5	37.8	37.7	37.4	37.4	37.4	38.1												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	210	35	1	163	34.4	34.4	34.6	34.6	34.6	34.3	34.4	34.5	34.5	34.4	34.3	34.9	41.8	42.0	42.0	41.9	42.0	41.9	41.9	41.9	41.9	41.9	41.8	42.3
	808, 809	UlmSBon4	210	35	1	163	34.4	34.5	34.5	34.5	34.6	34.4	34.4	34.4	34.4	34.5	34.4	34.7												
	809, 810	UlmSBon5	210	35	1	228	34.4	34.5	34.4	34.4	34.5	34.3	34.4	34.3	34.4	34.4	34.3	34.7												
	810, 404	UlmSBon6	210	50	1	1030	45.7	46.0	46.0	45.9	46.0	46.0	45.9	45.9	46.0	45.9	45.9	46.3												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	34.6	34.3	34.5	34.6	34.7	34.7	34.8	34.8	34.4	34.5	34.6	34.6	43.6	43.4	43.6	43.6	43.8	43.8	43.9	43.8	43.5	43.6	43.6	43.7
	804, 805	UlmSBMLK2	216	50	1	361	41.3	41.2	41.3	41.4	41.4	41.4	41.5	41.5	41.3	41.3	41.3	41.4												
	805, 806	UlmSBMLK3	216	50	1	499	48.9	48.6	48.9	48.9	49.2	49.2	49.2	49.1	48.8	48.9	49.0	49.0												
SB MLK	806, 807	UlmSBMLK4	626	50	2	1171	49.4	49.1	49.1	49.2	49.1	49.0	49.1	49.2	49.0	49.0	49.1	49.3	49.4	49.1	49.1	49.2	49.1	49.0	49.1	49.2	49.0	49.0	49.1	49.3
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	280	50	1	1080	49.6	49.9	49.5	50.0	49.8	49.7	50.0	49.4	49.8	49.6	49.8	49.7	49.4	49.7	49.4	49.8	49.5	49.4	49.7	49.2	49.5	49.4	49.5	49.5
	851, 852	MLKNBon3	280	50	1	350	49.5	49.7	49.4	49.9	49.6	49.5	49.8	49.2	49.6	49.5	49.5	49.6												
	852, 853	MLKNBon4	280	50	1	370	49.4	49.6	49.3	49.8	49.5	49.3	49.6	49.1	49.4	49.3	49.4	49.4												
	853, 320	MLKNBon5	280	50	1	885	49.2	49.5	49.2	49.7	49.3	49.1	49.4	48.9	49.2	49.1	49.3	49.2												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	410	50	1	294	48.2	47.8	48.0	47.8	47.9	47.6	48.0	48.3	47.9	47.9	47.7	48.2	49.0	48.5	48.6	48.5	48.4	48.2	48.6	48.8	48.4	48.5	48.4	48.8
	839, 840	MLKSBoff4	410	50	1	336	49.1	48.6	48.7	48.7	48.7	48.3	48.7	49.0	48.6	48.7	48.5	49.0												
	840, 841	MLKSBoff5	410	50	1	395	49.2	48.6	48.7	48.7	48.5	48.3	48.7	48.9	48.5	48.6	48.6	48.9												
	841, 806	MLKSBoff6	410	50	1	539	49.2	48.6	48.8	48.7	48.4	48.3	48.7	48.8	48.5	48.6	48.6	49.0												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	859	60	2	1270	59.4	59.5	59.6	59.6	59.4	59.3	59.3	59.4	59.4	59.6	59.4	59.6	58.7	58.6	58.6	58.8	58.3	58.2	58.3	58.5	58.5	58.8	58.5	58.7
	901, 902	4thNBon3	859	60	2	634	59.4	59.4	59.5	59.5	59.3	59.2	59.3	59.3	59.3	59.6	59.4	59.5												
	902, 903	4thNBon4	859	60	2	322	58.8	58.8	58.7	58.8	58.5	58.3	58.4	58.6	58.5	58.9	58.8	58.8												
	903, 904	4thNBon5	859	60	2	279	58.1	57.8	57.8	58.1	57.3	57.2	57.5	57.7	57.8	58.1	57.9	58.0												
	904, 905	4thNBon6	859	60	2	388	58.0	57.6	57.5	58.0	56.9	56.9	57.3	57.5	57.6	57.9	57.6	57.8												
	905, 906	4thNBon7	859	60	1	313	58.0	57.7	57.7	58.1	57.1	57.0	57.4	57.7	57.7	58.0	57.6	58.0												
	906, 907	4thNBon8	859	60	1	300	58.1	57.9	57.9	58.1	57.4	57.2	57.5	57.8	57.8	58.0	57.6	58.1												
	907, 323	4thNBon9	859	60	1	684	57.9	57.8	57.7	57.9	57.3	57.2	57.3	57.6	57.6	57.9	57.6	58.0												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	337	60	1	467	59.3	58.7	59.0	59.3	58.8	58.6	59.0	58.5	58.9	59.0	59.1	58.8	59.3	58.7	59.0	59.3	58.9	58.9	59.1	59.0	58.9	59.1	58.8	58.9
	920, 921	4thSBoff2	337	60	1	492	59.4	58.9	59.1	59.4	59.2	59.0	59.3	59.1	59.1	59.3	59.2	59.1												
	921, 922	4thSBoff3	337	60	1	420	59.3	58.8	59.1	59.3	59.1	59.0	59.2	59.1	59.0	59.1	59.0	59.0												
	922, 923	4thSBoff4	337	60	1	393	59.1	58.6	59.0	59.2	58.8	58.9	59.1	58.9	58.8	59.0	58.8	58.9												
	923, 924	4thSBoff5	337	60	1	384	59.0	58.5	58.8	59.1	58.6	58.7	58.9	58.8	58.7	58.8	58.6	58.7												
	924, 925	4thSBoff6	337	60	1	354	59.0	58.4	58.9	59.0	58.6	58.7	58.8	58.7	58.7	58.9	58.5	58.7												
	925, 926	4thSBoff7	337	60	1	501	59.0	58.4	58.8	58.9	58.5	58.6	58.7	58.6	58.6	58.8	58.4	58.7												
	926, 927	4thSBoff8	337	60	1	416	58.9	58.2	58.6	58.9	58.4	58.5	58.6	58.5	58.5	58.6	58.3	58.5												
	927, 928	4thSBoff9	337	60	2	1153	59.3	58.6	58.9	59.2	58.8	58.9	59.0	59.0	58.8	59.1	58.8	58.8												
	928, 929	4thSBoff10	337	60	2	1242	59.6	59.2	59.3	59.7	59.3	59.4	59.4	59.5	59.3	59.6	59.2	59.1												

2012 Existing AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6881	70	3	1087	1308	1369	1315	1238	1656	1666	1677	1671	1640	1504	1429	1357	20	20	19	23	10	11	10	11	11	15	18	21
	300, 301	I275NB3	6881	70	3	805	1309	1370	1315	1238	1651	1667	1676	1672	1642	1502	1431	1358	32	34	36	31	38	37	36	41	37	35	33	36
	301, 302	I275NB4	6881	70	3	478	1308	1372	1314	1239	1648	1667	1678	1670	1644	1501	1432	1359	31	31	32	32	33	33	34	33	34	36	32	33
	302, 303	I275NB5	6881	70	3	2687	1309	1371	1313	1244	1629	1669	1670	1674	1652	1497	1439	1363	726	766	718	702	923	984	998	993	966	836	801	741
	303, 304	I275NB6	6881	70	4	382	1309	1371	1312	1247	1625	1670	1670	1674	1654	1497	1438	1366	109	108	106	98	114	119	112	112	113	114	116	114
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5335	70	3	1375	1015	1058	1024	964	1265	1286	1296	1297	1284	1158	1113	1063	81	85	81	75	93	99	102	91	94	90	91	80
	305, 306	I275NB8	5335	70	3	1306	1014	1057	1025	963	1262	1287	1294	1298	1287	1157	1113	1064	74	80	74	72	81	81	82	79	88	82	79	80
	306, 307	I275NB9	5335	70	3	591	1013	1056	1025	964	1259	1288	1294	1298	1287	1157	1113	1063	34	36	36	33	38	39	42	42	39	38	37	35
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6190	70	5	1065	1190	1222	1194	1114	1460	1512	1516	1503	1476	1350	1289	1239	182	184	180	160	214	226	228	223	204	206	198	184
	308, 309	I275NB11	6190	70	5	3035	1184	1224	1196	1116	1444	1515	1517	1502	1481	1349	1291	1246	238	243	246	234	281	290	287	278	295	269	256	251
	309, 310	I275NB12	6190	70	4	1095	1185	1223	1197	1115	1438	1512	1520	1501	1486	1349	1292	1243	478	494	491	475	555	572	585	592	583	534	512	515
	310, 311	I275NB13	6190	70	4	380	1186	1222	1197	1116	1437	1512	1517	1501	1489	1347	1293	1241	149	150	153	139	173	185	185	186	187	166	158	157
	311, 312	I275NB14	6190	70	4	399	1185	1222	1196	1118	1434	1512	1516	1501	1492	1345	1293	1241	149	152	149	138	195	209	209	211	213	181	170	167
	312, 313	I275NB15	6190	70	4	368	1186	1221	1196	1119	1432	1513	1514	1503	1492	1346	1294	1241	65	74	69	60	104	112	126	113	111	97	79	73
	313, 314	I275NB16	6190	70	4	460	1184	1223	1195	1121	1427	1514	1514	1502	1492	1349	1294	1240	45	49	51	40	77	82	96	90	82	66	61	55
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3171	70	3	886	598	610	597	553	699	761	763	755	749	671	664	615	36	37	33	32	47	49	50	52	54	43	47	39
	315, 316	I275NB18	3171	70	3	1317	598	609	598	555	696	759	764	755	749	672	666	615	41	39	39	37	46	50	51	56	49	44	42	37
	316, 317	I275NB19	3171	70	3	1361	600	609	601	553	693	760	765	754	748	673	665	618	44	47	44	43	53	60	57	57	59	50	47	48
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3940	70	5	1032	747	761	749	696	881	967	959	935	904	842	825	771	120	120	116	107	158	171	158	150	139	138	134	123
	318, 319	I275NB21	3940	70	5	1191	748	759	747	699	877	965	959	938	901	846	825	769	59	59	58	53	72	77	80	79	78	67	69	59
	319, 320	I275NB22	3940	70	4	3175	743	762	748	699	866	966	966	936	901	851	822	775	145	152	143	136	176	195	190	194	185	169	165	148
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	4220	70	4	1678	794	818	804	750	931	1032	1040	1009	956	913	881	833	148	146	147	138	183	202	193	190	168	172	157	148
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	5432	70	5	1064	1029	1062	1040	968	1230	1351	1341	1300	1219	1175	1131	1080	186	199	190	176	253	274	264	248	226	224	213	197
	322, 323	I275NB25	5432	70	5	1398	1027	1063	1040	968	1225	1351	1341	1301	1218	1177	1135	1078	194	190	182	179	221	223	223	225	210	206	195	189
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	6291	70	5	817	1187	1234	1206	1123	1435	1574	1559	1506	1396	1368	1313	1252	470	491	479	449	586	608	610	577	518	537	517	497
	324, 325	I275NB27	6291	70	5	683	1187	1237	1203	1125	1429	1573	1563	1506	1395	1367	1317	1252	158	175	158	140	252	305	272	257	201	196	182	163
	325, 326	I275NB28	6291	70	4	1898	1187	1235	1205	1128	1418	1574	1561	1508	1400	1364	1318	1254	180	199	193	177	278	316	298	272	237	225	216	194
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	5460	70	4	2040	1036	1089	1038	987	1352	1441	1363	1298	1143	1186	1137	1077	158	189	175	177	232	242	224	211	178	200	199	181
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5123	70	4	2745	977	1021	982	920	1253	1355	1282	1222	1084	1105	1066	1015	955	996	981	896	1259	1380	1284	1218	1098	1119	1045	995
	402, 403	I275SB4	5123	70	5	825	974	1021	982	923	1250	1352	1285	1222	1085	1106	1068	1014	94	97	92	79	138	169	148	137	107	111	104	97
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	2594	70	4	4213	491	521	491	464	629	672	651	633	538	565	549	524	102	110	97	89	147	176	163	151	114	118	121	107
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	2804	70	4	972	532	565	526	507	676	724	705	685	579	611	593	569	161	175	159	157	197	206	201	193	176	180	185	176
	405, 406	I275SB7	2804	70	4	1472	530	564	526	508	675	720	706	684	582	611	590	570	149	156	141	129	212	227	220	220	170	184	170	166
	406, 407	I275SB8	2804	70	4	662	529	564	527	507	675	721	706	683	585	610	591	571	23	28	23	25	37	39	36	36	26	30	28	24
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2066	70	3	1201	389	409	379	373	488	531	514	490	420	445	432	419	25	26	23	23	31	35	38	34	25	27	29	26
	408, 409	I275SB10	2066	70	3	1585	387	408	381	371	486	529	515	492	422	445	431	420	27	29	29	24	39	42	45	38	31	33	32	31
	409, 410	I275SB11	2066	70	3	458	387	409	381	371	485	528	516	491	422	445	430	422	9	9	7	8	13	10	11	12	10	11	11	8
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	2958	70	5	631	559	588	556	539	709	769	742	714	616	644	618	600	145	155	145	150	197	215	205	198	168	171	165	156
	411, 412	I275SB13	2958	70	5	244	560	588	556	539	708	769	743	714	616	643	618	600	10	15	10	10	18	18	19	18	14	13	13	13
	412, 413	I275SB14	2958	70	4	608	561	588	556	538	709	768	743	716	617	643	618	600	23	26	23	24	40	40	41	34	29	31	30	24
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	3777	70	4	492	716	750	710	688	905	979	944	914	792	822	788	764	208	216	205	196	263	284	274	265	231	240	229	220
	414, 415	I275SB16	3777	70	4	3870	719	748	715	688	893	975	948	917	797	821	786	770	408	425	406	378	532	571	542	545	456	479	451	436
	415, 416	I275SB17	3777	70	4	1086	719	748	714	689	889	975	949	917	800	820	786	769	93	99	96	88	136	158	146	142	117	120	110	109
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	3290	70	3	1385	610	641	614	590	757	833	808	789	686	701	669	659	59	60	58	57	77	81	87	79	65	71	62	61
	417, 418	I275SB19	3290	70	3	343	609	640	614	590	756	833	808	789	686	700	669	659	16	15	17	16	19	18	18	18	17	16	15	15
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	4144	70	3	1507	769	806	778	745	949	1052	1016	987	872	888	851	821	299	319	304	282	377	429	400	384	337	351	337	309
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	5063	70	3	3297	927	974	947	913	1145	1273	1234	1200	1053	1072	1034	997	400	432	417	404	530	554	542	516	461	481	457	444
	420, 421	I275SB22	5063	70	3	430	928	973	949	913	1143	1273	1234	1200	1055	1070	1035	997	22	25	26	25	26	30	26	27	26	26	28	27
	421, 422	I275SB23	5063	70	3	403	928	972	948	914	1142	1273	1234	1198	1056	1072	1035	997	21	23	21	24	25	25	25	26	25	26	24	24
	422, 423	I275SB24	5063	70	3	426	929	972	947	915	1141	1271	1235	1199	1058	1071	1036	995	23	24	21	23	27	27	27	28	28	26	29	25
	423, 424	I275SB25	5063	70	3	412	928	971	947	915	1139	1273	1233	1201	1057	1071	1036	996	24	25	23	23	25	29	25	32	23	24	24	24
	424, 425	I275SB26	5063	70	3	734	929	968	949	917	1134	1273	1233	1200	1061	1070	1037	995	42	39	34	40	47	53	53	53	43	47	41	39
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2946	50	3	841	558	587	561	534	734	776	735	700	615	640	610	585	316	326	318	304	405	421	417	376	349	351	346	333
	500, 501	GandyEB3	2946	50	4	954	558	584	560	537	730	775	737	700	614	639	612	585	406	428	408	384	555	591	554	522	457	471	453	428
	501, 502	GandyEB4	2946	50	5	174	558	584	560	537	729	775	737	701	614	639	612	586	47	51	47	45	79	89	76	74	58	67	59	53
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1172	50	3	178	226	242	228	223	302	325	303	292	249	264	252	237	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1172	50	3	99	225	243	231	221	298	318	310	294	249	259	255	240	7	10	8	7	9	12	10	11	11	9	10	10
	505, 506	GandyEB10	1172	50	3	119	225	243	231	221	298	318	310	294	249	259	255	239	8	10	10	8	11	15	14	12	9	12	11	12
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2122	50	3	1167	403	432	405	390	504	547	536	519	476	462	460	418	246	265	235	227	294	324	322	321	304	290	280	253
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2646	55	3	181	509	525	513	488	646	680	667	643	577	583	550	529	22	22	23	19	26	27	29	25	26	21	25	24
	520, 521	GandyWB5	2646	55	3	291	509	526	513	487	647	680	665	644	578	583	549	529	19	18	21	19	26	26	27	27	23	21	22	20
	521, 522	GandyWB6	2646	55	4	590	508	524	515	487	647	680	664	641	580	584	553	526	357	369	362	333	456	482	461	446	409	417	382	360
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	1792	55	3	1768	342	358	350	337	437	466	459	445	395	394	382	364	37	35	36	33	49	48	54	48	45	39	42	37
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2279	55	3	1179	454	466	448	432	564	610	597	579	516	510	496	482	151	152	138	139	180	212	206	188	169	168	164	159
	524, 525	GandyWB9	2279	55	3	455	455	467	448	432	561	611	596	578	518	509	497	482	12	15	10	11	15	19	18	17	16	15	14	15
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1546	50	1	525	295	310	291	286	353	382	376	376	374	340	326	303	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	1546	50	1	1220	295	311	291	285	352	380	376	377	372	342	326	304	14	15	14	13	22	23	21	24	24	17	17	15
	601, 7001	GdyNBoff3	1546	50	2	135	296	310	292	285	352	381	375	377	372	342	326	304	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	950	50	1	84	179	190	174	168	211	227	227	226	224	205	203	181	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	950	50	1	107	179	190	174	168	211	227	227	226	224	205	203	181	0	0	0	0	0	0	0	0	0	0	0	0
	606, 506	GdyNBoff10	950	50	1	158	179	189	174	168	210	227	227	226	224	205	203	181	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1774	50	2	179	333	341	332	315	427	451	433	410	365	375	360	349	0	0	0	0	0	0	0	0	0	0	0	0
	7004, 623	GdyNBon5	855	50	2	501	176	166	168	152	207	227	218	206	187	190	179	173	20	14	17	15	22	26	27	21	19	18	17	17

2012 Existing AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from EB Gandy	623, 624	GdyNBon6	855	50	2	299	176	165	168	153	207	226	219	206	186	191	179	173	5	5	4	4	8	7	7	6	5	8	6	5
	624, 625	GdyNBon7	855	50	2	253	177	165	168	152	207	226	218	206	186	191	180	172	4	4	4	3	6	6	4	5	3	5	4	4
	625, 626	GdyNBon8	855	50	2	238	177	165	168	152	207	226	218	206	186	190	180	172	4	2	3	3	4	6	4	5	4	4	3	3
	626, 627	GdyNBon9	855	50	2	242	177	166	167	152	207	226	218	207	186	191	180	172	2	2	3	2	4	4	4	4	3	4	3	3
	627, 628	GdyNBon10	855	50	2	277	176	165	168	152	207	226	219	206	186	190	180	172	3	3	3	2	4	6	3	4	4	4	4	4
	628, 629	GdyNBon11	855	50	2	337	177	165	168	152	206	227	219	206	186	191	180	172	5	3	3	4	4	5	5	5	5	4	4	3
	629, 630	GdyNBon12	855	50	2	877	176	167	167	151	206	227	219	206	186	190	180	173	9	8	8	8	10	14	13	12	12	12	11	10
	630, 307	GdyNBon13	855	50	2	344	176	167	167	151	206	227	219	206	186	190	180	174	4	4	5	3	5	6	5	4	3	4	4	4
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	487	50	2	481	110	108	99	99	127	145	140	132	114	120	117	111	4	2	1	3	4	4	4	4	3	4	4	3
	660, 661	GdySBoff2	487	50	2	394	110	108	99	98	127	145	140	131	115	120	117	112	1	1	1	1	2	3	2	3	2	2	1	1
	661, 662	GdySBoff3	487	50	2	1949	109	109	99	98	126	146	140	131	116	119	116	114	56	55	50	50	69	77	74	67	59	60	60	59
	662, 523	GdySBoff4	487	50	1	424	109	109	99	98	126	146	140	131	117	118	116	115	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	919	50	1	286	159	174	164	164	218	222	216	207	178	187	180	176	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	919	50	1	204	159	174	165	164	217	222	216	206	178	187	180	176	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	919	50	1	319	159	174	165	164	217	222	216	206	178	187	179	176	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	854	35	1	302	161	167	163	152	203	219	206	198	183	189	175	164	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	854	35	1	259	161	167	162	152	203	219	207	198	183	188	176	164	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	854	35	1	227	161	166	162	152	202	220	207	199	182	188	176	164	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	854	35	1	211	160	166	162	153	201	220	207	199	182	188	176	165	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	854	35	1	211	160	167	161	153	201	221	207	199	182	187	176	165	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	854	35	1	207	160	166	161	153	200	221	207	199	182	187	176	165	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	854	35	1	252	160	167	161	153	199	221	207	200	183	188	176	165	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1649	60	4	1418	313	327	316	296	410	433	412	390	344	361	342	327	240	256	249	220	316	343	324	306	264	279	269	251
	541, 542	RvEB3	1649	60	3	1028	313	327	317	294	410	432	413	392	344	360	343	325	17	19	19	17	25	26	28	23	21	23	20	18
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1096	60	2	513	209	219	217	191	276	285	274	258	226	237	228	218	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1191	60	2	120	224	237	236	208	295	307	305	287	248	256	252	237	2	2	2	2	3	3	3	2	1	2	2	2
	546, 547	RvEB10	1191	60	2	165	224	236	236	208	294	308	304	287	248	256	253	236	3	3	3	2	5	4	5	3	5	3	3	3
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1552	60	2	1053	297	310	308	275	383	392	400	381	337	335	331	311	99	101	98	90	123	116	134	129	120	110	106	102
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2263	60	2	756	428	450	434	407	563	596	564	537	474	492	470	448	13	11	12	11	14	12	12	12	12	11	10	10
	558, 559	RvWB3	2263	60	2	146	428	451	434	407	563	597	563	538	474	492	470	448	4	6	5	4	8	10	7	6	7	6	6	5
	559, 560	RvWB4	2263	60	3	151	428	451	435	407	562	597	563	538	474	492	470	448	6	5	6	4	9	12	10	7	7	8	6	7
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2243	60	2	125	424	447	431	403	556	592	558	534	469	487	467	444	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1907	60	2	133	356	376	363	337	459	495	471	451	397	411	397	371	5	6	7	4	9	10	8	7	7	8	8	6
	567, 568	RvWB14	1907	60	2	750	358	376	361	339	456	495	472	451	397	411	396	372	25	27	26	23	28	33	32	33	24	32	25	24
	568, 569	RvWB15	1907	60	2	281	358	375	362	338	455	495	472	451	398	411	395	372	8	8	8	8	11	12	10	10	9	9	9	9
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3616	60	4	1137	684	720	688	665	852	914	886	859	813	787	751	713	91	106	96	88	120	133	127	123	116	111	101	98
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3019	50	2	228	585	612	597	570	724	752	752	748	742	679	632	622	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3019	50	2	168	584	612	598	572	722	753	753	747	743	679	633	621	60	58	60	57	72	67	70	73	72	62	65	58
	701, 702	RvNBoff5	3019	50	2	198	583	612	598	572	722	752	755	746	744	678	635	621	91	98	94	91	120	117	130	126	120	108	102	97
	702, 703	RvNBoff6	3019	50	3	130	583	612	598	572	721	753	754	745	745	678	634	621	70	72	65	70	75	70	73	73	69	73	67	65
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	361	50	1	336	72	73	72	67	90	84	97	93	89	80	78	75	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	361	50	1	200	72	73	72	67	90	84	98	92	89	80	78	75	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	361	50	1	223	72	73	72	67	90	84	97	93	89	80	77	75	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	361	50	1	262	73	73	72	66	89	84	97	93	89	80	78	76	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	361	50	1	264	73	73	72	66	89	85	97	93	89	80	78	76	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1709	50	2	248	327	344	328	324	403	420	413	405	418	374	354	341	43	47	43	43	61	62	62	60	58	52	49	48
	715, 716	RvNBoff21	1709	50	2	642	327	344	328	324	402	419	413	406	418	374	354	341	40	40	38	39	52	56	57	57	58	47	43	45
	716, 569	RvNBoff22	1709	50	2	670	329	343	326	326	401	420	413	406	417	374	356	340	23	22	23	19	27	30	26	28	28	27	24	22
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	20	50	1	296	4	4	3	4	6	5	5	3	5	5	3	4	0	0	0	0	0	0	0	0	0	0	0	0
	757, 7016	RvNBon4	20	50	1	127	4	4	3	4	6	5	5	3	5	5	3	4	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	769	50	2	261	147	156	146	142	193	205	194	179	158	170	161	151	18	16	18	15	27	30	26	25	20	21	20	19
	756, 317	RvNBon10	769	50	2	444	148	155	146	142	192	206	194	179	158	170	161	151	10	11	10	10	13	13	15	13	10	11	11	9
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	738	50	2	223	140	155	149	135	185	189	193	192	168	163	159	154	2	4	4	2	4	4	5	3	4	3	3	2
	770, 7032	RvSBoff2	738	50	2	150	140	155	148	135	184	189	193	192	168	164	158	154	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	892	50	3	102	171	181	174	168	225	241	227	222	194	199	188	180	54	55	51	53	65	72	70	66	63	61	59	55
	793, 410	RvSBon5	892	50	3	655	171	180	174	168	226	240	228	223	193	199	188	179	17	18	19	18	30	29	27	27	22	23	19	17
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	553	50	2	270	104	109	101	103	133	147	140	134	119	123	115	108	2	1	1	1	2	3	3	2	2	2	1	2
	790, 7011	RvSBon11	553	50	2	250	103	109	101	102	132	148	140	134	119	123	116	107	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2658	50	2	311	512	539	526	505	632	668	657	653	657	598	557	546	53	51	53	50	65	64	65	65	66	53	52	54
	708, 710	118NBoff2	2658	50	2	567	511	539	525	507	630	667	659	652	658	596	559	546	58	65	57	58	78	86	86	79	84	70	70	64
	710, 711	118NBoff3	2658	50	2	460	512	541	523	505	631	668	658	652	659	596	559	545	78	93	84	84	114	118	116	112	116	99	93	90
	711, 712	118NBoff4	2658	50	3	472	513	539	525	504	629	669	657	651	659	598	559	543	33	36	33	34	40	44	46	46	42	39	39	40
	712, 713	118NBoff5	2658	50	3	395	514	539	524	505	628	668	658	650	661	597	559	546	273	276	269	266	325	338	326	327	331	306	284	273
	713, 714	118NBoff6	2658	50	4	188	514	539	524	506	628	669	658	649	661	597	559	547	78	88	78	79	103	113	110	110	113	98	90	85
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	949	50	2	212	186	195	196	182	224	250	245	242	245	224	204	206	3	4	5	3	4	5	6	5	6	6	3	4
	717, 718	118NBoff8	949	50	2	389	186	195	196	182	224	250	244	242	245	224	204	207	5	5	4	4	6	7	9	6	5	6	5	6
	718, 719	118NBoff9	949	50	2	373	185	195	196	182	223	251	244	242	246	225	204	207	3	3	4	3	4	5	4	6	6	5	5	5
	719, 720	118NBoff10	949	50	2	589	186	196	195	182	222	251	243	243	244	226	204	207	7	6	7	6	7	9	8	9	8	7	7	7
	720, 721	118NBoff11	949	50	2	311	186	195	196	182	223	251	243	243	244	227	204	207	4	4	3	4	3	5	5	5	6	4	4	4
	721, 722	118NBoff12	949	50	2	381	186	195	196	182	222	250	244	242	243	228	204	207	3	3	4	4	5	4	5	6	8	5	4	5
	722, 723	118NBoff13	949	50	2	562	185	195	197	181	223	249	244	241	244	228	204	206	6	7	5	6	6	9	8	8	10	9	6	7
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1546	60	3	1252	302	318	320	292	366	405	395	394	383	364	331	328	58	65	68	57	75	85	81	80	79	70	64	63
	724, 725	118NBoff15	1546	60	3	575	303	317	321	293	365	405	396	393	384	365	331	329	7	6	7	6	9	10	9	8	9	8	7	7
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1525	60	2	611	287	306	290	274	384	400	379	366	314	334	317	300	70	71	72	64	92	91	85	85	79	79	75	72
	741, 742	118NBon3	1525	60	2	1107	288	306	289	275	381	400	379	364	316	333	318	300	20	26	20	19	37	39	36	34	26	29	25	24
	742, 749	118NBon4	706	50	2	758	134	143	133	130	177	192	178	166	143	156	147	136	49	50	52	51	61	66	62	55	50	55	52	49

2012 Existing AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 On Ramp from 118th	749, 750	118NBon5	706	50	2	1140	134	143	134	130	176	192	178	165	144	156	147	136	9	9	7	7	12	13	13	11	9	10	10	9
	750, 751	118NBon6	706	50	1	304	134	143	134	130	176	191	179	165	144	155	147	136	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon7	706	50	1	341	135	143	133	130	175	191	179	165	144	155	148	136	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon8	706	50	1	406	135	143	133	130	175	190	180	165	145	156	147	136	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon9	706	50	1	250	134	143	134	130	175	190	179	166	144	156	147	136	0	0	0	0	0	0	0	0	0	0	0	0
	754, 7009	118NBon10	706	50	1	349	136	142	134	130	175	189	180	165	144	156	147	136	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	597	50	1	147	115	125	121	112	147	154	153	153	138	135	126	123	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	597	50	1	934	115	124	122	112	146	155	152	153	137	135	126	122	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	597	50	1	371	116	123	123	111	146	155	152	153	138	135	126	122	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	597	50	1	446	116	123	123	112	146	155	152	153	139	135	125	122	0	0	0	0	0	0	0	0	0	0	0	0
	778, 723	118SBoff6	597	50	1	1329	116	123	123	112	145	155	152	153	139	135	125	122	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from 118th	742, 743	118SBon1	819	50	1	227	154	163	156	146	203	210	200	198	174	178	171	164	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon2	819	50	1	418	154	163	156	147	202	210	201	198	173	178	172	163	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon3	819	50	1	223	154	163	155	147	201	210	201	198	174	178	172	164	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon4	819	50	1	201	154	164	155	147	201	210	201	198	174	178	172	164	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon5	819	50	1	200	155	164	155	147	200	210	201	198	174	178	172	164	0	0	0	0	0	0	0	0	0	0	0	0
	747, 748	118SBon6	819	50	1	166	155	164	155	147	200	210	201	197	174	178	172	164	0	0	0	0	0	0	0	0	0	0	0	0
	748, 413	118SBon7	819	50	1	973	156	163	154	148	199	211	202	197	175	178	171	165	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	1638	60	3	2420	309	327	313	297	402	434	411	390	339	356	340	325	178	196	186	171	232	257	237	232	198	208	205	197
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1212	50	2	647	237	245	234	217	306	324	301	293	256	264	250	241	9	9	8	8	15	14	13	12	11	10	8	10
	811, 812	UlmNBon4	1212	50	2	590	237	245	234	217	305	323	302	294	256	265	250	241	7	10	7	7	11	10	11	9	8	8	8	7
	812, 813	UlmNBon5	1212	50	2	323	237	245	234	217	304	323	302	294	257	265	250	240	5	3	2	3	6	6	6	6	5	5	4	5
	813, 814	UlmNBon6	1212	50	2	328	237	245	234	218	303	322	303	294	257	265	249	240	5	4	4	3	7	7	5	5	6	6	5	4
	814, 815	UlmNBon7	1212	50	2	288	237	245	235	218	303	321	303	294	257	264	249	241	4	4	4	3	6	6	5	6	5	5	6	4
	815, 816	UlmNBon8	1212	50	2	273	236	245	235	217	303	321	303	294	258	264	248	241	4	4	4	3	6	7	6	6	6	4	3	5
	816, 321	UlmNBon9	1212	50	2	1098	236	246	235	217	302	321	303	296	258	262	251	242	15	16	16	14	21	24	23	23	16	18	16	16
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2529	50	2	573	480	500	492	458	614	674	637	592	546	551	519	489	60	65	64	57	79	92	78	72	67	72	64	61
	830, 831	UlmSBoff2	2529	50	2	346	480	500	491	458	614	674	637	593	545	551	519	490	15	15	14	13	16	18	15	18	17	17	16	16
	831, 7036	UlmSBoff3	2529	50	2	283	480	500	491	458	613	674	636	594	546	551	519	490	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2119	50	2	398	401	419	408	378	509	564	536	497	455	457	435	415	12	14	12	10	16	18	16	16	15	15	14	14
	834, 835	UlmSBoff8	2119	60	2	584	401	420	409	379	508	563	535	499	454	456	435	415	44	42	43	39	49	52	49	49	43	41	43	40
	835, 836	UlmSBoff9	2119	60	2	481	400	421	409	379	507	563	534	499	454	457	434	416	5	5	7	6	7	9	8	9	7	8	6	6
	836, 837	UlmSBoff10	2119	60	2	2160	400	420	410	381	502	560	537	500	457	456	433	416	41	45	44	36	53	60	61	55	47	52	43	45
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	426	35	1	493	74	82	79	81	96	108	110	98	85	91	89	84	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	426	35	1	214	74	82	79	81	96	108	110	98	85	91	89	84	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	210	35	1	163	39	43	37	42	48	53	54	50	40	47	44	44	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	210	35	1	163	39	43	37	42	48	54	54	49	40	47	44	44	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	210	35	1	228	39	43	37	42	48	53	54	49	40	47	44	44	0	0	0	0	0	0	0	0	0	0	0	0
	810, 404	UlmSBon6	210	50	1	1030	39	43	37	42	48	53	55	49	40	47	43	44	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	35	40	42	40	47	54	57	49	44	44	46	40	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	216	50	1	361	35	40	42	40	48	54	56	49	45	44	45	40	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	216	50	1	499	34	40	42	40	47	54	56	49	45	45	45	40	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	626	50	2	1171	111	121	124	123	144	163	159	145	138	140	127	118	12	14	13	14	19	20	18	17	17	18	15	12
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	280	50	1	1080	53	56	54	50	70	73	70	68	57	62	58	54	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	280	50	1	350	53	56	54	50	70	73	70	68	57	62	58	54	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	280	50	1	370	53	56	54	50	70	74	69	68	57	62	58	54	0	0	0	0	0	0	0	0	0	0	0	0
	853, 320	MLKNBon5	280	50	1	885	53	55	54	50	69	74	70	68	58	62	58	55	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	410	50	1	294	77	81	83	81	99	108	102	97	92	95	82	78	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	410	50	1	336	77	81	83	81	99	108	103	97	92	95	82	78	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	410	50	1	395	78	81	83	81	99	108	103	97	93	95	82	79	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	410	50	1	539	77	81	83	81	99	108	103	97	92	95	82	79	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	859	60	2	1270	162	174	161	156	214	224	216	205	178	188	177	171	4	4	3	4	6	7	7	6	5	6	5	6
	901, 902	4thNBon3	859	60	2	634	162	173	161	156	214	223	216	206	178	188	177	172	71	75	68	68	89	95	91	87	79	79	76	74
	902, 903	4thNBon4	859	60	2	322	162	174	162	157	213	223	217	206	177	188	177	172	7	8	8	6	12	12	11	10	7	9	8	7
	903, 904	4thNBon5	859	60	2	279	161	174	162	157	212	223	217	206	177	188	177	173	4	4	4	3	5	6	5	4	4	4	5	4
	904, 905	4thNBon6	859	60	2	388	161	173	162	157	212	223	217	206	177	187	178	172	0	0	1	0	1	1	1	1	1	1	0	0
	905, 906	4thNBon7	859	60	1	313	161	173	163	157	212	223	217	206	178	187	178	173	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	859	60	1	300	161	172	163	157	211	223	217	206	178	187	178	173	0	0	0	0	0	0	0	0	0	0	0	0
	907, 323	4thNBon9	859	60	1	684	161	172	163	157	211	223	217	206	178	188	178	173	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	337	60	1	467	58	66	60	67	83	89	83	77	64	77	75	65	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	337	60	1	492	58	66	60	67	83	89	83	77	64	76	75	65	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	337	60	1	420	58	66	59	67	82	90	82	77	64	77	75	65	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	337	60	1	393	59	66	59	67	82	89	83	77	64	77	75	65	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	337	60	1	384	59	66	59	67	82	89	83	77	64	77	74	65	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	337	60	1	354	59	66	59	67	81	89	83	77	64	77	74	65	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	337	60	1	501	59	65	59	67	81	89	83	77	64	77	74	65	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	337	60	1	416	59	65	60	67	81	89	83	78	64	77	74	64	0	0	0	0	0	1	1	1	0	1	0	1
	927, 928	4thSBoff9	337	60	2	1153	59	65	59	67	81	89	83	77	64	77	73	65	6	9	7	9	12	12	12	11	8	11	12	7
	928, 929	4thSBoff10	337	60	2	1242	60	65	60	67	81	89	82	77	64	77	74	65	3	3	2	3	4	5	5	3	3	4	4	3

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6,881	70	3	1,087	26.1	35.0	30.3	65.5	62.4	64.4	5,230	6,881	5,711	5,230	6,670	5,930
	300, 301	I275NB3	6,881	70	3	805										5,232	6,666	5,933
	301, 302	I275NB4	6,881	70	3	478										5,233	6,663	5,936
	302, 303	I275NB5	6,881	70	3	2,687										5,237	6,643	5,952
	303, 304	I275NB6	6,881	70	4	382										5,240	6,639	5,955
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5,335	70	3	1,375	20.4	26.3	23.4	66.4	65.1	65.9	4,055	5,335	4,428	4,061	5,143	4,618
	305, 306	I275NB8	5,335	70	3	1,306										4,059	5,140	4,621
	306, 307	I275NB9	5,335	70	3	591										4,058	5,139	4,620
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6,190	70	5	1,065	17.3	22.4	19.9	65.5	64.0	64.7	4,704	6,190	5,138	4,720	5,991	5,354
	308, 309	I275NB11	6,190	70	5	3,035										4,720	5,978	5,367
	309, 310	I275NB12	6,190	70	4	1,095										4,720	5,970	5,369
	310, 311	I275NB13	6,190	70	4	380										4,721	5,966	5,370
	311, 312	I275NB14	6,190	70	4	399										4,721	5,963	5,371
	312, 313	I275NB15	6,190	70	4	368										4,723	5,961	5,372
	313, 314	I275NB16	6,190	70	4	460										4,723	5,957	5,375
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3,171	70	3	886	11.7	14.8	13.4	67.4	66.8	67.0	2,410	3,171	2,632	2,359	2,977	2,699
	315, 316	I275NB18	3,171	70	3	1,317										2,359	2,974	2,701
	316, 317	I275NB19	3,171	70	3	1,361										2,363	2,971	2,705
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,940	70	5	1,032	10.3	13.2	11.8	67.4	67.0	67.1	2,994	3,940	3,270	2,953	3,742	3,342
	318, 319	I275NB21	3,940	70	5	1,191										2,954	3,739	3,340
	319, 320	I275NB22	3,940	70	4	3,175										2,952	3,734	3,349
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	4,220	70	4	1,678	10.7	13.7	12.2	67.2	66.7	66.9	3,207	4,220	3,503	3,166	4,011	3,582
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	5,432	70	5	1,064	11.6	15.3	12.9	66.5	65.8	66.2	4,128	5,432	4,509	4,099	5,222	4,605
	322, 323	I275NB25	5,432	70	5	1,398										4,099	5,218	4,608
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	6,291	70	5	817	16.2	21.7	18.4	65.7	62.8	64.9	4,781	6,291	5,222	4,750	6,074	5,329
	324, 325	I275NB27	6,291	70	5	683										4,752	6,070	5,331
	325, 326	I275NB28	6,291	70	4	1,898										4,754	6,061	5,336
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	5,460	70	4	2,040	15.4	20.4	16.8	68.2	67.4	68.0	4,150	5,460	4,532	4,150	5,454	4,542
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5,123	70	4	2,745	11.9	15.0	12.6	65.7	64.2	65.4	3,893	5,123	4,252	3,900	5,112	4,270
	402, 403	I275SB4	5,123	70	5	825										3,899	5,108	4,273
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	2,594	70	4	4,213	7.2	9.5	7.9	68.5	68.1	68.5	1,971	2,594	2,153	1,968	2,585	2,177
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	2,804	70	4	972	10.7	15.4	13.0	67.4	66.9	67.3	2,131	2,804	2,327	2,129	2,789	2,352
	405, 406	I275SB7	2,804	70	4	1,472										2,129	2,786	2,353
	406, 407	I275SB8	2,804	70	4	662										2,127	2,784	2,356
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2,066	70	3	1,201	11.1	16.1	13.6	68.5	68.1	68.4	1,570	2,066	1,715	1,549	2,023	1,715
	408, 409	I275SB10	2,066	70	3	1,585										1,547	2,021	1,717
	409, 410	I275SB11	2,066	70	3	458										1,547	2,020	1,718
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	2,958	70	5	631	7.5	9.9	8.3	65.8	65.4	65.8	2,248	2,958	2,455	2,242	2,934	2,477
	411, 412	I275SB13	2,958	70	5	244										2,243	2,934	2,477
	412, 413	I275SB14	2,958	70	4	608										2,243	2,935	2,477
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	3,777	70	4	492	10.6	13.9	11.7	66.8	66.0	66.6	2,871	3,777	3,135	2,865	3,741	3,165
	414, 415	I275SB16	3,777	70	4	3,870										2,869	3,734	3,174
	415, 416	I275SB17	3,777	70	4	1,086										2,870	3,731	3,176
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	3,290	70	3	1,385	12.1	15.9	13.4	67.5	66.9	67.4	2,500	3,290	2,731	2,454	3,186	2,715
	417, 418	I275SB19	3,290	70	3	343										2,454	3,187	2,714
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	4,144	70	3	1,507	13.3	17.6	14.8	63.2	61.9	62.8	3,149	4,144	3,440	3,097	4,004	3,431
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	5,063	70	3	3,297	17.9	23.5	19.9	66.0	64.9	65.7	3,848	5,063	4,202	3,761	4,852	4,156
	420, 421	I275SB22	5,063	70	3	430										3,762	4,850	4,157
	421, 422	I275SB23	5,063	70	3	403										3,762	4,848	4,159
	422, 423	I275SB24	5,063	70	3	426										3,762	4,846	4,160
	423, 424	I275SB25	5,063	70	3	412										3,761	4,846	4,160
	424, 425	I275SB26	5,063	70	3	734										3,763	4,840	4,163

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,946	50	3	841	12.8	17.0	14.0	48.7	48.1	48.6	2,239	2,946	2,445	2,240	2,944	2,450
	500, 501	GandyEB3	2,946	50	4	954										2,240	2,942	2,451
	501, 502	GandyEB4	2,946	50	5	174										2,239	2,942	2,452
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,172	50	3	178	6.2	8.4	6.8	49.2	48.6	49.1	891	1,172	973	918	1,222	1,002
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,172	50	3	99	7.6	10.2	8.4	44.2	43.7	43.7	891	1,172	973	918	1,220	1,002
	505, 506	GandyEB10	1,172	50	3	119										919	1,220	1,002
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,122	50	3	1,167	11.0	14.4	12.3	46.9	46.2	46.5	1,613	2,122	1,761	1,630	2,106	1,817
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2,646	55	3	181	12.4	16.5	13.7	47.3	46.2	47.2	2,011	2,646	2,196	2,035	2,636	2,238
	520, 521	GandyWB5	2,646	55	3	291										2,035	2,635	2,239
	521, 522	GandyWB6	2,646	55	4	590										2,035	2,632	2,243
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	1,792	55	3	1,768	8.7	11.3	9.6	53.5	53.2	53.4	1,362	1,792	1,487	1,387	1,806	1,535
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2,279	55	3	1,179	14.8	21.7	19.1	53.4	53.0	53.3	1,732	2,279	1,892	1,799	2,350	2,004
	524, 525	GandyWB9	2,279	55	3	455										1,802	2,346	2,006
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,546	50	1	525	23.1	29.8	26.5	48.0	46.9	47.6	1,175	1,546	1,283	1,182	1,485	1,343
	600, 601	GdyNBoff2	1,546	50	1	1,220										1,182	1,486	1,343
	601, 7001	GdyNBoff3	1,546	50	2	135										1,182	1,485	1,344
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	950	50	1	84	17.7	23.0	20.6	42.7	41.3	42.1	722	950	789	710	890	812
	605, 606	GdyNBoff9	950	50	1	107										710	890	813
	606, 506	GdyNBoff10	950	50	1	158										710	890	813
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,774	50	2	179	15.1	22.8	17.4	43.9	38.2	41.7	1,348	1,774	1,472	1,321	1,720	1,450
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	855	50	2	501	6.8	8.8	7.5	48.9	48.8	48.8	650	855	710	662	857	729
	623, 624	GdyNBon6	855	50	2	299										662	857	729
	624, 625	GdyNBon7	855	50	2	253										662	857	728
	625, 626	GdyNBon8	855	50	2	238										662	857	729
	626, 627	GdyNBon9	855	50	2	242										662	858	729
	627, 628	GdyNBon10	855	50	2	277										662	857	728
	628, 629	GdyNBon11	855	50	2	337										662	857	728
	629, 630	GdyNBon12	855	50	2	877										661	858	729
	630, 307	GdyNBon13	855	50	2	344										660	858	729
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	487	50	2	481	4.8	6.3	5.4	49.3	49.0	49.3	370	487	404	416	544	463
	660, 661	GdySBoff2	487	50	2	394										415	544	463
	661, 662	GdySBoff3	487	50	2	1,949										415	543	465
	662, 523	GdySBoff4	487	50	1	424										415	542	466
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	919	50	1	286	14.7	19.3	16.2	46.1	45.9	45.8	698	919	763	661	862	720
	621, 622	GdySBon3	919	50	1	204										661	862	721
	622, 419	GdySBon4	919	50	1	319										661	861	721
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	854	35	1	302	19.2	25.1	21.5	33.3	32.9	33.1	649	854	709	643	826	711
	640, 641	GdySBonLoop2	854	35	1	259										642	826	711
	641, 642	GdySBonLoop3	854	35	1	227										641	827	711
	642, 643	GdySBonLoop4	854	35	1	211										641	827	711
	643, 644	GdySBonLoop5	854	35	1	211										640	827	710
	644, 645	GdySBonLoop6	854	35	1	207										640	826	710
	645, 418	GdySBonLoop7	854	35	1	252										640	826	710
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1,649	60	4	1,418	6.2	8.2	6.8	58.6	58.4	58.5	1,253	1,649	1,369	1,253	1,646	1,374
	541, 542	RvEB3	1,649	60	3	1,028										1,251	1,647	1,373
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,096	60	2	513	7.1	9.3	7.7	59.0	58.8	58.9	833	1,096	910	836	1,093	909
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,191	60	2	120	8.3	11.0	9.1	58.2	57.8	58.0	905	1,191	989	904	1,194	992
	546, 547	RvEB10	1,191	60	2	165										904	1,194	992
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1,552	60	2	1,053	8.7	11.4	9.6	57.7	57.4	57.6	1,180	1,552	1,288	1,189	1,555	1,314
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,263	60	2	756	13.8	18.3	15.2	59.0	58.7	59.0	1,720	2,263	1,878	1,719	2,260	1,883
	558, 559	RvWB3	2,263	60	2	146										1,720	2,260	1,884

2012 Existing AM Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
~~I-275 On Ramp~~	559, 560	RvWB4	2,263	60	3	151										1,720	2,260	1,884
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,243	60	2	125	14.5	19.2	15.9	58.9	58.4	58.7	1,705	2,243	1,862	1,706	2,240	1,868
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,907	60	2	133	12.6	16.7	13.9	57.9	57.2	57.6	1,449	1,907	1,583	1,431	1,876	1,575
	567, 568	RvWB14	1,907	60	2	750										1,433	1,874	1,575
	568, 569	RvWB15	1,907	60	2	281										1,433	1,873	1,576
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,616	60	4	1,137	12.0	15.4	13.4	57.4	57.0	57.2	2,748	3,616	3,001	2,757	3,510	3,064
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,019	50	2	228	24.0	31.1	27.5	49.3	47.9	48.7	2,294	3,019	2,506	2,365	2,977	2,676
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,019	50	2	168	20.9	26.6	23.7	47.1	46.7	47.0	2,294	3,019	2,506	2,365	2,975	2,677
	701, 702	RvNBoff5	3,019	50	2	198										2,364	2,974	2,678
	702, 703	RvNBoff6	3,019	50	3	130										2,364	2,973	2,678
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	361	50	1	336	5.8	7.4	6.5	49.2	49.1	49.1	274	361	300	283	363	321
	704, 705	RvNBoff8	361	50	1	200										283	363	321
	705, 706	RvNBoff9	361	50	1	223										284	363	322
	706, 707	RvNBoff10	361	50	1	262										284	363	322
	707, 547	RvNBoff11	361	50	1	264										284	363	322
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,709	50	2	248	13.7	17.1	15.4	48.3	48.1	48.2	1,299	1,709	1,418	1,323	1,641	1,487
	715, 716	RvNBoff21	1,709	50	2	642										1,323	1,640	1,487
	716, 569	RvNBoff22	1,709	50	2	670										1,325	1,640	1,487
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	20	50	1	296	0.3	0.4	0.3	53.4	53.4	53.4	15	20	17	15	20	17
	757, 7016	RvNBon4	20	50	1	127										15	20	17
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	769	50	2	261	6.3	8.3	6.8	48.2	47.9	48.1	584	769	638	591	772	639
	756, 317	RvNBon10	769	50	2	444										591	771	640
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	738	50	2	223	5.8	7.7	6.5	49.6	49.5	49.6	561	738	613	578	759	644
	770, 7032	RvSBoff2	738	50	2	150										578	758	644
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	892	50	3	102	6.9	9.3	7.6	46.9	46.5	47.1	678	892	740	693	916	761
	793, 410	RvSBon5	892	50	3	655										693	916	759
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	553	50	2	270	4.2	5.6	4.7	49.6	49.5	49.5	420	553	459	416	553	464
	790, 7011	RvSBon11	553	50	2	250										416	553	464
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,658	50	2	311	17.0	21.5	19.4	48.1	47.6	47.8	2,020	2,658	2,206	2,081	2,609	2,357
	708, 710	118NBoff2	2,658	50	2	567										2,081	2,608	2,359
	710, 711	118NBoff3	2,658	50	2	460										2,081	2,608	2,359
	711, 712	118NBoff4	2,658	50	3	472										2,081	2,607	2,360
	712, 713	118NBoff5	2,658	50	3	395										2,081	2,605	2,363
	713, 714	118NBoff6	2,658	50	4	188										2,081	2,604	2,364
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	949	50	2	212	7.7	9.8	9.0	49.3	49.2	49.2	721	949	788	759	961	879
	717, 718	118NBoff8	949	50	2	389										758	960	880
	718, 719	118NBoff9	949	50	2	373										758	959	881
	719, 720	118NBoff10	949	50	2	589										759	959	881
	720, 721	118NBoff11	949	50	2	311										759	959	882
	721, 722	118NBoff12	949	50	2	381										758	958	882
	722, 723	118NBoff13	949	50	2	562										758	957	882
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1,546	60	3	1,252	7.1	9.1	8.1	57.6	57.4	57.5	1,175	1,546	1,283	1,232	1,560	1,406
	724, 725	118NBoff15	1,546	60	3	575										1,233	1,558	1,408
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1,525	60	2	611	10.2	13.5	11.2	57.4	57.1	57.3	1,159	1,525	1,266	1,157	1,529	1,266
	741, 742	118NBon3	1,525	60	2	1,107										1,157	1,525	1,268
NB I-275 On Ramp from 118th	742, 749	118NBon4	706	50	2	758	8.2	10.8	8.9	49.2	48.9	49.0	537	706	586	540	713	582
	749, 750	118NBon5	706	50	2	1,140										540	711	583
	750, 751	118NBon6	706	50	1	304										540	711	583
	751, 752	118NBon7	706	50	1	341										540	710	583
	752, 753	118NBon8	706	50	1	406										540	710	583
	753, 754	118NBon9	706	50	1	250										541	710	583
	754, 7009	118NBon10	706	50	1	349										541	709	584
	7034, 775	118SBoff2	597	50	1	147										473	607	521
	775, 776	118SBoff3	597	50	1	934										473	607	520

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to 118th	776, 777	118SBoff4	597	50	1	371	10.2	13.1	11.2	47.1	46.9	47.1	454	597	496	473	606	520
	777, 778	118SBoff5	597	50	1	446										473	605	521
	778, 723	118SBoff6	597	50	1	1,329										473	604	521
SB I-275 On Ramp from 118th	742, 743	118SBon1	819	50	1	227	12.9	16.9	14.3	48.1	47.8	47.9	622	819	680	619	811	686
	743, 744	118SBon2	819	50	1	418										619	811	686
	744, 745	118SBon3	819	50	1	223										619	810	687
	745, 746	118SBon4	819	50	1	201										620	809	688
	746, 747	118SBon5	819	50	1	200										620	809	688
	747, 748	118SBon6	819	50	1	166										620	809	688
	748, 413	118SBon7	819	50	1	973										621	808	688
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	1,638	60	3	2,420	7.2	9.5	7.9	58.0	57.9	58.0	1,245	1,638	1,360	1,247	1,638	1,360
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,212	50	2	647	9.5	12.5	10.3	49.2	49.0	49.1	921	1,212	1,006	932	1,224	1,011
	811, 812	UlmNBon4	1,212	50	2	590										933	1,223	1,011
	812, 813	UlmNBon5	1,212	50	2	323										933	1,223	1,012
	813, 814	UlmNBon6	1,212	50	2	328										934	1,222	1,011
	814, 815	UlmNBon7	1,212	50	2	288										934	1,221	1,012
	815, 816	UlmNBon8	1,212	50	2	273										933	1,221	1,012
	816, 321	UlmNBon9	1,212	50	2	1,098										933	1,221	1,014
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2,529	50	2	573	20.0	26.4	21.9	48.2	47.7	48.1	1,922	2,529	2,099	1,929	2,516	2,105
	830, 831	UlmSBoff2	2,529	50	2	346										1,929	2,517	2,105
	831, 7036	UlmSBoff3	2,529	50	2	283										1,930	2,516	2,105
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,119	50	2	398	14.4	19.1	15.8	56.4	55.7	56.2	1,610	2,119	1,759	1,607	2,106	1,761
	834, 835	UlmSBoff8	2,119	60	2	584										1,608	2,104	1,761
	835, 836	UlmSBoff9	2,119	60	2	481										1,608	2,103	1,762
	836, 837	UlmSBoff10	2,119	60	2	2,160										1,610	2,100	1,762
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	426	35	1	493	6.8	8.9	7.6	47.3	47.3	47.2	324	426	354	317	412	349
	802, 803	UlmSBon2	426	35	1	214										317	411	349
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	210	35	1	163	3.9	5.0	4.2	41.9	41.9	42.0	160	210	174	161	205	175
	808, 809	UlmSBon4	210	35	1	163										161	205	175
	809, 810	UlmSBon5	210	35	1	228										160	205	175
	810, 404	UlmSBon6	210	50	1	1,030										161	205	175
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	3.7	4.8	4.1	43.5	43.8	43.6	164	216	179	156	207	174
	804, 805	UlmSBMLK2	216	50	1	361										156	206	174
	805, 806	UlmSBMLK3	216	50	1	499										156	206	174
SB MLK	806, 807	UlmSBMLK4	626	50	2	1,171	4.9	6.2	5.3	49.2	49.1	49.1	476	626	520	479	611	523
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	280	50	1	1,080	4.3	5.7	4.7	49.6	49.5	49.5	213	280	232	213	281	231
	851, 852	MLKNBon3	280	50	1	350										212	281	231
	852, 853	MLKNBon4	280	50	1	370										212	281	232
	853, 320	MLKNBon5	280	50	1	885										212	280	232
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	410	50	1	294	6.7	8.5	7.2	48.6	48.5	48.5	312	410	340	322	407	347
	839, 840	MLKSBoff4	410	50	1	336										323	407	347
	840, 841	MLKSBoff5	410	50	1	395										323	406	348
	841, 806	MLKSBoff6	410	50	1	539										323	406	348
NB I-275 On Ramp from 4th	900, 901	4thNBon2	859	60	2	1,270	7.4	9.8	8.1	58.7	58.3	58.6	653	859	713	653	859	714
	901, 902	4thNBon3	859	60	2	634										653	859	714
	902, 903	4thNBon4	859	60	2	322										653	859	714
	903, 904	4thNBon5	859	60	2	279										654	858	715
	904, 905	4thNBon6	859	60	2	388										654	858	715
	905, 906	4thNBon7	859	60	1	313										653	858	715
	906, 907	4thNBon8	859	60	1	300										653	858	715
	907, 323	4thNBon9	859	60	1	684										653	857	716
	401, 920	4thSBoff1	337	60	1	467										250	331	280
	920, 921	4thSBoff2	337	60	1	492										250	331	280
	921, 922	4thSBoff3	337	60	1	420										250	331	280
	922, 923	4thSBoff4	337	60	1	393										250	331	280

2012 Existing AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to 4th	923, 924	4thSBoff5	337	60	1	384	3.1	4.1	3.5	59.1	59.0	58.9	256	337	280	250	330	280
	924, 925	4thSBoff6	337	60	1	354										251	330	279
	925, 926	4thSBoff7	337	60	1	501										251	330	279
	926, 927	4thSBoff8	337	60	1	416										251	330	279
	927, 928	4thSBoff9	337	60	2	1,153										251	330	280
	928, 929	4thSBoff10	337	60	2	1,242										251	330	280

2012 Existing PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5080	70	3	1087	22.7	24.0	22.8	21.5	25.8	27.0	25.8	24.3	20.9	22.1	20.8	19.8	22.4	23.7	22.5	21.3	25.4	27.0	25.7	24.1	20.6	21.9	20.4	19.5
	300, 301	I275NB3	5080	70	3	805	22.2	23.4	22.3	21.1	25.1	26.3	25.3	23.8	20.5	21.7	20.3	19.4												
	301, 302	I275NB4	5080	70	3	478	22.4	23.7	22.6	21.4	25.5	26.8	25.7	24.1	20.7	22.0	20.6	19.6												
	302, 303	I275NB5	5080	70	3	2687	23.0	24.3	23.1	21.9	26.1	27.8	26.6	24.9	21.2	22.5	20.9	19.9												
	303, 304	I275NB6	5080	70	4	382	17.8	18.8	17.8	16.9	20.3	22.4	20.6	19.3	16.4	17.3	16.0	15.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3456	70	3	1375	15.3	15.9	15.4	14.5	16.9	18.0	17.4	16.2	14.1	14.8	14.0	13.2	15.3	15.9	15.4	14.5	16.9	17.9	17.4	16.2	14.1	14.8	14.0	13.2
	305, 306	I275NB8	3456	70	3	1306	15.3	15.8	15.4	14.4	16.9	17.9	17.3	16.2	14.1	14.7	14.0	13.2												
	306, 307	I275NB9	3456	70	3	591	15.3	15.9	15.4	14.5	16.9	17.9	17.4	16.3	14.1	14.8	14.1	13.3												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	4052	70	5	1065	11.0	11.5	11.2	10.4	12.1	12.8	12.6	11.8	10.2	10.7	10.1	9.5	13.0	13.6	13.3	12.4	14.3	15.1	15.0	14.0	12.2	12.6	12.1	11.3
	308, 309	I275NB11	4052	70	5	3035	13.1	13.6	13.3	12.4	14.4	15.3	15.1	14.0	12.2	12.7	12.1	11.3												
	309, 310	I275NB12	4052	70	4	1095	13.4	14.0	13.7	12.8	14.7	15.6	15.5	14.5	12.6	12.9	12.5	11.6												
	310, 311	I275NB13	4052	70	4	380	13.5	14.2	13.9	12.9	14.9	15.8	15.8	14.7	12.8	13.1	12.7	11.7												
	311, 312	I275NB14	4052	70	4	399	13.7	14.3	14.1	13.1	15.1	16.0	16.0	14.8	12.9	13.2	12.8	11.8												
	312, 313	I275NB15	4052	70	4	368	13.8	14.3	14.1	13.1	15.1	16.0	16.1	14.9	12.9	13.3	12.8	11.8												
	313, 314	I275NB16	4052	70	4	460	14.4	15.0	14.8	13.7	15.8	16.8	16.8	15.5	13.5	13.8	13.4	12.3												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2172	70	3	886	9.3	9.9	9.6	8.9	10.3	10.9	10.8	10.2	8.9	9.1	8.8	8.2	9.3	9.8	9.5	8.8	10.2	10.7	10.7	10.1	8.8	9.1	8.8	8.1
	315, 316	I275NB18	2172	70	3	1317	9.2	9.7	9.5	8.8	10.2	10.7	10.6	10.1	8.8	9.0	8.7	8.1												
	316, 317	I275NB19	2172	70	3	1361	9.2	9.8	9.5	8.8	10.1	10.7	10.7	10.1	8.8	9.0	8.7	8.1												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3045	70	5	1032	8.2	8.7	8.4	7.9	9.1	9.6	9.3	8.9	7.8	7.9	7.8	7.2	9.4	9.8	9.6	9.0	10.3	10.9	10.7	10.1	8.9	9.0	8.8	8.2
	318, 319	I275NB21	3045	70	5	1191	9.1	9.6	9.3	8.7	10.0	10.6	10.4	9.8	8.6	8.8	8.6	8.0												
	319, 320	I275NB22	3045	70	4	3175	9.8	10.3	10.1	9.4	10.8	11.4	11.2	10.6	9.3	9.5	9.2	8.7												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	3369	70	4	1678	10.1	10.5	10.3	9.6	11.0	11.7	11.4	10.9	9.5	9.7	9.4	8.8	10.1	10.5	10.3	9.6	11.0	11.7	11.4	10.9	9.5	9.7	9.4	8.8
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	4994	70	5	1064	12.5	13.1	12.7	12.1	13.8	14.7	14.3	13.6	11.8	12.0	11.6	10.9	12.9	18.2	17.5	16.5	19.1	20.7	20.1	18.9	16.3	16.7	16.1	15.0
	322, 323	I275NB25	4994	70	5	1398	13.2	13.8	13.5	12.8	14.5	15.5	15.0	14.3	12.6	12.7	12.3	11.6												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	5434	70	5	817	12.9	13.5	13.2	12.5	14.2	15.2	14.7	14.0	12.3	12.4	12.0	11.3	16.7	17.5	17.0	16.0	18.5	19.9	19.5	18.1	15.8	15.9	15.3	14.5
	324, 325	I275NB27	5434	70	5	683	16.2	16.9	16.3	15.2	18.3	19.9	19.4	17.7	15.2	15.2	14.5	13.7												
	325, 326	I275NB28	5434	70	4	1898	18.6	19.5	18.9	17.8	20.4	21.9	21.5	20.1	17.6	17.6	17.0	16.1												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	6314	70	4	2040	21.3	22.9	21.5	20.1	24.5	26.2	24.7	23.0	19.6	20.6	19.6	18.6	21.3	22.9	21.5	20.1	24.5	26.2	24.7	23.0	19.6	20.6	19.6	18.6
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5389	70	4	2745	16.8	17.8	16.9	15.9	19.1	20.1	19.3	18.1	15.5	16.2	15.5	14.7	16.4	18.9	18.2	17.2	19.7	21.5	20.9	19.7	17.0	17.4	16.8	15.6
	402, 403	I275SB4	5389	70	5	825	15.2	16.0	15.3	14.4	17.2	18.0	17.4	16.4	14.1	14.7	14.0	13.2												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3962	70	4	4213	12.9	13.7	13.1	12.5	14.5	15.4	14.8	14.2	12.1	12.7	11.9	11.3	12.9	13.7	13.1	12.5	14.5	15.4	14.8	14.2	12.1	12.7	11.9	11.3
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4497	70	4	972	12.2	12.9	12.3	11.7	13.7	14.5	14.0	13.4	11.4	12.0	11.2	10.7	14.3	19.5	18.9	17.9	20.3	22.3	21.8	20.5	17.7	18.1	17.5	16.2
	405, 406	I275SB7	4497	70	4	1472	15.0	15.8	15.2	14.4	16.8	18.0	17.3	16.5	14.0	14.8	13.8	13.1												
	406, 407	I275SB8	4497	70	4	662	15.9	16.7	16.2	15.1	17.9	19.1	18.4	17.6	14.9	15.7	14.6	13.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	3161	70	3	1201	13.7	14.2	14.1	13.1	15.1	16.3	15.9	14.9	12.9	13.5	12.6	11.7	13.6	19.7	19.0	18.0	20.4	22.4	21.9	20.6	17.8	18.1	17.6	16.3
	408, 409	I275SB10	3161	70	3	1585	13.5	13.9	13.8	13.0	14.7	15.9	15.6	14.6	12.7	13.2	12.5	11.5												
	409, 410	I275SB11	3161	70	3	458	13.6	14.0	13.8	13.1	14.7	15.9	15.7	14.7	12.8	13.2	12.5	11.6												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4717	70	5	631	13.3	13.9	13.6	12.8	14.4	15.7	15.5	14.5	12.5	12.8	12.6	11.5	14.3	14.9	14.5	13.7	15.5	16.8	16.6	15.5	13.4	13.7	13.5	12.3
	411, 412	I275SB13	4717	70	5	244	13.2	13.8	13.4	12.7	14.3	15.5	15.4	14.4	12.4	12.7	12.4	11.3												
	412, 413	I275SB14	4717	70	4	608	15.7	16.4	15.9	15.1	17.0	18.5	18.3	17.1	14.8	15.1	14.8	13.5												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5730	70	4	492	17.5	18.1	17.5	16.3	19.3	20.8	20.5	18.8	16.1	16.5	16.1	14.6	19.3	20.3	19.5	18.4	21.1	23.0	22.6	21.1	18.3	18.5	18.1	16.5
	414, 415	I275SB16	5730	70	4	3870	19.3	20.2	19.5	18.3	21.0	22.8	22.4	21.0	18.3	18.5	18.1	16.5												
	415, 416	I275SB17	5730	70	4	1086	20.4	21.5	20.6	19.4	22.2	24.5	24.1	22.6	19.5	19.5	19.0	17.4												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4768	70	3	1385	20.8	21.9	21.1	19.9	22.4	24.6	24.3	22.9	19.9	20.1	19.7	18.1	20.7	21.8	21.0	19.8	22.3	24.5	24.2	22.8	19.8	20.0	19.6	18.1
	417, 418	I275SB19	4768	70	3	343	20.4	21.4	20.7	19.5	21.8	24.0	23.7	22.4	19.6	19.7	19.4	17.9												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5472	70	3	1507	20.3	21.4	20.5	19.4	21.9	24.3	23.7	22.1	19.3	19.5	19.1	17.6	20.3	21.4	20.5	19.4	21.9	24.3	23.7	22.1	19.3	19.5	19.1	17.6
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	6260	70	3	3297	25.2	26.2	25.3	24.1	27.2	30.6	29.6	27.8	23.9	24.3	23.7	21.8	26.2	27.1	26.2	25.0	28.0	31.2	30.6	28.7	24.9	25.1	24.6	22.7
	420, 421	I275SB22	6260	70	3	430	27.4	28.3	27.5	26.3	29.2	32.1	31.8	29.9	26.3	26.3	25.8	23.8												
	421, 422	I275SB23	6260	70	3	403	27.4	28.4	27.5	26.3	29.2	32.1	31.9	30.0	26.3	26.3	25.8	23.9												
	422, 423	I275SB24	6260	70	3	426	27.4	28.4	27.5	26.3	29.2	32.1	31.9	30.0	26.3	26.3	25.8	23.9												
	423, 424	I275SB25	6260	70	3	412	27.4	28.4	27.6	26.3	29.2	32.1	31.9	30.0	26.3	26.3	25.8	24.0												
	424, 425	I275SB26	6260	70	3	734	27.4	28.4	27.5	26.3	29.2	32.0	31.9	30.1	26.2	26.3	25.8	24.0												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2423	50	3	841	14.7	15.6	14.8	14.0	16.6	17.5	16.6	15.8	13.7	14.3	13.5	13.0	12.2	13.0	12.3	11.6	13.8	14.6	13.9	13.2	11.4	11.9	11.3	10.7
	500, 501	GandyEB3	2423	50	4	954	10.6	11.3	10.7	10.1	11.9	12.6	12.1	11.5	9.9	10.3	9.8	9.3												
	501, 502	GandyEB4	2423	50	5	174	8.9	9.5	8.9	8.5	10.1	10.8	10.3	9.8	8.3	8.7	8.2	7.8												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1039	50	3	178	6.3	7.0	6.4	6.2	7.2	7.6	7.2	6.8	5.9	6.2	5.9	5.7	6.3	7.0	6.4	6.2	7.2	7.6	7.2	6.8	5.9	6.2	5.9	5.7
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1039	50	3	99	8.8	9.9	9.0	8.6	9.9	10.6	10.1	9.5	8.3	8.4	8.3	8.2	7.7	8.6	8.0	7.6	8.7	9.3	8.9	8.3	7.3	7.4	7.3	7.1
	505, 506	GandyEB10	1039	50	3	119	6.8	7.6	7.0	6.7	7.7	8.2	7.8	7.4	6.4	6.6	6.4	6.3												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	1874	50	3	1167	11.2	12.4	11.8	11.4	12.8	14.0	13.4	12.7	11.0	11.2	10.8	10.3	11.2	12.4	11.8	11.4	12.8	14.0	13.4	12.7	11.0	11.2	10.8	10.3
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2972	55	3	181	23.2	24.4	22.9	22.0	25.3	27.6	26.1	24.7	21.4	21.9	20.9	20.2	16.2	16.9	16.0	15.4	17.7	19.2	18.3	17.3	15.1	15.3	14.6	14.0
	520, 521	GandyWB5	2972	55	3	291	16.7	17.5	16.6	15.9	18.2	19.8	18.8	17.9	15.6	15.9	15.2	14.6												
	521, 522	GandyWB6	2972	55	4	590	13.7	14.3	13.6	13.1	15.0	16.3	15.7	14.8	12.9	13.0	12.3	11.8												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2268	55	3	1768	12.7	13.1	12.6	12.1	13.8	14.9	14.2	13.8	12.0	12.0	11.7	11.1	12.7	13.1	12.6	12.1	13.8	14.9	14.2	13.8	12.0	12.0	11.7	11.1
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3230	55	3	1179	14.4	14.9	14.4	13.8	15.6	16.8	16.4	15.8	13.8	13.5	13.3	12.5	15.6	23.6	21.8	21.3	24.7	28.3	26.2	25.8	21.0	21.3	20.0	19.4
	524, 525	GandyWB9	3230	55	3	455	18.8	19.6	18.9	18.1	20.4	21.8	21.3	20.7	18.2	17.7	17.5	16.4												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1624	50	1	525	28.9	31.2	28.6	28.0	33.3	38.8	34.1	32.4	27.1	28.1	26.0	25.7	28.8	31.2	28.4	27.9	32.9	38.9	35.0	34.9	27.4	28.2	25.9	25.7
	600, 601	GdyNBoff2	1624	50	1	1220	29.9	32.3	29.5	29.1	33.9	39.9	36.4	37.0	28.6	29.4	27.0	26.8												
	601, 7001	GdyNBoff3	1624	50	2	135	19.2	21.9	17.9	17.6	22.3	29.8	25.4	26.0	18.2	18.4	15.9	15.7												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	835	50	1	84	24.8	28.0	25.4	25.6	28.3	32.5	31.7	29.1	24.6	25.0	23.9	21.8	19.0	21.5	19.8	19.8	21.9	24.8	24.2	22.4	19.1	19.4	18.6	17.0
	605, 606	GdyNBoff9	835	50	1	107	17.6	20.0	18.4	18.4	20.4	23.1	22.6	20.9	17.7	18.1	17.2	15.8												

2012 Existing PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	606, 506	GdyNBoff10	835	50	1	158	16.8	19.1	17.7	17.6	19.5	22.0	21.3	19.9	17.1	17.3	16.6	15.2												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1384	50	2	179	13.5	14.0	13.4	12.5	15.8	17.1	16.1	15.0	12.6	13.3	12.1	11.4	13.5	14.0	13.4	12.5	15.8	17.1	16.1	15.0	12.6	13.3	12.1	11.4
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	596	50	2	501	6.0	6.3	6.1	5.5	6.6	7.0	7.0	6.5	5.6	5.9	5.5	5.0	5.5	5.9	5.7	5.2	6.2	6.5	6.6	6.0	5.2	5.5	5.1	4.7
	623, 624	GdyNBon6	596	50	2	299	5.5	5.9	5.7	5.1	6.1	6.5	6.5	6.0	5.2	5.4	5.1	4.6												
	624, 625	GdyNBon7	596	50	2	253	5.5	5.8	5.7	5.1	6.1	6.5	6.5	6.0	5.2	5.4	5.1	4.6												
	625, 626	GdyNBon8	596	50	2	238	5.5	5.8	5.7	5.1	6.1	6.5	6.5	6.0	5.2	5.4	5.1	4.6												
	626, 627	GdyNBon9	596	50	2	242	5.5	5.8	5.7	5.1	6.1	6.4	6.5	5.9	5.2	5.4	5.0	4.6												
	627, 628	GdyNBon10	596	50	2	277	5.5	5.8	5.7	5.1	6.1	6.4	6.5	5.9	5.2	5.4	5.0	4.6												
	628, 629	GdyNBon11	596	50	2	337	5.5	5.8	5.7	5.1	6.1	6.4	6.5	5.9	5.2	5.4	5.0	4.6												
	629, 630	GdyNBon12	596	50	2	877	5.4	5.8	5.7	5.1	6.1	6.4	6.5	5.8	5.2	5.4	5.0	4.6												
	630, 307	GdyNBon13	596	50	2	344	5.4	5.8	5.7	5.1	6.0	6.4	6.5	5.8	5.2	5.4	5.0	4.7												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	962	50	2	481	9.8	10.2	9.8	9.6	10.4	11.2	11.1	10.6	9.5	9.1	9.0	8.2	11.3	11.8	11.4	11.2	12.0	12.9	12.9	12.3	11.0	10.5	10.5	9.5
	660, 661	GdySBoff2	962	50	2	394	9.7	10.1	9.8	9.6	10.3	11.1	11.0	10.5	9.5	9.0	9.0	8.2												
	661, 662	GdySBoff3	962	50	2	1949	10.1	10.5	10.1	10.0	10.7	11.5	11.5	10.9	9.8	9.3	9.3	8.4												
	662, 523	GdySBoff4	962	50	1	424	20.3	21.1	20.4	20.1	21.5	23.0	23.3	22.1	19.6	18.8	18.8	16.9												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	788	50	1	286	16.2	15.9	15.8	14.9	18.3	19.4	17.7	17.9	14.9	15.7	15.0	14.1	14.9	14.6	14.5	13.8	16.7	17.8	16.4	16.4	13.8	14.4	13.7	13.0
	621, 622	GdySBon3	788	50	1	204	14.3	14.0	13.9	13.2	16.0	17.0	15.7	15.7	13.2	13.7	13.2	12.5												
	622, 419	GdySBon4	788	50	1	319	14.1	13.9	13.7	13.1	15.7	16.7	15.6	15.4	13.1	13.5	13.0	12.3												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	704	35	1	302	18.2	19.1	17.7	17.8	20.4	21.2	20.1	18.2	16.5	17.3	16.4	15.7	18.4	19.3	17.8	17.9	20.4	21.3	20.2	18.5	16.7	17.5	16.5	16.0
	640, 641	GdySBonLoop2	704	35	1	259	18.3	19.2	17.7	17.8	20.3	21.2	20.1	18.3	16.6	17.5	16.5	15.8												
	641, 642	GdySBonLoop3	704	35	1	227	18.4	19.2	17.7	17.8	20.3	21.2	20.1	18.4	16.6	17.5	16.5	15.9												
	642, 643	GdySBonLoop4	704	35	1	211	18.5	19.4	17.7	17.9	20.4	21.3	20.3	18.6	16.7	17.6	16.5	16.1												
	643, 644	GdySBonLoop5	707	35	1	211	18.6	19.4	17.8	18.0	20.4	21.4	20.3	18.7	16.7	17.6	16.6	16.2												
	644, 645	GdySBonLoop6	704	35	1	207	18.6	19.5	17.9	18.0	20.5	21.4	20.4	18.9	16.8	17.6	16.6	16.3												
	645, 418	GdySBonLoop7	704	35	1	252	18.6	19.6	18.0	17.9	20.5	21.3	20.3	19.0	16.8	17.6	16.6	16.3												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2840	60	4	1418	11.1	11.8	11.1	10.6	12.6	13.3	12.7	12.0	10.3	10.8	10.3	9.8	12.7	13.5	12.7	12.1	14.3	15.1	14.5	13.6	11.7	12.3	11.7	11.2
	541, 542	RvEB3	2840	60	3	1028	14.8	15.7	14.9	14.1	16.7	17.6	16.9	15.9	13.6	14.4	13.7	13.1												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1615	60	2	513	12.3	12.9	12.3	11.9	14.1	14.7	13.8	13.2	11.3	11.9	11.3	10.9	12.3	12.9	12.3	11.9	14.1	14.7	13.8	13.2	11.3	11.9	11.3	10.9
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1573	60	2	120	14.2	15.0	14.4	13.8	16.5	17.2	16.1	15.3	13.3	14.0	12.9	12.6	12.8	13.6	13.1	12.5	14.9	15.6	14.7	13.9	12.0	12.7	11.8	11.4
	546, 547	RvEB10	1573	60	2	165	11.9	12.6	12.1	11.6	13.8	14.4	13.6	12.9	11.1	11.8	10.9	10.6												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1759	60	2	1053	11.3	11.9	11.5	11.0	13.0	13.5	12.9	12.0	10.6	11.2	10.3	10.1	11.3	11.9	11.5	11.0	13.0	13.5	12.9	12.0	10.6	11.2	10.3	10.1
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	1829	60	2	756	14.1	14.9	14.2	13.4	15.9	16.8	16.1	15.1	13.6	13.1	16.3	12.5	13.1	13.8	13.2	12.5	14.7	15.6	14.9	14.0	12.6	12.2	15.1	11.6
	558, 559	RvWB3	1829	60	2	146	12.0	12.5	12.0	11.3	13.4	14.2	13.6	12.8	11.5	11.2	13.8	10.6												
	559, 560	RvWB4	1829	60	3	151	9.2	9.7	9.3	8.8	10.3	10.9	10.5	9.9	8.9	8.6	10.6	8.1												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1674	60	2	125	12.5	13.3	12.8	11.9	14.1	15.1	14.4	13.5	12.2	11.8	14.6	11.2	12.5	13.3	12.8	11.9	14.1	15.1	14.4	13.5	12.2	11.8	14.6	11.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1381	60	2	133	12.0	13.0	12.4	11.6	13.8	14.8	14.2	13.2	12.1	11.5	13.9	11.3	10.4	11.2	10.7	10.1	11.9	12.7	12.3	11.4	10.5	9.9	12.0	9.7
	567, 568	RvWB14	1381	60	2	750	10.2	10.9	10.5	9.9	11.7	12.5	12.0	11.1	10.2	9.7	11.8	9.6												
	568, 569	RvWB15	1381	60	2	281	10.2	11.0	10.5	9.9	11.7	12.4	12.0	11.1	10.3	9.8	11.8	9.5												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2347	60	4	1137	9.0	9.4	9.1	8.6	9.9	10.6	10.5	9.7	8.6	8.4	9.5	8.1	9.0	9.4	9.1	8.6	9.9	10.6	10.5	9.7	8.6	8.4	9.5	8.1
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	1880	50	2	228	17.0	17.5	17.3	16.3	18.3	19.7	19.8	18.1	15.7	16.1	15.8	14.5	17.0	17.5	17.3	16.3	18.3	19.7	19.8	18.1	15.7	16.1	15.8	14.5
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	1880	50	2	168	20.4	21.0	20.9	19.6	21.9	23.7	23.8	21.7	18.9	19.4	18.9	17.5	14.9	15.4	15.3	14.4	16.0	17.3	17.4	15.9	13.9	14.2	13.9	12.9
	701, 702	RvNBoff5	1880	50	2	198	12.4	12.8	12.7	12.0	13.3	14.3	14.4	13.2	11.5	11.8	11.5	10.7												
	702, 703	RvNBoff6	1880	50	3	130	11.8	12.2	12.0	11.4	12.6	13.6	13.7	12.6	10.9	11.2	10.9	10.2												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	186	50	1	336	3.4	3.7	3.6	3.4	3.7	3.9	4.0	3.4	3.2	3.6	3.2	3.2	3.4	3.7	3.6	3.3	3.7	3.8	4.0	3.4	3.2	3.5	3.2	3.1
	704, 705	RvNBoff8	186	50	1	200	3.4	3.7	3.6	3.3	3.7	3.8	4.0	3.3	3.2	3.5	3.2	3.2												
	705, 706	RvNBoff9	186	50	1	223	3.4	3.7	3.6	3.3	3.7	3.8	4.0	3.3	3.2	3.5	3.2	3.1												
	706, 707	RvNBoff10	186	50	1	262	3.4	3.7	3.6	3.3	3.7	3.8	4.0	3.4	3.2	3.5	3.2	3.1												
	707, 547	RvNBoff11	186	50	1	264	3.4	3.6	3.6	3.3	3.7	3.8	4.0	3.4	3.2	3.5	3.2	3.1												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	966	50	2	248	9.3	9.4	9.3	8.9	9.6	10.6	10.7	9.8	8.3	8.3	8.5	7.9	9.2	9.2	9.1	8.7	9.4	10.4	10.5	9.6	8.2	8.2	8.4	7.8
	715, 716	RvNBoff21	966	50	2	642	9.2	9.2	9.1	8.7	9.4	10.4	10.5	9.6	8.2	8.2	8.4	7.8												
	716, 569	RvNBoff22	966	50	2	670	9.1	9.2	9.0	8.6	9.3	10.3	10.5	9.5	8.1	8.1	8.3	7.7												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	155	50	1	296	2.8	2.7	2.4	2.6	2.9	2.7	2.6	2.7	2.4	2.2	2.9	2.1	2.9	2.8	2.5	2.7	3.0	2.8	2.7	2.8	2.5	2.3	2.9	2.2
	757, 7016	RvNBon4	155	50	1	127	3.1	3.0	2.7	2.8	3.1	3.0	2.9	2.9	2.6	2.5	3.1	2.3												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	873	50	2	261	9.0	9.3	8.8	8.7	10.1	10.7	9.8	9.2	8.0	8.3	8.4	7.8	8.5	8.7	8.3	8.2	9.4	10.0	9.2	8.6	7.6	7.8	7.9	7.4
	756, 317	RvNBon10	873	50	2	444	8.2	8.4	8.0	7.9	9.0	9.6	8.8	8.3	7.3	7.5	7.6	7.1												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1336	50	2	223	12.5	13.4	12.3	11.9	14.2	15.0	14.1	14.0	11.8	12.4	11.7	11.6	12.5	13.5	12.3	12.0	14.2	15.0	14.2	14.0	11.9	12.4	11.7	11.6
	770, 7032	RvSBoff2	1336	50	2	150	12.5	13.5	12.4	12.0	14.2	15.0	14.2	14.0	11.9	12.5	11.7	11.7												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1556	50	3	102	12.8	13.9	13.1	12.2	14.1	15.9	15.2	14.5	11.9	12.3	12.6	11.2	14.7	15.9	15.1	14.1	16.2	18.0	17.5	16.5	13.8	14.0	14.5	12.9
	793, 410	RvSBon5	1556	50	3	655	15.0	16.2	15.4	14.4	16.5	18.3	17.9	16.8	14.1	14.3	14.8	13.1												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1225	50	2	270	11.0	11.7	11.2	10.4	12.0	13.1	12.8	12.0	10.3	10.7	10.3	9.7	10.9	11.7	11.2	10.4	12.0	13.1	12.8	12.0	10.3	10.7	10.3	9.7
	790, 7011	RvSBon11	1225	50	2	250	10.9	11.7	11.2	10.4	11.9	13.1	12.8	12.0	10.3	10.7	10.3	9.7												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	1694	50	2	311	15.9	16.3	16.2	15.2	17.0	18.4	18.4	17.1	14.8	15.0	14.8	13.6	12.6	12.9	12.7	12.1	13.4	14.5	14.6	13.5	11.7	11.9	11.7	10.8
	708, 710	118NBoff2	1694	50	2	567	16.0	16.6	16.3	15.4	17.2	18.6	18.8	17.3	15.0	15.2	14.9	13.8												
	710, 711	118NBoff3	1694	50	2	460	12.0	12.5	12.2	11.6	12.9	13.9	14.1	12.9	11.3	11.4	11.2	10.3												
	711, 712	118NBoff4	1694	50	3	472	10.6	10.9	10.7	10.2	11.3	12.2	12.3	11.4	9.9	10.0	9.8	9.1												
	712, 713	118NBoff5	1694	50	3	395	10.0	10.3	10.1	9.6	10.6	11.5	11.5	10.7	9.3	9.5	9.2	8.6												
	713, 714	118NBoff6	1694	50	4	188	8.1	8.3	8.2	7.7	8.6	9.3	9.3	8.7	7.5	7.6	7.4	6.9												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	728	50	2	212	6.7	7.2	7.1	6.6	7.4	7.9	7.9	7.5	6.8	6.7	6.4	5.9	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.5	6.8	6.7	6.3	5.9
	717, 718	118NBoff8	728	50	2	389	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.5	6.7	6.7	6.3	5.9												
	718, 719	118NBoff9	728	50	2	373	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.4	6.7	6.7	6.3	5.9												
	719, 720	118NBoff10	728	50	2	589	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.4	6.8	6.7	6.3	5.9												
	720, 721	118NBoff11	728	50	2	311	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.5	6.8	6.6	6.4	5.9												
	721, 722	118NBoff12	728	50	2	381	6.7	7.1	7.0	6.5	7.4	7.8	7.9	7.5	6.8	6.6	6.4	5.9												

2012 Existing PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	722, 723	118NBoff13	728	50	2	562	6.8	7.0	7.0	6.5	7.4	7.8	7.9	7.4	6.8	6.7	6.3	5.9												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1973	60	3	1252	10.9	11.4	10.8	10.3	11.9	12.8	12.4	12.0	10.6	10.5	10.3	9.8	10.7	11.2	10.7	10.2	11.8	12.6	12.2	11.8	10.4	10.4	10.1	9.7
	724, 725	118NBoff15	1973	60	3	575	10.3	10.8	10.4	9.9	11.4	12.2	11.8	11.5	10.1	10.1	9.8	9.4												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1636	60	2	611	12.6	13.6	12.7	12.1	14.3	15.0	14.4	13.5	11.8	12.3	12.0	10.9	12.8	13.9	12.9	12.3	14.5	15.3	14.7	13.8	12.0	12.5	12.1	11.1
	741, 742	118NBon3	1636	60	2	1107	13.0	14.0	13.0	12.4	14.7	15.5	14.8	13.9	12.2	12.6	12.2	11.2												
NB I-275 On Ramp from 118th	742, 749	118NBon4	623	50	2	758	5.3	5.7	5.4	5.3	6.1	6.6	6.0	5.5	4.8	5.1	4.8	4.8	8.3	8.9	8.4	8.4	9.6	10.4	9.4	8.6	7.5	7.9	7.6	7.5
	749, 750	118NBon5	623	50	2	1140	5.8	6.3	5.9	5.9	6.7	7.4	6.6	6.1	5.3	5.6	5.4	5.3												
	750, 751	118NBon6	623	50	1	304	11.3	12.2	11.5	11.4	13.0	14.2	12.8	11.7	10.3	10.8	10.4	10.2												
	751, 752	118NBon7	623	50	1	341	11.3	12.2	11.4	11.5	13.0	14.2	12.9	11.7	10.3	10.8	10.4	10.3												
	752, 753	118NBon8	623	50	1	406	11.4	12.2	11.5	11.6	13.1	14.2	13.0	11.8	10.3	10.8	10.5	10.4												
	753, 754	118NBon9	623	50	1	250	11.4	12.3	11.5	11.6	13.1	14.3	13.0	11.9	10.4	10.8	10.5	10.4												
	754, 7009	118NBon10	623	50	1	349	11.4	12.3	11.5	11.6	13.2	14.3	13.0	11.9	10.4	10.8	10.6	10.4												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1245	50	1	147	38.5	40.9	37.5	37.2	42.9	45.6	44.2	43.4	36.4	37.5	36.0	35.6	25.6	26.9	24.9	24.4	28.5	30.4	29.0	28.5	24.2	24.7	23.9	23.6
	775, 776	118SBoff3	1245	50	1	934	25.2	26.6	24.5	24.3	28.2	29.9	28.9	28.5	23.7	24.3	23.5	23.2												
	776, 777	118SBoff4	1245	50	1	371	24.7	26.0	24.1	23.6	27.6	29.4	27.9	27.5	23.3	23.8	23.2	22.8												
	777, 778	118SBoff5	1245	50	1	446	24.8	26.0	24.1	23.6	27.5	29.4	27.9	27.4	23.4	23.9	23.2	22.8												
	778, 723	118SBoff6	1245	50	1	1329	24.9	26.2	24.4	23.5	27.7	29.7	28.1	27.6	23.7	24.0	23.3	22.9												
SB I-275 On Ramp from 118th	742, 743	118SBon1	1013	50	1	227	18.9	20.3	18.7	17.5	20.9	21.9	21.5	20.4	18.0	18.4	17.7	16.1	19.0	20.4	18.8	17.6	21.0	21.9	21.6	20.6	18.2	18.5	17.7	16.2
	743, 744	118SBon2	1013	50	1	418	18.8	20.3	18.6	17.5	20.8	21.8	21.4	20.5	18.0	18.3	17.6	16.1												
	744, 745	118SBon3	1013	50	1	223	18.8	20.2	18.6	17.4	20.7	21.7	21.3	20.5	18.0	18.3	17.6	16.1												
	745, 746	118SBon4	1013	50	1	201	18.9	20.3	18.7	17.5	20.8	21.8	21.4	20.5	18.0	18.3	17.6	16.2												
	746, 747	118SBon5	1013	50	1	200	19.0	20.3	18.8	17.6	20.9	21.8	21.5	20.6	18.1	18.5	17.7	16.2												
	747, 748	118SBon6	1013	50	1	166	19.0	20.4	18.9	17.6	21.0	21.9	21.6	20.7	18.2	18.5	17.7	16.2												
	748, 413	118SBon7	1013	50	1	973	19.1	20.5	19.1	17.7	21.1	22.0	21.8	20.8	18.4	18.6	17.8	16.3												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2376	60	3	2420	12.3	13.0	12.3	11.7	13.8	14.6	13.9	13.2	11.3	11.8	11.3	10.8	12.3	13.0	12.3	11.7	13.8	14.6	13.9	13.2	11.3	11.8	11.3	10.8
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1625	50	2	647	15.1	15.8	15.2	14.6	16.9	17.8	17.0	16.3	13.8	14.4	14.0	13.0	15.1	15.9	15.3	14.6	16.9	17.7	17.1	16.2	13.9	14.4	14.1	13.0
	811, 812	UlmNBon4	1625	50	2	590	15.1	15.8	15.2	14.6	16.9	17.7	17.0	16.3	13.8	14.4	14.0	13.0												
	812, 813	UlmNBon5	1625	50	2	323	15.1	15.9	15.3	14.6	16.9	17.7	17.1	16.3	13.9	14.4	14.1	13.0												
	813, 814	UlmNBon6	1625	50	2	328	15.1	15.9	15.3	14.6	16.9	17.7	17.1	16.3	13.9	14.4	14.1	13.0												
	814, 815	UlmNBon7	1625	50	2	288	15.1	15.9	15.3	14.6	16.8	17.7	17.2	16.2	13.9	14.5	14.0	13.0												
	815, 816	UlmNBon8	1625	50	2	273	15.1	15.9	15.3	14.6	16.9	17.7	17.1	16.2	14.0	14.5	14.1	13.0												
	816, 321	UlmNBon9	1625	50	2	1098	15.2	15.9	15.3	14.7	16.9	17.8	17.1	16.2	14.1	14.5	14.1	13.0												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	1427	50	2	573	13.4	13.6	13.4	12.2	14.7	15.5	14.8	13.9	12.4	12.6	12.4	11.8	13.4	13.5	13.4	12.2	14.7	15.5	14.7	13.9	12.4	12.5	12.3	11.8
	830, 831	UlmSBoff2	1427	50	2	346	13.3	13.5	13.3	12.1	14.6	15.4	14.6	13.8	12.4	12.4	12.3	11.7												
	831, 7036	UlmSBoff3	1427	50	2	283	13.4	13.5	13.4	12.2	14.6	15.5	14.7	13.9	12.4	12.5	12.3	11.8												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1183	50	2	398	11.6	11.8	11.7	10.6	12.8	13.3	12.9	12.2	10.7	10.8	10.5	10.1	9.6	9.8	9.7	8.7	10.5	10.9	10.6	10.1	8.9	8.9	8.7	8.3
	834, 835	UlmSBoff8	1183	60	2	584	9.9	10.1	10.0	9.0	10.9	11.3	11.0	10.4	9.1	9.2	8.9	8.6												
	835, 836	UlmSBoff9	1183	60	2	481	9.2	9.4	9.3	8.4	10.1	10.4	10.2	9.7	8.5	8.5	8.3	7.9												
	836, 837	UlmSBoff10	1183	60	2	2160	9.2	9.4	9.3	8.4	10.1	10.5	10.2	9.7	8.5	8.5	8.4	8.0												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	751	35	1	493	12.9	13.5	12.4	11.8	14.4	15.3	14.7	13.6	11.8	12.6	11.4	11.6	14.3	15.1	13.8	13.1	16.0	17.1	16.4	15.1	13.2	14.1	12.7	12.9
	802, 803	UlmSBon2	751	35	1	214	17.8	18.7	17.1	16.2	19.8	21.2	20.5	18.7	16.3	17.5	15.7	16.0												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	535	35	1	163	14.0	14.5	13.5	12.7	15.5	16.8	16.0	14.5	12.9	14.1	12.2	12.7	11.6	12.0	11.3	10.5	12.8	14.1	13.2	12.2	10.8	11.8	10.2	10.6
	808, 809	UlmSBon4	535	35	1	163	13.9	14.4	13.5	12.6	15.4	16.7	15.8	14.5	12.9	14.1	12.2	12.7												
	809, 810	UlmSBon5	535	35	1	228	14.0	14.3	13.6	12.6	15.4	16.8	15.9	14.5	12.9	14.2	12.2	12.6												
	810, 404	UlmSBon6	535	50	1	1030	10.4	10.7	10.2	9.4	11.5	12.6	11.8	10.9	9.6	10.5	9.2	9.4												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	5.2	5.5	5.0	4.7	5.7	5.8	5.8	5.5	4.6	4.8	4.6	4.6	4.2	4.4	4.0	3.8	4.5	4.6	4.7	4.4	3.7	3.9	3.7	3.7
	804, 805	UlmSBMLK2	216	50	1	361	4.3	4.6	4.1	3.9	4.7	4.8	4.9	4.6	3.8	4.1	3.9	3.9												
	805, 806	UlmSBMLK3	216	50	1	499	3.7	3.8	3.5	3.3	3.9	4.0	4.1	3.9	3.2	3.4	3.2	3.3												
SB MLK	806, 807	UlmSBMLK4	460	50	2	1171	4.2	4.1	4.0	3.8	4.4	4.7	4.5	4.2	3.8	3.9	3.8	3.9	4.2	4.1	4.0	3.8	4.4	4.7	4.5	4.2	3.8	3.9	3.8	3.9
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	324	50	1	1080	6.0	6.1	5.9	5.5	6.7	7.0	6.6	6.3	5.4	5.8	5.4	5.1	5.9	6.1	5.9	5.5	6.7	6.9	6.6	6.2	5.4	5.8	5.5	5.0
	851, 852	MLKNBon3	324	50	1	350	5.9	6.0	5.9	5.5	6.6	6.9	6.5	6.2	5.3	5.8	5.4	5.0												
	852, 853	MLKNBon4	324	50	1	370	5.9	6.0	5.9	5.5	6.6	6.9	6.6	6.2	5.4	5.8	5.4	5.0												
	853, 320	MLKNBon5	324	50	1	885	5.9	6.1	6.0	5.5	6.6	6.9	6.6	6.2	5.4	5.8	5.5	5.0												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	244	50	1	294	5.1	4.7	5.0	4.6	5.2	5.9	5.3	5.0	4.9	4.8	4.8	4.8	4.8	4.4	4.7	4.3	4.9	5.5	5.0	4.7	4.6	4.5	4.5	4.5
	839, 840	MLKSBoff4	244	50	1	336	4.7	4.3	4.6	4.3	4.8	5.4	5.0	4.6	4.6	4.4	4.4	4.5												
	840, 841	MLKSBoff5	244	50	1	395	4.8	4.3	4.6	4.2	4.9	5.4	5.0	4.6	4.6	4.4	4.4	4.5												
	841, 806	MLKSBoff6	244	50	1	539	4.7	4.4	4.6	4.2	4.9	5.4	5.0	4.7	4.5	4.5	4.4	4.5												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	440	60	2	1270	3.3	3.6	3.3	3.1	3.8	3.9	3.8	3.5	3.1	3.2	3.1	2.9	4.3	4.7	4.3	4.1	5.0	5.2	5.0	4.6	4.1	4.2	4.0	3.8
	901, 902	4thNBon3	440	60	2	634	3.2	3.5	3.2	3.1	3.8	3.9	3.7	3.5	3.1	3.1	3.0	2.9												
	902, 903	4thNBon4	440	60	2	322	3.3	3.5	3.3	3.1	3.8	3.9	3.7	3.5	3.1	3.2	3.0	2.9												
	903, 904	4thNBon5	440	60	2	279	3.3	3.6	3.3	3.1	3.8	4.0	3.8	3.5	3.1	3.2	3.1	2.9												
	904, 905	4thNBon6	440	60	2	388	3.6	3.9	3.6	3.4	4.1	4.3	4.1	3.8	3.4	3.5	3.3	3.2												
	905, 906	4thNBon7	440	60	1	313	6.5	7.2	6.6	6.3	7.5	8.0	7.6	7.1	6.2	6.4	6.1	5.8												
	906, 907	4thNBon8	440	60	1	300	6.5	7.2	6.6	6.3	7.5	8.0	7.6	7.0	6.2	6.4	6.1	5.9												
	907, 323	4thNBon9	440	60	1	684	6.5	7.2	6.6	6.3	7.6	8.0	7.6	7.0	6.3	6.4	6.1	5.9												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	925	60	1	467	13.6	15.5	14.0	13.4	15.9	17.8	16.1	15.1	13.2	13.6	12.9	12.2	9.5	10.7	9.7	9.5	10.9	12.1	11.2	10.5	9.3	9.5	9.1	8.6
	920, 921	4thSBoff2	925	60	1	492	13.5	15.2	13.7	13.3	15.5	17.1	15.7	14.8	13.0	13.5	12.9	12.0												
	921, 922	4thSBoff3	925	60	1	420	13.5	15.2	13.7	13.4	15.4	17.1	15.8	14.8	13.1	13.5	12.9	12.1												
	922, 923	4thSBoff4	925	60	1	393	13.6	15.2	13.9	13.5	15.5	17.3	15.9	14.9	13.2	13.6	13.0	12.2												
	923, 924	4thSBoff5	925	60	1	384	13.7	15.3	13.9	13.6	15.5	17.4	15.9	15.0	13.3	13.6	13.0	12.3												
	924, 925	4thSBoff6	925	60	1	354	13.7	15.4	14.0	13.7	15.5	17.4	16.0	15.0	13.3	13.6	13.1	12.4												
	925, 926	4thSBoff7	925	60	1	501	13.7	15.4	14.0	13.8	15.6	17.4	16.2	15.0	13.4	13.7	13.2	12.4												
	926, 927	4thSBoff8	925	60	1	416	13.2	14.9	13.5	13.3	15.0	16.9	15.6	14.5	13.0	13.2	12.7	12.0												
	927, 928	4thSBoff9	925	60	2	1153	6.7	7.6	6.9	6.7	7.6	8.5	8.0	7.4	6.6	6.7	6.5	6.1												
	928, 929	4thSBoff10	925	60	2	1242	6.6	7.5	6.8	6.7	7.6	8.4	7.9	7.3	6.5	6.6	6.4	6.1												

2012 Existing PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5080	70	3	1087	67.5	67.4	67.4	67.7	67.0	66.9	67.0	67.2	67.8	67.5	67.8	67.8	65.9	65.7	65.9	66.3	65.0	64.5	65.0	65.3	66.4	66.0	66.5	66.6
	300, 301	I275NB3	5080	70	3	805	67.8	67.7	67.7	68.0	67.3	67.3	67.3	67.6	68.1	67.8	68.1	68.1												
	301, 302	I275NB4	5080	70	3	478	66.9	66.8	66.7	67.1	66.3	66.2	66.3	66.5	67.3	66.9	67.2	67.3												
	302, 303	I275NB5	5080	70	3	2687	64.9	64.6	64.8	65.3	63.7	63.0	63.7	64.1	65.6	65.0	65.6	65.9												
	303, 304	I275NB6	5080	70	4	382	63.4	63.1	63.7	63.9	62.0	59.7	62.2	62.6	64.3	63.8	64.6	64.7												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3456	70	3	1375	67.3	67.2	67.3	67.3	66.8	66.6	66.9	66.9	67.5	67.5	67.6	67.6	67.3	67.2	67.3	67.4	66.9	66.8	66.9	67.0	67.6	67.5	67.6	67.6
	305, 306	I275NB8	3456	70	3	1306	67.4	67.3	67.4	67.5	67.0	67.0	67.1	67.1	67.6	67.6	67.6	67.6												
	306, 307	I275NB9	3456	70	3	591	67.3	67.2	67.2	67.4	66.8	66.8	66.8	66.9	67.5	67.4	67.4	67.5												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	4052	70	5	1065	66.0	65.8	65.9	66.0	65.5	65.5	65.5	65.6	66.1	66.0	66.1	66.2	66.7	66.6	66.6	66.8	66.2	66.2	66.1	66.3	66.9	66.8	66.9	67.0
	308, 309	I275NB11	4052	70	5	3035	67.5	67.4	67.5	67.6	67.1	67.0	67.0	67.1	67.6	67.5	67.6	67.7												
	309, 310	I275NB12	4052	70	4	1095	67.5	67.4	67.4	67.6	67.1	66.9	66.9	67.0	67.6	67.5	67.6	67.7												
	310, 311	I275NB13	4052	70	4	380	66.7	66.6	66.5	66.7	66.1	65.9	65.9	66.0	66.9	66.7	67.0	67.1												
	311, 312	I275NB14	4052	70	4	399	65.9	65.8	65.8	65.9	65.2	65.1	64.9	65.3	66.2	66.0	66.3	66.5												
	312, 313	I275NB15	4052	70	4	368	65.6	65.7	65.6	65.8	65.0	64.9	64.7	65.2	65.9	65.9	66.2	66.4												
	313, 314	I275NB16	4052	70	4	460	62.8	62.8	62.6	62.8	62.0	62.1	62.0	62.5	63.1	63.3	63.4	63.7												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2172	70	3	886	67.5	67.3	67.4	67.6	67.1	67.1	67.0	67.2	67.5	67.5	67.6	67.9	68.2	68.0	68.0	68.2	67.8	67.8	67.8	67.8	68.1	68.1	68.2	68.4
	315, 316	I275NB18	2172	70	3	1317	68.4	68.3	68.3	68.4	68.0	68.1	68.1	68.0	68.3	68.3	68.4	68.5												
	316, 317	I275NB19	2172	70	3	1361	68.3	68.2	68.2	68.3	67.9	68.0	67.9	67.9	68.3	68.2	68.4	68.5												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3045	70	5	1032	65.1	65.0	65.1	65.0	64.7	64.8	64.8	64.9	65.2	65.2	65.1	65.2	67.5	67.5	67.5	67.5	67.2	67.2	67.2	67.2	67.6	67.6	67.6	67.7
	318, 319	I275NB21	3045	70	5	1191	68.0	67.9	67.9	67.9	67.5	67.6	67.5	67.7	68.0	68.0	68.0	68.1												
	319, 320	I275NB22	3045	70	4	3175	68.2	68.1	68.1	68.2	67.8	67.9	67.8	67.8	68.2	68.2	68.2	68.3												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	3369	70	4	1678	67.2	67.2	67.2	67.3	66.9	66.8	66.8	67.0	67.3	67.2	67.3	67.5	67.2	67.2	67.2	67.3	66.9	66.8	66.8	67.0	67.3	67.2	67.3	67.5
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	4994	70	5	1064	62.7	62.5	62.9	62.8	62.1	61.7	62.1	62.2	63.0	63.0	63.2	63.3	65.2	65.1	65.3	65.3	64.7	64.5	64.7	64.8	65.4	65.4	65.6	65.7
	322, 323	I275NB25	4994	70	5	1398	67.1	67.0	67.1	67.2	66.7	66.5	66.8	66.8	67.3	67.3	67.4	67.5												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	5434	70	5	817	66.5	66.5	66.5	66.8	66.2	65.9	66.1	66.4	66.7	66.8	66.9	67.1	64.5	64.4	64.9	65.5	63.6	63.1	63.2	64.2	65.3	65.4	65.9	65.9
	324, 325	I275NB27	5434	70	5	683	61.0	61.1	61.9	63.0	59.1	57.7	58.1	60.4	62.3	62.9	63.6	63.7												
	325, 326	I275NB28	5434	70	4	1898	64.9	64.7	65.3	65.8	64.1	63.9	63.8	64.6	65.7	65.8	66.2	66.1												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	6314	70	4	2040	66.3	65.5	66.2	66.7	64.8	64.1	64.8	65.8	66.8	66.4	66.7	67.1	66.3	65.5	66.2	66.7	64.8	64.1	64.8	65.8	66.8	66.4	66.7	67.1
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5389	70	4	2745	66.9	66.5	66.8	67.2	65.9	65.8	66.0	66.5	67.2	67.0	67.2	67.5	66.0	65.7	66.0	66.4	65.1	65.1	65.2	65.6	66.3	66.1	66.3	66.6
	402, 403	I275SB4	5389	70	5	825	63.1	62.9	63.0	63.6	62.4	62.5	62.5	62.8	63.4	63.3	63.5	63.8												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3962	70	4	4213	67.6	67.4	67.5	67.8	67.2	67.2	67.2	67.4	67.8	67.6	67.8	67.9	67.6	67.4	67.5	67.8	67.2	67.2	67.2	67.4	67.8	67.6	67.8	67.9
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4497	70	4	972	66.1	65.9	66.1	66.3	65.5	65.4	65.6	65.7	66.3	66.0	66.3	66.3	65.3	65.0	65.3	65.5	64.6	64.3	64.6	64.7	65.6	65.2	65.7	65.8
	405, 406	I275SB7	4497	70	4	1472	66.2	65.8	66.1	66.3	65.4	65.0	65.4	65.5	66.5	66.0	66.6	66.7												
	406, 407	I275SB8	4497	70	4	662	62.3	62.1	62.1	62.8	61.5	61.1	61.6	61.5	62.8	62.3	62.9	62.8												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	3161	70	3	1201	66.8	66.6	66.6	66.9	66.1	66.0	66.2	66.2	66.9	66.7	67.0	67.3	67.4	67.3	67.3	67.5	67.0	66.8	66.9	67.0	67.5	67.4	67.6	67.8
	408, 409	I275SB10	3161	70	3	1585	67.8	67.7	67.7	67.9	67.6	67.3	67.4	67.6	67.8	67.9	67.9	68.2												
	409, 410	I275SB11	3161	70	3	458	67.6	67.5	67.6	67.7	67.4	67.2	67.2	67.4	67.7	67.7	67.8	68.0												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4717	70	5	631	62.2	62.1	62.2	62.5	62.0	61.8	61.8	61.8	62.5	62.5	62.2	62.6	64.1	64.0	64.1	64.3	63.9	63.7	63.5	63.5	64.5	64.5	64.2	64.7
	411, 412	I275SB13	4717	70	5	244	64.6	64.3	64.6	64.8	64.3	64.1	63.7	63.7	65.1	65.0	64.8	65.3												
	412, 413	I275SB14	4717	70	4	608	66.0	65.8	66.0	66.1	65.6	65.4	65.2	65.3	66.4	66.3	66.1	66.6												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5730	70	4	492	59.9	60.3	60.6	61.3	58.6	58.4	58.7	60.1	61.5	61.0	61.1	62.1	64.1	63.9	64.4	64.8	63.5	62.9	63.2	63.8	64.6	64.7	64.7	65.2
	414, 415	I275SB16	5730	70	4	3870	65.3	65.2	65.5	65.9	64.9	64.3	64.6	65.0	65.8	65.8	65.7	66.2												
	415, 416	I275SB17	5730	70	4	1086	61.9	61.1	62.1	62.4	61.1	59.8	60.1	60.9	62.0	62.4	62.8	63.0												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4768	70	3	1385	65.3	65.1	65.5	65.7	65.0	64.3	64.5	64.9	65.6	65.7	65.8	66.1	65.6	65.4	65.8	65.9	65.3	64.6	64.9	65.2	65.8	65.9	66.0	66.3
	417, 418	I275SB19	4768	70	3	343	66.6	66.5	66.7	66.8	66.6	65.9	66.3	66.3	66.8	66.8	66.8	67.0												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5472	70	3	1507	62.8	62.5	62.9	63.2	62.5	60.9	62.1	62.4	63.2	63.2	63.5	63.7	62.8	62.5	62.9	63.2	62.5	60.9	62.1	62.4	63.2	63.2	63.5	63.7
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	6260	70	3	3297	63.8	63.8	64.0	64.3	63.2	61.1	62.4	62.8	64.3	64.0	64.3	64.9	64.4	64.5	64.6	64.9	64.0	62.5	63.3	63.7	64.8	64.6	64.8	65.3
	420, 421	I275SB22	6260	70	3	430	65.3	65.4	65.5	65.7	65.2	64.3	64.6	64.9	65.4	65.6	65.5	66.0												
	421, 422	I275SB23	6260	70	3	403	65.2	65.4	65.4	65.6	65.1	64.3	64.6	64.9	65.4	65.5	65.5	66.0												
	422, 423	I275SB24	6260	70	3	426	65.2	65.3	65.4	65.6	65.1	64.3	64.5	64.9	65.4	65.4	65.5	65.9												
	423, 424	I275SB25	6260	70	3	412	65.2	65.3	65.4	65.5	65.1	64.3	64.5	64.9	65.4	65.4	65.5	65.9												
	424, 425	I275SB26	6260	70	3	734	65.3	65.3	65.4	65.6	65.1	64.5	64.6	64.9	65.5	65.5	65.6	65.9												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2423	50	3	841	48.9	48.9	49.0	49.0	48.7	48.7	48.8	48.8	48.9	48.8	48.9	49.2	48.9	48.8	48.9	48.9	48.7	48.6	48.7	48.7	48.9	48.8	48.9	49.1
	500, 501	GandyEB3	2423	50	4	954	49.0	48.9	49.0	49.0	48.9	48.8	48.8	48.8	49.0	48.9	49.0	49.2												
	501, 502	GandyEB4	2423	50	5	174	48.1	48.0	48.3	48.1	47.7	46.9	47.5	47.4	48.3	48.0	48.4	48.5												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1039	50	3	178	49.3	49.2	49.2	49.3	49.2	48.9	49.1	49.0	49.4	49.2	49.3	49.3	49.3	49.2	49.2	49.3	49.2	48.9	49.1	49.0	49.4	49.2	49.3	49.3
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1039	50	3	99	42.5	41.5	42.2	42.4	42.2	42.0	41.7	42.0	42.3	42.3	42.2	41.9	44.3	43.4	44.0	44.2	44.0	43.8	43.5	43.9	44.1	44.1	44.1	43.9
	505, 506	GandyEB10	1039	50	3	119	45.8	45.1	45.6	45.7	45.5	45.3	45.1	45.5	45.6	45.6	45.7	45.5												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	1874	50	3	1167	46.8	46.4	46.7	46.7	46.7	46.1	46.3	46.6	46.7	46.5	46.8	46.9	46.8	46.4	46.7	46.7	46.7	46.1	46.3	46.6	46.7	46.5	46.8	46.9
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2972	55	3	181	41.9	41.5	42.2	42.0	41.7	41.1	41.4	41.7	42.2	42.0	42.3	42.1	47.3	47.2	47.5	47.4	47.1	46.4	46.4	46.8	47.4	47.3	47.9	47.9
	520, 521	GandyWB5	2972	55	3	291	49.1	49.0	49.3	49.2	49.0	48.5	48.7	48.9	49.3	49.2	49.3	49.3												
	521, 522	GandyWB6	2972	55	4	590	48.1	48.0	48.3	48.2	47.8	47.1	46.8	47.4	48.1	48.0	49.0	49.0												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2268	55	3	1768	53.1	53.1	53.2	53.2	52.9	53.0	53.0	52.9	53.2	53.2	53.3	53.4	53.1	53.1	53.2	53.2	52.9	53.0	53.0	52.9	53.2	53.2	53.3	53.4
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3230	55	3	1179	52.1	52.0	52.0	52.2	51.7	51.7	51.6	51.7	52.1	52.3	52.3	52.6	52.3	52.2	52.2	52.3	51.9	51.9	51.9	51.9	52.3	52.4	52.4	52.7
	524, 525	GandyWB9	3230	55	3	455	52.8	52.7	52.7	52.8	52.3	52.5	52.5	52.4	52.7	52.8	52.8	53.0												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1624	50	1	525	49.5	49.5	49.8	50.0	48.8	46.0	48.0	49.0	50.2	49.9	50.4	50.6	46.6	46.2	46.9	47.0	46.0	42.9	44.4	43.9	46.7	46.6	47.3	47.5
	600, 601	GdyNBoff2	1624	50	1	1220	46.3	46.0	46.5	46.6	45.9	43.0	44.0	42.9	46.1	46.0	46.7	46.8												
	601, 7001	GdyNBoff3	1624	50	2	135	37.8	35.4	39.9	40.0	36.0	30.3	33.8	33.3	38.4	38.5	41.2	41.7												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	835	50	1	84	35.8	35.8	37.3	36.4	36.7	35.1	35.4	36.2	37.1	36.7	37.1	38.0	40.6	40.5	41.7	40.9	41.5	39.9	40.3	41.0	41.5	41.2	41.5	42.4
	605, 606	GdyNBoff9	835	50	1	107	40.9	40.8	42.1	41.3	41.9	40.3	40.5	41.4	42.0	41.5	41.9	42.8												

2012 Existing PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	606, 506	GdyNBoff10	835	50	1	158	43.0	42.8	43.8	43.1	43.7	42.3	42.7	43.3	43.6	43.3	43.5	44.5												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1384	50	2	179	44.6	44.6	45.0	45.4	43.0	42.1	42.9	43.6	45.0	44.2	45.5	45.8	44.6	44.6	45.0	45.4	43.0	42.1	42.9	43.6	45.0	44.2	45.5	45.8
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	596	50	2	501	47.3	47.5	47.6	47.9	47.1	47.4	46.8	47.1	47.5	46.7	47.1	47.7	49.0	49.1	49.1	49.2	48.8	49.1	48.8	49.0	49.2	48.8	49.0	49.2
	623, 624	GdyNBon6	596	50	2	299	49.0	49.1	49.1	49.2	48.8	49.1	48.7	48.8	49.2	48.5	48.8	49.2												
	624, 625	GdyNBon7	596	50	2	253	49.1	49.2	49.3	49.3	49.0	49.3	48.8	49.1	49.3	48.8	49.0	49.4												
	625, 626	GdyNBon8	596	50	2	238	49.3	49.3	49.4	49.4	49.1	49.3	49.0	49.1	49.4	49.0	49.1	49.4												
	626, 627	GdyNBon9	596	50	2	242	49.4	49.4	49.4	49.4	49.2	49.3	49.1	49.2	49.5	49.1	49.3	49.5												
	627, 628	GdyNBon10	596	50	2	277	49.4	49.4	49.4	49.5	49.1	49.4	49.1	49.3	49.5	49.2	49.3	49.5												
	628, 629	GdyNBon11	596	50	2	337	49.4	49.4	49.4	49.5	49.2	49.5	49.3	49.4	49.6	49.2	49.4	49.6												
	629, 630	GdyNBon12	596	50	2	877	49.4	49.5	49.4	49.5	49.2	49.5	49.3	49.4	49.6	49.3	49.5	49.6												
	630, 307	GdyNBon13	596	50	2	344	49.4	49.5	49.5	49.5	49.3	49.5	49.3	49.4	49.6	49.3	49.5	49.6												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	962	50	2	481	49.1	49.1	49.2	49.1	49.2	49.1	48.9	49.1	49.0	49.2	49.3	49.4	48.5	48.4	48.4	48.5	48.5	48.3	48.2	48.4	48.4	48.6	48.7	48.8
	660, 661	GdySBoff2	962	50	2	394	49.3	49.3	49.4	49.3	49.4	49.4	49.1	49.4	49.2	49.4	49.4	49.5												
	661, 662	GdySBoff3	962	50	2	1949	48.4	48.3	48.3	48.4	48.4	48.2	48.1	48.3	48.3	48.5	48.6	48.8												
	662, 523	GdySBoff4	962	50	1	424	47.4	47.2	47.3	47.4	47.4	47.3	47.0	47.3	47.4	47.5	47.6	48.0												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	788	50	1	286	44.0	44.6	44.2	44.6	43.7	43.3	44.6	43.7	44.8	43.2	43.5	44.2	46.1	46.6	46.3	46.6	45.8	45.4	46.6	45.9	46.8	45.5	45.7	46.2
	621, 622	GdySBon3	788	50	1	204	46.9	47.5	47.1	47.4	46.6	46.1	47.4	46.6	47.8	46.3	46.4	47.1												
	622, 419	GdySBon4	788	50	1	319	47.4	47.9	47.6	47.8	47.3	46.9	47.8	47.3	48.0	47.1	47.1	47.6												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	704	35	1	302	33.9	34.0	33.8	33.6	33.6	33.2	33.7	33.9	34.0	33.8	34.0	33.9	33.6	33.7	33.5	33.4	33.4	33.1	33.5	33.5	33.7	33.5	33.6	33.6
	640, 641	GdySBonLoop2	704	35	1	259	33.9	33.9	33.7	33.6	33.6	33.4	33.7	33.8	33.9	33.7	33.7	33.7												
	641, 642	GdySBonLoop3	704	35	1	227	33.7	33.8	33.6	33.5	33.5	33.3	33.7	33.6	33.8	33.6	33.6	33.7												
	642, 643	GdySBonLoop4	704	35	1	211	33.6	33.6	33.5	33.3	33.3	33.1	33.5	33.4	33.7	33.4	33.5	33.5												
	643, 644	GdySBonLoop5	707	35	1	211	33.5	33.5	33.4	33.2	33.2	33.0	33.4	33.3	33.6	33.3	33.4	33.4												
	644, 645	GdySBonLoop6	704	35	1	207	33.3	33.4	33.3	33.1	33.1	32.9	33.3	33.2	33.4	33.2	33.3	33.3												
	645, 418	GdySBonLoop7	704	35	1	252	33.3	33.4	33.2	33.1	33.1	32.9	33.2	33.1	33.4	33.2	33.2	33.3												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2840	60	4	1418	58.5	58.3	58.5	58.6	58.1	58.0	58.1	58.4	58.6	58.5	58.6	58.5	57.7	57.6	57.8	57.8	57.4	57.3	57.4	57.6	57.9	57.8	57.8	57.8
	541, 542	RvEB3	2840	60	3	1028	56.7	56.6	56.7	56.8	56.4	56.3	56.4	56.6	56.8	56.8	56.8	56.8												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1615	60	2	513	58.3	58.3	58.4	58.3	58.0	57.9	58.2	58.3	58.4	58.4	58.5	58.3	58.3	58.3	58.4	58.3	58.0	57.9	58.2	58.3	58.4	58.4	58.5	58.3
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1573	60	2	120	56.5	56.5	56.5	56.6	55.7	55.8	56.1	56.4	56.5	56.6	56.9	56.7	57.4	57.4	57.4	57.4	56.7	56.8	57.1	57.3	57.3	57.5	57.7	57.5
	546, 547	RvEB10	1573	60	2	165	58.0	58.0	58.1	58.0	57.5	57.5	57.7	57.9	57.9	58.1	58.3	58.1												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1759	60	2	1053	57.7	57.7	57.9	57.8	57.4	57.2	57.5	57.8	57.7	57.7	58.0	57.8	57.7	57.7	57.9	57.8	57.4	57.2	57.5	57.8	57.7	57.7	58.0	57.8
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	1829	60	2	756	58.9	58.8	58.8	58.8	58.8	58.8	58.8	58.9	58.9	58.9	58.8	58.9	58.8	58.8	58.8	58.8	58.9	58.8	58.7	58.8	58.9	58.8	58.8	59.0
	558, 559	RvWB3	1829	60	2	146	58.7	58.8	58.9	58.8	58.9	58.8	58.7	58.6	58.9	58.5	58.8	59.0												
	559, 560	RvWB4	1829	60	3	151	58.8	58.9	58.9	58.7	59.0	58.8	58.6	58.7	58.8	58.2	58.8	59.0												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1674	60	2	125	59.1	58.9	58.9	58.8	59.0	58.9	58.8	58.8	58.8	58.8	58.8	59.0	59.1	58.9	58.9	58.8	59.0	58.9	58.8	58.8	58.8	58.8	58.8	59.0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1381	60	2	133	56.7	56.0	56.4	56.3	56.3	56.2	56.1	56.5	56.4	56.7	56.2	56.4	58.3	57.8	58.1	58.0	58.1	58.0	57.9	58.2	58.1	58.3	58.0	58.1
	567, 568	RvWB14	1381	60	2	750	58.5	58.1	58.3	58.3	58.3	58.2	58.1	58.4	58.3	58.5	58.2	58.3												
	568, 569	RvWB15	1381	60	2	281	58.5	58.1	58.3	58.3	58.3	58.2	58.1	58.3	58.3	58.5	58.2	58.4												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2347	60	4	1137	57.8	57.7	57.7	57.7	57.8	57.7	57.6	57.7	57.8	57.9	57.9	57.8	57.8	57.7	57.7	57.7	57.8	57.7	57.6	57.7	57.8	57.9	57.9	57.8
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	1880	50	2	228	50.7	50.8	50.7	50.8	50.2	50.2	50.1	50.5	51.0	51.0	51.1	51.2	50.7	50.8	50.7	50.8	50.2	50.2	50.1	50.5	51.0	51.0	51.1	51.2
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	1880	50	2	168	47.0	47.1	47.0	47.0	46.6	46.6	46.6	46.9	47.3	47.2	47.2	47.3	48.0	48.0	48.0	47.9	47.7	47.6	47.7	47.8	48.2	48.1	48.2	48.1
	701, 702	RvNBoff5	1880	50	2	198	48.4	48.4	48.4	48.1	48.0	48.0	48.0	48.1	48.5	48.4	48.5	48.4												
	702, 703	RvNBoff6	1880	50	3	130	48.8	48.8	48.8	48.6	48.6	48.4	48.5	48.4	48.9	48.8	48.9	48.8												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	186	50	1	336	49.5	49.3	49.4	49.0	49.0	49.0	49.4	49.7	49.7	48.9	49.3	49.0	49.5	49.4	49.5	49.4	49.3	49.3	49.6	49.9	49.8	49.3	49.3	49.1
	704, 705	RvNBoff8	186	50	1	200	49.6	49.5	49.5	49.4	49.3	49.2	49.6	49.9	49.8	49.2	49.3	49.1												
	705, 706	RvNBoff9	186	50	1	223	49.6	49.5	49.5	49.5	49.4	49.4	49.7	50.0	49.9	49.4	49.4	49.2												
	706, 707	RvNBoff10	186	50	1	262	49.6	49.5	49.5	49.6	49.4	49.4	49.7	49.9	49.8	49.5	49.4	49.2												
	707, 547	RvNBoff11	186	50	1	264	49.5	49.4	49.5	49.5	49.4	49.4	49.7	49.9	49.8	49.5	49.4	49.2												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	966	50	2	248	47.8	47.9	47.7	47.8	47.7	47.4	47.6	47.6	48.0	48.2	48.0	48.0	48.7	48.8	48.7	48.8	48.7	48.5	48.6	48.6	48.8	48.9	48.9	48.8
	715, 716	RvNBoff21	966	50	2	642	48.6	48.8	48.7	48.8	48.7	48.4	48.6	48.5	48.8	48.8	48.8	48.8												
	716, 569	RvNBoff22	966	50	2	670	49.1	49.2	49.1	49.2	49.1	49.0	49.0	49.0	49.2	49.2	49.2	49.1												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	155	50	1	296	54.2	54.1	54.1	54.1	53.9	53.8	53.9	53.9	54.6	53.7	54.0	54.5	52.8	52.7	52.6	52.6	52.4	52.4	52.4	52.4	53.1	52.4	52.6	53.0
	757, 7016	RvNBon4	155	50	1	127	49.6	49.4	49.2	49.2	48.9	49.0	49.0	49.1	49.4	49.2	49.3	49.5												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	873	50	2	261	47.3	47.3	47.3	47.3	46.9	46.8	47.0	47.3	47.7	47.6	47.2	47.4	48.3	48.2	48.3	48.2	48.0	48.0	48.1	48.3	48.6	48.4	48.1	48.3
	756, 317	RvNBon10	873	50	2	444	48.8	48.8	48.9	48.8	48.7	48.7	48.8	48.8	49.0	48.9	48.6	48.9												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1336	50	2	223	49.1	48.9	49.0	49.0	48.6	48.6	48.9	48.7	49.2	49.0	49.0	49.0	49.1	48.8	48.9	48.9	48.5	48.5	48.8	48.7	49.1	48.9	48.9	48.9
	770, 7032	RvSBoff2	1336	50	2	150	48.9	48.7	48.8	48.8	48.4	48.4	48.7	48.6	49.0	48.7	48.8	48.8												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1556	50	3	102	42.6	42.1	42.4	42.7	42.4	41.0	41.4	41.2	43.4	42.5	43.2	43.1	44.0	43.5	43.8	44.0	43.7	42.9	42.7	43.0	44.5	44.2	44.5	44.5
	793, 410	RvSBon5	1556	50	3	655	44.2	43.7	44.1	44.2	43.9	43.2	42.9	43.2	44.7	44.4	44.7	44.7												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1225	50	2	270	49.1	49.0	48.9	49.1	49.0	49.0	48.9	49.0	49.2	49.1	49.0	49.1	49.2	49.1	49.0	49.1	49.1	49.0	49.0	49.1	49.3	49.2	49.1	49.2
	790, 7011	RvSBon11	1225	50	2	250	49.2	49.2	49.1	49.2	49.1	49.1	49.1	49.1	49.3	49.2	49.1	49.2												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	1694	50	2	311	48.9	49.0	48.9	49.0	48.7	48.6	48.6	48.6	49.0	49.0	49.0	49.1	48.6	48.6	48.6	48.6	48.4	48.4	48.3	48.4	48.6	48.6	48.7	48.8
	708, 710	118NBoff2	1694	50	2	567	48.3	48.3	48.3	48.4	48.1	48.0	47.8	48.0	48.4	48.4	48.4	48.6												
	710, 711	118NBoff3	1694	50	2	460	48.2	48.2	48.3	48.2	48.0	47.9	47.8	47.9	48.2	48.2	48.3	48.4												
	711, 712	118NBoff4	1694	50	3	472	48.8	48.9	48.9	48.9	48.8	48.8	48.7	48.7	48.9	48.9	49.0	48.9												
	712, 713	118NBoff5	1694	50	3	395	49.0	49.1	49.0	49.1	48.9	48.9	48.8	48.8	48.9	49.1	49.0	49.2												
	713, 714	118NBoff6	1694	50	4	188	48.2	48.4	48.1	48.2	47.9	47.9	47.9	48.1	48.3	48.4	48.4	48.5												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	728	50	2	212	49.1	49.2	49.1	48.9	49.0	49.0	48.8	49.0	49.1	49.0	49.3	49.3	49.4	49.4	49.4	49.3	49.3	49.3	49.2	49.4	49.4	49.4	49.5	49.6
	717, 718	118NBoff8	728	50	2	389	49.4	49.4	49.4	49.3	49.2	49.3	49.2	49.3	49.3	49.3	49.5	49.5												
	718, 719	118NBoff9	728	50	2	373	49.4	49.5	49.5	49.4	49.2	49.4	49.2	49.4	49.4	49.4	49.5	49.6												
	719, 720	118NBoff10	728	50	2	589	49.4	49.4	49.5	49.4	49.3	49.3	49.2	49.4	49.4	49.4	49.5	49.6												
	720, 721	118NBoff11	728	50	2	311	49.4	49.4	49.4	49.3	49.3	49.3	49.2	49.4	49.4	49.4	49.6	49.6												
	721, 722	118NBoff12	728	50	2	381	49.4	49.4	49.4	49.3	49.3	49.3	49.3	49.4	49.4	49.4	49.5	49.6												

2012 Existing PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	722, 723	118NBoff13	728	50	2	562	49.4	49.4	49.4	49.4	49.3	49.3	49.3	49.4	49.4	49.4	49.5	49.6												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1973	60	3	1252	56.1	56.0	56.1	56.0	55.8	55.8	55.8	55.9	56.1	56.0	56.1	56.1	57.0	56.8	56.9	56.8	56.6	56.6	56.6	56.8	57.0	56.8	56.9	56.9
	724, 725	118NBoff15	1973	60	3	575	58.8	58.6	58.7	58.6	58.4	58.5	58.5	58.6	58.8	58.6	58.7	58.8												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1636	60	2	611	58.8	58.6	58.9	58.9	58.8	58.7	58.7	58.8	59.0	58.7	58.8	59.0	56.7	56.6	57.0	57.0	56.6	56.6	56.6	56.7	57.1	56.8	56.8	57.1
	741, 742	118NBon3	1636	60	2	1107	55.6	55.4	55.9	56.0	55.4	55.4	55.4	55.5	56.0	55.7	55.7	56.0												
NB I-275 On Ramp from 118th	742, 749	118NBon4	623	50	2	758	51.7	51.7	51.9	51.8	51.6	51.6	51.8	51.9	52.0	51.8	51.9	51.9	49.1	49.0	49.2	49.2	49.0	48.9	49.1	49.2	49.5	49.3	49.1	49.3
	749, 750	118NBon5	623	50	2	1140	48.7	48.6	48.8	48.7	48.5	48.4	48.7	48.8	49.1	48.9	48.7	48.9												
	750, 751	118NBon6	623	50	1	304	48.4	48.3	48.5	48.5	48.3	48.1	48.4	48.5	48.8	48.6	48.4	48.7												
	751, 752	118NBon7	623	50	1	341	48.3	48.2	48.3	48.4	48.2	48.1	48.3	48.5	48.7	48.5	48.2	48.6												
	752, 753	118NBon8	623	50	1	406	48.2	48.0	48.2	48.2	48.0	47.9	48.1	48.4	48.5	48.5	48.1	48.4												
	753, 754	118NBon9	623	50	1	250	48.1	47.9	48.1	48.1	47.9	47.7	47.9	48.2	48.4	48.3	47.9	48.3												
	754, 7009	118NBon10	623	50	1	349	48.0	47.8	48.0	48.0	47.8	47.6	47.8	48.1	48.3	48.2	47.8	48.2												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1245	50	1	147	33.8	33.8	33.8	33.5	33.6	33.7	33.2	33.3	33.9	33.9	33.9	33.8	45.9	45.7	45.9	45.7	45.4	45.4	45.3	45.3	46.1	45.9	46.0	45.9
	775, 776	118SBoff3	1245	50	1	934	45.9	45.8	46.0	45.5	45.3	45.5	44.9	44.9	46.3	46.1	46.2	46.0												
	776, 777	118SBoff4	1245	50	1	371	46.9	46.7	46.9	46.7	46.3	46.4	46.4	46.3	47.2	47.0	47.0	46.9												
	777, 778	118SBoff5	1245	50	1	446	46.9	46.7	46.9	46.8	46.4	46.4	46.5	46.4	47.1	46.9	46.9	46.9												
	778, 723	118SBoff6	1245	50	1	1329	46.6	46.4	46.5	46.5	46.1	46.0	46.1	46.2	46.7	46.5	46.6	46.6												
SB I-275 On Ramp from 118th	742, 743	118SBon1	1013	50	1	227	47.6	47.5	47.9	47.8	47.5	47.6	47.5	47.7	48.0	47.9	47.7	48.0	47.5	47.3	47.6	47.6	47.4	47.4	47.3	47.5	47.7	47.6	47.5	47.8
	743, 744	118SBon2	1013	50	1	418	47.9	47.7	47.9	47.8	47.6	47.7	47.7	47.9	48.1	48.0	47.9	48.1												
	744, 745	118SBon3	1013	50	1	223	48.0	47.8	48.0	48.0	47.9	47.9	47.8	47.9	48.1	48.0	48.0	48.1												
	745, 746	118SBon4	1013	50	1	201	47.8	47.6	47.9	47.9	47.8	47.7	47.6	47.8	48.0	47.9	47.8	47.9												
	746, 747	118SBon5	1013	50	1	200	47.5	47.4	47.7	47.7	47.6	47.5	47.4	47.5	47.8	47.7	47.6	47.8												
	747, 748	118SBon6	1013	50	1	166	47.3	47.2	47.5	47.5	47.4	47.3	47.2	47.3	47.6	47.5	47.4	47.7												
	748, 413	118SBon7	1013	50	1	973	47.1	46.9	47.2	47.2	47.0	47.0	46.9	47.1	47.4	47.3	47.2	47.5												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2376	60	3	2420	57.8	57.6	57.8	57.7	57.7	57.6	57.6	57.7	57.8	57.8	57.8	58.0	57.8	57.6	57.8	57.7	57.7	57.6	57.6	57.7	57.8	57.8	57.8	58.0
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1625	50	2	647	48.8	48.8	48.8	48.8	48.6	48.5	48.6	48.7	48.9	48.7	48.9	49.0	48.7	48.6	48.7	48.7	48.6	48.5	48.6	48.6	48.8	48.6	48.7	48.9
	811, 812	UlmNBon4	1625	50	2	590	48.8	48.8	48.9	48.9	48.7	48.7	48.7	48.8	49.0	48.8	48.9	49.1												
	812, 813	UlmNBon5	1625	50	2	323	48.7	48.7	48.8	48.8	48.6	48.5	48.6	48.6	48.9	48.7	48.7	48.9												
	813, 814	UlmNBon6	1625	50	2	328	48.7	48.6	48.7	48.7	48.6	48.5	48.6	48.6	48.9	48.6	48.7	48.9												
	814, 815	UlmNBon7	1625	50	2	288	48.7	48.6	48.7	48.7	48.6	48.5	48.5	48.5	48.8	48.6	48.7	48.9												
	815, 816	UlmNBon8	1625	50	2	273	48.6	48.5	48.7	48.7	48.6	48.4	48.5	48.5	48.8	48.6	48.7	48.8												
	816, 321	UlmNBon9	1625	50	2	1098	48.5	48.5	48.6	48.6	48.5	48.3	48.5	48.5	48.7	48.5	48.6	48.7												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	1427	50	2	573	48.8	48.6	48.7	48.9	48.6	48.6	48.6	48.6	48.7	48.7	48.6	48.9	48.9	48.8	48.8	49.0	48.8	48.7	48.7	48.8	48.8	48.8	48.8	49.0
	830, 831	UlmSBoff2	1427	50	2	346	49.1	49.0	49.1	49.3	49.0	49.0	49.0	49.1	49.0	49.1	49.0	49.2												
	831, 7036	UlmSBoff3	1427	50	2	283	48.8	48.8	48.8	49.1	48.7	48.6	48.7	48.8	48.8	48.8	48.8	48.9												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1183	50	2	398	48.8	48.8	48.7	48.9	48.6	48.7	48.5	48.7	48.9	48.7	48.8	48.9	57.2	57.0	56.9	57.2	57.0	56.9	56.7	56.9	57.0	57.0	57.0	57.2
	834, 835	UlmSBoff8	1183	60	2	584	54.6	54.5	54.5	54.7	54.4	54.5	54.2	54.4	54.6	54.6	54.5	54.7												
	835, 836	UlmSBoff9	1183	60	2	481	59.0	58.9	58.8	59.0	58.8	58.8	58.6	58.8	58.8	58.9	58.8	59.0												
	836, 837	UlmSBoff10	1183	60	2	2160	59.0	58.8	58.7	59.0	58.7	58.7	58.5	58.7	58.7	58.8	58.7	58.9												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	751	35	1	493	50.9	50.1	50.6	50.4	50.1	50.0	50.1	50.4	50.5	50.8	50.7	51.0	46.7	45.9	46.4	46.2	45.9	45.7	45.9	46.2	46.3	46.6	46.4	46.8
	802, 803	UlmSBon2	751	35	1	214	36.9	36.2	36.6	36.6	36.3	36.0	36.0	36.5	36.6	36.8	36.7	37.1												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	535	35	1	163	33.9	33.7	34.0	33.9	33.8	33.6	33.6	33.8	33.9	33.9	34.0	34.1	41.5	41.3	41.5	41.5	41.4	41.1	41.2	41.3	41.4	41.4	41.5	41.6
	808, 809	UlmSBon4	535	35	1	163	34.1	33.9	34.1	34.0	34.0	33.8	33.9	33.9	34.0	34.0	34.1	34.2												
	809, 810	UlmSBon5	535	35	1	228	34.0	33.9	34.0	34.0	33.9	33.7	33.8	33.9	33.9	33.9	34.1	34.1												
	810, 404	UlmSBon6	535	50	1	1030	45.6	45.4	45.5	45.5	45.4	45.1	45.2	45.3	45.4	45.4	45.6	45.6												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	35.0	34.6	34.4	34.7	34.5	34.6	34.6	34.8	34.6	34.7	34.8	34.8	44.1	43.6	43.6	43.8	43.7	43.8	43.8	44.0	43.7	43.9	43.9	43.9
	804, 805	UlmSBMLK2	216	50	1	361	41.6	41.3	41.3	41.4	41.4	41.5	41.5	41.6	41.4	41.6	41.5	41.6												
	805, 806	UlmSBMLK3	216	50	1	499	49.6	48.9	48.8	49.2	49.0	49.2	49.1	49.5	49.1	49.4	49.3	49.2												
SB MLK	806, 807	UlmSBMLK4	460	50	2	1171	49.3	49.2	49.3	49.4	49.2	49.2	49.2	49.4	49.2	49.4	49.6	49.4	49.3	49.2	49.3	49.4	49.2	49.2	49.2	49.4	49.2	49.4	49.6	49.4
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	324	50	1	1080	49.3	49.7	49.5	49.7	49.8	49.5	49.9	49.8	49.7	49.4	49.8	49.8	49.0	49.4	49.2	49.4	49.5	49.1	49.6	49.5	49.5	49.1	49.5	49.7
	851, 852	MLKNBon3	324	50	1	350	49.1	49.5	49.3	49.5	49.6	49.2	49.6	49.6	49.6	49.2	49.6	49.7												
	852, 853	MLKNBon4	324	50	1	370	49.0	49.3	49.1	49.3	49.4	49.0	49.5	49.5	49.4	49.1	49.4	49.6												
	853, 320	MLKNBon5	324	50	1	885	48.7	49.0	48.9	49.2	49.2	48.7	49.3	49.3	49.1	48.9	49.2	49.5												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	244	50	1	294	47.9	48.2	48.5	48.4	47.9	48.1	48.3	48.7	48.1	48.5	48.6	48.5	48.6	48.8	49.0	49.0	48.6	48.7	48.8	49.1	48.7	49.0	49.2	49.1
	839, 840	MLKSBoff4	244	50	1	336	48.7	49.0	49.1	49.2	48.8	48.8	48.9	49.3	48.8	49.2	49.3	49.2												
	840, 841	MLKSBoff5	244	50	1	395	48.7	49.0	49.1	49.2	48.8	48.8	48.9	49.2	48.8	49.1	49.2	49.2												
	841, 806	MLKSBoff6	244	50	1	539	48.8	48.9	49.1	49.2	48.9	48.8	48.8	49.1	48.9	49.0	49.3	49.2												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	440	60	2	1270	59.7	59.8	59.7	59.6	59.6	59.5	59.4	59.5	59.9	59.9	59.7	59.8	59.3	59.2	59.2	59.2	59.0	58.8	58.8	59.0	59.3	59.4	59.5	59.4
	901, 902	4thNBon3	440	60	2	634	59.7	59.7	59.6	59.6	59.5	59.4	59.3	59.4	59.9	59.8	59.7	59.7												
	902, 903	4thNBon4	440	60	2	322	59.4	59.3	59.3	59.3	59.0	58.9	58.9	58.9	59.4	59.5	59.5	59.5												
	903, 904	4thNBon5	440	60	2	279	59.0	58.8	58.8	58.9	58.5	58.2	58.4	58.6	58.9	59.1	59.3	59.1												
	904, 905	4thNBon6	440	60	2	388	59.0	58.8	58.8	58.9	58.5	58.2	58.3	58.6	58.8	59.1	59.3	59.1												
	905, 906	4thNBon7	440	60	1	313	59.0	58.7	58.8	58.9	58.6	58.2	58.3	58.6	58.8	59.1	59.3	59.1												
	906, 907	4thNBon8	440	60	1	300	58.9	58.6	58.8	58.8	58.6	58.3	58.2	58.6	58.8	59.1	59.3	59.1												
	907, 323	4thNBon9	440	60	1	684	58.7	58.5	58.6	58.7	58.3	58.2	58.1	58.5	58.6	58.9	59.0	58.9												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	925	60	1	467	57.6	57.1	57.3	57.8	56.4	55.5	56.6	57.3	57.7	57.6	58.0	58.1	57.8	57.8	57.9	58.1	57.6	57.5	57.7	57.7	57.9	57.8	58.0	58.2
	920, 921	4thSBoff2	925	60	1	492	58.2	58.2	58.2	58.4	57.9	57.8	58.1	58.0	58.3	58.1	58.4	58.6												
	921, 922	4thSBoff3	925	60	1	420	58.0	58.0	58.1	58.2	57.9	57.8	58.0	57.8	58.1	57.9	58.2	58.4												
	922, 923	4thSBoff4	925	60	1	393	57.7	57.7	57.8	57.9	57.5	57.4	57.7	57.4	57.7	57.6	57.9	58.1												
	923, 924	4thSBoff5	925	60	1	384	57.4	57.4	57.5	57.6	57.2	57.1	57.4	57.2	57.5	57.3	57.6	57.8												
	924, 925	4thSBoff6	925	60	1	354	57.3	57.2	57.4	57.4	57.0	56.9	57.2	57.0	57.3	57.2	57.4	57.6												
	925, 926	4thSBoff7	925	60	1	501	57.1	57.0	57.2	57.2	56.9	56.7	57.0	56.9	57.1	57.0	57.2	57.5												
	926, 927	4thSBoff8	925	60	1	416	56.9	56.8	57.0	57.0	56.6	56.5	56.7	56.7	56.9	56.7	57.0	57.3												
	927, 928	4thSBoff9	925	60	2	1153	57.9	57.9	58.1	58.2	57.9	57.8	57.9	58.0	58.0	57.9	58.1	58.3												
	928, 929	4thSBoff10	925	60	2	1242	58.7	58.7	58.8	58.9	58.6	58.7	58.7	58.7	58.8	58.6	58.8	59.0												

2012 Existing PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5080	70	3	1087	1127	1190	1133	1073	1272	1328	1274	1206	1044	1102	1039	989	27	24	29	28	25	22	22	24	27	28	26	28
	300, 301	I275NB3	5080	70	3	805	1127	1189	1132	1076	1267	1328	1277	1205	1045	1103	1037	991	29	32	28	32	35	35	32	31	30	28	28	26
	301, 302	I275NB4	5080	70	3	478	1127	1189	1133	1076	1265	1328	1277	1205	1046	1104	1037	991	30	31	28	28	32	33	32	34	27	30	25	28
	302, 303	I275NB5	5080	70	3	2687	1129	1188	1132	1083	1255	1325	1281	1207	1053	1105	1034	992	818	867	806	779	936	998	924	895	751	796	729	720
	303, 304	I275NB6	5080	70	4	382	1127	1189	1132	1082	1254	1326	1281	1208	1053	1103	1035	993	118	122	113	118	122	126	124	116	113	114	112	106
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3456	70	3	1375	771	801	777	732	846	898	873	814	713	749	712	669	66	65	60	62	67	77	71	63	54	60	52	56
	305, 306	I275NB8	3456	70	3	1306	773	800	778	731	847	899	870	817	715	746	713	671	59	58	56	51	62	63	65	58	52	52	51	50
	306, 307	I275NB9	3456	70	3	591	774	799	777	733	846	897	871	819	714	746	713	673	28	27	24	26	30	29	33	28	27	26	28	23
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	4052	70	5	1065	904	943	921	858	994	1052	1034	964	846	878	839	787	131	136	136	120	147	157	156	136	118	124	123	109
	308, 309	I275NB11	4052	70	5	3035	904	942	922	863	987	1043	1040	968	849	875	845	787	180	197	185	170	200	214	211	198	168	174	161	149
	309, 310	I275NB12	4052	70	4	1095	902	943	924	863	985	1043	1038	968	852	872	847	787	388	390	397	366	409	439	435	408	365	378	363	340
	310, 311	I275NB13	4052	70	4	380	902	942	925	863	984	1042	1039	969	853	872	848	786	105	112	108	103	115	127	125	115	92	101	99	86
	311, 312	I275NB14	4052	70	4	399	905	942	925	864	983	1041	1040	969	852	872	848	787	95	96	95	89	99	118	109	106	86	86	80	75
	312, 313	I275NB15	4052	70	4	368	905	943	925	864	982	1041	1039	971	851	873	850	786	36	39	39	37	43	47	47	42	34	39	37	29
	313, 314	I275NB16	4052	70	4	460	904	944	925	864	979	1040	1040	971	850	874	851	786	30	26	28	25	32	33	37	30	25	23	22	23
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2172	70	3	886	474	499	485	450	519	547	542	515	451	462	448	415	25	24	23	22	27	29	30	24	21	23	23	18
	315, 316	I275NB18	2172	70	3	1317	473	501	485	451	519	544	544	513	452	463	448	416	29	30	30	24	32	36	36	31	28	30	29	27
	316, 317	I275NB19	2172	70	3	1361	473	500	485	452	516	546	541	518	453	463	447	414	33	36	31	31	38	39	36	38	28	31	32	25
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3045	70	5	1032	670	706	682	643	736	776	758	719	634	647	630	591	164	166	158	152	180	187	179	160	144	143	153	133
	318, 319	I275NB21	3045	70	5	1191	672	703	685	642	733	776	759	718	638	646	630	592	43	50	49	41	58	59	58	54	44	45	44	39
	319, 320	I275NB22	3045	70	4	3175	670	701	686	642	731	773	759	724	637	649	628	592	125	130	129	116	141	151	145	136	110	112	114	99
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	3369	70	4	1678	744	772	762	714	808	858	838	803	706	718	694	656	165	169	167	154	188	199	189	177	145	163	152	133
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	4994	70	5	1064	1109	1159	1132	1075	1213	1283	1256	1195	1055	1069	1034	975	296	303	288	276	320	341	338	312	277	265	258	239
	322, 323	I275NB25	4994	70	5	1398	1107	1160	1132	1077	1208	1288	1252	1197	1058	1066	1037	977	226	234	231	225	253	255	240	236	217	213	212	208
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	5434	70	5	817	1200	1263	1230	1168	1318	1403	1365	1299	1152	1161	1126	1065	384	400	388	366	421	438	426	415	362	382	361	339
	324, 325	I275NB27	5434	70	5	683	1203	1262	1230	1167	1316	1399	1372	1298	1156	1160	1128	1066	204	217	203	186	243	269	262	213	176	180	168	161
	325, 326	I275NB28	5434	70	4	1898	1203	1258	1235	1170	1306	1399	1374	1299	1159	1158	1128	1068	226	242	221	199	266	281	292	249	202	196	185	177
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	6314	70	4	2040	1397	1483	1407	1331	1571	1660	1586	1499	1301	1356	1299	1236	418	461	428	408	481	524	489	438	397	417	389	367
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5389	70	4	2745	1199	1259	1208	1142	1339	1410	1362	1285	1118	1163	1109	1056	783	818	776	705	900	946	893	832	714	735	704	679
	402, 403	I275SB4	5389	70	5	825	1202	1255	1209	1142	1335	1413	1357	1289	1122	1163	1108	1058	133	135	123	116	155	153	154	140	117	118	109	99
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3962	70	4	4213	874	922	886	846	973	1031	994	961	819	859	809	771	250	250	241	230	267	290	284	269	223	234	208	195
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4497	70	4	972	992	1044	1003	952	1102	1170	1128	1084	932	979	914	876	338	353	332	325	367	386	370	365	320	334	315	316
	405, 406	I275SB7	4497	70	4	1472	991	1040	1007	951	1100	1171	1129	1081	936	979	918	873	373	400	368	348	417	469	443	411	342	370	332	315
	406, 407	I275SB8	4497	70	4	662	993	1037	1005	951	1098	1169	1132	1085	936	978	918	874	71	74	76	63	82	94	90	83	66	72	56	59
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	3161	70	3	1201	687	708	703	660	749	806	789	741	648	673	635	589	57	58	57	58	65	63	73	63	50	56	53	47
	408, 409	I275SB10	3161	70	3	1585	688	708	702	664	745	803	793	742	647	671	636	591	54	54	61	55	61	66	69	66	55	56	54	48
	409, 410	I275SB11	3161	70	3	458	688	709	701	664	743	803	794	742	648	671	636	592	16	21	16	18	20	24	20	20	18	17	16	15
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4717	70	5	631	1033	1077	1053	997	1117	1210	1196	1117	978	1000	979	899	332	357	345	326	363	398	384	358	317	324	328	296
	411, 412	I275SB13	4717	70	5	244	1035	1077	1053	998	1116	1211	1196	1117	979	999	979	898	34	33	28	29	34	37	38	39	27	28	27	24
	412, 413	I275SB14	4717	70	4	608	1037	1076	1053	998	1115	1210	1197	1116	980	998	980	900	64	63	64	59	69	75	76	70	46	57	57	50
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5730	70	4	492	1261	1318	1277	1209	1363	1467	1453	1362	1197	1219	1189	1094	313	338	312	293	349	364	358	341	304	307	298	269
	414, 415	I275SB16	5730	70	4	3870	1259	1316	1278	1209	1358	1467	1443	1373	1207	1212	1193	1098	760	777	770	712	800	855	829	808	719	709	725	648
	415, 416	I275SB17	5730	70	4	1086	1260	1315	1278	1212	1352	1462	1448	1374	1207	1214	1195	1099	231	264	239	224	275	319	317	281	224	217	214	186
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4768	70	3	1385	1017	1069	1035	979	1090	1186	1179	1112	979	988	973	900	103	104	99	96	111	116	116	115	92	100	91	94
	417, 418	I275SB19	4768	70	3	343	1018	1070	1034	980	1089	1186	1180	1113	979	988	974	900	19	19	18	21	19	21	21	19	18	17	21	21
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5472	70	3	1507	1173	1229	1188	1130	1252	1363	1349	1271	1120	1136	1113	1032	314	328	308	307	337	361	337	325	289	304	282	280
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	6260	70	3	3297	1344	1390	1349	1296	1428	1548	1544	1457	1287	1292	1269	1179	475	476	460	453	509	535	519	494	443	465	443	428
	420, 421	I275SB22	6260	70	3	430	1342	1391	1350	1295	1428	1547	1544	1457	1289	1291	1268	1180	27	26	32	27	27	27	27	28	27	26	30	31
	421, 422	I275SB23	6260	70	3	403	1343	1391	1351	1294	1426	1547	1546	1459	1289	1292	1267	1182	27	27	30	26	28	26	27	28	29	25	28	23
	422, 423	I275SB24	6260	70	3	426	1341	1391	1352	1293	1426	1547	1546	1458	1290	1292	1266	1184	31	26	27	26	29	25	27	27	27	29	30	25
	423, 424	I275SB25	6260	70	3	412	1340	1393	1351	1293	1425	1547	1545	1463	1288	1292	1266	1185	26	27	28	24	28	25	25	23	29	29	28	27
	424, 425	I275SB26	6260	70	3	734	1338	1395	1351	1293	1422	1548	1545	1460	1290	1293	1268	1186	50	52	51	56	55	55	55	55	52	51	49	47
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2423	50	3	841	538	568	541	511	602	638	607	577	500	521	496	475	286	299	287	275	326	342	327	312	267	280	262	251
	500, 501	GandyEB3	2423	50	4	954	536	569	540	512	602	635	609	578	500	521	495	474	378	391	369	346	422	448	427	403	345	360	334	318
	501, 502	GandyEB4	2423	50	5	174	536	569	539	514	601	636	609	578	500	520	496	474	43	46	42	40	54	56	49	50	39	43	37	34
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1039	50	3	178	234	258	237	230	264	278	266	250	217	227	220	213	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1039	50	3	99	234	257	240	229	262	279	265	251	220	225	221	215	7	8	8	7	9	9	12	10	7	8	8	9
	505, 506	GandyEB10	1039	50	3	119	234	256	241	230	263	279	265	252	220	225	221	215	9	11	11	9	13	10	12	11	10	10	10	10
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	1874	50	3	1167	415	452	436	424	475	512	490	468	409	411	402	383	246	284	264	259	290	325	309	294	257	258	245	226
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2972	55	3	181	659	690	657	629	717	769	734	701	614	627	601	579	33	34	27	30	30	37	35	31	29	30	29	31
	520, 521	GandyWB5	2972	55	3	291	660	687	658	629	718	769	733	701	617	626	602	577	26	28	29	25	28	35	32	29	25	26	27	22
	521, 522	GandyWB6	2972	55	4	590	659	684	656	631	719	767	733	702	619	625	604	577	352	375	343	341	387	411	399	365	323	333	310	303
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2268	55	3	1768	506	522	501	479	548	592	564	551	477	478	469	448	59	60	59	55	66	71	68	70	54	53	51	49
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3230	55	3	1179	745	774	746	716	800	859	839	813	717	699	692	653	339	352	340	332	366	386	397	377	325	319	313	283
	524, 525	GandyWB9	3230	55	3	455	743	774	747	719	799	857	839	811	720	701	692	653	23	28	24	26	28	30	30	28	27	23	25	21
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1624	50	1	525	359	385	355	350	405	429	409	397	340	350	327	325	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	1624	50	1	1220	358	384	355	352	401	428	411	397	342	350	327	326	29	37	22	29	35	52	43	42	26	26	23	21
	601, 7001	GdyNBoff3	1624	50	2	135	358	384	355	352	400	427	412	397	343	349	328	326	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	835	50	1	84	180	204	193	190	213	232	229	215	186	187	180	169	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	835	50	1	107	180	204	194	190	214	232	228	216	186	187	181	169	0	0	0	0	0	0	0	0	0	0	0	0

2012 Existing PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	606, 506	GdyNBoff10	835	50	1	158	181	204	194	190	213	232	228	216	187	187	181	169	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1384	50	2	179	302	311	302	284	337	357	343	328	282	294	276	261	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	596	50	2	501	136	144	139	127	150	160	157	148	127	132	125	114	12	11	11	9	12	14	15	13	10	12	11	11
	623, 624	GdyNBon6	596	50	2	299	136	144	139	126	150	160	158	147	128	132	125	114	3	4	4	3	5	4	4	4	4	4	3	3
	624, 625	GdyNBon7	596	50	2	253	136	144	140	126	150	159	158	146	128	132	125	114	3	4	3	2	3	3	5	2	3	3	2	2
	625, 626	GdyNBon8	596	50	2	238	135	144	140	126	150	159	159	146	128	132	124	114	2	3	3	2	2	3	3	3	2	2	2	1
	626, 627	GdyNBon9	596	50	2	242	135	144	140	127	150	158	160	146	128	132	124	114	2	3	2	2	2	4	2	2	1	2	3	2
	627, 628	GdyNBon10	596	50	2	277	135	144	140	127	149	158	160	146	128	132	124	114	2	2	3	1	2	3	3	3	3	2	2	2
	628, 629	GdyNBon11	596	50	2	337	134	144	140	127	149	158	160	145	129	132	124	115	3	3	2	2	4	3	3	3	2	2	2	3
	629, 630	GdyNBon12	596	50	2	877	134	144	141	127	149	157	161	144	129	133	124	115	6	6	6	6	6	7	7	5	5	6	5	5
	630, 307	GdyNBon13	596	50	2	344	134	144	140	128	149	157	161	144	130	132	125	115	3	2	2	3	3	3	3	3	2	2	3	3
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	962	50	2	481	239	250	242	237	255	275	271	260	234	223	223	202	10	11	10	11	10	13	11	11	9	9	9	8
	660, 661	GdySBoff2	962	50	2	394	239	249	242	238	255	275	271	259	234	223	223	202	7	5	5	5	4	6	5	5	4	5	3	3
	661, 662	GdySBoff3	962	50	2	1949	241	249	241	238	255	272	273	260	233	224	224	203	128	137	130	124	137	147	150	142	125	119	121	109
	662, 523	GdySBoff4	962	50	1	424	240	249	241	238	255	271	274	261	233	223	225	203	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	788	50	1	286	168	166	164	156	186	196	186	183	157	159	153	146	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	788	50	1	204	168	166	163	157	186	197	186	183	157	159	153	147	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	788	50	1	319	167	167	163	157	186	196	186	183	157	159	153	147	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	704	35	1	302	155	163	149	149	171	176	169	154	140	147	139	133	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	704	35	1	259	155	162	149	149	170	177	169	154	141	147	139	134	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	704	35	1	227	155	163	148	149	170	176	170	155	141	147	138	134	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	704	35	1	211	156	162	148	149	170	177	169	156	140	147	138	135	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	707	35	1	211	156	162	149	149	169	176	169	156	140	147	139	135	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	704	35	1	207	155	163	149	148	169	176	170	157	140	146	139	136	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	704	35	1	252	154	164	150	149	169	176	169	158	141	146	137	136	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2840	60	4	1418	628	667	631	602	708	743	716	676	581	612	583	555	474	506	481	455	559	588	549	512	455	475	445	430
	541, 542	RvEB3	2840	60	3	1028	628	663	634	602	705	745	715	678	583	611	581	557	46	49	43	42	56	58	51	55	39	44	41	37
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1615	60	2	513	358	377	358	347	409	425	400	383	331	349	330	318	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1573	60	2	120	345	365	351	336	397	413	392	373	323	341	318	309	4	5	4	3	5	5	5	4	4	4	3	3
	546, 547	RvEB10	1573	60	2	165	345	365	351	337	397	413	392	372	323	342	317	309	5	4	5	5	6	7	6	6	6	7	4	4
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1759	60	2	1053	387	410	396	377	443	459	443	413	366	385	357	347	70	80	76	70	79	83	86	72	69	75	65	65
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	1829	60	2	756	407	427	409	385	455	482	461	434	391	377	468	360	27	27	26	24	30	28	26	26	26	23	29	24
	558, 559	RvWB3	1829	60	2	146	407	427	409	385	455	482	460	433	392	377	469	360	25	22	19	22	26	24	24	23	20	18	25	17
	559, 560	RvWB4	1829	60	3	151	406	428	409	385	456	482	460	434	392	377	469	360	20	20	19	17	21	20	19	20	17	18	18	16
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1674	60	2	125	368	390	377	350	417	445	424	398	359	347	430	332	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1381	60	2	133	299	319	305	288	340	364	349	325	299	285	343	279	5	5	7	5	6	8	8	6	5	5	5	5
	567, 568	RvWB14	1381	60	2	750	299	318	305	288	341	363	349	325	299	286	343	279	19	22	20	19	23	24	21	21	18	18	23	19
	568, 569	RvWB15	1381	60	2	281	298	318	305	288	342	362	350	325	299	286	343	278	6	7	6	7	8	7	7	6	7	6	8	6
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2347	60	4	1137	523	542	528	497	571	613	605	561	499	487	546	470	65	66	68	55	74	82	78	71	60	57	72	55
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	1880	50	2	228	430	445	440	415	459	495	496	457	401	411	403	372	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	1880	50	2	168	430	444	441	414	458	494	497	458	401	411	402	372	39	42	42	39	44	46	45	39	37	38	36	34
	701, 702	RvNBoff5	1880	50	2	198	431	445	440	414	458	495	497	457	401	412	401	373	56	62	59	57	63	66	67	57	52	56	53	51
	702, 703	RvNBoff6	1880	50	3	130	431	445	441	414	458	495	497	457	401	412	401	373	66	62	62	62	61	67	61	63	59	61	67	62
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	186	50	1	336	43	46	45	41	46	47	50	42	40	43	39	39	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	186	50	1	200	43	46	45	41	46	47	50	42	39	44	39	39	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	186	50	1	223	43	45	45	41	46	47	50	42	39	44	39	38	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	186	50	1	262	43	45	45	41	46	47	50	42	39	44	39	38	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	186	50	1	264	43	45	45	41	46	48	50	42	39	44	39	39	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	966	50	2	248	223	225	221	212	231	252	255	233	200	201	204	190	22	23	22	21	22	25	30	25	17	17	17	17
	715, 716	RvNBoff21	966	50	2	642	224	225	221	213	229	252	256	233	200	200	205	189	25	24	24	23	24	30	28	26	21	21	19	18
	716, 569	RvNBoff22	966	50	2	670	224	224	222	212	229	251	257	233	202	199	205	190	12	12	12	11	14	15	13	15	13	11	13	10
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	155	50	1	296	38	37	33	35	39	37	36	36	33	30	39	29	0	0	0	0	0	0	0	0	0	0	0	0
	757, 7016	RvNBon4	155	50	1	127	38	37	33	35	39	37	36	36	33	30	39	29	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	873	50	2	261	199	205	195	192	221	233	214	203	179	184	185	173	15	18	18	16	21	25	20	18	16	14	15	15
	756, 317	RvNBon10	873	50	2	444	200	204	195	192	220	232	216	202	180	184	185	174	11	11	9	9	14	15	14	10	9	12	10	8
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1336	50	2	223	307	329	302	292	345	364	346	341	291	304	286	285	8	9	7	7	10	11	10	9	9	7	7	8
	770, 7032	RvSBoff2	1336	50	2	150	306	330	301	293	345	364	346	341	291	304	286	285	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1556	50	3	102	344	369	352	330	377	410	398	377	326	330	343	304	119	126	127	118	128	138	133	132	117	119	116	111
	793, 410	RvSBon5	1556	50	3	655	346	367	353	331	376	410	399	376	326	330	344	304	86	96	87	82	102	115	117	104	72	80	71	70
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1225	50	2	270	269	287	275	256	293	321	314	294	254	263	252	238	6	7	7	6	7	10	10	7	6	7	6	6
	790, 7011	RvSBon11	1225	50	2	250	269	287	275	257	292	321	315	294	254	262	253	238	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	1694	50	2	311	388	401	394	374	414	446	448	415	362	368	362	334	32	34	33	29	35	37	39	31	27	31	30	26
	708, 710	118NBoff2	1694	50	2	567	387	401	394	373	413	447	449	414	363	368	362	334	40	37	38	35	46	47	45	42	34	33	32	29
	710, 711	118NBoff3	1694	50	2	460	387	402	393	374	413	446	448	416	363	367	362	334	45	52	44	45	49	59	64	51	44	44	42	35
	711, 712	118NBoff4	1694	50	3	472	389	401	394	374	412	446	448	417	363	368	360	335	24	26	24	23	25	27	27	26	21	20	22	19
	712, 713	118NBoff5	1694	50	3	395	389	401	395	373	411	446	449	417	364	367	360	336	193	190	186	178	190	209	213	197	166	172	172	165
	713, 714	118NBoff6	1694	50	4	188	388	402	394	373	412	446	447	418	365	366	360	336	49	49	50	45	48	60	59	55	41	46	42	37
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	728	50	2	212	165	176	173	161	182	194	193	184	166	165	157	146	3	3	3	3	3	3	3	3	3	3	2	3
	717, 718	118NBoff8	728	50	2	389	166	175	173	161	182	193	194	184	167	165	156	147	4	5	4	4	4	5	5	4	3	4	3	3
	718, 719	118NBoff9	728	50	2	373	166	175	172	161	182	192	195	184	166	165	156	147	4	3	4	3	4	4	4	4	3	3	3	3
	719, 720	118NBoff10	728	50	2	589	166	175	172	161	182	192	195	184	167	164	157	147	5	4	4	4	6	6	7	6	4	5	5	4
	720, 721	118NBoff11	728	50	2	311	166	175	173	160	182	192	195	184	168	164	158	147	2	3	2	2	4	3	4	3	2	3	2	2
	721, 722	118NBoff12	728	50	2	381	167	174	173	161	181	192	195	184	167	165	157	147	3	4	3	5	3	4	4	3	4	2	2	3

2012 Existing PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	722, 723	118NBoff13	728	50	2	562	168	174	173	161	181	192	195	184	167	165	157	147	5	6	6	5	6	6	6	5	5	5	4	3
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1973	60	3	1252	457	476	458	433	499	535	518	504	446	442	433	413	128	138	127	123	146	154	148	153	121	125	121	117
	724, 725	118NBoff15	1973	60	3	575	454	476	459	434	497	533	519	505	445	443	432	414	11	17	13	14	14	15	14	13	14	14	13	11
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1636	60	2	611	360	389	363	347	407	429	410	386	339	352	341	313	97	105	93	87	104	108	107	98	94	96	92	81
	741, 742	118NBon3	1636	60	2	1107	361	389	363	348	406	430	410	386	340	351	338	317	33	39	34	31	43	47	42	40	31	33	32	28
NB I-275 On Ramp from 118th	742, 749	118NBon4	623	50	2	758	136	148	139	138	157	171	155	142	125	132	126	124	46	52	48	46	52	55	53	47	42	43	41	43
	749, 750	118NBon5	623	50	2	1140	137	148	139	139	157	171	155	142	126	131	126	124	7	9	8	8	10	10	8	8	7	9	6	8
	750, 751	118NBon6	623	50	1	304	136	147	139	139	157	171	156	142	126	131	126	125	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon7	623	50	1	341	137	147	138	139	157	171	156	142	125	131	125	126	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon8	623	50	1	406	137	147	138	140	157	171	156	143	125	131	126	126	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon9	623	50	1	250	137	147	138	139	158	170	156	143	125	130	126	126	0	0	0	0	0	0	0	0	0	0	0	0
	754, 7009	118NBon10	623	50	1	349	136	147	138	139	158	171	156	143	125	131	127	126	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1245	50	1	147	288	306	281	276	319	340	324	320	273	282	271	267	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	1245	50	1	934	290	304	282	276	319	340	324	320	275	281	272	267	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	1245	50	1	371	290	303	282	276	319	341	324	319	276	280	272	267	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	1245	50	1	446	290	303	282	275	319	341	325	318	277	280	272	266	0	0	0	0	0	0	0	0	0	0	0	0
	778, 723	118SBoff6	1245	50	1	1329	290	304	284	273	319	342	324	319	277	279	273	266	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from 118th	742, 743	118SBon1	1013	50	1	227	225	241	224	209	248	260	255	244	216	220	211	193	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon2	1013	50	1	418	225	242	223	210	248	260	255	245	216	220	211	193	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon3	1013	50	1	223	225	241	224	209	248	260	255	245	216	220	211	193	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon4	1013	50	1	201	226	241	223	210	248	259	255	245	217	220	210	194	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon5	1013	50	1	200	225	241	224	210	249	259	255	245	217	220	210	193	0	0	0	0	0	0	0	0	0	0	0	0
	747, 748	118SBon6	1013	50	1	166	226	241	224	210	248	259	255	245	217	220	210	194	0	0	0	0	0	0	0	0	0	0	0	0
	748, 413	118SBon7	1013	50	1	973	224	240	225	210	249	258	256	245	218	219	209	195	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2376	60	3	2420	533	556	527	504	592	623	596	568	488	509	487	467	330	354	318	296	361	385	367	347	301	305	293	291
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1625	50	2	647	368	387	371	356	411	430	413	398	337	351	343	318	16	15	18	17	18	21	20	18	14	17	18	13
	811, 812	UlmNBon4	1625	50	2	590	369	386	372	356	410	429	415	396	339	351	343	318	14	13	13	12	16	17	17	15	14	14	12	10
	812, 813	UlmNBon5	1625	50	2	323	369	387	373	356	410	429	416	395	339	351	343	317	8	7	8	6	11	9	10	8	7	7	8	5
	813, 814	UlmNBon6	1625	50	2	328	369	386	373	356	409	429	416	395	339	352	342	317	8	7	8	7	10	10	9	10	8	8	8	6
	814, 815	UlmNBon7	1625	50	2	288	369	386	373	356	410	428	417	394	340	352	341	318	7	6	7	9	8	8	10	10	7	8	6	6
	815, 816	UlmNBon8	1625	50	2	273	368	387	373	356	410	429	415	393	341	351	343	318	7	7	7	7	7	7	9	7	7	6	6	6
	816, 321	UlmNBon9	1625	50	2	1098	369	386	372	357	409	430	415	391	344	353	342	317	29	28	30	28	33	34	33	30	26	27	27	25
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	1427	50	2	573	327	330	328	298	358	377	358	339	303	306	301	288	32	33	31	29	37	37	36	35	27	31	29	26
	830, 831	UlmSBoff2	1427	50	2	346	328	329	328	299	357	376	359	339	303	305	301	288	8	10	9	9	10	10	11	9	10	9	8	8
	831, 7036	UlmSBoff3	1427	50	2	283	328	330	328	299	357	376	358	340	303	305	300	289	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1183	50	2	398	270	276	272	247	298	308	298	283	249	250	244	235	9	8	7	7	10	11	10	8	7	8	7	7
	834, 835	UlmSBoff8	1183	60	2	584	271	275	273	248	298	307	299	284	249	251	244	234	28	30	26	25	28	30	31	27	22	25	24	22
	835, 836	UlmSBoff9	1183	60	2	481	270	276	273	247	298	307	298	284	249	250	246	234	4	3	3	3	4	4	3	4	3	3	3	2
	836, 837	UlmSBoff10	1183	60	2	2160	271	275	272	248	296	307	300	284	250	249	246	236	22	23	22	20	26	29	26	23	21	19	20	19
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	751	35	1	493	163	170	157	149	180	192	184	171	149	161	144	148	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	751	35	1	214	164	169	157	148	180	191	185	171	149	161	144	149	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	535	35	1	163	119	122	115	108	131	141	134	123	110	120	104	108	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	535	35	1	163	119	121	115	107	130	142	134	123	110	120	104	108	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	535	35	1	228	118	122	115	107	130	142	134	123	109	121	104	108	0	0	0	0	0	0	0	0	0	0	0	0
	810, 404	UlmSBon6	535	50	1	1030	117	122	115	108	130	142	132	125	109	119	105	107	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	45	47	43	41	49	50	50	48	39	42	40	40	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	216	50	1	361	45	47	43	41	48	50	51	48	39	43	40	40	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	216	50	1	499	46	47	43	41	48	49	51	48	39	42	40	40	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	460	50	2	1171	105	99	100	93	107	115	112	105	95	97	95	96	9	9	9	8	9	10	10	8	8	9	9	9
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	324	50	1	1080	73	74	73	68	82	85	81	76	66	71	67	62	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	324	50	1	350	73	75	73	68	82	85	81	76	66	71	67	62	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	324	50	1	370	72	75	73	68	82	85	81	76	66	71	67	62	0	0	0	0	0	0	0	0	0	0	0	0
	853, 320	MLKNBon5	324	50	1	885	72	75	73	68	82	84	81	76	66	71	67	62	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	244	50	1	294	57	53	57	53	59	66	60	57	56	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	244	50	1	336	58	53	57	52	59	66	61	57	56	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	244	50	1	395	58	53	57	52	60	65	61	57	56	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	244	50	1	539	58	54	57	52	59	66	61	57	55	55	55	55	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	440	60	2	1270	96	106	96	92	112	115	110	104	92	94	91	86	2	2	2	2	2	3	2	3	2	2	2	1
	901, 902	4thNBon3	440	60	2	634	97	105	97	92	112	115	110	104	92	94	91	86	43	49	43	44	52	50	52	47	42	44	43	39
	902, 903	4thNBon4	440	60	2	322	97	105	97	92	112	115	110	104	92	94	91	86	2	3	3	2	4	4	2	3	2	2	2	3
	903, 904	4thNBon5	440	60	2	279	97	105	97	92	111	116	110	104	92	94	90	86	2	2	1	1	1	3	2	1	1	1	1	1
	904, 905	4thNBon6	440	60	2	388	96	105	97	92	110	116	111	104	91	94	91	86	0	0	0	0	0	0	0	0	0	0	0	0
	905, 906	4thNBon7	440	60	1	313	96	105	97	92	110	116	111	103	92	94	90	87	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	440	60	1	300	96	105	97	92	111	117	111	103	92	94	90	87	0	0	0	0	0	0	0	0	0	0	0	0
	907, 323	4thNBon9	440	60	1	684	96	105	98	92	111	117	111	103	92	94	90	87	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	925	60	1	467	196	221	200	194	224	247	228	215	190	195	187	177	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	925	60	1	492	196	221	199	195	224	247	229	215	190	196	187	176	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	925	60	1	420	197	220	200	195	223	247	229	214	191	196	188	176	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	925	60	1	393	196	219	200	196	223	248	229	215	191	195	188	178	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	925	60	1	384	196	220	200	196	222	248	229	215	191	195	188	178	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	925	60	1	354	196	220	200	196	222	248	229	214	191	195	188	178	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	925	60	1	501	196	220	199	197	221	247	230	214	192	194	189	178	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	925	60	1	416	195	220	199	197	221	247	230	214	191	194	188	178	2	3	2	2	2	2	3	3	2	2	2	2
	927, 928	4thSBoff9	925	60	2	1153	195	220	200	196	223	246	230	215	192	195	188	179	49	57	48	51	56	65	59	56	48	47	47	41
	928, 929	4thSBoff10	925	60	2	1242	194	221	199	196	222	245	231	214	193	193	188	181	16	18	15	16	21	24	22	20	17	17	15	15

2012 Existing PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (Veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5,080	70	3	1,087	22.5	25.6	20.6	65.9	65.0	66.4	4,521	5,080	4,166	4,522	5,079	4,173
	300, 301	I275NB3	5,080	70	3	805										4,524	5,077	4,176
	301, 302	I275NB4	5,080	70	3	478										4,525	5,075	4,178
	302, 303	I275NB5	5,080	70	3	2,687										4,532	5,068	4,183
	303, 304	I275NB6	5,080	70	4	382										4,531	5,068	4,184
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3,456	70	3	1,375	15.3	17.1	14.0	67.3	66.9	67.6	3,076	3,456	2,834	3,080	3,431	2,843
	305, 306	I275NB8	3,456	70	3	1,306										3,081	3,433	2,845
	306, 307	I275NB9	3,456	70	3	591										3,083	3,433	2,846
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	4,052	70	5	1,065	13.0	14.6	12.0	66.7	66.2	66.9	3,606	4,052	3,323	3,626	4,043	3,350
	308, 309	I275NB11	4,052	70	5	3,035										3,631	4,036	3,356
	309, 310	I275NB12	4,052	70	4	1,095										3,632	4,035	3,359
	310, 311	I275NB13	4,052	70	4	380										3,633	4,033	3,358
	311, 312	I275NB14	4,052	70	4	399										3,636	4,033	3,359
	312, 313	I275NB15	4,052	70	4	368										3,637	4,032	3,360
	313, 314	I275NB16	4,052	70	4	460										3,637	4,031	3,361
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,172	70	3	886	9.3	10.4	8.7	68.1	67.8	68.2	1,933	2,172	1,781	1,908	2,123	1,776
	315, 316	I275NB18	2,172	70	3	1,317										1,909	2,121	1,778
	316, 317	I275NB19	2,172	70	3	1,361										1,909	2,121	1,777
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,045	70	5	1,032	9.4	10.5	8.7	67.5	67.2	67.6	2,710	3,045	2,497	2,701	2,989	2,502
	318, 319	I275NB21	3,045	70	5	1,191										2,701	2,986	2,506
	319, 320	I275NB22	3,045	70	4	3,175										2,699	2,987	2,506
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	3,369	70	4	1,678	10.1	11.3	9.4	67.2	66.9	67.3	2,998	3,369	2,763	2,992	3,307	2,774
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	4,994	70	5	1,064	16.3	19.7	16.0	65.2	64.7	65.5	4,445	4,994	4,095	4,474	4,947	4,134
	322, 323	I275NB25	4,994	70	5	1,398										4,475	4,945	4,138
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	5,434	70	5	817	16.8	19.0	15.4	64.8	63.5	65.6	4,836	5,434	4,456	4,862	5,386	4,504
	324, 325	I275NB27	5,434	70	5	683										4,862	5,385	4,509
	325, 326	I275NB28	5,434	70	4	1,898										4,866	5,378	4,513
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	6,314	70	4	2,040	21.4	24.6	19.6	66.2	64.9	66.8	5,619	6,314	5,177	5,618	6,316	5,191
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	5,389	70	4	2,745	17.7	20.5	16.7	66.0	65.2	66.3	4,796	5,389	4,419	4,807	5,395	4,447
	402, 403	I275SB4	5,389	70	5	825										4,808	5,394	4,450
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3,962	70	4	4,213	13.0	14.7	12.0	67.6	67.2	67.8	3,526	3,962	3,249	3,527	3,959	3,258
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4,497	70	4	972	17.7	21.2	17.4	65.3	64.6	65.6	4,002	4,497	3,688	3,991	4,484	3,701
	405, 406	I275SB7	4,497	70	4	1,472										3,988	4,481	3,706
	406, 407	I275SB8	4,497	70	4	662										3,986	4,484	3,706
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	3,161	70	3	1,201	17.6	21.3	17.5	67.4	67.0	67.6	2,813	3,161	2,592	2,758	3,085	2,544
	408, 409	I275SB10	3,161	70	3	1,585										2,762	3,083	2,545
	409, 410	I275SB11	3,161	70	3	458										2,762	3,082	2,547
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4,717	70	5	631	14.3	16.1	13.2	64.1	63.6	64.5	4,198	4,717	3,868	4,160	4,641	3,854
	411, 412	I275SB13	4,717	70	5	244										4,163	4,640	3,855
	412, 413	I275SB14	4,717	70	4	608										4,164	4,638	3,857
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5,730	70	4	492	19.4	21.9	17.9	64.3	63.3	64.8	5,100	5,730	4,699	5,065	5,644	4,699
	414, 415	I275SB16	5,730	70	4	3,870										5,062	5,641	4,710
	415, 416	I275SB17	5,730	70	4	1,086										5,064	5,636	4,715
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4,768	70	3	1,385	20.8	23.4	19.4	65.7	65.0	66.0	4,244	4,768	3,910	4,100	4,568	3,840
	417, 418	I275SB19	4,768	70	3	343										4,102	4,568	3,840
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5,472	70	3	1,507	20.4	23.0	18.9	62.9	62.0	63.4	4,870	5,472	4,487	4,720	5,235	4,401
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	6,260	70	3	3,297	26.1	29.6	24.3	64.6	63.4	64.9	5,571	6,260	5,133	5,379	5,977	5,026
	420, 421	I275SB22	6,260	70	3	430										5,378	5,976	5,028
	421, 422	I275SB23	6,260	70	3	403										5,379	5,977	5,030
	422, 423	I275SB24	6,260	70	3	426										5,376	5,977	5,032
	423, 424	I275SB25	6,260	70	3	412										5,377	5,979	5,032

2012 Existing PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (Veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
	424, 425	I275SB26	6,260	70	3	734										5,377	5,975	5,036
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,423	50	3	841	12.3	13.8	11.3	48.9	48.7	48.9	2,156	2,423	1,987	2,158	2,423	1,992
	500, 501	GandyEB3	2,423	50	4	954										2,158	2,424	1,989
	501, 502	GandyEB4	2,423	50	5	174										2,158	2,424	1,990
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,039	50	3	178	6.5	7.2	5.9	49.3	49.1	49.3	925	1,039	852	958	1,059	877
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,039	50	3	99	8.0	8.8	7.3	44.0	43.8	44.0	925	1,039	852	961	1,058	880
	505, 506	GandyEB10	1,039	50	3	119										961	1,058	880
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	1,874	50	3	1,167	11.7	13.2	10.8	46.6	46.4	46.7	1,668	1,874	1,537	1,727	1,945	1,605
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	2,972	55	3	181	16.1	18.1	14.7	47.3	46.7	47.6	2,645	2,972	2,437	2,635	2,921	2,420
	520, 521	GandyWB5	2,972	55	3	291										2,633	2,920	2,421
	521, 522	GandyWB6	2,972	55	4	590										2,630	2,921	2,424
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,268	55	3	1,768	12.6	14.2	11.7	53.1	53.0	53.2	2,019	2,268	1,860	2,007	2,256	1,872
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,230	55	3	1,179	20.6	26.3	20.4	52.3	51.9	52.5	2,875	3,230	2,649	2,981	3,311	2,761
	524, 525	GandyWB9	3,230	55	3	455										2,983	3,306	2,765
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,624	50	1	525	29.1	35.4	26.8	46.7	44.3	47.0	1,445	1,624	1,332	1,449	1,639	1,342
	600, 601	GdyNBoff2	1,624	50	1	1,220										1,449	1,637	1,345
	601, 7001	GdyNBoff3	1,624	50	2	135										1,449	1,636	1,345
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	835	50	1	84	20.0	23.4	18.5	41.0	40.7	41.6	743	835	685	768	889	722
	605, 606	GdyNBoff9	835	50	1	107										768	889	722
	606, 506	GdyNBoff10	835	50	1	158										768	889	723
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,384	50	2	179	13.4	16.0	12.4	44.9	42.9	45.1	1,232	1,384	1,135	1,199	1,366	1,113
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	596	50	2	501	5.6	6.3	5.1	49.1	48.9	49.0	530	596	489	546	614	498
	623, 624	GdyNBon6	596	50	2	299										545	614	498
	624, 625	GdyNBon7	596	50	2	253										546	614	498
	625, 626	GdyNBon8	596	50	2	238										545	614	498
	626, 627	GdyNBon9	596	50	2	242										545	614	498
	627, 628	GdyNBon10	596	50	2	277										546	613	499
	628, 629	GdyNBon11	596	50	2	337										545	612	500
	629, 630	GdyNBon12	596	50	2	877										545	612	502
	630, 307	GdyNBon13	596	50	2	344										545	611	502
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	962	50	2	481	11.4	12.5	10.4	48.4	48.4	48.6	856	962	789	967	1,061	882
	660, 661	GdySBoff2	962	50	2	394										968	1,060	882
	661, 662	GdySBoff3	962	50	2	1,949										969	1,061	883
	662, 523	GdySBoff4	962	50	1	424										968	1,062	883
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	788	50	1	286	14.5	16.8	13.7	46.4	45.9	46.1	701	788	646	653	751	615
	621, 622	GdySBon3	788	50	1	204										653	751	616
	622, 419	GdySBon4	788	50	1	319										654	751	615
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	704	35	1	302	18.4	20.1	16.7	33.5	33.4	33.6	627	704	577	616	671	559
	640, 641	GdySBonLoop2	704	35	1	259										615	671	560
	641, 642	GdySBonLoop3	704	35	1	227										615	671	560
	642, 643	GdySBonLoop4	704	35	1	211										615	671	560
	643, 644	GdySBonLoop5	707	35	1	211										615	671	561
	644, 645	GdySBonLoop6	704	35	1	207										616	672	560
	645, 418	GdySBonLoop7	704	35	1	252										616	671	560
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,840	60	4	1,418	12.7	14.4	11.7	57.7	57.4	57.8	2,528	2,840	2,329	2,527	2,843	2,331
	541, 542	RvEB3	2,840	60	3	1,028										2,527	2,842	2,332
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,615	60	2	513	12.3	13.9	11.4	58.3	58.1	58.4	1,437	1,615	1,324	1,440	1,617	1,328
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,573	60	2	120	13.0	14.8	12.0	57.4	56.9	57.5	1,400	1,573	1,290	1,398	1,574	1,291
	546, 547	RvEB10	1,573	60	2	165										1,398	1,574	1,291
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	1,759	60	2	1,053	11.4	12.9	10.6	57.8	57.5	57.8	1,566	1,759	1,442	1,570	1,758	1,454

2012 Existing PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (Veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	1,829	60	2	756	13.2	14.8	12.9	58.8	58.8	58.8	1,628	1,829	1,500	1,628	1,832	1,597
	558, 559	RvWB3	1,829	60	2	146										1,628	1,831	1,597
	559, 560	RvWB4	1,829	60	3	151										1,628	1,831	1,598
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1,674	60	2	125	12.6	14.3	12.5	58.9	58.9	58.9	1,490	1,674	1,373	1,485	1,684	1,468
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,381	60	2	133	10.6	12.1	10.5	58.1	58.0	58.1	1,229	1,381	1,132	1,210	1,378	1,205
	567, 568	RvWB14	1,381	60	2	750										1,210	1,378	1,206
	568, 569	RvWB15	1,381	60	2	281										1,209	1,379	1,206
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,347	60	4	1,137	9.1	10.2	8.7	57.7	57.7	57.8	2,089	2,347	1,925	2,090	2,349	2,002
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	1,880	50	2	228	17.0	19.0	15.5	50.8	50.3	51.1	1,673	1,880	1,542	1,729	1,907	1,587
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	1,880	50	2	168	15.0	16.7	13.7	48.0	47.7	48.2	1,673	1,880	1,542	1,729	1,907	1,586
	701, 702	RvNBoff5	1,880	50	2	198										1,730	1,907	1,587
	702, 703	RvNBoff6	1,880	50	3	130										1,731	1,907	1,586
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	186	50	1	336	3.5	3.7	3.3	49.5	49.5	49.4	166	186	153	174	185	161
	704, 705	RvNBoff8	186	50	1	200										174	185	161
	705, 706	RvNBoff9	186	50	1	223										174	185	160
	706, 707	RvNBoff10	186	50	1	262										174	185	160
	707, 547	RvNBoff11	186	50	1	264										173	186	160
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	966	50	2	248	9.1	10.0	8.1	48.8	48.6	48.8	860	966	792	882	970	794
	715, 716	RvNBoff21	966	50	2	642										883	970	794
	716, 569	RvNBoff22	966	50	2	670										883	969	796
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	155	50	1	296	2.7	2.8	2.5	52.7	52.4	52.7	138	155	127	143	147	130
	757, 7016	RvNBon4	155	50	1	127										143	147	130
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	873	50	2	261	8.4	9.3	7.7	48.3	48.1	48.4	777	873	716	791	870	721
	756, 317	RvNBon10	873	50	2	444										792	869	722
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1,336	50	2	223	12.6	14.3	11.9	48.9	48.6	48.9	1,189	1,336	1,096	1,230	1,395	1,166
	770, 7032	RvSBoff2	1,336	50	2	150										1,230	1,395	1,166
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,556	50	3	102	15.0	17.0	13.8	43.8	43.1	44.4	1,385	1,556	1,276	1,395	1,561	1,304
	793, 410	RvSBon5	1,556	50	3	655										1,397	1,561	1,305
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,225	50	2	270	11.1	12.5	10.2	49.1	49.0	49.2	1,090	1,225	1,005	1,087	1,223	1,007
	790, 7011	RvSBon11	1,225	50	2	250										1,088	1,222	1,007
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	1,694	50	2	311	12.6	14.0	11.5	48.6	48.3	48.7	1,508	1,694	1,389	1,556	1,722	1,425
	708, 710	118NBoff2	1,694	50	2	567										1,555	1,722	1,427
	710, 711	118NBoff3	1,694	50	2	460										1,556	1,722	1,427
	711, 712	118NBoff4	1,694	50	3	472										1,557	1,723	1,427
	712, 713	118NBoff5	1,694	50	3	395										1,557	1,723	1,427
	713, 714	118NBoff6	1,694	50	4	188										1,557	1,722	1,427
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	728	50	2	212	6.8	7.6	6.4	49.4	49.3	49.5	648	728	597	675	752	634
	717, 718	118NBoff8	728	50	2	389										675	753	635
	718, 719	118NBoff9	728	50	2	373										675	753	635
	719, 720	118NBoff10	728	50	2	589										675	753	635
	720, 721	118NBoff11	728	50	2	311										674	753	636
	721, 722	118NBoff12	728	50	2	381										674	753	636
	722, 723	118NBoff13	728	50	2	562										675	752	637
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	1,973	60	3	1,252	10.7	12.1	10.2	56.9	56.7	56.9	1,756	1,973	1,618	1,824	2,055	1,734
	724, 725	118NBoff15	1,973	60	3	575										1,823	2,054	1,734
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	1,636	60	2	611	13.0	14.6	11.9	56.8	56.6	56.9	1,456	1,636	1,342	1,458	1,632	1,345
	741, 742	118NBon3	1,636	60	2	1,107										1,460	1,632	1,346
NB I-275 On Ramp from 118th	742, 749	118NBon4	623	50	2	758	8.5	9.5	7.7	49.1	49.0	49.3	554	623	511	560	626	506
	749, 750	118NBon5	623	50	2	1,140										561	625	507
	750, 751	118NBon6	623	50	1	304										560	626	507
	751, 752	118NBon7	623	50	1	341										561	626	507
	752, 753	118NBon8	623	50	1	406										561	626	508
	753, 754	118NBon9	623	50	1	250										560	627	507

2012 Existing PM							Density (veh/mi/lane)			Speed (mph)			Demand Volume (Veh)			Simulated Volume (veh)		
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
	754, 7009	118NBon10	623	50	1	349										559	627	508
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,245	50	1	147	25.5	29.1	24.1	45.8	45.3	46.0	1,108	1,245	1,021	1,151	1,303	1,093
	775, 776	118SBoff3	1,245	50	1	934										1,151	1,303	1,094
	776, 777	118SBoff4	1,245	50	1	371										1,151	1,303	1,095
	777, 778	118SBoff5	1,245	50	1	446										1,151	1,302	1,095
	778, 723	118SBoff6	1,245	50	1	1,329										1,150	1,304	1,095
SB I-275 On Ramp from 118th	742, 743	118SBon1	1,013	50	1	227	18.9	21.3	17.6	47.5	47.4	47.7	902	1,013	831	900	1,007	840
	743, 744	118SBon2	1,013	50	1	418										900	1,007	839
	744, 745	118SBon3	1,013	50	1	223										899	1,008	840
	745, 746	118SBon4	1,013	50	1	201										900	1,008	840
	746, 747	118SBon5	1,013	50	1	200										900	1,007	840
	747, 748	118SBon6	1,013	50	1	166										900	1,007	841
	748, 413	118SBon7	1,013	50	1	973										899	1,007	841
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2,376	60	3	2,420	12.3	13.9	11.3	57.7	57.7	57.8	2,115	2,376	1,948	2,119	2,379	1,950
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,625	50	2	647	15.2	17.0	13.9	48.7	48.5	48.8	1,446	1,625	1,333	1,482	1,652	1,348
	811, 812	UlmNBon4	1,625	50	2	590										1,483	1,650	1,350
	812, 813	UlmNBon5	1,625	50	2	323										1,484	1,650	1,350
	813, 814	UlmNBon6	1,625	50	2	328										1,485	1,649	1,350
	814, 815	UlmNBon7	1,625	50	2	288										1,484	1,648	1,352
	815, 816	UlmNBon8	1,625	50	2	273										1,484	1,647	1,353
	816, 321	UlmNBon9	1,625	50	2	1,098										1,484	1,645	1,356
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	1,427	50	2	573	13.1	14.7	12.3	48.9	48.7	48.9	1,270	1,427	1,170	1,283	1,432	1,197
	830, 831	UlmSBoff2	1,427	50	2	346										1,284	1,431	1,197
	831, 7036	UlmSBoff3	1,427	50	2	283										1,284	1,431	1,197
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,183	50	2	398	9.4	10.5	8.7	57.1	56.9	57.0	1,053	1,183	970	1,066	1,188	978
	834, 835	UlmSBoff8	1,183	60	2	584										1,066	1,187	978
	835, 836	UlmSBoff9	1,183	60	2	481										1,066	1,187	979
	836, 837	UlmSBoff10	1,183	60	2	2,160										1,065	1,188	980
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	751	35	1	493	14.1	16.2	13.2	46.3	45.9	46.5	668	751	616	638	726	602
	802, 803	UlmSBon2	751	35	1	214										638	726	603
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	535	35	1	163	11.4	13.1	10.9	41.5	41.2	41.5	476	535	439	463	529	442
	808, 809	UlmSBon4	535	35	1	163										463	529	442
	809, 810	UlmSBon5	535	35	1	228										463	529	442
	810, 404	UlmSBon6	535	50	1	1,030										462	529	441
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	216	35	1	201	4.1	4.6	3.7	43.8	43.8	43.9	192	216	177	176	197	161
	804, 805	UlmSBMLK2	216	50	1	361										176	196	162
	805, 806	UlmSBMLK3	216	50	1	499										176	196	162
SB MLK	806, 807	UlmSBMLK4	460	50	2	1,171	4.0	4.5	3.9	49.3	49.3	49.4	409	460	377	397	438	382
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	324	50	1	1,080	5.9	6.6	5.4	49.3	49.4	49.4	288	324	266	288	324	266
	851, 852	MLKNBon3	324	50	1	350										288	324	266
	852, 853	MLKNBon4	324	50	1	370										288	324	266
	853, 320	MLKNBon5	324	50	1	885										288	324	267
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	244	50	1	294	4.6	5.0	4.6	48.9	48.8	49.0	217	244	200	220	242	220
	839, 840	MLKSBoff4	244	50	1	336										220	243	220
	840, 841	MLKSBoff5	244	50	1	395										220	243	220
	841, 806	MLKSBoff6	244	50	1	539										220	242	220
NB I-275 On Ramp from 4th	900, 901	4thNBon2	440	60	2	1,270	4.4	5.0	4.0	59.2	58.9	59.4	392	440	361	391	440	362
	901, 902	4thNBon3	440	60	2	634										390	441	362
	902, 903	4thNBon4	440	60	2	322										391	441	362
	903, 904	4thNBon5	440	60	2	279										390	441	362
	904, 905	4thNBon6	440	60	2	388										391	441	362
	905, 906	4thNBon7	440	60	1	313										391	440	363
	906, 907	4thNBon8	440	60	1	300										390	441	363
	907, 323	4thNBon9	440	60	1	684										390	441	363

2012 Existing PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (Veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	925	60	1	467	9.9	11.1	9.1	57.9	57.6	58.0	823	925	759	811	915	749
	920, 921	4thSBoff2	925	60	1	492										811	914	750
	921, 922	4thSBoff3	925	60	1	420										811	914	751
	922, 923	4thSBoff4	925	60	1	393										811	914	751
	923, 924	4thSBoff5	925	60	1	384										812	913	752
	924, 925	4thSBoff6	925	60	1	354										812	913	752
	925, 926	4thSBoff7	925	60	1	501										812	912	752
	926, 927	4thSBoff8	925	60	1	416										812	913	752
	927, 928	4thSBoff9	925	60	2	1,153										810	913	753
	928, 929	4thSBoff10	925	60	2	1,242										810	912	755

Appendix I.
Travel Demand Forecast Methodology

Appendix I.
Travel Demand Forecast Methodology

URS

Development of AADT (Average Annual Daily Traffic) &

DDHV (Directional Design Hourly Volumes)

FDOT District 7 Managed Lanes Projects

March, 2014

Purpose

The purpose of this memorandum is to document the procedure used to determine existing and future volumes for the proposed District Seven Managed Lanes Network. Three alternatives were examined for this study:

No-Build conditions,

Starter Projects,

Master Plan

Traffic volumes for the Build alternative were developed for three design years of 2020, 2030, and 2040.

Project Alternatives

Three analyzed alternatives are described below:

(a). No-Build Conditions

The No-Build for the future design year consists of the existing geometry, on-going construction, and committed improvements. No express lanes exist in the No-Build network.

(b). Starter Projects

The Starter Project Network consists of express lanes (one lane per direction) on portions of I-275, I-4, and I-75. The only exception to the one-lane configuration is along I-275 from SR 60 to Armenia Avenue/Howard Avenue, where two express lanes per direction are included. The express lane network is based upon the Starter Project roll plot concept plans provided in August/September 2013 and refined in January 2014 to include direct managed lanes connections for the I-275/SR 60 interchange. On I-275, express lanes extend from 118th Street to Willow Avenue (including segments that pass over the Howard Frankland Bridge), and from north of downtown Tampa and to north of Bearss Avenue. On I-4, express lanes extend from the Crosstown Connector to Mango Road. On I-75, express lanes extend from north of SR 60 to north of Bruce B. Downs Boulevard.

(c). Master Plan

The Master Plan consists of express lanes (two lanes per direction) on portions of I-275, I-4, and I-75.

The exception is on I-275 from SR 60 (Memorial Highway) to the I-4/I-275 junction and on I-4 at this junction to the Crosstown Connector where three lanes per direction are included. On I-275, the express lanes start in the vicinity of Gandy Boulevard and continue to north of Bearss Avenue. The express lanes on I-4 start at the I-4/I-275 junction and continue eastward to the Polk Parkway. The I-75 express lanes start in the vicinity of SR 674 and continue to north of SR 581 (Bruce B. Downs Boulevard). The express lane network is based on concept plans provided in August/September 2013 and refined in January 2014 to include direct managed lanes connections for the I-275/I-4 interchange

Existing Traffic Volumes

Existing AM/PM peak hour volumes were obtained from the FDOT 2012 DVD and were supplemented by additional counts conducted by District Seven and by URS. Where multi-day counts were available, an average was developed to reflect daily fluctuations in traffic volume. Additionally, the various traffic counts were collected throughout a year; therefore, seasonal factors were applied to reflect seasonal fluctuations. As a result of balancing throughout the network, the existing volumes may slightly deviate from the counts.

Key Steps in the Development of Future Traffic Volumes

The key steps in developing the design years 2020, 2030, and 2040 volumes are described as follows:

a. The TBRPM-ML Time of Day Model was used to obtain year 2035 volumes. AADTs and AM/PM peak period volumes were obtained from the time of day model as the basis to develop future volumes. The peak period volumes were converted to peak hour volumes by applying factors of 0.41 to the AM peak period and of 0.35 to the PM peak period. An area MOCF[1] factor of 0.95 was used to convert daily model outputs to AADTs. .

b. In order to develop traffic projections for 2020, 2030 and 2040, annual growth rates were calculated by comparing the existing AADT and the model year 2035 AADT. **Tables 1** through **3** display the calculated annual 2012-2035 growth rates. Freeway mainline segments were grouped into five subareas:
    - I-275 Pinellas County,
    - I-275 in the Tampa Interstate Study (TIS) area,
    - I-275 North of Martin Luther King Jr. Blvd,
    - Interstate 4, and
    - Interstate 75.

[1] The MOCF (Model Output Conversion Factor) is used to convert the peak season traffic volumes generated by a travel demand forecasting model (PSWADT) to AADT

An average growth rate was calculated for each individual sub-area. Accordingly, an adjustment factor was calculated for each analysis year (2020, 2030 or 2040) and the year 2035 AADT was multiplied by that factor to develop 2020, 2030 or 2040 projections.

c. In order to display reasonable traffic growth from the existing condition up to the year 2040, manual adjustments were applied for freeway segments and ramps where design year volumes were found lower than the existing conditions. A complete reasonableness check was conducted to ensure a reasonable traffic growth progression between the existing condition and 2040.

Table 1 Adjustment Factors
No Build Alternative

	Mainline Counts								
		2012	2035 AADT				Adjustment Factors		
	Count ID	AADT	EB/NB	WB/SB	TTL	Annual Growth Rate	Fr. 2035 to 2020	Fr. 2035 to 2030	Fr. 2035 to 2040
	150104	82000	63100	60600	123700	2.2%	0.8	0.9	1.1
	150102	94500	65700	66300	132000	1.7%	0.8	0.9	1.1
	150100	96000	61200	63300	124500	1.3%	0.8	0.9	1.1
	150099	119000	70600	75900	146500	1.0%	0.9	1.0	1.1
	150083	148000	87000	89200	176200	0.8%	0.9	1.0	1.0
	150084	147000	87000	89000	176000	0.9%	0.9	1.0	1.0
	150085	152000	94900	98300	193200	1.2%	0.8	0.9	1.1
	150106	141000	90800	91800	182600	1.3%	0.8	0.9	1.1
	150087	119500	85600	88700	174300	2.0%	0.8	0.9	1.1
	150079	99500	77400	79500	156900	2.5%	0.7	0.9	1.1
	155405	114500	101400	91100	192500	3.0%	0.7	0.9	1.1
	150062	142500	114100	107500	221600	2.4%	0.7	0.9	1.1
				Pinellas County Ave.		**1.7%**	**0.8**	**0.9**	**1.1**
	102021	81500	75300	70300	145600	3.4%	0.7	0.9	1.2
I-275	102020	144000	123300	131200	254500	3.3%	0.7	0.9	1.2
	102018	174500	153100	155500	308600	3.3%	0.7	0.9	1.2
	105609	181500	147900	154000	301900	2.9%	0.7	0.9	1.1
	102016	177500	163800	157100	320900	3.5%	0.7	0.9	1.2
	105325	164000	131300	111200	242500	2.1%	0.8	0.9	1.1
	102009	136500	103200	90100	193300	1.8%	0.8	0.9	1.1
				URS I-275 TIS		**2.9%**	**0.7**	**0.9**	**1.1**
	102008	143500	93700	92900	186600	1.3%	0.8	0.9	1.1
	102007	143000	90000	87300	177300	1.0%	0.9	1.0	1.1
	102006	146500	92800	90900	183700	1.1%	0.9	0.9	1.1
	102005	139500	84800	81900	166700	0.8%	0.9	1.0	1.0
	102004	128000	82600	79900	162500	1.2%	0.9	0.9	1.1
	102003	108500	84800	80200	165000	2.3%	0.7	0.9	1.1
	102002	90000	74400	68900	143300	2.6%	0.7	0.9	1.1
	102001	51000	53600	50300	103900	4.5%	0.6	0.8	1.2
				I-275 N. of MLK		**1.9%**	**0.8**	**0.9**	**1.1**
	102028	171000	120100	120100	240200	1.8%	0.8	0.9	1.1
	102026	155000	110200	99200	209400	1.5%	0.8	0.9	1.1
	102024	137000	98100	96200	194300	1.8%	0.8	0.9	1.1
	100104	112500	88500	96500	185000	2.8%	0.7	0.9	1.1
	100091	131500	109200	103200	212400	2.7%	0.7	0.9	1.1
	105353	138500	114900	106900	221800	2.6%	0.7	0.9	1.1
	100089	122500	100000	97400	197400	2.7%	0.7	0.9	1.1
I-4	100106	118800	95300	93700	189000	2.6%	0.7	0.9	1.1
	100087	113000	91000	89700	180700	2.6%	0.7	0.9	1.1
	100086	111000	94600	96800	191400	3.1%	0.7	0.9	1.2
	100103	101000	87400	90200	177600	3.3%	0.7	0.9	1.2
	100112	96500	100000	94700	194700	4.4%	0.6	0.8	1.2
	100084	108500	103700	103000	206700	3.9%	0.6	0.8	1.2
				I-4		**2.8%**	**0.7**	**0.9**	**1.1**
	160103	110500	125600	124900	250500	5.5%	0.5	0.8	1.3
I-75	100148	68500	65800	62600	128400	3.8%	0.6	0.8	1.2
	100149	140500	108600	109600	218200	2.4%	0.7	0.9	1.1
	100150	139500	119700	119400	239100	3.1%	0.7	0.9	1.2
	100151	122500	103300	105000	208300	3.0%	0.7	0.9	1.2
	100152	103000	109300	111000	220300	5.0%	0.6	0.8	1.2
	100153	85500	98300	98300	196600	5.6%	0.5	0.8	1.3
	100154	66000	72800	75600	148400	5.4%	0.6	0.8	1.3
				I-75		**4.2%**	**0.6**	**0.8**	**1.2**

Footnote: Traffic counts can be found in the website below:
http://www2.dot.state.fl.us/FloridaTrafficOnline/viewer.html

Table 2 Adjustment Factors
Starter Project

	Mainline Counts									
			2012	2035 Raw AADTs				Adjustment Factors		
	Count ID	Description	AADT	EB/NB	WB/SB	Two-Way	Annual Growth Rate	Fr. 2035 to 2020	Fr. 2035 to 2030	Fr. 2035 to 2040
I-275	150104	North of 38th Ave. S	82,000	62,700	60,300	123,000	2.2%	0.8	0.9	1.1
	150102	North of 18th Ave. S	94,500	64,900	65,900	130,800	1.7%	0.8	0.9	1.1
	150100	West of 22nd St. S	96,000	52,100	57,400	109,500	0.6%	0.9	1.0	1.0
	150099	North of Central Ave.	119,000	59,700	64,300	124,000	0.2%	1.0	1.0	1.0
	150083	South of 22nd Ave. N	148,000	84,800	86,500	171,300	0.7%	0.9	1.0	1.0
	150084	South of 36th Ave. N	147,000	81,200	83,000	164,200	0.5%	0.9	1.0	1.0
	150085	South of 42nd Ave. N	152,000	85,300	88,400	173,700	0.6%	0.9	1.0	1.0
	150106	South of Gandy Blvd.	141,000	83,000	83,300	166,300	0.8%	0.9	1.0	1.0
	150087	North of Gandy Blvd.	119,500	91,900	83,100	175,000	2.0%	0.8	0.9	1.1
	150079	South of SR686	99,500	90,100	88,900	179,000	3.5%	0.7	0.9	1.2
	155405	North of SR688	114,500	104,000	100,500	204,500	3.4%	0.7	0.9	1.2
	150062	West end of HFK bridge	142,500	113,300	108,700	222,000	2.4%	0.7	0.9	1.1
					Pinellas County Ave.		**1.5%**	**0.8**	**0.9**	**1.1**
	102021	West of Memorial Hwy.	81,500	77,300	71,400	148,700	3.6%	0.7	0.8	1.2
	102020	East of Memorial Hwy.	144,000	149,100	142,400	291,500	4.5%	0.6	0.8	1.2
	102018	West of Dale Mabry	174,500	169,700	167,200	336,900	4.0%	0.6	0.8	1.2
	105609	East of Dale Mabry	181,500	163,400	159,200	322,600	3.4%	0.7	0.9	1.2
	102016	West of Ashley St.	177,500	165,700	157,800	323,500	3.6%	0.7	0.8	1.2
	105352	North of Orange Ave.	164,000	195,500	126,900	322,400	4.2%	0.6	0.8	1.2
	102010	North of I-4	136,500	110,700	100,400	211,100	2.4%	0.7	0.9	1.1
					URS I-275 TIS		**3.7%**	**0.6**	**0.8**	**1.2**
	102008	North of MLK Blvd.	143,500	111,800	108,100	219,900	2.3%	0.7	0.9	1.1
	102007	North of Hillsborough Ave.	143,000	115,700	110,700	226,400	2.5%	0.7	0.9	1.1
	102006	North of Sligh Ave.	146,500	122,200	118,900	241,100	2.8%	0.7	0.9	1.1
	102005	North of Bird St.	139,500	109,100	104,600	213,700	2.3%	0.7	0.9	1.1
	102004	North of Busch Blvd.	128,000	115,100	109,500	224,600	3.3%	0.7	0.9	1.2
	102003	North of Fowler Ave.	108,500	103,400	95,700	199,100	3.6%	0.6	0.8	1.2
	102002	North of Fletcher Ave.	90,000	88,500	79,000	167,500	3.7%	0.6	0.8	1.2
	102001	North of Bearss Ave.	51,000	62,800	58,700	121,500	6.0%	0.5	0.8	1.3
					I-275 N. of MLK		**3.3%**	**0.7**	**0.9**	**1.2**
I-4	102028	West of 21st St.	171,000	131,400	115,800	247,200	1.9%	0.8	0.9	1.1
	102026	East of 40th St.	155,000	127,400	117,800	245,200	2.5%	0.7	0.9	1.1
	102024	East of 50th St.	137,000	109,000	104,900	213,900	2.4%	0.7	0.9	1.1
	100104	West of US 301	112,500	88,400	94,000	182,400	2.7%	0.7	0.9	1.1
	100091	East of US301	131,500	108,200	110,800	219,000	2.9%	0.7	0.9	1.1
	105353	East of I-75	138,500	120,800	111,400	232,200	2.9%	0.7	0.9	1.1
	100089	East of Mango Rd.	122,500	102,100	98,900	201,000	2.8%	0.7	0.9	1.1
	100106	East of Mcintosh Rd.	118,800	96,100	94,300	190,400	2.6%	0.7	0.9	1.1
	100087	East of Branch Forbes Rd.	113,000	96,900	95,500	192,400	3.1%	0.7	0.9	1.2
	100086	East of Thonotosassa Rd.	111,000	88,300	90,100	178,400	2.6%	0.7	0.9	1.1
	100103	West of SR39	101,000	81,100	85,000	166,100	2.8%	0.7	0.9	1.1
	100112	West of Park Rd.	96,500	93,500	87,600	181,100	3.8%	0.6	0.8	1.2
	100084	West of Countyline Rd.	108,500	103,800	103,000	206,800	3.9%	0.6	0.8	1.2
					I-4		**2.9%**	**0.7**	**0.9**	**1.1**
I-75	100148	South of SR60	68,500	95,300	94,100	189,400	7.7%	0.5	0.7	1.4
	100149	North of SR60	140,500	109,300	102,400	211,700	2.2%	0.8	0.9	1.1
	100150	North of MLK Jr. Blvd.	139,500	100,500	98,400	198,900	1.9%	0.8	0.9	1.1
	100151	South of Fowler Ave.	122,500	95,500	96,900	192,400	2.5%	0.7	0.9	1.1
	100152	South of Fletcher Ave.	103,000	93,900	93,200	187,100	3.6%	0.7	0.8	1.2
	100153	North of Fletcher Ave.	85,500	83,200	82,000	165,200	4.1%	0.6	0.8	1.2
	100154	North of BBDs Blvd.	66,000	68,300	72,300	140,600	4.9%	0.6	0.8	1.2
					I-75		**3.8%**	**0.6**	**0.8**	**1.2**

Footnote: Traffic counts can be found in the website below:
http://www2.dot.state.fl.us/FloridaTrafficOnline/viewer.html

Table 3 Adjustment Factors
Master Plan

	Mainline Counts							
			2012	2035		Adjustment Factors		
	Count ID	Description	AADT	AADT	Annual Growth	Fr. 2035 to 2020	Fr. 2035 to 2030	Fr. 2035 to 2040
	150104	North of 38th Ave. S	82,000	121,300	2.1%	0.8	0.9	1.1
	150102	North of 18th Ave. S	94,500	130,000	1.6%	0.8	0.9	1.1
	150100	West of 22nd St. S	96,000	121,000	1.1%	0.9	0.9	1.1
	150099	North of Central Ave.	119,000	123,500	0.2%	1.0	1.0	1.0
	150083	South of 22nd Ave. N	148,000	172,000	0.7%	0.9	1.0	1.0
	150084	South of 36th Ave. N	147,000	164,400	0.5%	0.9	1.0	1.0
	150085	South of 42nd Ave. N	152,000	182,200	0.9%	0.9	1.0	1.0
	150106	South of Gandy Blvd.	168,400	168,000	0.0%	1.0	1.0	1.0
	150087	North of Gandy Blvd.	174,300	182,700	0.2%	1.0	1.0	1.0
	150079	South of SR686	119,500	193,700	2.7%	0.7	0.9	1.1
	155405	North of SR688	114,500	234,500	4.6%	0.6	0.8	1.2
	150062	West end of HFK bridge	142,500	242,000	3.0%	0.7	0.9	1.2
					1.5%	**0.8**	**0.9**	**1.1**
	102021	West of Memorial Hwy.	81,500	213,500	7.0%	0.5	0.7	1.4
I-275	102020	East of Memorial Hwy.	144,000	305,200	4.9%	0.6	0.8	1.2
	102018	West of Dale Mabry	174,500	311,600	3.4%	0.7	0.9	1.2
	105609	East of Dale Mabry	181,500	311,500	3.1%	0.7	0.9	1.2
	102016	West of Ashley St.	177,500	410,700	5.7%	0.5	0.8	1.3
	105352	North of Orange Ave.	164,000	419,300	6.8%	0.5	0.7	1.3
	102010	North of I-4	136,500	246,000	3.5%	0.7	0.9	1.2
					4.9%	**0.6**	**0.8**	**1.2**
	102008	North of MLK Blvd.	143,500	257,600	3.5%	0.7	0.9	1.2
	102007	North of Hillsborough Ave.	143,000	262,500	3.6%	0.6	0.8	1.2
	102006	North of Sligh Ave.	146,500	235,600	2.6%	0.7	0.9	1.1
	102005	North of Bird St.	139,500	242,700	3.2%	0.7	0.9	1.2
	102004	North of Busch Blvd.	128,000	245,000	4.0%	0.6	0.8	1.2
	102003	North of Fowler Ave.	108,500	207,700	4.0%	0.6	0.8	1.2
	102002	North of Fletcher Ave.	90,000	171,200	3.9%	0.6	0.8	1.2
	102001	North of Bearss Ave.	51,000	121,900	6.0%	0.5	0.8	1.3
					3.9%	**0.6**	**0.8**	**1.2**
	102028	West of 21st St.	171,000	257,500	2.2%	0.8	0.9	1.1
	102026	East of 40th St.	155,000	272,700	3.3%	0.7	0.9	1.2
	102024	East of 50th St.	137,000	241,900	3.3%	0.7	0.9	1.2
	100104	West of US 301	112,500	212,200	3.9%	0.6	0.8	1.2
	100091	East of US301	131,500	219,500	2.9%	0.7	0.9	1.1
	105353	East of I-75	138,500	274,100	4.3%	0.6	0.8	1.2
I-4	100089	East of Mango Rd.	122,500	240,800	4.2%	0.6	0.8	1.2
	100106	East of Mcintosh Rd.	118,800	230,600	4.1%	0.6	0.8	1.2
	100087	East of Branch Forbes Rd.	113,000	222,400	4.2%	0.6	0.8	1.2
	100086	East of Thonotosassa Rd.	111,000	206,000	3.7%	0.6	0.8	1.2
	100103	West of SR39	101,000	213,900	4.9%	0.6	0.8	1.2
	100112	West of Park Rd.	96,500	249,400	6.9%	0.5	0.7	1.3
	100084	West of Countyline Rd.	108,500	241,700	5.3%	0.6	0.8	1.3
					4.1%	**0.6**	**0.8**	**1.2**
	100148	South of SR60	68,500	173,400	6.7%	0.5	0.8	1.3
	100149	North of SR60	140,500	258,600	3.7%	0.6	0.8	1.2
	100150	North of MLK Jr. Blvd.	139,500	273,100	4.2%	0.6	0.8	1.2
	100151	South of Fowler Ave.	122,500	225,900	3.7%	0.6	0.8	1.2
	100152	South of Fletcher Ave.	103,000	179,600	3.2%	0.7	0.9	1.2
	100153	North of Fletcher Ave.	85,500	193,300	5.5%	0.5	0.8	1.3
I-75	100154	North of BBDs Blvd.	66,000	144,000	5.1%	0.6	0.8	1.3
	105601	North of Manatee County Line	52,500	120,800	5.7%	0.5	0.8	1.3
	100143	South of Big Bend Rd.	64,500	159,600	6.4%	0.5	0.8	1.3
	101144	North of Big Bend Rd.	88,000	193,500	5.2%	0.6	0.8	1.3
	100146	North of Gibsonton Dr.	103,000	244,500	6.0%	0.5	0.8	1.3
	100147	North of US 301 (I-75 Mainline & express only)	67,500	173,400	6.8%	0.5	0.7	1.3
	100148	south of SR 60 (I-75 Mainline &exprees only)	68,500	173,400	6.7%	0.5	0.8	1.3
					5.3%	**0.6**	**0.8**	**1.3**

Footnote: Traffic counts can be found in the website below:
http://www2.dot.state.fl.us/FloridaTrafficOnline/viewer.html

Appendix J.
Traffic Noise Data

Appendix J.
Traffic Noise Data

TRAFFIC DATA FOR NOISE STUDIES

Page 1

Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**South of 54th Ave S**			**54th Ave S to 26th Ave S**			**26h Ave S to 22nd Ave S**			**22nd Ave S to 31st St S**			**31st St S to 28th St S**			**28th St S to I-175**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 2 Aux	2 + 2 Aux	2 + 2 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	32000	32000	32000	42000	42000	42000	42000	42000	42000	52000	52000	52000	42000	42000	42000	42000	42000	42000
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	3,283	3,283	3,283	4,309	4,309	4,309	4,309	4,309	4,309	5,335	5,335	5,335	4,309	4,309	4,309	4,309	4,309	4,309
DDHV (Demand)	2,207	4,380	4,380	3,928	7,070	7,070	3,560	6,440	6,440	4,632	8,120	8,120	4,291	7,630	7,630	4,653	8,360	8,360
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	3,174	3,206	3,206	4,165	4,208	4,208	4,165	4,208	4,208	5,157	5,210	5,210	4,165	4,208	4,208	4,165	4,208	4,208
Med Trucks	60	40	40	78	52	52	78	52	52	97	65	65	78	52	52	78	52	52
Hvy Trucks	39	26	26	51	34	34	51	34	34	63	42	42	51	34	34	51	34	34
Buses	14	10	10	19	12	12	19	12	12	23	15	15	19	12	12	19	12	12
Motorcycles	11	11	11	15	15	15	15	15	15	18	18	18	15	15	15	15	15	15
Total	3,284	3,283	3,283	4,309	4,309	4,309	4,309	4,309	4,309	5,335	5,335	5,335	4,309	4,309	4,309	4,309	4,309	4,309
Demand																		
Autos	2,133	4,278	4,278	3,797	6,905	6,905	3,441	6,289	6,289	4,477	7,930	7,930	4,148	7,452	7,452	4,498	8,164	8,164
Med Trucks	40	53	53	71	86	86	65	78	78	84	98	98	78	92	92	85	101	101
Hvy Trucks	26	35	35	46	56	56	42	51	51	55	64	64	51	60	60	55	66	66
Buses	10	13	13	17	21	21	16	19	19	20	24	24	19	22	22	20	24	24
Motorcycles	8	15	15	13	24	24	12	22	22	16	28	28	15	26	26	16	28	28
Total	2,207	4,381	4,381	3,927	7,071	7,071	3,560	6,440	6,440	4,632	8,120	8,120	4,292	7,630	7,630	4,654	8,359	8,359

TRAFFIC DATA FOR NOISE STUDIES
Page 2

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**7**			**8**			**9**			**10**			**11**			**12**		
From/To:	**I-175 to I-375**			**I-375 to 5th Ave N**			**5th Ave N to 22nd Ave N**			**22nd Ave N to 38th Ave N**			**38th Ave N to 54th Ave N**			**54th Ave N to 22nd St N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	3 + 1 Aux	4	4	3 + 1 Aux	3	3	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	57600	57600	57600	57600	57600	57600	47600	47600	57600	63200	63200	57600	47600	47600	47600
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	5,910	5,910	5,910	5,910	5,910	5,910	4,884	4,884	5,910	6,484	6,484	5,910	4,884	4,884	4,884
DDHV (Demand)	4,713	8,150	8,150	4,959	8,150	8,150	6,140	9,970	9,970	6,610	10,740	10,740	7,035	11,230	11,230	6,218	9,660	9,660
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	4,721	4,769	4,769	5,712	5,771	5,771	5,712	5,771	5,771	4,721	4,769	5,771	6,268	6,333	5,771	4,721	4,769	4,769
Med Trucks	89	59	59	108	72	72	108	72	72	89	59	72	118	78	72	89	59	59
Hvy Trucks	58	39	39	70	47	47	70	47	47	58	39	47	77	51	47	58	39	39
Buses	21	14	14	26	17	17	26	17	17	21	14	17	29	19	17	21	14	14
Motorcycles	17	17	17	20	20	20	20	20	20	17	17	20	22	22	20	17	17	17
Total	4,885	4,884	4,884	5,910	5,910	5,910	5,910	5,910	5,910	4,885	4,884	5,910	6,485	6,484	5,910	4,885	4,884	4,884
Demand																		
Autos	4,556	7,959	7,959	4,793	7,959	7,959	5,935	9,737	9,737	6,389	10,489	10,489	6,800	10,967	10,967	6,010	9,434	9,434
Med Trucks	86	99	99	90	99	99	112	121	121	120	130	130	128	136	136	113	117	117
Hvy Trucks	56	64	64	59	64	64	72	79	79	78	85	85	83	89	89	73	76	76
Buses	21	24	24	22	24	24	27	29	29	29	31	31	31	33	33	27	28	28
Motorcycles	16	28	28	17	28	28	21	34	34	22	37	37	24	38	38	21	33	33
Total	4,714	8,150	8,150	4,959	8,150	8,150	6,140	9,971	9,971	6,609	10,741	10,741	7,035	11,230	11,230	6,217	9,660	9,660

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**13**			**14**			**15**			**16**			**17**			**18**		
From/To:	**22nd St N to Gandy Blvd**			**Gandy Blvd to Roosevelt Blvd/118th Ave N**			**Roosevelt Blvd/118th Ave N to Dr MLK Jr St N**			**Dr MLK Jr St N to Ulmerton Rd**			**Ulmerton Rd to 4th St N**			**North of 4th St N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	4	4	3	4	4	3	4 +1 Aux	4 +1 Aux	3 + 1 Aux	4	4	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	57600	57600	57600	63200	63200	47600	63200	63200	47600	93200	93200	57600	63200	63200	47600
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	5,910	5,910	5,910	6,484	6,484	4,884	6,484	6,484	4,884	9,562	9,562	5,910	6,484	6,484	4,884
DDHV (Demand)	6,681	10,780	10,780	6,190	9,200	7,940	3,940	6,610	4,180	4,220	7,030	4,800	5,432	8,780	6,850	6,291	10,040	8,110
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	Demand	Demand	LOS (C)	Demand	Demand	Demand	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	4,721	4,769	4,769	5,712	5,771	5,771	6,268	6,333	4,769	6,268	6,333	4,769	9,243	9,339	5,771	6,268	6,333	4,769
Med Trucks	89	59	59	108	72	72	118	78	59	118	78	59	174	116	72	118	78	59
Hvy Trucks	58	39	39	70	47	47	77	51	39	77	51	39	113	76	47	77	51	39
Buses	21	14	14	26	17	17	29	19	14	29	19	14	42	28	17	29	19	14
Motorcycles	17	17	17	20	20	20	22	22	17	22	22	17	33	33	20	22	22	17
Total	4,885	4,884	4,884	5,910	5,910	5,910	6,485	6,484	4,884	6,485	6,484	4,884	9,563	9,564	5,910	6,485	6,484	4,884
Demand																		
Autos	6,458	10,528	10,528	5,983	8,985	7,754	3,808	6,455	4,082	4,079	6,866	4,688	5,251	8,575	6,690	6,081	9,805	7,920
Med Trucks	122	130	130	113	111	96	72	80	51	77	85	58	99	106	83	114	121	98
Hvy Trucks	79	85	85	73	73	63	46	52	33	50	56	38	64	69	54	74	79	64
Buses	29	31	31	27	27	23	17	19	12	19	20	14	24	25	20	28	29	24
Motorcycles	23	37	37	21	31	27	13	22	14	14	24	16	18	30	23	21	34	28
Total	6,682	10,780	10,780	6,190	9,200	7,940	3,939	6,609	4,180	4,220	7,031	4,800	5,432	8,780	6,850	6,290	10,039	8,110

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**North of 4th St N**			**4th St N to Ulmerton Rd**			**Ulmerton Rd to Roosevelt Blvd/118th Ave N**			**118th Ave N to Gandy Blvd**			**Gandy Blvd to 54th Ave N**			**54th Ave N to 38th Ave N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	4	4	3	4	4	3	4	4	3 +1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	4	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	63200	63200	47600	63200	63200	47600	63200	63200	77600	57600	57600	57600	47600	47600	63200	57600	57600	57600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	6,484	6,484	4,884	6,484	6,484	4,884	6,484	6,484	7,962	5,910	5,910	5,910	4,884	4,884	6,484	5,910	5,910	5,910
DDHV (Demand)	5,460	7,350	6,890	4,786	6,650	6,190	2,804	3,690	3,660	3,777	5,620	5,180	5,063	7,360	7,360	5,764	8,520	8,520
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	6,268	6,333	4,769	6,268	6,333	4,769	6,268	6,333	7,775	5,712	5,771	5,771	4,721	4,769	6,333	5,712	5,771	5,771
Med Trucks	118	78	59	118	78	59	118	78	96	108	72	72	89	59	78	108	72	72
Hvy Trucks	77	51	39	77	51	39	77	51	63	70	47	47	58	39	51	70	47	47
Buses	29	19	14	29	19	14	29	19	23	26	17	17	21	14	19	26	17	17
Motorcycles	22	22	17	22	22	17	22	22	27	20	20	20	17	17	22	20	20	20
Total	6,485	6,484	4,884	6,485	6,484	4,884	6,485	6,484	7,961	5,910	5,910	5,910	4,885	4,884	6,484	5,910	5,910	5,910
Demand																		
Autos	5,278	7,178	6,729	4,626	6,494	6,045	2,710	3,604	3,574	3,651	5,489	5,059	4,894	7,188	7,188	5,572	8,321	8,321
Med Trucks	99	89	83	87	80	75	51	45	44	69	68	63	92	89	89	105	103	103
Hvy Trucks	64	58	54	56	53	49	33	29	29	45	44	41	60	58	58	68	67	67
Buses	24	21	20	21	19	18	12	11	11	17	16	15	22	21	21	25	25	25
Motorcycles	19	25	23	16	23	21	10	13	12	13	19	18	17	25	25	20	29	29
Total	5,460	7,350	6,889	4,785	6,650	6,190	2,804	3,691	3,659	3,778	5,620	5,181	5,063	7,360	7,360	5,765	8,520	8,520

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**7**			**8**			**9**			**10**			**11**			**12**		
From/To:	**38th Ave N to 22nd Ave N**			**22nd Ave N to 5th Ave N**			**5th Ave N to I-375**			**I-375 to I-175**			**I-175 to 28th St S**			**28th St S to 31st St S**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + Aux 1	3 + Aux 1	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	2 + 1 Aux	2 + 1 Aux	3 + 1 Aux	2 + 1 Aux	2 + 1 Aux	3	2 + 1 Aux	2 + 1 Aux	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	77600	77600	57600	57600	57600	57600	42000	42000	57600	42000	42000	47600	42000	42000	47600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	7,962	7,962	5,910	5,910	5,910	5,910	4,309	4,309	5,910	4,309	4,309	4,884	4,309	4,309	4,884
DDHV (Demand)	6,259	9,150	9,150	6,352	9,190	9,190	5,248	7,510	7,510	4,179	6,180	6,180	3,084	4,710	4,710	2,758	4,160	4,160
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	Demand	Demand	Demand	Demand
LOS (C)																		
Autos	4,721	4,769	4,769	7,696	7,775	5,771	5,712	5,771	5,771	4,165	4,208	5,771	4,165	4,208	4,769	4,165	4,208	4,769
Med Trucks	89	59	59	145	96	72	108	72	72	78	52	72	78	52	59	78	52	59
Hvy Trucks	58	39	39	94	63	47	70	47	47	51	34	47	51	34	39	51	34	39
Buses	21	14	14	35	23	17	26	17	17	19	12	17	19	12	14	19	12	14
Motorcycles	17	17	17	27	27	20	20	20	20	15	15	20	15	15	17	15	15	17
Total	4,885	4,884	4,884	7,962	7,961	5,910	5,910	5,910	5,910	4,309	4,309	5,910	4,309	4,309	4,884	4,309	4,309	4,884
Demand																		
Autos	6,050	8,936	8,936	6,140	8,975	8,975	5,073	7,334	7,334	4,039	6,035	6,035	2,981	4,600	4,600	2,666	4,063	4,063
Med Trucks	114	111	111	116	111	111	96	91	91	76	75	75	56	57	57	50	50	50
Hvy Trucks	74	72	72	75	73	73	62	59	59	49	49	49	36	37	37	33	33	33
Buses	28	27	27	28	27	27	23	22	22	18	18	18	14	14	14	12	12	12
Motorcycles	21	31	31	22	31	31	18	26	26	14	21	21	10	16	16	9	14	14
Total	6,259	9,150	9,150	6,353	9,190	9,190	5,249	7,510	7,510	4,178	6,180	6,180	3,083	4,710	4,710	2,758	4,160	4,160

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - AM Peak Hour

Segment No:	**13**			**14**			**15**			**16**		
From/To:	**31st St S to 22nd Ave S**			**22nd Ave S to 26th Ave S**			**26th Ave S to 54th Ave S**			**South of 54th Ave S**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	3	3	3	3 + 1 Aux	3	3	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	57600	57600	57600	47600	47600	47600	47600	47600	57600	47600	47600	47600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	5,910	5,910	5,910	4,884	4,884	4,884	4,884	4,884	5,910	4,884	4,884	4,884
DDHV (Demand)	2,992	4,860	4,860	2,157	3,600	3,600	2,384	4,100	4,100	1,440	2,430	2,430
Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)												
Autos	5,712	5,771	5,771	4,721	4,769	4,769	4,721	4,769	5,771	4,721	4,769	4,769
Med Trucks	108	72	72	89	59	59	89	59	72	89	59	59
Hvy Trucks	70	47	47	58	39	39	58	39	47	58	39	39
Buses	26	17	17	21	14	14	21	14	17	21	14	14
Motorcycles	20	20	20	17	17	17	17	17	20	17	17	17
Total	5,910	5,910	5,910	4,885	4,884	4,884	4,885	4,884	5,910	4,885	4,884	4,884
Demand												
Autos	2,892	4,746	4,746	2,085	3,516	3,516	2,304	4,004	4,004	1,392	2,373	2,373
Med Trucks	54	59	59	39	44	44	43	50	50	26	29	29
Hvy Trucks	35	38	38	25	28	28	28	32	32	17	19	19
Buses	13	14	14	9	10	10	10	12	12	6	7	7
Motorcycles	10	17	17	7	12	12	8	14	14	5	8	8
Total	2,991	4,860	4,860	2,156	3,600	3,600	2,383	4,100	4,100	1,440	2,429	2,429

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**South of 54th Ave S**			**54th Ave S to 26th Ave S**			**26h Ave S to 22nd Ave S**			**22nd Ave S to 31st St S**			**31st St S to 28th St S**			**28th St S to I-175**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 2 Aux	2 + 2 Aux	2 + 2 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux	2 + 1 Aux
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	32000	32000	32000	42000	42000	42000	42000	42000	42000	52000	52000	52000	42000	42000	42000	42000	42000	42000
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	3,283	3,283	3,283	4,309	4,309	4,309	4,309	4,309	4,309	5,335	5,335	5,335	4,309	4,309	4,309	4,309	4,309	4,309
DDHV (Demand)	1,221	2,460	2,460	2,285	4,120	4,120	2,047	3,420	3,420	3,011	5,010	5,010	2,707	4,130	4,130	3,011	4,760	4,760
Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	3,174	3,206	3,206	4,165	4,208	4,208	4,165	4,208	4,208	5,157	5,210	5,210	4,165	4,208	4,208	4,165	4,208	4,208
Med Trucks	60	40	40	78	52	52	78	52	52	97	65	65	78	52	52	78	52	52
Hvy Trucks	39	26	26	51	34	34	51	34	34	63	42	42	51	34	34	51	34	34
Buses	14	10	10	19	12	12	19	12	12	23	15	15	19	12	12	19	12	12
Motorcycles	11	11	11	15	15	15	15	15	15	18	18	18	15	15	15	15	15	15
Total	3,284	3,283	3,283	4,309	4,309	4,309	4,309	4,309	4,309	5,335	5,335	5,335	4,309	4,309	4,309	4,309	4,309	4,309
Demand																		
Autos	1,180	2,402	2,402	2,209	4,024	4,024	1,979	3,340	3,340	2,910	4,893	4,893	2,617	4,033	4,033	2,910	4,649	4,649
Med Trucks	22	30	30	42	50	50	37	41	41	55	61	61	49	50	50	55	58	58
Hvy Trucks	14	19	19	27	33	33	24	27	27	36	40	40	32	33	33	36	38	38
Buses	5	7	7	10	12	12	9	10	10	13	15	15	12	12	12	13	14	14
Motorcycles	4	8	8	8	14	14	7	12	12	10	17	17	9	14	14	10	16	16
Total	1,220	2,459	2,459	2,286	4,121	4,121	2,047	3,420	3,420	3,011	5,011	5,011	2,707	4,130	4,130	3,011	4,761	4,761

TRAFFIC DATA FOR NOISE STUDIES
Page 2

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**7**			**8**			**9**			**10**			**11**			**12**		
From/To:	**I-175 to I-375**			**I-375 to 5th Ave N**			**5th Ave N to 22nd Ave N**			**22nd Ave N to 38th Ave N**			**38th Ave N to 54th Ave N**			**54th Ave N to 22nd St N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	3 + 1 Aux	4	4	3 + 1 Aux	3	3	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	57600	57600	57600	57600	57600	57600	47600	47600	57600	63200	63200	57600	47600	47600	47600
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	5,910	5,910	5,910	5,910	5,910	5,910	4,884	4,884	5,910	6,484	6,484	5,910	4,884	4,884	4,884
DDHV (Demand)	4,005	5,770	5,770	4,938	6,920	6,920	6,142	8,780	8,780	6,074	8,780	8,780	5,870	8,510	8,510	4,673	6,730	6,730
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	4,721	4,769	4,769	5,712	5,771	5,771	5,712	5,771	5,771	4,721	4,769	5,771	6,268	6,333	5,771	4,721	4,769	4,769
Med Trucks	89	59	59	108	72	72	108	72	72	89	59	72	118	78	72	89	59	59
Hvy Trucks	58	39	39	70	47	47	70	47	47	58	39	47	77	51	47	58	39	39
Buses	21	14	14	26	17	17	26	17	17	21	14	17	29	19	17	21	14	14
Motorcycles	17	17	17	20	20	20	20	20	20	17	17	20	22	22	20	17	17	17
Total	4,885	4,884	4,884	5,910	5,910	5,910	5,910	5,910	5,910	4,885	4,884	5,910	6,485	6,484	5,910	4,885	4,884	4,884
Demand																		
Autos	3,871	5,635	5,635	4,773	6,758	6,758	5,937	8,575	8,575	5,871	8,575	8,575	5,674	8,311	8,311	4,517	6,573	6,573
Med Trucks	73	70	70	90	84	84	112	106	106	111	106	106	107	103	103	85	81	81
Hvy Trucks	47	46	46	58	55	55	72	69	69	72	69	69	69	67	67	55	53	53
Buses	18	17	17	22	20	20	27	25	25	27	25	25	26	25	25	21	20	20
Motorcycles	14	20	20	17	24	24	21	30	30	21	30	30	20	29	29	16	23	23
Total	4,005	5,771	5,771	4,938	6,921	6,921	6,142	8,780	8,780	6,075	8,780	8,780	5,870	8,510	8,510	4,673	6,730	6,730

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**13**			**14**			**15**			**16**			**17**			**18**		
From/To:	**22nd St N to Gandy Blvd**			**Gandy Blvd to Roosevelt Blvd/118th Ave N**			**Roosevelt Blvd/118th Ave N to Dr MLK Jr St N**			**Dr MLK Jr St N to Ulmerton Rd**			**Ulmerton Rd to 4th St N**			**North of 4th St N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	4	4	3	4	4	3	4 +1 Aux	4 +1 Aux	3 + 1 Aux	4	4	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	57600	57600	57600	63200	63200	47600	63200	63200	47600	93200	93200	57600	63200	63200	47600
Speed: (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	5,910	5,910	5,910	6,484	6,484	4,884	6,484	6,484	4,884	9,562	9,562	5,910	6,484	6,484	4,884
DDHV (Demand)	5,080	7,470	7,470	4,052	6,110	5,190	3,045	4,630	3,870	3,369	5,120	4,360	4,994	7,510	6,220	5,434	8,390	7,100
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	4,721	4,769	4,769	5,712	5,771	5,771	6,268	6,333	4,769	6,268	6,333	4,769	9,243	9,339	5,771	6,268	6,333	4,769
Med Trucks	89	59	59	108	72	72	118	78	59	118	78	59	174	116	72	118	78	59
Hvy Trucks	58	39	39	70	47	47	77	51	39	77	51	39	113	76	47	77	51	39
Buses	21	14	14	26	17	17	29	19	14	29	19	14	42	28	17	29	19	14
Motorcycles	17	17	17	20	20	20	22	22	17	22	22	17	33	33	20	22	22	17
Total	4,885	4,884	4,884	5,910	5,910	5,910	6,485	6,484	4,884	6,485	6,484	4,884	9,563	9,564	5,910	6,485	6,484	4,884
Demand																		
Autos	4,910	7,295	7,295	3,917	5,967	5,069	2,943	4,522	3,779	3,257	5,000	4,258	4,827	7,334	6,075	5,253	8,194	6,934
Med Trucks	92	90	90	74	74	63	55	56	47	61	62	53	91	91	75	99	102	86
Hvy Trucks	60	59	59	48	48	41	36	37	31	40	40	34	59	59	49	64	66	56
Buses	22	22	22	18	18	15	13	13	11	15	15	13	22	22	18	24	24	21
Motorcycles	17	25	25	14	21	18	10	16	13	11	17	15	17	26	21	18	29	24
Total	5,079	7,469	7,469	4,053	6,110	5,191	3,044	4,631	3,870	3,369	5,119	4,360	4,994	7,510	6,220	5,434	8,391	7,100

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**North of 4th St N**			**4th St N to Ulmerton Rd**			**Ulmerton Rd to Roosevelt Blvd/118th Ave N**			**118th Ave N to Gandy Blvd**			**Gandy Blvd to 54th Ave N**			**54th Ave N to 38th Ave N**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	4	4	3	4	4	3	4	4	3 +1 Aux	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	4	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	63200	63200	47600	63200	63200	47600	63200	63200	77600	57600	57600	57600	47600	47600	63200	57600	57600	57600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	6,484	6,484	4,884	6,484	6,484	4,884	6,484	6,484	7,962	5,910	5,910	5,910	4,884	4,884	6,484	5,910	5,910	5,910
DDHV (Demand)	6,314	9,290	8,520	5,389	7,850	7,080	4,497	6,640	5,870	5,730	8,760	7,990	6,260	9,480	9,480	6,506	9,810	9,810
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	Demand	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	6,268	6,333	4,769	6,268	6,333	4,769	6,268	6,333	7,775	5,712	5,771	5,771	4,721	4,769	6,333	5,712	5,771	5,771
Med Trucks	118	78	59	118	78	59	118	78	96	108	72	72	89	59	78	108	72	72
Hvy Trucks	77	51	39	77	51	39	77	51	63	70	47	47	58	39	51	70	47	47
Buses	29	19	14	29	19	14	29	19	23	26	17	17	21	14	19	26	17	17
Motorcycles	22	22	17	22	22	17	22	22	27	20	20	20	17	17	22	20	20	20
Total	6,485	6,484	4,884	6,485	6,484	4,884	6,485	6,484	7,961	5,910	5,910	5,910	4,885	4,884	6,484	5,910	5,910	5,910
Demand																		
Autos	6,103	9,073	8,321	5,209	7,666	6,914	4,347	6,485	5,733	5,539	8,555	7,803	6,051	9,258	9,258	6,289	9,580	9,580
Med Trucks	115	112	103	98	95	86	82	80	71	104	106	97	114	115	115	118	119	119
Hvy Trucks	75	73	67	64	62	56	53	52	46	68	69	63	74	75	75	77	77	77
Buses	28	27	25	24	23	21	20	19	17	25	25	23	28	27	27	29	28	28
Motorcycles	21	32	29	18	27	24	15	23	20	19	30	27	21	32	32	22	33	33
Total	6,314	9,290	8,520	5,389	7,850	7,080	4,497	6,640	5,870	5,730	8,760	7,990	6,260	9,480	9,480	6,506	9,809	9,809

TRAFFIC DATA FOR NOISE STUDIES

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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**7**			**8**			**9**			**10**			**11**			**12**		
From/To:	**38th Ave N to 22nd Ave N**			**22nd Ave N to 5th Ave N**			**5th Ave N to I-375**			**I-375 to I-175**			**I-175 to 28th St S**			**28th St S to 31st St S**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3	3	3	3 + Aux 1	3 + Aux 1	3 + Aux 1	3 + 1 Aux	3 + 1 Aux	3	2 + 1 Aux	2 + 1 Aux	3 + 1 Aux	2 + 1 Aux	2 + 1 Aux	3	2 + 1 Aux	2 + 1 Aux	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	47600	47600	47600	77600	77600	77600	57600	57600	47600	42000	42000	57600	42000	42000	47600	42000	42000	47600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	4,884	4,884	4,884	7,962	7,962	7,962	5,910	5,910	4,884	4,309	4,309	5,910	4,309	4,309	4,884	4,309	4,309	4,884
DDHV (Demand)	6,118	9,530	9,530	5,817	9,150	9,150	4,641	7,180	7,180	4,153	6,670	6,670	4,003	6,790	6,790	3,677	6,300	6,300
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	4,721	4,769	4,769	7,696	7,775	7,775	5,712	5,771	4,769	4,165	4,208	5,771	4,165	4,208	4,769	4,165	4,208	4,769
Med Trucks	89	59	59	145	96	96	108	72	59	78	52	72	78	52	59	78	52	59
Hvy Trucks	58	39	39	94	63	63	70	47	39	51	34	47	51	34	39	51	34	39
Buses	21	14	14	35	23	23	26	17	14	19	12	17	19	12	14	19	12	14
Motorcycles	17	17	17	27	27	27	20	20	17	15	15	20	15	15	17	15	15	17
Total	4,885	4,884	4,884	7,962	7,961	7,961	5,910	5,910	4,884	4,309	4,309	5,910	4,309	4,309	4,884	4,309	4,309	4,884
Demand																		
Autos	5,914	9,307	9,307	5,623	8,936	8,936	4,486	7,012	7,012	4,014	6,514	6,514	3,869	6,631	6,631	3,554	6,153	6,153
Med Trucks	111	115	115	106	111	111	84	87	87	76	81	81	73	82	82	67	76	76
Hvy Trucks	72	75	75	69	72	72	55	57	57	49	53	53	47	54	54	43	50	50
Buses	27	28	28	26	27	27	20	21	21	18	19	19	18	20	20	16	18	18
Motorcycles	21	32	32	20	31	31	16	24	24	14	23	23	14	23	23	13	21	21
Total	6,118	9,529	9,529	5,818	9,150	9,150	4,641	7,180	7,180	4,153	6,671	6,671	4,003	6,790	6,790	3,677	6,300	6,300

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Southbound I-275 GUL Mainline - PM Peak Hour

Segment No:	**13**			**14**			**15**			**16**		
From/To:	**31st St S to 22nd Ave S**			**22nd Ave S to 26th Ave S**			**26th Ave S to 54th Ave S**			**South of 54th Ave S**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	3 + 1 Aux	3 + 1 Aux	3 + 1 Aux	3	3	3	3	3	3 + 1 Aux	3	3	3
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	57600	57600	57600	47600	47600	47600	47600	47600	57600	47600	47600	47600
Speed (mph)	65	65	65	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105	105	105	105
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	5,910	5,910	5,910	4,884	4,884	4,884	4,884	4,884	5,910	4,884	4,884	4,884
DDHV (Demand)	4,069	7,100	7,100	3,204	5,730	5,730	3,478	6,430	6,430	1,868	3,570	3,570
Stamina/TNM Input	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand
LOS (C)												
Autos	5,712	5,771	5,771	4,721	4,769	4,769	4,721	4,769	5,771	4,721	4,769	4,769
Med Trucks	108	72	72	89	59	59	89	59	72	89	59	59
Hvy Trucks	70	47	47	58	39	39	58	39	47	58	39	39
Buses	26	17	17	21	14	14	21	14	17	21	14	14
Motorcycles	20	20	20	17	17	17	17	17	20	17	17	17
Total	5,910	5,910	5,910	4,885	4,884	4,884	4,885	4,884	5,910	4,885	4,884	4,884
Demand												
Autos	3,933	6,934	6,934	3,097	5,596	5,596	3,362	6,280	6,280	1,806	3,487	3,487
Med Trucks	74	86	86	58	69	69	63	78	78	34	43	43
Hvy Trucks	48	56	56	38	45	45	41	51	51	22	28	28
Buses	18	21	21	14	17	17	15	19	19	8	10	10
Motorcycles	14	24	24	11	19	19	12	22	22	6	12	12
Total	4,069	7,100	7,100	3,204	5,729	5,729	3,478	6,431	6,431	1,868	3,570	3,570

TRAFFIC DATA FOR NOISE STUDIES
Page 1

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Express Lanes - AM Peak Hour

Segment No:	1			2			3		
From/To:	South of Roosevelt Blvd/118th Ave N to 118th Ave N Flyover On-Ramp			118th Ave N Flyover On-Ramp to On/Off Slip Ramps North of 4th St N			North of On/Off Slip Ramps North of 4th St N		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Dir Lanes:	0	0	1	0	0	2	0	0	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040
Speed: (mph)	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	0.0%	6.0%	4.0%	0.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	0.0%	3.0%	2.0%	0.0%
% Medium Trucks DHV	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%
% Heavy Trucks DHV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Buses DHV	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	0	0	1,600	0	0	3,200	0	0	3,200
DDHV (Demand)	0	0	1,260	0	0	2,450	0	0	2,780
Stamina/TNM Input	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand
LOS (C)									
Autos	0	0	1,563	0	0	3,125	0	0	3,125
Med Trucks	0	0	32	0	0	64	0	0	64
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	8	0	0	15	0	0	15
Motorcycles	0	0	5	0	0	11	0	0	11
Total	0	0	1,600	0	0	3,200	0	0	3,200
Demand									
Autos	0	0	1,231	0	0	2,393	0	0	2,715
Med Trucks	0	0	25	0	0	49	0	0	56
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	6	0	0	12	0	0	13
Motorcycles	0	0	4	0	0	8	0	0	9
Total	0	0	1,260	0	0	2,450	0	0	2,780

Southbound I-275 Express Lanes - AM Peak Hour

Segment No:	1			2			3		
From/To:	North of On/Off Slip Ramps North of 4th St N			On/Off Slip Ramps North of 4th St N to 118th Ave N Flyover Off-Ramp			118th Ave N Flyover Off-Ramp to South of Gandy Blvd		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Dir Lanes:	0	0	2	0	0	2	0	0	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040
Speed (mph)	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%
% Heavy Trucks DHV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Buses DHV	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	0	0	3,200	0	0	3,200	0	0	1,600
DDHV (Demand)	0	0	2,580	0	0	2,280	0	0	770
Stamina/TNM Input	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand
LOS (C)									
Autos	0	0	3,125	0	0	3,125	0	0	1,563
Med Trucks	0	0	64	0	0	64	0	0	32
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	15	0	0	15	0	0	8
Motorcycles	0	0	11	0	0	11	0	0	5
Total	0	0	3,200	0	0	3,200	0	0	1,600
Demand									
Autos	0	0	2,520	0	0	2,227	0	0	752
Med Trucks	0	0	52	0	0	46	0	0	15
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	12	0	0	11	0	0	4
Motorcycles	0	0	9	0	0	8	0	0	3
Total	0	0	2,581	0	0	2,281	0	0	770

TRAFFIC DATA FOR NOISE STUDIES
Page 1

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Express Lanes - PM Peak Hour

Segment No:	1			2			3		
From/To:	South of Roosevelt Blvd/118th Ave N to 118th Ave N Flyover On-Ramp			118th Ave N Flyover On-Ramp to On/Off Slip Ramps North of 4th St N			North of On/Off Slip Ramps North of 4th St N		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Dir Lanes:	0	0	1	0	0	2	0	0	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040
Speed: (mph)	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%
% Heavy Trucks DHV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Buses DHV	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	0	0	1,600	0	0	3,200	0	0	3,200
DDHV (Demand)	0	0	1,040	0	0	2,240	0	0	2,550
Stamina/TNM Input	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand
LOS (C)									
Autos	0	0	1,563	0	0	3,125	0	0	3,125
Med Trucks	0	0	32	0	0	64	0	0	64
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	8	0	0	15	0	0	15
Motorcycles	0	0	5	0	0	11	0	0	11
Total	0	0	1,600	0	0	3,200	0	0	3,200
Demand									
Autos	0	0	1,016	0	0	2,188	0	0	2,490
Med Trucks	0	0	21	0	0	45	0	0	51
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	5	0	0	11	0	0	12
Motorcycles	0	0	4	0	0	8	0	0	9
Total	0	0	1,041	0	0	2,241	0	0	2,550

Southbound I-275 Express Lanes - PM Peak Hour

Segment No:	1			2			3		
From/To:	North of On/Off Slip Ramps North of 4th St N			On/Off Slip Ramps North of 4th St N to 118th Ave N Flyover Off-Ramp			118th Ave N Flyover Off-Ramp to South of Gandy Blvd		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Dir Lanes:	0	0	2	0	0	2	0	0	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040
Speed (mph)	65	65	65	65	65	65	65	65	65
(kmh)	105	105	105	105	105	105	105	105	105
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%	3.00%	2.00%	2.00%
% Heavy Trucks DHV	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
% Buses DHV	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%	0.72%	0.48%	0.48%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	0	0	3,200	0	0	3,200	0	0	1,600
DDHV (Demand)	0	0	2,380	0	0	2,190	0	0	440
Stamina/TNM Input	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand
LOS (C)									
Autos	0	0	3,125	0	0	3,125	0	0	1,563
Med Trucks	0	0	64	0	0	64	0	0	32
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	15	0	0	15	0	0	8
Motorcycles	0	0	11	0	0	11	0	0	5
Total	0	0	3,200	0	0	3,200	0	0	1,600
Demand									
Autos	0	0	2,324	0	0	2,139	0	0	430
Med Trucks	0	0	48	0	0	44	0	0	9
Hvy Trucks	0	0	0	0	0	0	0	0	0
Buses	0	0	11	0	0	11	0	0	2
Motorcycles	0	0	8	0	0	7	0	0	1
Total	0	0	2,380	0	0	2,190	0	0	440

TRAFFIC DATA FOR NOISE STUDIES

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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - AM Peak Hour

Segment No:	1			2			3			4			5			6			7			8			9		
From/To:	54th Ave S EB On Ramp			54th Ave S WB On Ramp			26th Ave S Off Ramp			22nd Ave S EB On Ramp			22nd Ave S WB On Ramp			31st St S Off Ramp			28th St S On Ramp			I-175 Off Ramp			I-175 On Ramp		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	1	1	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	15,900	15,900	15,900	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600
Speed: (mph)	50	50	50	50	50	50	50	50	50	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	80	80	80	80	80	80	80	80	80	48	48	48	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584
DDHV (Demand)	803	1,290	1,290	918	1,400	1,400	368	630	630	662	980	980	410	700	700	341	490	490	237	730	730	806	1,610	1,610	866	1,400	1,400
Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)																											
Autos	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,383	1,398	1,398	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547
Med Trucks	57	38	38	29	19	19	29	19	19	26	17	17	29	19	19	57	38	38	29	19	19	57	38	38	29	19	19
Hvy Trucks	37	25	25	19	13	13	19	13	13	17	11	11	19	13	13	37	25	25	19	13	13	37	25	25	19	13	13
Buses	14	9	9	7	5	5	7	5	5	6	4	4	7	5	5	14	9	9	7	5	5	14	9	9	7	5	5
Motorcycles	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11	5	5	5	11	11	11	5	5	5
Total	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584
Demand																											
Autos	776	1,260	1,260	887	1,367	1,367	356	615	615	640	957	957	396	684	684	330	479	479	229	713	713	779	1,572	1,572	837	1,367	1,367
Med Trucks	15	16	16	17	17	17	7	8	8	12	12	12	7	8	8	6	6	6	4	9	9	15	19	19	16	17	17
Hvy Trucks	9	10	10	11	11	11	4	5	5	8	8	8	5	6	6	4	4	4	3	6	6	10	13	13	10	11	11
Buses	4	4	4	4	4	4	2	2	2	3	3	3	2	2	2	2	1	1	1	2	2	4	5	5	4	4	4
Motorcycles	3	4	4	3	5	5	1	2	2	2	3	3	1	2	2	1	2	2	1	2	2	3	5	5	3	5	5
Total	803	1,290	1,290	918	1,400	1,400	368	630	630	662	980	980	409	700	700	341	491	491	237	730	730	807	1,609	1,609	866	1,400	1,400

Southbound I-275 Ramps - AM Peak Hour

Segment No:	1			2			3			4			5			6			7			8			9		
From/To:	4th St N Off Ramp			Ulmerton Rd Off Ramp			Ulmerton Rd On Ramp			Roosevelt Blvd/118th Ave N Off Ramp			Roosevelt Blvd On Ramp			118th Ave N On Ramp			Gandy Blvd Off Ramp			Gandy Blvd WB On Ramp			Gandy Blvd EB On Ramp		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1	2	2	2	1	1	1	1	1	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	15,900	15,900	15,900	17,600	17,600	17,600
Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	30	30	30	50	50	50
(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	48	48	48	80	80	80
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,431	1,431	1,431	1,584	1,584	1,584
DDHV (Demand)	337	700	700	2,529	3,300	3,300	210	770	770	736	1,250	1,250	892	1,170	1,170	819	1,600	1,600	487	1,200	1,200	854	1,400	1,400	919	1,540	1,540
Stamina/TNM Input	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)																											
Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,383	1,398	1,398	1,531	1,547	1,547
Med Trucks	29	19	19	57	38	38	29	19	19	57	38	38	57	38	38	29	19	19	57	38	38	26	17	17	29	19	19
Hvy Trucks	19	13	13	37	25	25	19	13	13	37	25	25	37	25	25	19	13	13	37	25	25	17	11	11	19	13	13
Buses	7	5	5	14	9	9	7	5	5	14	9	9	14	9	9	7	5	5	14	9	9	6	4	4	7	5	5
Motorcycles	5	5	5	11	11	11	5	5	5	11	11	11	11	11	11	5	5	5	11	11	11	5	5	5	5	5	5
Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,431	1,431	1,431	1,584	1,584	1,584
Demand																											
Autos	326	684	684	2,445	3,223	3,223	203	752	752	711	1,221	1,221	862	1,143	1,143	792	1,563	1,563	471	1,172	1,172	826	1,367	1,367	888	1,504	1,504
Med Trucks	6	8	8	46	40	40	4	9	9	13	15	15	16	14	14	15	19	19	9	15	15	16	17	17	17	19	19
Hvy Trucks	4	6	6	30	26	26	2	6	6	9	10	10	11	9	9	10	13	13	6	9	9	10	11	11	11	12	12
Buses	1	2	2	11	10	10	1	2	2	3	4	4	4	3	3	4	5	5	2	3	3	4	4	4	4	4	4
Motorcycles	1	2	2	9	11	11	1	3	3	3	4	4	3	4	4	3	5	5	2	4	4	3	5	5	3	5	5
Total	337	700	700	2,530	3,300	3,300	210	770	770	736	1,250	1,250	892	1,170	1,170	820	1,600	1,600	488	1,200	1,200	855	1,400	1,400	919	1,540	1,540

TRAFFIC DATA FOR NOISE STUDIES
Page 2

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - A **Northbound I-275 Ramps - AM Peak Hour**

Segment No:	Segment No:	10			11			12			13			14			15			16			17			18		
From/To:	From/To:	I-375 Off Ramp			I-375 On Ramp			5th Ave N On Ramp			22nd Ave N Off Ramp			22nd Ave N On Ramp			38th Ave N Off Ramp			38th Ave N On Ramp			54th Ave N EB Off Ramp			54th Ave N WB Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	17,600	17,600	17,600	17,600	17,600	17,600	15,900	15,900	15,900
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	30	30	30
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	48	48	48
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431
DDHV (Demand)	DDHV (Demand)	344	1,050	1,050	590	1,050	1,050	1,181	1,820	1,820	541	840	840	1,011	1,610	1,610	549	910	910	974	1,400	1,400	313	730	730	504	840	840
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																											
Autos	Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,383	1,398	1,398
Med Trucks	Med Trucks	29	19	19	57	38	38	29	19	19	29	19	19	29	19	19	29	19	38	29	19	19	29	19	19	26	17	17
Hvy Trucks	Hvy Trucks	19	13	13	37	25	25	19	13	13	19	13	13	19	13	13	19	13	25	19	13	13	19	13	13	17	11	11
Buses	Buses	7	5	5	14	9	9	7	5	5	7	5	5	7	5	5	7	5	9	7	5	5	7	5	5	6	4	4
Motorcycles	Motorcycles	5	5	5	11	11	11	5	5	5	5	5	5	5	5	5	5	5	11	5	5	5	5	5	5	5	5	5
Total	Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431
Demand	**Demand**																											
Autos	Autos	333	1,025	1,025	570	1,025	1,025	1,142	1,777	1,777	523	820	820	977	1,572	1,572	531	889	889	942	1,367	1,367	303	713	713	487	820	820
Med Trucks	Med Trucks	6	13	13	11	13	13	21	22	22	10	10	10	18	19	19	10	11	11	18	17	17	6	9	9	9	10	10
Hvy Trucks	Hvy Trucks	4	8	8	7	8	8	14	14	14	6	7	7	12	13	13	6	7	7	11	11	11	4	6	6	6	7	7
Buses	Buses	2	3	3	3	3	3	5	5	5	2	2	2	4	5	5	2	3	3	4	4	4	1	2	2	2	2	2
Motorcycles	Motorcycles	1	4	4	2	4	4	4	6	6	2	3	3	3	5	5	2	3	3	3	5	5	1	2	2	2	3	3
Total	Total	344	1,050	1,050	590	1,050	1,050	1,181	1,819	1,819	541	840	840	1,010	1,609	1,609	549	910	910	974	1,400	1,400	314	730	730	504	840	840

Southbound I-275 Ramps - A **Southbound I-275 Ramps - AM Peak Hour**

Segment No:	Segment No:	10			11			12			13			14			15			16			17			18		
From/To:	From/To:	54th Ave N Off Ramp			54th Ave N WB On Ramp			54th Ave N EB On Ramp			38th Ave N Off Ramp			38th Ave N On Ramp			22nd Ave N Off Ramp			22nd Ave N On Ramp			5th Ave N Off Ramp			I-375 Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	15,900	15,900	15,900	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100
Speed: (mph)	Speed: (mph)	50	50	50	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	48	48	48	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159
DDHV (Demand)	DDHV (Demand)	357	1,080	1,080	448	980	980	610	1,260	1,260	363	840	840	407	1,470	1,470	618	1,050	1,050	711	1,090	1,090	1,104	1,680	1,680	1,278	1,890	1,890
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand
LOS (C)	**LOS (C)**																											
Autos	Autos	1,531	1,547	1,547	1,383	1,398	1,398	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	3,053	3,085	3,085
Med Trucks	Med Trucks	29	19	19	26	17	17	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	57	38	38
Hvy Trucks	Hvy Trucks	19	13	13	17	11	11	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	37	25	25
Buses	Buses	7	5	5	6	4	4	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	14	9	9
Motorcycles	Motorcycles	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11
Total	Total	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,158	3,159	3,159
Demand	**Demand**																											
Autos	Autos	345	1,055	1,055	433	957	957	590	1,231	1,231	351	820	820	393	1,436	1,436	597	1,025	1,025	687	1,065	1,065	1,067	1,641	1,641	1,235	1,846	1,846
Med Trucks	Med Trucks	6	13	13	8	12	12	11	15	15	7	10	10	7	18	18	11	13	13	13	13	13	20	20	20	23	23	23
Hvy Trucks	Hvy Trucks	4	9	9	5	8	8	7	10	10	4	7	7	5	12	12	7	8	8	8	9	9	13	13	13	15	15	15
Buses	Buses	2	3	3	2	3	3	3	4	4	2	2	2	2	4	4	3	3	3	3	3	3	5	5	5	6	5	5
Motorcycles	Motorcycles	1	4	4	2	3	3	2	4	4	1	3	3	1	5	5	2	4	4	2	4	4	4	6	6	4	6	6
Total	Total	356	1,081	1,081	448	980	980	610	1,260	1,260	363	840	840	406	1,471	1,471	617	1,050	1,050	710	1,091	1,091	1,104	1,680	1,680	1,277	1,890	1,890

TRAFFIC DATA FOR NOISE STUDIES
Page 2

Project: Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s): State Project Number(s):

Financial Project ID: Financial Project ID: 424501-1-22-01

Federal Aid Number(s): Federal Aid Number(s): TBD

Segment Description: Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - A|**Northbound I-275 Ramps - AM Peak Hour**

Segment No:	Segment No:	19			20			21			22			23			24			25			26		
From/To:	From/To:	22nd St N On Ramp			Gandy Blvd Off Ramp			Gandy Blvd On Ramp			Roosevelt Blvd/118th Ave N Off Ramp			Roosevelt Blvd/118th Ave N On Ramp			Dr MLK Jr St N On Ramp			Ulmerton Rd On Ramp			4th St N On Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	2	1	1	1
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584
DDHV (Demand)	DDHV (Demand)	663	1,120	1,120	1,546	2,800	2,800	855	1,220	1,220	3,019	5,640	5,640	769	3,050	1,880	280	620	620	1,212	2,050	2,050	859	1,260	1,260
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	LOS (C)	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																								
Autos	Autos	1,531	1,547	1,547	1,531	1,547	3,085	3,053	3,085	3,085	3,053	3,085	3,085	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547
Med Trucks	Med Trucks	29	19	19	29	19	38	57	38	38	57	38	38	57	38	38	29	19	19	57	38	38	29	19	19
Hvy Trucks	Hvy Trucks	19	13	13	19	13	25	37	25	25	37	25	25	37	25	25	19	13	13	37	25	25	19	13	13
Buses	Buses	7	5	5	7	5	9	14	9	9	14	9	9	14	9	9	7	5	5	14	9	9	7	5	5
Motorcycles	Motorcycles	5	5	5	5	5	11	11	11	11	11	11	11	11	11	11	5	5	5	11	11	11	5	5	5
Total	Total	1,584	1,584	1,584	1,584	1,584	3,159	3,158	3,159	3,159	3,158	3,159	3,159	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584
Demand	**Demand**																								
Autos	Autos	641	1,094	1,094	1,494	2,735	2,735	826	1,192	1,192	2,918	5,508	5,508	743	2,979	1,836	271	606	606	1,172	2,002	2,002	830	1,231	1,231
Med Trucks	Med Trucks	12	14	14	28	34	34	16	15	15	55	68	68	14	37	23	5	8	8	22	25	25	16	15	15
Hvy Trucks	Hvy Trucks	8	9	9	18	22	22	10	10	10	36	45	45	9	24	15	3	5	5	14	16	16	10	10	10
Buses	Buses	3	3	3	7	8	8	4	4	4	13	16	16	3	9	5	1	2	2	5	6	6	4	4	4
Motorcycles	Motorcycles	2	4	4	5	10	10	3	4	4	10	19	19	3	10	6	1	2	2	4	7	7	3	4	4
Total	Total	663	1,121	1,121	1,545	2,801	2,801	855	1,221	1,221	3,019	5,640	5,640	769	3,050	1,880	280	621	621	1,212	2,050	2,050	859	1,260	1,260

Southbound I-275 Ramps - A|**Southbound I-275 Ramps - AM Peak Hour**

Segment No:	Segment No:	19			20			21			22			23			24			25			26		
From/To:	From/To:	I-375 On Ramp			I-175 Off Ramp			I-175 On Ramp			28th St S Off Ramp			31st St S On Ramp			22nd Ave S Off Ramp			26th Ave S On Ramp			54th Ave S Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159
DDHV (Demand)	DDHV (Demand)	209	560	560	1,302	2,030	2,030	207	560	560	326	550	550	234	700	700	835	1,260	1,260	227	500	500	944	1,670	1,670
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																								
Autos	Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	3,053	3,085	3,085
Med Trucks	Med Trucks	29	19	19	57	38	38	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	57	38	38
Hvy Trucks	Hvy Trucks	19	13	13	37	25	25	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	37	25	25
Buses	Buses	7	5	5	14	9	9	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	14	9	9
Motorcycles	Motorcycles	5	5	5	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11
Total	Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,158	3,159	3,159
Demand	**Demand**																								
Autos	Autos	202	547	547	1,259	1,983	1,983	200	547	547	315	537	537	226	684	684	807	1,231	1,231	219	488	488	913	1,631	1,631
Med Trucks	Med Trucks	4	7	7	24	25	25	4	7	7	6	7	7	4	8	8	15	15	15	4	6	6	17	20	20
Hvy Trucks	Hvy Trucks	2	4	4	15	16	16	2	4	4	4	4	4	3	6	6	10	10	10	3	4	4	11	13	13
Buses	Buses	1	2	2	6	6	6	1	2	2	1	2	2	1	2	2	4	4	4	1	1	1	4	5	5
Motorcycles	Motorcycles	1	2	2	4	7	7	1	2	2	1	2	2	1	2	2	3	4	4	1	2	2	3	6	6
Total	Total	209	560	560	1,302	2,031	2,031	207	560	560	326	550	550	234	700	700	835	1,260	1,260	227	500	500	944	1,670	1,670

TRAFFIC DATA FOR NOISE STUDIES

Page 1

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - PM Peak Hour

Segment No:	1			2			3			4			5			6			7			8			9		
From/To:	54th Ave S EB On Ramp			54th Ave S WB On Ramp			26th Ave S Off Ramp			22nd Ave S EB On Ramp			22nd Ave S WB On Ramp			31st St S Off Ramp			28th St S On Ramp			I-175 Off Ramp			I-175 On Ramp		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	1	1	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	15,900	15,900	15,900	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600
Speed: (mph)	50	50	50	50	50	50	50	50	50	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	80	80	80	80	80	80	80	80	80	48	48	48	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584
DDHV (Demand)	624	900	900	440	760	760	238	700	700	550	920	920	414	670	670	304	880	880	304	630	630	332	980	980	1,326	1,990	1,990
Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)
LOS (C)																											
Autos	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,383	1,398	1,398	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547
Med Trucks	57	38	38	29	19	19	29	19	19	26	17	17	29	19	19	57	38	38	29	19	19	57	38	38	29	19	19
Hvy Trucks	37	25	25	19	13	13	19	13	13	17	11	11	19	13	13	37	25	25	19	13	13	37	25	25	19	13	13
Buses	14	9	9	7	5	5	7	5	5	6	4	4	7	5	5	14	9	9	7	5	5	14	9	9	7	5	5
Motorcycles	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11	5	5	5	11	11	11	5	5	5
Total	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584
Demand																											
Autos	603	879	879	425	742	742	230	684	684	532	899	899	400	654	654	294	859	859	294	615	615	321	957	957	1,282	1,943	1,943
Med Trucks	11	11	11	8	9	9	4	8	8	10	11	11	8	8	8	6	11	11	6	8	8	6	12	12	24	24	24
Hvy Trucks	7	7	7	5	6	6	3	6	6	6	7	7	5	5	5	4	7	7	4	5	5	4	8	8	16	16	16
Buses	3	3	3	2	2	2	1	2	2	2	3	3	2	2	2	1	3	3	1	2	2	1	3	3	6	6	6
Motorcycles	2	3	3	1	3	3	1	2	2	2	3	3	1	2	2	1	3	3	1	2	2	1	3	3	5	7	7
Total	623	900	900	439	760	760	238	700	700	550	920	920	414	669	669	305	880	880	305	630	630	332	980	980	1,327	1,990	1,990

Southbound I-275 Ramps - PM Peak Hour

Segment No:	1			2			3			4			5			6			7			8			9		
From/To:	4th St N Off Ramp			Ulmerton Rd Off Ramp			Ulmerton Rd On Ramp			Roosevelt Blvd/118th Ave N Off Ramp			Roosevelt Blvd On Ramp			118th Ave N On Ramp			Gandy Blvd Off Ramp			Gandy Blvd WB On Ramp			Gandy Blvd EB On Ramp		
Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	1	1	1	2	2	2	1	1	1	2	2	2	2	2	2	1	1	1	2	2	2	1	1	1	1	1	1
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	15,900	15,900	15,900	17,600	17,600	17,600
Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	30	30	30	50	50	50
(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	48	48	48	80	80	80
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,431	1,431	1,431	1,584	1,584	1,584
DDHV (Demand)	925	1,440	1,440	1,427	2,180	2,180	535	970	970	1,336	2,290	2,290	1,556	2,420	2,420	1,013	1,990	1,990	962	1,650	1,650	704	1,250	1,250	788	1,120	1,120
Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)																											
Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,383	1,398	1,398	1,531	1,547	1,547
Med Trucks	29	19	19	57	38	38	29	19	19	57	38	38	57	38	38	29	19	19	57	38	38	26	17	17	29	19	19
Hvy Trucks	19	13	13	37	25	25	19	13	13	37	25	25	37	25	25	19	13	13	37	25	25	17	11	11	19	13	13
Buses	7	5	5	14	9	9	7	5	5	14	9	9	14	9	9	7	5	5	14	9	9	6	4	4	7	5	5
Motorcycles	5	5	5	11	11	11	5	5	5	11	11	11	11	11	11	5	5	5	11	11	11	5	5	5	5	5	5
Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,431	1,431	1,431	1,584	1,584	1,584
Demand																											
Autos	894	1,406	1,406	1,379	2,129	2,129	517	947	947	1,291	2,236	2,236	1,504	2,363	2,363	979	1,943	1,943	930	1,611	1,611	681	1,221	1,221	762	1,094	1,094
Med Trucks	17	17	17	26	26	26	10	12	12	24	28	28	28	29	29	18	24	24	18	20	20	13	15	15	14	14	14
Hvy Trucks	11	11	11	17	17	17	6	8	8	16	18	18	18	19	19	12	16	16	11	13	13	8	10	10	9	9	9
Buses	4	4	4	6	6	6	2	3	3	6	7	7	7	7	7	4	6	6	4	5	5	3	4	4	3	3	3
Motorcycles	3	5	5	5	7	7	2	3	3	5	8	8	5	8	8	3	7	7	3	6	6	2	4	4	3	4	4
Total	925	1,439	1,439	1,427	2,179	2,179	535	970	970	1,336	2,290	2,290	1,555	2,419	2,419	1,012	1,990	1,990	962	1,650	1,650	704	1,250	1,250	788	1,121	1,121

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - P **Northbound I-275 Ramps - PM Peak Hour**

Segment No:	Segment No:	10			11			12			13			14			15			16			17			18		
From/To:	From/To:	I-375 Off Ramp			I-375 On Ramp			5th Ave N On Ramp			22nd Ave N Off Ramp			22nd Ave N On Ramp			38th Ave N Off Ramp			38th Ave N On Ramp			54th Ave N EB Off Ramp			54th Ave N WB Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	17,600	17,600	17,600	17,600	17,600	17,600	15,900	15,900	15,900
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	30	30	30
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	48	48	48
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431
DDHV (Demand)	DDHV (Demand)	254	530	530	1,187	1,680	1,680	1,204	1,860	1,860	726	1,120	1,120	658	1,120	1,120	675	1,190	1,190	471	920	920	611	880	880	586	900	900
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																											
Autos	Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,383	1,398	1,398
Med Trucks	Med Trucks	29	19	19	57	38	38	29	19	19	29	19	19	29	19	19	29	19	38	29	19	19	29	19	19	26	17	17
Hvy Trucks	Hvy Trucks	19	13	13	37	25	25	19	13	13	19	13	13	19	13	13	19	13	25	19	13	13	19	13	13	17	11	11
Buses	Buses	7	5	5	14	9	9	7	5	5	7	5	5	7	5	5	7	5	9	7	5	5	7	5	5	6	4	4
Motorcycles	Motorcycles	5	5	5	11	11	11	5	5	5	5	5	5	5	5	5	5	5	11	5	5	5	5	5	5	5	5	5
Total	Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,431	1,431	1,431
Demand	**Demand**																											
Autos	Autos	246	518	518	1,147	1,641	1,641	1,164	1,817	1,817	702	1,094	1,094	636	1,094	1,094	653	1,162	1,162	455	899	899	591	859	859	566	879	879
Med Trucks	Med Trucks	5	6	6	22	20	20	22	23	23	13	14	14	12	14	14	12	14	14	9	11	11	11	11	11	11	11	11
Hvy Trucks	Hvy Trucks	3	4	4	14	13	13	14	15	15	9	9	9	8	9	9	8	9	9	6	7	7	7	7	7	7	7	7
Buses	Buses	1	2	2	5	5	5	5	5	5	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3
Motorcycles	Motorcycles	1	2	2	4	6	6	4	6	6	2	4	4	2	4	4	2	4	4	2	3	3	2	3	3	2	3	3
Total	Total	255	530	530	1,187	1,680	1,680	1,204	1,861	1,861	726	1,121	1,121	658	1,121	1,121	675	1,189	1,189	472	920	920	611	880	880	586	900	900

Southbound I-275 Ramps - P **Southbound I-275 Ramps - PM Peak Hour**

Segment No:	Segment No:	10			11			12			13			14			15			16			17			18		
From/To:	From/To:	54th Ave N Off Ramp			54th Ave N WB On Ramp			54th Ave N EB On Ramp			38th Ave N Off Ramp			38th Ave N On Ramp			22nd Ave N Off Ramp			22nd Ave N On Ramp			5th Ave N Off Ramp			I-375 Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	15,900	15,900	15,900	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100
Speed: (mph)	Speed: (mph)	50	50	50	30	30	30	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	48	48	48	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159
DDHV (Demand)	DDHV (Demand)	622	1,090	1,090	370	640	640	498	780	780	948	1,430	1,430	560	1,150	1,150	953	1,440	1,440	652	1,060	1,060	1,176	1,970	1,970	814	1,270	1,270
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand
LOS (C)	**LOS (C)**																											
Autos	Autos	1,531	1,547	1,547	1,383	1,398	1,398	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	3,053	3,085	3,085
Med Trucks	Med Trucks	29	19	19	26	17	17	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	57	38	38
Hvy Trucks	Hvy Trucks	19	13	13	17	11	11	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	37	25	25
Buses	Buses	7	5	5	6	4	4	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	14	9	9
Motorcycles	Motorcycles	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11
Total	Total	1,584	1,584	1,584	1,431	1,431	1,431	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,158	3,159	3,159
Demand	**Demand**																											
Autos	Autos	601	1,065	1,065	358	625	625	481	762	762	916	1,397	1,397	541	1,123	1,123	921	1,406	1,406	630	1,035	1,035	1,137	1,924	1,924	787	1,240	1,240
Med Trucks	Med Trucks	11	13	13	7	8	8	9	9	9	17	17	17	10	14	14	17	17	17	12	13	13	21	24	24	15	15	15
Hvy Trucks	Hvy Trucks	7	9	9	4	5	5	6	6	6	11	11	11	7	9	9	11	11	11	8	8	8	14	16	16	10	10	10
Buses	Buses	3	3	3	2	2	2	2	2	2	4	4	4	2	3	3	4	4	4	3	3	3	5	6	6	4	4	4
Motorcycles	Motorcycles	2	4	4	1	2	2	2	3	3	3	5	5	2	4	4	3	5	5	2	4	4	4	7	7	3	4	4
Total	Total	621	1,091	1,091	370	640	640	498	780	780	947	1,430	1,430	560	1,150	1,150	952	1,439	1,439	652	1,060	1,060	1,176	1,971	1,971	815	1,269	1,269

TRAFFIC DATA FOR NOISE STUDIES
Page 2

Project: Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s): State Project Number(s):
Financial Project ID: Financial Project ID: 424501-1-22-01
Federal Aid Number(s): Federal Aid Number(s): TBD
Segment Description: Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

Northbound I-275 Ramps - P|**Northbound I-275 Ramps - PM Peak Hour**

Segment No:	Segment No:	19			20			21			22			23			24			25			26		
From/To:	From/To:	22nd St N On Ramp			Gandy Blvd Off Ramp			Gandy Blvd On Ramp			Roosevelt Blvd/118th Ave N Off Ramp			Roosevelt Blvd/118th Ave N On Ramp			Dr MLK Jr St N On Ramp			Ulmerton Rd On Ramp			4th St N On Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	2	1	1	1
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	35,100	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	3,159	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584
DDHV (Demand)	DDHV (Demand)	407	740	740	1,624	2,440	2,440	596	1,200	1,200	1,880	3,000	3,000	873	2,880	1,680	324	490	490	1,625	1,860	1,860	440	880	880
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																								
Autos	Autos	1,531	1,547	1,547	1,531	1,547	3,085	3,053	3,085	3,085	3,053	3,085	3,085	3,053	3,085	3,085	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547
Med Trucks	Med Trucks	29	19	19	29	19	38	57	38	38	57	38	38	57	38	38	29	19	19	57	38	38	29	19	19
Hvy Trucks	Hvy Trucks	19	13	13	19	13	25	37	25	25	37	25	25	37	25	25	19	13	13	37	25	25	19	13	13
Buses	Buses	7	5	5	7	5	9	14	9	9	14	9	9	14	9	9	7	5	5	14	9	9	7	5	5
Motorcycles	Motorcycles	5	5	5	5	5	11	11	11	11	11	11	11	11	11	11	5	5	5	11	11	11	5	5	5
Total	Total	1,584	1,584	1,584	1,584	1,584	3,159	3,158	3,159	3,159	3,158	3,159	3,159	3,158	3,159	3,159	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584
Demand	**Demand**																								
Autos	Autos	393	723	723	1,570	2,383	2,383	576	1,172	1,172	1,817	2,930	2,930	844	2,813	1,641	313	479	479	1,571	1,817	1,817	425	859	859
Med Trucks	Med Trucks	7	9	9	30	30	30	11	15	15	34	36	36	16	35	20	6	6	6	30	23	23	8	11	11
Hvy Trucks	Hvy Trucks	5	6	6	19	19	19	7	9	9	22	24	24	10	23	13	4	4	4	19	15	15	5	7	7
Buses	Buses	2	2	2	7	7	7	3	3	3	8	9	9	4	8	5	1	1	1	7	5	5	2	3	3
Motorcycles	Motorcycles	1	3	3	6	8	8	2	4	4	6	10	10	3	10	6	1	2	2	6	6	6	1	3	3
Total	Total	406	741	741	1,625	2,440	2,440	596	1,200	1,200	1,879	3,000	3,000	873	2,881	1,680	324	491	491	1,626	1,861	1,861	439	880	880

Southbound I-275 Ramps - P|**Southbound I-275 Ramps - PM Peak Hour**

Segment No:	Segment No:	19			20			21			22			23			24			25			26		
From/To:	From/To:	I-375 On Ramp			I-175 Off Ramp			I-175 On Ramp			28th St S Off Ramp			31st St S On Ramp			22nd Ave S Off Ramp			26th Ave S On Ramp			54th Ave S Off Ramp		
Model:	Model:	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)	Existing Facility	No-Build (Design Year)	Build (Design Year)
Lanes:	Lanes:	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2
Year:	Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	ADT: LOS (C)	17,600	17,600	17,600	35,100	35,100	35,100	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	17,600	35,100	35,100	35,100
Speed: (mph)	Speed: (mph)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
(kmh)	(kmh)	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80	80
K =	K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	D =	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%
T_{24} =	T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%
% Heavy Trucks DHV	% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%
% Buses DHV	% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%
% Motorcycles DHV	% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%
DDHV LOS (C)	DDHV LOS (C)	1,584	1,584	1,584	3,159	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,159	3,159	3,159
DDHV (Demand)	DDHV (Demand)	326	760	760	920	1,430	1,430	770	1,550	1,550	326	490	490	392	800	800	865	1,370	1,370	274	700	700	1,610	2,860	2,860
Stamina/TNM Input	Stamina/TNM Input	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand	Demand
LOS (C)	**LOS (C)**																								
Autos	Autos	1,531	1,547	1,547	3,053	3,085	3,085	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	1,531	1,547	1,547	3,053	3,085	3,085
Med Trucks	Med Trucks	29	19	19	57	38	38	29	19	19	29	19	19	29	19	19	29	19	19	29	19	19	57	38	38
Hvy Trucks	Hvy Trucks	19	13	13	37	25	25	19	13	13	19	13	13	19	13	13	19	13	13	19	13	13	37	25	25
Buses	Buses	7	5	5	14	9	9	7	5	5	7	5	5	7	5	5	7	5	5	7	5	5	14	9	9
Motorcycles	Motorcycles	5	5	5	11	11	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	11	11	11
Total	Total	1,584	1,584	1,584	3,158	3,159	3,159	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	1,584	3,158	3,159	3,159
Demand	**Demand**																								
Autos	Autos	315	742	742	889	1,397	1,397	744	1,514	1,514	315	479	479	379	781	781	836	1,338	1,338	265	684	684	1,556	2,793	2,793
Med Trucks	Med Trucks	6	9	9	17	17	17	14	19	19	6	6	6	7	10	10	16	17	17	5	8	8	29	35	35
Hvy Trucks	Hvy Trucks	4	6	6	11	11	11	9	12	12	4	4	4	5	6	6	10	11	11	3	6	6	19	23	23
Buses	Buses	1	2	2	4	4	4	3	4	4	1	1	1	2	2	2	4	4	4	1	2	2	7	8	8
Motorcycles	Motorcycles	1	3	3	3	5	5	3	5	5	1	2	2	1	3	3	3	5	5	1	2	2	5	10	10
Total	Total	326	760	760	920	1,430	1,430	770	1,550	1,550	326	491	491	392	800	800	865	1,371	1,371	274	700	700	1,609	2,861	2,861

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study

State Project Number(s):

Financial Project ID: 424501-1-22-01

Federal Aid Number(s): TBD

Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015

Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)

NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

I-275 Major Cross Road West of I-275- AM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**22nd Ave S**			**22nd Ave N**			**38th Ave N**			**54th Ave N**			**Gandy Blvd**			**Roosevelt Blvd**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	6500	6500	6500	17100	17100	17100	17100	17100	17100	26300	26300	26300	29200	29200	29200	19000	19000	19000
Speed: (mph)	35	35	35	40	40	40	40	40	40	40	40	40	55	55	55	55	55	55
(kmh)	56	56	56	64	64	64	64	64	64	64	64	64	89	89	89	89	89	89
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.43%	0.95%	0.95%	1.67%	1.11%	1.11%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.57%	1.05%	1.05%	1.33%	0.89%	0.89%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.02%	0.01%	0.01%	0.23%	0.15%	0.15%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.91%	0.92%	0.92%	0.71%	0.72%	0.72%
DDHV LOS (C)	667	667	667	1,754	1,754	1,754	1,754	1,754	1,754	2,698	2,698	2,698	2,996	2,996	2,996	1,949	1,949	1,949
DDHV (Demand)	992	1,390	1,390	1,752	2,390	2,390	1,289	1,970	1,970	1,691	2,725	2,725	2,946	4,445	4,445	3,616	4,775	4,775
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	645	651	651	1,696	1,713	1,713	1,696	1,713	1,713	2,608	2,635	2,635	2,879	2,908	2,908	1,877	1,896	1,896
Med Trucks	12	8	8	32	21	21	32	21	21	49	33	33	43	28	28	33	22	22
Hvy Trucks	8	5	5	21	14	14	21	14	14	32	21	21	47	31	31	26	17	17
Buses	3	2	2	8	5	5	8	5	5	12	8	8	1	0	0	4	3	3
Motorcycles	2	2	2	6	6	6	6	6	6	9	9	9	27	28	28	14	14	14
Total	667	666	666	1,755	1,754	1,754	1,755	1,754	1,754	2,698	2,698	2,698	2,996	2,995	2,995	1,950	1,949	1,949
Demand																		
Autos	959	1,358	1,358	1,694	2,334	2,334	1,246	1,924	1,924	1,635	2,661	2,661	2,831	4,315	4,315	3,482	4,645	4,645
Med Trucks	18	17	17	32	29	29	23	24	24	31	33	33	42	42	42	60	53	53
Hvy Trucks	12	11	11	21	19	19	15	16	16	20	22	22	46	47	47	48	42	42
Buses	4	4	4	8	7	7	6	6	6	7	8	8	1	0	0	8	7	7
Motorcycles	3	5	5	6	8	8	4	7	7	6	9	9	27	41	41	26	34	34
Total	992	1,391	1,391	1,753	2,390	2,390	1,288	1,971	1,971	1,692	2,725	2,725	2,946	4,445	4,445	3,616	4,774	4,774

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

I-275 Major Cross Road East of I-275- AM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**22nd Ave S**			**22nd Ave N**			**38th Ave N**			**54th Ave N**			**Gandy Blvd**			**Roosevelt Blvd**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	6500	6500	6500	17100	17100	17100	17100	17100	17100	17100	17100	17100	29200	29200	29200	19000	19000	19000
Speed (mph)	35	35	35	40	40	40	40	40	40	40	40	40	55	55	55	55	55	55
(kmh)	56	56	56	64	64	64	64	64	64	64	64	64	89	89	89	89	89	89
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.43%	0.95%	0.95%	1.67%	1.11%	1.11%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.57%	1.05%	1.05%	1.33%	0.89%	0.89%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.02%	0.01%	0.01%	0.23%	0.15%	0.15%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.91%	0.92%	0.92%	0.71%	0.72%	0.72%
DDHV LOS (C)	667	667	667	1,754	1,754	1,754	1,754	1,754	1,754	1,754	1,754	1,754	2,996	2,996	2,996	1,949	1,949	1,949
DDHV (Demand)	748	1,210	1,210	1,379	2,025	2,025	1,495	2,155	2,155	1,503	2,525	2,525	2,050	3,415	3,415	2,263	2,970	2,970
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	645	651	651	1,696	1,713	1,713	1,696	1,713	1,713	1,696	1,713	1,713	2,879	2,908	2,908	1,877	1,896	1,896
Med Trucks	12	8	8	32	21	21	32	21	21	32	21	21	43	28	28	33	22	22
Hvy Trucks	8	5	5	21	14	14	21	14	14	21	14	14	47	31	31	26	17	17
Buses	3	2	2	8	5	5	8	5	5	8	5	5	1	0	0	4	3	3
Motorcycles	2	2	2	6	6	6	6	6	6	6	6	6	27	28	28	14	14	14
Total	667	666	666	1,755	1,754	1,754	1,755	1,754	1,754	1,755	1,754	1,754	2,996	2,995	2,995	1,950	1,949	1,949
Demand																		
Autos	723	1,182	1,182	1,333	1,978	1,978	1,445	2,105	2,105	1,453	2,466	2,466	1,970	3,315	3,315	2,179	2,889	2,889
Med Trucks	14	15	15	25	25	25	27	26	26	27	31	31	29	32	32	38	33	33
Hvy Trucks	9	10	10	16	16	16	18	17	17	18	20	20	32	36	36	30	26	26
Buses	3	4	4	6	6	6	7	6	6	7	7	7	0	0	0	5	4	4
Motorcycles	3	4	4	5	7	7	5	7	7	5	9	9	19	31	31	16	21	21
Total	749	1,211	1,211	1,379	2,026	2,026	1,495	2,155	2,155	1,503	2,526	2,526	2,050	3,414	3,414	2,263	2,969	2,969

TRAFFIC DATA FOR NOISE STUDIES
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Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

I-275 Major Cross Road West of I-275- PM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**22nd Ave S**			**22nd Ave N**			**38th Ave N**			**54th Ave N**			**Gandy Blvd**			**Roosevelt Blvd**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	2	2	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	6500	6500	6500	17100	17100	17100	17100	17100	17100	26300	26300	26300	29200	29200	29200	19000	19000	19000
Speed: (mph)	35	35	35	40	40	40	40	40	40	40	40	40	55	55	55	55	55	55
(kmh)	56	56	56	64	64	64	64	64	64	64	64	64	89	89	89	89	89	89
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.43%	0.95%	0.95%	1.67%	1.11%	1.11%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.57%	1.05%	1.05%	1.33%	0.89%	0.89%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.02%	0.01%	0.01%	0.23%	0.15%	0.15%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.91%	0.92%	0.92%	0.71%	0.72%	0.72%
DDHV LOS (C)	667	667	667	1,754	1,754	1,754	1,754	1,754	1,754	2,698	2,698	2,698	2,996	2,996	2,996	1,949	1,949	1,949
DDHV (Demand)	1,025	1,625	1,625	1,700	2,655	2,655	1,413	1,875	1,875	1,601	2,380	2,380	3,230	4,615	4,615	2,840	4,145	4,145
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	Demand	Demand	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)	LOS (C)
LOS (C)																		
Autos	645	651	651	1,696	1,713	1,713	1,696	1,713	1,713	2,608	2,635	2,635	2,879	2,908	2,908	1,877	1,896	1,896
Med Trucks	12	8	8	32	21	21	32	21	21	49	33	33	43	28	28	33	22	22
Hvy Trucks	8	5	5	21	14	14	21	14	14	32	21	21	47	31	31	26	17	17
Buses	3	2	2	8	5	5	8	5	5	12	8	8	1	0	0	4	3	3
Motorcycles	2	2	2	6	6	6	6	6	6	9	9	9	27	28	28	14	14	14
Total	667	666	666	1,755	1,754	1,754	1,755	1,754	1,754	2,698	2,698	2,698	2,996	2,995	2,995	1,950	1,949	1,949
Demand																		
Autos	991	1,587	1,587	1,643	2,593	2,593	1,366	1,831	1,831	1,548	2,324	2,324	3,104	4,480	4,480	2,735	4,032	4,032
Med Trucks	19	20	20	31	32	32	26	23	23	29	29	29	46	44	44	47	46	46
Hvy Trucks	12	13	13	20	21	21	17	15	15	19	19	19	51	48	48	38	37	37
Buses	5	5	5	7	8	8	6	5	5	7	7	7	1	0	0	7	6	6
Motorcycles	3	6	6	6	9	9	5	6	6	5	8	8	29	42	42	20	30	30
Total	1,025	1,626	1,626	1,700	2,655	2,655	1,414	1,875	1,875	1,601	2,380	2,380	3,230	4,614	4,614	2,840	4,145	4,145

TRAFFIC DATA FOR NOISE STUDIES
Page 4

Project: I-275 (SR 93) Pinellas PD&E Study
State Project Number(s):
Financial Project ID: 424501-1-22-01
Federal Aid Number(s): TBD
Segment Description: I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North

Date: 3/5/2015
Prepared By: HDR

(Data sheets are to be filled out for every segment having a change in traffic parameters such as volumes, posted speeds, typical section, etc.)
NOTE: Modeled ADT is the LOS(C) volume referenced in the FDOT LOS tables or demand, whichever is less.

I-275 Major Cross Road East of I-275- PM Peak Hour

Segment No:	**1**			**2**			**3**			**4**			**5**			**6**		
From/To:	**22nd Ave S**			**22nd Ave N**			**38th Ave N**			**54th Ave N**			**Gandy Blvd**			**Roosevelt Blvd**		
Model:	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**	**Existing Facility**	**No-Build (Design Year)**	**Build (Design Year)**
Dir Lanes:	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2
Year:	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040	2012	2040	2040
ADT: LOS (C)	6500	6500	6500	17100	17100	17100	17100	17100	17100	17100	17100	17100	29200	29200	29200	19000	19000	19000
Speed (mph)	35	35	35	40	40	40	40	40	40	40	40	40	55	55	55	55	55	55
(kmh)	56	56	56	64	64	64	64	64	64	64	64	64	89	89	89	89	89	89
K =	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
D =	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%	57.00%
T_{24} =	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%	6.0%	4.0%	4.0%
DHT =	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%	3.0%	2.0%	2.0%
% Medium Trucks DHV	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.82%	1.21%	1.21%	1.43%	0.95%	0.95%	1.67%	1.11%	1.11%
% Heavy Trucks DHV	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.18%	0.79%	0.79%	1.57%	1.05%	1.05%	1.33%	0.89%	0.89%
% Buses DHV	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.44%	0.29%	0.29%	0.02%	0.01%	0.01%	0.23%	0.15%	0.15%
% Motorcycles DHV	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.34%	0.91%	0.92%	0.92%	0.71%	0.72%	0.72%
DDHV LOS (C)	667	667	667	1,754	1,754	1,754	1,754	1,754	1,754	1,754	1,754	1,754	2,996	2,996	2,996	1,949	1,949	1,949
DDHV (Demand)	783	1,255	1,255	1,315	1,970	1,970	1,422	1,910	1,910	1,460	2,220	2,220	2,183	3,230	3,275	1,829	2,635	2,635
Stamina/TNM Input	LOS (C)	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)	Demand	LOS (C)	LOS (C)
LOS (C)																		
Autos	645	651	651	1,696	1,713	1,713	1,696	1,713	1,713	1,696	1,713	1,713	2,879	2,908	2,908	1,877	1,896	1,896
Med Trucks	12	8	8	32	21	21	32	21	21	32	21	21	43	28	28	33	22	22
Hvy Trucks	8	5	5	21	14	14	21	14	14	21	14	14	47	31	31	26	17	17
Buses	3	2	2	8	5	5	8	5	5	8	5	5	1	0	0	4	3	3
Motorcycles	2	2	2	6	6	6	6	6	6	6	6	6	27	28	28	14	14	14
Total	667	666	666	1,755	1,754	1,754	1,755	1,754	1,754	1,755	1,754	1,754	2,996	2,995	2,995	1,950	1,949	1,949
Demand																		
Autos	757	1,226	1,226	1,271	1,924	1,924	1,375	1,865	1,865	1,411	2,168	2,168	2,098	3,136	3,179	1,761	2,563	2,563
Med Trucks	14	15	15	24	24	24	26	23	23	27	27	27	31	31	31	31	29	29
Hvy Trucks	9	10	10	16	16	16	17	15	15	17	18	18	34	34	34	24	23	23
Buses	3	4	4	6	6	6	6	6	6	6	6	6	0	0	0	4	4	4
Motorcycles	3	4	4	4	7	7	5	6	6	5	8	8	20	30	30	13	19	19
Total	783	1,255	1,255	1,315	1,971	1,971	1,423	1,909	1,909	1,460	2,221	2,221	2,183	3,231	3,274	1,829	2,634	2,634

Appendix K.
Design Year (2040) Traffic Operational Analysis Output

Appendix K.
Design Year (2040) Traffic Operational Analysis Output

No Build

Design Year (2040) HCS 2010 Output
I-275 Mainline

BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4380*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2376*	pc/h/ln
S	*54.0*	mph
D = v_p / S	*44.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2050*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7070*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2557*	pc/h/ln
S	*48.6*	mph
D = v_p / S	*52.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*10/3/2014 1:42:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2329*	pc/h/ln
S	*55.2*	mph
D = v_p / S	*42.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2012*	pc/h/ln
S	*62.4*	mph
D = v_p / S	*32.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1762*	pc/h/ln
S	*66.3*	mph
D = v_p / S	*26.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7630*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2759*	pc/h/ln
S	*41.8*	mph
D = v_p / S	*66.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3023*	pc/h/ln
S	*31.4*	mph
D = v_p / S	*96.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6750*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3661*	pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2210*	pc/h/ln
S	*58.2*	mph
D = v_p / S	*38.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2567*	pc/h/ln
S	*48.3*	mph
D = v_p / S	*53.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2210*	pc/h/ln
S	*58.2*	mph
D = v_p / S	*38.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9970*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2704*	pc/h/ln
S	*43.8*	mph
D = v_p / S	*61.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3302*	pc/h/ln
S	*18.7*	mph
D = v_p / S	*176.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*22ndAveN On to 38thAveN Off*
Date Performed	*10/3/2014 1:42:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10740*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3884*	pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9830*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3555*	pc/h/ln
S	*5.7*	mph
D = v_p / S	*627.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*38thAveN On to 54thAveN Off EB*
Date Performed	*10/3/2014 1:42:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*11230*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3046*	pc/h/ln
S	*30.5*	mph
D = v_p / S	*100.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2848*	pc/h/ln
S	*38.5*	mph
D = v_p / S	*74.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3493*	pc/h/ln
S	*9.0*	mph
D = v_p / S	*387.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3898*	pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6280*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2271*	pc/h/ln
S	*56.7*	mph
D = v_p / S	*40.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7260*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1969*	pc/h/ln
S	*63.1*	mph
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2311*	pc/h/ln
S	*55.7*	mph
D = v_p / S	*41.5*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7680*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2777*	pc/h/ln
S	*41.2*	mph
D = v_p / S	*67.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3309*	pc/h/ln
S	*18.4*	mph
D = v_p / S	*179.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2929*	pc/h/ln
S	*35.3*	mph
D = v_p / S	*82.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9190*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2492*	pc/h/ln
S	*50.6*	mph
D = v_p / S	*49.2*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2037*	pc/h/ln
S	*61.9*	mph
D = v_p / S	*32.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5620*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2032*	pc/h/ln
S	*62.0*	mph
D = v_p / S	*32.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6180*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2235*	pc/h/ln
S	*57.6*	mph
D = v_p / S	*38.8*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2251*	pc/h/ln
S	*57.2*	mph
D = v_p / S	*39.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4710*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1703*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4160*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1504*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*31stStS On to 22ndAveS Off*
Date Performed	*10/3/2014 1:42:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4860*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1318*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*18.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1302*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1483*	pc/h/ln
S	*69.1*	mph
D = v_p / S	*21.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 1:42:56 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2430*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1318*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*18.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2460*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1334*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1215*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1490*	pc/h/ln
S	*69.0*	mph
D = v_p / S	*21.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*26thAveS Off to 22ndAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1237*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4340*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1177*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.8*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5010*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1087*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1493*	pc/h/ln
S	*69.0*	mph
D = v_p / S	*21.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1721*	pc/h/ln
S	*66.9*	mph
D = v_p / S	*25.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2050*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5770*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1565*	pc/h/ln
S	*68.5*	mph
D = v_p / S	*22.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1895*	pc/h/ln
S	*64.4*	mph
D = v_p / S	*29.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6920*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1877*	pc/h/ln
S	*64.7*	mph
D = v_p / S	*29.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2381*	pc/h/ln
S	*53.8*	mph
D = v_p / S	*44.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2770*	pc/h/ln
S	*41.4*	mph
D = v_p / S	*66.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3175*	pc/h/ln
S	*24.8*	mph
D = v_p / S	*128.3*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7590*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2745*	pc/h/ln
S	*42.3*	mph
D = v_p / S	*64.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*38thAveN On to 54thAveN Off EB*
Date Performed	*10/3/2014 2:57:54 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2308*	pc/h/ln
S	*55.8*	mph
D = v_p / S	*41.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7630*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2069*	pc/h/ln
S	*61.2*	mph
D = v_p / S	*33.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6730*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.0*	mph
FFS	*70.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2434*	pc/h/ln
S	*52.3*	mph
D = v_p / S	*46.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7470*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2701*	pc/h/ln
S	*43.9*	mph
D = v_p / S	*61.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3034*	pc/h/ln
S	*31.0*	mph
D = v_p / S	*97.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2449*	pc/h/ln
S	*51.9*	mph
D = v_p / S	*47.2*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*54thAveN On EB to 38thAveN Off*
Date Performed	*10/3/2014 2:57:54 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9810*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2661*	pc/h/ln
S	*45.2*	mph
D = v_p / S	*58.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8380*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3030*	pc/h/ln
S	*31.2*	mph
D = v_p / S	*97.3*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9530*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3446*	pc/h/ln
S	*11.5*	mph
D = v_p / S	*300.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8090*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2925*	pc/h/ln
S	*35.5*	mph
D = v_p / S	*82.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2482*	pc/h/ln
S	*50.9*	mph
D = v_p / S	*48.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7180*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1947*	pc/h/ln
S	*63.5*	mph
D = v_p / S	*30.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5910*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2137*	pc/h/ln
S	*59.8*	mph
D = v_p / S	*35.7*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2412*	pc/h/ln
S	*53.0*	mph
D = v_p / S	*45.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2842*	pc/h/ln
S	*38.7*	mph
D = v_p / S	*73.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6790*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2455*	pc/h/ln
S	*51.7*	mph
D = v_p / S	*47.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6300*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2278*	pc/h/ln
S	*56.5*	mph
D = v_p / S	*40.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*31stStS On to 22ndAveS Off*
Date Performed	*10/3/2014 2:57:54 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1926*	pc/h/ln
S	*63.9*	mph
D = v_p / S	*30.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*22ndAveS Off to 26thAveS On*
Date Performed	*10/3/2014 2:57:54 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5730*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.3*	mph
FFS	*70.1*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2072*	pc/h/ln
S	*61.2*	mph
D = v_p / S	*33.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*26thAveS On to 54thAveS Off*
Date Performed	*10/3/2014 2:57:54 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6430*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2325*	pc/h/ln
S	*55.3*	mph
D = v_p / S	*42.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*10/3/2014 2:57:54 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 No Build*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3570*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1936*	pc/h/ln
S	*63.7*	mph
D = v_p / S	*30.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Design Year (2040) HCS 2010 Output
I-275 Ramps

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	4380	V_D =	veh/h
		Ramp Volume, V_R	1290		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4380	0.95	Level	2	0	0.990	0.98	4752
Ramp	1290	0.95	Level	2	0	0.990	0.98	1399
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4752 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6151	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6721	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 34.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 3.257 (Exibit 13-11)

S_R = -21.2 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -21.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5670	
	Ramp Volume, V_R: 1400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5670	0.95	Level	2	0	0.990	0.98	6151
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 3619 pc/h

V_3 or V_{av34} = 2532 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3619 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7670	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5138	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.946 (Exibit 13-11)

S_R = 43.5 mph (Exhibit 13-11)

S_0 = 62.1 mph (Exhibit 13-11)

S = 48.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 5385 ft
V_u = 1400 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	200
Freeway Volume, V_F	7070
Ramp Volume, V_R	630
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7070	0.95	Level	2	0	0.990	0.98	7670
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7769.74 (Equation 13-12 or 13-13)
P_{FD} = 0.537 using Equation (Exhibit 13-7)
V_{12} = 4434 pc/h
V_3 or V_{av34} 3236 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4970 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7670	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6987	Exhibit 13-8	7200	No
V_R	683	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4434	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 45.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)
S_R= 61.8 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 64.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 630 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6440	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6440	0.95	Level	2	0	0.990	0.98	6986
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream	630	0.95	Level	2	0	0.990	0.98	683
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1516.99 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 4196 pc/h

V_3 or V_{av34} 2790 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4286 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8049	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5349	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 41.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.084 (Exibit 13-11)

S_R = 39.7 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 44.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7420	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7420	0.95	Level	2	0	0.990	0.98	8050
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.123 using Equation (Exhibit 13-6)

V_{12} = 990 pc/h

V_3 or V_{av34} = 3530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3220 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8809	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3979	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.380 (Exibit 13-11)

S_R = 59.4 mph (Exhibit 13-11)

S_0 = 62.8 mph (Exhibit 13-11)

S = 61.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	700 veh/h	Freeway Volume, V_F	8120	V_D =	veh/h
		Ramp Volume, V_R	490		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8120	0.95	Level	2	0	0.990	0.98	8809
Ramp	490	0.95	Level	2	0	0.990	0.98	532
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4257 pc/h

V_3 or V_{av34} 4552 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6109 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8809	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8277	Exhibit 13-8	7200	Yes
V_R	532	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4257	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 33.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.281 (Exhibit 13-12)

S_R= 62.1 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1610 veh/h
	Freeway Volume, V_F: 7630	
	Ramp Volume, V_R: 730	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7630	0.95	Level	2	0	0.990	0.98	8277
Ramp	730	0.95	Level	2	0	0.990	0.98	792
UpStream								
DownStream	1610	0.95	Level	2	0	0.990	0.98	1747

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 10404.07 (Equation 13-6 or 13-7)

P_{FM} = 0.771 using Equation (Exhibit 13-6)

V_{12} = 6382 pc/h

V_3 or V_{av34} 1895 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6382 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9069	Exhibit 13-8		Yes

Capacity Checks

	Actual	Capacity		
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7174	Exhibit 13-8	4600:All	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 57.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = 5.356 (Exibit 13-11)

S_R = -80.0 mph (Exhibit 13-11)

S_0 = 65.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8360
Ramp Volume, V_R	1610
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8360	0.95	Level	2	0	0.990	0.98	9069
Ramp	1610	0.95	Level	2	0	0.990	0.98	1747
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 9069 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9069	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	7322	Exhibit 13-8	4800	Yes
V_R	1747	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	9069	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 55.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.390 (Exhibit 13-12)
S_R = 59.1 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	6750	V_D =	veh/h
		Ramp Volume, V_R	1400		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6750	0.95	Level	2	0	0.990	0.98	7323
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 7323 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8842	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	9720	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 64.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 65.095 (Exibit 13-11)

S_R = -1752.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -1752.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 650 ft
V_u = 1400 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	8150
Ramp Volume, V_R	1050
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8150	0.95	Level	2	0	0.990	0.98	8842
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8088.31 (Equation 13-12 or 13-13)
P_{FD} = 0.487 using Equation (Exhibit 13-7)
V_{12} = 4887 pc/h
V_3 or V_{av34} 3955 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6142 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8842	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7703	Exhibit 13-8	7200	Yes
V_R	1139	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4887	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 51.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)
S_R= 60.6 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 1050 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7100	
	Ramp Volume, V_R: 1050	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7100	0.95	Level	2	0	0.990	0.98	7702
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1050	0.95	Level	2	0	0.990	0.98	1139
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 4275 pc/h

V_3 or V_{av34} 3427 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8841	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6141	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.683 (Exibit 13-11)

S_R = 22.9 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 28.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 8150	
	Ramp Volume, V_R: 1820	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8150	0.95	Level	2	0	0.990	0.98	8842
Ramp	1820	0.95	Level	2	0	0.990	0.98	1974
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = -0.029 using Equation (Exhibit 13-6)

V_{12} = -255 pc/h

V_3 or V_{av34} 4548 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3536 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10816	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5510	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.207 (Exibit 13-11)

S_R= 36.2 mph (Exhibit 13-11)

S_0= 61.4 mph (Exhibit 13-11)

S = 45.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2785 ft
V_u = 1820 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9970
Ramp Volume, V_R	840
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9970	0.95	Level	2	0	0.990	0.98	10816
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	1820	0.95	Level	2	0	0.990	0.98	1974
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7879.23 (Equation 13-12 or 13-13)
P_{FD} = 0.448 using Equation (Exhibit 13-7)
V_{12} = 5345 pc/h
V_3 or V_{av34} 5471 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 8116 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10816	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9905	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5345	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 60.5 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)
S_R= 61.2 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2920 ft	Acceleration Lane Length, L_A: 665	L_{down} = ft
V_u = 840 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9130	
	Ramp Volume, V_R: 1610	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9130	0.95	Level	2	0	0.990	0.98	9905
Ramp	1610	0.95	Level	2	0	0.990	0.98	1747
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3001.79 (Equation 13-6 or 13-7)

P_{FM} = 0.591 using Equation (Exhibit 13-6)

V_{12} = 5851 pc/h

V_3 or V_{av34} 4054 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7205 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	11652	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8952	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 70.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 30.375 (Exibit 13-11)

S_R = -780.5 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 355.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	170	L_{down} =	ft
V_u =	1610 veh/h	Freeway Volume, V_F	10740	V_D =	veh/h
		Ramp Volume, V_R	910		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	10740	0.95	Level	2	0	0.990	0.98	11651
Ramp	910	0.95	Level	2	0	0.990	0.98	987
UpStream	1610	0.95	Level	2	0	0.990	0.98	1747
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6618.40 (Equation 13-12 or 13-13)

P_{FD} = 0.423 using Equation (Exhibit 13-7)

V_{12} = 5501 pc/h

V_3 or V_{av34} 6150 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 8951 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	11651	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	10664	Exhibit 13-8	7200	Yes
V_R	987	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5501	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 79.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.322 (Exhibit 13-12)

S_R= 61.0 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 3130 ft	Acceleration Lane Length, L_A: 635	L_{down} = ft
V_u = 910 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9830	
	Ramp Volume, V_R: 1400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9830	0.95	Level	2	0	0.990	0.98	10664
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream	910	0.95	Level	2	0	0.990	0.98	987
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3102.10 (Equation 13-6 or 13-7)

P_{FM} = 0.595 using Equation (Exhibit 13-6)

V_{12} = 6348 pc/h

V_3 or V_{av34} 4316 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7964 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	12183	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	9483	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 74.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 51.482 (Exibit 13-11)

S_R = -1371.5 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 326.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2470 ft
V_u = 1400 veh/h

Freeway Number of Lanes, N	4
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	810
Freeway Volume, V_F	11230
Ramp Volume, V_R	730
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	11230	0.95	Level	2	0	0.990	0.98	12183
Ramp	730	0.95	Level	2	0	0.990	0.98	792
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.436 using Equation (Exhibit 13-7)
V_{12} = 5758 pc/h
V_3 or V_{av34} 3212 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 6783 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	12183	Exhibit 13-8	9600	Yes
$V_{FO} = V_F - V_R$	11391	Exhibit 13-8	9600	Yes
V_R	792	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5758	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 55.3 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.304 (Exhibit 13-12)
S_R= 61.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 65.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 10500	
	Ramp Volume, V_R: 840	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	10500	0.95	Level	2	0	0.990	0.98	11391
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.433 using Equation (Exhibit 13-7)

V_{12} = 5452 pc/h

V_3 or V_{av34} 5939 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 8691 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	11391	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	10480	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5452	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 65.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.510 (Exhibit 13-12)

S_R= 55.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 58.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2070 ft	Acceleration Lane Length, L_A: 575	L_{down} = ft
V_u = 840 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9660	
	Ramp Volume, V_R: 1120	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9660	0.95	Level	2	0	0.990	0.98	10480
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2971.03 (Equation 13-6 or 13-7)

P_{FM} = 0.537 using Equation (Exhibit 13-6)

V_{12} = 5624 pc/h

V_3 or V_{av34} 4856 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7780 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	11695	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8995	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 71.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 31.708 (Exibit 13-11)

S_R = -817.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 352.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 8500 ft
V_u = 1540 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	160
Freeway Volume, V_F	7360
Ramp Volume, V_R	1080
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7360	0.95	Level	2	0	0.990	0.98	7985
Ramp	1080	0.95	Level	2	0	0.990	0.98	1172
UpStream	1540	0.95	Level	2	0	0.990	0.98	1671
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 10091.62 (Equation 13-12 or 13-13)
P_{FD} = 0.524 using Equation (Exhibit 13-7)
V_{12} = 4744 pc/h
V_3 or V_{av34} 3241 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 5285 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7985	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6813	Exhibit 13-8	7200	No
V_R	1172	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4744	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 48.3 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.338 (Exhibit 13-12)
S_R= 60.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☑ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 1315 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1260 veh/h
	Freeway Volume, V_F: 6280	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6280	0.95	Level	2	0	0.990	0.98	6813
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream								
DownStream	1260	0.95	Level	2	0	0.990	0.98	1367

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 4221 pc/h

V_3 or V_{av34} 2592 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4221 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7876	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5284	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.985 (Exibit 13-11)

S_R = 42.4 mph (Exhibit 13-11)

S_0 = 61.7 mph (Exhibit 13-11)

S = 47.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7260	
	Ramp Volume, V_R: 1260	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7260	0.95	Level	2	0	0.990	0.98	7876
Ramp	1260	0.95	Level	2	0	0.990	0.98	1367
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.047 using Equation (Exhibit 13-6)

V_{12} = 370 pc/h

V_3 or V_{av34} = 3753 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3150 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9243	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4517	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 35.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.608 (Exibit 13-11)

S_R = 53.0 mph (Exhibit 13-11)

S_0 = 63.1 mph (Exhibit 13-11)

S = 57.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2360 ft
V_u = 1260 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8520
Ramp Volume, V_R	840
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8520	0.95	Level	2	0	0.990	0.98	9243
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	1260	0.95	Level	2	0	0.990	0.98	1367
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6377.33 (Equation 13-12 or 13-13)
P_{FD} = 0.487 using Equation (Exhibit 13-7)
V_{12} = 4969 pc/h
V_3 or V_{av34} 4274 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6543 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9243	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8332	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4969	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 47.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)
S_R= 61.2 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2955 ft	Acceleration Lane Length, L_A: 395	L_{down} = ft
V_u = 840 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7680	
	Ramp Volume, V_R: 1470	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7680	0.95	Level	2	0	0.990	0.98	8332
Ramp	1470	0.95	Level	2	0	0.990	0.98	1595
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2512.76 (Equation 13-6 or 13-7)

P_{FM} = 0.589 using Equation (Exhibit 13-6)

V_{12} = 4904 pc/h

V_3 or V_{av34} 3428 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5632 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9927	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7227	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 58.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 5.648 (Exibit 13-11)

S_R = -88.2 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1470 veh/h	Freeway Volume, V_F	9150	V_D =	veh/h
		Ramp Volume, V_R	1050		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9150	0.95	Level	2	0	0.990	0.98	9926
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1470	0.95	Level	2	0	0.990	0.98	1595
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7497.63 (Equation 13-12 or 13-13)

P_{FD} = 0.459 using Equation (Exhibit 13-7)

V_{12} = 5176 pc/h

V_3 or V_{av34} 4750 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7226 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9926	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8787	Exhibit 13-8	7200	Yes
V_R	1139	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5176	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 52.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)

S_R= 60.6 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1680 veh/h
	Freeway Volume, V_F: 8100	
	Ramp Volume, V_R: 1090	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8100	0.95	Level	2	0	0.990	0.98	8787
Ramp	1090	0.95	Level	2	0	0.990	0.98	1182
UpStream								
DownStream	1680	0.95	Level	2	0	0.990	0.98	1823

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6749.35 (Equation 13-6 or 13-7)

P_{FM} = 0.748 using Equation (Exhibit 13-6)

V_{12} = 6575 pc/h

V_3 or V_{av34} 2212 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6575 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9969	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7757	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 56.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 9.289 (Exibit 13-11)

S_R = -190.1 mph (Exhibit 13-11)

S_0 = 63.8 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = 750 ft
V_u = veh/h	Deceleration Lane Length L_D: 195	V_D = 1890 veh/h
	Freeway Volume, V_F: 9190	
	Ramp Volume, V_R: 1680	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9190	0.95	Level	2	0	0.990	0.98	9970
Ramp	1680	0.95	Level	2	0	0.990	0.98	1823
UpStream								
DownStream	1890	0.95	Level	2	0	0.990	0.98	2050

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 13042.68 (Equation 13-12 or 13-13)

P_{FD} = 0.746 using Equation (Exhibit 13-7)

V_{12} = 7897 pc/h

V_3 or V_{av34} 2073 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9970	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8147	Exhibit 13-8	7200	Yes
V_R	1823	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	7897	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 70.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.397 (Exhibit 13-12)

S_R = 58.9 mph (Exhibit 13-12)

S_0 = 72.6 mph (Exhibit 13-12)

S = 61.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 7510	
	Ramp Volume, V_R: 1890	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7510	0.95	Level	2	0	0.990	0.98	8147
Ramp	1890	0.95	Level	2	0	0.990	0.98	2050
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4794 pc/h

V_3 or V_{av34} 3353 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5447 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8147	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6097	Exhibit 13-8	7200	No
V_R	2050	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4794	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.418 (Exhibit 13-12)

S_R= 58.3 mph (Exhibit 13-12)

S_0= 71.2 mph (Exhibit 13-12)

S = 61.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2030 veh/h
	Freeway Volume, V_F: 5620	
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5620	0.95	Level	2	0	0.990	0.98	6097
Ramp	560	0.95	Level	2	0	0.990	0.98	608
UpStream								
DownStream	2030	0.95	Level	2	0	0.990	0.98	2202

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 12553.80 (Equation 13-6 or 13-7)

P_{FM} = 0.900 using Equation (Exhibit 13-6)

V_{12} = 5490 pc/h

V_3 or V_{av34} 607 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5490 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6705	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6098	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 48.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 1.995 (Exibit 13-11)

S_R = 14.1 mph (Exhibit 13-11)

S_0 = 69.6 mph (Exhibit 13-11)

S = 15.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	6180
Ramp Volume, V_R	2030
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6180	0.95	Level	2	0	0.990	0.98	6704
Ramp	2030	0.95	Level	2	0	0.990	0.98	2202
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 6704 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6704	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	4502	Exhibit 13-8	4800	No
V_R	2202	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	6704	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 34.9 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.431 (Exhibit 13-12)
S_R = 57.9 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 57.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	4150	V_D =	veh/h
		Ramp Volume, V_R	560		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4150	0.95	Level	2	0	0.990	0.98	4502
Ramp	560	0.95	Level	2	0	0.990	0.98	608
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4502 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5110	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5650	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 35.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.280 (Exibit 13-11)

S_R = 34.2 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 34.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 560 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 4710	
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4710	0.95	Level	2	0	0.990	0.98	5110
Ramp	550	0.95	Level	2	0	0.990	0.98	597
UpStream	560	0.95	Level	2	0	0.990	0.98	608
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4247.06 (Equation 13-12 or 13-13)

P_{FD} = 0.605 using Equation (Exhibit 13-7)

V_{12} = 3326 pc/h

V_3 or V_{av34} 1784 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5110	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4513	Exhibit 13-8	7200	No
V_R	597	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3326	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 31.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.287 (Exhibit 13-12)

S_R= 62.0 mph (Exhibit 13-12)

S_0= 73.7 mph (Exhibit 13-12)

S = 65.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1260 veh/h
	Freeway Volume, V_F: 4160	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4160	0.95	Level	2	0	0.990	0.98	4513
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream	1260	0.95	Level	2	0	0.990	0.98	1367

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5061.09 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4513 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5272	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5813	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 41.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 1.476 (Exibit 13-11)

S_R= 28.7 mph (Exhibit 13-11)

S_0= 70.0 mph (Exhibit 13-11)

S = 27.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	50 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	700 veh/h	Freeway Volume, V_F	4860	V_D =	veh/h
		Ramp Volume, V_R	1260		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4860	0.95	Level	2	0	0.990	0.98	5272
Ramp	1260	0.95	Level	2	0	0.990	0.98	1367
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8589.47 (Equation 13-12 or 13-13)

P_{FD} = 0.565 using Equation (Exhibit 13-7)

V_{12} = 3575 pc/h

V_3 or V_{av34} 1697 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5272	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3905	Exhibit 13-8	7200	No
V_R	1367	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3575	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.356 (Exhibit 13-12)

S_R= 60.0 mph (Exhibit 13-12)

S_0= 74.1 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1670 veh/h
	Freeway Volume, V_F: 3600	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3600	0.95	Level	2	0	0.990	0.98	3905
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream								
DownStream	1670	0.95	Level	2	0	0.990	0.98	1812

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 9821.14 (Equation 13-6 or 13-7)

P_{FM} = 0.649 using Equation (Exhibit 13-6)

V_{12} = 2533 pc/h

V_3 or V_{av34} 1372 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2533 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4447	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3075	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.335 (Exibit 13-11)

S_R = 60.6 mph (Exhibit 13-11)

S_0 = 66.9 mph (Exhibit 13-11)

S = 62.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/7/2015 9:04:33 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D	585	L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	4100	V_D =	veh/h
		Ramp Volume, V_R	1670		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4100	0.95	Level	2	0	0.990	0.98	4448
Ramp	1670	0.95	Level	2	0	0.990	0.98	1812
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 4448 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4448	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	2636	Exhibit 13-8	4800	No
V_R	1812	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4448	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 18.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.396 (Exhibit 13-12)

S_R = 58.9 mph (Exhibit 13-12)

S_0 = N/A mph (Exhibit 13-12)

S = 58.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2460	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2460	0.95	Level	2	0	0.990	0.98	2669
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2669 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3645	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3965	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 14.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.227 (Exibit 13-11)

S_R = 63.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 63.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3360	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3360	0.95	Level	2	0	0.990	0.98	3645
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 2145 pc/h

V_3 or V_{av34} = 1500 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2145 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4469	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2969	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.358 (Exibit 13-11)

S_R = 60.0 mph (Exhibit 13-11)

S_0 = 66.4 mph (Exhibit 13-11)

S = 62.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 5385 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 760 veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 4120	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4120	0.95	Level	2	0	0.990	0.98	4470
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream	760	0.95	Level	2	0	0.990	0.98	824
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7095.74 (Equation 13-12 or 13-13)

P_{FD} = 0.635 using Equation (Exhibit 13-7)

V_{12} = 3116 pc/h

V_3 or V_{av34} 1354 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4470	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3711	Exhibit 13-8	7200	No
V_R	759	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3116	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.301 (Exhibit 13-12)

S_R= 61.6 mph (Exhibit 13-12)

S_0= 75.4 mph (Exhibit 13-12)

S = 65.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 700 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3420	
	Ramp Volume, V_R: 920	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3420	0.95	Level	2	0	0.990	0.98	3710
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 802.01 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 2228 pc/h

V_3 or V_{av34} 1482 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2228 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4708	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3226	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.361 (Exibit 13-11)

S_R = 59.9 mph (Exhibit 13-11)

S_0 = 66.5 mph (Exhibit 13-11)

S = 61.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4340	
	Ramp Volume, V_R: 670	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4340	0.95	Level	2	0	0.990	0.98	4708
Ramp	670	0.95	Level	2	0	0.990	0.98	727
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.127 using Equation (Exhibit 13-6)

V_{12} = 598 pc/h

V_3 or V_{av34} = 2055 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1883 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5435	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2610	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.224 (Exibit 13-11)

S_R = 63.7 mph (Exhibit 13-11)

S_0 = 66.7 mph (Exhibit 13-11)

S = 65.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	670 veh/h	Freeway Volume, V_F	5010	V_D =	veh/h
		Ramp Volume, V_R	880		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5010	0.95	Level	2	0	0.990	0.98	5435
Ramp	880	0.95	Level	2	0	0.990	0.98	955
UpStream	670	0.95	Level	2	0	0.990	0.98	727
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 2971 pc/h

V_3 or V_{av34} 2464 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3105 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5435	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4480	Exhibit 13-8	7200	No
V_R	955	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2971	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 6.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 61.1 mph (Exhibit 13-12)

S_0= 72.2 mph (Exhibit 13-12)

S = 65.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 980 veh/h
	Freeway Volume, V_F: 4130	
	Ramp Volume, V_R: 630	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4130	0.95	Level	2	0	0.990	0.98	4480
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream								
DownStream	980	0.95	Level	2	0	0.990	0.98	1063

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6330.58 (Equation 13-6 or 13-7)

P_{FM} = 0.684 using Equation (Exhibit 13-6)

V_{12} = 3064 pc/h

V_3 or V_{av34} 1416 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3064 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5163	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3747	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 31.0 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.432 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= 66.7 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4760
Ramp Volume, V_R	980
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4760	0.95	Level	2	0	0.990	0.98	5164
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 5164 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5164	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	4101	Exhibit 13-8	4800	No
V_R	1063	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5164	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.7 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.329 (Exhibit 13-12)
S_R = 60.8 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 60.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3780	
	Ramp Volume, V_R: 1990	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3780	0.95	Level	2	0	0.990	0.98	4101
Ramp	1990	0.95	Level	2	0	0.990	0.98	2159
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4101 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6260	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6752	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 43.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 3.508 (Exibit 13-11)

S_R = -28.2 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -28.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 650 ft
V_u = 1990 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	5770
Ramp Volume, V_R	530
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5770	0.95	Level	2	0	0.990	0.98	6260
Ramp	530	0.95	Level	2	0	0.990	0.98	575
UpStream	1990	0.95	Level	2	0	0.990	0.98	2159
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 12605.09 (Equation 13-12 or 13-13)
P_{FD} = 0.577 using Equation (Exhibit 13-7)
V_{12} = 3856 pc/h
V_3 or V_{av34} 2404 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6260	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5685	Exhibit 13-8	7200	No
V_R	575	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3856	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 31.3 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.285 (Exhibit 13-12)
S_R= 62.0 mph (Exhibit 13-12)
S_0= 71.3 mph (Exhibit 13-12)
S = 65.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 530 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5240	
	Ramp Volume, V_R: 1680	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5240	0.95	Level	2	0	0.990	0.98	5685
Ramp	1680	0.95	Level	2	0	0.990	0.98	1823
UpStream	530	0.95	Level	2	0	0.990	0.98	575
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 3155 pc/h

V_3 or V_{av34} 2530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3248 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7508	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5071	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 16.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.492 (Exibit 13-11)

S_R = 56.2 mph (Exhibit 13-11)

S_0 = 62.6 mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6920	
	Ramp Volume, V_R: 1860	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6920	0.95	Level	2	0	0.990	0.98	7507
Ramp	1860	0.95	Level	2	0	0.990	0.98	2018
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = -0.034 using Equation (Exhibit 13-6)

V_{12} = -258 pc/h

V_3 or V_{av34} 3882 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9525	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5020	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 38.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.834 (Exibit 13-11)

S_R = 46.7 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 53.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2785 ft
V_u = 1860 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8780
Ramp Volume, V_R	1120
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8780	0.95	Level	2	0	0.990	0.98	9525
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream	1860	0.95	Level	2	0	0.990	0.98	2018
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 10205.58 (Equation 13-12 or 13-13)
P_{FD} = 0.466 using Equation (Exhibit 13-7)
V_{12} = 5087 pc/h
V_3 or V_{av34} 4438 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6825 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9525	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8310	Exhibit 13-8	7200	Yes
V_R	1215	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5087	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 49.4 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.342 (Exhibit 13-12)
S_R= 60.4 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 665	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1190 veh/h
	Freeway Volume, V_F: 7660	
	Ramp Volume, V_R: 1120	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7660	0.95	Level	2	0	0.990	0.98	8310
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream								
DownStream	1190	0.95	Level	2	0	0.990	0.98	1291

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7142.26 (Equation 13-6 or 13-7)

P_{FM} = 0.695 using Equation (Exhibit 13-6)

V_{12} = 5772 pc/h

V_3 or V_{av34} 2538 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5772 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9525	Exhibit 13-8		Yes

Capacity Checks

	Actual	Capacity		
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6987	Exhibit 13-8	4600:All	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 55.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = 4.476 (Exibit 13-11)

S_R = -55.3 mph (Exhibit 13-11)

S_0 = 62.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	170	L_{down} =	ft
V_u =	1120 veh/h	Freeway Volume, V_F	8780	V_D =	veh/h
		Ramp Volume, V_R	1190		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8780	0.95	Level	2	0	0.990	0.98	9525
Ramp	1190	0.95	Level	2	0	0.990	0.98	1291
UpStream	1120	0.95	Level	2	0	0.990	0.98	1215
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6329.48 (Equation 13-12 or 13-13)

P_{FD} = 0.462 using Equation (Exhibit 13-7)

V_{12} = 5099 pc/h

V_3 or V_{av34} 4426 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6825 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9525	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8234	Exhibit 13-8	7200	Yes
V_R	1291	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5099	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 61.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.349 (Exhibit 13-12)

S_R= 60.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 62.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 3130 ft	Acceleration Lane Length, L_A: 635	L_{down} = ft
V_u = 1190 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7590	
	Ramp Volume, V_R: 920	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7590	0.95	Level	2	0	0.990	0.98	8234
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream	1190	0.95	Level	2	0	0.990	0.98	1291
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2470.59 (Equation 13-6 or 13-7)

P_{FM} = 0.595 using Equation (Exhibit 13-6)

V_{12} = 4902 pc/h

V_3 or V_{av34} 3332 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5534 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9232	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6532	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 52.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 2.936 (Exibit 13-11)

S_R = -12.2 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	4	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2470 ft	Deceleration Lane Length L_D	810	L_{down} =	ft
V_u =	920 veh/h	Freeway Volume, V_F	8510	V_D =	veh/h
		Ramp Volume, V_R	880		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8510	0.95	Level	2	0	0.990	0.98	9232
Ramp	880	0.95	Level	2	0	0.990	0.98	955
UpStream	920	0.95	Level	2	0	0.990	0.98	998
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.436 using Equation (Exhibit 13-7)

V_{12} = 4564 pc/h

V_3 or V_{av34} 2334 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9232	Exhibit 13-8	9600	No
$V_{FO} = V_F - V_R$	8277	Exhibit 13-8	9600	No
V_R	955	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4564	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.2 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 61.1 mph (Exhibit 13-12)

S_0= 71.6 mph (Exhibit 13-12)

S = 66.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 7630	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7630	0.95	Level	2	0	0.990	0.98	8277
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.508 using Equation (Exhibit 13-7)

V_{12} = 4686 pc/h

V_3 or V_{av34} 3591 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5577 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8277	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7301	Exhibit 13-8	7200	Yes
V_R	976	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4686	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 38.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.516 (Exhibit 13-12)

S_R= 55.6 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 59.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Site Information

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2560 veh/h
	Freeway Volume, V_F: 6730	
	Ramp Volume, V_R: 740	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6730	0.95	Level	2	0	0.990	0.98	7301
Ramp	740	0.95	Level	2	0	0.990	0.98	803
UpStream								
DownStream	2560	0.95	Level	2	0	0.990	0.98	2777

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 16227.90 (Equation 13-6 or 13-7)

P_{FM} = 0.638 using Equation (Exhibit 13-6)

V_{12} = 4657 pc/h

V_3 or V_{av34} 2644 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4657 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8104	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5460	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 44.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.180 (Exibit 13-11)

S_R = 36.9 mph (Exhibit 13-11)

S_0 = 61.4 mph (Exhibit 13-11)

S = 42.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	160
Freeway Volume, V_F	9480
Ramp Volume, V_R	1090
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9480	0.95	Level	2	0	0.990	0.98	10284
Ramp	1090	0.95	Level	2	0	0.990	0.98	1182
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.449 using Equation (Exhibit 13-7)
V_{12} = 5265 pc/h
V_3 or V_{av34} 5019 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 7584 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10284	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9102	Exhibit 13-8	7200	Yes
V_R	1182	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5265	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 68.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.339 (Exhibit 13-12)
S_R= 60.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1685 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 1090 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 8390	
	Ramp Volume, V_R: 640	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8390	0.95	Level	2	0	0.990	0.98	9102
Ramp	640	0.95	Level	2	0	0.990	0.98	694
UpStream	1090	0.95	Level	2	0	0.990	0.98	1182
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2190.54 (Equation 13-6 or 13-7)

P_{FM} = 0.587 using Equation (Exhibit 13-6)

V_{12} = 5347 pc/h

V_3 or V_{av34} 3755 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 6402 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9796	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7096	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 51.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 4.924 (Exibit 13-11)

S_R = -67.9 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9030	
	Ramp Volume, V_R: 780	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9030	0.95	Level	2	0	0.990	0.98	9796
Ramp	780	0.95	Level	2	0	0.990	0.98	846
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.112 using Equation (Exhibit 13-6)

V_{12} = 1098 pc/h

V_3 or V_{av34} = 4349 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4396 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10642	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5242	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.988 (Exibit 13-11)

S_R = 42.3 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 50.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2360 ft
V_u = 780 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9810
Ramp Volume, V_R	1430
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9810	0.95	Level	2	0	0.990	0.98	10642
Ramp	1430	0.95	Level	2	0	0.990	0.98	1551
UpStream	780	0.95	Level	2	0	0.990	0.98	846
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4275.10 (Equation 13-12 or 13-13)
P_{FD} = 0.423 using Equation (Exhibit 13-7)
V_{12} = 5393 pc/h
V_3 or V_{av34} 5249 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 7942 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10642	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9091	Exhibit 13-8	7200	Yes
V_R	1551	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5393	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 59.1 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.373 (Exhibit 13-12)
S_R= 59.6 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 61.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	395	☑ No ☐ Off
L_{up} =	2955 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	1430 veh/h	Freeway Volume, V_F	8380	V_D = veh/h
		Ramp Volume, V_R	1150	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8380	0.95	Level	2	0	0.990	0.98	9091
Ramp	1150	0.95	Level	2	0	0.990	0.98	1248
UpStream	1430	0.95	Level	2	0	0.990	0.98	1551
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2600.93 (Equation 13-6 or 13-7)

P_{FM} = 0.589 using Equation (Exhibit 13-6)

V_{12} = 5351 pc/h

V_3 or V_{av34} 3740 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 6391 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10339	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7639	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 62.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 8.384 (Exibit 13-11)

S_R = -164.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2830 ft
V_u = 1150 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9530
Ramp Volume, V_R	1440
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9530	0.95	Level	2	0	0.990	0.98	10339
Ramp	1440	0.95	Level	2	0	0.990	0.98	1562
UpStream	1150	0.95	Level	2	0	0.990	0.98	1248
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6565.48 (Equation 13-12 or 13-13)
P_{FD} = 0.430 using Equation (Exhibit 13-7)
V_{12} = 5333 pc/h
V_3 or V_{av34} 5006 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 7639 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10339	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8777	Exhibit 13-8	7200	Yes
V_R	1562	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5333	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 56.4 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.374 (Exhibit 13-12)
S_R= 59.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1970 veh/h
	Freeway Volume, V_F: 8090	
	Ramp Volume, V_R: 1060	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8090	0.95	Level	2	0	0.990	0.98	8776
Ramp	1060	0.95	Level	2	0	0.990	0.98	1150
UpStream								
DownStream	1970	0.95	Level	2	0	0.990	0.98	2137

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7911.88 (Equation 13-6 or 13-7)

P_{FM} = 0.783 using Equation (Exhibit 13-6)

V_{12} = 6869 pc/h

V_3 or V_{av34} 1907 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6869 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9926	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8019	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 58.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 12.020 (Exibit 13-11)

S_R = -266.6 mph (Exhibit 13-11)

S_0 = 64.9 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2400 ft	Deceleration Lane Length L_D	195	L_{down} =	ft
V_u =	1060 veh/h	Freeway Volume, V_F	9150	V_D =	veh/h
		Ramp Volume, V_R	1970		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9150	0.95	Level	2	0	0.990	0.98	9926
Ramp	1970	0.95	Level	2	0	0.990	0.98	2137
UpStream	1060	0.95	Level	2	0	0.990	0.98	1150
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8401.15 (Equation 13-12 or 13-13)

P_{FD} = 0.414 using Equation (Exhibit 13-7)

V_{12} = 5358 pc/h

V_3 or V_{av34} 4568 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7226 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9926	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7789	Exhibit 13-8	7200	Yes
V_R	2137	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5358	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 64.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.425 (Exhibit 13-12)

S_R= 58.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 60.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7180
Ramp Volume, V_R	1270
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7180	0.95	Level	2	0	0.990	0.98	7789
Ramp	1270	0.95	Level	2	0	0.990	0.98	1378
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 4263 pc/h
V_3 or V_{av34} 3526 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 5089 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7789	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6411	Exhibit 13-8	7200	No
V_R	1378	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4263	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 23.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.357 (Exhibit 13-12)
S_R = 60.0 mph (Exhibit 13-12)
S_0 = 71.2 mph (Exhibit 13-12)
S = 63.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1430 veh/h
	Freeway Volume, V_F: 5910	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5910	0.95	Level	2	0	0.990	0.98	6411
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream								
DownStream	1430	0.95	Level	2	0	0.990	0.98	1551

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8842.39 (Equation 13-6 or 13-7)

P_{FM} = 0.796 using Equation (Exhibit 13-6)

V_{12} = 5106 pc/h

V_3 or V_{av34} 1305 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5106 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7235	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5930	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 47.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.727 (Exibit 13-11)

S_R = 21.7 mph (Exhibit 13-11)

S_0 = 67.1 mph (Exhibit 13-11)

S = 24.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6670	
	Ramp Volume, V_R: 1430	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6670	0.95	Level	2	0	0.990	0.98	7236
Ramp	1430	0.95	Level	2	0	0.990	0.98	1551
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 7236 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7236	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	5685	Exhibit 13-8	4800	Yes
V_R	1551	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	7236	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.373 (Exhibit 13-12)

S_R = 59.6 mph (Exhibit 13-12)

S_0 = N/A mph (Exhibit 13-12)

S = 59.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5240	
	Ramp Volume, V_R: 1550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5240	0.95	Level	2	0	0.990	0.98	5685
Ramp	1550	0.95	Level	2	0	0.990	0.98	1682
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 5685 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7367	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8049	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 52.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 12.381 (Exibit 13-11)

S_R = -276.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -276.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1605 ft	Deceleration Lane Length L_D	195	L_{down} =	ft
V_u =	1550 veh/h	Freeway Volume, V_F	6790	V_D =	veh/h
		Ramp Volume, V_R	490		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6790	0.95	Level	2	0	0.990	0.98	7366
Ramp	490	0.95	Level	2	0	0.990	0.98	532
UpStream	1550	0.95	Level	2	0	0.990	0.98	1682
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8410.59 (Equation 13-12 or 13-13)

P_{FD} = 0.551 using Equation (Exhibit 13-7)

V_{12} = 4300 pc/h

V_3 or V_{av34} 3066 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4666 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7366	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6834	Exhibit 13-8	7200	No
V_R	532	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4300	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 42.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.281 (Exhibit 13-12)

S_R= 62.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☑ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☐ No	☑ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	50 ft
		Freeway Volume, V_F	6300		
V_u =	veh/h	Ramp Volume, V_R	800	V_D =	1370 veh/h
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6300	0.95	Level	2	0	0.990	0.98	6835
Ramp	800	0.95	Level	2	0	0.990	0.98	868
UpStream								
DownStream	1370	0.95	Level	2	0	0.990	0.98	1486

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5501.67 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 6835 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7703	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8523	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 62.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 19.785 (Exibit 13-11)

S_R = -484.0 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	50 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	800 veh/h	Freeway Volume, V_F	7100	V_D =	veh/h
		Ramp Volume, V_R	1370		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7100	0.95	Level	2	0	0.990	0.98	7702
Ramp	1370	0.95	Level	2	0	0.990	0.98	1486
UpStream	800	0.95	Level	2	0	0.990	0.98	868
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6419.64 (Equation 13-12 or 13-13)

P_{FD} = 0.499 using Equation (Exhibit 13-7)

V_{12} = 4588 pc/h

V_3 or V_{av34} 3114 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7702	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6216	Exhibit 13-8	7200	No
V_R	1486	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4588	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.367 (Exhibit 13-12)

S_R= 59.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2860 veh/h
	Freeway Volume, V_F: 5730	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5730	0.95	Level	2	0	0.990	0.98	6216
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream	2860	0.95	Level	2	0	0.990	0.98	3103

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 16818.43 (Equation 13-6 or 13-7)

P_{FM} = 0.720 using Equation (Exhibit 13-6)

V_{12} = 4473 pc/h

V_3 or V_{av34} 1743 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4473 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6975	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5232	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.5 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.981 (Exibit 13-11)

S_R = 42.5 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 46.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/7/2015 9:53:06 AM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 No Build

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 585	V_D = veh/h
	Freeway Volume, V_F: 6430	
	Ramp Volume, V_R: 2860	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6430	0.95	Level	2	0	0.990	0.98	6976
Ramp	2860	0.95	Level	2	0	0.990	0.98	3103
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 1.000 using Equation (Exhibit 13-7)

V_{12} = 6976 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6976	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	3873	Exhibit 13-8	4800	No
V_R	3103	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	6976	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 40.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.512 (Exhibit 13-12)

S_R = 55.7 mph (Exhibit 13-12)

S_0 = N/A mph (Exhibit 13-12)

S = 55.7 mph (Exhibit 13-13)

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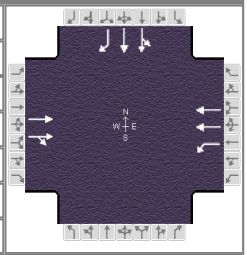
Design Year (2040) HCS 2010 Output
I-275 Ramp Terminal Intersections

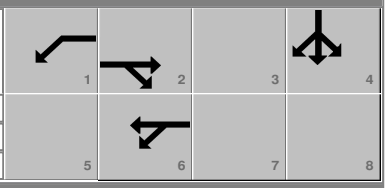
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_AM_No_Build_(A).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1535	35	20	495					370	485	825

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.6	3.0	54.5	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		50.0	9.4	59.5				60.5
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					56.5
Green Extension Time (g_e), s		0.0	1.2	0.0				0.0
Phase Call Probability			0.50					1.00
Max Out Probability			0.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		828	825	21	521					468	432	868
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1863	1848	1774	1773					1788	1863	1579
Queue Service Time (g_s), s		61.3	43.7	0.0	9.0					23.2	19.8	54.5
Cycle Queue Clearance Time (g_c), s		61.3	43.7	0.0	9.0					23.2	19.8	54.5
Green Ratio (*g/C*)		0.36	0.36	0.37	0.44					0.45	0.45	0.45
Capacity (*c*), veh/h		678	673	105	1569					812	846	717
Volume-to-Capacity Ratio (*X*)		1.221	1.226	0.201	0.332					0.576	0.510	1.211
Available Capacity (c_a), veh/h		678	673	409	1569					813	847	718
Back of Queue (*Q*), veh/ln (50th percentile)		38.3	38.5	0.6	3.4					9.3	8.1	40.4
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.08	0.25					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		30.9	31.2	57.0	15.6					24.2	23.3	32.7
Incremental Delay (d_2), s/veh		112.6	114.6	0.3	0.6					0.7	0.2	107.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		143.5	145.9	57.4	16.1					24.9	23.5	140.5
Level of Service (LOS)		F	F	E	B					C	C	F
Approach Delay, s/veh / LOS	144.7	F		17.7	B		0.0			81.3	F	
Intersection Delay, s/veh / LOS	99.0						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.9	A	0.9	A			1.9	A

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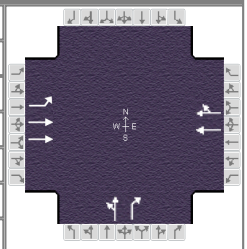
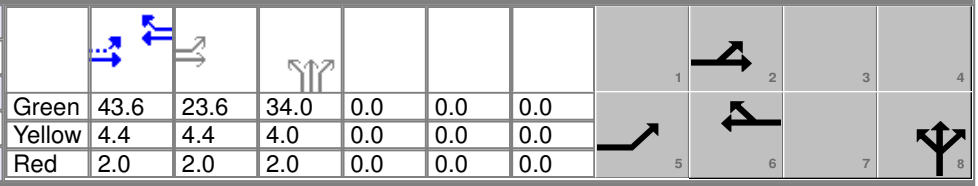
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_AM_No_Build_(B).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	980	925			500	280	15	560	50			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.6	23.6	34.0	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	30.0	80.0		50.0		40.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					36.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	1032	974			436	385		605	53			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1773			1863	1637		1860	1579			
Queue Service Time (g_s), s	23.6	9.5			22.3	23.0		34.0	3.0			
Cycle Queue Clearance Time (g_c), s	23.6	9.5			22.3	23.0		34.0	3.0			
Green Ratio (*g/C*)	0.54	0.61			0.36	0.36		0.28	0.28			
Capacity (*c*), veh/h	512	2175			677	595		527	447			
Volume-to-Capacity Ratio (*X*)	2.015	0.448			0.645	0.647		1.148	0.118			
Available Capacity (c_a), veh/h	512	2175			677	595		527	447			
Back of Queue (*Q*), veh/ln (50th percentile)	80.8	2.8			9.0	9.5		28.0	1.1			
Queue Storage Ratio (*RQ*) (50th percentile)	10.80	0.20			0.00	0.00		0.00	0.00			
Uniform Delay (d_1), s/veh	42.6	5.1			25.1	30.2		43.0	31.9			
Incremental Delay (d_2), s/veh	463.7	0.7			4.7	5.4		87.0	0.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (*d*), s/veh	506.2	5.8			29.8	35.6		130.0	31.9			
Level of Service (LOS)	F	A			C	D		F	C			
Approach Delay, s/veh / LOS	263.2	F		32.5	C		122.2	F		0.0		
Intersection Delay, s/veh / LOS	182.2						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.7	A	1.9	A	2.8	C	2.9	C
Bicycle LOS Score / LOS	2.1	B	1.2	A	1.6	A		

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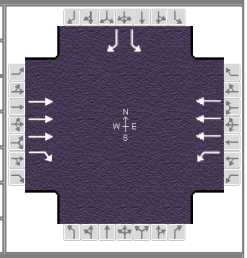
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_AM_No_Build_(A).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1670	720	370	1345					375		675

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	48.6	22.3	29.4	0.0	0.0	0.0	5	6	7	8
Yellow	4.4	4.4	4.0	0.0	0.0	0.0				
Red	2.0	2.0	2.9	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		55.0	28.7	83.7				36.3
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			22.1					31.4
Green Extension Time (g_e), s		0.0	0.2	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			1.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1758	758	389	1416					395		711
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1691	1579	1774	1691					1774		1579
Queue Service Time (g_s), s		35.5	48.6	20.1	7.5					25.9		29.4
Cycle Queue Clearance Time (g_c), s		35.5	48.6	20.1	7.5					25.9		29.4
Green Ratio (*g/C*)		0.41	0.41	0.57	0.64					0.24		0.24
Capacity (*c*), veh/h		2055	639	415	3270					434		386
Volume-to-Capacity Ratio (*X*)		0.855	1.185	0.938	0.433					0.909		1.840
Available Capacity (c_a), veh/h		2055	639	434	3270					434		386
Back of Queue (*Q*), veh/ln (50th percentile)		12.8	35.2	14.2	1.9					13.6		52.5
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	2.98	1.90	0.20					0.00		0.00
Uniform Delay (d_1), s/veh		24.6	35.7	45.4	3.5					44.0		45.3
Incremental Delay (d_2), s/veh		4.8	98.6	27.1	0.4					22.4		387.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		29.4	134.3	72.5	3.9					66.4		433.1
Level of Service (LOS)		C	F	E	A					E		F
Approach Delay, s/veh / LOS	61.0	E		18.7	B		0.0			302.1	F	
Intersection Delay, s/veh / LOS	96.1						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.7	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.9	A	1.5	A				F

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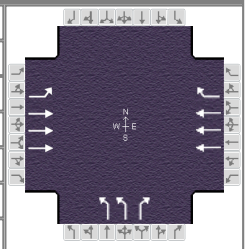
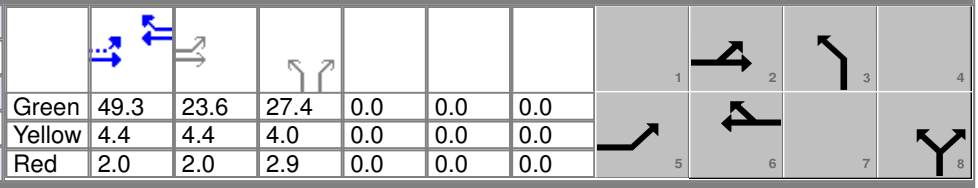
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_AM_No_Build_(B).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	780	1265			1195	830	520		320			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	49.3	23.6	27.4	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	30.0	85.7		55.7		34.3		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					27.1		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.3		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	821	1332			1258	874	547		337			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1691			1691	1579	1723		1579			
Queue Service Time (g_s), s	23.6	5.8			20.1	49.3	17.5		25.1			
Cycle Queue Clearance Time (g_c), s	23.6	5.8			20.1	49.3	17.5		25.1			
Green Ratio (*g/C*)	0.59	0.66			0.41	0.41	0.23		0.23			
Capacity (*c*), veh/h	508	3352			2084	648	787		361			
Volume-to-Capacity Ratio (*X*)	1.615	0.397			0.604	1.348	0.695		0.934			
Available Capacity (c_a), veh/h	508	3352			2084	648	807		370			
Back of Queue (*Q*), veh/ln (50th percentile)	54.1	1.5			6.9	48.0	7.4		12.4			
Queue Storage Ratio (*RQ*) (50th percentile)	7.23	0.16			0.00	8.12	0.00		0.00			
Uniform Delay (d_1), s/veh	41.8	2.8			20.5	35.4	42.5		45.4			
Incremental Delay (d_2), s/veh	285.8	0.4			1.3	166.6	2.1		29.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	327.6	3.1			21.9	202.0	44.6		74.9			
Level of Service (LOS)	F	A			C	F	D		E			
Approach Delay, s/veh / LOS	126.9	F		95.7	F		56.1	E		0.0		
Intersection Delay, s/veh / LOS	101.9						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.9	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.7	A	1.7	A		F		

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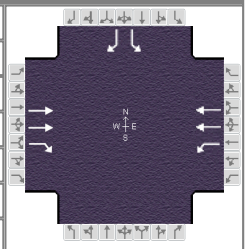
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_AM_No_Build_(A).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1275	695	775	1035					395		445

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	23.6	45.6	31.3	0.0	0.0	0.0	5	6	7	8
Yellow	4.4	4.4	4.0	0.0	0.0	0.0				
Red	2.0	2.0	2.7	0.0	0.0	0.0				

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		30.0	52.0	82.0				38.0
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			47.6					33.3
Green Extension Time (g_e), s		0.0	0.0	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			1.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1342	732	816	1089					416		468
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1773	1579	1774	1773					1774		1579
Queue Service Time (g_s), s		23.6	23.6	45.6	10.0					27.2		31.3
Cycle Queue Clearance Time (g_c), s		23.6	23.6	45.6	10.0					27.2		31.3
Green Ratio (*g/C*)		0.20	0.20	0.56	0.63					0.26		0.26
Capacity (*c*), veh/h		698	310	734	2234					463		412
Volume-to-Capacity Ratio (*X*)		1.924	2.356	1.111	0.488					0.899		1.138
Available Capacity (c_a), veh/h		698	310	734	2234					463		412
Back of Queue (*Q*), veh/ln (50th percentile)		50.3	62.5	34.2	2.7					13.9		21.6
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	8.83	2.59	0.17					0.00		0.00
Uniform Delay (d_1), s/veh		44.3	48.2	35.3	4.4					42.8		44.4
Incremental Delay (d_2), s/veh		421.2	620.3	68.1	0.8					19.6		87.5
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		465.4	668.5	103.4	5.1					62.4		131.9
Level of Service (LOS)		F	F	F	A					E		F
Approach Delay, s/veh / LOS	537.1	F		47.2	D		0.0			99.2	F	
Intersection Delay, s/veh / LOS	265.5						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.7	A	2.9	C	2.9	C
Bicycle LOS Score / LOS	2.2	B	2.1	B				F

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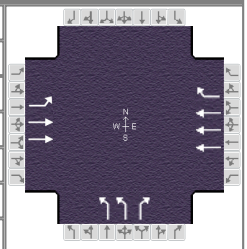
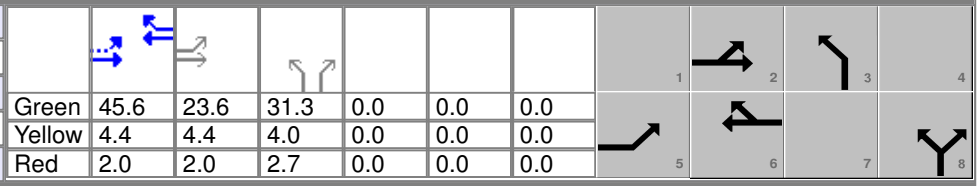
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_AM_No_Build_(B).xus				
Project Description	2040 No Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	625	1045			1380	775	430		480			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	45.6	23.6	31.3	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	30.0	82.0		52.0		38.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					33.3		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	658	1100			1453	816	453		505			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1773			1691	1579	1723		1579			
Queue Service Time (g_s), s	23.6	10.2			27.4	45.6	13.4		31.3			
Cycle Queue Clearance Time (g_c), s	23.6	10.2			27.4	45.6	13.4		31.3			
Green Ratio (*g/C*)	0.56	0.63			0.38	0.38	0.26		0.26			
Capacity (*c*), veh/h	458	2234			1928	600	899		412			
Volume-to-Capacity Ratio (*X*)	1.436	0.492			0.753	1.360	0.504		1.227			
Available Capacity (c_a), veh/h	458	2234			1928	600	899		412			
Back of Queue (*Q*), veh/ln (50th percentile)	39.7	2.7			9.9	45.5	5.5		25.6			
Queue Storage Ratio (*RQ*) (50th percentile)	3.67	0.18			0.00	5.51	0.00		0.00			
Uniform Delay (d_1), s/veh	44.5	4.4			25.1	37.2	37.7		44.4			
Incremental Delay (d_2), s/veh	208.4	0.8			2.8	172.6	0.2		122.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	253.0	5.1			27.9	209.8	37.9		166.3			
Level of Service (LOS)	F	A			C	F	D		F			
Approach Delay, s/veh / LOS	97.9	F		93.3	F		105.7	F		0.0		
Intersection Delay, s/veh / LOS	97.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.9	A	3.0	C	3.2	C
Bicycle LOS Score / LOS	1.9	A	1.7	A		F		

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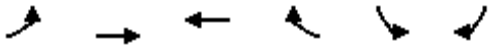


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	700	900	0	625	205
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	737	947	0	658	216
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2150	2150	0	816	376
Arrive On Green	0.00	0.61	0.61	0.00	0.24	0.24
Sat Flow, veh/h	0	3725	3725	0	3442	1583
Grp Volume(v), veh/h	0	737	947	0	658	216
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1721	1583
Q Serve(g_s), s	0.0	8.5	11.8	0.0	14.8	9.9
Cycle Q Clear(g_c), s	0.0	8.5	11.8	0.0	14.8	9.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2150	2150	0	816	376
V/C Ratio(X)	0.00	0.34	0.44	0.00	0.81	0.58
Avail Cap(c_a), veh/h	0	2150	2150	0	1254	577
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	8.7	0.0	29.6	27.7
Incr Delay (d2), s/veh	0.0	0.4	0.7	0.0	2.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	5.9	0.0	7.3	4.5
LnGrp Delay(d),s/veh	0.0	8.5	9.3	0.0	31.9	29.1
LnGrp LOS		A	A		C	C
Approach Vol, veh/h		737	947		874	
Approach Delay, s/veh		8.5	9.3		31.2	
Approach LOS		A	A		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		56.4		25.9		56.4		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		50.0		30.0		50.0		
Max Q Clear Time (g_c+I1), s		10.5		16.8		13.8		
Green Ext Time (p_c), s		9.2		2.7		9.1		

Intersection Summary	
HCM 2010 Ctrl Delay	16.5
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	185	1140	0	0	900	1215	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	195	1200	0	0	947	1279	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	947	0	0	1200	0	0	2063	2536	600
Stage 1	-	-	-	-	-	-	1589	1589	-
Stage 2	-	-	-	-	-	-	474	947	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	721	-	-	577	-	0	47	27	444
Stage 1	-	-	-	-	-	0	153	166	-
Stage 2	-	-	-	-	-	0	592	338	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	721	-	-	577	-	-	34	0	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	0	-
Stage 1	-	-	-	-	-	-	112	0	-
Stage 2	-	-	-	-	-	-	592	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	721	-	-	577	-
HCM Lane V/C Ratio	-	0.27	-	-	-	-
HCM Control Delay (s)	0	11.8	-	-	0	-
HCM Lane LOS	A	B	-	-	A	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	310	345	155	710	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	326	363	163	747	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	747	0	-	326	0	0	1237	1400	374
Stage 1	-	-	-	-	-	-	1074	1074	-
Stage 2	-	-	-	-	-	-	163	326	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	857	-	0	1230	-	-	168	139	623
Stage 1	-	-	0	-	-	-	289	294	-
Stage 2	-	-	0	-	-	-	849	647	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	857	-	-	1230	-	-	146	0	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	146	0	-
Stage 1	-	-	-	-	-	-	251	0	-
Stage 2	-	-	-	-	-	-	849	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	857	-	1230	-	-	-
HCM Lane V/C Ratio	-	-	0.133	-	-	-
HCM Control Delay (s)	0	-	8.4	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.5	-	-	-

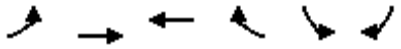
Intersection	
Int Delay, s/veh	17

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	310	0	0	475	390	240
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	326	0	0	500	411	253

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	326	0	576	163
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	250	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1230	-	448	853
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	768	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1230	-	448	853
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	704	-
Stage 2	-	-	-	-	768	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	38.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	448	853	-	-	1230	-
HCM Lane V/C Ratio	0.916	0.296	-	-	-	-
HCM Control Delay (s)	54.8	11	-	-	0	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	10.3	1.2	-	-	0	-



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1290	510	0	380	880
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1358	537	0	400	926
Adj No. of Lanes	0	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1420	2393	0	730	652
Arrive On Green	0.00	0.47	0.47	0.00	0.41	0.41
Sat Flow, veh/h	0	4731	5421	0	1774	1583
Grp Volume(v), veh/h	0	1358	537	0	400	926
Grp Sat Flow(s),veh/h/ln	0	1006	1695	0	1774	1583
Q Serve(g_s), s	0.0	36.8	5.3	0.0	14.6	35.0
Cycle Q Clear(g_c), s	0.0	36.8	5.3	0.0	14.6	35.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1420	2393	0	730	652
V/C Ratio(X)	0.00	0.96	0.22	0.00	0.55	1.42
Avail Cap(c_a), veh/h	0	1420	2393	0	730	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.7	13.3	0.0	19.0	25.0
Incr Delay (d2), s/veh	0.0	15.5	0.2	0.0	0.9	198.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	12.2	2.5	0.0	7.3	51.1
LnGrp Delay(d),s/veh	0.0	37.2	13.5	0.0	19.9	223.1
LnGrp LOS		D	B		B	F
Approach Vol, veh/h		1358	537		1326	
Approach Delay, s/veh		37.2	13.5		161.8	
Approach LOS		D	B		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		40.0
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		7.3				38.8		37.0
Green Ext Time (p_c), s		17.7				1.0		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	84.5
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	106.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	415	0	75	0	5	5	50	515	0	10	385	645
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	-	133	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	437	0	79	0	5	5	53	542	0	11	405	679

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	805	1073	203	871	1073	271	405	0	0	542	0	0
Stage 1	426	426	-	647	647	-	-	-	-	-	-	-
Stage 2	379	647	-	224	426	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 274	219	804	245	219	727	1150	-	-	1023	-	0
Stage 1	577	584	-	426	465	-	-	-	-	-	-	0
Stage 2	615	465	-	758	584	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 255	206	804	211	206	727	1150	-	-	1023	-	-
Mov Cap-2 Maneuver	~ 255	206	-	211	206	-	-	-	-	-	-	-
Stage 1	550	576	-	406	444	-	-	-	-	-	-	-
Stage 2	576	444	-	674	576	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 315.7	16.6	0.7	0.3
HCM LOS	F	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1150	-	-	255	804	321	1023	-
HCM Lane V/C Ratio	0.046	-	-	1.713	0.098	0.033	0.01	-
HCM Control Delay (s)	8.3	-	-	$ 370.9	10	16.6	8.6	0.1
HCM Lane LOS	A	-	-	F	B	C	A	A
HCM 95th %tile Q(veh)	0.1	-	-	28.5	0.3	0.1	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	23.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	315	0	235	0	460	0	0	485	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	332	0	247	0	484	0	0	511	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	995	995	255	739	995	484	511	0	0	484	0	0
Stage 1	511	511	-	484	484	-	-	-	-	-	-	-
Stage 2	484	484	-	255	511	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	211	244	745	~ 319	244	582	1050	-	-	1079	-	-
Stage 1	514	536	-	563	551	-	-	-	-	-	-	-
Stage 2	563	551	-	728	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	121	244	745	~ 319	244	582	1050	-	-	1079	-	-
Mov Cap-2 Maneuver	121	244	-	~ 319	244	-	-	-	-	-	-	-
Stage 1	514	536	-	563	551	-	-	-	-	-	-	-
Stage 2	324	551	-	728	536	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	63.1	0	0
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1050	-	-	-	319	582	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	1.039	0.425	-	-	-
HCM Control Delay (s)	0	-	-	0	98.4	15.7	0	-	-
HCM Lane LOS	A	-	-	A	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	12	2.1	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	460	480	250	550	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	484	505	263	579	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1589	1589	289				579	0	0	484	0	0
Stage 1	1105	1105	-				-	-	-	-	-	-
Stage 2	484	484	-				-	-	-	-	-	-
Critical Hdwy	6.63	6.53	6.93				4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	5.83	5.53	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-				-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319				2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	108	107	708				991	-	-	1079	-	-
Stage 1	279	286	-				-	-	-	-	-	-
Stage 2	619	551	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	0	708				991	-	-	1079	-	-
Mov Cap-2 Maneuver	82	0	-				-	-	-	-	-	-
Stage 1	211	0	-				-	-	-	-	-	-
Stage 2	619	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	-	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.244	-	-
HCM Control Delay (s)	0	-	-	0	9.4	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑↑					↰		↱
Volume (veh/h)	0	1465	1260	0	1345	0	0	0	0	330	0	750
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	1542	1326	0	1416	0				347	0	789
Adj No. of Lanes	0	2	1	0	3	0				1	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	0				2	0	2
Cap, veh/h	0	2300	1029	0	3305	0				444	0	396
Arrive On Green	0.00	0.65	0.65	0.00	0.65	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3632	1583	0	5421	0				1774	0	1583
Grp Volume(v), veh/h	0	1542	1326	0	1416	0				347	0	789
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	27.0	65.0	0.0	13.5	0.0				18.2	0.0	25.0
Cycle Q Clear(g_c), s	0.0	27.0	65.0	0.0	13.5	0.0				18.2	0.0	25.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2300	1029	0	3305	0				444	0	396
V/C Ratio(X)	0.00	0.67	1.29	0.00	0.43	0.00				0.78	0.00	1.99
Avail Cap(c_a), veh/h	0	2300	1029	0	3305	0				444	0	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	10.9	17.5	0.0	8.5	0.0				35.0	0.0	37.5
Incr Delay (d2), s/veh	0.0	0.9	137.2	0.0	0.1	0.0				9.3	0.0	455.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.3	67.2	0.0	6.3	0.0				10.0	0.0	61.0
LnGrp Delay(d),s/veh	0.0	11.7	154.7	0.0	8.6	0.0				44.3	0.0	493.4
LnGrp LOS		B	F		A					D		F
Approach Vol, veh/h		2868			1416						1136	
Approach Delay, s/veh		77.8			8.6						356.2	
Approach LOS		E			A						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		70.0		30.0		70.0		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		65.0		25.0		65.0		
Max Q Clear Time (g_c+I1), s		67.0		27.0		15.5		
Green Ext Time (p_c), s		0.0		0.0		48.9		

Intersection Summary	
HCM 2010 Ctrl Delay	118.1
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	877.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	1430	0	470	2200	0	0	0	0	385	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	450	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1505	0	495	2316	0	0	0	0	405	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	2316	0	0	1505	0	0	4058	4810	1158
Stage 1	-	-	-	-	-	-	3305	3305	-
Stage 2	-	-	-	-	-	-	753	1505	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	212	-	-	~ 441	-	-	~ 2	1	189
Stage 1	-	-	-	-	-	-	~ 16	21	-
Stage 2	-	-	-	-	-	-	426	182	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	212	-	-	~ 441	-	-	~ 2	0	189
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 18	0	-
Stage 1	-	-	-	-	-	-	~ 16	0	-
Stage 2	-	-	-	-	-	-	426	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	19.4	$ 10091.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	212	-	-	~ 441	-	-	18
HCM Lane V/C Ratio	-	-	-	1.122	-	-	22.515
HCM Control Delay (s)	0	-	-	110.4	-	-	$ 10091.5
HCM Lane LOS	A	-	-	F	-	-	F
HCM 95th %tile Q(veh)	0	-	-	17.4	-	-	51.4

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	39.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	285	1530	0	0	2670	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	300	1611	0	0	2811	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	2811	0	0	1611	0	0	3616	5022	805
Stage 1	-	-	-	-	-	-	2211	2211	-
Stage 2	-	-	-	-	-	-	1405	2811	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	~ 135	-	-	401	-	-	4	1	325
Stage 1	-	-	-	-	-	-	69	80	-
Stage 2	-	-	-	-	-	-	193	39	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	~ 135	-	-	401	-	-	4	0	325
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	0	-
Stage 1	-	-	-	-	-	-	69	0	-
Stage 2	-	-	-	-	-	-	193	0	-

Approach	EB	WB	NB
HCM Control Delay, s	98.4	0	0
HCM LOS			A

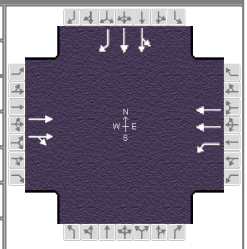
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	~ 135	-	-	401	-	-
HCM Lane V/C Ratio	-	2.222	-	-	-	-	-
HCM Control Delay (s)	0	$ 626.5	-	-	0	-	-
HCM Lane LOS	A	F	-	-	A	-	-
HCM 95th %tile Q(veh)	-	25.1	-	-	0	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

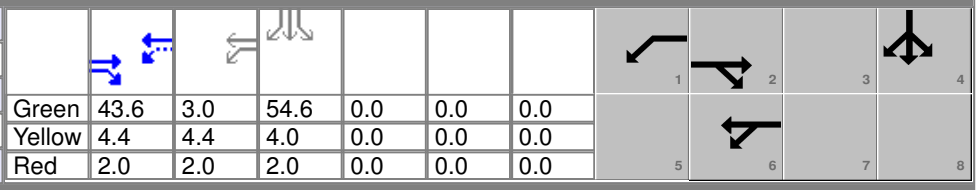
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_PM_No_Build_(A).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1485	50	20	855					175	585	1210

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.6	3.0	54.6	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		50.0	9.4	59.4				60.6
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					56.5
Green Extension Time (g_e), s		0.0	2.3	0.0				0.0
Phase Call Probability			0.50					1.00
Max Out Probability			0.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		811	805	21	900					419	381	1274
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1863	1841	1774	1773					1823	1863	1579
Queue Service Time (g_s), s		59.1	43.6	0.0	18.9					19.5	16.8	54.5
Cycle Queue Clearance Time (g_c), s		59.1	43.6	0.0	18.9					19.5	16.8	54.5
Green Ratio (*g/C*)		0.36	0.36	0.37	0.44					0.45	0.45	0.45
Capacity (*c*), veh/h		677	669	105	1568					828	847	717
Volume-to-Capacity Ratio (*X*)		1.197	1.203	0.201	0.574					0.506	0.450	1.775
Available Capacity (c_a), veh/h		677	669	409	1568					829	847	718
Back of Queue (*Q*), veh/ln (50th percentile)		36.4	36.6	0.6	6.6					7.9	6.9	89.6
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.08	0.48					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		30.9	31.4	57.0	17.6					23.2	22.4	32.7
Incremental Delay (d_2), s/veh		102.5	105.1	0.3	1.5					0.2	0.1	354.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		133.4	136.5	57.4	19.1					23.4	22.6	387.3
Level of Service (LOS)		F	F	E	B					C	C	F
Approach Delay, s/veh / LOS	134.9	F		20.0	C		0.0			246.7	F	
Intersection Delay, s/veh / LOS	162.3						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.8	A	1.2	A			2.2	B

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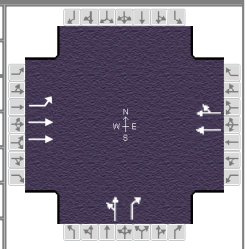
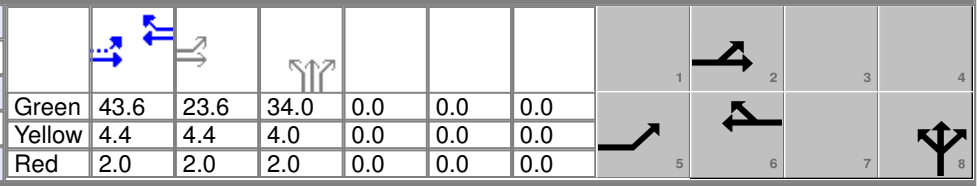
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_PM_No_Build_(B).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	840	820			860	490	15	530	50			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.6	23.6	34.0	0.0	0.0	0.0			
Yellow	4.4	4.4	4.0	0.0	0.0	0.0			
Red	2.0	2.0	2.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		11.0		
Phase Duration, s	30.0	80.0		50.0		40.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					36.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	884	863			747	674		574	53			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1773			1863	1637		1860	1579			
Queue Service Time (g_s), s	23.6	7.9			49.1	43.6		34.0	3.0			
Cycle Queue Clearance Time (g_c), s	23.6	7.9			49.1	43.6		34.0	3.0			
Green Ratio (*g/C*)	0.54	0.61			0.36	0.36		0.28	0.28			
Capacity (*c*), veh/h	409	2175			677	595		527	447			
Volume-to-Capacity Ratio (*X*)	2.162	0.397			1.104	1.133		1.088	0.118			
Available Capacity (c_a), veh/h	409	2175			677	595		527	447			
Back of Queue (*Q*), veh/ln (50th percentile)	72.3	2.4			29.2	29.4		24.8	1.1			
Queue Storage Ratio (*RQ*) (50th percentile)	9.67	0.17			0.00	0.00		0.00	0.00			
Uniform Delay (d_1), s/veh	46.5	4.9			30.9	36.5		43.0	31.9			
Incremental Delay (d_2), s/veh	531.2	0.5			66.6	79.3		65.4	0.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0		0.0	0.0			
Control Delay (*d*), s/veh	577.6	5.5			97.5	115.8		108.4	31.9			
Level of Service (LOS)	F	A			F	F		F	C			
Approach Delay, s/veh / LOS	295.0	F		106.2	F		102.0	F		0.0		
Intersection Delay, s/veh / LOS	192.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.7	A	1.9	A	2.8	C	2.9	C
Bicycle LOS Score / LOS	1.9	A	1.7	A	1.5	A		

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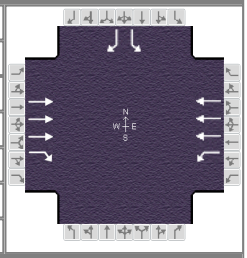
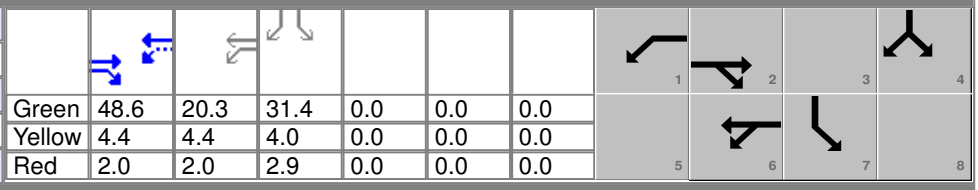
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_PM_No_Build_(A).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1490	700	360	1730					515		925

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	48.6	20.3	31.4	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		55.0	26.7	81.7				38.3
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			19.8					33.4
Green Extension Time (g_e), s		0.0	0.4	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.92					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1568	737	379	1821					542		974
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1691	1579	1774	1691					1774		1579
Queue Service Time (g_s), s		29.0	48.6	17.8	13.5					31.4		31.4
Cycle Queue Clearance Time (g_c), s		29.0	48.6	17.8	13.5					31.4		31.4
Green Ratio (*g/C*)		0.41	0.41	0.56	0.63					0.26		0.26
Capacity (*c*), veh/h		2055	639	407	3183					465		413
Volume-to-Capacity Ratio (*X*)		0.763	1.153	0.930	0.572					1.167		2.355
Available Capacity (c_a), veh/h		2055	639	456	3183					465		413
Back of Queue (*Q*), veh/ln (50th percentile)		10.2	33.0	13.4	3.1					25.5		82.6
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	2.79	1.79	0.33					0.00		0.00
Uniform Delay (d_1), s/veh		23.1	35.7	45.2	4.8					44.3		44.3
Incremental Delay (d_2), s/veh		2.8	85.7	23.3	0.8					96.2		617.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		25.9	121.4	68.5	5.5					140.5		661.6
Level of Service (LOS)		C	F	E	A					F		F
Approach Delay, s/veh / LOS	56.4	E		16.4	B		0.0			475.3	F	
Intersection Delay, s/veh / LOS	147.2						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.7	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.8	A	1.7	A				F

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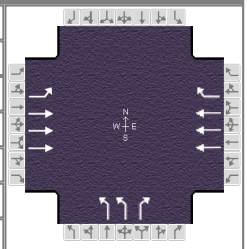
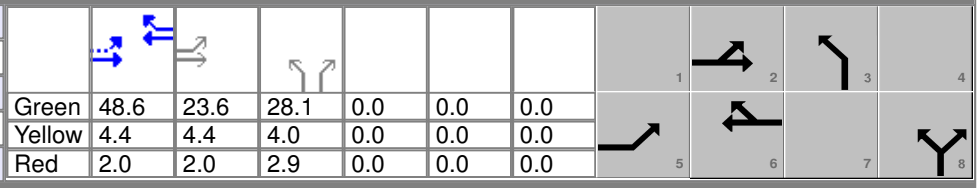
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_PM_No_Build_(B).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	545	1460			1395	575	695		425			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	48.6	23.6	28.1	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	30.0	85.0		55.0		35.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.6					30.1		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	574	1537			1468	605	732		447			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1691			1691	1579	1723		1579			
Queue Service Time (g_s), s	23.6	7.7			26.0	44.4	24.8		28.1			
Cycle Queue Clearance Time (g_c), s	23.6	7.7			26.0	44.4	24.8		28.1			
Green Ratio (*g/C*)	0.58	0.65			0.40	0.40	0.23		0.23			
Capacity (*c*), veh/h	471	3324			2055	639	807		370			
Volume-to-Capacity Ratio (*X*)	1.219	0.462			0.715	0.947	0.907		1.210			
Available Capacity (c_a), veh/h	471	3324			2055	639	807		370			
Back of Queue (*Q*), veh/ln (50th percentile)	28.8	1.9			9.1	20.6	11.6		22.5			
Queue Storage Ratio (*RQ*) (50th percentile)	3.85	0.20			0.00	3.48	0.00		0.00			
Uniform Delay (d_1), s/veh	43.8	3.1			22.4	34.5	44.7		46.0			
Incremental Delay (d_2), s/veh	116.6	0.5			2.2	24.7	13.6		117.2			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	160.4	3.6			24.6	59.1	58.3		163.2			
Level of Service (LOS)	F	A			C	E	E		F			
Approach Delay, s/veh / LOS	46.2	D		34.6	C		98.1	F		0.0		
Intersection Delay, s/veh / LOS	53.1						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.9	A	3.3	C	3.3	C
Bicycle LOS Score / LOS	1.6	A	1.6	A		F		

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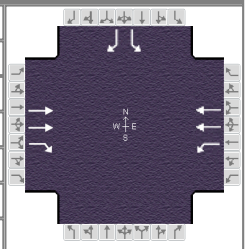
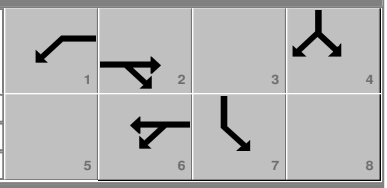
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_PM_No_Build_(A).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1200	650	500	1105					660		770

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	23.6	33.8	43.1	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.7	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		30.0	40.2	70.2				49.8
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			32.6					45.1
Green Extension Time (g_e), s		0.0	1.2	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.15					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1263	684	526	1163					695		811
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1773	1579	1774	1773					1774		1579
Queue Service Time (g_s), s		23.6	23.6	30.6	20.3					43.1		43.1
Cycle Queue Clearance Time (g_c), s		23.6	23.6	30.6	20.3					43.1		43.1
Green Ratio (*g/C*)		0.20	0.20	0.46	0.53					0.36		0.36
Capacity (*c*), veh/h		697	310	560	1886					637		567
Volume-to-Capacity Ratio (*X*)		1.811	2.204	0.940	0.617					1.091		1.430
Available Capacity (c_a), veh/h		697	310	734	1886					637		567
Back of Queue (*Q*), veh/ln (50th percentile)		45.4	56.7	17.0	6.0					28.6		47.6
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	8.00	1.29	0.39					0.00		0.00
Uniform Delay (d_1), s/veh		44.3	48.2	40.2	11.1					38.5		38.5
Incremental Delay (d_2), s/veh		370.6	552.2	15.3	1.5					63.0		203.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		414.9	600.4	55.5	12.6					101.4		242.2
Level of Service (LOS)		F	F	E	B					F		F
Approach Delay, s/veh / LOS	480.1	F		26.0	C		0.0			177.2	F	
Intersection Delay, s/veh / LOS	242.2						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.7	A	2.9	C	2.9	C
Bicycle LOS Score / LOS	2.1	B	1.9	A				F

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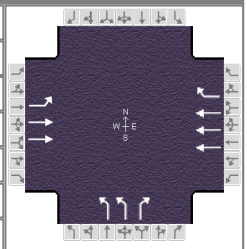
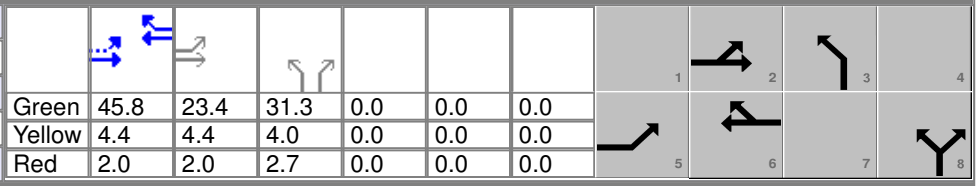
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_PM_No_Build_(B).xus				
Project Description	2040 No Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	535	1325			1000	385	605		585			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	45.8	23.4	31.3	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	29.8	82.0		52.2		38.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.4					33.3		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	563	1395			1053	405	637		616			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1774	1773			1691	1579	1723		1579			
Queue Service Time (g_s), s	23.4	15.9			16.9	25.6	20.1		31.3			
Cycle Queue Clearance Time (g_c), s	23.4	15.9			16.9	25.6	20.1		31.3			
Green Ratio (*g/C*)	0.56	0.63			0.38	0.38	0.26		0.26			
Capacity (*c*), veh/h	525	2234			1939	603	899		412			
Volume-to-Capacity Ratio (*X*)	1.072	0.624			0.543	0.672	0.709		1.496			
Available Capacity (c_a), veh/h	525	2234			1939	603	899		412			
Back of Queue (*Q*), veh/ln (50th percentile)	23.8	3.7			6.0	10.4	8.4		38.6			
Queue Storage Ratio (*RQ*) (50th percentile)	2.20	0.24			0.00	1.26	0.00		0.00			
Uniform Delay (d_1), s/veh	41.2	4.8			22.3	30.8	40.2		44.4			
Incremental Delay (d_2), s/veh	60.1	1.3			1.1	5.9	2.2		235.5			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	101.3	6.1			23.4	36.7	42.4		279.8			
Level of Service (LOS)	F	A			C	D	D		F			
Approach Delay, s/veh / LOS	33.5	C		27.1	C		159.1	F		0.0		
Intersection Delay, s/veh / LOS	65.2						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.9	A	1.9	A	3.0	C	3.2	C
Bicycle LOS Score / LOS	2.1	B	1.3	A		F		

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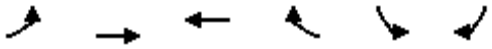


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1085	935	0	1120	560
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1142	984	0	1179	589
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	2141	2141	0	992	457
Arrive On Green	0.00	0.20	0.61	0.00	0.29	0.29
Sat Flow, veh/h	0	3725	3725	0	3442	1583
Grp Volume(v), veh/h	0	1142	984	0	1179	589
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1721	1583
Q Serve(g_s), s	0.0	34.7	18.3	0.0	34.6	34.6
Cycle Q Clear(g_c), s	0.0	34.7	18.3	0.0	34.6	34.6
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	2141	2141	0	992	457
V/C Ratio(X)	0.00	0.53	0.46	0.00	1.19	1.29
Avail Cap(c_a), veh/h	0	2141	2141	0	992	457
HCM Platoon Ratio	1.00	0.33	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	32.8	13.0	0.0	42.7	42.7
Incr Delay (d2), s/veh	0.0	1.0	0.7	0.0	94.9	146.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	17.3	9.1	0.0	29.5	33.6
LnGrp Delay(d),s/veh	0.0	33.8	13.7	0.0	137.6	188.9
LnGrp LOS		C	B		F	F
Approach Vol, veh/h		1142	984		1768	
Approach Delay, s/veh		33.8	13.7		154.7	
Approach LOS		C	B		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		79.0		41.0		79.0		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		72.6		34.6		72.6		
Max Q Clear Time (g_c+I1), s		36.7		36.6		20.3		
Green Ext Time (p_c), s		13.0		0.0		14.1		

Intersection Summary	
HCM 2010 Ctrl Delay	83.6
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	130	2075	0	0	935	630	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	137	2184	0	0	984	663	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	984	0	0	2184	0	0	2950	3442	1092
Stage 1	-	-	-	-	-	-	2458	2458	-
Stage 2	-	-	-	-	-	-	492	984	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	698	-	-	239	-	0	11	7	210
Stage 1	-	-	-	-	-	0	50	60	-
Stage 2	-	-	-	-	-	0	580	325	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	698	-	-	239	-	-	9	0	210
Mov Cap-2 Maneuver	-	-	-	-	-	-	9	0	-
Stage 1	-	-	-	-	-	-	40	0	-
Stage 2	-	-	-	-	-	-	580	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	698	-	-	239	-
HCM Lane V/C Ratio	-	0.196	-	-	-	-
HCM Control Delay (s)	0	11.4	-	-	0	-
HCM Lane LOS	A	B	-	-	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	335	510	190	710	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	353	537	200	747	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	747	0	-	353	0	0	1323	1500	374
Stage 1	-	-	-	-	-	-	1147	1147	-
Stage 2	-	-	-	-	-	-	176	353	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	857	-	0	1202	-	-	148	121	623
Stage 1	-	-	0	-	-	-	265	272	-
Stage 2	-	-	0	-	-	-	837	629	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	857	-	-	1202	-	-	123	0	623
Mov Cap-2 Maneuver	-	-	-	-	-	-	123	0	-
Stage 1	-	-	-	-	-	-	221	0	-
Stage 2	-	-	-	-	-	-	837	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	1.8	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	857	-	1202	-	-	-
HCM Lane V/C Ratio	-	-	0.166	-	-	-
HCM Control Delay (s)	0	-	8.6	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.6	-	-	-

Intersection	
Int Delay, s/veh	42.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	335	0	0	405	495	205
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	353	0	0	426	521	216

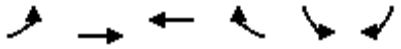
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	353	0	566	176
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	213	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1202	-	~ 454	837
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1202	-	~ 454	837
Mov Cap-2 Maneuver	-	-	-	-	~ 454	-
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	86.8
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	454	837	-	-	1202	-
HCM Lane V/C Ratio	1.148	0.258	-	-	-	-
HCM Control Delay (s)	118.3	10.8	-	-	0	-
HCM Lane LOS	F	B	-	-	A	-
HCM 95th %tile Q(veh)	18.8	1	-	-	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1375	585	0	330	1040
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1447	616	0	347	1095
Adj No. of Lanes	0	3	3	0	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1630	2393	0	730	652
Arrive On Green	0.00	0.47	0.47	0.00	0.41	0.41
Sat Flow, veh/h	0	4880	5421	0	1774	1583
Grp Volume(v), veh/h	0	1447	616	0	347	1095
Grp Sat Flow(s),veh/h/ln	0	1155	1695	0	1774	1583
Q Serve(g_s), s	0.0	32.3	6.2	0.0	12.2	35.0
Cycle Q Clear(g_c), s	0.0	32.3	6.2	0.0	12.2	35.0
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1630	2393	0	730	652
V/C Ratio(X)	0.00	0.89	0.26	0.00	0.48	1.68
Avail Cap(c_a), veh/h	0	1630	2393	0	730	652
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.5	13.6	0.0	18.3	25.0
Incr Delay (d2), s/veh	0.0	7.6	0.3	0.0	0.5	312.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.3	3.0	0.0	6.0	71.8
LnGrp Delay(d),s/veh	0.0	28.0	13.8	0.0	18.8	337.5
LnGrp LOS		C	B		B	F
Approach Vol, veh/h		1447	616		1442	
Approach Delay, s/veh		28.0	13.8		260.8	
Approach LOS		C	B		F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		40.0
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		8.2				34.3		37.0
Green Ext Time (p_c), s		19.3				4.9		0.0

Intersection Summary	
HCM 2010 Ctrl Delay	121.3
HCM 2010 LOS	F

Intersection	
Int Delay, s/veh	381.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	780	0	100	0	5	5	25	370	0	5	455	770
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	None	-	-	Free
Storage Length	-	-	0	-	-	-	133	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	821	0	105	0	5	5	26	389	0	5	479	811

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	739	931	239	692	931	195	479	0	0	389	0	0
Stage 1	489	489	-	442	442	-	-	-	-	-	-	-
Stage 2	250	442	-	250	489	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	~ 306	265	762	330	265	814	1080	-	-	1166	-	0
Stage 1	~ 529	548	-	564	575	-	-	-	-	-	-	0
Stage 2	~ 732	575	-	732	548	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 292	257	762	278	257	814	1080	-	-	1166	-	-
Mov Cap-2 Maneuver	~ 292	257	-	278	257	-	-	-	-	-	-	-
Stage 1	~ 516	545	-	550	561	-	-	-	-	-	-	-
Stage 2	~ 703	561	-	627	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 755.8	14.5	0.5	0.1
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT
Capacity (veh/h)	1080	-	-	292	762	391	1166	-
HCM Lane V/C Ratio	0.024	-	-	2.812	0.138	0.027	0.005	-
HCM Control Delay (s)	8.4	-	-	$ 851.4	10.5	14.5	8.1	0
HCM Lane LOS	A	-	-	F	B	B	A	A
HCM 95th %tile Q(veh)	0.1	-	-	70.5	0.5	0.1	0	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	13.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	200	0	290	0	460	0	0	935	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	0	100	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	211	0	305	0	484	0	0	984	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1468	1468	492	976	1468	484	984	0	0	484	0	0
Stage 1	984	984	-	484	484	-	-	-	-	-	-	-
Stage 2	484	484	-	492	984	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.93	7.33	6.53	6.23	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	97	127	523	218	127	582	698	-	-	1079	-	-
Stage 1	267	326	-	563	551	-	-	-	-	-	-	-
Stage 2	563	551	-	528	326	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	46	127	523	218	127	582	698	-	-	1079	-	-
Mov Cap-2 Maneuver	46	127	-	218	127	-	-	-	-	-	-	-
Stage 1	267	326	-	563	551	-	-	-	-	-	-	-
Stage 2	268	551	-	528	326	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	50.9	0	0
HCM LOS	A	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	698	-	-	-	218	582	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.966	0.525	-	-	-
HCM Control Delay (s)	0	-	-	0	98.9	17.8	0	-	-
HCM Lane LOS	A	-	-	A	F	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	8.4	3	0	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	460	295	335	800	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	484	311	353	842	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	2031	2031	421				842	0	0	484	0	0
Stage 1	1547	1547	-				-	-	-	-	-	-
Stage 2	484	484	-				-	-	-	-	-	-
Critical Hdwy	6.63	6.53	6.93				4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	5.83	5.53	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-				-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319				2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	56	57	582				789	-	-	1079	-	-
Stage 1	162	175	-				-	-	-	-	-	-
Stage 2	619	551	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	38	0	582				789	-	-	1079	-	-
Mov Cap-2 Maneuver	38	0	-				-	-	-	-	-	-
Stage 1	109	0	-				-	-	-	-	-	-
Stage 2	619	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	789	-	-	-	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.327	-	-
HCM Control Delay (s)	0	-	-	0	9.9	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑	↱		↑↑↑					↰		↱
Volume (veh/h)	0	780	780	0	1850	0	0	0	0	560	0	530
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	821	821	0	1947	0				589	0	558
Adj No. of Lanes	0	2	1	0	3	0				1	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	0				2	0	2
Cap, veh/h	0	2292	1025	0	3293	0				447	0	399
Arrive On Green	0.00	0.65	0.65	0.00	0.65	0.00				0.25	0.00	0.25
Sat Flow, veh/h	0	3632	1583	0	5421	0				1774	0	1583
Grp Volume(v), veh/h	0	821	821	0	1947	0				589	0	558
Grp Sat Flow(s),veh/h/ln	0	1770	1583	0	1695	0				1774	0	1583
Q Serve(g_s), s	0.0	10.6	37.7	0.0	21.7	0.0				25.0	0.0	25.0
Cycle Q Clear(g_c), s	0.0	10.6	37.7	0.0	21.7	0.0				25.0	0.0	25.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2292	1025	0	3293	0				447	0	399
V/C Ratio(X)	0.00	0.36	0.80	0.00	0.59	0.00				1.32	0.00	1.40
Avail Cap(c_a), veh/h	0	2317	1036	0	3329	0				447	0	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	8.0	12.8	0.0	10.0	0.0				37.2	0.0	37.2
Incr Delay (d2), s/veh	0.0	0.1	4.8	0.0	0.3	0.0				158.6	0.0	194.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.2	17.6	0.0	10.2	0.0				31.8	0.0	32.4
LnGrp Delay(d),s/veh	0.0	8.2	17.6	0.0	10.3	0.0				195.7	0.0	231.7
LnGrp LOS		A	B		B					F		F
Approach Vol, veh/h		1642			1947						1147	
Approach Delay, s/veh		12.9			10.3						213.2	
Approach LOS		B			B						F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		69.3		30.0		69.3		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		65.0		25.0		65.0		
Max Q Clear Time (g_c+I1), s		39.7		27.0		23.7		
Green Ext Time (p_c), s		24.6		0.0		39.5		

Intersection Summary	
HCM 2010 Ctrl Delay	60.4
HCM 2010 LOS	E

Intersection	
Int Delay, s/veh	138.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	2240	0	515	1790	0	0	0	0	115	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	450	-	-	-	-	-	0	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	2358	0	542	1884	0	0	0	0	121	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	1884	0	0	2358	0	0	4147	5326	942
Stage 1	-	-	-	-	-	-	2968	2968	-
Stage 2	-	-	-	-	-	-	1179	2358	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	314	-	-	~ 204	-	-	~ 2	0	264
Stage 1	-	-	-	-	-	-	~ 25	32	-
Stage 2	-	-	-	-	-	-	254	67	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	314	-	-	~ 204	-	-	~ 2	0	264
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 25	0	-
Stage 1	-	-	-	-	-	-	~ 25	0	-
Stage 2	-	-	-	-	-	-	254	0	-

Approach	EB	WB	SB
HCM Control Delay, s	0	177.8	$ 2043.6
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	314	-	-	~ 204	-	-	25
HCM Lane V/C Ratio	-	-	-	2.657	-	-	4.842
HCM Control Delay (s)	0	-	-	$ 795.8	-	-	$ 2043.6
HCM Lane LOS	A	-	-	F	-	-	F
HCM 95th %tile Q(veh)	0	-	-	46.6	-	-	15

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	200	2155	0	0	2305	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	211	2268	0	0	2426	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	2426	0	0	2268	0	0	3902	5115	1134
Stage 1	-	-	-	-	-	-	2689	2689	-
Stage 2	-	-	-	-	-	-	1213	2426	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	~ 192	-	-	222	-	-	2	0	196
Stage 1	-	-	-	-	-	-	37	45	-
Stage 2	-	-	-	-	-	-	244	62	-
Platoon blocked, %		-	-		-	-			
Mov Cap-1 Maneuver	~ 192	-	-	222	-	-	2	0	196
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	0	-
Stage 1	-	-	-	-	-	-	37	0	-
Stage 2	-	-	-	-	-	-	244	0	-

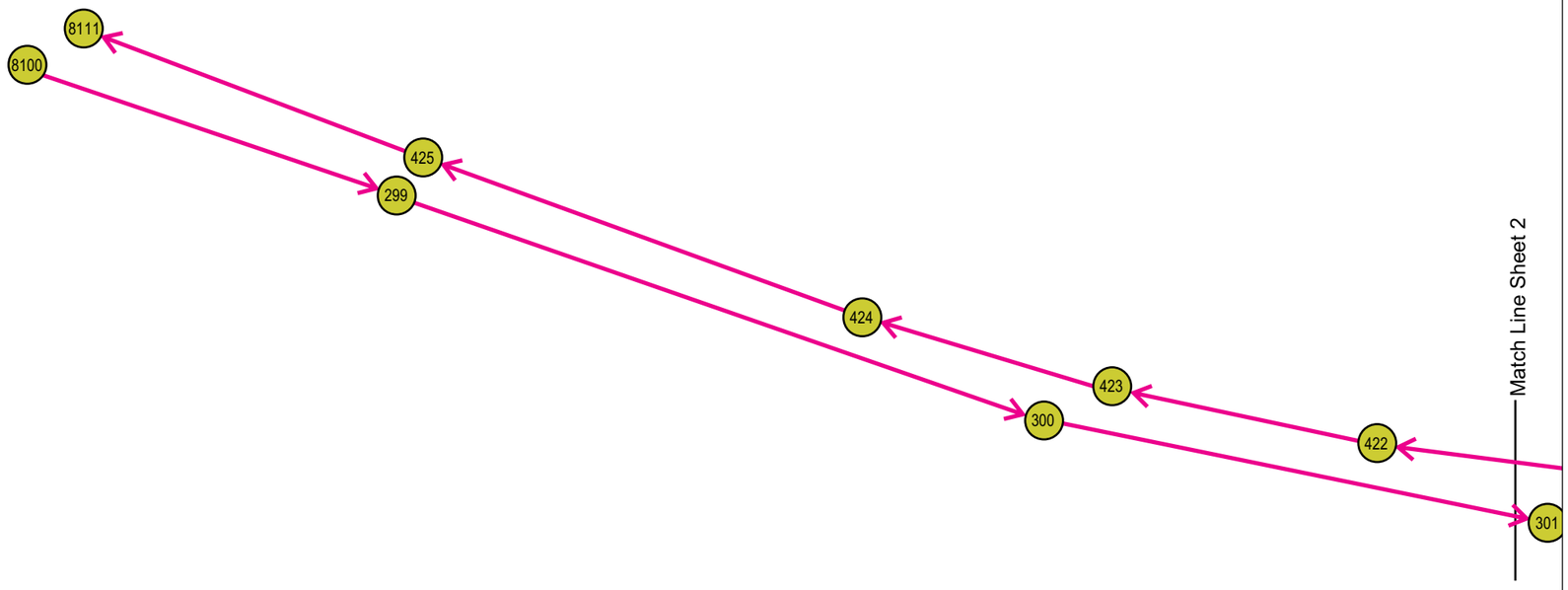
Approach	EB	WB	NB
HCM Control Delay, s	12.2	0	0
HCM LOS			A

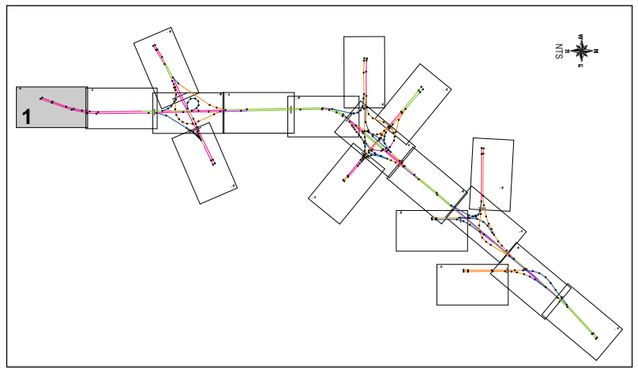
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR
Capacity (veh/h)	-	~ 192	-	-	222	-	-
HCM Lane V/C Ratio	-	1.096	-	-	-	-	-
HCM Control Delay (s)	0	144.1	-	-	0	-	-
HCM Lane LOS	A	F	-	-	A	-	-
HCM 95th %tile Q(veh)	-	10.1	-	-	0	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Design Year (2040) CORSIM Output

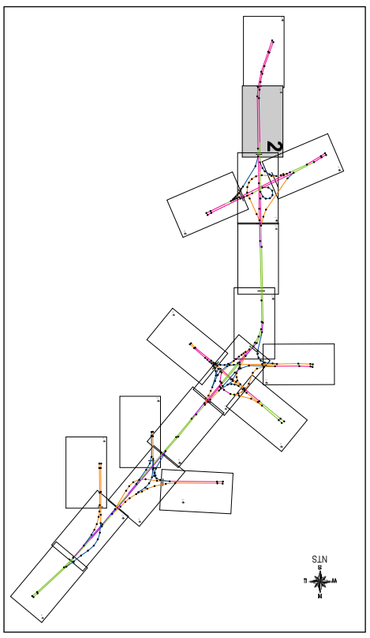
NTS





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Match Line Sheet 1

301

421

302

420

303

Match Line Sheet 3

304

Legend

XXX Note ID

1 Lane

2 Lanes

3 Lanes

4 Lanes

5 Lanes

6 Lanes

NTS

S

E

W

N

NTS

Match Line Sheet 2

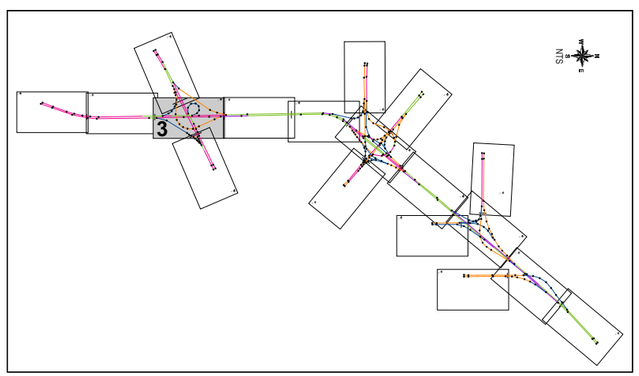
Match Line Sheet 4

Match Line Sheet 5

Match Line Sheet 6

Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

7

7024

662

Match Line Sheet 3

523

524

525

8211

499

8200

500

501

502

7012

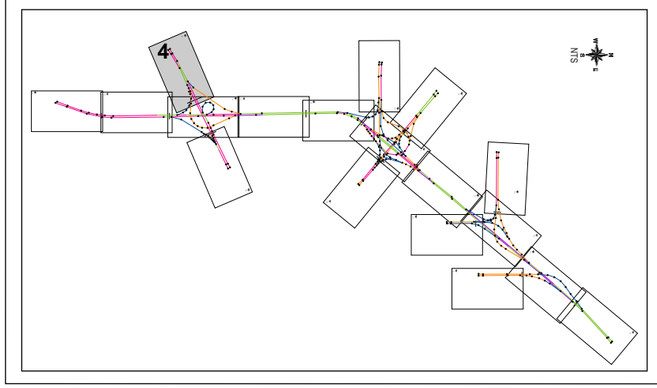
7002

619

620

7004

7005



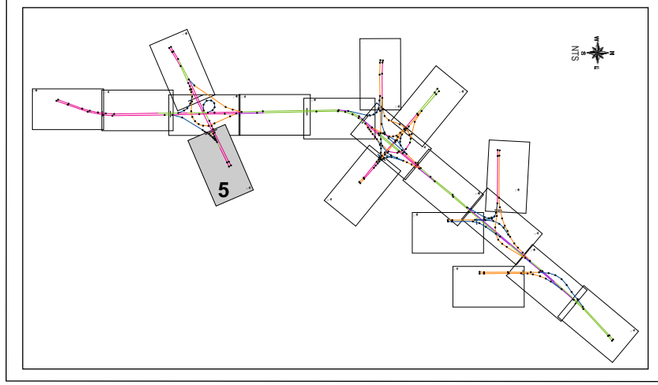
Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 3

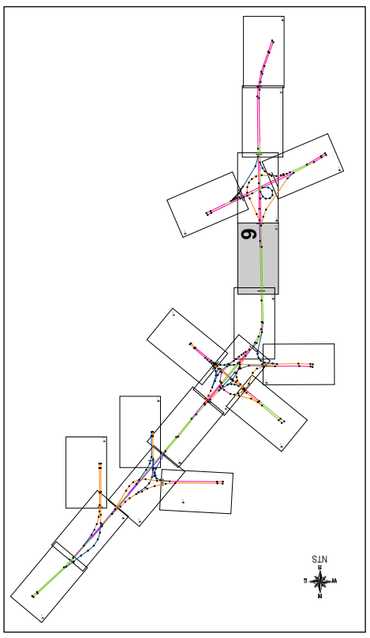
519
503
504
7019
505
506
518
8210
507
8201
5
4

N
W
E
S
NTS



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Match Line Sheet 3

416

308

415

Match Line Sheet 7

Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

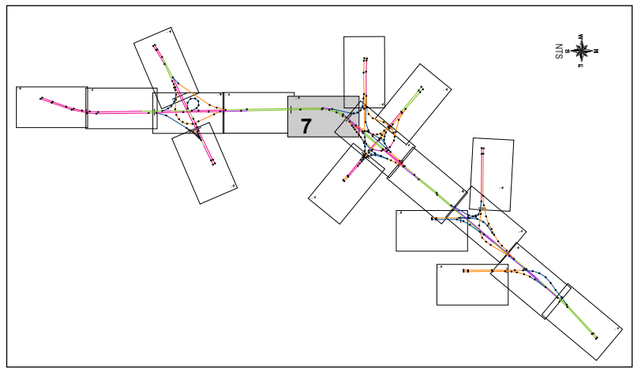
S
E
W
N

NTS

Match Line Sheet 6

Match Line Sheet 8

309 310 311 312 313 314 411 412 413 414 748 747 746 410 7007 700 7008 701



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 10

Match Line Sheet 11

Match Line Sheet 7

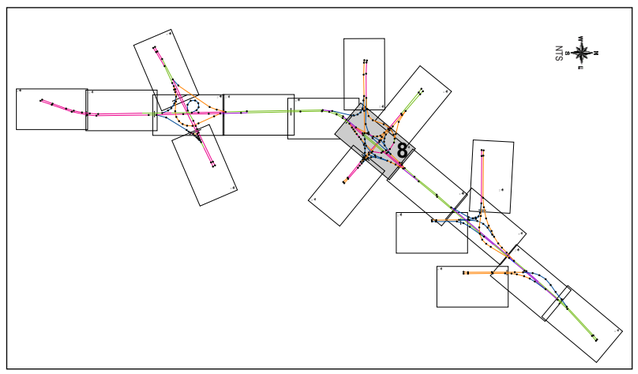
Match Line Sheet 12

Match Line Sheet 9

NTS

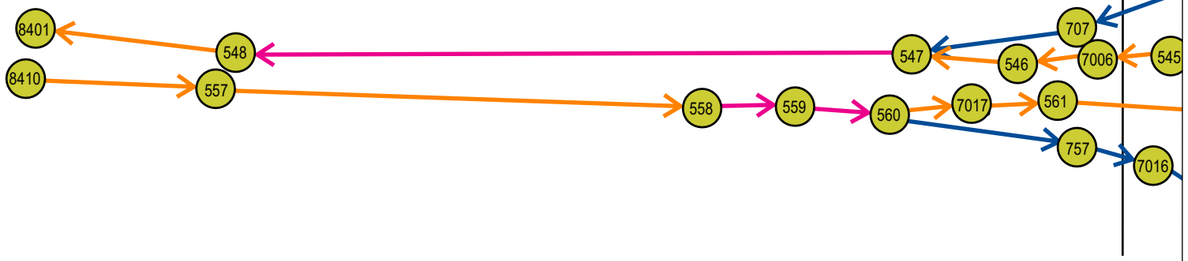
Legend

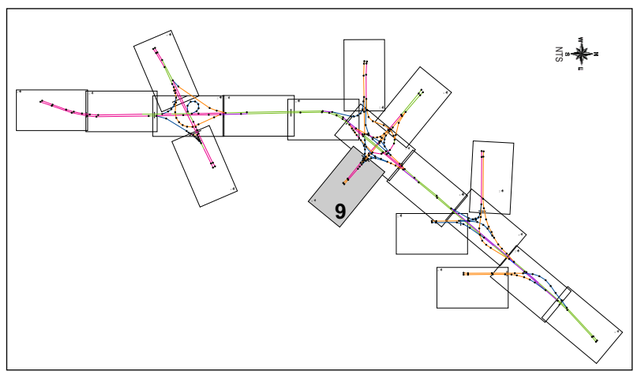
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 8





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
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E
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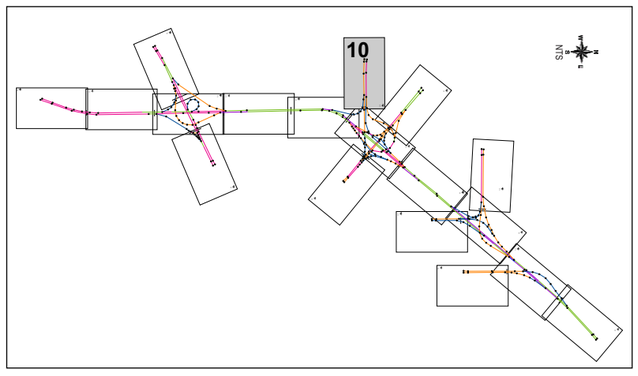
NTS

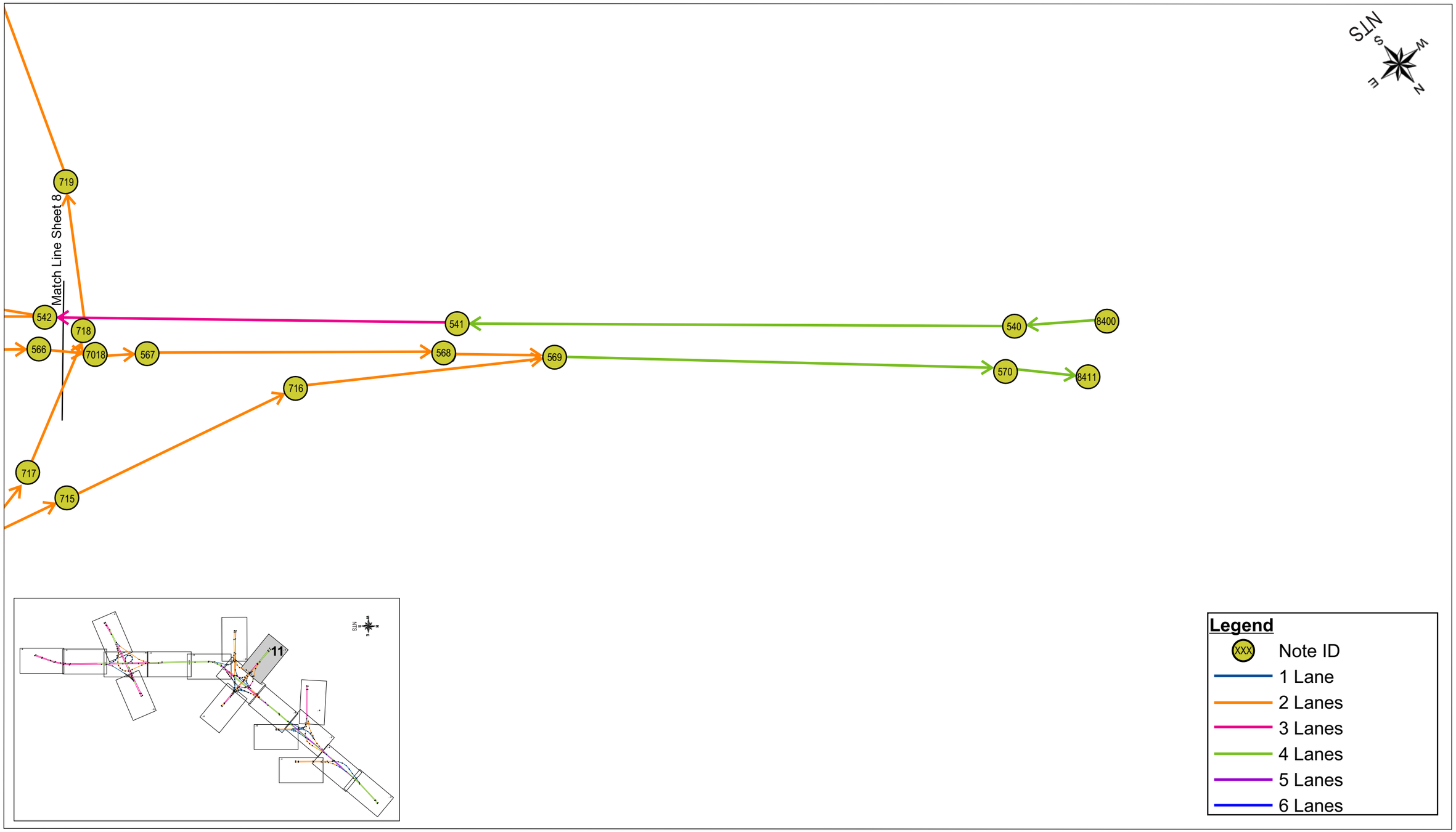
8310
725
724
123
722
8300
740
741
742
743
744

Match Line Sheet 8



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 8

Match Line Sheet 13

770

407

406

405

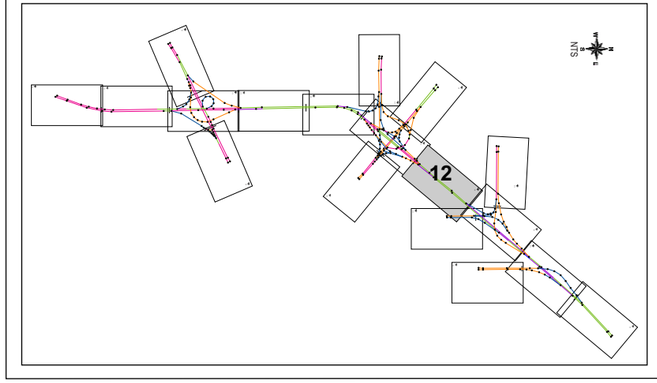
404

317

318

319

807



Legend

XXX Note ID

1 Lane

2 Lanes

3 Lanes

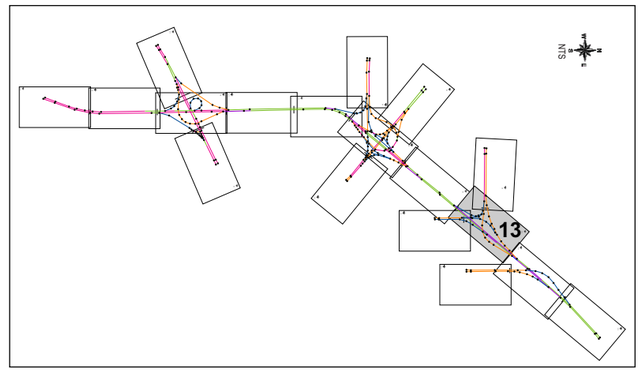
4 Lanes

5 Lanes

6 Lanes

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

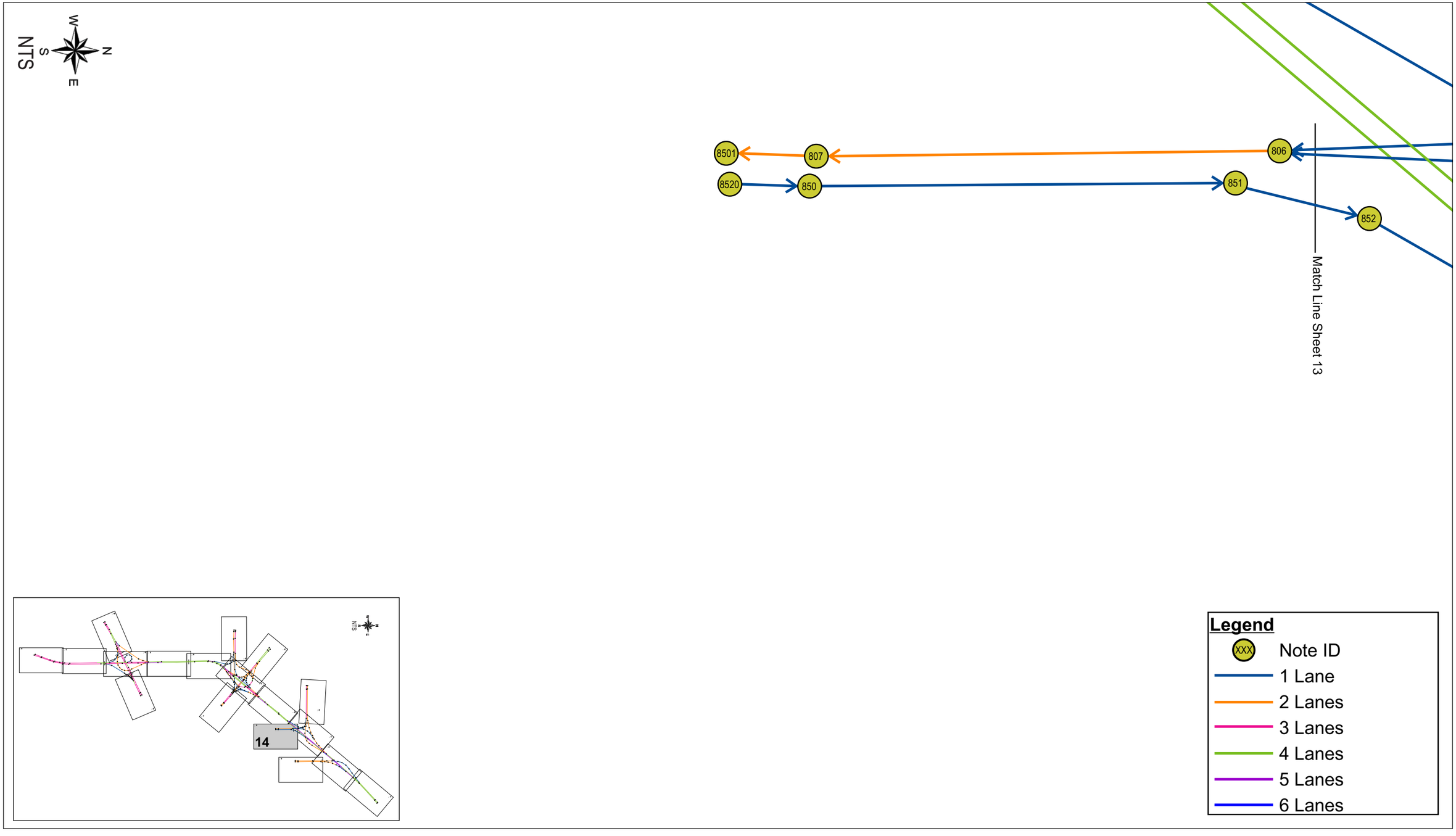


NTS

836 801 835 Match Line Sheet 15 802 834 811 803 7014 808 804 839 7015 833 809 840 838 832 810 812 7036 831 830 805 841 813 320 853 806 852 814 815 816 851 Match Line Sheet 14

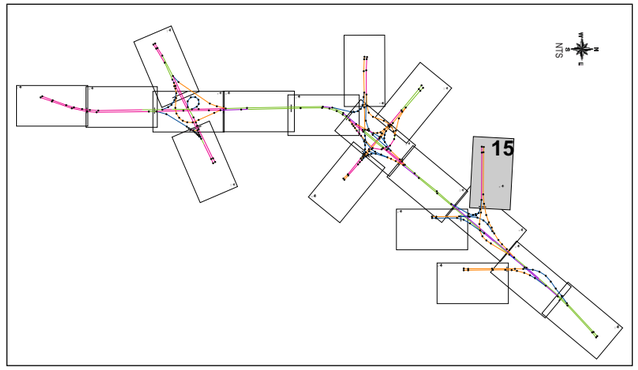
Match Line Sheet 12

Match Line Sheet 16



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
W E
S
NTS

Match Line Sheet 13

835
836
801
8510
837
8500
800

NTS

Match Line Sheet 13

Match Line Sheet 18

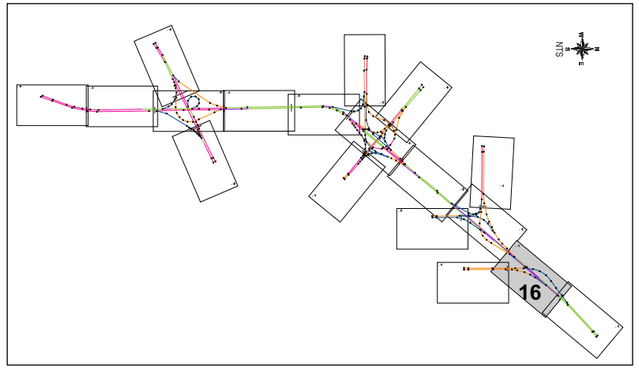
Match Line Sheet 16

901 902 903 904 905 906 907 920 921 922 923 924 925 926 927

321 322 323 324 402 403

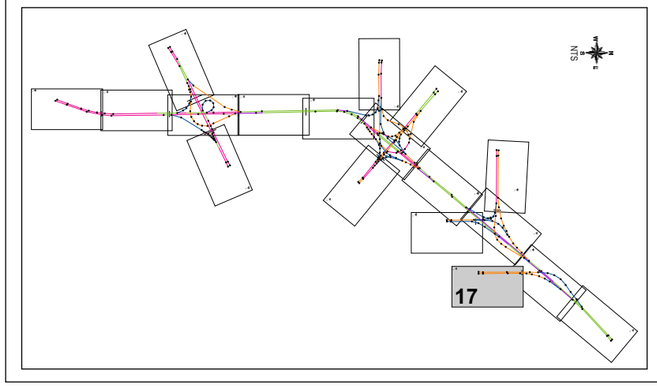
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 16



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
W
E
S
NTS

Match Line Sheet 16

920

401

324

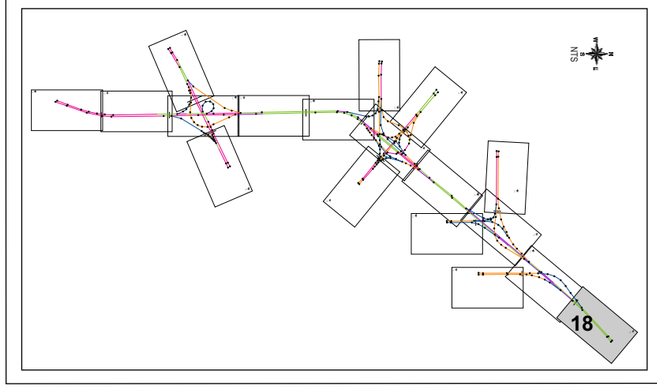
325

400

8110

326

8101



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	10780	70	3	1087	34.2	34.4	34.4	34.3	34.5	34.4	34.5	34.3	34.5	34.3	34.5	34.5	35.8	36.1	36.1	35.9	36.2	35.9	36.0	35.5	36.2	35.7	36.0	35.7
	300, 301	I275NB3	10780	70	3	805	33.2	33.5	33.5	33.4	33.6	33.5	33.5	33.4	33.6	33.3	33.5	33.5												
	301, 302	I275NB4	10780	70	3	478	34.0	34.2	34.2	34.1	34.3	34.3	34.2	34.1	34.3	34.1	34.2	34.2												
	302, 303	I275NB5	10780	70	3	2687	38.5	38.9	38.7	38.5	38.9	38.3	38.6	37.7	39.0	38.2	38.7	38.1												
	303, 304	I275NB6	10780	70	4	382	29.3	29.5	29.9	29.4	29.6	29.4	29.4	29.2	29.4	29.4	29.7	29.2												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	7980	70	3	1375	25.1	25.6	25.5	25.5	25.4	25.7	25.4	25.4	25.5	25.5	25.5	25.4	24.8	25.4	25.2	25.3	25.1	25.5	25.2	25.2	25.2	25.1	25.2	25.2
	305, 306	I275NB8	7980	70	3	1306	24.6	25.2	24.9	25.0	24.8	25.2	24.9	24.9	25.0	24.9	25.0	25.0												
	306, 307	I275NB9	7980	70	3	591	24.6	25.3	25.0	25.1	25.0	25.3	25.1	25.1	25.1	25.0	25.1	25.1												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	9200	70	5	1065	17.9	18.6	18.1	18.0	19.0	19.1	18.7	18.2	17.7	17.5	17.4	17.4	22.0	22.8	22.3	22.0	23.6	24.0	23.3	22.6	22.0	21.5	21.5	21.4
	308, 309	I275NB11	9200	70	5	3035	21.4	22.1	21.6	21.4	22.5	22.7	22.2	21.7	21.2	20.9	20.9	20.7												
	309, 310	I275NB12	9200	70	4	1095	22.1	22.7	22.3	22.0	23.2	23.5	22.9	22.4	21.8	21.6	21.5	21.4												
	310, 311	I275NB13	9200	70	4	380	23.2	23.8	23.5	23.0	25.0	25.1	24.4	23.8	23.2	22.6	22.5	22.5												
	311, 312	I275NB14	9200	70	4	399	24.4	25.5	25.1	24.5	27.9	28.5	27.1	25.9	25.2	24.1	23.9	24.1												
	312, 313	I275NB15	9200	70	4	368	26.6	28.7	27.8	27.3	31.4	33.5	31.3	28.9	28.2	26.4	26.2	26.4												
	313, 314	I275NB16	9200	70	4	460	28.1	29.7	28.6	28.7	31.5	33.2	31.7	29.6	28.7	27.7	27.4	27.6												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3560	70	3	886	11.3	11.7	11.3	11.4	11.9	12.0	11.9	11.5	11.4	10.9	10.7	11.1	10.9	11.3	11.0	11.0	11.4	11.5	11.4	11.1	11.0	10.6	10.4	10.8
	315, 316	I275NB18	3560	70	3	1317	10.8	11.2	10.8	10.9	11.3	11.3	11.3	11.0	10.9	10.5	10.2	10.7												
	316, 317	I275NB19	3560	70	3	1361	10.8	11.1	10.8	10.9	11.3	11.3	11.2	11.0	10.8	10.5	10.3	10.6												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	6610	70	5	1032	14.3	14.9	14.5	14.1	16.1	16.4	16.3	16.3	16.1	15.5	14.6	14.8	15.9	16.6	16.2	15.7	17.8	18.1	18.1	18.0	17.9	17.1	16.2	16.4
	318, 319	I275NB21	6610	70	5	1191	15.5	16.1	15.7	15.3	17.3	17.6	17.6	17.5	17.4	16.6	15.7	15.9												
	319, 320	I275NB22	6610	70	4	3175	16.6	17.3	16.9	16.4	18.5	18.9	18.9	18.7	18.7	17.9	16.9	17.1												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	7030	70	4	1678	16.4	17.1	16.7	16.2	18.5	19.1	19.1	18.8	18.5	17.9	16.9	16.9	16.4	17.1	16.7	16.2	18.5	19.1	19.1	18.8	18.5	17.9	16.9	16.9
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	8780	70	5	1064	16.9	17.5	17.4	16.5	19.9	21.3	20.7	20.0	19.1	18.7	17.7	17.6	17.7	18.4	18.2	17.3	24.4	34.9	32.8	28.2	22.0	20.1	18.7	18.5
	322, 323	I275NB25	8780	70	5	1398	18.3	19.0	18.9	17.9	27.8	45.3	41.9	34.3	24.1	21.2	19.5	19.2												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	10040	70	5	817	23.0	26.4	26.3	20.5	52.5	68.4	68.5	66.1	53.4	42.5	37.3	29.2	30.7	32.9	32.6	28.5	41.4	48.4	48.3	47.0	42.5	38.7	36.5	33.9
	324, 325	I275NB27	10040	70	5	683	41.3	45.2	43.9	35.5	48.6	53.7	53.9	52.8	50.2	49.0	47.4	46.3												
	325, 326	I275NB28	10040	70	4	1898	30.3	31.3	31.1	29.4	34.1	37.8	37.6	36.7	35.1	33.4	32.2	31.5												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	7350	70	4	2040	21.2	22.2	21.2	20.0	28.3	30.0	28.7	27.0	23.3	24.5	23.2	21.9	21.2	22.2	21.2	20.0	28.3	30.0	28.7	27.0	23.3	24.5	23.2	21.9
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	6650	70	4	2745	17.9	18.9	17.9	17.0	24.0	25.8	24.7	23.0	19.8	20.7	19.7	18.8	17.7	18.7	17.7	16.8	24.4	27.0	25.5	23.3	19.8	20.7	19.6	18.7
	402, 403	I275SB4	6650	70	5	825	17.3	18.3	17.2	16.4	25.6	31.0	28.4	24.2	19.8	20.6	19.5	18.5												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3410	70	4	4213	9.5	9.9	9.5	9.0	12.3	13.1	12.8	12.1	10.4	10.8	10.3	9.8	9.5	9.9	9.5	9.0	12.3	13.1	12.8	12.1	10.4	10.8	10.3	9.8
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4140	70	4	972	9.7	10.1	9.6	9.3	12.4	13.4	12.9	12.2	10.7	11.0	10.7	10.0	11.2	11.7	11.2	10.7	14.3	15.6	15.1	14.3	12.4	12.8	12.4	11.6
	405, 406	I275SB7	4140	70	4	1472	11.7	12.2	11.7	11.2	15.0	16.3	15.8	14.9	13.0	13.4	12.9	12.1												
	406, 407	I275SB8	4140	70	4	662	12.3	12.8	12.3	11.9	15.9	17.4	16.8	15.8	13.8	14.2	13.7	12.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2870	70	3	1201	10.4	11.0	10.4	9.9	13.0	14.4	14.0	13.0	11.5	11.9	11.5	10.8	10.4	10.9	10.4	9.8	12.9	14.2	13.9	12.9	11.4	11.7	11.4	10.7
	408, 409	I275SB10	2870	70	3	1585	10.3	10.9	10.3	9.8	12.8	14.1	13.8	12.8	11.3	11.7	11.3	10.7												
	409, 410	I275SB11	2870	70	3	458	10.4	10.9	10.3	9.8	12.9	14.1	13.9	12.8	11.3	11.7	11.3	10.7												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4040	70	5	631	9.5	10.1	10.4	9.0	11.9	12.9	12.7	11.9	10.5	10.8	10.4	9.8	10.2	10.8	11.1	9.6	12.8	13.9	13.7	12.8	11.2	11.6	11.1	10.5
	411, 412	I275SB13	4040	70	5	244	9.4	9.9	10.2	8.9	11.8	12.8	12.6	11.8	10.3	10.7	10.2	9.7												
	412, 413	I275SB14	4040	70	4	608	11.2	11.9	12.2	10.6	14.1	15.3	15.1	14.2	12.4	12.7	12.3	11.6												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5620	70	4	492	14.5	15.3	15.5	13.8	19.1	20.8	20.4	19.4	17.0	16.9	16.3	15.1	15.9	16.7	16.9	15.3	20.2	22.1	21.7	20.7	18.4	18.3	17.8	16.5
	414, 415	I275SB16	5620	70	4	3870	15.8	16.7	16.9	15.2	20.1	21.8	21.5	20.4	18.2	18.2	17.7	16.5												
	415, 416	I275SB17	5620	70	4	1086	16.6	17.7	17.7	16.0	21.3	23.5	23.1	22.0	19.4	19.3	18.8	17.3												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4420	70	3	1385	15.9	16.8	16.9	15.5	19.9	21.7	21.6	20.6	18.4	18.3	17.9	16.7	15.8	16.7	16.9	15.4	19.8	21.6	21.5	20.5	18.3	18.2	17.8	16.7
	417, 418	I275SB19	4420	70	3	343	15.7	16.5	16.6	15.3	19.4	21.2	21.2	20.2	18.0	18.0	17.6	16.5												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5820	70	3	1507	16.8	18.0	17.8	16.5	21.4	23.6	23.4	22.0	19.6	19.7	19.1	17.8	16.8	18.0	17.8	16.5	21.4	23.6	23.4	22.0	19.6	19.7	19.1	17.8
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	7360	70	3	3297	23.5	24.9	24.6	22.9	31.6	34.3	33.1	30.8	26.2	25.5	24.7	23.2	24.2	25.6	25.3	23.7	31.4	34.4	33.1	31.1	26.9	26.2	25.5	23.9
	420, 421	I275SB22	7360	70	3	430	25.1	26.5	26.3	24.6	31.3	34.4	33.0	31.5	27.7	27.0	26.5	24.9												
	421, 422	I275SB23	7360	70	3	403	25.1	26.5	26.3	24.7	31.2	34.4	33.0	31.5	27.7	27.1	26.6	24.9												
	422, 423	I275SB24	7360	70	3	426	25.2	26.5	26.3	24.7	31.2	34.5	33.0	31.5	27.8	27.1	26.6	24.9												
	423, 424	I275SB25	7360	70	3	412	25.1	26.6	26.4	24.7	31.2	34.5	33.0	31.6	27.9	27.1	26.6	25.0												
	424, 425	I275SB26	7360	70	3	734	25.1	26.5	26.4	24.7	31.1	34.4	33.1	31.6	27.9	27.1	26.6	25.1												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4445	50	3	841	23.8	24.8	23.9	22.4	32.6	41.6	59.1	38.1	18.7	19.2	18.2	17.2	20.0	21.2	20.1	18.7	35.3	49.2	62.5	45.6	19.3	18.0	16.5	15.4
	500, 501	GandyEB3	4445	50	4	954	17.2	18.3	17.3	16.2	36.1	56.9	69.5	54.4	19.3	16.6	15.1	14.1												
	501, 502	GandyEB4	4445	50	5	174	16.9	20.2	17.1	15.0	44.1	44.0	41.0	33.5	21.7	20.0	16.3	13.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1685	50	3	178	9.8	10.3	9.8	9.0	13.0	11.1	10.5	8.8	7.5	8.0	7.6	7.1	9.8	10.3	9.8	9.0	13.0	11.1	10.5	8.8	7.5	8.0	7.6	7.1
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1685	50	3	99	11.6	11.9	11.6	10.8	14.1	12.3	11.2	9.8	8.6	9.1	8.9	8.2	10.5	10.7	10.5	9.8	12.7	11.1	10.1	8.9	7.8	8.2	8.0	7.4
	505, 506	GandyEB10	1685	50	3	119	9.5	9.8	9.6	8.9	11.6	10.1	9.2	8.1	7.1	7.5	7.3	6.8												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3415	50	3	1167	16.3	16.5	16.6	16.0	18.5	16.9	16.2	14.8	14.0	14.4	14.3	13.9	16.3	16.5	16.6	16.0	18.5	16.9	16.2	14.8	14.0	14.4	14.3	13.9
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3840	55	3	181	14.4	15.4	14.4	13.8	19.3	20.4	19.5	18.3	16.1	16.8	15.9	15.1	11.6	12.4	11.6	11.1	15.5	16.4	15.7	14.7	13.0	13.5	12.8	12.2
	520, 521	GandyWB5	3840	55	3	291	12.1	12.9	12.1	11.6	16.1	16.9	16.2	15.2	13.5	14.0	13.3	12.7												
	521, 522	GandyWB6	3840	55	4	590	10.5	11.2	10.5	10.1	14.1	15.0	14.3	13.3	11.8	12.3	11.6	11.0												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2440	55	3	1768	8.4	8.7	8.2	7.9	10.8	11.6	11.0	10.5	9.2	9.3	9.2	8.7	8.4	8.7	8.2	7.9	10.8	11.6	11.0	10.5	9.2	9.3	9.2	8.7
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3640	55	5	1179	11.6	11.9	11.5	10.9	13.6	14.7	14.3	13.8	12.6	12.5	12.4	11.7	11.6	11.9	11.5	10.9	13.6	14.7	14.3	13.8	12.6	12.5	12.4	11.7
	524, 525	GandyWB9	3640	55	5	455	11.5	11.8	11.4	10.8	13.5	14.6	14.3	13.7	12.6	12.5	12.3	11.7												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2800	50	1	525	37.4	36.5	37.5	36.9	37.7	36.1	37.2	36.6	37.0	36.9	37.5	37.2	38.2	37.1	38.4	37.5	38.6	36.7	38.1	37.4	37.6	37.7	38.4	37.9
	600, 7001	GdyNBoff2	2800	50	1	300	39.4	38.2	39.8	38.5	40.2	37.6	39.7	38.6	38.6	39.0	39.8	39.2												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1730	50	1	263	25.3	25.0	25.8	26.3	26.0	25.1	25.9	24.7	25.0	25.5	25.6	25.9	22.6	22.4	23.1	23.6	23.4	22.6	23.2	22.2	22.6	22.8	22.9	23.2
	3, 4	GdyNBoff6	1730	50	1	359	21.9	21.6	22.3	22.7	22.5	21.8	22.3	21.4	21.7	22.0	22.2	22.4												
	4, 5	GdyNBoff7	1730	50	1	464	21.8	21.6	22.3	22.7	22.6	21.8	22.3	21.4	21.8	22.0	22.1	22.4												
	5, 506	GdyNBoff8	1730	50	1	241	22.4	22.2	23.0	23.5	23.3	22.5	23.1	22.2	22.5	22.6	22.7	23.0												
	7013, 2	GdyNBoff10	1070	50	1	267	17.6	16.6	16.8	16.0	16.6	16.1	16.6	17.4	17.2	16.7	17.2	17.0												
	2, 8	GdyNBoff11	1070	50	1	341	14.8	13.9	14.1	13.5	13.9	13.6	14.0	14.6	14.4	14.0	14.5	14.2												

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	1070	50	1	483	14.7	13.9	14.1	13.4	13.9	13.6	13.9	14.5	14.3	14.0	14.5	14.1	15.1	14.3	14.5	13.8	14.2	14.0	14.3	14.9	14.7	14.4	14.8	14.5
	9, 10	GdyNBoff13	1070	50	1	492	14.7	14.0	14.2	13.5	13.9	13.7	14.0	14.6	14.3	14.0	14.5	14.2												
	10, 11	GdyNBoff14	1070	50	1	389	14.7	14.2	14.2	13.6	13.9	13.8	14.0	14.6	14.3	14.0	14.6	14.2												
	11, 7022	GdyNBoff15	1070	50	1	196	14.7	14.2	14.2	13.6	14.0	13.9	14.0	14.7	14.4	14.1	14.6	14.3												
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2760	50	2	179	32.7	40.4	33.0	28.6	81.4	90.5	83.9	71.1	44.2	40.9	32.8	27.9	32.7	40.4	33.0	28.6	81.4	90.5	83.9	71.1	44.2	40.9	32.8	27.9
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1220	50	2	501	10.3	10.9	10.1	9.4	13.1	12.7	11.8	10.4	8.7	8.2	7.9	7.5	9.6	10.2	9.4	8.9	12.1	11.7	10.9	9.6	8.1	7.6	7.4	7.1
	623, 624	GdyNBon6	1220	50	2	299	9.6	10.1	9.3	8.8	12.0	11.6	10.8	9.5	8.0	7.5	7.4	7.0												
	624, 625	GdyNBon7	1220	50	2	253	9.5	10.1	9.3	8.8	12.0	11.5	10.7	9.5	8.0	7.5	7.3	7.0												
	625, 626	GdyNBon8	1220	50	2	238	9.5	10.0	9.3	8.8	12.0	11.5	10.7	9.5	8.0	7.5	7.3	7.0												
	626, 627	GdyNBon9	1220	50	2	242	9.5	10.0	9.3	8.8	12.0	11.5	10.7	9.4	8.0	7.5	7.3	7.0												
	627, 628	GdyNBon10	1220	50	2	277	9.5	10.0	9.3	8.8	11.9	11.5	10.7	9.4	8.0	7.5	7.3	7.0												
	628, 629	GdyNBon11	1220	50	2	337	9.5	10.0	9.3	8.8	11.9	11.5	10.7	9.4	8.0	7.5	7.3	7.0												
	629, 630	GdyNBon12	1220	50	2	877	9.5	10.1	9.3	8.7	11.9	11.5	10.7	9.5	8.0	7.5	7.3	7.0												
	630, 307	GdyNBon13	1220	50	2	344	9.4	10.1	9.3	8.7	11.8	11.5	10.7	9.5	8.1	7.5	7.2	7.0												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1200	50	2	481	10.5	11.1	10.8	9.8	12.8	14.3	13.8	13.1	12.1	11.9	11.5	10.5	10.4	11.0	10.8	9.8	12.8	14.3	13.8	13.1	12.1	11.9	11.4	10.5
	660, 661	GdySBoff2	1200	50	2	394	10.4	11.0	10.8	9.8	12.8	14.2	13.8	13.1	12.0	11.8	11.4	10.4												
	661, 7020	GdySBoff3	1200	50	2	336	10.4	11.0	10.8	9.8	12.8	14.3	13.9	13.1	12.1	11.9	11.4	10.5												
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2270	50	2	714	18.7	19.1	18.8	17.5	20.6	22.4	22.0	21.6	20.5	19.9	19.7	18.6	18.4	18.8	18.5	17.3	20.3	22.0	21.7	21.2	20.1	19.6	19.4	18.3
	662, 523	GdySBoff7	2270	50	2	424	17.9	18.4	18.0	16.9	19.7	21.4	21.1	20.7	19.6	19.1	18.8	17.9												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1540	50	1	286	26.0	26.8	25.9	25.8	33.6	32.1	29.4	26.3	22.0	21.1	19.8	19.5	23.9	24.7	23.9	23.8	30.8	29.5	26.9	24.1	20.3	19.4	18.3	18.0
	621, 622	GdySBon3	1540	50	1	204	23.0	23.7	22.9	22.8	29.6	28.3	25.9	23.2	19.6	18.7	17.5	17.2												
	622, 419	GdySBon4	1540	50	1	319	22.7	23.4	22.7	22.6	29.2	27.9	25.4	22.8	19.3	18.4	17.3	17.0												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1400	35	1	302	21.4	23.9	22.1	21.3	29.5	31.4	30.6	28.0	25.1	26.7	24.3	22.8	21.9	24.1	22.5	21.7	29.4	31.5	30.9	28.2	25.5	26.9	24.5	23.2
	640, 641	GdySBonLoop2	1400	35	1	259	21.7	24.0	22.4	21.5	29.3	31.2	30.7	28.1	25.2	26.7	24.4	23.1												
	641, 642	GdySBonLoop3	1400	35	1	227	21.9	24.1	22.5	21.5	29.4	31.3	30.8	28.1	25.3	26.8	24.4	23.2												
	642, 643	GdySBonLoop4	1400	35	1	211	22.1	24.1	22.6	21.7	29.5	31.6	31.0	28.2	25.6	27.0	24.5	23.4												
	643, 644	GdySBonLoop5	1400	35	1	211	22.2	24.2	22.7	21.8	29.4	31.6	31.1	28.3	25.7	27.0	24.6	23.4												
	644, 645	GdySBonLoop6	1400	35	1	207	22.2	24.2	22.8	22.0	29.5	31.7	31.2	28.4	25.9	27.1	24.7	23.5												
	645, 418	GdySBonLoop7	1400	35	1	252	22.3	24.2	22.8	22.1	29.4	31.8	31.1	28.4	25.9	27.1	24.8	23.5												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2130	60	4	1418	7.0	7.5	7.1	6.7	9.4	10.0	9.4	8.9	7.8	8.2	7.7	7.4	8.0	8.6	8.1	7.6	10.6	11.3	10.6	10.1	8.9	9.3	8.8	8.4
	541, 542	RvEB3	2130	60	3	1028	9.3	10.0	9.4	8.9	12.3	13.2	12.4	11.8	10.4	10.8	10.2	9.8												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1430	60	2	513	9.2	9.6	7.4	8.8	12.1	13.0	12.2	11.6	10.3	10.6	10.0	9.6	9.2	9.6	7.4	8.8	12.1	13.0	12.2	11.6	10.3	10.6	10.0	9.6
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1530	60	2	120	12.4	12.8	10.6	12.2	16.5	20.6	20.0	18.9	16.0	15.3	14.7	13.5	11.3	11.6	9.7	11.1	14.9	18.4	17.8	16.9	14.4	13.8	13.3	12.2
	546, 547	RvEB10	1530	60	2	165	10.5	10.8	9.0	10.3	13.7	16.8	16.2	15.5	13.2	12.7	12.3	11.3												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2970	60	2	1053	16.4	16.4	14.9	15.9	19.3	22.1	20.9	20.5	18.3	17.8	17.5	16.4	16.4	16.4	14.9	15.9	19.3	22.1	20.9	20.5	18.3	17.8	17.5	16.4
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2805	60	2	756	18.6	19.8	18.5	17.8	24.5	26.1	24.7	23.6	20.2	21.5	20.5	19.3	17.2	18.4	17.2	16.6	22.8	24.4	23.0	22.1	18.8	20.0	19.1	18.0
	558, 559	RvWB3	2805	60	2	146	15.7	16.7	15.7	15.1	20.9	22.7	21.2	20.4	17.1	18.2	17.5	16.5												
	559, 560	RvWB4	2805	60	3	151	12.2	12.9	12.1	11.7	16.2	17.5	16.3	15.8	13.2	14.1	13.5	12.7												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2670	60	2	125	17.3	18.6	17.2	16.6	22.9	24.7	23.1	22.3	18.9	20.1	19.2	18.1	17.3	18.6	17.2	16.6	22.9	24.7	23.1	22.3	18.9	20.1	19.2	18.1
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2215	60	2	133	17.0	18.4	16.9	16.4	22.5	24.5	23.2	21.9	19.1	20.0	19.3	18.0	14.6	15.7	14.5	14.1	19.1	20.7	19.8	18.7	16.3	17.1	16.6	15.5
	567, 568	RvWB14	2215	60	2	750	14.3	15.4	14.2	13.8	18.7	20.3	19.3	18.3	15.9	16.7	16.2	15.1												
	568, 569	RvWB15	2215	60	2	281	14.2	15.3	14.3	13.9	18.7	20.2	19.3	18.3	15.9	16.7	16.2	15.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4775	60	4	1137	14.2	14.9	14.4	14.1	16.8	17.5	17.0	16.5	15.0	15.4	15.1	14.5	14.2	14.9	14.4	14.1	16.8	17.5	17.0	16.5	15.0	15.4	15.1	14.5
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5640	50	2	228	39.4	40.7	39.6	39.4	41.5	43.3	41.4	40.1	38.8	38.7	38.5	37.6	39.4	40.7	39.6	39.4	41.5	43.3	41.4	40.1	38.8	38.7	38.5	37.6
	7008, 701	RvNBoff4	5640	50	2	168	45.8	47.2	46.1	45.7	47.5	49.4	47.2	46.2	45.1	45.2	45.0	43.9	33.5	34.5	33.8	33.4	34.8	36.2	34.4	33.9	33.0	33.1	32.9	32.2
	701, 702	RvNBoff5	5640	50	2	198	27.9	29.0	28.3	27.9	29.2	30.3	28.7	28.4	27.6	27.6	27.5	26.9												
	702, 703	RvNBoff6	5640	50	3	130	25.9	26.7	26.2	25.9	27.0	28.1	26.7	26.3	25.7	25.6	25.6	25.0												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1440	50	1	336	19.7	19.4	19.5	19.2	20.5	21.3	19.1	19.8	19.1	19.2	19.6	18.6	19.5	19.1	19.4	19.0	20.3	21.1	18.9	19.7	19.0	19.1	19.4	18.4
	704, 705	RvNBoff8	1440	50	1	200	19.6	19.2	19.4	19.1	20.4	21.2	19.0	19.8	19.0	19.2	19.4	18.5												
	705, 706	RvNBoff9	1440	50	1	223	19.5	19.1	19.3	19.0	20.2	21.0	18.9	19.6	18.9	19.1	19.3	18.4												
	706, 707	RvNBoff10	1440	50	1	262	19.4	19.0	19.2	18.9	20.2	21.0	18.9	19.6	18.8	19.0	19.2	18.3												
	707, 547	RvNBoff11	1440	50	1	264	19.5	19.0	19.3	18.9	20.2	21.1	18.9	19.6	18.9	19.1	19.2	18.4												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2560	50	2	248	17.2	17.5	17.4	17.4	18.0	18.2	18.0	17.6	17.0	17.0	17.0	16.6	16.7	16.9	16.9	16.9	17.4	17.6	17.3	17.1	16.5	16.5	16.4	16.1
	715, 716	RvNBoff21	2560	50	2	642	16.7	16.9	16.9	16.9	17.4	17.6	17.3	17.1	16.4	16.5	16.4	16.1												
	716, 569	RvNBoff22	2560	50	2	670	16.5	16.8	16.7	16.6	17.1	17.4	17.1	16.9	16.3	16.3	16.2	15.9												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	135	50	1	296	1.9	1.7	2.0	1.9	2.6	2.7	2.5	2.6	2.0	2.2	2.0	2.1	2.0	1.8	2.1	2.0	2.7	2.7	2.5	2.6	2.1	2.3	2.1	2.1
	757, 7016	RvNBon4	135	50	1	127	2.1	1.9	2.2	2.1	2.8	2.9	2.7	2.8	2.2	2.5	2.2	2.2												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	3050	50	2	261	27.7	29.0	28.2	26.5	33.2	34.3	34.1	34.7	34.6	32.7	30.1	29.6	25.0	26.2	25.6	24.0	29.8	30.7	30.5	31.1	31.0	29.3	27.1	26.7
	756, 317	RvNBon10	3050	50	2	444	23.5	24.5	24.0	22.5	27.8	28.6	28.4	28.9	28.9	27.4	25.4	25.1												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1270	50	2	223	10.5	10.5	10.4	10.3	13.7	14.5	14.1	13.6	11.8	12.1	11.6	11.0	10.5	10.5	10.4	10.3	13.7	14.5	14.2	13.7	11.8	12.1	11.6	11.0
	770, 7032	RvSBoff2	1270	50	2	150	10.5	10.6	10.4	10.3	13.8	14.6	14.2	13.7	11.9	12.1	11.6	11.0												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1170	50	3	102	7.7	8.4	10.0	7.4	10.1	10.8	10.5	10.0	8.7	8.9	8.5	8.1	9.0	9.8	11.6	8.6	11.6	12.4	12.2	11.6	10.1	10.3	9.9	9.3
	793, 410	RvSBon5	1170	50	3	655	9.2	10.0	11.8	8.7	11.8	12.7	12.4	11.9	10.3	10.6	10.1	9.5												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	5.3	6.0	7.6	5.1	7.1	7.5	7.1	6.8	5.9	6.2	6.0	5.6	5.3	6.0	7.6	5.1	7.0	7.5	7.1	6.8	5.9	6.2	6.0	5.6
	790, 7011	RvSBon11	700	50	2	250	5.3	5.9	7.6	5.1	7.0	7.5	7.1	6.8	5.9	6.2	6.0	5.6												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4200	50	2	311	28.0	29.0	28.2	27.9	28.8	29.8	29.3	28.1	27.6	27.5	27.3	26.9	22.1	22.8	22.3	22.0	22.7	23.6	23.1	22.2	21.8	21.8	21.5	21.2
	708, 710	118NBoff2	4200	50	2	567	28.4	29.4	28.6	28.3	29.2	30.4	29.7	28.5	28.0	28.0	27.7	27.3												
	710, 711	118NBoff3	4200	50	2	460	21.3	22.0	21.4	21.2	21.9	22.7	22.3	21.4	21.1	21.0	20.7	20.5												
	711, 712	118NBoff4	4200	50	3	472	18.4	19.0	18.6	18.4	18.9	19.6	19.2	18.5	18.2	18.2	17.9	17.7												
	712, 713	118NBoff5	4200	50	3	395	17.4	17.9	17.6	17.3	17.8	18.5	18.1	17.4	17.2	17.1	16.9	16.7												
	713, 714	118NBoff6	4200	50	4	188	14.2	14.7	14.4	14.2	14.6	15.2	15.0	14.3	14.3	14.0	13.8	13.6												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1640	50	2	212	11.1	11.6	11.2	10.8	11.0	11.9	11.6	10.8	11.1	10.9	10.5	10.6	11.0	11.4	11.0	10.7	10.9	11.8	11.4	10.8	10.9	10.8	10.4	10.5
	717, 718	118NBoff8	1640	50	2	389	11.0	11.4	11.0	10.7	10.9	11.7	11.5	10.7	10.9	10.8	10.5	10.5												
	718, 719	118NBoff9	1640	50	2	373	11.0	11.4	11.0	10.7	10.8	11.8	11.4	10.7	10.9	10.8	10.4	10.5												
	719, 720	118NBoff10	1640	50	2	589	11.0	11.5	11.0	10.7	10.8	11.8	11.4	10.7	10.9	10.8	10.4	10.5												
	720, 721	118NBoff11	1640	50	2	311	11.0	11.5	11.0	10.7	10.8	11.8	11.4	10.8	10.9	10.8	10.4	10.5												

2040 No Build AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1640	50	2	381	11.0	11.4	11.0	10.7	10.8	11.8	11.4	10.8	10.9	10.8	10.4	10.5												
	722, 723	118NBoff13	1640	50	2	562	11.1	11.4	11.1	10.7	10.8	11.8	11.4	10.8	10.9	10.8	10.4	10.5												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2510	60	3	1252	10.6	10.8	10.5	10.2	11.5	12.7	12.0	11.7	11.2	11.2	10.6	10.5	10.5	10.6	10.4	10.1	11.4	12.6	11.8	11.6	11.1	11.0	10.5	10.3
	724, 725	118NBoff15	2510	60	3	575	10.2	10.3	10.1	9.8	11.0	12.2	11.5	11.2	10.8	10.7	10.2	10.1												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	4210	60	2	611	28.5	30.0	28.7	27.2	38.1	49.6	78.5	81.4	52.7	33.3	31.5	29.6	29.2	30.7	29.4	27.6	40.0	59.9	90.4	90.9	62.5	35.7	32.4	30.4
	741, 742	118NBon3	4210	60	2	1107	29.6	31.1	29.8	27.8	41.1	65.6	97.1	96.1	67.9	37.1	32.9	30.7												
	742, 749	118NBon4	2630	50	2	758	20.0	21.1	20.2	18.8	34.8	76.8	99.9	96.3	74.8	35.3	21.8	20.9												
	749, 750	118NBon5	2630	50	2	1140	23.9	26.3	24.9	23.0	54.8	87.5	95.1	93.9	82.9	51.2	29.0	26.3												
	750, 751	118NBon6	2630	50	1	304	45.3	49.8	47.3	44.1	70.6	79.1	77.9	78.5	76.6	66.2	53.3	50.1												
NB I-275 On Ramp from 118th	751, 752	118NBon7	2630	50	1	341	44.0	47.4	45.2	42.5	61.5	66.3	65.7	66.5	64.7	58.5	50.0	47.8	32.5	35.0	33.4	31.2	52.6	73.8	80.9	80.1	71.2	50.4	37.0	35.2
	752, 753	118NBon8	2630	50	1	406	43.7	46.5	44.3	41.9	56.3	58.7	58.3	59.1	57.5	54.2	48.2	46.7												
	753, 754	118NBon9	2630	50	1	250	44.1	46.6	44.6	42.1	54.1	55.4	55.1	55.8	54.5	52.6	47.9	46.9												
	754, 7009	118NBon10	2630	50	1	349	44.6	47.1	45.2	42.6	54.3	55.7	55.5	56.2	55.0	52.8	48.5	47.5												
	7034, 775	118SBoff2	870	50	1	147	23.5	23.2	22.5	22.0	29.6	32.3	30.1	30.0	26.7	26.6	25.7	24.6												
	775, 776	118SBoff3	870	50	1	934	15.2	15.0	14.6	14.3	19.3	21.0	19.5	19.5	17.4	17.3	16.7	16.0												
SB I-275 Off Ramp to 118th	776, 777	118SBoff4	870	50	1	371	15.0	14.8	14.4	14.0	19.0	20.7	19.3	19.1	17.3	17.2	16.3	15.7	15.6	15.3	14.9	14.5	19.6	21.4	19.9	19.9	17.8	17.8	16.9	16.3
	777, 778	118SBoff5	870	50	1	446	15.1	14.8	14.5	14.1	19.0	20.7	19.3	19.3	17.3	17.3	16.3	15.8												
	778, 723	118SBoff6	870	50	1	1329	15.3	14.9	14.6	14.1	19.1	21.0	19.4	19.6	17.3	17.5	16.5	15.9												
	742, 743	118SBon1	1580	50	1	227	25.4	26.3	25.6	24.5	33.4	40.1	41.6	42.4	36.5	30.9	29.0	25.8												
	743, 744	118SBon2	1580	50	1	418	25.0	25.9	25.3	24.3	32.5	34.4	32.7	33.0	30.6	29.6	28.6	25.5												
SB I-275 On Ramp from 118th	744, 745	118SBon3	1580	50	1	223	25.1	25.9	25.3	24.3	32.4	33.7	31.6	31.9	29.9	29.4	28.5	25.6	25.4	26.2	25.6	24.7	32.9	34.8	33.2	33.5	31.2	29.9	29.0	26.0
	745, 746	118SBon4	1580	50	1	201	25.2	26.0	25.4	24.4	32.6	33.9	31.8	32.2	30.2	29.5	28.7	25.7												
	746, 747	118SBon5	1580	50	1	200	25.3	26.2	25.6	24.6	32.8	34.2	32.1	32.5	30.5	29.8	28.9	26.0												
	747, 748	118SBon6	1580	50	1	166	25.5	26.3	25.6	24.7	33.0	34.4	32.2	32.6	30.7	29.9	29.0	26.1												
	748, 413	118SBon7	1580	50	1	973	25.6	26.5	25.8	25.0	33.1	34.5	32.5	32.7	31.0	30.1	29.3	26.3												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2775	60	3	2420	12.3	12.9	12.2	11.7	16.1	17.1	16.3	15.4	13.3	14.2	13.4	12.8	12.3	12.9	12.2	11.7	16.1	17.1	16.3	15.4	13.3	14.2	13.4	12.8
	801, 811	UlmNBon3	1750	50	2	647	13.8	14.4	14.1	12.9	17.9	19.5	18.6	17.4	15.2	15.9	15.0	14.6												
	811, 812	UlmNBon4	1750	50	2	590	13.7	14.4	14.1	12.9	17.7	19.5	18.5	17.5	15.1	15.9	15.0	14.6												
	812, 813	UlmNBon5	1750	50	2	323	13.7	14.5	14.2	12.9	17.8	19.5	18.5	17.5	15.2	15.9	15.1	14.6												
NB I-275 On Ramp from Ulmerton	813, 814	UlmNBon6	1750	50	2	328	13.7	14.5	14.2	12.9	17.7	19.6	18.5	17.5	15.2	16.0	15.1	14.6	13.8	14.4	14.2	13.0	17.8	19.6	18.6	17.5	15.2	16.0	15.0	14.6
	814, 815	UlmNBon7	1750	50	2	288	13.8	14.4	14.2	12.9	17.7	19.6	18.6	17.5	15.2	16.0	15.1	14.6												
	815, 816	UlmNBon8	1750	50	2	273	13.8	14.4	14.3	13.0	17.7	19.6	18.6	17.5	15.2	16.0	15.1	14.6												
	816, 321	UlmNBon9	1750	50	2	1098	13.8	14.3	14.3	13.0	17.7	19.6	18.7	17.5	15.3	16.0	15.0	14.7												
	403, 830	UlmSBoff1	3240	50	2	573	25.9	27.5	25.9	25.0	34.0	37.3	35.3	33.3	29.4	30.2	29.0	27.7												
SB I-275 Off Ramp to Ulmerton/MLK	830, 831	UlmSBoff2	3240	50	2	346	25.3	26.9	25.4	24.5	32.5	35.5	33.7	32.2	28.5	29.4	28.3	27.1	25.7	27.3	25.7	24.8	33.4	36.6	34.7	32.9	29.0	29.9	28.8	27.5
	831, 7036	UlmSBoff3	3240	50	2	283	25.6	27.3	25.7	24.9	33.1	36.4	34.6	32.8	29.0	29.9	28.8	27.5												
	7014, 834	UlmSBoff7	2680	50	2	398	22.0	23.6	22.4	22.0	28.5	31.5	30.0	28.7	25.3	25.7	25.1	23.6												
WB Ulmerton West of I-275	834, 835	UlmSBoff8	2680	60	2	584	18.8	20.2	19.2	18.8	24.4	27.0	25.8	24.6	21.7	22.0	21.5	20.3	18.1	19.5	18.5	18.1	23.4	25.8	24.8	23.7	20.9	21.2	20.7	19.6
	835, 836	UlmSBoff9	2680	60	2	481	17.4	18.6	17.7	17.3	22.3	24.6	23.7	22.6	20.0	20.2	19.8	18.7												
	836, 837	UlmSBoff10	2680	60	2	2160	17.4	18.7	17.8	17.4	22.4	24.7	23.8	22.7	20.1	20.4	19.8	18.9												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1025	35	1	493	15.0	16.3	14.7	14.9	20.1	21.5	20.1	19.3	16.6	17.7	16.9	15.4	16.8	18.2	16.5	16.7	22.4	24.0	22.5	21.6	18.5	19.8	18.9	17.2
	802, 803	UlmSBon2	1025	35	1	214	20.8	22.6	20.5	20.9	27.8	30.0	28.0	26.9	23.0	24.7	23.6	21.3												
	803, 808	UlmSBon3	730	35	1	163	16.3	18.0	15.5	16.2	21.1	23.4	21.9	20.7	17.9	19.2	18.4	16.9												
SB I-275 On Ramp from Ulmerton	808, 809	UlmSBon4	730	35	1	163	16.3	17.8	15.4	16.2	20.9	23.2	21.7	20.4	17.8	19.1	18.3	16.8	13.6	14.9	12.9	13.5	17.4	19.4	18.2	17.1	14.9	15.9	15.4	14.1
	809, 810	UlmSBon5	730	35	1	228	16.4	17.8	15.5	16.2	20.9	23.3	21.8	20.4	17.9	19.1	18.4	16.9												
	810, 404	UlmSBon6	730	50	1	1030	12.2	13.3	11.6	12.1	15.5	17.4	16.2	15.2	13.4	14.2	13.8	12.6												
	803, 804	UlmSBMLK1	295	35	1	201	6.0	6.0	6.3	6.0	7.8	7.9	7.5	7.5	6.5	6.9	6.6	5.8												
EB Ulmerton to SB MLK	804, 805	UlmSBMLK2	295	50	1	361	5.0	5.0	5.3	5.0	6.5	6.6	6.2	6.3	5.4	5.8	5.5	4.8	4.8	4.8	5.1	4.8	6.3	6.3	6.0	6.0	5.2	5.6	5.3	4.6
	805, 806	UlmSBMLK3	295	50	1	499	4.2	4.2	4.4	4.2	5.5	5.6	5.2	5.3	4.6	4.9	4.6	4.0												
SB MLK	806, 807	UlmSBMLK4	855	50	2	1171	6.6	6.7	6.5	6.0	8.1	8.8	8.2	8.0	7.0	7.5	7.1	6.8	6.6	6.7	6.5	6.0	8.1	8.8	8.2	8.0	7.0	7.5	7.1	6.8
	850, 851	MLKNBon2	420	50	1	1080	6.4	6.8	6.5	6.2	8.7	9.1	8.5	8.3	7.1	7.5	7.1	6.7												
NB I-275 On Ramp from NB MLK	851, 852	MLKNBon3	420	50	1	350	6.4	6.8	6.4	6.1	8.5	9.0	8.4	8.3	7.0	7.5	7.1	6.7	6.4	6.8	6.5	6.2	8.6	9.0	8.5	8.3	7.1	7.5	7.1	6.7
	852, 853	MLKNBon4	420	50	1	370	6.4	6.8	6.4	6.2	8.5	9.0	8.5	8.3	7.0	7.5	7.1	6.7												
	853, 320	MLKNBon5	420	50	1	885	6.4	6.9	6.5	6.3	8.5	9.1	8.5	8.4	7.1	7.5	7.1	6.7												
	7015, 839	MLKSBoff3	560	50	1	294	9.7	10.0	9.3	8.4	11.7	13.1	12.1	11.8	10.1	11.0	10.4	10.3												
SB I-275 Off Ramp to MLK	839, 840	MLKSBoff4	560	50	1	336	9.0	9.2	8.6	7.8	10.8	12.2	11.2	10.9	9.4	10.2	9.6	9.5	9.2	9.4	8.8	7.9	11.0	12.4	11.4	11.1	9.6	10.3	9.8	9.7
	840, 841	MLKSBoff5	560	50	1	395	9.1	9.2	8.6	7.8	10.9	12.2	11.3	10.9	9.5	10.2	9.6	9.6												
	841, 806	MLKSBoff6	560	50	1	539	9.1	9.2	8.7	7.8	10.9	12.2	11.3	11.0	9.6	10.2	9.6	9.6												
	900, 901	4thNBon2	1260	60	2	1270	8.2	8.7	8.2	7.8	10.7	11.5	10.8	10.2	9.0	9.4	9.0	8.4												
	901, 902	4thNBon3	1260	60	2	634	8.1	8.6	8.1	7.7	10.5	11.3	10.7	10.1	8.9	9.3	8.9	8.3												
	902, 903	4thNBon4	1260	60	2	322	8.3	8.7	8.2	7.8	10.7	11.5	11.0	10.4	9.0	9.4	9.1	8.4												
NB I-275 On Ramp from 4th	903, 904	4thNBon5	1260	60	2	279	8.5	8.9	8.4	7.9	11.0	11.9	11.3	10.6	9.3	9.6	9.4	8.6	7.1	7.4	7.0	6.7	9.5	11.8	10.4	9.4	7.8	8.1	7.8	7.3
	904, 905	4thNBon6	1260	60	2	388	9.3	9.7	9.1	8.6	12.1	13.2	12.6	11.7	10.2	10.6	10.2	9.4												
	905, 906	4thNBon7	1260	60	1	313	17.1	17.7	16.8	15.8	22.2	24.0	23.0	21.4	18.6	19.5	18.7	17.3												
	906, 907	4thNBon8	1260	60	1	300	17.0	17.6	16.8	15.8	22.0	24.0	22.8	21.2	18.6	19.4	18.5	17.2												
	907, 323	4thNBon9	1260	60	1	684	17.1	17.7	16.8	15.8	24.9	41.1	32.0	25.8	19.2	19.7	18.9	17.4												
	401, 920	4thSBoff1	700	60	1	467	9.4	9.6	9.5	8.9	12.0	13.0	12.1	12.1	10.5	10.8	9.8	9.2												
	920, 921	4thSBoff2	700	60	1	492	9.4	9.5	9.4	8.8	11.8	12.6	11.7	11.9	10.3	10.7	9.6	9.1												
	921, 922	4thSBoff3	700	60	1	420	9.4	9.5	9.4	8.8	11.8	12.6	11.8	11.9	10.3	10.8	9.7	9.1												
	922, 923	4thSBoff4	700	60	1	393	9.4	9.6	9.5	8.9	11.9	12.6	11.9	12.0	10.4	10.8	9.7	9.2												
	923, 924	4thSBoff5	700	60	1	384	9.5	9.6	9.5	8.9	11.9	12.7	11.9	12.0	10.5	10.8	9.7	9.3												
SB I-275 Off Ramp to 4th	924, 925	4thSBoff6	700	60	1	354	9.5	9.6	9.5	9.0	11.9	12.7	12.0	12.0	10.5	10.9	9.7	9.3	6.7	6.8	6.7	6.3	8.3	8.9	8.4	8.4	7.4	7.6	6.9	6.5
	925, 926	4thSBoff7	700	60	1	501	9.5	9.7	9.5	9.0	11.9	12.8	12.0	12.1	10.5	10.9	9.7	9.3												
	926, 927	4thSBoff8	700	60	1	416	9.2	9.3	9.2	8.6	11.5	12.4	11.6	11.7	10.1	10.5	9.4	9.0												
	927, 928	4thSBoff9	700	60	2	1153	4.7	4.8	4.7	4.4	5.8	6.4	6.0	5.9	5.2	5.4	4.8	4.6												
	928, 929	4thSBoff10	700	60	2	1242	4.7	4.7	4.7	4.4	5.7	6.3	5.9	5.9	5.2	5.3	4.8	4.6												

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Speed (mph)												Weighted Speed (mph)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	10780	70	3	1087	65.9	65.9	65.9	65.9	65.9	65.9	65.8	65.9	65.8	65.9	65.9	65.8	61.0	60.9	60.8	61.0	60.8	61.2	61.0	61.6	60.8	61.2	61.0	61.4
	300, 301	I275NB3	10780	70	3	805	66.6	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5	66.5												
	301, 302	I275NB4	10780	70	3	478	65.1	65.1	65.0	65.1	65.1	65.0	65.1	65.1	65.1	65.0	65.1	65.1												
	302, 303	I275NB5	10780	70	3	2687	57.1	57.0	57.0	57.2	56.9	57.7	57.3	58.5	56.8	57.6	57.3	58.1												
	303, 304	I275NB6	10780	70	4	382	56.5	56.8	55.8	56.7	56.5	56.9	56.8	57.1	56.7	56.6	56.4	57.2												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	7980	70	3	1375	64.9	64.7	64.4	64.6	64.7	64.7	64.7	64.9	64.7	64.4	64.7	64.7	65.6	65.4	65.2	65.3	65.5	65.4	65.4	65.5	65.4	65.2	65.5	65.4
	305, 306	I275NB8	7980	70	3	1306	66.2	66.0	65.9	65.9	66.1	66.0	66.0	66.1	66.1	65.9	66.1	65.9												
	306, 307	I275NB9	7980	70	3	591	65.9	65.7	65.6	65.6	65.8	65.7	65.6	65.7	65.8	65.5	65.8	65.6												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	9200	70	5	1065	64.7	64.3	64.5	64.5	64.3	64.2	64.2	64.5	64.7	64.6	64.9	64.8	63.7	63.1	63.3	63.4	62.5	62.1	62.6	63.0	63.4	63.5	63.8	63.6
	308, 309	I275NB11	9200	70	5	3035	66.2	65.9	66.0	66.0	66.0	65.8	65.8	65.9	66.0	65.9	66.1	66.1												
	309, 310	I275NB12	9200	70	4	1095	65.8	65.5	65.6	65.7	65.4	65.3	65.4	65.5	65.7	65.6	65.9	65.9												
	310, 311	I275NB13	9200	70	4	380	62.8	62.4	62.2	62.8	61.0	61.1	61.7	61.8	62.1	62.8	63.0	62.6												
	311, 312	I275NB14	9200	70	4	399	59.7	58.1	58.3	59.2	54.6	54.0	55.9	57.2	57.8	59.3	59.5	58.9												
	312, 313	I275NB15	9200	70	4	368	54.7	52.0	52.9	53.3	48.6	46.2	49.4	51.9	52.8	54.5	54.7	54.2												
	313, 314	I275NB16	9200	70	4	460	51.7	50.2	51.2	50.6	48.1	46.4	48.2	50.3	51.2	51.6	52.2	51.5												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3560	70	3	886	65.5	64.7	65.3	65.0	64.3	63.9	64.2	64.8	64.9	65.1	65.3	65.3	67.5	67.1	67.4	67.2	67.1	66.9	67.1	67.1	67.2	67.2	67.4	67.4
	315, 316	I275NB18	3560	70	3	1317	68.2	67.9	68.1	67.9	67.9	67.9	67.9	67.9	67.9	67.8	68.1	68.0												
	316, 317	I275NB19	3560	70	3	1361	68.2	67.9	68.1	68.0	68.0	68.0	68.1	67.9	68.1	67.9	68.2	68.1												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	6610	70	5	1032	62.3	62.1	62.3	62.3	61.9	61.8	61.9	61.8	61.8	61.8	62.1	62.0	66.0	65.9	66.0	65.9	65.7	65.7	65.7	65.8	65.7	65.8	66.0	65.9
	318, 319	I275NB21	6610	70	5	1191	66.4	66.4	66.4	66.1	66.1	66.3	66.2	66.2	66.1	66.3	66.6	66.4												
	319, 320	I275NB22	6610	70	4	3175	67.1	66.9	67.0	67.0	66.8	66.8	66.8	66.9	66.9	66.9	67.1	67.0												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	7030	70	4	1678	66.0	65.9	65.9	66.2	65.6	65.4	65.4	65.5	65.7	65.6	65.9	66.0	66.0	65.9	65.9	66.2	65.6	65.4	65.4	65.5	65.7	65.6	65.9	66.0
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	8780	70	5	1064	64.0	63.8	63.6	64.1	62.5	61.3	62.1	62.5	63.5	63.2	63.5	63.7	65.5	65.3	65.2	65.6	55.8	45.2	46.8	51.4	60.0	63.3	64.5	65.1
	322, 323	I275NB25	8780	70	5	1398	66.7	66.5	66.4	66.8	50.6	33.0	35.2	42.9	57.4	63.4	65.3	66.2												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	10040	70	5	817	55.5	49.5	49.9	60.2	27.4	22.5	22.2	22.7	26.9	33.1	36.5	45.2	53.3	51.1	51.4	55.6	45.7	43.8	43.7	44.0	45.3	46.9	47.9	49.9
	324, 325	I275NB27	10040	70	5	683	35.6	33.2	34.0	40.5	33.5	32.9	32.5	32.6	32.9	32.5	32.5	32.5												
	325, 326	I275NB28	10040	70	4	1898	58.7	58.2	58.3	59.1	57.9	56.9	56.9	57.3	57.7	58.0	58.4	58.2												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	7350	70	4	2040	66.6	66.5	66.6	67.0	65.3	64.9	64.9	65.1	66.2	66.1	66.4	66.8	66.6	66.5	66.6	67.0	65.3	64.9	64.9	65.1	66.2	66.1	66.4	66.8
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	6650	70	4	2745	66.1	65.8	66.0	66.4	64.1	63.3	63.4	64.2	65.6	65.3	65.7	65.9	64.3	63.9	64.3	64.6	61.1	59.1	59.7	61.5	63.5	63.2	63.6	64.0
	402, 403	I275SB4	6650	70	5	825	58.4	57.7	58.5	58.9	51.1	45.2	47.5	52.4	56.4	56.0	56.7	57.4												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3410	70	4	4213	68.1	68.0	68.1	68.2	67.5	67.2	67.3	67.4	67.9	67.9	68.0	68.0	68.1	68.0	68.1	68.2	67.5	67.2	67.3	67.4	67.9	67.9	68.0	68.0
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4140	70	4	972	66.0	65.8	66.0	65.9	65.6	65.3	65.5	65.3	65.7	65.7	65.7	65.9	66.1	65.9	66.0	66.0	65.3	64.9	65.2	65.1	65.6	65.5	65.7	65.8
	405, 406	I275SB7	4140	70	4	1472	67.2	67.0	67.2	67.2	66.5	66.1	66.3	66.1	66.7	66.6	66.8	66.9												
	406, 407	I275SB8	4140	70	4	662	63.7	63.5	63.5	63.6	62.4	61.6	62.3	62.4	62.8	62.7	63.2	63.3												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2870	70	3	1201	67.6	67.4	67.6	67.5	67.0	66.6	66.8	66.9	67.1	67.1	67.3	67.3	68.0	67.9	68.0	68.0	67.6	67.5	67.5	67.5	67.7	67.7	67.9	67.8
	408, 409	I275SB10	2870	70	3	1585	68.3	68.2	68.3	68.2	68.0	68.0	67.9	67.9	68.1	68.1	68.2	68.1												
	409, 410	I275SB11	2870	70	3	458	68.2	68.2	68.2	68.1	67.8	67.8	67.8	67.8	68.0	68.0	68.1	68.0												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4040	70	5	631	63.6	63.6	62.7	63.6	63.1	63.2	63.1	63.1	63.3	63.4	63.6	63.5	65.6	65.5	64.9	65.6	64.9	65.0	65.0	65.0	65.2	65.3	65.5	65.5
	411, 412	I275SB13	4040	70	5	244	66.3	66.2	65.6	66.3	65.5	65.7	65.6	65.7	65.9	66.0	66.2	66.2												
	412, 413	I275SB14	4040	70	4	608	67.3	67.2	66.8	67.4	66.5	66.6	66.6	66.6	66.9	67.0	67.2	67.2												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5620	70	4	492	60.1	60.0	59.5	60.3	57.0	56.6	56.5	56.5	58.2	59.0	59.2	59.9	65.2	64.9	64.7	65.1	63.4	63.1	63.3	63.2	64.3	64.5	64.6	65.0
	414, 415	I275SB16	5620	70	4	3870	66.4	66.2	65.9	66.3	65.0	64.7	64.9	64.8	65.7	65.8	65.9	66.2												
	415, 416	I275SB17	5620	70	4	1086	63.1	62.5	62.8	63.1	60.8	59.9	60.7	60.5	61.9	62.1	62.2	62.9												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4420	70	3	1385	66.6	66.3	66.4	66.6	65.5	65.1	65.3	65.4	66.0	66.0	66.2	66.3	66.7	66.5	66.6	66.8	65.8	65.5	65.6	65.7	66.2	66.2	66.4	66.5
	417, 418	I275SB19	4420	70	3	343	67.4	67.3	67.3	67.4	66.9	66.7	66.8	66.8	67.2	67.1	67.2	67.2												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5820	70	3	1507	63.1	62.8	62.9	63.0	61.5	60.9	61.1	61.6	62.4	62.1	62.4	62.7	63.1	62.8	62.9	63.0	61.5	60.9	61.1	61.6	62.4	62.1	62.4	62.7
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	7360	70	3	3297	63.7	63.3	63.5	63.8	58.5	57.8	58.7	59.8	62.6	63.1	63.6	64.0	64.7	64.4	64.5	64.8	61.1	60.4	61.3	61.9	63.9	64.2	64.4	64.8
	420, 421	I275SB22	7360	70	3	430	66.2	66.0	66.1	66.2	64.9	64.1	64.9	64.7	65.8	65.8	65.8	66.1												
	421, 422	I275SB23	7360	70	3	403	66.1	65.9	66.0	66.1	64.9	64.1	64.9	64.7	65.7	65.7	65.7	66.0												
	422, 423	I275SB24	7360	70	3	426	66.0	65.8	65.9	66.1	64.8	64.0	64.8	64.7	65.6	65.6	65.6	65.9												
	423, 424	I275SB25	7360	70	3	412	66.0	65.7	65.8	66.0	64.7	63.8	64.6	64.6	65.6	65.6	65.6	65.8												
	424, 425	I275SB26	7360	70	3	734	66.0	65.7	65.8	66.1	64.7	64.0	64.7	64.6	65.6	65.6	65.6	65.8												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4445	50	3	841	47.6	47.6	48.0	48.0	45.6	33.4	19.1	22.5	32.5	33.2	33.2	33.4	47.1	46.2	47.2	47.6	36.2	24.1	14.9	16.8	28.0	30.8	31.8	32.5
	500, 501	GandyEB3	4445	50	4	954	47.7	46.8	47.8	48.1	30.9	16.9	11.4	12.1	26.0	30.6	32.3	33.0												
	501, 502	GandyEB4	4445	50	5	174	40.4	35.9	40.0	43.1	19.8	18.2	14.2	15.0	17.9	19.6	22.5	25.2												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1685	50	3	178	47.6	46.8	47.8	48.3	44.0	44.1	34.3	35.1	32.2	32.2	32.8	33.0	47.6	46.8	47.8	48.3	44.0	44.1	34.3	35.1	32.2	32.2	32.8	33.0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1685	50	3	99	47.8	48.1	48.0	48.0	47.4	47.5	37.9	38.0	33.4	33.8	33.5	33.6	48.4	48.6	48.5	48.6	48.1	48.1	38.4	38.5	33.9	34.1	33.9	34.0
	505, 506	GandyEB10	1685	50	3	119	48.9	49.0	49.0	49.0	48.6	48.6	38.8	38.9	34.2	34.4	34.2	34.3												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3415	50	3	1167	47.0	47.1	46.9	47.0	47.0	46.9	46.8	46.9	46.9	47.1	46.9	46.7	47.0	47.1	46.9	47.0	47.0	46.9	46.8	46.9	46.9	47.1	46.9	46.7
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3840	55	3	181	53.3	53.0	53.5	53.3	52.6	52.2	52.5	52.6	52.9	52.8	53.0	53.2	51.6	51.3	51.7	51.5	50.7	50.5	50.8	50.9	51.1	51.0	51.2	51.3
	520, 521	GandyWB5	3840	55	3	291	53.9	53.8	54.0	53.9	53.6	53.4	53.5	53.6	53.7	53.7	53.8	53.8												
	521, 522	GandyWB6	3840	55	4	590	49.9	49.5	50.0	49.8	48.7	48.5	48.9	49.1	49.3	49.1	49.4	49.5												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2440	55	3	1768	54.1	54.0	54.2	54.1	53.8	53.7	53.8	53.8	53.9	54.1	53.9	54.0	54.1	54.0	54.2	54.1	53.8	53.7	53.8	53.8	53.9	54.1	53.9	54.0
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3640	55	5	1179	53.5	53.5	53.5	53.4	53.4	53.2	53.2	53.3	53.3	53.4	53.4	53.5	53.6	53.6	53.6	53.5	53.4	53.3	53.3	53.4	53.4	53.5	53.5	53.6
	524, 525	GandyWB9	3640	55	5	455	53.9	53.8	53.9	53.8	53.7	53.6	53.5	53.7	53.7	53.8	53.8	53.9												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2800	50	1	525	46.6	46.9	46.4	46.7	46.7	47.0	46.8	47.2	46.8	46.8	46.7	47.1	45.8	46.1	45.4	46.0	45.7	46.4	45.7	46.3	46.1	45.9	45.8	46.2
	600, 7001	GdyNBoff2	2800	50	1	300	44.3	44.8	43.7	44.7	44.0	45.2	43.9	44.9	44.8	44.4	44.2	44.7												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1730	50	1	263	44.0	44.1	43.9	43.9	44.3	44.3	44.1	44.4	44.4	44.1	44.1	43.8	46.6	46.7	46.5	46.4	46.8	46.7	46.8	46.8	46.9	46.7	46.7	46.5
	3, 4	GdyNBoff6	1730	50	1	359	47.5	47.6	47.4	47.4	47.8	47.7	47.8	47.8	47.9	47.5	47.7	47.4												
	4, 5	GdyNBoff7	1730	50	1	464	47.6	47.7	47.4	47.3	47.8	47.7	47.7	47.7	47.7	47.6	47.7	47.4												
	5, 506	GdyNBoff8	1730	50	1	241	46.2	46.2	46.0	45.7	46.2	46.2	46.2	46.2	46.3	46.3	46.2	46.0												
	7013, 2	GdyNBoff10	1070	50	1	267	43.6	43.7	43.4	43.4	43.5	43.8	43.6	43.4	43.3	43.2	43.5	43.7												
	2, 8	GdyNBoff11	1070	50	1	341	48.4	48.6	48.3	48.3	48.3	48.6	48.5	48.2	48.1	48.0	48.4	48.6												

2040 No Build AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	1070	50	1	483	48.5	48.7	48.5	48.4	48.5	48.7	48.6	48.4	48.3	48.3	48.6	48.8	47.7	47.9	47.7	47.7	47.7	47.9	47.8	47.6	47.6	47.5	47.8	47.9
	9, 10	GdyNBoff13	1070	50	1	492	48.3	48.4	48.3	48.2	48.3	48.4	48.4	48.2	48.2	48.1	48.4	48.6												
	10, 11	GdyNBoff14	1070	50	1	389	48.1	48.3	48.2	48.2	48.2	48.3	48.3	48.1	48.1	48.1	48.3	48.3												
	11, 7022	GdyNBoff15	1070	50	1	196	48.0	48.1	48.0	48.0	48.0	48.1	48.1	47.9	47.9	48.0	48.1	48.2												
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2760	50	2	179	30.8	26.8	30.5	34.1	15.9	13.8	10.6	11.2	13.4	14.0	16.4	18.7	30.8	26.8	30.5	34.1	15.9	13.8	10.6	11.2	13.4	14.0	16.4	18.7
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1220	50	2	501	47.0	46.8	46.9	47.2	46.4	46.0	36.5	36.6	32.5	32.7	32.8	33.0	48.7	48.6	48.7	48.7	48.6	48.4	38.7	38.7	33.9	34.1	34.1	34.1
	623, 624	GdyNBon6	1220	50	2	299	48.8	48.6	48.9	48.8	48.7	48.5	38.8	38.8	34.0	34.1	34.1	34.2												
	624, 625	GdyNBon7	1220	50	2	253	48.9	48.7	48.9	48.8	48.8	48.6	38.9	38.9	34.1	34.2	34.2	34.3												
	625, 626	GdyNBon8	1220	50	2	238	48.9	48.8	49.0	48.9	48.9	48.7	39.0	39.0	34.2	34.3	34.2	34.3												
	626, 627	GdyNBon9	1220	50	2	242	49.0	48.9	49.0	48.9	48.9	48.8	39.0	39.1	34.2	34.3	34.3	34.4												
	627, 628	GdyNBon10	1220	50	2	277	49.0	48.9	49.1	48.9	48.9	48.9	39.1	39.1	34.2	34.3	34.3	34.4												
	628, 629	GdyNBon11	1220	50	2	337	49.1	48.9	49.1	49.0	49.0	48.9	39.2	39.2	34.2	34.3	34.3	34.4												
	629, 630	GdyNBon12	1220	50	2	877	49.1	49.0	49.1	49.0	49.0	49.0	39.2	39.2	34.2	34.4	34.4	34.4												
	630, 307	GdyNBon13	1220	50	2	344	49.1	49.0	49.1	49.1	49.0	48.9	39.2	39.2	34.3	34.4	34.4	34.4												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1200	50	2	481	49.0	49.0	49.0	48.9	49.0	48.8	48.8	48.8	49.0	48.9	48.9	49.1	49.1	49.1	49.1	49.0	49.1	49.0	48.9	48.9	49.1	49.0	49.0	49.2
	660, 661	GdySBoff2	1200	50	2	394	49.3	49.3	49.2	49.1	49.3	49.2	49.1	49.1	49.2	49.1	49.2	49.3												
	661, 7020	GdySBoff3	1200	50	2	336	49.2	49.1	49.0	49.0	49.1	49.0	48.9	48.9	49.1	49.0	49.1	49.1												
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2270	50	2	714	47.4	47.6	47.4	47.5	47.5	47.2	47.3	47.3	47.4	47.4	47.5	47.7	47.7	47.9	47.7	47.8	47.7	47.5	47.6	47.6	47.7	47.7	47.8	48.0
	662, 523	GdySBoff7	2270	50	2	424	48.2	48.3	48.2	48.3	48.1	48.0	48.0	48.0	48.2	48.1	48.3	48.4												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1540	50	1	286	43.5	44.1	44.4	44.1	43.3	43.1	34.2	34.9	30.5	30.5	30.6	30.4	45.6	46.1	46.3	46.0	45.3	45.2	35.9	36.5	31.9	31.9	32.0	31.9
	621, 622	GdySBon3	1540	50	1	204	46.3	47.0	47.1	46.8	46.0	45.9	36.4	37.1	32.4	32.3	32.5	32.4												
	622, 419	GdySBon4	1540	50	1	319	47.0	47.4	47.4	47.3	46.6	46.6	37.1	37.6	32.9	32.8	32.9	32.8												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1400	35	1	302	34.2	33.9	34.3	34.0	33.3	33.0	33.4	33.5	33.8	33.5	33.7	33.9	33.6	33.5	33.7	33.5	33.1	32.9	33.2	33.2	33.3	33.2	33.3	33.4
	640, 641	GdySBonLoop2	1400	35	1	259	33.8	33.7	33.8	33.7	33.3	33.1	33.4	33.4	33.6	33.4	33.6	33.6												
	641, 642	GdySBonLoop3	1400	35	1	227	33.6	33.5	33.7	33.6	33.2	33.1	33.3	33.3	33.4	33.3	33.4	33.5												
	642, 643	GdySBonLoop4	1400	35	1	211	33.5	33.3	33.5	33.4	33.0	32.8	33.1	33.1	33.2	33.1	33.3	33.3												
	643, 644	GdySBonLoop5	1400	35	1	211	33.4	33.3	33.4	33.3	33.0	32.7	33.0	33.1	33.1	33.0	33.2	33.2												
	644, 645	GdySBonLoop6	1400	35	1	207	33.3	33.2	33.3	33.2	32.9	32.7	32.9	32.9	33.0	32.9	33.1	33.1												
	645, 418	GdySBonLoop7	1400	35	1	252	33.2	33.1	33.2	33.1	32.8	32.7	32.9	32.9	32.9	32.9	33.0	33.1												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2130	60	4	1418	59.0	58.9	59.0	59.0	58.7	58.5	58.7	58.8	58.9	58.9	59.0	58.8	58.4	58.3	58.2	58.4	58.1	57.9	58.1	58.1	58.3	58.3	58.3	58.2
	541, 542	RvEB3	2130	60	3	1028	57.5	57.4	57.1	57.6	57.2	57.1	57.2	57.3	57.4	57.4	57.5	57.4												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1430	60	2	513	58.7	58.6	58.8	58.7	58.3	58.1	58.2	58.3	58.5	58.4	58.7	58.4	58.7	58.6	58.8	58.7	58.3	58.1	58.2	58.3	58.5	58.4	58.7	58.4
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1530	60	2	120	56.9	56.6	57.0	56.8	54.8	50.6	50.7	51.9	53.7	54.3	54.8	55.1	57.7	57.5	57.8	57.6	56.0	52.5	52.7	53.7	55.1	55.6	56.1	56.3
	546, 547	RvEB10	1530	60	2	165	58.3	58.1	58.4	58.2	56.9	53.9	54.1	54.9	56.2	56.6	57.0	57.1												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2970	60	2	1053	55.5	55.5	55.8	55.9	54.9	53.5	53.8	54.1	55.0	55.4	55.7	55.6	55.5	55.5	55.8	55.9	54.9	53.5	53.8	54.1	55.0	55.4	55.7	55.6
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2805	60	2	756	58.5	58.6	58.7	58.6	58.3	58.0	58.0	58.2	58.5	58.4	58.4	58.6	58.5	58.5	58.5	58.6	58.0	57.5	57.8	57.9	58.4	58.3	58.2	58.4
	558, 559	RvWB3	2805	60	2	146	58.4	58.3	58.2	58.4	57.4	56.3	57.0	57.1	58.4	58.2	57.6	58.0												
	559, 560	RvWB4	2805	60	3	151	58.1	58.2	58.2	58.2	57.3	56.2	57.3	56.8	58.3	57.9	57.7	58.1												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2670	60	2	125	58.4	58.3	58.4	58.5	57.5	56.9	57.6	57.3	58.3	58.0	58.0	58.2	58.4	58.3	58.4	58.5	57.5	56.9	57.6	57.3	58.3	58.0	58.0	58.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2215	60	2	133	55.1	55.2	55.3	55.6	54.4	53.5	54.3	54.6	54.8	54.8	54.8	55.3	57.3	57.5	57.4	57.7	56.9	56.3	56.8	57.0	57.2	57.2	57.2	57.4
	567, 568	RvWB14	2215	60	2	750	57.5	57.7	57.7	57.9	57.2	56.7	57.2	57.4	57.5	57.5	57.5	57.7												
	568, 569	RvWB15	2215	60	2	281	57.5	57.7	57.5	57.9	57.1	56.8	57.1	57.3	57.4	57.4	57.5	57.6												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4775	60	4	1137	57.1	57.1	57.0	57.1	56.9	56.8	56.9	56.9	57.0	57.0	57.0	57.1	57.1	57.1	57.0	57.1	56.9	56.8	56.9	56.9	57.0	57.0	57.0	57.1
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5640	50	2	228	45.8	45.3	45.7	45.5	45.0	44.5	44.9	45.5	46.1	45.9	46.4	46.1	45.8	45.3	45.7	45.5	45.0	44.5	44.9	45.5	46.1	45.9	46.4	46.1
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5640	50	2	168	43.8	43.5	43.5	43.6	43.6	43.4	43.6	43.6	43.9	43.7	43.9	43.8	45.0	44.4	44.6	44.7	44.5	44.4	44.8	44.7	44.9	44.8	45.0	44.8
	701, 702	RvNBoff5	5640	50	2	198	45.0	44.3	44.5	44.8	44.4	44.3	44.9	44.7	44.9	44.9	45.0	44.7												
	702, 703	RvNBoff6	5640	50	3	130	46.4	45.9	46.0	46.2	46.0	45.8	46.3	46.1	46.3	46.3	46.3	46.1												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1440	50	1	336	47.8	47.3	47.1	47.7	47.5	47.2	47.7	47.6	48.0	47.6	47.5	47.5	48.1	47.8	47.6	48.0	47.8	47.7	48.1	47.9	48.2	47.9	48.0	47.9
	704, 705	RvNBoff8	1440	50	1	200	48.0	47.6	47.5	47.9	47.7	47.6	48.0	47.8	48.1	47.8	47.8	47.8												
	705, 706	RvNBoff9	1440	50	1	223	48.2	47.9	47.8	48.1	48.0	47.9	48.2	48.1	48.3	48.1	48.1	48.1												
	706, 707	RvNBoff10	1440	50	1	262	48.4	48.1	48.0	48.3	48.1	48.0	48.3	48.2	48.4	48.2	48.3	48.2												
	707, 547	RvNBoff11	1440	50	1	264	48.2	48.1	47.9	48.2	47.9	47.9	48.2	48.0	48.2	48.1	48.2	48.1												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2560	50	2	248	46.8	46.5	46.5	46.5	46.5	46.6	46.3	46.5	46.6	46.5	46.6	46.9	48.2	48.0	48.1	48.1	48.1	48.1	48.1	48.0	48.0	48.1	48.1	48.2
	715, 716	RvNBoff21	2560	50	2	642	48.1	48.1	48.1	48.1	48.1	48.1	48.1	48.0	48.0	48.2	48.1	48.2												
	716, 569	RvNBoff22	2560	50	2	670	48.8	48.6	48.6	48.6	48.7	48.7	48.7	48.6	48.6	48.7	48.7	48.8												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	135	50	1	296	53.8	53.1	54.2	54.1	53.7	53.0	53.8	53.6	54.0	53.6	53.8	53.8	52.4	51.9	52.8	52.7	52.5	51.8	52.5	52.2	52.7	52.3	52.6	52.5
	757, 7016	RvNBon4	135	50	1	127	49.2	49.0	49.5	49.4	49.6	49.1	49.4	49.2	49.6	49.2	49.8	49.6												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	3050	50	2	261	43.4	43.5	43.8	43.6	43.2	43.1	43.0	43.1	43.0	43.2	43.5	43.6	46.3	46.3	46.6	46.3	46.3	46.2	46.3	46.3	46.2	46.2	46.4	46.4
	756, 317	RvNBon10	3050	50	2	444	48.0	48.0	48.2	47.9	48.1	48.1	48.2	48.2	48.1	48.0	48.2	48.0												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1270	50	2	223	49.1	49.1	49.1	49.2	48.8	48.8	48.7	48.8	49.0	48.8	49.1	49.0	49.0	49.0	49.0	49.1	48.7	48.8	48.6	48.7	48.8	48.7	49.1	48.9
	770, 7032	RvSBoff2	1270	50	2	150	48.8	48.9	48.9	49.0	48.6	48.7	48.4	48.5	48.7	48.6	49.0	48.8												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1170	50	3	102	45.6	45.4	44.6	45.6	44.8	44.9	44.9	45.1	45.5	45.4	45.6	45.6	47.0	46.5	46.0	46.8	46.3	46.3	46.2	46.5	46.7	46.7	46.9	47.1
	793, 410	RvSBon5	1170	50	3	655	47.3	46.7	46.2	47.0	46.5	46.5	46.4	46.7	46.9	46.9	47.1	47.3												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	49.5	49.5	49.3	49.4	49.2	49.1	49.4	49.2	49.6	49.4	49.3	49.4	49.5	49.5	49.3	49.4	49.3	49.2	49.4	49.2	49.6	49.5	49.3	49.4
	790, 7011	RvSBon11	700	50	2	250	49.5	49.5	49.3	49.4	49.3	49.2	49.5	49.3	49.6	49.5	49.3	49.5												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4200	50	2	311	47.9	47.6	47.8	47.8	47.7	47.7	47.7	47.8	47.9	48.0	48.1	47.9	47.8	47.5	47.7	47.6	47.7	47.6	47.5	47.6	47.7	47.7	47.9	47.8
	708, 710	118NBoff2	4200	50	2	567	47.2	46.9	47.2	47.1	47.1	47.0	46.9	47.1	47.2	47.2	47.4	47.2												
	710, 711	118NBoff3	4200	50	2	460	47.2	46.8	47.2	47.0	47.0	46.9	46.8	47.0	47.1	47.1	47.3	47.1												
	711, 712	118NBoff4	4200	50	3	472	48.5	48.3	48.5	48.4	48.5	48.4	48.4	48.4	48.5	48.5	48.6	48.5												
	712, 713	118NBoff5	4200	50	3	395	48.6	48.4	48.5	48.5	48.6	48.5	48.4	48.5	48.6	48.5	48.7	48.7												
	713, 714	118NBoff6	4200	50	4	188	47.2	46.7	47.0	47.0	46.9	46.8	46.6	46.9	46.8	47.0	47.3	47.4												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1640	50	2	212	48.7	48.4	48.7	48.5	48.6	48.4	48.2	48.6	48.5	48.6	48.8	48.7	49.1	48.9	49.2	49.0	49.1	49.0	48.9	49.0	49.2	49.2	49.2	49.2
	717, 718	118NBoff8	1640	50	2	389	49.1	48.9	49.3	49.0	49.2	49.1	48.9	49.1	49.2	49.2	49.2	49.2												
	718, 719	118NBoff9	1640	50	2	373	49.2	49.0	49.3	49.1	49.3	49.1	49.0	49.2	49.3	49.3	49.3	49.3												
	719, 720	118NBoff10	1640	50	2	589	49.2	49.0	49.3	49.1	49.2	49.1	49.0	49.1	49.3	49.2	49.2	49.3												
	720, 721	118NBoff11	1640	50	2	311	49.2	49.0	49.3	49.1	49.2	49.1	49.0	49.1	49.2	49.2	49.2	49.2												

2040 No Build AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1640	50	2	381	49.1	49.0	49.3	49.1	49.1	49.1	48.9	49.1	49.2	49.2	49.2	49.2												
	722, 723	118NBoff13	1640	50	2	562	49.1	48.9	49.2	49.1	49.1	49.0	49.0	49.0	49.2	49.2	49.2	49.2												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2510	60	3	1252	56.5	56.4	56.6	56.5	56.3	56.3	56.3	56.2	56.4	56.3	56.5	56.5	57.2	57.1	57.3	57.3	57.1	57.0	57.0	56.9	57.1	57.1	57.3	57.2
	724, 725	118NBoff15	2510	60	3	575	58.8	58.7	58.9	58.8	58.8	58.6	58.7	58.5	58.7	58.7	58.9	58.8												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	4210	60	2	611	57.7	57.5	57.7	57.5	56.7	46.3	30.9	29.1	41.9	57.0	57.4	57.6	55.3	55.1	55.4	55.7	52.8	39.0	25.8	24.9	35.5	52.8	54.7	55.2
	741, 742	118NBon3	4210	60	2	1107	54.0	53.8	54.2	54.6	50.6	34.9	23.1	22.6	32.0	50.5	53.3	53.9												
NB I-275 On Ramp from 118th	742, 749	118NBon4	2630	50	2	758	50.1	50.0	50.2	50.2	39.5	19.8	12.8	13.2	18.9	39.4	49.7	50.0	45.6	44.8	45.2	45.4	36.0	28.2	26.3	26.5	28.5	37.5	43.7	44.6
	749, 750	118NBon5	2630	50	2	1140	43.6	41.8	42.5	43.2	25.6	15.5	13.8	14.1	16.2	29.2	39.4	41.5												
	750, 751	118NBon6	2630	50	1	304	44.0	42.4	42.9	43.2	34.9	32.0	32.4	32.5	32.8	36.6	41.0	42.0												
	751, 752	118NBon7	2630	50	1	341	45.4	44.5	44.9	44.9	39.8	38.1	38.4	38.4	38.7	41.0	43.5	44.1												
	752, 753	118NBon8	2630	50	1	406	45.7	45.4	45.7	45.5	43.4	43.0	43.3	43.2	43.5	44.0	45.1	45.2												
	753, 754	118NBon9	2630	50	1	250	45.2	45.2	45.4	45.2	45.1	45.6	45.8	45.7	46.0	45.3	45.4	45.1												
	754, 7009	118NBon10	2630	50	1	349	44.7	44.8	44.9	44.8	44.8	45.5	45.4	45.4	45.6	45.0	44.8	44.5												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	870	50	1	147	34.4	34.5	34.5	34.3	34.6	34.3	34.3	34.2	34.2	34.4	34.2	34.1	46.7	47.0	46.8	46.8	46.6	46.6	46.5	46.4	46.3	46.5	46.6	46.4
	775, 776	118SBoff3	870	50	1	934	47.1	47.4	47.1	47.0	47.2	46.9	47.0	46.7	46.6	47.0	46.8	46.5												
	776, 777	118SBoff4	870	50	1	371	47.7	48.1	47.9	47.9	47.7	47.7	47.6	47.5	47.3	47.5	47.6	47.5												
	777, 778	118SBoff5	870	50	1	446	47.5	47.9	47.7	47.7	47.5	47.5	47.4	47.3	47.2	47.3	47.5	47.4												
	778, 723	118SBoff6	870	50	1	1329	47.1	47.5	47.3	47.5	47.0	47.1	46.9	46.9	47.0	46.9	47.3	47.1												
SB I-275 On Ramp from 118th	742, 743	118SBon1	1580	50	1	227	46.9	47.1	47.1	47.1	46.0	40.1	36.5	36.1	39.8	45.5	47.0	47.1	47.1	47.1	47.1	47.0	46.6	46.0	46.0	45.8	46.3	46.8	47.0	47.1
	743, 744	118SBon2	1580	50	1	418	47.7	47.7	47.7	47.6	47.3	46.4	46.4	46.2	47.0	47.5	47.6	47.8												
	744, 745	118SBon3	1580	50	1	223	47.6	47.7	47.6	47.7	47.4	47.4	48.0	47.9	48.1	47.6	47.7	47.8												
	745, 746	118SBon4	1580	50	1	201	47.4	47.5	47.4	47.5	47.0	47.1	47.7	47.5	47.7	47.3	47.4	47.5												
	746, 747	118SBon5	1580	50	1	200	47.1	47.1	47.1	47.2	46.7	46.8	47.2	47.0	47.3	47.0	47.0	47.2												
	747, 748	118SBon6	1580	50	1	166	46.9	46.9	46.9	46.9	46.5	46.6	47.0	46.8	46.9	46.7	46.8	47.0												
	748, 413	118SBon7	1580	50	1	973	46.7	46.6	46.7	46.6	46.1	46.4	46.7	46.6	46.6	46.4	46.4	46.7												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2775	60	3	2420	57.8	57.7	57.8	57.8	57.5	57.4	57.4	57.5	57.8	57.7	57.8	57.6	57.8	57.7	57.8	57.8	57.5	57.4	57.4	57.5	57.8	57.7	57.8	57.6
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1750	50	2	647	48.8	48.8	48.8	48.9	48.5	48.3	48.4	48.5	48.8	48.8	48.8	48.8	48.8	48.8	48.7	48.8	48.4	48.3	48.2	48.4	48.7	48.6	48.7	48.7
	811, 812	UlmNBon4	1750	50	2	590	48.9	48.9	48.9	48.9	48.6	48.5	48.4	48.6	48.9	48.8	48.9	48.8												
	812, 813	UlmNBon5	1750	50	2	323	48.8	48.7	48.7	48.8	48.5	48.3	48.3	48.4	48.8	48.7	48.7	48.7												
	813, 814	UlmNBon6	1750	50	2	328	48.8	48.7	48.7	48.8	48.4	48.3	48.2	48.4	48.8	48.6	48.7	48.7												
	814, 815	UlmNBon7	1750	50	2	288	48.8	48.7	48.7	48.8	48.4	48.3	48.2	48.4	48.7	48.6	48.7	48.7												
	815, 816	UlmNBon8	1750	50	2	273	48.7	48.7	48.6	48.8	48.4	48.2	48.2	48.3	48.6	48.6	48.7	48.6												
	816, 321	UlmNBon9	1750	50	2	1098	48.7	48.7	48.6	48.7	48.3	48.1	48.1	48.2	48.5	48.5	48.6	48.6												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	3240	50	2	573	47.4	47.3	47.4	47.5	46.3	45.8	46.0	46.5	46.9	46.9	47.1	47.3	47.8	47.7	47.8	47.8	47.1	46.7	46.9	47.1	47.5	47.4	47.6	47.7
	830, 831	UlmSBoff2	3240	50	2	346	48.4	48.4	48.4	48.4	48.2	48.2	48.1	48.2	48.3	48.2	48.4	48.4												
	831, 7036	UlmSBoff3	3240	50	2	283	47.8	47.7	47.8	47.8	47.2	47.0	47.1	47.2	47.5	47.4	47.7	47.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2680	50	2	398	47.9	47.7	47.7	47.8	47.2	47.0	47.1	47.2	47.5	47.6	47.6	47.8	56.0	55.8	55.8	55.9	55.2	55.1	55.1	55.2	55.6	55.6	55.7	55.9
	834, 835	UlmSBoff8	2680	60	2	584	53.5	53.2	53.3	53.4	52.5	52.3	52.4	52.4	53.0	53.0	53.1	53.3												
	835, 836	UlmSBoff9	2680	60	2	481	58.1	57.9	57.9	58.0	57.3	57.2	57.2	57.2	57.6	57.7	57.7	57.9												
	836, 837	UlmSBoff10	2680	60	2	2160	57.7	57.6	57.6	57.6	57.0	56.8	56.9	56.9	57.3	57.2	57.5	57.6												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1025	35	1	493	50.3	49.8	50.2	49.8	49.1	48.9	49.1	49.3	49.8	49.5	50.1	49.8	46.1	45.5	46.0	45.6	44.9	44.7	44.9	45.1	45.6	45.3	45.8	45.5
	802, 803	UlmSBon2	1025	35	1	214	36.4	35.8	36.2	35.8	35.3	35.0	35.2	35.3	35.9	35.6	36.0	35.8												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	730	35	1	163	33.8	33.4	33.9	33.5	33.5	33.3	33.3	33.4	33.6	33.4	33.7	33.5	41.3	41.1	41.5	41.2	41.1	41.0	40.9	41.1	41.2	41.0	41.3	41.1
	808, 809	UlmSBon4	730	35	1	163	34.0	33.6	34.1	33.8	33.8	33.7	33.6	33.8	33.9	33.6	33.9	33.7												
	809, 810	UlmSBon5	730	35	1	228	33.8	33.5	33.9	33.7	33.6	33.6	33.4	33.7	33.7	33.5	33.8	33.6												
	810, 404	UlmSBon6	730	50	1	1030	45.3	45.1	45.5	45.2	45.1	45.1	45.0	45.1	45.2	45.0	45.3	45.1												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	295	35	1	201	34.8	34.7	34.5	34.5	34.4	34.3	34.5	34.4	34.6	34.6	34.6	34.6	44.0	43.9	43.8	43.7	43.6	43.5	43.6	43.6	43.8	43.8	43.8	43.8
	804, 805	UlmSBMLK2	295	50	1	361	41.6	41.6	41.5	41.4	41.3	41.3	41.4	41.3	41.5	41.5	41.5	41.4												
	805, 806	UlmSBMLK3	295	50	1	499	49.4	49.3	49.2	49.0	49.0	48.8	49.0	49.0	49.2	49.2	49.3	49.2												
SB MLK	806, 807	UlmSBMLK4	855	50	2	1171	49.1	49.2	49.0	49.1	48.8	48.8	48.9	49.0	49.2	48.9	49.1	49.1	49.1	49.2	49.0	49.1	48.8	48.8	48.9	49.0	49.2	48.9	49.1	49.1
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1080	49.8	49.8	49.6	49.5	49.6	49.5	49.5	49.5	49.8	49.5	49.5	49.7	49.5	49.5	49.3	49.2	49.3	49.2	49.1	49.1	49.4	49.2	49.1	49.4
	851, 852	MLKNBon3	420	50	1	350	49.6	49.5	49.4	49.3	49.3	49.2	49.2	49.2	49.5	49.3	49.2	49.4												
	852, 853	MLKNBon4	420	50	1	370	49.4	49.4	49.2	49.1	49.1	49.0	49.0	49.0	49.3	49.1	49.0	49.3												
	853, 320	MLKNBon5	420	50	1	885	49.1	49.2	48.9	48.9	48.9	48.7	48.7	48.7	49.0	48.9	48.8	49.1												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	560	50	1	294	48.0	48.4	48.0	48.1	47.8	47.8	47.9	48.0	48.6	47.8	48.2	48.0	48.4	48.8	48.5	48.7	48.2	48.2	48.4	48.5	48.8	48.3	48.6	48.6
	839, 840	MLKSBoff4	560	50	1	336	48.7	49.1	48.7	48.9	48.5	48.5	48.6	48.7	49.1	48.6	48.8	48.8												
	840, 841	MLKSBoff5	560	50	1	395	48.5	48.9	48.6	48.8	48.3	48.3	48.4	48.6	48.8	48.4	48.7	48.7												
	841, 806	MLKSBoff6	560	50	1	539	48.4	48.7	48.5	48.8	48.3	48.3	48.5	48.5	48.7	48.4	48.7	48.7												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1260	60	2	1270	59.3	59.1	59.5	59.4	59.4	59.1	59.2	59.3	59.4	59.3	59.4	59.4	58.1	57.9	58.3	58.3	56.7	53.5	54.8	56.2	57.7	57.8	57.9	58.2
	901, 902	4thNBon3	1260	60	2	634	59.2	59.0	59.3	59.2	59.1	58.9	59.0	59.1	59.2	59.1	59.2	59.3												
	902, 903	4thNBon4	1260	60	2	322	58.2	58.0	58.3	58.4	58.0	57.6	57.7	57.9	58.1	58.1	58.1	58.3												
	903, 904	4thNBon5	1260	60	2	279	57.0	56.8	57.3	57.4	56.4	55.7	55.8	56.3	56.6	56.8	56.7	57.1												
	904, 905	4thNBon6	1260	60	2	388	56.6	56.6	57.1	57.3	55.8	54.7	54.8	56.0	56.2	56.3	56.3	56.8												
	905, 906	4thNBon7	1260	60	1	313	56.8	56.8	57.2	57.4	56.0	55.0	55.0	56.2	56.5	56.5	56.7	56.9												
	906, 907	4thNBon8	1260	60	1	300	57.1	57.0	57.3	57.5	56.3	55.1	55.6	56.5	56.8	56.7	57.0	57.1												
	907, 323	4thNBon9	1260	60	1	684	57.0	56.8	57.1	57.3	50.1	32.9	40.7	46.8	55.1	55.8	56.0	56.8												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	700	60	1	467	58.0	58.1	58.1	58.2	57.2	57.1	57.3	57.4	57.5	57.9	58.0	58.1	58.2	58.4	58.3	58.4	58.0	58.2	58.3	58.2	58.1	58.4	58.5	58.3
	920, 921	4thSBoff2	700	60	1	492	58.5	58.6	58.6	58.7	58.4	58.7	58.6	58.6	58.4	58.7	58.8	58.6												
	921, 922	4thSBoff3	700	60	1	420	58.3	58.6	58.5	58.6	58.2	58.7	58.5	58.5	58.3	58.6	58.7	58.5												
	922, 923	4thSBoff4	700	60	1	393	58.0	58.3	58.2	58.4	57.9	58.3	58.2	58.1	58.0	58.3	58.4	58.2												
	923, 924	4thSBoff5	700	60	1	384	57.7	58.1	57.9	58.2	57.6	58.1	57.9	57.9	57.8	58.0	58.2	58.0												
	924, 925	4thSBoff6	700	60	1	354	57.7	58.0	57.8	58.0	57.5	57.9	57.8	57.7	57.7	57.9	58.1	57.8												
	925, 926	4thSBoff7	700	60	1	501	57.6	57.8	57.7	57.8	57.3	57.7	57.7	57.5	57.5	57.8	57.9	57.7												
	926, 927	4thSBoff8	700	60	1	416	57.3	57.6	57.5	57.7	57.1	57.4	57.5	57.4	57.4	57.6	57.7	57.5												
	927, 928	4thSBoff9	700	60	2	1153	58.2	58.4	58.3	58.3	58.1	58.3	58.5	58.2	58.2	58.4	58.5	58.2												
	928, 929	4thSBoff10	700	60	2	1242	58.9	59.2	58.9	59.0	58.8	58.9	59.0	58.9	58.8	59.0	59.1	58.9												

2040 No Build AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	10780	70	3	1087	1660	1671	1667	1664	1674	1670	1670	1665	1673	1662	1673	1671	9	9	9	10	11	9	10	9	8	8	8	8
	300, 301	I275NB3	10780	70	3	805	1659	1671	1667	1664	1674	1670	1669	1666	1673	1662	1673	1671	36	37	37	40	42	38	38	38	37	38	34	38
	301, 302	I275NB4	10780	70	3	478	1660	1670	1668	1665	1673	1671	1668	1668	1672	1662	1673	1672	32	35	34	32	34	37	33	32	33	35	38	33
	302, 303	I275NB5	10780	70	3	2687	1657	1671	1668	1667	1672	1673	1670	1667	1668	1663	1674	1673	1159	1149	1146	1128	1163	1116	1140	1132	1155	1123	1152	1134
	303, 304	I275NB6	10780	70	4	382	1657	1672	1668	1667	1672	1672	1670	1668	1668	1664	1674	1671	107	105	109	110	107	105	107	106	105	104	107	108
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	7980	70	3	1375	1221	1245	1231	1237	1231	1250	1234	1236	1237	1229	1237	1234	94	91	103	91	98	95	99	92	95	97	98	95
	305, 306	I275NB8	7980	70	3	1306	1219	1247	1231	1237	1233	1248	1234	1236	1236	1229	1240	1233	81	79	75	76	73	79	75	75	86	79	83	83
	306, 307	I275NB9	7980	70	3	591	1216	1249	1231	1235	1234	1249	1234	1236	1236	1230	1236	1235	43	39	42	41	42	36	41	42	40	39	40	41
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	9200	70	5	1065	1447	1495	1460	1449	1522	1533	1498	1465	1434	1414	1415	1406	223	239	225	218	262	267	269	243	229	215	213	206
	308, 309	I275NB11	9200	70	5	3035	1452	1490	1461	1447	1518	1533	1497	1467	1436	1415	1418	1406	282	287	283	282	290	290	286	277	282	279	288	280
	309, 310	I275NB12	9200	70	4	1095	1457	1482	1463	1446	1521	1532	1498	1467	1436	1419	1417	1404	649	653	637	650	653	643	648	630	640	644	665	645
	310, 311	I275NB13	9200	70	4	380	1457	1482	1462	1449	1520	1531	1498	1466	1437	1420	1415	1405	190	185	195	196	184	184	185	192	189	200	185	180
	311, 312	I275NB14	9200	70	4	399	1456	1483	1460	1450	1519	1533	1497	1466	1438	1419	1414	1406	219	216	206	217	222	201	209	209	207	199	208	208
	312, 313	I275NB15	9200	70	4	368	1454	1485	1458	1452	1514	1535	1498	1467	1439	1419	1413	1406	121	133	129	121	166	157	138	134	133	115	119	116
	313, 314	I275NB16	9200	70	4	460	1454	1487	1457	1452	1510	1539	1497	1466	1443	1418	1412	1408	94	110	98	99	126	164	145	119	106	97	89	94
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3560	70	3	886	554	566	554	555	575	576	574	558	553	533	523	545	36	39	36	34	42	40	44	39	41	34	32	35
	315, 316	I275NB18	3560	70	3	1317	554	569	552	557	574	576	572	560	554	533	524	544	32	38	30	35	34	33	31	35	35	33	32	35
	316, 317	I275NB19	3560	70	3	1361	554	567	555	557	575	574	573	559	553	534	526	543	36	40	36	40	39	40	39	42	41	41	35	38
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	6610	70	5	1032	1116	1157	1129	1099	1242	1265	1259	1256	1247	1194	1134	1145	422	447	428	402	487	504	506	504	515	494	457	452
	318, 319	I275NB21	6610	70	5	1191	1112	1158	1130	1099	1238	1265	1263	1253	1250	1194	1134	1145	104	108	102	110	120	117	121	122	130	114	100	113
	319, 320	I275NB22	6610	70	4	3175	1111	1154	1133	1096	1237	1263	1266	1251	1250	1197	1136	1147	232	239	234	235	261	261	269	261	260	257	236	236
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	7030	70	4	1678	1192	1235	1211	1179	1335	1372	1370	1349	1341	1288	1226	1229	237	244	236	225	285	303	293	286	268	272	245	242
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	8780	70	5	1064	1529	1580	1562	1493	1760	1844	1818	1775	1714	1676	1590	1586	285	305	303	270	372	418	393	380	336	348	328	308
	322, 323	I275NB25	8780	70	5	1398	1532	1575	1567	1498	1734	1825	1814	1802	1728	1674	1596	1585	224	217	214	227	248	403	354	288	211	194	198	208
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	10040	70	5	817	1777	1823	1809	1730	1997	2152	2137	2103	2015	1940	1873	1831	575	567	571	572	852	984	987	951	810	709	669	587
	324, 325	I275NB27	10040	70	5	683	1777	1820	1815	1734	1984	2153	2137	2103	2018	1939	1877	1830	615	694	688	494	750	802	830	825	808	802	792	729
	325, 326	I275NB28	10040	70	4	1898	1778	1821	1814	1736	1969	2153	2142	2099	2028	1933	1878	1832	478	491	496	465	456	427	436	426	453	489	475	496
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	7350	70	4	2040	1397	1465	1398	1330	1824	1930	1844	1748	1532	1605	1521	1453	321	326	322	305	395	420	402	404	345	355	330	319
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	6650	70	4	2745	1265	1323	1259	1206	1632	1743	1667	1582	1393	1442	1379	1326	1270	1360	1251	1208	1674	1716	1677	1630	1403	1478	1411	1341
	402, 403	I275SB4	6650	70	5	825	1265	1323	1260	1207	1627	1736	1671	1585	1397	1442	1382	1325	142	150	139	129	272	364	327	235	174	190	170	163
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3410	70	4	4213	647	669	651	615	828	877	860	815	711	731	707	667	158	165	159	150	226	242	234	209	180	185	175	165
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4140	70	4	972	786	817	783	753	998	1075	1043	984	865	892	861	812	323	348	322	330	405	434	419	399	367	382	365	342
	405, 406	I275SB7	4140	70	4	1472	786	815	783	754	992	1075	1045	985	865	890	865	813	266	279	266	258	366	411	386	367	317	319	310	284
	406, 407	I275SB8	4140	70	4	662	786	816	782	755	990	1076	1045	983	866	893	863	813	42	50	46	38	70	84	71	66	56	58	55	45
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2870	70	3	1201	528	557	530	500	655	719	702	652	578	596	580	546	37	39	37	37	53	65	59	52	45	45	44	39
	408, 409	I275SB10	2870	70	3	1585	530	559	527	501	653	717	706	652	578	597	577	547	43	46	43	36	53	61	64	57	49	49	47	45
	409, 410	I275SB11	2870	70	3	458	531	556	528	501	654	716	705	652	578	599	575	548	12	13	13	11	19	18	19	17	14	17	14	15
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4040	70	5	631	755	799	812	715	939	1020	1006	941	830	855	823	781	203	223	271	191	263	293	285	262	232	232	231	211
	411, 412	I275SB13	4040	70	5	244	755	798	813	714	937	1020	1006	942	829	854	824	782	16	20	24	16	26	27	27	25	22	22	18	17
	412, 413	I275SB14	4040	70	4	608	753	800	813	715	935	1018	1008	943	831	853	824	782	42	44	52	39	61	67	62	59	51	49	45	44
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5620	70	4	492	1051	1106	1114	1007	1312	1416	1390	1322	1194	1203	1164	1089	396	409	405	383	515	524	512	503	484	468	450	409
	414, 415	I275SB16	5620	70	4	3870	1048	1105	1110	1012	1297	1413	1395	1327	1202	1197	1166	1090	639	672	695	631	820	891	859	831	733	744	727	660
	415, 416	I275SB17	5620	70	4	1086	1048	1105	1108	1011	1294	1408	1398	1330	1204	1196	1167	1090	190	213	205	175	279	315	300	291	244	230	235	200
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4420	70	3	1385	793	836	841	773	972	1061	1059	1012	908	905	888	830	80	81	87	76	95	109	107	98	90	90	95	83
	417, 418	I275SB19	4420	70	3	343	793	835	841	773	971	1060	1061	1011	908	904	889	831	16	16	17	13	18	17	15	18	18	19	16	16
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5820	70	3	1507	978	1037	1030	954	1211	1318	1315	1246	1125	1124	1094	1029	348	376	365	341	468	515	502	471	409	416	385	371
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	7360	70	3	3297	1244	1311	1301	1223	1524	1651	1603	1525	1363	1334	1306	1232	628	661	634	613	809	802	751	693	596	573	544	525
	420, 421	I275SB22	7360	70	3	430	1246	1309	1301	1225	1519	1652	1603	1526	1365	1333	1307	1233	26	27	27	28	23	23	24	26	27	26	27	26
	421, 422	I275SB23	7360	70	3	403	1247	1308	1301	1226	1516	1653	1602	1528	1366	1332	1308	1232	25	28	30	26	23	23	23	24	26	24	27	25
	422, 423	I275SB24	7360	70	3	426	1246	1308	1302	1223	1515	1653	1601	1529	1368	1331	1309	1233	28	28	31	29	24	25	26	26	27	29	27	26
	423, 424	I275SB25	7360	70	3	412	1244	1309	1303	1223	1512	1653	1600	1530	1369	1332	1307	1235	27	29	26	26	24	26	25	25	25	26	26	27
	424, 425	I275SB26	7360	70	3	734	1244	1308	1304	1225	1508	1652	1601	1530	1372	1332	1306	1237	50	51	50	53	53	58	59	55	56	47	52	50
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4445	50	3	841	846	881	855	801	1104	988	892	767	650	680	647	613	460	493	471	445	576	506	474	384	353	374	350	343
	500, 501	GandyEB3	4445	50	4	954	848	883	850	805	1081	964	893	781	667	679	649	615	676	738	671	631	1247	1328	1198	1096	689	635	543	512
	501, 502	GandyEB4	4445	50	5	174	847	884	849	805	1075	967	893	783	670	678	649	617	95	114	101	89	188	142	135	92	92	101	95	84
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1685	50	3	178	348	362	352	325	428	365	338	290	258	277	267	251	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1685	50	3	99	350	360	352	329	422	368	336	294	261	277	268	249	15	15	15	14	15	14	11	11	10	10	11	8
	505, 506	GandyEB10	1685	50	3	119	350	360	353	329	421	369	335	293	261	277	268	249	15	19	17	18	19	15	14	12	13	14	14	12
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3415	50	3	1167	608	617	616	598	690	631	600	551	524	536	531	514	366	365	373	376	382	368	372	356	362	361	366	371
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3840	55	3	181	524	556	523	500	691	726	696	655	580	602	574	547	10	11	9	8	14	16	15	14	11	13	11	9
	520, 521	GandyWB5	3840	55	3	291	524	557	523	501	689	725	698	655	580	602	574	547	14	16	13	12	20	19	20	16	15	17	17	14
	521, 522	GandyWB6	3840	55	4	590	523	557	523	501	687	726	698	655	582	600	577	545	384	437	405	380	534	563	552	504	446	479	440	414
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2440	55	3	1768	343	354	333	321	437	466	442	423	370	378	373	353	34	37	34	33	47	52	50	49	40	44	40	37
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3640	55	5	1179	775	796	769	728	908	978	953	920	842	837	829	784	93	93	94	84	111	126	120	116	101	100	108	99
	524, 525	GandyWB9	3640	55	5	455	776	795	771	727	906	977	955	918	844	837	830	785	25	27	23	23	31	37	35	30	25	27	26	24
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2800	50	1	525	436	427	435	430	440	424	434	433	433	432	439	437	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	600, 7001	GdyNBoff2	2800	50	1	300	436	427	434	432	439	424	434	433	432	432	438	438	0	0	0	0	0	0	0	0	0	0	0	0
	7021, 3	GdyNBoff5	1730	50	1	263	259	257	264	269	269	260	267	256	260	262	264	265	0	0	0	0	0	0	0	0	0	0	0	0
	3, 4	GdyNBoff6	1730	50	1	359	260	257	265	269	269	260	267	255	261	261	265	265	0	0	0	0	0	0	0	0	0	0	0	0
	4, 5	GdyNBoff7	1730	50	1	464	259	257	265	269	269	260	267	256	261	262	263	265	0	0	0	0	0	0	0	0	0	0	0	0
	5, 506	GdyNBoff8	1730	50	1	241	259	257	264	269	269	259	267	256	261	262	263	265	0	0	0	0	0	0	0	0	0	0	0	0
	7013, 2	GdyNBoff10	1070	50	1	267	179	169	171	162	168	165	169	176	173	169	175	173	0	0	0	0	0	0	0	0	0	0	0	0
	2, 8	GdyNBoff11	1070	50	1	341	179	169	171	163	168	166	169	176	173	168	175	173	0	0	0	0	0	0	0	0	0	0	0	0

2040 No Build AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	1070	50	1	483	179	169	171	163	168	166	169	176	173	169	175	173	0	0	0	0	0	0	0	0	0	0	0	0
	9, 10	GdyNBoff13	1070	50	1	492	177	170	171	163	167	167	169	176	172	169	176	172	0	0	0	0	0	0	0	0	0	0	0	0
	10, 11	GdyNBoff14	1070	50	1	389	177	171	171	163	168	166	169	176	172	169	175	172	0	0	0	0	0	0	0	0	0	0	0	0
	11, 7022	GdyNBoff15	1070	50	1	196	177	171	171	163	167	166	169	176	172	169	175	172	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2760	50	2	179	499	523	496	481	642	604	556	495	414	401	381	367	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1220	50	2	501	234	245	228	215	293	281	260	231	195	184	180	170	26	28	26	20	35	31	31	27	20	20	19	17
	623, 624	GdyNBon6	1220	50	2	299	233	245	227	215	293	281	261	232	195	184	179	171	9	6	5	7	9	10	8	7	7	5	6	5
	624, 625	GdyNBon7	1220	50	2	253	233	245	228	215	293	281	261	231	195	185	179	171	5	7	5	5	7	7	7	6	5	5	5	5
	625, 626	GdyNBon8	1220	50	2	238	233	245	228	215	294	280	261	231	196	184	179	171	5	6	5	5	5	6	6	6	4	5	2	4
	626, 627	GdyNBon9	1220	50	2	242	233	245	227	215	293	280	261	230	196	185	179	171	4	5	5	3	6	6	6	5	4	3	5	3
	627, 628	GdyNBon10	1220	50	2	277	233	245	228	215	292	281	261	231	196	184	179	171	6	4	6	6	6	6	7	5	6	3	5	4
	628, 629	GdyNBon11	1220	50	2	337	232	246	228	215	292	281	262	231	196	184	179	171	6	7	6	6	9	7	6	6	4	5	4	5
	629, 630	GdyNBon12	1220	50	2	877	231	247	229	213	291	282	261	233	197	183	178	172	12	14	13	12	19	17	19	14	13	11	11	10
	630, 307	GdyNBon13	1220	50	2	344	231	247	229	213	290	283	262	232	198	183	178	172	5	5	5	4	9	7	6	5	5	5	5	4
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1200	50	2	481	257	271	265	240	315	349	338	321	295	291	281	257	13	13	12	9	15	17	15	14	11	12	14	12
	660, 661	GdySBoff2	1200	50	2	394	256	271	265	240	313	349	339	321	297	291	281	258	6	5	5	5	7	7	7	8	5	7	6	4
	661, 7020	GdySBoff3	1200	50	2	336	255	270	266	240	313	349	339	320	298	292	280	258	0	0	0	0	0	0	0	0	0	0	0	0
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2270	50	2	714	432	444	433	407	476	514	508	496	471	460	455	432	49	50	51	45	49	54	54	56	57	49	52	52
	662, 523	GdySBoff7	2270	50	2	424	432	444	434	407	475	514	507	497	472	460	455	434	18	18	17	17	23	20	20	23	21	20	18	17
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1540	50	1	286	266	278	269	267	340	326	294	267	225	216	203	199	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1540	50	1	204	266	278	269	266	340	325	294	267	226	216	204	199	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1540	50	1	319	266	278	270	267	339	326	295	267	227	215	204	199	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1400	35	1	302	183	202	190	181	245	259	256	235	212	223	204	194	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1400	35	1	259	184	202	190	180	245	258	256	235	211	223	204	194	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1400	35	1	227	185	202	189	181	244	259	256	234	212	223	204	195	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1400	35	1	211	185	201	190	181	243	259	257	233	213	223	204	194	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1400	35	1	211	185	201	189	182	242	259	257	234	213	223	204	194	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1400	35	1	207	185	201	189	183	242	259	256	234	213	223	204	194	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1400	35	1	252	184	201	190	183	241	260	256	234	214	222	204	194	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2130	60	4	1418	401	429	405	383	530	564	531	505	446	464	441	421	315	343	303	298	414	453	417	408	345	369	350	327
	541, 542	RvEB3	2130	60	3	1028	402	429	404	384	528	563	530	506	446	464	443	421	27	27	24	23	39	37	38	37	32	30	29	23
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1430	60	2	513	271	280	217	259	354	379	354	338	302	309	294	281	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1530	60	2	120	306	313	262	300	390	452	439	425	371	358	349	323	3	5	2	3	7	22	20	16	9	7	7	6
	546, 547	RvEB10	1530	60	2	165	306	314	262	300	390	451	439	425	371	359	349	323	4	4	4	4	10	21	20	17	10	10	9	6
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2970	60	2	1053	541	541	495	527	630	703	669	660	599	587	583	545	314	304	306	301	335	377	342	343	321	319	316	295
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2805	60	2	756	530	564	528	512	694	739	699	673	578	612	584	554	22	25	22	22	29	30	29	30	23	27	23	24
	558, 559	RvWB3	2805	60	2	146	530	565	529	511	695	739	699	673	578	613	583	554	18	17	19	19	27	29	27	26	20	21	20	20
	559, 560	RvWB4	2805	60	3	151	530	565	529	511	694	738	699	673	578	613	584	555	18	19	18	18	24	28	30	27	19	22	20	20
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2670	60	2	125	504	541	502	485	659	702	666	638	551	584	556	526	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2215	60	2	133	411	446	409	400	537	574	552	525	458	481	465	436	8	9	7	8	12	10	11	11	8	10	8	8
	567, 568	RvWB14	2215	60	2	750	409	443	411	402	535	574	553	524	457	481	466	437	26	30	23	28	31	34	34	34	28	33	33	28
	568, 569	RvWB15	2215	60	2	281	409	442	411	402	535	573	552	525	457	480	466	437	9	11	9	9	12	12	13	11	9	11	12	9
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4775	60	4	1137	813	848	822	804	952	995	969	937	852	875	861	825	119	121	117	115	136	135	139	132	126	124	120	112
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5640	50	2	228	902	921	903	895	934	963	924	907	889	885	890	864	0	0	0	0	0	0	0	0	0	0	0	0
	7008, 701	RvNBoff4	5640	50	2	168	903	921	904	896	932	963	924	907	889	888	889	863	155	146	147	147	155	158	145	148	147	149	150	142
	701, 702	RvNBoff5	5640	50	2	198	903	921	904	896	931	964	923	907	890	889	889	863	275	271	268	267	282	292	267	275	268	265	269	259
	702, 703	RvNBoff6	5640	50	3	130	904	921	904	895	931	963	925	906	890	889	888	863	71	74	77	74	78	72	74	74	76	76	78	74
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1440	50	1	336	235	229	230	229	243	251	227	236	228	229	232	220	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	1440	50	1	200	235	229	230	229	243	252	227	236	228	229	232	221	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	1440	50	1	223	235	228	231	228	243	252	227	236	228	229	232	220	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	1440	50	1	262	235	229	231	228	242	252	228	235	228	230	232	220	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	1440	50	1	264	235	228	232	227	242	252	228	235	228	230	231	221	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2560	50	2	248	402	407	406	406	418	423	415	410	395	396	395	389	55	57	59	58	60	60	61	60	57	61	55	56
	715, 716	RvNBoff21	2560	50	2	642	402	407	406	405	417	424	416	410	395	397	394	389	56	54	53	56	56	55	57	54	50	51	55	50
	716, 569	RvNBoff22	2560	50	2	670	402	407	407	404	418	424	416	410	395	396	394	389	26	26	28	26	29	32	28	25	25	26	28	24
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	135	50	1	296	26	23	27	26	35	36	33	34	27	30	27	28	0	0	0	0	0	0	0	0	0	0	0	0
	757, 7016	RvNBon4	135	50	1	127	26	23	27	26	35	36	33	34	27	30	27	28	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	3050	50	2	261	562	588	578	539	669	690	685	697	695	657	611	602	98	107	97	96	124	130	133	136	132	118	111	104
	756, 317	RvNBon10	3050	50	2	444	562	589	577	540	668	689	685	697	695	658	611	601	40	44	43	39	50	50	48	49	50	54	44	44
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1270	50	2	223	257	258	254	253	334	355	344	333	289	295	284	269	7	6	8	6	9	11	9	10	8	8	8	7
	770, 7032	RvSBoff2	1270	50	2	150	257	258	254	252	335	354	344	332	289	295	285	269	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1170	50	3	102	224	243	284	213	287	306	299	288	252	257	245	233	67	72	89	65	85	90	88	83	74	80	77	73
	793, 410	RvSBon5	1170	50	3	655	225	242	284	214	285	306	300	289	251	257	247	232	26	34	43	24	41	44	42	38	29	33	28	28
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	131	148	188	125	174	184	176	169	146	154	149	140	1	3	4	2	3	5	4	3	1	3	3	2
	790, 7011	RvSBon11	700	50	2	250	132	147	188	126	174	183	176	169	146	153	149	139	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4200	50	2	311	670	690	674	667	687	713	697	671	661	659	656	643	63	67	63	69	65	62	68	68	64	65	65	64
	708, 710	118NBoff2	4200	50	2	567	670	690	676	666	687	712	696	671	662	659	656	644	84	87	84	80	87	93	84	83	81	84	79	77
	710, 711	118NBoff3	4200	50	2	460	671	690	676	667	687	711	696	671	664	660	654	645	108	122	116	110	124	133	121	110	115	109	113	110
	711, 712	118NBoff4	4200	50	3	472	671	688	678	665	687	713	696	671	664	660	653	646	45	44	43	46	47	43	47	45	45	44	42	45
	712, 713	118NBoff5	4200	50	3	395	672	687	678	667	686	711	696	671	665	660	653	645	324	327	327	323	332	340	330	330	318	324	321	316
	713, 714	118NBoff6	4200	50	4	188	672	688	677	667	687	712	695	671	666	659	653	646	112	114	113	108	114	118	116	111	106	108	103	101
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1640	50	2	212	271	280	272	262	268	288	281	262	270	264	257	258	5	6	6	6	7	6	6	5	5	7	5	7
	717, 718	118NBoff8	1640	50	2	389	270	280	272	262	267	288	280	263	269	265	257	258	7	9	8	7	7	9	8	6	8	7	7	7
	718, 719	118NBoff9	1640	50	2	373	271	280	272	263	266	289	280	263	269	265	256	259	7	7	5	7	6	7	6	6	5	6	5	5
	719, 720	118NBoff10	1640	50	2	589	271	281	271	263	266	289	279	264	269	265	256	258	8	11	10	10	11	11	12	9	10	10	9	7
	720, 721	118NBoff11	1640	50	2	311	271	281	271	263	266	288	280	264	269	266	256	258	5	6	5	6	6	7	5	6	6	5	4	5

2040 No Build AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1640	50	2	381	272	279	273	263	266	288	279	265	269	265	256	258	7	7	8	6	5	7	5	5	7	6	6	6
	722, 723	118NBoff13	1640	50	2	562	271	280	273	264	265	289	278	265	269	266	256	257	11	8	11	11	11	14	12	10	10	11	9	10
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2510	60	3	1252	450	455	448	432	486	537	507	493	475	472	449	444	96	94	95	90	115	120	120	110	105	107	102	96
	724, 725	118NBoff15	2510	60	3	575	451	454	448	432	484	538	507	493	475	469	451	443	12	11	12	12	16	19	14	14	14	12	12	13
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	4210	60	2	611	799	837	805	759	1045	1076	1025	1007	931	921	875	829	113	114	115	112	130	105	87	75	105	125	121	114
	741, 742	118NBon3	4210	60	2	1107	799	836	808	760	1037	1057	1017	1012	955	922	880	826	105	117	108	95	168	197	201	214	166	128	129	112
	742, 749	118NBon4	2630	50	2	758	501	526	507	473	638	644	632	636	611	582	541	524	119	123	125	115	102	141	158	170	140	113	117	122
	749, 750	118NBon5	2630	50	2	1140	499	526	507	476	615	632	631	638	625	593	545	526	88	98	91	80	175	314	370	372	300	166	102	100
NB I-275 On Ramp from 118th	750, 751	118NBon6	2630	50	1	304	498	527	507	477	612	632	631	638	626	594	545	527	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon7	2630	50	1	341	499	527	507	477	611	632	631	639	626	594	545	527	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon8	2630	50	1	406	499	527	507	476	610	632	631	638	627	594	544	529	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon9	2630	50	1	250	498	527	507	476	609	632	631	638	627	595	543	529	0	0	0	0	0	0	0	0	0	0	0	0
	754, 7009	118NBon10	2630	50	1	349	497	527	507	476	609	633	630	638	627	594	544	528	0	0	0	0	0	0	0	0	0	0	0	0
	7034, 775	118SBoff2	870	50	1	147	179	178	173	167	228	246	230	227	203	204	195	186	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	775, 776	118SBoff3	870	50	1	934	179	178	172	168	226	247	229	227	204	204	195	186	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	870	50	1	371	179	178	172	168	226	246	229	228	204	204	194	186	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	870	50	1	446	181	177	173	168	226	246	229	229	204	205	194	187	0	0	0	0	0	0	0	0	0	0	0	0
	778, 723	118SBoff6	870	50	1	1329	180	178	173	167	223	247	228	229	203	206	195	186	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon1	1580	50	1	227	298	309	301	289	384	399	379	382	359	350	340	304	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon2	1580	50	1	418	298	309	301	289	384	399	379	382	359	350	340	305	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from 118th	744, 745	118SBon3	1580	50	1	223	299	309	301	289	384	399	379	382	360	349	340	306	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon4	1580	50	1	201	298	309	301	290	383	400	379	382	360	350	340	306	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon5	1580	50	1	200	299	308	301	290	383	400	379	382	361	349	340	307	0	0	0	0	0	0	0	0	0	0	0	0
	747, 748	118SBon6	1580	50	1	166	299	308	301	289	383	400	379	381	361	349	339	308	0	0	0	0	0	0	0	0	0	0	0	0
	748, 413	118SBon7	1580	50	1	973	299	309	300	290	381	400	381	380	360	349	341	307	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2775	60	3	2420	526	555	527	503	683	732	696	660	576	607	578	548	345	355	328	328	448	459	444	415	369	392	371	352
	801, 811	UlmNBon3	1750	50	2	647	337	353	344	316	432	472	448	423	370	388	366	356	16	16	13	13	21	24	20	19	16	17	18	17
	811, 812	UlmNBon4	1750	50	2	590	335	353	345	316	431	472	447	425	370	388	367	356	11	13	12	12	18	19	18	15	13	16	14	12
NB I-275 On Ramp from Ulmerton	812, 813	UlmNBon5	1750	50	2	323	335	352	345	316	431	473	447	424	370	389	368	355	7	8	7	6	10	10	10	9	9	9	9	8
	813, 814	UlmNBon6	1750	50	2	328	335	352	346	316	430	473	447	424	370	390	367	356	8	7	8	7	9	11	10	10	8	8	9	7
	814, 815	UlmNBon7	1750	50	2	288	336	351	347	316	429	472	448	424	370	389	367	356	6	8	7	7	9	10	10	8	8	7	8	5
	815, 816	UlmNBon8	1750	50	2	273	336	351	347	317	428	472	448	424	371	388	367	356	6	7	7	4	8	9	8	7	7	8	8	5
	816, 321	UlmNBon9	1750	50	2	1098	337	349	348	318	426	471	449	423	373	388	365	357	25	26	24	23	32	35	40	32	27	30	32	31
	403, 830	UlmSBoff1	3240	50	2	573	613	651	615	594	786	855	812	775	689	709	685	656	79	82	83	76	107	116	108	103	90	90	91	84
SB I-275 Off Ramp to Ulmerton/MLK	830, 831	UlmSBoff2	3240	50	2	346	613	652	615	595	783	855	813	775	688	709	686	655	17	16	17	17	14	15	13	13	19	18	17	19
	831, 7036	UlmSBoff3	3240	50	2	283	612	652	616	595	783	854	813	775	688	709	688	654	0	0	0	0	0	0	0	0	0	0	0	0
	7014, 834	UlmSBoff7	2680	50	2	398	502	538	512	502	642	707	676	646	573	584	571	540	16	16	15	16	19	21	18	17	18	16	18	16
WB Ulmerton West of I-275	834, 835	UlmSBoff8	2680	60	2	584	504	538	511	503	640	706	676	646	574	584	572	541	49	52	46	47	48	49	52	55	51	51	48	48
	835, 836	UlmSBoff9	2680	60	2	481	504	537	512	503	639	704	677	645	576	583	572	542	8	9	6	8	10	10	10	9	8	8	10	9
	836, 837	UlmSBoff10	2680	60	2	2160	501	539	511	502	637	701	677	647	577	586	569	546	54	59	57	54	70	74	76	73	64	66	69	58
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1025	35	1	493	189	203	185	187	246	262	246	237	206	220	212	191	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	1025	35	1	214	190	202	186	187	244	263	246	238	206	220	212	191	0	0	0	0	0	0	0	0	0	0	0	0
	803, 808	UlmSBon3	730	35	1	163	138	150	131	136	176	195	182	172	151	160	155	142	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	808, 809	UlmSBon4	730	35	1	163	139	149	132	137	176	195	182	172	151	161	155	142	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	730	35	1	228	139	150	132	137	176	195	182	172	151	160	156	142	0	0	0	0	0	0	0	0	0	0	0	0
	810, 404	UlmSBon6	730	50	1	1030	137	151	132	137	174	196	183	172	152	158	157	142	0	0	0	0	0	0	0	0	0	0	0	0
	803, 804	UlmSBMLK1	295	35	1	201	52	52	55	52	67	68	64	65	56	60	57	50	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	804, 805	UlmSBMLK2	295	50	1	361	52	52	55	52	67	68	64	65	56	60	57	50	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	295	50	1	499	52	52	54	52	67	68	64	64	56	61	57	50	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	855	50	2	1171	163	164	159	148	196	216	201	198	174	183	173	166	23	21	20	16	25	31	28	26	22	26	21	21
	850, 851	MLKNBon2	420	50	1	1080	79	83	80	76	105	111	104	101	87	92	87	82	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from NB MLK	851, 852	MLKNBon3	420	50	1	350	79	84	79	76	105	111	104	102	87	92	87	82	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	420	50	1	370	79	84	79	76	105	110	104	102	87	92	87	83	0	0	0	0	0	0	0	0	0	0	0	0
	853, 320	MLKNBon5	420	50	1	885	79	84	79	77	104	110	103	102	87	92	87	83	0	0	0	0	0	0	0	0	0	0	0	0
	7015, 839	MLKSBoff3	560	50	1	294	110	113	105	95	132	148	136	133	115	124	118	116	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	839, 840	MLKSBoff4	560	50	1	336	110	113	105	95	131	148	137	133	116	123	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	560	50	1	395	110	112	105	95	132	147	137	133	116	123	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	560	50	1	539	111	112	105	96	131	147	137	133	116	123	116	117	0	0	0	0	0	0	0	0	0	0	0	0
	900, 901	4thNBon2	1260	60	2	1270	240	253	239	227	312	333	314	300	263	273	265	246	8	10	10	7	9	14	11	10	8	11	9	8
	901, 902	4thNBon3	1260	60	2	634	241	252	240	227	312	332	316	300	263	274	265	246	99	107	103	97	121	134	124	115	108	109	107	102
	902, 903	4thNBon4	1260	60	2	322	243	252	240	227	312	330	317	300	263	274	265	247	14	15	12	13	18	23	21	20	15	16	18	15
NB I-275 On Ramp from 4th	903, 904	4thNBon5	1260	60	2	279	243	252	240	227	311	331	316	300	263	273	265	246	7	7	6	6	14	12	12	11	9	8	8	7
	904, 905	4thNBon6	1260	60	2	388	243	252	240	227	311	330	316	301	263	274	264	246	1	1	0	1	2	3	2	1	1	1	1	1
	905, 906	4thNBon7	1260	60	1	313	243	251	240	227	311	330	317	301	263	275	264	246	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	1260	60	1	300	243	251	240	227	310	330	317	300	264	274	264	246	0	0	0	0	0	0	0	0	0	0	0	0
	907, 323	4thNBon9	1260	60	1	684	244	250	241	227	308	328	319	300	265	274	265	247	0	0	0	0	0	0	0	0	0	0	0	0
	401, 920	4thSBoff1	700	60	1	467	137	139	138	130	171	185	172	174	151	157	142	133	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	700	60	1	492	137	139	138	129	172	185	172	174	151	157	142	134	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	700	60	1	420	137	139	138	130	172	184	172	175	151	157	142	133	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	700	60	1	393	136	140	138	130	172	184	173	174	151	157	142	134	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	923, 924	4thSBoff5	700	60	1	384	136	140	138	130	171	184	173	173	152	157	141	134	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	700	60	1	354	137	140	137	130	170	185	173	173	151	158	141	135	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	700	60	1	501	137	140	137	130	170	185	173	174	151	158	141	135	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	700	60	1	416	137	139	137	130	170	185	174	174	151	157	141	135	1	1	1	1	2	2	2	1	2	2	2	1
	927, 928	4thSBoff9	700	60	2	1153	138	139	138	130	169	185	175	173	152	157	141	135	30	29	28	27	39	42	38	39	32	32	29	28
	928, 929	4thSBoff10	700	60	2	1242	138	138	137	131	168	184	175	173	152	157	142	135	9	10	10	9	14	18	16	14	14	12	11	10

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	10,780	70	3	1,087	36.0	35.9	35.9	60.9	61.2	61.1	8,193	10,780	8,947	6,662	6,679	6,679
	300, 301	I275NB3	10,780	70	3	805										6,662	6,679	6,680
	301, 302	I275NB4	10,780	70	3	478										6,663	6,681	6,678
	302, 303	I275NB5	10,780	70	3	2,687										6,663	6,681	6,678
	303, 304	I275NB6	10,780	70	4	382										6,663	6,682	6,676
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	7,980	70	3	1,375	25.2	25.2	25.2	65.4	65.4	65.4	6,065	7,980	6,623	4,934	4,951	4,937
	305, 306	I275NB8	7,980	70	3	1,306										4,933	4,952	4,938
	306, 307	I275NB9	7,980	70	3	591										4,932	4,953	4,937
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	9,200	70	5	1,065	22.3	23.4	21.6	63.4	62.6	63.6	6,992	9,200	7,636	5,851	6,017	5,669
	308, 309	I275NB11	9,200	70	5	3,035										5,850	6,015	5,675
	309, 310	I275NB12	9,200	70	4	1,095										5,848	6,017	5,676
	310, 311	I275NB13	9,200	70	4	380										5,849	6,015	5,677
	311, 312	I275NB14	9,200	70	4	399										5,848	6,015	5,677
	312, 313	I275NB15	9,200	70	4	368										5,849	6,014	5,678
	313, 314	I275NB16	9,200	70	4	460										5,850	6,011	5,680
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3,560	70	3	886	11.1	11.4	10.7	67.3	67.1	67.3	2,706	3,560	2,955	2,229	2,284	2,153
	315, 316	I275NB18	3,560	70	3	1,317										2,232	2,283	2,155
	316, 317	I275NB19	3,560	70	3	1,361										2,232	2,282	2,155
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	6,610	70	5	1,032	16.1	18.0	16.9	65.9	65.7	65.8	5,024	6,610	5,486	4,500	5,022	4,721
	318, 319	I275NB21	6,610	70	5	1,191										4,499	5,018	4,723
	319, 320	I275NB22	6,610	70	4	3,175										4,494	5,017	4,730
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	7,030	70	4	1,678	16.6	18.9	17.6	66.0	65.5	65.8	5,343	7,030	5,835	4,817	5,426	5,084
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	8,780	70	5	1,064	17.9	30.1	19.8	65.4	49.8	63.2	6,673	8,780	7,287	6,164	7,197	6,566
	322, 323	I275NB25	8,780	70	5	1,398										6,172	7,175	6,584
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	10,040	70	5	817	31.2	46.3	37.9	52.9	44.3	47.5	7,630	10,040	8,333	7,138	8,389	7,660
	324, 325	I275NB27	10,040	70	5	683										7,146	8,377	7,663
	325, 326	I275NB28	10,040	70	4	1,898										7,149	8,364	7,671
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	7,350	70	4	2,040	21.1	28.5	23.2	66.7	65.0	66.4	5,586	7,350	6,101	5,590	7,345	6,112
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	6,650	70	4	2,745	17.8	25.0	19.7	64.3	60.4	63.5	5,054	6,650	5,520	5,053	6,624	5,540
	402, 403	I275SB4	6,650	70	5	825										5,054	6,618	5,546
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	3,410	70	4	4,213	9.5	12.6	10.3	68.1	67.4	67.9	2,592	3,410	2,830	2,583	3,379	2,816
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	4,140	70	4	972	11.2	14.8	12.3	66.0	65.1	65.6	3,146	4,140	3,436	3,138	4,100	3,430
	405, 406	I275SB7	4,140	70	4	1,472										3,138	4,097	3,433
	406, 407	I275SB8	4,140	70	4	662										3,138	4,095	3,435
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	2,870	70	3	1,201	10.4	13.5	11.3	68.0	67.5	67.8	2,181	2,870	2,382	2,114	2,728	2,299
	408, 409	I275SB10	2,870	70	3	1,585										2,116	2,727	2,299
	409, 410	I275SB11	2,870	70	3	458										2,117	2,727	2,301
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	4,040	70	5	631	10.4	13.3	11.1	65.4	65.0	65.4	3,070	4,040	3,353	3,079	3,906	3,288
	411, 412	I275SB13	4,040	70	5	244										3,079	3,906	3,288
	412, 413	I275SB14	4,040	70	4	608										3,081	3,904	3,289
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	5,620	70	4	492	16.2	21.2	17.7	65.0	63.2	64.6	4,271	5,620	4,665	4,279	5,440	4,651
	414, 415	I275SB16	5,620	70	4	3,870										4,275	5,431	4,655
	415, 416	I275SB17	5,620	70	4	1,086										4,272	5,430	4,656
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	4,420	70	3	1,385	16.2	20.9	17.8	66.6	65.6	66.3	3,359	4,420	3,669	3,242	4,104	3,531
	417, 418	I275SB19	4,420	70	3	343										3,242	4,103	3,532
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	5,820	70	3	1,507	17.3	22.6	19.1	63.0	61.3	62.4	4,423	5,820	4,831	3,998	5,090	4,372
	419, 420	I275SB21	7,360	70	3	3,297										5,080	6,303	5,235
	420, 421	I275SB22	7,360	70	3	430										5,081	6,300	5,237

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Gandy On Ramp to South of Gandy	421, 422	I275SB23	7,360	70	3	403	24.7	32.5	25.6	64.6	61.2	64.3	5,594	7,360	6,109	5,082	6,298	5,237
	422, 423	I275SB24	7,360	70	3	426										5,079	6,298	5,240
	423, 424	I275SB25	7,360	70	3	412										5,079	6,296	5,243
	424, 425	I275SB26	7,360	70	3	734										5,080	6,291	5,248
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4,445	50	3	841	20.0	48.2	17.3	47.0	23.0	30.8	3,378	4,445	3,689	3,383	3,751	2,590
	500, 501	GandyEB3	4,445	50	4	954										3,386	3,720	2,610
	501, 502	GandyEB4	4,445	50	5	174										3,385	3,718	2,614
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,685	50	3	178	9.7	10.9	7.6	47.6	39.4	32.5	1,281	1,685	1,399	1,386	1,420	1,054
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,685	50	3	99	10.4	10.7	7.9	48.5	43.3	34.0	1,281	1,685	1,399	1,390	1,419	1,055
	505, 506	GandyEB10	1,685	50	3	119										1,390	1,419	1,055
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3,415	50	3	1,167	16.4	16.6	14.1	47.0	46.9	46.9	2,595	3,415	2,834	2,438	2,473	2,105
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,840	55	3	181	11.7	15.6	12.9	51.5	50.7	51.2	2,918	3,840	3,187	2,103	2,769	2,303
	520, 521	GandyWB5	3,840	55	3	291										2,104	2,767	2,303
	521, 522	GandyWB6	3,840	55	4	590										2,104	2,765	2,303
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,440	55	3	1,768	8.3	11.0	9.1	54.1	53.8	54.0	1,854	2,440	2,025	1,351	1,768	1,473
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,640	55	5	1,179	11.5	14.1	12.3	53.6	53.4	53.5	2,766	3,640	3,021	3,068	3,760	3,292
	524, 525	GandyWB9	3,640	55	5	455										3,069	3,757	3,295
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,800	50	1	525	37.8	37.7	37.9	45.8	46.0	46.0	2,128	2,800	2,324	1,728	1,731	1,740
	600, 7001	GdyNBoff2	2,800	50	1	300										1,729	1,731	1,740
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,730	50	1	263	22.9	22.8	22.9	46.5	46.8	46.7	1,315	1,730	1,436	1,050	1,051	1,051
	3, 4	GdyNBoff6	1,730	50	1	359										1,050	1,051	1,051
	4, 5	GdyNBoff7	1,730	50	1	464										1,049	1,051	1,051
	5, 506	GdyNBoff8	1,730	50	1	241										1,049	1,051	1,051
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	1,070	50	1	267	14.4	14.4	14.6	47.7	47.8	47.7	813	1,070	888	681	679	690
	2, 8	GdyNBoff11	1,070	50	1	341										682	679	689
	8, 9	GdyNBoff12	1,070	50	1	483										682	679	689
	9, 10	GdyNBoff13	1,070	50	1	492										682	678	689
	10, 11	GdyNBoff14	1,070	50	1	389										681	679	688
	11, 7022	GdyNBoff15	1,070	50	1	196										682	678	689
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2,760	50	2	179	33.7	81.7	36.5	30.5	12.9	15.7	2,098	2,760	2,291	1,999	2,297	1,563
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,220	50	2	501	9.5	11.1	7.5	48.7	43.6	34.1	927	1,220	1,013	921	1,066	729
	623, 624	GdyNBon6	1,220	50	2	299										920	1,066	729
	624, 625	GdyNBon7	1,220	50	2	253										920	1,066	729
	625, 626	GdyNBon8	1,220	50	2	238										920	1,065	730
	626, 627	GdyNBon9	1,220	50	2	242										921	1,065	730
	627, 628	GdyNBon10	1,220	50	2	277										920	1,066	730
	628, 629	GdyNBon11	1,220	50	2	337										920	1,066	730
	629, 630	GdyNBon12	1,220	50	2	877										920	1,066	730
	630, 307	GdyNBon13	1,220	50	2	344										920	1,066	731
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,200	50	2	481	10.5	13.5	11.5	49.1	49.0	49.1	912	1,200	996	1,032	1,323	1,125
	660, 661	GdySBoff2	1,200	50	2	394										1,031	1,322	1,126
	661, 7020	GdySBoff3	1,200	50	2	336										1,031	1,321	1,127
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2,270	50	2	714	18.3	21.3	19.4	47.8	47.6	47.8	1,725	2,270	1,884	1,717	1,994	1,818
	662, 523	GdySBoff7	2,270	50	2	424										1,717	1,993	1,820
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,540	50	1	286	24.1	27.8	19.0	46.0	40.7	31.9	1,170	1,540	1,278	1,079	1,227	844
	621, 622	GdySBon3	1,540	50	1	204										1,079	1,227	845
	622, 419	GdySBon4	1,540	50	1	319										1,080	1,226	845
	522, 640	GdySBonLoop1	1,400	35	1	302										756	994	832
	640, 641	GdySBonLoop2	1,400	35	1	259										756	994	833

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Loop On Ramp Loop from WB Gandy	641, 642	GdySBonLoop3	1,400	35	1	227	22.6	30.0	25.0	33.5	33.1	33.3	1,064	1,400	1,162	756	994	833
	642, 643	GdySBonLoop4	1,400	35	1	211										757	992	834
	643, 644	GdySBonLoop5	1,400	35	1	211										758	991	834
	644, 645	GdySBonLoop6	1,400	35	1	207										758	991	835
	645, 418	GdySBonLoop7	1,400	35	1	252										758	990	835
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,130	60	4	1,418	8.1	10.7	8.8	58.3	58.0	58.3	1,619	2,130	1,768	1,618	2,129	1,772
	541, 542	RvEB3	2,130	60	3	1,028										1,619	2,127	1,773
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,430	60	2	513	8.8	12.2	10.1	58.7	58.2	58.5	1,087	1,430	1,187	1,028	1,424	1,186
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,530	60	2	120	10.9	17.0	13.4	57.6	53.7	55.8	1,163	1,530	1,270	1,181	1,706	1,401
	546, 547	RvEB10	1,530	60	2	165										1,181	1,706	1,401
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,970	60	2	1,053	15.9	20.7	17.5	55.6	54.1	55.4	2,257	2,970	2,465	2,103	2,662	2,314
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,805	60	2	756	17.3	23.1	19.0	58.5	57.8	58.3	2,132	2,805	2,328	2,135	2,804	2,328
	558, 559	RvWB3	2,805	60	2	146										2,134	2,804	2,328
	559, 560	RvWB4	2,805	60	3	151										2,134	2,804	2,329
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,670	60	2	125	17.4	23.3	19.1	58.4	57.3	58.1	2,029	2,670	2,216	2,032	2,666	2,217
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,215	60	2	133	14.7	19.6	16.3	57.4	56.8	57.2	1,683	2,215	1,838	1,666	2,187	1,840
	567, 568	RvWB14	2,215	60	2	750										1,666	2,185	1,841
	568, 569	RvWB15	2,215	60	2	281										1,665	2,185	1,841
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,775	60	4	1,137	14.4	16.9	15.0	57.1	56.9	57.0	3,629	4,775	3,963	3,287	3,853	3,414
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5,640	50	2	228	39.8	41.6	38.4	45.6	45.0	46.1	4,286	5,640	4,681	3,622	3,728	3,528
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5,640	50	2	168	33.8	34.8	32.8	44.7	44.6	44.9	4,286	5,640	4,681	3,624	3,726	3,529
	701, 702	RvNBoff5	5,640	50	2	198										3,624	3,725	3,530
	702, 703	RvNBoff6	5,640	50	3	130										3,624	3,725	3,530
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,440	50	1	336	19.3	20.0	19.0	47.9	47.9	48.0	1,094	1,440	1,195	923	958	910
	704, 705	RvNBoff8	1,440	50	1	200										922	958	910
	705, 706	RvNBoff9	1,440	50	1	223										922	958	910
	706, 707	RvNBoff10	1,440	50	1	262										922	958	910
	707, 547	RvNBoff11	1,440	50	1	264										922	958	910
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,560	50	2	248	16.8	17.3	16.4	48.1	48.1	48.1	1,946	2,560	2,125	1,620	1,666	1,575
	715, 716	RvNBoff21	2,560	50	2	642										1,620	1,666	1,575
	716, 569	RvNBoff22	2,560	50	2	670										1,620	1,667	1,573
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	135	50	1	296	1.9	2.6	2.1	52.5	52.3	52.5	103	135	112	102	138	112
	757, 7016	RvNBon4	135	50	1	127										102	138	112
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	3,050	50	2	261	25.2	30.5	28.5	46.4	46.3	46.3	2,318	3,050	2,532	2,267	2,741	2,565
	756, 317	RvNBon10	3,050	50	2	444										2,268	2,740	2,565
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	1,270	50	2	223	10.4	14.0	11.6	49.0	48.7	48.9	965	1,270	1,054	1,022	1,366	1,137
	770, 7032	RvSBoff2	1,270	50	2	150										1,022	1,365	1,138
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,170	50	3	102	9.7	12.0	9.9	46.6	46.3	46.9	889	1,170	971	964	1,180	988
	793, 410	RvSBon5	1,170	50	3	655										965	1,180	987
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	6.0	7.1	5.9	49.4	49.3	49.5	532	700	581	591	702	588
	790, 7011	RvSBon11	700	50	2	250										592	701	588
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4,200	50	2	311	22.3	22.9	21.6	47.7	47.6	47.8	3,192	4,200	3,486	2,701	2,768	2,619
	708, 710	118NBoff2	4,200	50	2	567										2,702	2,766	2,621
	710, 711	118NBoff3	4,200	50	2	460										2,703	2,765	2,622
	711, 712	118NBoff4	4,200	50	3	472										2,703	2,766	2,623
	712, 713	118NBoff5	4,200	50	3	395										2,704	2,764	2,623
	713, 714	118NBoff6	4,200	50	4	188										2,704	2,764	2,624
	714, 717	118NBoff7	1,640	50	2	212										1,084	1,099	1,049

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,640	50	2	389	11.1	11.2	10.7	49.1	49.0	49.2	1,246	1,640	1,361	1,084	1,099	1,049
	718, 719	118NBoff9	1,640	50	2	373										1,086	1,098	1,049
	719, 720	118NBoff10	1,640	50	2	589										1,086	1,098	1,048
	720, 721	118NBoff11	1,640	50	2	311										1,086	1,098	1,048
	721, 722	118NBoff12	1,640	50	2	381										1,086	1,099	1,048
	722, 723	118NBoff13	1,640	50	2	562										1,087	1,097	1,049
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2,510	60	3	1,252	10.4	11.8	10.7	57.2	57.0	57.2	1,908	2,510	2,083	1,784	2,022	1,840
	724, 725	118NBoff15	2,510	60	3	575										1,786	2,022	1,839
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	4,210	60	2	611	29.2	70.3	40.2	55.4	35.6	49.6	3,200	4,210	3,494	3,200	4,153	3,556
	741, 742	118NBon3	4,210	60	2	1,107										3,202	4,123	3,582
NB I-275 On Ramp from 118th	742, 749	118NBon4	2,630	50	2	758	33.0	71.8	48.4	45.3	29.3	38.6	1,999	2,630	2,183	2,006	2,550	2,257
	749, 750	118NBon5	2,630	50	2	1,140										2,008	2,515	2,289
	750, 751	118NBon6	2,630	50	1	304										2,008	2,513	2,291
	751, 752	118NBon7	2,630	50	1	341										2,009	2,512	2,292
	752, 753	118NBon8	2,630	50	1	406										2,008	2,511	2,293
	753, 754	118NBon9	2,630	50	1	250										2,008	2,510	2,294
	754, 7009	118NBon10	2,630	50	1	349										2,008	2,509	2,294
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	870	50	1	147	15.1	20.2	17.2	46.8	46.5	46.5	661	870	722	697	931	787
	775, 776	118SBoff3	870	50	1	934										697	930	788
	776, 777	118SBoff4	870	50	1	371										698	929	789
	777, 778	118SBoff5	870	50	1	446										698	928	789
	778, 723	118SBoff6	870	50	1	1,329										698	928	790
SB I-275 On Ramp from 118th	742, 743	118SBon1	1,580	50	1	227	25.5	33.6	29.0	47.1	46.1	46.8	1,201	1,580	1,311	1,198	1,545	1,353
	743, 744	118SBon2	1,580	50	1	418										1,198	1,544	1,354
	744, 745	118SBon3	1,580	50	1	223										1,198	1,544	1,355
	745, 746	118SBon4	1,580	50	1	201										1,198	1,543	1,355
	746, 747	118SBon5	1,580	50	1	200										1,197	1,543	1,356
	747, 748	118SBon6	1,580	50	1	166										1,197	1,543	1,357
	748, 413	118SBon7	1,580	50	1	973										1,198	1,541	1,358
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	2,775	60	3	2,420	12.3	16.2	13.4	57.8	57.5	57.7	2,109	2,775	2,303	2,111	2,770	2,309
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,750	50	2	647	13.8	18.3	15.2	48.8	48.3	48.7	1,330	1,750	1,453	1,350	1,776	1,480
	811, 812	UlmNBon4	1,750	50	2	590										1,349	1,775	1,480
	812, 813	UlmNBon5	1,750	50	2	323										1,348	1,774	1,482
	813, 814	UlmNBon6	1,750	50	2	328										1,349	1,773	1,483
	814, 815	UlmNBon7	1,750	50	2	288										1,350	1,773	1,482
	815, 816	UlmNBon8	1,750	50	2	273										1,350	1,772	1,482
	816, 321	UlmNBon9	1,750	50	2	1,098										1,352	1,770	1,483
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	3,240	50	2	573	25.9	34.4	28.8	47.8	47.0	47.5	2,462	3,240	2,689	2,473	3,227	2,738
	830, 831	UlmSBoff2	3,240	50	2	346										2,474	3,226	2,738
	831, 7036	UlmSBoff3	3,240	50	2	283										2,474	3,225	2,739
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,680	50	2	398	18.6	24.4	20.6	55.9	55.1	55.7	2,037	2,680	2,224	2,053	2,671	2,268
	834, 835	UlmSBoff8	2,680	60	2	584										2,056	2,668	2,270
	835, 836	UlmSBoff9	2,680	60	2	481										2,056	2,665	2,273
	836, 837	UlmSBoff10	2,680	60	2	2,160										2,054	2,662	2,278
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,025	35	1	493	17.1	22.6	18.6	45.8	44.9	45.6	779	1,025	851	764	992	829
	802, 803	UlmSBon2	1,025	35	1	214										765	991	829
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	730	35	1	163	13.8	18.0	15.1	41.3	41.0	41.2	555	730	606	555	726	608
	808, 809	UlmSBon4	730	35	1	163										556	725	608
	809, 810	UlmSBon5	730	35	1	228										556	725	609
	810, 404	UlmSBon6	730	50	1	1,030										557	724	610
	803, 804	UlmSBMLK1	295	35	1	201										210	264	222

2040 No Build AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
EB Ulmerton to SB MLK	804, 805	UlmSBMLK2	295	50	1	361	4.9	6.2	5.2	43.8	43.6	43.8	224	295	245	210	264	222
	805, 806	UlmSBMLK3	295	50	1	499										210	264	223
SB MLK	806, 807	UlmSBMLK4	855	50	2	1,171	6.5	8.3	7.1	49.1	48.9	49.1	650	855	710	634	810	696
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1,080	6.5	8.6	7.1	49.4	49.2	49.3	319	420	349	318	421	348
	851, 852	MLKNBon3	420	50	1	350										318	421	347
	852, 853	MLKNBon4	420	50	1	370										318	421	348
	853, 320	MLKNBon5	420	50	1	885										319	419	348
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	560	50	1	294	8.8	11.5	9.9	48.6	48.3	48.6	426	560	465	422	549	473
	839, 840	MLKSBoff4	560	50	1	336										423	549	473
	840, 841	MLKSBoff5	560	50	1	395										423	548	473
	841, 806	MLKSBoff6	560	50	1	539										423	548	473
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,260	60	2	1,270	7.1	10.3	7.8	58.2	55.3	57.9	958	1,260	1,046	959	1,259	1,048
	901, 902	4thNBon3	1,260	60	2	634										960	1,259	1,047
	902, 903	4thNBon4	1,260	60	2	322										961	1,259	1,047
	903, 904	4thNBon5	1,260	60	2	279										961	1,258	1,048
	904, 905	4thNBon6	1,260	60	2	388										961	1,257	1,049
	905, 906	4thNBon7	1,260	60	1	313										961	1,258	1,049
	906, 907	4thNBon8	1,260	60	1	300										961	1,256	1,049
	907, 323	4thNBon9	1,260	60	1	684										962	1,255	1,051
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	700	60	1	467	6.6	8.5	7.1	58.3	58.2	58.3	532	700	581	543	703	584
	920, 921	4thSBoff2	700	60	1	492										543	703	584
	921, 922	4thSBoff3	700	60	1	420										543	703	583
	922, 923	4thSBoff4	700	60	1	393										543	702	584
	923, 924	4thSBoff5	700	60	1	384										543	702	584
	924, 925	4thSBoff6	700	60	1	354										544	701	584
	925, 926	4thSBoff7	700	60	1	501										544	702	584
	926, 927	4thSBoff8	700	60	1	416										543	702	584
	927, 928	4thSBoff9	700	60	2	1,153										543	700	586
	928, 929	4thSBoff10	700	60	2	1,242										544	699	585

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7470	70	3	1087	49.0	49.6	62.2	78.5	76.2	69.8	71.0	69.5	62.4	64.7	66.0	62.5	70.2	71.8	84.2	90.6	91.0	85.4	87.4	85.2	81.3	83.0	83.0	81.0
	300, 301	I275NB3	7470	70	3	805	64.6	66.2	85.3	100.5	99.6	91.6	92.5	90.5	82.7	84.4	86.1	81.5												
	301, 302	I275NB4	7470	70	3	478	78.3	82.5	102.2	113.2	112.6	106.6	106.7	106.4	99.4	103.7	103.0	96.4												
	302, 303	I275NB5	7470	70	3	2687	80.6	82.1	92.5	92.2	94.2	89.0	92.4	89.4	88.0	89.3	88.7	88.2												
	303, 304	I275NB6	7470	70	4	382	58.2	60.5	64.3	64.4	65.1	64.4	64.2	62.3	61.8	62.3	59.0	62.9												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4910	70	3	1375	22.6	23.6	21.9	22.2	21.8	23.2	22.3	22.9	23.0	22.9	22.7	22.7	21.9	22.7	21.2	21.4	21.0	22.3	21.4	22.0	22.2	22.1	21.9	21.9
	305, 306	I275NB8	4910	70	3	1306	21.3	22.0	20.6	20.7	20.4	21.6	20.7	21.4	21.6	21.5	21.3	21.3												
	306, 307	I275NB9	4910	70	3	591	21.4	22.0	20.7	20.8	20.4	21.6	20.7	21.5	21.7	21.6	21.3	21.3												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6110	70	5	1065	16.4	17.0	16.0	15.9	16.2	17.1	16.4	16.7	16.3	16.4	16.1	16.0	19.5	20.2	19.0	18.8	19.2	20.4	19.4	19.8	19.4	19.4	19.2	19.1
	308, 309	I275NB11	6110	70	5	3035	19.4	20.1	18.9	18.8	19.1	20.2	19.3	19.7	19.4	19.4	19.1	19.0												
	309, 310	I275NB12	6110	70	4	1095	19.9	20.7	19.4	19.3	19.6	20.8	19.8	20.3	19.9	19.9	19.7	19.5												
	310, 311	I275NB13	6110	70	4	380	20.5	21.4	20.0	19.8	20.2	21.6	20.5	21.0	20.4	20.5	20.3	20.2												
	311, 312	I275NB14	6110	70	4	399	20.9	21.9	20.5	20.2	20.7	22.1	21.1	21.5	20.9	20.9	20.7	20.6												
	312, 313	I275NB15	6110	70	4	368	21.4	22.3	20.9	20.4	21.0	22.6	21.4	21.9	21.2	21.1	20.9	20.8												
	313, 314	I275NB16	6110	70	4	460	22.6	23.6	21.9	21.4	22.1	23.6	22.6	22.8	22.2	22.2	22.0	21.9												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3110	70	3	886	13.3	13.8	12.8	12.7	13.0	13.9	13.1	13.5	13.2	13.1	13.1	13.3	12.9	13.4	12.6	12.5	12.7	13.5	12.8	13.2	13.0	12.9	12.8	13.1
	315, 316	I275NB18	3110	70	3	1317	12.8	13.3	12.5	12.4	12.6	13.4	12.7	13.1	12.8	12.8	12.7	13.0												
	316, 317	I275NB19	3110	70	3	1361	12.9	13.3	12.5	12.4	12.6	13.4	12.7	13.1	12.9	12.8	12.8	13.0												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4790	70	5	1032	12.7	13.0	12.2	12.2	13.1	14.0	13.3	12.5	12.3	12.9	12.9	12.7	14.3	14.7	13.9	13.7	14.7	15.7	15.0	14.2	14.0	14.6	14.5	14.3
	318, 319	I275NB21	4790	70	5	1191	13.9	14.3	13.4	13.4	14.3	15.3	14.6	13.8	13.6	14.2	14.1	13.9												
	319, 320	I275NB22	4790	70	4	3175	15.0	15.4	14.6	14.4	15.4	16.4	15.8	14.9	14.7	15.2	15.3	15.0												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	5280	70	4	1678	15.4	15.8	15.0	14.7	15.9	17.0	16.3	15.4	15.0	15.5	15.5	15.2	15.4	15.8	15.0	14.7	15.9	17.0	16.3	15.4	15.0	15.5	15.5	15.2
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	7510	70	5	1064	19.0	19.8	18.7	18.1	20.9	22.9	21.6	19.9	18.1	18.7	18.2	17.7	19.5	20.3	19.3	18.6	21.3	25.2	23.5	20.6	18.6	19.2	18.8	18.3
	322, 323	I275NB25	7510	70	5	1398	20.0	20.7	19.8	18.9	21.6	27.0	24.9	21.2	19.1	19.7	19.3	18.8												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	8390	70	5	817	30.0	34.7	30.2	22.7	40.4	55.5	53.1	38.8	25.0	25.8	23.4	22.2	34.1	35.7	34.0	30.3	37.0	42.9	42.3	36.9	31.0	32.0	30.7	29.3
	324, 325	I275NB27	8390	70	5	683	46.7	46.7	45.9	40.7	46.3	49.7	50.3	47.3	40.7	43.0	40.5	37.6												
	325, 326	I275NB28	8390	70	4	1898	31.4	32.1	31.4	29.8	32.2	35.0	34.8	32.3	30.2	30.8	30.3	29.3												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	9290	70	4	2040	35.3	40.0	36.9	32.8	44.8	44.5	45.3	44.7	45.2	40.7	31.2	29.0	35.3	40.0	36.9	32.8	44.8	44.5	45.3	44.7	45.2	40.7	31.2	29.0
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	7850	70	4	2745	25.2	26.9	25.7	24.2	27.4	27.8	27.8	27.6	27.9	26.7	23.3	22.0	24.7	26.4	25.1	23.7	26.7	27.1	27.2	27.0	27.2	26.1	22.9	21.5
	402, 403	I275SB4	7850	70	5	825	22.9	24.4	23.1	22.2	24.5	25.0	24.9	24.9	25.0	24.0	21.4	19.9												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	5670	70	4	4213	18.9	19.8	19.2	18.1	19.9	20.5	20.5	20.5	20.5	19.8	17.5	16.5	18.9	19.8	19.2	18.1	19.9	20.5	20.5	20.5	20.5	19.8	17.5	16.5
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	6640	70	4	972	18.6	19.6	18.8	17.9	19.7	20.4	20.3	20.1	19.7	19.3	17.2	16.3	22.3	23.5	22.8	21.5	23.8	24.8	24.6	24.4	23.9	23.4	20.6	19.3
	405, 406	I275SB7	6640	70	4	1472	23.3	24.7	23.8	22.5	24.9	26.0	25.7	25.6	25.0	24.5	21.6	20.2												
	406, 407	I275SB8	6640	70	4	662	25.3	26.8	26.2	24.5	27.4	28.5	28.4	28.2	27.5	26.7	23.3	21.8												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	4350	70	3	1201	19.2	20.0	19.4	18.4	20.4	21.2	21.1	20.6	20.8	20.1	17.9	16.5	18.8	19.6	19.0	18.1	19.9	20.7	20.6	20.2	20.3	19.7	17.6	16.2
	408, 409	I275SB10	4350	70	3	1585	18.6	19.3	18.8	17.9	19.6	20.4	20.2	19.9	20.0	19.4	17.5	16.1												
	409, 410	I275SB11	4350	70	3	458	18.7	19.4	18.9	17.9	19.7	20.5	20.4	20.0	20.1	19.5	17.5	16.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	6770	70	5	631	19.1	19.8	19.1	18.4	20.4	21.1	21.5	20.9	19.4	19.3	18.1	17.0	20.9	21.9	21.0	20.0	23.5	26.2	30.6	33.1	25.6	23.5	20.8	18.4
	411, 412	I275SB13	6770	70	5	244	19.1	19.8	19.1	18.4	20.7	21.8	24.7	24.9	20.2	19.5	18.1	16.9												
	412, 413	I275SB14	6770	70	4	608	23.4	25.1	23.7	22.4	27.8	33.1	42.3	49.2	34.3	29.4	24.6	20.5												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	8760	70	4	492	37.9	42.9	38.2	34.9	46.9	53.4	63.4	70.8	61.3	55.9	48.3	33.8	33.9	37.1	35.0	32.2	38.8	51.7	88.0	97.0	90.0	82.9	71.8	38.4
	414, 415	I275SB16	8760	70	4	3870	31.8	34.5	32.7	30.4	36.1	49.4	93.2	105.5	97.7	89.3	74.6	36.8												
	415, 416	I275SB17	8760	70	4	1086	39.5	43.8	41.8	37.4	44.4	59.4	80.7	78.5	75.8	72.4	72.2	46.5												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	7110	70	3	1385	32.8	34.7	39.7	38.4	37.3	81.4	117.8	115.1	112.1	110.8	108.8	76.1	32.5	35.0	43.4	41.6	38.0	85.1	118.1	115.5	112.5	111.6	109.6	79.3
	417, 418	I275SB19	7110	70	3	343	31.3	36.2	58.2	54.2	40.6	100.3	119.6	117.2	114.3	115.2	113.1	92.3												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	8360	70	3	1507	34.9	45.6	65.9	57.9	46.6	87.7	92.8	91.3	87.0	87.8	86.1	75.7	34.9	45.6	65.9	57.9	46.6	87.7	92.8	91.3	87.0	87.8	86.1	75.7
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	9480	70	3	3297	47.7	55.5	61.0	55.6	53.2	62.7	61.9	62.2	61.1	61.7	61.1	59.4	46.7	51.9	55.5	52.3	50.3	56.6	56.3	56.0	55.6	56.5	56.6	55.6
	420, 421	I275SB22	9480	70	3	430	45.9	46.4	48.1	47.0	46.7	47.9	47.6	46.8	46.9	48.7	50.1	49.9												
	421, 422	I275SB23	9480	70	3	403	45.7	46.3	47.8	47.1	46.2	48.2	47.5	46.6	46.8	48.9	51.4	51.1												
	422, 423	I275SB24	9480	70	3	426	45.6	46.7	48.2	48.1	46.5	48.3	48.0	47.3	48.0	49.3	51.3	51.6												
	423, 424	I275SB25	9480	70	3	412	45.5	47.9	48.3	48.6	46.9	48.7	49.1	48.5	49.6	50.1	51.2	50.7												
	424, 425	I275SB26	9480	70	3	734	45.0	47.0	48.2	47.7	46.1	48.0	49.6	48.3	49.0	49.7	49.5	49.5												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3460	50	3	841	21.6	22.8	21.4	20.4	24.3	26.0	24.2	23.2	19.7	20.9	19.8	18.8	18.1	19.4	18.0	17.0	21.0	23.2	21.1	19.7	16.5	17.4	16.5	15.6
	500, 501	GandyEB3	3460	50	4	954	15.6	16.7	15.6	14.7	18.0	20.1	18.2	16.9	14.3	15.0	14.2	13.5												
	501, 502	GandyEB4	3460	50	5	174	15.4	17.7	15.3	13.1	21.3	26.9	21.6	17.8	13.4	13.7	12.9	11.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1140	50	3	178	7.4	7.9	7.5	7.2	9.0	9.5	9.0	8.5	7.0	7.4	6.9	6.5	7.4	7.9	7.5	7.2	9.0	9.5	9.0	8.5	7.0	7.4	6.9	6.5
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1140	50	3	99	10.0	10.6	10.0	9.7	11.7	12.3	11.9	11.4	9.6	9.8	9.3	8.8	8.9	9.3	8.8	8.5	10.3	10.9	10.5	10.0	8.4	8.7	8.2	7.8
	505, 506	GandyEB10	1140	50	3	119	7.9	8.3	7.9	7.6	9.1	9.7	9.4	8.9	7.5	7.7	7.3	6.9												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2715	50	3	1167	16.7	17.2	16.7	16.4	17.7	18.6	18.2	17.4	16.3	16.7	16.2	15.7	16.7	17.2	16.7	16.4	17.7	18.6	18.2	17.4	16.3	16.7	16.2	15.7
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	4215	55	3	181	24.7	27.1	25.5	24.2	28.5	31.0	29.2	27.8	23.2	24.2	22.5	21.6	18.2	19.7	18.4	17.7	20.7	22.8	21.2	20.3	17.1	17.7	16.6	15.7
	520, 521	GandyWB5	4215	55	3	291	18.1	19.5	18.4	17.6	20.5	22.1	21.1	20.0	17.0	17.7	16.6	15.8												
	521, 522	GandyWB6	4215	55	4	590	16.3	17.6	16.2	15.7	18.4	20.6	18.8	18.1	15.4	15.7	14.9	13.9												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2965	55	3	1768	12.8	13.7	13.1	12.6	14.5	15.1	15.1	14.1	12.4	12.8	11.9	11.3	12.8	13.7	13.1	12.6	14.5	15.1	15.1	14.1	12.4	12.8	11.9	11.3
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4615	55	5	1179	16.9	17.7	16.7	16.5	18.2	18.7	18.2	18.1	17.0	17.2	16.7	16.3	16.9	17.7	16.6	16.4	18.2	18.7	18.1	18.1	17.0	17.2	16.7	16.2
	524, 525	GandyWB9	4615	55	5	455	16.8	17.6	16.6	16.3	18.0	18.6	18.0	18.0	16.9	17.1	16.6	16.2												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2560	50	1	525	103.7	103.8	104.9	105.6	105.5	106.1	104.9	105.3	103.3	104.7	102.3	105.8	103.1	103.0	103.7	104.0	104.5	104.7	103.9	104.0	103.0	103.3	101.8	104.5
	600, 7001	GdyNBoff2	2560	50	1	300	102.1	101.5	101.7	101.3	102.7	102.1	102.1	101.7	102.3	100.9	100.9	102.1												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1575	50	1	263	34.2	34.0	33.9	33.7	34.0	33.8	34.3	33.1	34.4	34.2	34.7	34.0	30.0	29.8	29.7	29.6	29.8	29.7	30.0	29.0	30.0	30.2	30.5	29.9
	3, 4	GdyNBoff6	1575	50	1	359	28.9	28.7	28.5	28.5	28.6	28.6	28.9	28.0	28.9	29.1	29.3	28.9												
	4, 5	GdyNBoff7	1575	50	1	464	28.6	28.4	28.4	28.3	28.4	28.3	28.6	27.7	28.6	29.0	29.1	28.6												
	5, 506	GdyNBoff8	1575	50	1	241	29.8	29.7	29.6	29.4	29.5	29.5	29.8	28.6	29.7	30.0	30.1	29.6												
	7013, 2	GdyNBoff10	985	50	1	267	21.1	21.3	21.0	21.0	21.4	21.3	20.6	21.7	21.0	20.5	20.7	21.2												
	2, 8	GdyNBoff11	985	50	1	341	17.6	17.8	17.5	17.7	17.9	17.8	17.3	18.1	17.5	17.2	17.2	17.7												

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	985	50	1	483	17.6	17.8	17.4	17.5	17.9	17.7	17.2	18.1	17.5	17.1	17.0	17.7	18.0	18.3	17.9	18.0	18.4	18.2	17.7	18.6	18.0	17.6	17.5	18.2
	9, 10	GdyNBoff13	985	50	1	492	17.6	18.0	17.5	17.6	18.0	17.8	17.3	18.1	17.5	17.2	17.1	17.8												
	10, 11	GdyNBoff14	985	50	1	389	17.6	18.0	17.5	17.6	18.1	17.8	17.3	18.2	17.6	17.2	17.1	17.8												
	11, 7022	GdyNBoff15	985	50	1	196	17.6	18.1	17.6	17.6	18.2	17.9	17.3	18.2	17.7	17.2	17.1	17.9												
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2320	50	2	179	32.0	36.7	31.5	25.8	44.5	53.5	45.2	37.5	26.9	28.2	25.4	22.7	32.0	36.7	31.5	25.8	44.5	53.5	45.2	37.5	26.9	28.2	25.4	22.7
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1200	50	2	501	11.6	12.0	11.6	10.9	12.9	13.5	12.8	12.1	10.6	11.1	10.7	10.2	10.9	11.2	10.9	10.2	12.0	12.5	12.0	11.3	10.0	10.4	10.1	9.6
	623, 624	GdyNBon6	1200	50	2	299	10.8	11.2	10.8	10.1	11.9	12.5	11.9	11.3	9.9	10.4	10.0	9.5												
	624, 625	GdyNBon7	1200	50	2	253	10.8	11.1	10.8	10.1	11.9	12.4	11.9	11.2	9.9	10.3	9.9	9.5												
	625, 626	GdyNBon8	1200	50	2	238	10.8	11.1	10.8	10.0	11.9	12.4	11.9	11.2	9.9	10.3	9.9	9.5												
	626, 627	GdyNBon9	1200	50	2	242	10.8	11.1	10.8	10.0	11.9	12.4	11.9	11.1	9.9	10.3	9.9	9.5												
	627, 628	GdyNBon10	1200	50	2	277	10.8	11.1	10.8	10.1	11.9	12.3	11.9	11.1	9.8	10.3	9.9	9.5												
	628, 629	GdyNBon11	1200	50	2	337	10.8	11.1	10.8	10.0	11.9	12.3	11.9	11.2	9.8	10.3	9.9	9.5												
	629, 630	GdyNBon12	1200	50	2	877	10.8	11.1	10.7	10.1	11.9	12.4	11.9	11.2	9.8	10.3	10.0	9.5												
	630, 307	GdyNBon13	1200	50	2	344	10.8	11.1	10.7	10.1	11.8	12.3	11.9	11.2	9.8	10.3	10.0	9.5												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1650	50	2	481	16.7	17.3	15.4	15.8	17.4	18.8	19.5	20.7	20.2	20.5	20.5	18.0	16.5	17.1	15.3	15.7	17.2	17.9	17.6	18.7	18.4	18.7	18.8	17.2
	660, 661	GdySBoff2	1650	50	2	394	16.3	17.0	15.1	15.6	17.0	17.2	16.3	17.4	17.3	17.6	17.8	16.6												
	661, 7020	GdySBoff3	1650	50	2	336	16.4	17.0	15.2	15.6	17.0	17.3	16.2	17.3	17.2	17.5	17.7	16.7												
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2635	50	2	714	26.7	27.7	25.6	25.8	27.9	27.8	26.5	28.1	27.6	27.8	27.9	27.2	26.3	27.3	25.2	25.4	27.4	27.4	26.1	27.6	27.2	27.4	27.4	26.8
	662, 523	GdySBoff7	2635	50	2	424	25.6	26.5	24.5	24.8	26.6	26.7	25.4	26.8	26.5	26.6	26.6	26.1												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1120	50	1	286	22.6	24.7	23.7	21.2	24.7	26.1	25.5	24.7	21.8	22.1	20.7	19.8	20.9	22.7	21.8	19.6	22.8	24.1	23.5	22.8	20.0	20.3	19.1	18.3
	621, 622	GdySBon3	1120	50	1	204	20.0	21.8	20.8	18.8	21.8	23.1	22.5	21.8	19.2	19.5	18.2	17.5												
	622, 419	GdySBon4	1120	50	1	319	19.8	21.5	20.8	18.7	21.7	22.9	22.4	21.8	19.1	19.3	18.1	17.5												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1250	35	1	302	25.2	27.9	25.4	24.9	28.5	32.4	28.9	26.9	24.1	24.1	24.6	22.4	24.8	27.7	25.5	25.7	28.3	39.9	36.4	31.1	26.3	25.5	26.3	23.3
	640, 641	GdySBonLoop2	1250	35	1	259	24.5	27.0	24.6	24.4	27.5	31.1	28.1	26.1	23.9	23.4	24.0	21.8												
	641, 642	GdySBonLoop3	1250	35	1	227	24.5	27.0	24.5	24.5	27.5	31.0	28.3	26.1	24.0	23.4	24.0	21.9												
	642, 643	GdySBonLoop4	1250	35	1	211	24.7	27.3	24.7	24.8	27.8	31.9	29.7	26.3	24.3	23.8	24.4	22.2												
	643, 644	GdySBonLoop5	1250	35	1	211	24.8	27.4	24.6	24.8	27.9	36.4	33.3	26.7	24.7	23.8	24.5	22.3												
	644, 645	GdySBonLoop6	1250	35	1	207	24.9	27.7	25.1	25.8	28.4	47.8	42.1	32.4	26.8	25.0	26.4	23.5												
	645, 418	GdySBonLoop7	1250	35	1	252	24.8	29.2	29.2	30.2	30.4	69.3	64.5	52.2	36.3	34.3	35.6	28.9												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4145	60	4	1418	16.6	17.8	16.7	15.7	18.8	20.2	18.9	17.9	15.2	16.1	15.3	14.3	19.3	20.2	18.9	17.9	21.4	22.9	21.5	20.4	17.3	18.3	17.4	16.3
	541, 542	RvEB3	4145	60	3	1028	22.9	23.5	22.0	21.0	24.9	26.7	25.1	23.8	20.3	21.3	20.4	19.1												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2240	60	2	513	19.2	19.1	18.0	16.4	21.5	24.8	19.8	18.8	16.3	16.8	15.9	15.0	19.2	19.1	18.0	16.4	21.5	24.8	19.8	18.8	16.3	16.8	15.9	15.0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2155	60	2	120	23.1	24.8	24.5	23.1	27.3	30.2	29.6	26.9	23.5	22.3	21.4	18.4	20.6	21.9	21.7	20.5	24.1	26.6	26.1	23.8	20.9	19.9	19.1	16.6
	546, 547	RvEB10	2155	60	2	165	18.8	19.9	19.7	18.5	21.8	24.0	23.5	21.5	19.0	18.2	17.4	15.3												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3315	60	2	1053	18.5	18.8	18.2	17.4	20.0	21.6	21.5	19.8	18.0	17.6	16.6	15.3	18.5	18.8	18.2	17.4	20.0	21.6	21.5	19.8	18.0	17.6	16.6	15.3
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2635	60	2	756	20.6	21.8	20.7	19.6	23.5	28.7	37.5	28.7	20.2	20.1	19.0	17.9	19.2	20.5	19.4	18.2	23.2	35.3	43.1	31.5	19.4	18.7	17.8	16.7
	558, 559	RvWB3	2635	60	2	146	17.7	19.0	17.8	16.6	23.2	45.1	52.5	37.3	19.0	17.2	16.3	15.5												
	559, 560	RvWB4	2635	60	3	151	13.8	15.3	14.3	13.0	22.1	59.3	61.9	39.7	15.8	13.4	12.7	12.0												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2305	60	2	125	18.6	23.1	21.4	17.7	41.4	121.4	124.2	76.2	23.9	17.8	16.8	15.7	18.6	23.1	21.4	17.7	41.4	121.4	124.2	76.2	23.9	17.8	16.8	15.7
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1875	60	2	133	18.2	19.7	20.1	18.3	20.5	22.3	22.3	21.6	19.4	17.6	16.9	15.6	15.2	16.5	16.8	15.3	17.0	18.5	18.5	17.8	16.2	14.7	14.3	13.2
	567, 568	RvWB14	1875	60	2	750	14.9	16.1	16.4	15.0	16.6	18.1	18.1	17.4	15.8	14.4	14.0	13.0												
	568, 569	RvWB15	1875	60	2	281	14.7	16.0	16.2	14.8	16.3	17.9	17.9	17.1	15.6	14.2	13.9	12.9												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3275	60	4	1137	12.7	13.5	13.3	12.6	13.4	14.5	14.5	14.0	13.0	12.4	12.4	11.7	12.7	13.5	13.3	12.6	13.4	14.5	14.5	14.0	13.0	12.4	12.4	11.7
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3000	50	2	228	27.1	28.7	26.6	26.3	26.8	28.4	27.6	27.6	27.0	27.2	26.8	26.3	27.1	28.7	26.6	26.3	26.8	28.4	27.6	27.6	27.0	27.2	26.8	26.3
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3000	50	2	168	32.2	33.9	31.7	31.4	31.9	33.9	32.9	32.7	32.2	32.6	32.0	31.2	23.5	24.6	23.2	23.0	23.4	24.7	24.1	23.8	23.5	23.8	23.3	22.8
	701, 702	RvNBoff5	3000	50	2	198	19.4	20.3	19.2	19.0	19.4	20.5	20.0	19.7	19.4	19.7	19.3	18.9												
	702, 703	RvNBoff6	3000	50	3	130	18.3	19.2	18.1	18.0	18.4	19.3	18.9	18.6	18.4	18.6	18.2	17.9												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	7.5	7.7	6.7	7.0	7.3	7.5	7.4	7.4	7.2	7.5	6.9	6.8	7.5	7.7	6.6	7.0	7.2	7.5	7.3	7.4	7.2	7.4	6.9	6.7
	704, 705	RvNBoff8	400	50	1	200	7.5	7.7	6.6	7.0	7.2	7.5	7.3	7.4	7.2	7.4	6.9	6.7												
	705, 706	RvNBoff9	400	50	1	223	7.5	7.7	6.6	7.0	7.2	7.5	7.3	7.4	7.1	7.4	6.8	6.7												
	706, 707	RvNBoff10	400	50	1	262	7.5	7.7	6.6	7.0	7.2	7.5	7.3	7.4	7.1	7.5	6.8	6.7												
	707, 547	RvNBoff11	400	50	1	264	7.6	7.7	6.6	7.0	7.2	7.5	7.3	7.4	7.2	7.5	6.8	6.7												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1400	50	2	248	12.8	13.2	12.9	12.5	12.8	13.5	13.5	13.0	12.8	12.8	13.2	12.6	12.6	12.9	12.6	12.2	12.5	13.2	13.1	12.8	12.4	12.5	12.9	12.4
	715, 716	RvNBoff21	1400	50	2	642	12.6	12.9	12.6	12.2	12.5	13.2	13.1	12.8	12.5	12.5	12.9	12.4												
	716, 569	RvNBoff22	1400	50	2	670	12.5	12.8	12.5	12.1	12.4	13.0	13.0	12.7	12.2	12.4	12.7	12.2												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	330	50	1	296	5.5	5.6	5.0	5.0	6.9	11.2	10.9	8.7	5.4	5.5	5.1	4.7	5.6	5.7	5.1	5.1	7.0	11.0	10.6	8.5	5.5	5.7	5.2	4.8
	757, 7016	RvNBon4	330	50	1	127	5.9	6.0	5.5	5.5	7.3	10.3	9.9	8.2	5.8	6.0	5.6	5.1												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	1680	50	2	261	16.6	16.7	16.1	15.7	18.6	20.1	19.1	15.6	15.3	17.8	17.5	16.2	15.4	15.5	14.9	14.5	17.1	18.6	17.7	14.5	14.2	16.5	16.2	15.1
	756, 317	RvNBon10	1680	50	2	444	14.7	14.8	14.2	13.9	16.3	17.7	16.8	13.9	13.6	15.7	15.5	14.4												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	2290	50	2	223	22.2	23.8	23.2	21.9	23.6	25.3	25.1	25.4	23.4	23.3	20.7	20.1	22.5	24.3	23.6	22.5	24.1	26.9	26.9	27.4	23.8	23.7	20.8	20.3
	770, 7032	RvSBoff2	2290	50	2	150	23.0	25.0	24.3	23.4	24.9	29.4	29.5	30.3	24.3	24.3	21.0	20.5												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2420	50	3	102	21.4	23.7	21.3	21.1	24.0	28.5	25.5	24.1	19.8	20.2	20.7	18.9	23.4	25.1	23.4	23.2	26.2	28.1	26.3	25.3	21.8	22.6	22.8	21.5
	793, 410	RvSBon5	2420	50	3	655	23.7	25.4	23.7	23.5	26.6	28.1	26.5	25.5	22.1	22.9	23.2	21.9												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1905	50	2	270	17.0	18.6	17.2	16.8	19.7	21.1	19.8	18.8	15.8	16.7	16.3	15.2	17.0	18.6	17.1	16.8	19.6	21.0	19.8	18.7	15.8	16.6	16.2	15.2
	790, 7011	RvSBon11	1905	50	2	250	16.9	18.5	17.1	16.7	19.5	20.9	19.7	18.7	15.8	16.6	16.2	15.1												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2600	50	2	311	23.5	24.8	23.7	23.1	23.6	24.9	24.3	24.1	23.8	23.8	23.8	23.2	18.6	19.6	18.8	18.3	18.7	19.7	19.2	19.1	18.9	18.8	18.9	18.4
	708, 710	118NBoff2	2600	50	2	567	23.9	25.2	24.1	23.5	24.0	25.4	24.7	24.5	24.3	24.2	24.2	23.7												
	710, 711	118NBoff3	2600	50	2	460	17.9	18.9	18.0	17.6	18.0	19.0	18.5	18.4	18.1	18.0	18.2	17.7												
	711, 712	118NBoff4	2600	50	3	472	15.6	16.4	15.8	15.3	15.7	16.5	16.0	16.0	15.8	15.7	15.8	15.4												
	712, 713	118NBoff5	2600	50	3	395	14.7	15.4	14.9	14.4	14.8	15.5	15.1	15.1	14.9	14.8	14.9	14.5												
	713, 714	118NBoff6	2600	50	4	188	11.9	12.5	12.0	11.8	12.0	12.5	12.3	12.2	12.1	12.1	12.1	11.8												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1200	50	2	212	10.9	11.6	11.1	10.8	11.1	11.5	11.1	11.2	11.3	11.1	10.8	10.8	10.8	11.5	11.1	10.7	11.0	11.3	11.0	11.1	11.2	11.0	10.7	10.7
	717, 718	118NBoff8	1200	50	2	389	10.9	11.5	11.0	10.7	11.0	11.4	11.0	11.1	11.2	11.0	10.7	10.7												
	718, 719	118NBoff9	1200	50	2	373	10.8	11.5	11.1	10.7	11.0	11.3	11.0	11.1	11.2	11.0	10.7	10.7												
	719, 720	118NBoff10	1200	50	2	589	10.9	11.5	11.1	10.7	11.0	11.3	11.0	11.1	11.2	11.0	10.7	10.7												
	720, 721	118NBoff11	1200	50	2	311	10.8	11.5	11.1	10.7	11.0	11.3	11.0	11.1	11.2	11.0	10.8	10.7												

2040 No Build PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1200	50	2	381	10.8	11.5	11.1	10.7	11.0	11.3	11.1	11.1	11.3	11.0	10.7	10.8												
	722, 723	118NBoff13	1200	50	2	562	10.8	11.5	11.2	10.7	11.0	11.3	11.0	11.1	11.3	11.0	10.7	10.8												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3290	60	3	1252	18.0	18.8	18.4	17.8	18.3	18.9	18.8	19.2	18.8	18.5	17.2	16.9	17.7	18.5	18.1	17.5	18.0	18.6	18.5	18.9	18.5	18.2	16.9	16.7
	724, 725	118NBoff15	3290	60	3	575	17.1	17.9	17.5	16.9	17.4	18.0	17.9	18.2	17.9	17.6	16.3	16.2												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	3140	60	2	611	24.8	26.3	25.1	23.7	28.1	32.4	56.9	127.3	132.8	111.0	83.1	30.7	26.0	27.8	26.4	24.9	29.9	38.9	64.3	113.2	111.6	94.7	72.9	31.0
	741, 742	118NBon3	3140	60	2	1107	26.6	28.6	27.1	25.5	30.9	42.6	68.3	105.4	99.9	85.7	67.3	31.1												
NB I-275 On Ramp from 118th	742, 749	118NBon4	1150	50	2	758	10.3	10.5	10.2	9.6	11.5	11.6	11.1	9.3	9.8	11.6	11.4	9.6	16.2	16.5	16.2	15.2	18.0	18.2	16.9	14.0	14.7	17.8	17.5	15.2
	749, 750	118NBon5	1150	50	2	1140	11.5	11.6	11.4	10.7	12.8	12.8	11.9	9.9	10.4	12.6	12.3	10.7												
	750, 751	118NBon6	1150	50	1	304	22.1	22.6	21.9	20.7	24.6	24.8	23.0	18.9	20.0	24.3	23.7	20.8												
	751, 752	118NBon7	1150	50	1	341	22.1	22.5	22.0	20.7	24.6	24.8	22.9	18.9	19.9	24.1	23.6	20.8												
	752, 753	118NBon8	1150	50	1	406	22.2	22.5	22.2	20.8	24.7	24.9	23.0	18.9	19.9	24.0	23.8	20.8												
	753, 754	118NBon9	1150	50	1	250	22.3	22.6	22.3	21.0	24.7	25.0	23.2	19.0	20.0	24.2	24.0	20.9												
	754, 7009	118NBon10	1150	50	1	349	22.4	22.6	22.4	21.1	24.7	25.1	23.3	19.0	20.1	24.2	24.0	21.0												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2090	50	1	147	65.3	69.7	66.7	64.4	67.3	70.2	70.9	71.6	68.8	68.2	60.8	58.8	43.3	45.7	44.4	43.0	44.5	46.6	46.7	47.4	45.8	45.4	40.7	39.3
	775, 776	118SBoff3	2090	50	1	934	42.7	45.6	43.7	42.2	44.1	46.4	46.5	47.0	45.3	44.8	40.0	38.7												
	776, 777	118SBoff4	2090	50	1	371	41.7	44.1	42.9	41.5	43.0	45.1	45.2	45.6	44.3	43.8	39.3	38.0												
	777, 778	118SBoff5	2090	50	1	446	41.8	43.8	43.0	41.7	42.9	44.9	44.9	45.5	44.2	43.7	39.3	38.0												
	778, 723	118SBoff6	2090	50	1	1329	42.2	44.2	43.4	42.1	43.3	45.1	45.2	46.1	44.6	44.2	39.7	38.4												
SB I-275 On Ramp from 118th	742, 743	118SBon1	1990	50	1	227	38.6	41.4	39.0	36.9	43.8	66.4	102.1	146.6	129.8	104.7	80.7	40.5	38.7	42.8	39.2	37.0	51.6	89.9	125.3	159.4	140.1	119.2	89.9	43.4
	743, 744	118SBon2	1990	50	1	418	37.9	40.7	38.5	36.4	42.8	72.1	111.3	155.8	136.9	112.5	85.2	40.1												
	744, 745	118SBon3	1990	50	1	223	37.5	40.2	38.0	36.1	42.4	78.5	118.4	158.6	137.9	116.0	89.5	41.3												
	745, 746	118SBon4	1990	50	1	201	37.6	40.3	37.9	36.1	44.0	82.1	123.0	161.1	138.8	118.2	91.6	42.8												
	746, 747	118SBon5	1990	50	1	200	37.8	40.6	38.0	36.3	46.7	86.4	127.8	162.4	141.4	121.1	92.2	44.0												
	747, 748	118SBon6	1990	50	1	166	38.1	40.9	38.2	36.5	49.2	90.8	131.1	162.2	142.8	122.9	92.1	44.8												
	748, 413	118SBon7	1990	50	1	973	39.9	46.0	40.5	37.8	62.2	107.9	137.3	162.7	143.9	125.5	93.0	45.8												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3520	60	3	2420	18.3	19.3	18.3	17.6	20.7	21.8	20.9	19.6	17.0	17.8	16.8	16.1	18.3	19.3	18.3	17.6	20.7	21.8	20.9	19.6	17.0	17.8	16.8	16.1
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2230	50	2	647	20.9	22.1	21.1	19.8	23.6	25.6	24.0	22.6	19.5	20.3	19.1	18.2	20.9	22.1	21.2	19.8	23.6	25.6	23.9	22.6	19.6	20.2	19.2	18.4
	811, 812	UlmNBon4	2230	50	2	590	20.8	22.0	21.0	19.7	23.5	25.4	23.7	22.5	19.4	20.2	19.0	18.3												
	812, 813	UlmNBon5	2230	50	2	323	20.9	22.1	21.2	19.8	23.6	25.6	23.9	22.6	19.5	20.2	19.1	18.4												
	813, 814	UlmNBon6	2230	50	2	328	21.0	22.1	21.2	19.8	23.6	25.7	23.9	22.6	19.5	20.2	19.2	18.4												
	814, 815	UlmNBon7	2230	50	2	288	20.9	22.1	21.2	19.8	23.6	25.7	23.9	22.6	19.6	20.1	19.2	18.4												
	815, 816	UlmNBon8	2230	50	2	273	20.9	22.1	21.3	19.8	23.6	25.7	24.0	22.7	19.6	20.2	19.2	18.5												
	816, 321	UlmNBon9	2230	50	2	1098	21.0	22.1	21.4	19.8	23.6	25.7	24.0	22.7	19.8	20.2	19.2	18.5												
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2180	50	2	573	20.0	21.5	20.0	19.7	21.3	21.7	21.5	21.4	21.8	20.9	18.8	17.8	19.9	21.3	19.9	19.5	21.1	21.6	21.4	21.2	21.7	20.8	18.7	17.8
	830, 831	UlmSBoff2	2180	50	2	346	19.7	21.1	19.7	19.3	20.9	21.3	21.2	21.0	21.4	20.6	18.6	17.6												
	831, 7036	UlmSBoff3	2180	50	2	283	19.9	21.3	19.9	19.5	21.1	21.6	21.4	21.2	21.7	20.7	18.8	17.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1820	50	2	398	17.5	18.8	17.2	17.1	18.6	18.8	18.6	18.7	18.9	18.3	16.6	15.5	14.4	15.5	14.2	14.1	15.2	15.5	15.4	15.3	15.7	15.2	13.7	12.8
	834, 835	UlmSBoff8	1820	60	2	584	15.0	16.1	14.7	14.6	15.8	16.1	15.9	15.9	16.2	15.7	14.2	13.2												
	835, 836	UlmSBoff9	1820	60	2	481	13.8	14.9	13.6	13.5	14.5	14.9	14.7	14.6	15.0	14.5	13.2	12.3												
	836, 837	UlmSBoff10	1820	60	2	2160	13.9	14.9	13.7	13.5	14.6	14.9	14.8	14.7	15.1	14.6	13.2	12.3												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1290	35	1	493	22.6	24.6	22.5	22.4	25.8	26.5	25.7	24.5	21.3	21.9	21.2	20.1	25.2	27.5	25.2	25.1	28.8	29.7	28.8	27.5	23.8	24.6	23.7	22.6
	802, 803	UlmSBon2	1290	35	1	214	31.4	34.2	31.5	31.2	35.8	37.1	35.8	34.3	29.7	30.7	29.7	28.1												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	26.0	27.5	25.7	25.8	28.7	30.0	28.4	27.7	24.3	25.5	24.5	23.1	21.4	22.8	21.2	21.2	23.7	24.7	23.4	22.9	20.1	21.0	20.3	19.2
	808, 809	UlmSBon4	970	35	1	163	25.6	27.2	25.4	25.4	28.3	29.6	28.0	27.3	24.0	25.2	24.2	22.9												
	809, 810	UlmSBon5	970	35	1	228	25.6	27.3	25.5	25.5	28.5	29.7	28.1	27.4	24.1	25.3	24.3	23.1												
	810, 404	UlmSBon6	970	50	1	1030	19.1	20.3	18.9	18.9	21.2	22.1	20.8	20.4	18.0	18.7	18.1	17.2												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	7.0	7.6	7.3	6.7	8.2	8.2	8.4	7.9	6.7	6.6	6.5	6.3	5.6	6.1	5.9	5.3	6.6	6.6	6.7	6.4	5.4	5.3	5.2	5.1
	804, 805	UlmSBMLK2	320	50	1	361	5.8	6.4	6.1	5.5	6.8	6.8	6.9	6.6	5.5	5.5	5.4	5.3												
	805, 806	UlmSBMLK3	320	50	1	499	4.9	5.3	5.1	4.6	5.7	5.8	5.8	5.6	4.7	4.7	4.6	4.4												
SB MLK	806, 807	UlmSBMLK4	680	50	2	1171	5.8	5.9	6.1	5.4	6.2	6.5	6.6	6.2	5.9	5.7	5.1	5.2	5.8	5.9	6.1	5.4	6.2	6.5	6.6	6.2	5.9	5.7	5.1	5.2
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1080	8.8	9.5	8.8	8.6	10.0	10.5	10.1	9.4	8.4	8.5	8.3	7.8	8.8	9.4	8.8	8.6	9.9	10.5	10.1	9.4	8.4	8.5	8.3	7.8
	851, 852	MLKNBon3	490	50	1	350	8.8	9.3	8.7	8.5	9.8	10.5	10.0	9.4	8.3	8.5	8.2	7.8												
	852, 853	MLKNBon4	490	50	1	370	8.8	9.3	8.7	8.6	9.9	10.5	10.1	9.4	8.4	8.5	8.3	7.8												
	853, 320	MLKNBon5	490	50	1	885	8.8	9.4	8.8	8.6	9.9	10.6	10.1	9.5	8.4	8.6	8.3	7.9												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	7.2	7.1	7.4	6.7	7.3	7.8	7.8	7.4	7.6	7.1	6.3	6.4	6.8	6.7	7.0	6.3	6.9	7.3	7.4	7.0	7.2	6.7	5.9	6.1
	839, 840	MLKSBoff4	360	50	1	336	6.7	6.6	6.9	6.2	6.7	7.2	7.3	6.9	7.0	6.6	5.8	6.0												
	840, 841	MLKSBoff5	360	50	1	395	6.7	6.6	7.0	6.2	6.8	7.2	7.3	6.9	7.1	6.7	5.8	6.1												
	841, 806	MLKSBoff6	360	50	1	539	6.7	6.6	7.0	6.2	6.8	7.2	7.3	6.9	7.1	6.7	5.8	6.1												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1270	6.7	7.0	6.7	6.3	7.5	7.9	7.5	7.1	6.1	6.5	6.2	5.9	5.7	6.0	5.7	5.5	6.4	6.8	6.5	6.1	5.3	5.6	5.3	5.0
	901, 902	4thNBon3	880	60	2	634	6.6	6.9	6.6	6.3	7.4	7.8	7.5	7.0	6.1	6.4	6.1	5.8												
	902, 903	4thNBon4	880	60	2	322	6.7	7.0	6.6	6.4	7.5	7.9	7.5	7.1	6.2	6.5	6.2	5.9												
	903, 904	4thNBon5	880	60	2	279	6.7	7.2	6.7	6.5	7.6	8.1	7.7	7.2	6.3	6.6	6.3	6.0												
	904, 905	4thNBon6	880	60	2	388	7.4	7.8	7.4	7.1	8.3	8.8	8.4	7.9	6.8	7.2	6.8	6.5												
	905, 906	4thNBon7	880	60	1	313	13.5	14.3	13.5	13.0	15.2	16.2	15.5	14.5	12.5	13.2	12.5	12.0												
	906, 907	4thNBon8	880	60	1	300	13.5	14.3	13.5	13.0	15.2	16.1	15.5	14.4	12.6	13.2	12.5	11.9												
	907, 323	4thNBon9	880	60	1	684	13.6	14.5	13.5	13.0	15.4	16.5	15.7	14.6	12.6	13.3	12.5	12.0												
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	1440	60	1	467	24.5	25.9	25.7	22.8	28.5	27.2	28.1	27.7	27.5	26.2	21.7	20.9	15.6	16.3	16.3	14.9	17.5	16.9	17.3	17.4	17.0	16.5	14.4	14.0
	920, 921	4thSBoff2	1440	60	1	492	22.3	23.1	23.1	21.1	25.1	23.9	24.7	24.5	24.2	23.3	20.4	19.9												
	921, 922	4thSBoff3	1440	60	1	420	22.1	22.9	22.9	21.0	24.8	23.7	24.4	24.4	23.9	23.1	20.4	19.9												
	922, 923	4thSBoff4	1440	60	1	393	22.2	23.2	23.1	21.2	25.0	23.9	24.6	24.7	24.1	23.4	20.6	20.1												
	923, 924	4thSBoff5	1440	60	1	384	22.4	23.3	23.3	21.3	25.0	23.9	24.7	24.9	24.2	23.5	20.7	20.2												
	924, 925	4thSBoff6	1440	60	1	354	22.5	23.4	23.3	21.4	25.0	24.0	24.6	25.0	24.2	23.5	20.7	20.2												
	925, 926	4thSBoff7	1440	60	1	501	22.5	23.3	23.4	21.4	25.0	24.2	24.7	25.1	24.2	23.6	20.9	20.2												
	926, 927	4thSBoff8	1440	60	1	416	21.7	22.5	22.7	20.7	24.2	23.4	23.9	24.2	23.5	22.9	20.2	19.6												
	927, 928	4thSBoff9	1440	60	2	1153	11.0	11.3	11.5	10.5	12.1	11.7	11.9	12.2	11.8	11.5	10.2	9.9												
	928, 929	4thSBoff10	1440	60	2	1242	10.8	11.1	11.3	10.3	11.9	11.5	11.7	11.9	11.7	11.3	10.1	9.8												

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Speed (mph)												Weighted Speed (mph)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7470	70	3	1087	50.1	48.6	37.0	27.8	28.8	32.5	33.0	32.8	37.0	35.5	35.7	38.5	34.6	33.2	25.9	23.3	23.2	25.6	24.8	25.6	27.3	26.5	26.7	28.0
	300, 301	I275NB3	7470	70	3	805	39.6	37.9	26.0	21.1	21.5	24.3	24.1	24.5	27.3	26.4	26.4	29.7												
	301, 302	I275NB4	7470	70	3	478	33.4	30.6	21.2	18.7	18.7	20.5	20.2	20.3	22.3	21.0	21.4	23.9												
	302, 303	I275NB5	7470	70	3	2687	27.9	26.9	22.5	22.8	22.0	24.2	22.6	23.9	24.5	23.9	24.0	24.4												
	303, 304	I275NB6	7470	70	4	382	28.4	27.4	24.4	24.6	24.1	25.2	24.5	26.0	26.5	26.0	27.5	25.7												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4910	70	3	1375	62.1	61.9	62.2	61.9	61.9	61.6	61.6	62.2	62.3	62.0	62.2	62.1	64.4	64.3	64.6	64.4	64.3	64.3	64.2	64.6	64.6	64.4	64.6	64.6
	305, 306	I275NB8	4910	70	3	1306	66.1	66.1	66.4	66.2	66.2	66.2	66.1	66.4	66.4	66.2	66.3	66.3												
	306, 307	I275NB9	4910	70	3	591	66.0	65.9	66.2	66.2	66.0	66.1	66.1	66.2	66.2	66.0	66.2	66.3												
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6110	70	5	1065	64.3	64.3	64.5	64.5	64.3	64.3	64.3	64.4	64.7	64.5	64.7	64.8	64.8	64.7	65.0	65.1	65.0	64.8	65.0	64.9	65.1	65.0	65.2	65.3
	308, 309	I275NB11	6110	70	5	3035	66.3	66.2	66.5	66.4	66.5	66.3	66.5	66.4	66.4	66.3	66.5	66.6												
	309, 310	I275NB12	6110	70	4	1095	66.2	66.0	66.3	66.3	66.3	66.1	66.4	66.1	66.4	66.2	66.3	66.4												
	310, 311	I275NB13	6110	70	4	380	64.4	63.7	64.4	64.5	64.3	63.8	64.2	64.0	64.5	64.2	64.4	64.6												
	311, 312	I275NB14	6110	70	4	399	62.8	62.3	62.8	63.3	62.8	62.2	62.6	62.2	63.1	62.8	63.1	63.4												
	312, 313	I275NB15	6110	70	4	368	61.5	61.3	61.8	62.6	61.9	61.0	61.7	61.2	62.2	62.3	62.4	62.7												
	313, 314	I275NB16	6110	70	4	460	58.2	57.9	59.0	59.7	58.8	58.3	58.6	58.8	59.4	59.3	59.4	59.5												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3110	70	3	886	65.5	65.7	66.0	66.1	66.0	65.7	65.9	66.0	66.2	66.1	66.0	66.2	67.0	67.2	67.4	67.2	67.4	67.2	67.4	67.3	67.4	67.4	67.4	67.4
	315, 316	I275NB18	3110	70	3	1317	67.5	67.8	67.8	67.6	67.9	67.7	67.9	67.8	67.9	67.9	67.9	67.8												
	316, 317	I275NB19	3110	70	3	1361	67.5	67.7	67.8	67.5	67.8	67.7	67.8	67.6	67.7	67.7	67.8	67.7												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4790	70	5	1032	63.7	63.8	63.8	63.8	63.4	63.3	63.3	63.8	64.0	63.7	63.7	63.9	66.4	66.5	66.6	66.6	66.4	66.2	66.3	66.4	66.6	66.5	66.5	66.6
	318, 319	I275NB21	4790	70	5	1191	66.9	66.9	67.0	67.0	66.7	66.6	66.5	66.6	67.0	66.9	66.9	67.0												
	319, 320	I275NB22	4790	70	4	3175	67.2	67.2	67.3	67.3	67.2	67.1	67.1	67.1	67.3	67.3	67.3	67.4												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	5280	70	4	1678	66.0	66.0	66.2	66.1	65.8	65.8	65.9	66.1	66.2	66.1	66.2	66.3	66.0	66.0	66.2	66.1	65.8	65.8	65.9	66.1	66.2	66.1	66.2	66.3
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	7510	70	5	1064	60.5	59.8	60.7	60.7	57.8	56.7	57.4	59.1	61.2	61.2	61.9	62.0	63.1	62.5	63.2	63.5	60.9	55.9	57.1	61.3	63.7	63.8	64.2	64.4
	322, 323	I275NB25	7510	70	5	1398	65.0	64.6	65.1	65.6	63.2	55.3	56.9	63.0	65.7	65.7	66.0	66.2												
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	8390	70	5	817	43.9	39.0	43.3	55.1	34.4	26.2	27.0	34.9	50.6	50.6	54.5	56.8	49.4	48.5	49.5	53.1	47.7	45.5	45.4	47.6	52.0	51.9	53.1	54.3
	324, 325	I275NB27	8390	70	5	683	32.0	32.8	32.6	35.3	33.6	33.5	32.7	32.8	35.7	34.6	36.1	38.2												
	325, 326	I275NB28	8390	70	4	1898	58.0	58.1	58.3	58.6	58.5	58.1	57.8	58.4	58.5	58.6	58.7	59.0												
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	9290	70	4	2040	59.0	54.7	56.9	60.7	50.0	50.4	49.5	50.3	49.8	53.0	61.8	63.3	59.0	54.7	56.9	60.7	50.0	50.4	49.5	50.3	49.8	53.0	61.8	63.3
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	7850	70	4	2745	64.4	63.8	64.1	64.6	63.3	63.2	63.1	63.5	63.2	63.5	64.8	65.3	63.6	62.9	63.3	63.6	62.6	62.5	62.4	62.7	62.5	62.8	63.8	64.5
	402, 403	I275SB4	7850	70	5	825	60.7	60.2	60.8	60.4	60.1	60.0	60.2	60.0	60.2	60.4	60.5	61.6												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	5670	70	4	4213	66.5	66.4	66.6	66.7	66.3	66.2	66.2	66.2	66.2	66.4	66.8	67.0	66.5	66.4	66.6	66.7	66.3	66.2	66.2	66.2	66.2	66.4	66.8	67.0
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	6640	70	4	972	64.3	64.0	64.4	64.4	64.0	63.7	63.9	64.0	64.3	64.3	64.7	64.8	62.4	61.9	62.1	62.4	61.7	61.1	61.4	61.3	61.8	62.0	63.1	63.6
	405, 406	I275SB7	6640	70	4	1472	63.0	62.5	62.7	63.1	62.4	61.5	62.1	61.9	62.4	62.5	63.8	64.5												
	406, 407	I275SB8	6640	70	4	662	58.2	57.4	57.2	57.9	56.7	56.3	56.3	56.0	56.9	57.3	59.3	59.8												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	4350	70	3	1201	65.2	64.9	64.9	65.1	64.5	64.5	64.4	64.4	64.5	64.8	65.7	65.9	66.4	66.2	66.3	66.5	66.1	66.0	65.9	65.9	66.0	66.2	66.7	66.9
	408, 409	I275SB10	4350	70	3	1585	67.2	67.1	67.2	67.3	67.0	66.9	66.9	66.9	66.9	67.1	67.4	67.6												
	409, 410	I275SB11	4350	70	3	458	66.9	66.8	66.9	67.0	66.7	66.6	66.6	66.6	66.6	66.8	67.2	67.3												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	6770	70	5	631	60.9	60.8	61.3	61.1	60.4	60.2	58.5	59.0	61.3	61.4	61.2	61.2	61.6	60.8	61.8	62.2	58.5	55.5	50.2	47.2	54.1	57.2	59.6	62.5
	411, 412	I275SB13	6770	70	5	244	62.4	62.5	63.0	62.9	61.1	60.1	54.5	52.9	60.9	62.4	62.9	63.3												
	412, 413	I275SB14	6770	70	4	608	62.0	60.1	61.8	63.1	55.4	48.7	39.8	32.8	43.9	50.8	56.6	63.5												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	8760	70	4	492	41.4	38.3	41.6	43.5	35.5	32.4	26.3	22.6	26.2	29.2	33.0	43.4	55.7	53.0	54.2	56.7	51.3	40.0	22.0	19.8	21.8	23.9	27.3	46.8
	414, 415	I275SB16	8760	70	4	3870	59.6	57.1	58.2	60.4	55.3	42.7	21.2	18.1	20.1	22.2	26.4	49.0												
	415, 416	I275SB17	8760	70	4	1086	48.2	44.8	45.8	49.4	44.5	34.0	23.2	24.5	25.9	27.5	27.7	40.3												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	7110	70	3	1385	60.5	58.9	53.2	52.6	56.4	26.4	16.7	17.4	18.4	18.8	19.2	26.7	61.1	58.7	51.1	50.7	56.0	25.2	16.6	17.3	18.3	18.6	19.1	25.8
	417, 418	I275SB19	7110	70	3	343	63.7	57.9	42.3	43.2	54.3	20.4	16.4	17.0	18.0	18.0	18.4	22.2												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	8360	70	3	1507	54.0	43.4	31.2	35.8	43.6	21.4	20.1	20.4	21.8	21.7	22.3	25.0	54.0	43.4	31.2	35.8	43.6	21.4	20.1	20.4	21.8	21.7	22.3	25.0
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	9480	70	3	3297	49.4	42.4	39.0	42.7	44.5	37.7	38.2	38.1	38.8	38.4	38.9	39.8	52.5	47.9	45.8	47.9	49.3	44.8	45.0	45.3	45.5	44.7	44.7	45.3
	420, 421	I275SB22	9480	70	3	430	56.1	56.0	55.3	55.5	55.5	55.0	55.3	56.2	56.2	54.2	53.1	53.2												
	421, 422	I275SB23	9480	70	3	403	56.4	56.2	55.5	55.5	56.2	54.7	55.4	56.4	56.3	53.9	52.4	52.4												
	422, 423	I275SB24	9480	70	3	426	56.4	55.7	54.9	54.7	55.8	54.5	54.9	55.6	55.0	53.4	52.2	52.0												
	423, 424	I275SB25	9480	70	3	412	56.5	54.4	54.7	54.2	55.3	54.1	53.8	54.3	53.2	52.6	51.9	52.4												
	424, 425	I275SB26	9480	70	3	734	57.2	55.4	54.8	54.9	56.3	54.7	53.2	54.4	53.9	53.0	53.5	53.3												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3460	50	3	841	47.8	47.7	48.0	48.0	47.6	47.1	47.6	47.7	48.1	48.0	48.0	48.2	47.1	46.5	47.3	47.8	45.8	43.8	45.5	46.7	47.7	47.7	47.8	48.1
	500, 501	GandyEB3	3460	50	4	954	47.8	47.2	47.9	48.3	46.5	44.0	45.9	47.5	48.2	48.3	48.3	48.4												
	501, 502	GandyEB4	3460	50	5	174	39.9	37.4	40.8	44.7	33.3	27.5	32.8	37.5	42.8	43.6	44.0	45.6												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1140	50	3	178	47.9	47.4	47.7	48.5	46.7	45.9	46.7	47.2	48.3	48.0	48.4	48.6	47.9	47.4	47.7	48.5	46.7	45.9	46.7	47.2	48.3	48.0	48.4	48.6
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1140	50	3	99	42.3	42.1	42.7	42.8	42.2	42.4	42.6	42.2	42.3	42.9	42.4	42.8	44.0	43.7	44.3	44.5	44.0	44.0	44.2	43.8	44.1	44.6	44.2	44.5
	505, 506	GandyEB10	1140	50	3	119	45.4	45.0	45.6	45.9	45.4	45.3	45.6	45.2	45.6	46.0	45.7	45.9												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2715	50	3	1167	45.8	45.2	45.7	46.0	45.8	45.3	45.4	45.7	46.1	45.7	45.9	46.0	45.8	45.2	45.7	46.0	45.8	45.3	45.4	45.7	46.1	45.7	45.9	46.0
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	4215	55	3	181	42.2	41.4	41.5	42.3	40.9	40.3	40.8	40.9	42.3	42.4	42.7	42.8	44.9	44.5	45.0	45.3	44.2	42.8	44.3	44.1	45.0	45.6	45.6	45.9
	520, 521	GandyWB5	4215	55	3	291	49.1	48.7	48.7	49.1	48.3	47.9	48.2	48.3	49.2	49.3	49.5	49.5												
	521, 522	GandyWB6	4215	55	4	590	43.7	43.4	44.2	44.4	43.1	41.1	43.5	43.0	43.8	44.7	44.5	45.2												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2965	55	3	1768	52.5	52.3	52.4	52.5	52.3	52.1	52.2	52.2	52.4	52.6	52.7	52.7	52.5	52.3	52.4	52.5	52.3	52.1	52.2	52.2	52.4	52.6	52.7	52.7
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4615	55	5	1179	52.8	52.6	52.7	52.7	52.6	52.5	52.5	52.5	52.7	52.7	52.7	52.7	52.9	52.7	52.8	52.8	52.7	52.6	52.6	52.6	52.8	52.8	52.8	52.8
	524, 525	GandyWB9	4615	55	5	455	53.1	53.0	53.0	53.0	52.9	52.8	52.9	52.9	53.1	53.0	53.1	53.1												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2560	50	1	525	21.4	21.2	20.7	20.7	21.0	20.7	20.8	20.7	21.3	20.9	21.4	20.8	21.5	21.4	21.0	21.0	21.2	21.0	21.0	20.9	21.4	21.2	21.5	21.1
	600, 7001	GdyNBoff2	2560	50	1	300	21.6	21.7	21.4	21.6	21.6	21.5	21.3	21.4	21.5	21.7	21.7	21.5												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1575	50	1	263	42.4	42.1	42.1	42.5	42.4	42.5	42.0	42.3	42.4	42.6	42.1	42.3	45.9	45.5	45.7	45.9	46.0	45.9	45.5	45.8	46.0	45.8	45.6	45.7
	3, 4	GdyNBoff6	1575	50	1	359	46.9	46.5	46.8	46.9	47.1	46.9	46.5	46.7	47.0	46.9	46.5	46.5												
	4, 5	GdyNBoff7	1575	50	1	464	47.4	47.0	47.1	47.3	47.4	47.3	46.9	47.2	47.5	47.0	46.9	47.0												
	5, 506	GdyNBoff8	1575	50	1	241	45.5	44.9	45.1	45.7	45.6	45.5	45.1	45.7	45.7	45.4	45.4	45.5												
	7013, 2	GdyNBoff10	985	50	1	267	43.0	43.4	42.9	43.1	43.3	43.2	43.2	43.0	43.0	43.2	42.8	43.2												
	2, 8	GdyNBoff11	985	50	1	341	48.1	48.6	47.9	48.0	48.4	48.2	48.2	48.0	48.1	48.3	48.0	48.2												

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Speed (mph)												Weighted Speed (mph)											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	985	50	1	483	48.3	48.6	48.2	48.3	48.6	48.4	48.3	48.3	48.3	48.4	48.4	48.4	47.5	47.8	47.4	47.4	47.7	47.6	47.5	47.4	47.5	47.5	47.6	47.5
	9, 10	GdyNBoff13	985	50	1	492	48.2	48.3	48.1	48.1	48.3	48.2	48.1	48.1	48.2	48.1	48.3	48.1												
	10, 11	GdyNBoff14	985	50	1	389	48.0	48.1	48.0	48.0	48.1	48.1	48.0	48.0	48.1	48.0	48.3	48.0												
	11, 7022	GdyNBoff15	985	50	1	196	47.9	47.9	47.9	47.8	47.9	47.9	47.9	47.8	47.9	47.8	48.1	47.8												
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2320	50	2	179	31.7	29.6	32.3	36.7	25.1	22.0	24.9	28.3	34.2	34.2	36.6	38.9	31.7	29.6	32.3	36.7	25.1	22.0	24.9	28.3	34.2	34.2	36.6	38.9
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1200	50	2	501	47.0	46.9	47.1	46.7	46.9	46.8	47.1	46.7	46.8	46.9	47.2	47.1	48.6	48.5	48.7	48.5	48.6	48.6	48.7	48.6	48.6	48.6	48.8	48.7
	623, 624	GdyNBon6	1200	50	2	299	48.6	48.6	48.7	48.5	48.7	48.7	48.9	48.6	48.6	48.6	48.8	48.8												
	624, 625	GdyNBon7	1200	50	2	253	48.7	48.7	48.8	48.7	48.8	48.8	48.9	48.7	48.7	48.7	49.0	48.9												
	625, 626	GdyNBon8	1200	50	2	238	48.8	48.7	48.8	48.7	48.9	48.8	48.9	48.8	48.8	48.8	49.1	48.9												
	626, 627	GdyNBon9	1200	50	2	242	48.9	48.8	49.0	48.8	48.9	48.9	49.0	48.9	48.9	48.9	49.1	49.0												
	627, 628	GdyNBon10	1200	50	2	277	48.9	48.8	49.0	48.8	48.9	49.0	49.0	48.9	48.9	48.9	49.2	49.0												
	628, 629	GdyNBon11	1200	50	2	337	48.9	48.8	49.0	48.9	48.9	49.0	49.0	49.0	49.0	48.9	49.1	49.0												
	629, 630	GdyNBon12	1200	50	2	877	48.9	48.9	49.0	48.9	49.0	49.0	49.0	49.0	49.0	49.0	49.1	49.1												
	630, 307	GdyNBon13	1200	50	2	344	49.0	48.9	49.0	48.9	49.0	49.0	49.0	49.0	49.0	49.0	49.1	49.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1650	50	2	481	48.1	48.0	48.2	48.2	48.0	44.8	40.2	40.7	41.4	41.7	42.1	45.4	48.6	48.6	48.7	48.6	48.6	47.3	45.1	45.3	45.7	45.9	46.0	47.5
	660, 661	GdySBoff2	1650	50	2	394	49.1	49.0	49.1	49.0	49.1	48.9	48.2	48.3	48.5	48.6	48.5	49.0												
	661, 7020	GdySBoff3	1650	50	2	336	48.9	48.9	49.0	48.9	48.9	48.8	48.4	48.4	48.6	48.7	48.6	48.8												
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2635	50	2	714	47.0	46.9	47.0	47.0	46.8	46.9	46.7	46.6	46.9	46.8	46.6	46.9	47.3	47.2	47.3	47.3	47.1	47.2	47.0	46.9	47.2	47.1	47.0	47.2
	662, 523	GdySBoff7	2635	50	2	424	47.8	47.8	47.8	47.8	47.6	47.7	47.5	47.5	47.7	47.6	47.6	47.7												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1120	50	1	286	44.5	43.9	43.8	45.0	44.1	44.1	43.5	44.2	44.0	43.9	44.0	45.2	46.4	45.9	45.8	46.9	46.0	45.9	45.5	46.0	45.9	45.9	46.0	47.0
	621, 622	GdySBon3	1120	50	1	204	47.3	46.8	46.7	47.8	46.9	46.8	46.4	47.1	46.7	46.7	46.9	47.9												
	622, 419	GdySBon4	1120	50	1	319	47.6	47.2	47.0	47.9	47.2	47.1	46.6	47.1	47.0	47.1	47.2	47.9												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1250	35	1	302	32.1	31.8	32.1	32.3	31.6	31.2	31.8	32.2	32.4	32.0	32.2	32.2	32.5	32.0	31.8	31.7	31.9	27.6	28.0	29.6	30.7	30.8	30.8	31.4
	640, 641	GdySBonLoop2	1250	35	1	259	33.0	32.7	32.9	33.0	32.7	32.5	32.8	33.0	33.0	32.8	33.0	32.9												
	641, 642	GdySBonLoop3	1250	35	1	227	32.9	32.6	32.9	32.9	32.7	32.5	32.6	32.9	32.9	32.8	33.0	33.0												
	642, 643	GdySBonLoop4	1250	35	1	211	32.5	32.3	32.6	32.6	32.3	31.6	31.2	32.5	32.5	32.4	32.5	32.6												
	643, 644	GdySBonLoop5	1250	35	1	211	32.5	32.2	32.5	32.4	32.2	28.1	28.4	32.1	32.1	32.3	32.3	32.4												
	644, 645	GdySBonLoop6	1250	35	1	207	32.4	31.8	31.9	31.2	31.6	21.7	23.0	27.2	29.8	30.9	30.2	31.1												
	645, 418	GdySBonLoop7	1250	35	1	252	32.5	30.7	28.3	27.4	30.3	14.8	15.3	17.3	22.3	22.9	23.1	25.8												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4145	60	4	1418	57.1	56.9	57.2	57.5	56.8	56.2	56.8	57.0	57.8	57.4	57.6	57.9	55.8	56.2	56.6	56.7	56.1	55.5	56.1	56.3	57.1	56.7	56.8	57.2
	541, 542	RvEB3	4145	60	3	1028	54.0	55.3	55.6	55.7	55.2	54.6	55.1	55.3	56.0	55.7	55.8	56.2												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2240	60	2	513	54.9	55.6	56.1	57.7	54.5	50.7	56.6	57.0	57.7	57.7	57.8	58.1	54.9	55.6	56.1	57.7	54.5	50.7	56.6	57.0	57.7	57.7	57.8	58.1
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2155	60	2	120	51.4	48.8	49.3	49.2	47.4	46.1	46.1	47.7	49.6	51.0	51.0	54.2	53.2	51.0	51.4	51.4	49.7	48.5	48.6	50.0	51.6	52.9	52.9	55.5
	546, 547	RvEB10	2155	60	2	165	54.5	52.6	53.0	53.0	51.4	50.2	50.3	51.7	53.1	54.3	54.3	56.5												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3315	60	2	1053	55.2	55.1	55.7	55.7	54.4	53.7	53.5	54.8	55.4	55.8	56.1	56.7	55.2	55.1	55.7	55.7	54.4	53.7	53.5	54.8	55.4	55.8	56.1	56.7
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2635	60	2	756	58.1	57.9	58.2	58.2	57.2	50.8	48.8	51.1	56.0	58.1	58.4	58.4	57.8	57.0	57.6	58.0	54.3	43.1	42.0	47.1	55.2	57.8	58.0	58.0
	558, 559	RvWB3	2635	60	2	146	57.1	55.9	57.1	57.7	50.3	30.0	29.9	42.3	53.9	57.3	57.3	57.1												
	559, 560	RvWB4	2635	60	3	151	56.5	53.7	55.0	57.0	43.6	17.0	19.6	31.5	52.3	56.7	56.9	56.7												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2305	60	2	125	54.9	48.2	50.3	55.3	35.0	9.9	11.4	20.1	48.7	55.8	56.4	57.3	54.9	48.2	50.3	55.3	35.0	9.9	11.4	20.1	48.7	55.8	56.4	57.3
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1875	60	2	133	53.5	53.1	52.9	53.0	52.7	52.6	52.4	51.9	52.3	53.6	53.9	54.9	57.0	56.8	56.6	56.6	56.4	56.5	56.4	55.9	56.2	56.9	57.1	57.5
	567, 568	RvWB14	1875	60	2	750	57.3	57.1	56.8	56.9	56.7	56.8	56.8	56.2	56.5	57.2	57.4	57.7												
	568, 569	RvWB15	1875	60	2	281	57.9	57.6	57.6	57.5	57.5	57.5	57.5	57.1	57.3	57.8	57.9	58.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3275	60	4	1137	57.6	57.4	57.5	57.4	57.5	57.4	57.5	57.4	57.4	57.5	57.6	57.7	57.6	57.4	57.5	57.4	57.5	57.4	57.5	57.4	57.4	57.5	57.6	57.7
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3000	50	2	228	48.8	48.1	48.9	49.1	49.0	48.8	49.0	48.8	49.0	48.9	49.0	49.0	48.8	48.1	48.9	49.1	49.0	48.8	49.0	48.8	49.0	48.9	49.0	49.0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3000	50	2	168	45.6	45.2	45.6	45.6	45.7	45.6	45.6	45.8	45.6	45.4	45.6	45.8	46.9	46.7	46.9	46.8	46.8	46.8	46.8	47.1	47.0	46.6	47.0	47.0
	701, 702	RvNBoff5	3000	50	2	198	47.3	47.2	47.3	47.1	47.1	47.1	47.1	47.5	47.4	46.9	47.4	47.4												
	702, 703	RvNBoff6	3000	50	3	130	48.0	48.0	48.0	47.8	47.7	47.8	47.7	48.1	48.1	47.7	48.1	47.9												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	48.8	49.0	48.9	48.9	48.7	48.7	49.0	48.9	48.9	48.8	48.9	49.1	48.9	49.1	49.2	49.1	49.0	48.9	49.3	49.0	49.0	49.0	49.0	49.2
	704, 705	RvNBoff8	400	50	1	200	48.9	49.1	49.2	49.2	49.0	48.9	49.3	49.0	49.0	49.0	49.0	49.3												
	705, 706	RvNBoff9	400	50	1	223	48.9	49.2	49.3	49.2	49.1	49.0	49.4	49.0	49.0	49.1	49.1	49.3												
	706, 707	RvNBoff10	400	50	1	262	48.9	49.2	49.3	49.2	49.1	48.9	49.4	49.0	49.0	49.1	49.1	49.3												
	707, 547	RvNBoff11	400	50	1	264	48.9	49.1	49.2	49.1	49.1	48.9	49.3	48.9	49.0	49.0	49.0	49.2												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1400	50	2	248	47.5	47.1	47.1	47.1	47.1	47.3	47.2	47.3	47.2	47.4	47.2	47.2	48.5	48.3	48.3	48.3	48.4	48.4	48.5	48.4	48.4	48.4	48.4	48.4
	715, 716	RvNBoff21	1400	50	2	642	48.5	48.3	48.3	48.2	48.4	48.3	48.5	48.4	48.4	48.4	48.4	48.3												
	716, 569	RvNBoff22	1400	50	2	670	48.9	48.8	48.8	48.8	48.9	48.8	48.9	48.8	48.9	48.9	48.9	48.8												
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	330	50	1	296	53.2	52.6	52.8	53.6	51.1	42.8	42.3	46.2	52.2	53.2	53.6	53.6	51.9	51.5	51.5	52.2	50.2	43.8	43.4	46.4	51.1	51.9	52.2	52.2
	757, 7016	RvNBon4	330	50	1	127	48.8	48.9	48.6	49.0	48.3	46.0	45.8	46.9	48.6	48.7	48.9	49.0												
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	1680	50	2	261	45.9	45.8	45.7	46.0	45.4	45.5	45.6	45.9	46.0	45.6	45.7	46.1	47.4	47.4	47.3	47.6	47.1	47.2	47.2	47.4	47.5	47.4	47.4	47.6
	756, 317	RvNBon10	1680	50	2	444	48.2	48.4	48.3	48.6	48.1	48.1	48.2	48.3	48.3	48.4	48.3	48.4												
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	2290	50	2	223	48.0	47.6	47.4	47.7	47.4	45.9	46.3	46.1	47.6	47.7	48.1	48.1	47.4	46.6	46.6	46.7	46.4	44.0	43.9	43.7	47.0	47.0	47.8	47.8
	770, 7032	RvSBoff2	2290	50	2	150	46.5	45.2	45.4	45.1	45.0	41.1	40.2	40.3	46.0	46.0	47.4	47.2												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2420	50	3	102	37.7	35.9	37.8	38.0	36.3	31.6	34.4	35.2	38.9	39.2	38.0	40.3	41.0	40.0	41.0	41.1	39.5	38.0	39.5	39.7	41.8	41.6	41.1	42.3
	793, 410	RvSBon5	2420	50	3	655	41.5	40.6	41.5	41.5	40.0	39.0	40.3	40.4	42.2	42.0	41.6	42.6												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1905	50	2	270	48.4	48.3	48.5	48.4	48.2	47.8	48.1	48.4	48.7	48.5	48.4	48.8	48.5	48.4	48.5	48.5	48.3	48.0	48.2	48.5	48.8	48.6	48.5	48.8
	790, 7011	RvSBon11	1905	50	2	250	48.7	48.5	48.6	48.5	48.5	48.2	48.3	48.6	48.9	48.7	48.6	48.9												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2600	50	2	311	48.3	48.1	48.3	48.3	48.2	48.2	48.2	48.3	48.3	48.1	48.3	48.3	48.1	47.8	48.0	48.0	47.9	47.9	47.9	48.0	48.0	47.9	48.0	47.9
	708, 710	118NBoff2	2600	50	2	567	47.6	47.3	47.5	47.5	47.4	47.4	47.4	47.5	47.4	47.3	47.5	47.4												
	710, 711	118NBoff3	2600	50	2	460	47.5	47.2	47.5	47.5	47.4	47.3	47.3	47.5	47.5	47.3	47.4	47.4												
	711, 712	118NBoff4	2600	50	3	472	48.5	48.4	48.5	48.6	48.5	48.5	48.6	48.5	48.5	48.4	48.5	48.5												
	712, 713	118NBoff5	2600	50	3	395	48.7	48.5	48.5	48.6	48.6	48.5	48.7	48.6	48.6	48.5	48.6	48.6												
	713, 714	118NBoff6	2600	50	4	188	47.9	47.4	47.8	47.5	47.5	47.7	47.5	47.6	47.8	47.3	47.6	47.5												
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1200	50	2	212	48.8	48.4	48.7	48.7	48.6	48.6	48.6	48.7	48.6	48.4	48.6	48.6	49.0	48.8	48.9	49.1	48.9	48.9	49.0	49.0	48.9	48.8	49.0	48.9
	717, 718	118NBoff8	1200	50	2	389	49.0	48.9	49.0	49.1	48.9	49.0	49.0	49.0	48.9	48.8	49.0	49.0												
	718, 719	118NBoff9	1200	50	2	373	49.0	49.0	49.0	49.2	49.0	49.0	49.0	49.0	48.9	48.8	49.0	49.0												
	719, 720	118NBoff10	1200	50	2	589	49.0	48.9	49.0	49.1	48.9	49.0	49.0	49.0	48.9	48.8	49.1	49.0												
	720, 721	118NBoff11	1200	50	2	311	48.9	48.9	48.9	49.1	48.9	48.9	49.0	49.0	48.9	48.8	49.0	48.9												

2040 No Build PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1200	50	2	381	49.0	48.8	48.9	49.2	48.9	48.9	49.0	49.0	48.8	48.8	49.0	48.9												
	722, 723	118NBoff13	1200	50	2	562	49.0	48.8	48.8	49.2	49.0	48.9	49.0	49.0	48.8	48.8	49.0	48.9												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3290	60	3	1252	55.4	55.3	55.3	55.4	55.3	55.2	55.2	55.3	55.2	55.3	55.5	55.5	56.3	56.2	56.2	56.3	56.2	56.1	56.1	56.2	56.2	56.2	56.4	56.3
	724, 725	118NBoff15	3290	60	3	575	58.3	58.2	58.2	58.3	58.2	58.1	58.1	58.2	58.1	58.1	58.3	58.2												
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	3140	60	2	611	57.7	57.8	57.5	57.8	57.3	53.8	37.9	13.5	13.9	20.6	26.8	51.1	54.2	53.6	53.8	54.1	52.9	44.8	29.8	13.8	15.3	21.3	27.5	48.4
	741, 742	118NBon3	3140	60	2	1107	52.3	51.3	51.7	52.1	50.5	39.7	25.3	13.9	16.1	21.6	27.9	46.8												
	742, 749	118NBon4	1150	50	2	758	50.9	50.9	50.9	51.1	50.6	50.0	48.5	47.3	47.9	48.4	49.1	50.6												
	749, 750	118NBon5	1150	50	2	1140	47.6	47.6	47.4	47.8	47.1	47.3	47.0	46.9	46.8	46.8	47.2	47.5												
	750, 751	118NBon6	1150	50	1	304	47.4	47.3	47.2	47.5	46.9	47.1	46.9	46.8	46.7	46.5	47.1	47.1												
NB I-275 On Ramp from 118th	751, 752	118NBon7	1150	50	1	341	47.4	47.4	47.2	47.5	47.0	47.1	47.0	47.0	47.0	46.8	47.1	47.3	48.1	48.1	47.9	48.3	47.7	47.6	47.2	47.0	47.0	47.0	47.5	48.0
	752, 753	118NBon8	1150	50	1	406	47.2	47.2	47.0	47.3	46.7	46.8	46.8	47.0	47.0	46.8	46.9	47.2												
	753, 754	118NBon9	1150	50	1	250	46.9	47.0	46.8	47.1	46.5	46.6	46.7	46.9	46.8	46.5	46.7	47.1												
	754, 7009	118NBon10	1150	50	1	349	46.8	46.9	46.6	46.9	46.3	46.5	46.5	46.8	46.5	46.3	46.6	46.9												
	7034, 775	118SBoff2	2090	50	1	147	33.0	32.6	33.0	33.3	32.8	32.6	32.5	32.7	32.9	33.0	33.3	33.5												
	775, 776	118SBoff3	2090	50	1	934	44.7	44.2	44.8	45.2	44.4	43.9	44.0	44.3	44.4	44.6	45.0	45.3												
SB I-275 Off Ramp to 118th	776, 777	118SBoff4	2090	50	1	371	45.9	45.6	45.6	46.0	45.5	45.1	45.2	45.5	45.4	45.6	45.9	46.0	44.8	44.5	44.7	44.8	44.5	44.2	44.2	44.5	44.5	44.6	45.0	45.0
	777, 778	118SBoff5	2090	50	1	446	45.9	45.7	45.6	45.8	45.6	45.3	45.4	45.7	45.6	45.7	46.0	45.9												
	778, 723	118SBoff6	2090	50	1	1329	45.5	45.3	45.3	45.3	45.2	45.0	45.0	45.2	45.2	45.2	45.6	45.5												
	742, 743	118SBon1	1990	50	1	227	45.2	45.2	45.3	45.5	44.7	32.9	19.9	12.6	15.5	20.7	27.4	42.8												
	743, 744	118SBon2	1990	50	1	418	46.0	45.9	45.9	46.1	45.8	30.9	17.9	11.5	15.0	19.6	26.7	43.6												
	744, 745	118SBon3	1990	50	1	223	46.6	46.5	46.4	46.5	46.2	28.8	16.3	10.0	14.4	18.9	26.0	42.8												
SB I-275 On Ramp from 118th	745, 746	118SBon4	1990	50	1	201	46.5	46.6	46.4	46.4	44.8	27.5	15.3	9.4	13.4	18.1	25.5	41.7	45.2	44.1	45.1	45.5	39.6	24.9	15.1	9.9	13.3	17.3	25.3	41.5
	746, 747	118SBon5	1990	50	1	200	46.2	46.3	46.2	46.2	42.8	25.6	14.3	9.2	12.6	16.7	25.4	41.1												
	747, 748	118SBon6	1990	50	1	166	45.9	45.9	45.9	46.0	41.0	23.7	13.8	9.2	12.3	16.0	25.4	40.7												
	748, 413	118SBon7	1990	50	1	973	44.0	41.2	43.7	44.5	32.3	19.0	12.8	9.1	12.1	15.3	24.0	40.1												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3520	60	3	2420	57.3	57.1	57.3	57.3	57.0	56.8	57.0	57.1	57.4	57.3	57.5	57.5	57.3	57.1	57.3	57.3	57.0	56.8	57.0	57.1	57.4	57.3	57.5	57.5
	801, 811	UlmNBon3	2230	50	2	647	48.2	48.0	48.2	48.3	47.9	47.6	47.9	47.9	48.3	48.2	48.4	48.4												
	811, 812	UlmNBon4	2230	50	2	590	48.3	48.1	48.4	48.5	48.1	48.0	48.2	48.2	48.5	48.4	48.5	48.5												
	812, 813	UlmNBon5	2230	50	2	323	48.1	47.8	48.1	48.3	47.9	47.7	47.9	47.9	48.4	48.2	48.4	48.3												
NB I-275 On Ramp from Ulmerton	813, 814	UlmNBon6	2230	50	2	328	48.1	47.9	48.1	48.3	47.8	47.7	47.9	47.9	48.3	48.2	48.3	48.3	48.1	47.9	48.1	48.3	47.8	47.6	47.9	47.9	48.3	48.2	48.3	48.3
	814, 815	UlmNBon7	2230	50	2	288	48.1	47.9	48.1	48.3	47.8	47.7	47.9	47.9	48.3	48.2	48.3	48.3												
	815, 816	UlmNBon8	2230	50	2	273	48.1	47.8	48.1	48.2	47.8	47.6	47.8	47.9	48.2	48.2	48.3	48.3												
	816, 321	UlmNBon9	2230	50	2	1098	47.9	47.7	47.9	48.1	47.6	47.5	47.6	47.8	48.1	48.1	48.2	48.2												
	403, 830	UlmSBoff1	2180	50	2	573	48.2	48.0	48.1	48.1	48.1	48.0	48.0	48.0	48.0	48.0	48.4	48.4												
SB I-275 Off Ramp to Ulmerton/MLK	830, 831	UlmSBoff2	2180	50	2	346	48.9	48.7	48.8	48.8	48.9	48.8	48.8	48.8	48.8	48.7	49.0	49.0	48.5	48.2	48.4	48.4	48.4	48.3	48.3	48.3	48.3	48.3	48.6	48.7
	831, 7036	UlmSBoff3	2180	50	2	283	48.5	48.2	48.4	48.4	48.4	48.3	48.3	48.3	48.3	48.3	48.6	48.7												
	7014, 834	UlmSBoff7	1820	50	2	398	48.4	48.1	48.4	48.3	48.4	48.1	48.3	48.1	48.3	48.2	48.5	48.5												
WB Ulmerton West of I-275	834, 835	UlmSBoff8	1820	60	2	584	54.0	53.7	54.1	54.1	54.0	53.8	53.9	53.9	53.9	53.9	54.1	54.2	56.5	56.2	56.5	56.6	56.6	56.3	56.4	56.3	56.3	56.4	56.6	56.7
	835, 836	UlmSBoff9	1820	60	2	481	58.5	58.2	58.5	58.5	58.6	58.3	58.4	58.3	58.4	58.4	58.6	58.7												
	836, 837	UlmSBoff10	1820	60	2	2160	58.2	57.9	58.2	58.3	58.3	58.0	58.1	58.0	58.0	58.1	58.4	58.5												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1290	35	1	493	48.6	47.7	48.7	48.4	47.7	47.8	47.8	48.5	48.8	48.8	48.9	49.0	44.5	43.6	44.6	44.3	43.7	43.7	43.7	44.3	44.6	44.5	44.6	44.8
	802, 803	UlmSBon2	1290	35	1	214	34.9	34.2	34.9	34.7	34.3	34.1	34.3	34.7	34.9	34.8	34.9	35.1												
	803, 808	UlmSBon3	970	35	1	163	33.2	32.9	33.1	33.0	33.0	32.8	33.0	33.1	33.2	33.0	33.1	33.3												
SB I-275 On Ramp from Ulmerton	808, 809	UlmSBon4	970	35	1	163	33.6	33.3	33.6	33.4	33.5	33.3	33.4	33.6	33.6	33.5	33.5	33.6	40.9	40.5	40.9	40.7	40.9	40.6	40.8	40.9	40.9	40.8	40.8	40.9
	809, 810	UlmSBon5	970	35	1	228	33.5	33.1	33.4	33.3	33.4	33.2	33.3	33.4	33.4	33.3	33.3	33.5												
	810, 404	UlmSBon6	970	50	1	1030	45.0	44.5	44.9	44.8	44.9	44.7	44.8	45.0	45.0	44.8	44.8	45.0												
	803, 804	UlmSBMLK1	320	35	1	201	34.5	34.7	34.5	34.5	34.2	34.2	34.6	34.4	34.4	34.5	34.5	34.6												
EB Ulmerton to SB MLK	804, 805	UlmSBMLK2	320	50	1	361	41.5	41.5	41.4	41.5	41.2	41.2	41.5	41.4	41.3	41.4	41.4	41.4	43.7	43.9	43.7	43.8	43.4	43.5	43.9	43.6	43.6	43.7	43.7	43.8
	805, 806	UlmSBMLK3	320	50	1	499	49.1	49.4	49.1	49.2	48.7	48.8	49.3	49.0	48.9	49.1	49.1	49.1												
SB MLK	806, 807	UlmSBMLK4	680	50	2	1171	49.2	49.3	49.1	49.1	49.0	49.1	49.0	49.1	49.0	49.1	49.2	49.2	49.2	49.3	49.1	49.1	49.0	49.1	49.0	49.1	49.0	49.1	49.2	49.2
	850, 851	MLKNBon2	490	50	1	1080	49.6	49.6	49.7	49.8	49.7	49.7	49.5	49.5	49.6	49.7	49.9	49.5												
NB I-275 On Ramp from NB MLK	851, 852	MLKNBon3	490	50	1	350	49.3	49.3	49.4	49.5	49.4	49.3	49.1	49.2	49.3	49.4	49.5	49.2	49.3	49.2	49.4	49.4	49.3	49.2	49.0	49.1	49.2	49.3	49.5	49.2
	852, 853	MLKNBon4	490	50	1	370	49.1	49.1	49.3	49.3	49.1	49.1	48.8	48.9	49.0	49.2	49.3	49.0												
	853, 320	MLKNBon5	490	50	1	885	48.9	48.7	49.0	49.0	48.8	48.7	48.5	48.6	48.7	48.9	49.0	48.8												
	7015, 839	MLKSBoff3	360	50	1	294	48.4	48.5	48.2	48.2	48.4	48.2	47.9	48.4	48.2	48.1	48.3	48.3												
SB I-275 Off Ramp to MLK	839, 840	MLKSBoff4	360	50	1	336	49.0	49.1	48.9	48.8	49.0	49.0	48.5	48.9	48.8	48.8	48.9	48.8	48.8	48.9	48.7	48.6	48.7	48.8	48.3	48.8	48.6	48.7	48.7	48.7
	840, 841	MLKSBoff5	360	50	1	395	49.0	49.0	48.8	48.7	48.8	48.9	48.4	48.9	48.7	48.8	48.9	48.8												
	841, 806	MLKSBoff6	360	50	1	539	48.9	49.0	48.8	48.6	48.7	48.9	48.3	48.9	48.6	48.8	48.8	48.8												
	900, 901	4thNBon2	880	60	2	1270	59.4	59.5	59.6	59.6	59.4	59.4	59.4	59.4	59.5	59.5	59.4	59.4												
	901, 902	4thNBon3	880	60	2	634	59.3	59.4	59.5	59.5	59.3	59.2	59.3	59.3	59.4	59.4	59.4	59.2												
	902, 903	4thNBon4	880	60	2	322	58.6	58.5	58.8	58.7	58.5	58.3	58.6	58.5	58.6	58.7	58.7	58.5												
NB I-275 On Ramp from 4th	903, 904	4thNBon5	880	60	2	279	57.7	57.6	58.0	57.8	57.5	57.3	57.5	57.5	57.8	57.8	57.8	57.7	58.4	58.4	58.7	58.7	58.3	58.1	58.2	58.3	58.6	58.5	58.5	58.5
	904, 905	4thNBon6	880	60	2	388	57.4	57.4	57.9	57.8	57.2	57.1	57.2	57.3	57.7	57.6	57.6	57.7												
	905, 906	4thNBon7	880	60	1	313	57.4	57.6	57.9	57.9	57.4	57.2	57.3	57.4	57.9	57.7	57.7	57.8												
	906, 907	4thNBon8	880	60	1	300	57.5	57.6	58.0	57.9	57.6	57.4	57.4	57.5	57.9	57.8	57.8	57.9												
	907, 323	4thNBon9	880	60	1	684	57.2	57.1	57.7	57.7	56.9	56.1	56.5	56.9	57.6	57.4	57.6	57.6												
	401, 920	4thSBoff1	1440	60	1	467	51.7	50.6	51.0	53.2	49.1	49.6	49.2	50.1	49.7	50.2	54.0	54.7												
	920, 921	4thSBoff2	1440	60	1	492	56.6	56.7	56.7	57.2	55.7	56.3	56.0	56.7	56.4	56.3	57.5	57.5												
	921, 922	4thSBoff3	1440	60	1	420	57.1	57.1	57.2	57.5	56.4	56.9	56.6	57.2	57.0	56.8	57.6	57.5												
	922, 923	4thSBoff4	1440	60	1	393	56.7	56.6	56.7	57.0	56.0	56.5	56.2	56.5	56.5	56.4	57.1	57.1												
SB I-275 Off Ramp to 4th	923, 924	4thSBoff5	1440	60	1	384	56.3	56.2	56.3	56.6	55.8	56.2	55.9	56.1	56.2	56.1	56.8	56.7	56.6	56.5	56.6	57.0	56.2	56.4	56.2	56.5	56.4	56.4	57.1	57.2
	924, 925	4thSBoff6	1440	60	1	354	56.1	55.9	56.2	56.4	55.8	56.1	55.9	56.0	56.2	56.0	56.6	56.6												
	925, 926	4thSBoff7	1440	60	1	501	56.0	55.9	56.0	56.3	55.7	55.9	55.8	55.9	56.0	55.9	56.3	56.4												
	926, 927	4thSBoff8	1440	60	1	416	55.8	55.7	55.8	56.0	55.5	55.7	55.5	55.7	55.7	55.6	56.1	56.2												
	927, 928	4thSBoff9	1440	60	2	1153	57.5	57.6	57.4	57.6	57.5	57.6	57.5	57.5	57.5	57.5	57.6	57.7												
	928, 929	4thSBoff10	1440	60	2	1242	58.3	58.4	58.3	58.4	58.5	58.5	58.4	58.4	58.4	58.4	58.3	58.4												

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Volume (veh)												Total Lane Changes											
Segment							Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7470	70	3	1087	1613	1648	1610	1563	1577	1601	1583	1605	1618	1617	1602	1614	40	40	56	73	82	67	64	60	50	65	48	60
	300, 301	I275NB3	7470	70	3	805	1611	1647	1590	1570	1572	1612	1574	1607	1626	1613	1602	1618	72	77	75	68	69	77	69	76	75	80	76	77
	301, 302	I275NB4	7470	70	3	478	1610	1646	1580	1574	1570	1615	1571	1611	1625	1612	1603	1618	45	44	41	20	22	26	32	29	40	32	31	38
	302, 303	I275NB5	7470	70	3	2687	1604	1644	1566	1580	1568	1619	1570	1611	1626	1612	1606	1611	1417	1398	1343	1325	1328	1330	1335	1374	1366	1358	1378	1367
	303, 304	I275NB6	7470	70	4	382	1603	1647	1563	1580	1567	1620	1572	1609	1626	1612	1607	1609	325	320	389	380	400	367	378	358	353	357	324	360
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4910	70	3	1375	1054	1093	1024	1029	1013	1072	1028	1067	1075	1066	1059	1059	158	168	170	170	174	174	188	173	170	169	166	171
	305, 306	I275NB8	4910	70	3	1306	1057	1090	1027	1031	1011	1071	1027	1065	1075	1068	1058	1059	78	76	71	76	72	75	79	74	73	76	83	77
	306, 307	I275NB9	4910	70	3	591	1055	1090	1028	1030	1012	1071	1027	1066	1075	1068	1059	1058	36	40	37	38	41	38	40	36	41	41	41	39
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6110	70	5	1065	1318	1365	1289	1279	1299	1373	1317	1340	1317	1321	1304	1292	243	248	239	227	252	270	254	248	223	227	227	212
	308, 309	I275NB11	6110	70	5	3035	1320	1364	1286	1278	1301	1376	1316	1342	1317	1315	1306	1297	256	268	253	245	250	266	261	254	262	262	255	256
	309, 310	I275NB12	6110	70	4	1095	1319	1366	1288	1277	1298	1376	1317	1341	1317	1315	1305	1301	550	571	543	540	544	568	539	568	561	555	546	545
	310, 311	I275NB13	6110	70	4	380	1316	1367	1287	1278	1300	1375	1318	1340	1319	1315	1304	1303	160	170	151	158	152	168	158	160	154	158	155	157
	311, 312	I275NB14	6110	70	4	399	1314	1366	1288	1277	1300	1376	1320	1339	1319	1314	1304	1303	164	174	156	152	157	169	166	171	160	168	163	165
	312, 313	I275NB15	6110	70	4	368	1314	1366	1287	1276	1300	1376	1322	1338	1319	1314	1306	1302	74	83	75	68	75	86	78	86	78	76	77	70
	313, 314	I275NB16	6110	70	4	460	1313	1368	1287	1275	1299	1377	1322	1338	1317	1316	1306	1303	57	65	59	52	59	67	59	59	52	56	58	47
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3110	70	3	886	650	678	636	629	642	682	646	667	653	651	650	660	41	41	40	34	38	38	39	41	39	38	43	41
	315, 316	I275NB18	3110	70	3	1317	650	678	635	630	643	682	646	665	654	653	649	661	42	46	39	44	43	46	44	43	44	42	38	43
	316, 317	I275NB19	3110	70	3	1361	655	678	635	631	643	681	645	663	657	651	649	663	53	49	47	48	46	51	47	44	50	52	48	49
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4790	70	5	1032	1009	1038	974	970	1038	1104	1050	998	988	1030	1024	1009	290	290	269	282	322	357	338	286	276	300	303	297
	318, 319	I275NB21	4790	70	5	1191	1007	1036	978	969	1035	1101	1057	997	987	1026	1025	1010	83	85	84	80	94	97	97	86	80	89	84	82
	319, 320	I275NB22	4790	70	4	3175	1013	1033	984	964	1033	1100	1058	1001	988	1023	1024	1013	203	213	202	191	211	225	223	199	197	207	208	199
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	5280	70	4	1678	1120	1143	1094	1073	1149	1227	1179	1121	1089	1129	1126	1106	268	275	268	261	298	320	311	282	244	258	253	245
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	7510	70	5	1064	1624	1671	1606	1556	1705	1831	1759	1664	1562	1616	1592	1554	421	460	430	404	500	551	524	473	404	404	386	368
	322, 323	I275NB25	7510	70	5	1398	1618	1668	1614	1552	1704	1812	1775	1669	1564	1615	1594	1551	256	255	247	269	250	275	274	257	253	255	261	258
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	8390	70	5	817	1819	1866	1818	1742	1902	2032	2006	1890	1754	1808	1774	1726	529	596	542	512	663	797	782	656	511	530	497	489
	324, 325	I275NB27	8390	70	5	683	1816	1870	1824	1746	1891	2032	2009	1889	1761	1804	1775	1728	762	772	782	621	766	820	822	800	631	669	618	557
	325, 326	I275NB28	8390	70	4	1898	1820	1863	1830	1748	1881	2030	2013	1892	1765	1803	1775	1734	501	483	492	494	476	438	447	462	488	481	499	465
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	9290	70	4	2040	2053	2162	2082	1971	2202	2212	2219	2218	2220	2132	1910	1817	700	791	731	669	880	873	891	881	895	802	637	584
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	7850	70	4	2745	1734	1836	1757	1673	1845	1874	1875	1869	1880	1814	1617	1534	1233	1327	1250	1188	1340	1366	1339	1323	1341	1294	1150	1073
	402, 403	I275SB4	7850	70	5	825	1736	1837	1755	1675	1841	1875	1878	1868	1880	1814	1620	1534	187	212	202	196	206	215	207	201	212	203	189	175
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	5670	70	4	4213	1257	1317	1279	1207	1318	1353	1365	1357	1356	1320	1167	1104	359	372	364	349	386	388	390	408	384	380	341	308
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	6640	70	4	972	1469	1545	1492	1418	1554	1600	1599	1586	1558	1530	1373	1301	512	538	514	510	538	552	533	537	507	505	491	465
	405, 406	I275SB7	6640	70	4	1472	1472	1540	1495	1419	1550	1603	1595	1584	1562	1531	1378	1300	643	670	652	609	660	708	675	684	657	662	584	535
	406, 407	I275SB8	6640	70	4	662	1473	1539	1495	1421	1548	1603	1597	1579	1565	1531	1381	1301	150	164	159	143	173	187	184	176	168	164	126	109
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	4350	70	3	1201	940	973	943	901	987	1025	1016	997	1006	976	884	813	91	88	86	84	90	91	94	91	89	88	80	71
	408, 409	I275SB10	4350	70	3	1585	938	970	948	901	987	1024	1016	998	1006	977	882	815	71	75	67	71	72	81	82	81	75	77	70	65
	409, 410	I275SB11	4350	70	3	458	937	970	949	901	987	1024	1016	999	1004	979	882	817	24	25	22	23	26	27	29	25	25	25	22	21
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	6770	70	5	631	1451	1503	1460	1409	1536	1591	1569	1535	1490	1480	1384	1300	534	573	537	524	587	616	597	605	550	551	558	511
	411, 412	I275SB13	6770	70	5	244	1450	1503	1459	1409	1535	1593	1566	1537	1490	1482	1385	1299	57	59	53	53	71	78	100	92	66	75	69	50
	412, 413	I275SB14	6770	70	4	608	1451	1505	1457	1409	1532	1590	1556	1543	1494	1486	1387	1300	127	133	118	119	144	160	197	222	174	150	149	123
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	8760	70	4	492	1892	1971	1899	1831	2002	2086	1970	1906	1935	1966	1899	1732	611	655	606	589	676	723	647	576	657	702	727	596
	414, 415	I275SB16	8760	70	4	3870	1891	1964	1904	1837	1976	1996	1864	1914	1956	1989	1985	1823	1063	1019	1010	1012	1072	1175	1221	1152	1234	1369	1480	1184
	415, 416	I275SB17	8760	70	4	1086	1892	1953	1912	1839	1967	1969	1863	1918	1958	1988	1997	1844	606	706	680	589	703	683	532	536	514	543	546	563
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	7110	70	3	1385	1490	1533	1538	1467	1535	1491	1473	1498	1546	1558	1564	1502	144	152	173	179	138	126	50	48	39	49	46	156
	417, 418	I275SB19	7110	70	3	343	1490	1530	1535	1473	1528	1479	1475	1498	1547	1556	1563	1518	20	24	36	39	23	20	12	12	15	12	13	27
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	8360	70	3	1507	1692	1720	1733	1705	1718	1698	1711	1715	1746	1748	1765	1740	409	433	385	397	415	344	300	279	259	257	265	304
SB I-275 from Gandy On Ramp to South of Gandy	419, 420	I275SB21	9480	70	3	3297	1926	1946	1981	1957	1937	1969	1970	1970	1973	1976	1979	1975	560	529	430	446	528	432	430	420	375	395	374	393
	420, 421	I275SB22	9480	70	3	430	1926	1947	1980	1957	1938	1967	1971	1970	1972	1976	1980	1976	27	27	23	28	28	28	30	26	25	28	27	24
	421, 422	I275SB23	9480	70	3	403	1925	1947	1979	1958	1939	1966	1971	1970	1974	1975	1979	1976	24	26	25	28	26	29	29	29	27	29	25	27
	422, 423	I275SB24	9480	70	3	426	1924	1948	1980	1958	1939	1966	1969	1971	1975	1972	1980	1975	27	29	32	28	26	34	28	30	28	32	31	27
	423, 424	I275SB25	9480	70	3	412	1922	1948	1980	1958	1940	1966	1969	1970	1976	1971	1980	1974	26	31	29	28	28	33	32	31	33	31	33	29
	424, 425	I275SB26	9480	70	3	734	1925	1946	1980	1959	1938	1968	1968	1969	1979	1970	1978	1974	67	69	75	65	69	70	75	72	80	80	71	74
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3460	50	3	841	769	813	768	732	861	912	860	829	709	748	708	676	475	495	480	438	503	526	503	496	430	452	444	419
	500, 501	GandyEB3	3460	50	4	954	766	812	771	732	862	906	864	829	713	747	708	675	655	715	662	606	791	888	792	718	585	625	587	561
	501, 502	GandyEB4	3460	50	5	174	768	809	772	732	862	904	864	829	714	747	708	676	92	100	91	82	120	146	118	108	79	85	77	72
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1140	50	3	178	267	281	269	262	314	328	315	301	255	268	249	237	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1140	50	3	99	267	280	269	261	311	329	320	303	255	267	248	237	11	12	12	12	15	13	13	14	14	12	11	11
	505, 506	GandyEB10	1140	50	3	119	269	280	269	261	310	330	320	302	255	267	249	237	11	15	12	12	14	15	15	16	12	14	11	12
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2715	50	3	1167	604	618	606	597	642	668	651	632	599	605	593	573	475	482	466	466	470	479	478	461	470	473	473	465
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	4215	55	3	181	711	763	719	696	795	850	813	775	669	701	656	628	11	14	14	12	14	14	16	14	13	14	13	10
	520, 521	GandyWB5	4215	55	3	291	711	763	718	697	793	848	816	775	670	701	659	628	20	22	22	22	23	27	24	25	19	20	18	18
	521, 522	GandyWB6	4215	55	4	590	708	763	717	697	791	844	821	774	675	699	664	626	455	495	463	451	502	571	515	493	434	441	439	403
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2965	55	3	1768	503	534	512	495	566	590	591	552	489	504	471	451	65	68	64	64	70	79	76	72	62	65	60	56
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4615	55	5	1179	1117	1166	1098	1081	1195	1231	1191	1188	1123	1136	1100	1072	152	166	150	156	161	162	168	168	159	160	163	152
	524, 525	GandyWB9	4615	55	5	455	1117	1167	1097	1083	1191	1231	1190	1192	1120	1138	1100	1072	43	45	43	41	50	53	48	49	45	47	46	39
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2560	50	1	525	551	550	544	546	554	548	545	544	551	547	547	550	0	0	0	0	0	0	0	0	0	0	0	0
	600, 7001	GdyNBoff2	2560	50	1	300	551	549	544	546	553	549	545	544	551	547	547	550	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1575	50	1	263	338	334	333	335	337	335	337	326	340	340	341	336	0	0	0	0	0	0	0	0	0	0	0	0
	3, 4	GdyNBoff6	1575	50	1	359	339	333	334	334	337	334	336	327	339	341	341	336	0	0	0	0	0	0	0	0	0	0	0	0
	4, 5	GdyNBoff7	1575	50	1	464	339	333	334	335	336	335	336	327	339	341	341	336	0	0	0	0	0	0	0	0	0	0	0	0
	5, 506	GdyNBoff8	1575	50	1	241	339	333	333	336	336	335	336	327	339	341	341	336	0	0	0	0	0	0	0	0	0	0	0	0
	7013, 2	GdyNBoff10	985	50	1	267	212	216	210	212	216	215	208	218	211	207	206	214	0	0	0	0	0	0	0	0	0	0	0	0
	2, 8	GdyNBoff11	985	50	1	341	212	216	210	212	217	215	208	218	211	207	206	214	0	0	0	0	0	0	0	0	0	0	0	0

2040 No Build PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to WB Gandy	8, 9	GdyNBoff12	985	50	1	483	212	217	210	212	217	214	208	218	211	207	206	214	0	0	0	0	0	0	0	0	0	0	0	0
	9, 10	GdyNBoff13	985	50	1	492	211	217	210	211	218	214	208	217	212	207	206	213	0	0	0	0	0	0	0	0	0	0	0	0
	10, 11	GdyNBoff14	985	50	1	389	211	217	211	211	218	214	208	218	212	206	206	214	0	0	0	0	0	0	0	0	0	0	0	0
	11, 7022	GdyNBoff15	985	50	1	196	211	217	211	210	218	214	208	218	212	206	206	214	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2320	50	2	179	500	527	505	469	547	575	551	528	460	479	459	439	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1200	50	2	501	263	271	263	245	292	304	291	273	240	252	244	232	31	31	27	28	36	38	32	30	27	28	28	25
	623, 624	GdyNBon6	1200	50	2	299	263	272	263	245	291	304	291	273	240	252	243	232	7	10	10	9	10	10	10	9	8	8	8	7
	624, 625	GdyNBon7	1200	50	2	253	264	271	264	245	291	303	291	272	241	251	244	233	8	8	8	6	8	8	5	8	7	9	5	5
	625, 626	GdyNBon8	1200	50	2	238	263	271	264	244	292	303	292	272	241	252	242	234	6	7	8	6	6	8	8	7	5	6	4	7
	626, 627	GdyNBon9	1200	50	2	242	263	271	264	245	292	302	292	272	241	252	243	233	5	6	5	5	6	6	5	6	4	6	5	5
	627, 628	GdyNBon10	1200	50	2	277	263	271	264	246	292	302	291	273	240	252	244	233	5	5	6	5	7	8	7	5	7	4	6	4
	628, 629	GdyNBon11	1200	50	2	337	264	271	263	246	292	302	291	274	240	251	245	233	8	8	6	5	8	7	9	8	6	7	4	6
	629, 630	GdyNBon12	1200	50	2	877	263	272	261	247	290	302	291	275	240	252	245	234	18	19	17	13	20	21	18	16	14	15	14	15
	630, 307	GdyNBon13	1200	50	2	344	264	271	262	248	289	301	292	275	241	252	245	234	5	6	6	6	8	8	8	6	5	6	7	5
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1650	50	2	481	401	416	372	381	419	420	394	420	419	427	431	407	25	28	22	22	25	42	53	57	56	50	50	38
	660, 661	GdySBoff2	1650	50	2	394	401	416	373	382	418	422	393	420	419	427	431	408	9	10	9	10	10	9	13	9	12	13	11	9
	661, 7020	GdySBoff3	1650	50	2	336	400	416	374	381	417	423	394	420	419	426	430	408	0	0	0	0	0	0	0	0	0	0	0	0
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2635	50	2	714	611	633	586	591	634	636	602	637	630	634	633	622	59	61	62	60	64	61	56	62	57	60	58	59
	662, 523	GdySBoff7	2635	50	2	424	611	633	585	592	634	638	603	636	632	634	632	621	26	26	24	23	29	26	23	24	25	24	23	26
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1120	50	1	286	236	254	243	224	256	270	261	256	224	227	214	210	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1120	50	1	204	236	254	244	224	256	270	261	256	224	227	214	210	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1120	50	1	319	236	254	245	224	255	270	261	256	224	227	214	209	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1250	35	1	302	202	221	203	201	225	253	230	216	196	192	198	180	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1250	35	1	259	202	220	202	202	225	252	231	215	197	192	198	180	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1250	35	1	227	201	220	201	202	225	252	231	214	197	192	198	181	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1250	35	1	211	201	220	200	202	225	252	231	214	198	192	198	181	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1250	35	1	211	202	220	200	201	225	252	232	215	198	193	197	181	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1250	35	1	207	202	220	200	200	224	250	233	215	197	193	198	181	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1250	35	1	252	201	220	200	200	224	248	234	215	197	194	198	181	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4145	60	4	1418	917	976	920	876	1033	1093	1038	987	849	893	854	801	710	757	697	671	798	848	799	754	656	688	647	616
	541, 542	RvEB3	4145	60	3	1028	921	974	917	879	1032	1091	1036	989	854	890	853	804	74	84	71	72	83	96	89	82	66	75	68	66
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2240	60	2	513	509	523	503	474	559	584	560	536	471	484	460	434	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2155	60	2	120	513	522	522	491	559	599	590	555	503	493	470	431	15	24	23	23	24	34	31	28	18	17	17	8
	546, 547	RvEB10	2155	60	2	165	513	523	521	491	559	599	591	554	503	493	470	432	15	25	24	28	31	30	32	28	25	21	18	10
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3315	60	2	1053	606	615	604	577	647	685	685	644	592	585	554	516	156	161	147	156	158	173	171	166	157	152	149	134
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2635	60	2	756	583	615	589	556	656	692	658	629	542	569	542	511	49	49	42	45	52	62	57	58	45	50	45	43
	558, 559	RvWB3	2635	60	2	146	583	616	589	556	655	689	659	630	543	569	542	512	46	48	40	41	64	114	112	84	50	47	43	37
	559, 560	RvWB4	2635	60	3	151	583	615	590	555	655	684	661	632	545	569	542	512	39	43	40	36	49	41	42	45	36	40	36	35
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2305	60	2	125	510	541	524	488	565	562	550	540	478	496	472	450	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1875	60	2	133	427	459	466	424	473	514	513	489	445	413	399	375	12	14	13	11	15	16	16	15	15	13	12	8
	567, 568	RvWB14	1875	60	2	750	426	460	467	426	470	515	514	489	447	412	401	374	38	40	39	36	40	41	39	39	41	35	37	36
	568, 569	RvWB15	1875	60	2	281	425	461	466	426	469	515	514	489	448	411	401	374	11	12	9	11	12	9	12	12	11	12	11	10
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3275	60	4	1137	733	773	767	723	771	835	831	801	748	713	714	675	95	100	103	90	105	111	112	106	106	93	98	85
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3000	50	2	228	661	690	651	646	656	694	675	673	662	666	656	644	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3000	50	2	168	661	690	652	645	656	694	676	672	662	665	657	642	76	74	67	66	66	69	69	72	67	72	67	65
	701, 702	RvNBoff5	3000	50	2	198	660	690	652	644	657	694	675	672	662	664	658	643	118	123	107	111	114	121	120	119	113	118	111	107
	702, 703	RvNBoff6	3000	50	3	130	661	690	653	644	658	693	675	672	662	664	659	642	63	64	65	63	67	64	68	61	64	67	63	67
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	92	95	81	86	89	92	90	91	88	91	84	83	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	400	50	1	200	92	95	81	86	89	92	90	90	88	91	84	83	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	400	50	1	223	92	95	81	86	89	92	90	90	87	92	84	83	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	400	50	1	262	92	94	81	86	89	92	90	90	88	92	84	83	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	400	50	1	264	93	94	81	86	89	92	90	90	88	91	84	83	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1400	50	2	248	305	312	305	293	303	319	319	308	303	303	311	298	35	37	39	34	38	39	38	37	39	35	38	35
	715, 716	RvNBoff21	1400	50	2	642	306	311	305	294	304	318	317	311	300	303	312	299	37	39	39	35	37	37	39	38	38	38	37	35
	716, 569	RvNBoff22	1400	50	2	670	306	311	304	294	304	319	318	312	299	304	311	299	20	22	18	21	17	23	20	21	17	21	18	19
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	330	50	1	296	73	74	66	67	88	118	112	96	70	73	68	63	0	0	0	0	0	0	0	0	0	0	0	0
	757, 7016	RvNBon4	330	50	1	127	73	74	66	67	88	118	113	96	70	73	68	63	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	1680	50	2	261	355	358	343	337	393	427	405	335	327	380	373	349	38	42	39	42	46	44	44	34	34	44	44	35
	756, 317	RvNBon10	1680	50	2	444	354	358	343	337	393	426	406	334	329	379	374	348	23	22	22	22	25	25	22	20	21	22	24	23
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	2290	50	2	223	533	566	550	523	557	579	579	583	558	557	498	485	16	19	18	17	20	22	21	22	18	19	15	15
	770, 7032	RvSBoff2	2290	50	2	150	535	565	550	524	556	580	579	583	559	556	499	485	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2420	50	3	102	509	537	509	507	552	568	554	534	487	500	498	483	175	179	170	159	186	202	189	178	157	162	155	148
	793, 410	RvSBon5	2420	50	3	655	512	534	512	506	553	568	553	536	484	501	500	483	173	194	172	170	223	237	205	200	151	165	166	141
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1905	50	2	270	412	450	416	406	473	504	476	454	386	404	394	370	12	16	15	13	17	18	16	16	12	10	13	11
	790, 7011	RvSBon11	1905	50	2	250	413	449	416	407	473	504	476	454	386	404	393	371	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2600	50	2	311	568	596	572	558	569	601	585	582	575	574	575	560	48	48	49	48	48	51	48	52	48	51	51	48
	708, 710	118NBoff2	2600	50	2	567	568	596	572	558	569	600	584	583	576	572	575	561	67	66	66	60	62	71	66	64	65	66	64	69
	710, 711	118NBoff3	2600	50	2	460	569	595	573	558	570	600	584	582	577	570	577	562	84	92	80	80	84	92	93	83	87	83	87	76
	711, 712	118NBoff4	2600	50	3	472	570	595	573	557	571	600	584	582	577	571	576	560	35	36	35	40	39	35	42	38	33	34	31	35
	712, 713	118NBoff5	2600	50	3	395	569	595	574	558	571	598	586	582	577	570	575	560	251	256	251	240	244	264	254	254	247	250	255	244
	713, 714	118NBoff6	2600	50	4	188	571	594	574	558	571	597	587	581	577	571	574	560	81	86	79	76	84	84	88	80	75	78	84	77
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1200	50	2	212	266	282	270	263	269	278	269	273	275	269	263	261	5	6	5	6	4	5	5	5	5	6	4	5
	717, 718	118NBoff8	1200	50	2	389	266	282	271	263	269	278	269	272	275	270	262	262	8	10	8	9	8	7	8	7	9	7	6	7
	718, 719	118NBoff9	1200	50	2	373	265	282	271	263	270	277	269	272	274	270	263	262	6	7	6	7	6	7	7	7	5	7	8	7
	719, 720	118NBoff10	1200	50	2	589	266	282	271	263	270	277	271	272	274	268	264	263	9	11	10	9	12	8	10	10	11	10	11	9
	720, 721	118NBoff11	1200	50	2	311	265	282	272	263	270	276	271	271	275	268	263	264	5	5	6	6	6	6	6	5	4	6	5	5

2040 No Build PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	721, 722	118NBoff12	1200	50	2	381	266	281	272	262	270	277	270	272	275	268	263	264	7	7	5	7	7	7	6	6	6	8	6
	722, 723	118NBoff13	1200	50	2	562	266	280	273	263	269	276	270	273	275	268	262	266	12	12	13	10	10	11	11	11	12	9	11	12
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3290	60	3	1252	747	781	764	739	759	782	779	797	778	769	715	704	220	221	215	218	216	224	229	227	227	219	207	198
	724, 725	118NBoff15	3290	60	3	575	746	780	765	739	758	782	780	796	780	767	714	706	24	25	25	24	27	27	24	25	26	26	24	24
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	3140	60	2	611	695	736	700	665	780	823	730	587	645	746	752	654	159	162	161	160	166	167	139	116	127	136	139	144
	741, 742	118NBon3	3140	60	2	1107	698	734	701	664	780	807	718	583	654	747	766	662	116	138	119	115	143	192	204	197	210	239	233	132
	742, 749	118NBon4	1150	50	2	758	262	266	260	246	290	291	270	222	233	282	279	244	68	62	67	62	67	59	74	65	61	64	56	60
	749, 750	118NBon5	1150	50	2	1140	262	267	259	246	289	292	269	221	234	282	279	244	23	24	23	21	28	22	22	19	22	26	22	23
	750, 751	118NBon6	1150	50	1	304	262	267	259	246	289	292	269	222	233	282	278	245	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 118th	751, 752	118NBon7	1150	50	1	341	262	266	260	246	289	291	269	222	233	282	278	246	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon8	1150	50	1	406	262	266	261	247	287	291	270	222	234	281	279	245	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon9	1150	50	1	250	262	265	261	248	287	291	270	222	233	281	280	246	0	0	0	0	0	0	0	0	0	0	0	0
	754, 7009	118NBon10	1150	50	1	349	262	264	261	248	286	292	271	221	234	280	280	246	0	0	0	0	0	0	0	0	0	0	0	0
	7034, 775	118SBoff2	2090	50	1	147	477	504	490	476	490	508	512	519	503	499	450	438	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	775, 776	118SBoff3	2090	50	1	934	479	503	490	476	490	509	510	520	504	499	451	438	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	2090	50	1	371	479	502	491	477	489	508	510	519	504	499	451	437	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	2090	50	1	446	479	501	491	477	489	508	509	520	503	500	452	436	0	0	0	0	0	0	0	0	0	0	0	0
	778, 723	118SBoff6	2090	50	1	1329	481	500	491	477	489	507	509	521	503	500	453	437	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon1	1990	50	1	227	436	468	441	419	490	513	446	362	422	468	488	419	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon2	1990	50	1	418	437	468	441	419	490	508	441	362	425	470	491	421	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon3	1990	50	1	223	437	468	440	420	490	506	438	363	426	469	493	421	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from 118th	745, 746	118SBon4	1990	50	1	201	437	470	439	419	490	505	436	363	428	468	496	421	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon5	1990	50	1	200	437	470	439	420	489	503	434	364	430	469	498	422	0	0	0	0	0	0	0	0	0	0	0	0
	747, 748	118SBon6	1990	50	1	166	437	470	438	419	489	502	432	363	431	469	500	423	0	0	0	0	0	0	0	0	0	0	0	0
	748, 413	118SBon7	1990	50	1	973	438	469	439	421	478	499	421	364	433	478	505	430	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3520	60	3	2420	778	822	783	749	874	925	883	836	729	757	722	688	496	528	494	485	549	577	570	539	465	484	457	431
	801, 811	UlmNBon3	2230	50	2	647	503	530	508	478	566	610	572	542	470	490	463	443	25	24	27	24	31	33	33	31	27	27	24	21
	811, 812	UlmNBon4	2230	50	2	590	503	529	509	477	566	611	572	541	471	488	463	445	18	20	18	18	21	21	20	24	17	17	17	16
NB I-275 On Ramp from Ulmerton	812, 813	UlmNBon5	2230	50	2	323	504	528	510	477	565	612	572	541	472	487	463	445	11	12	12	12	13	13	16	12	12	13	9	11
	813, 814	UlmNBon6	2230	50	2	328	504	528	510	477	564	612	572	542	472	486	464	445	10	12	12	11	13	14	12	11	10	12	13	11
	814, 815	UlmNBon7	2230	50	2	288	503	528	511	477	563	612	572	542	473	486	464	445	11	10	10	10	12	11	11	9	10	10	7	10
	815, 816	UlmNBon8	2230	50	2	273	504	527	512	477	563	612	573	542	474	485	464	445	10	9	10	9	12	12	11	11	10	10	9	10
	816, 321	UlmNBon9	2230	50	2	1098	504	528	513	477	561	609	572	544	475	486	462	447	41	44	40	37	43	50	44	43	34	40	39	35
	403, 830	UlmSBoff1	2180	50	2	573	483	514	480	473	510	521	517	512	523	501	455	433	51	56	52	53	59	57	56	56	61	56	49	43
SB I-275 Off Ramp to Ulmerton/MLK	830, 831	UlmSBoff2	2180	50	2	346	483	514	481	472	511	520	517	512	523	501	456	432	13	12	13	14	13	13	14	13	13	15	12	13
	831, 7036	UlmSBoff3	2180	50	2	283	483	514	483	471	511	521	517	512	523	501	456	432	0	0	0	0	0	0	0	0	0	0	0	0
	7014, 834	UlmSBoff7	1820	50	2	398	404	431	398	395	428	432	429	429	437	422	385	359	13	12	13	13	13	14	12	15	14	14	13	11
WB Ulmerton West of I-275	834, 835	UlmSBoff8	1820	60	2	584	404	432	398	395	426	433	430	427	438	423	385	359	40	39	38	40	42	45	43	44	42	43	40	35
	835, 836	UlmSBoff9	1820	60	2	481	404	432	398	395	426	432	431	427	438	423	385	360	5	7	6	6	8	5	6	5	5	7	6	5
	836, 837	UlmSBoff10	1820	60	2	2160	405	429	399	395	424	434	429	424	441	425	387	358	44	47	40	39	42	46	45	47	50	41	38	34
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1290	35	1	493	274	293	274	271	307	316	307	297	260	267	259	247	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	1290	35	1	214	275	292	275	270	307	316	307	298	259	268	259	247	0	0	0	0	0	0	0	0	0	0	0	0
	803, 808	UlmSBon3	970	35	1	163	215	226	213	212	237	246	234	230	202	210	203	192	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	808, 809	UlmSBon4	970	35	1	163	215	226	213	212	237	246	234	229	202	211	203	193	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	970	35	1	228	215	226	213	212	238	246	234	229	202	211	203	193	0	0	0	0	0	0	0	0	0	0	0	0
	810, 404	UlmSBon6	970	50	1	1030	214	227	213	212	237	247	233	230	202	210	203	193	0	0	0	0	0	0	0	0	0	0	0	0
	803, 804	UlmSBMLK1	320	35	1	201	60	66	63	58	70	70	72	68	57	57	56	55	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	804, 805	UlmSBMLK2	320	50	1	361	60	66	63	57	70	71	72	69	57	57	56	55	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	320	50	1	499	60	66	63	57	70	70	72	68	58	57	56	55	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	680	50	2	1171	143	146	149	133	151	158	162	152	143	140	126	129	16	15	17	12	16	17	19	17	17	14	13	13
	850, 851	MLKNBon2	490	50	1	1080	108	115	108	105	122	129	123	115	102	105	102	95	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from NB MLK	851, 852	MLKNBon3	490	50	1	350	108	115	108	106	121	129	123	115	103	105	102	96	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	490	50	1	370	109	115	108	106	121	129	122	115	103	104	102	96	0	0	0	0	0	0	0	0	0	0	0	0
	853, 320	MLKNBon5	490	50	1	885	109	114	108	106	121	129	123	116	103	105	101	96	0	0	0	0	0	0	0	0	0	0	0	0
	7015, 839	MLKSBoff3	360	50	1	294	82	81	85	76	82	88	88	84	86	81	71	73	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	839, 840	MLKSBoff4	360	50	1	336	82	82	85	76	82	88	88	84	86	81	71	74	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	360	50	1	395	82	82	85	76	83	88	88	84	86	81	71	74	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	360	50	1	539	82	81	85	75	82	88	88	84	86	81	70	74	0	0	0	0	0	0	0	0	0	0	0	0
	900, 901	4thNBon2	880	60	2	1270	195	206	195	187	220	231	222	207	180	191	181	173	6	6	6	5	7	7	7	8	5	5	4	4
	901, 902	4thNBon3	880	60	2	634	195	206	195	187	220	231	221	207	181	190	182	172	81	85	88	79	94	97	91	87	79	86	81	78
	902, 903	4thNBon4	880	60	2	322	194	206	195	188	219	232	221	207	181	191	181	173	9	12	8	9	12	12	11	11	8	10	8	7
NB I-275 On Ramp from 4th	903, 904	4thNBon5	880	60	2	279	194	206	195	188	219	232	221	207	181	191	181	173	5	4	4	4	5	5	7	6	3	4	3	3
	904, 905	4thNBon6	880	60	2	388	194	206	196	187	219	231	221	208	181	191	181	173	0	1	0	0	1	0	1	0	0	0	1	0
	905, 906	4thNBon7	880	60	1	313	194	207	196	188	218	231	222	207	182	191	181	173	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	880	60	1	300	194	207	195	188	219	231	222	207	182	191	181	173	0	0	0	0	0	0	0	0	0	0	0	0
	907, 323	4thNBon9	880	60	1	684	196	206	195	188	218	231	221	208	180	192	180	173	0	0	0	0	0	0	0	0	0	0	0	0
	401, 920	4thSBoff1	1440	60	1	467	315	327	327	302	349	337	345	348	342	328	294	286	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	1440	60	1	492	315	328	327	302	349	337	345	348	341	329	294	287	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	1440	60	1	420	315	328	328	302	349	337	345	349	341	329	294	286	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	1440	60	1	393	314	327	328	302	349	337	344	349	340	329	294	287	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	923, 924	4thSBoff5	1440	60	1	384	314	327	328	302	349	337	344	350	340	329	293	287	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	1440	60	1	354	315	326	328	301	349	337	344	351	340	330	294	286	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	1440	60	1	501	315	326	328	301	349	338	344	351	339	331	294	285	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	1440	60	1	416	315	326	328	301	348	338	343	350	340	331	294	285	5	4	4	3	6	5	5	4	5	4	3	3
	927, 928	4thSBoff9	1440	60	2	1153	315	324	330	302	348	339	343	349	342	330	295	286	90	95	96	88	102	99	100	105	97	98	82	81
	928, 929	4thSBoff10	1440	60	2	1242	314	324	330	301	349	337	343	348	344	330	293	288	30	31	30	30	33	34	35	34	37	32	29	27

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7,470	70	3	1,087	79.2	87.2	82.1	29.3	24.8	27.1	6,648	7,470	6,125	6,433	6,366	6,451
	300, 301	I275NB3	7,470	70	3	805										6,418	6,366	6,459
	301, 302	I275NB4	7,470	70	3	478										6,409	6,367	6,459
	302, 303	I275NB5	7,470	70	3	2,687										6,394	6,368	6,455
	303, 304	I275NB6	7,470	70	4	382										6,393	6,368	6,453
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4,910	70	3	1,375	21.8	21.7	22.0	64.4	64.3	64.5	4,370	4,910	4,026	4,201	4,178	4,258
	305, 306	I275NB8	4,910	70	3	1,306										4,204	4,175	4,260
	306, 307	I275NB9	4,910	70	3	591										4,203	4,176	4,259
NB I-275 from Gandy On Ramp to Roosevelt/118th Off Ramp	307, 308	I275NB10	6,110	70	5	1,065	19.4	19.7	19.3	64.9	64.9	65.1	5,438	6,110	5,010	5,250	5,330	5,234
	308, 309	I275NB11	6,110	70	5	3,035										5,247	5,335	5,235
	309, 310	I275NB12	6,110	70	4	1,095										5,250	5,333	5,238
	310, 311	I275NB13	6,110	70	4	380										5,247	5,333	5,240
	311, 312	I275NB14	6,110	70	4	399										5,245	5,335	5,240
	312, 313	I275NB15	6,110	70	4	368										5,244	5,335	5,240
	313, 314	I275NB16	6,110	70	4	460										5,242	5,335	5,242
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	3,110	70	3	886	12.9	13.1	12.9	67.2	67.3	67.4	2,768	3,110	2,550	2,593	2,638	2,613
	315, 316	I275NB18	3,110	70	3	1,317										2,593	2,635	2,617
	316, 317	I275NB19	3,110	70	3	1,361										2,597	2,632	2,620
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4,790	70	5	1,032	14.2	14.9	14.3	66.5	66.3	66.6	4,263	4,790	3,928	3,991	4,189	4,051
	318, 319	I275NB21	4,790	70	5	1,191										3,991	4,189	4,049
	319, 320	I275NB22	4,790	70	4	3,175										3,993	4,191	4,048
NB I-275 from MLK On Ramp to Ulmerton On Ramp	320, 321	I275NB23	5,280	70	4	1,678	15.2	16.2	15.3	66.1	65.9	66.2	4,699	5,280	4,330	4,430	4,677	4,450
NB I-275 from Ulmerton On Ramp to 4th On Ramp	321, 322	I275NB24	7,510	70	5	1,064	19.4	22.7	18.7	63.1	58.8	64.0	6,684	7,510	6,158	6,455	6,959	6,324
	322, 323	I275NB25	7,510	70	5	1,398										6,451	6,960	6,324
NB I-275 from 4th On Ramp to South of the Howard Frankland Bridge	323, 324	I275NB26	8,390	70	5	817	33.5	39.8	30.8	50.1	46.5	52.8	7,467	8,390	6,880	7,244	7,830	7,062
	324, 325	I275NB27	8,390	70	5	683										7,257	7,820	7,068
	325, 326	I275NB28	8,390	70	4	1,898										7,260	7,815	7,077
SB I-275 from South of the Howard Frankland Bridge to 4th Off Ramp	400, 401	I275SB2	9,290	70	4	2,040	36.3	44.8	36.5	57.8	50.0	57.0	8,268	9,290	7,618	8,268	8,851	8,079
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	401, 402	I275SB3	7,850	70	4	2,745	25.0	27.0	24.4	63.4	62.6	63.4	6,987	7,850	6,437	6,999	7,464	6,844
	402, 403	I275SB4	7,850	70	5	825										7,002	7,461	6,849
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	403, 404	I275SB5	5,670	70	4	4,213	19.0	20.4	18.6	66.5	66.2	66.6	5,046	5,670	4,649	5,060	5,393	4,947
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	404, 405	I275SB6	6,640	70	4	972	22.5	24.4	21.8	62.2	61.4	62.6	5,910	6,640	5,445	5,923	6,338	5,762
	405, 406	I275SB7	6,640	70	4	1,472										5,926	6,332	5,771
	406, 407	I275SB8	6,640	70	4	662										5,927	6,327	5,777
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	407, 408	I275SB9	4,350	70	3	1,201	18.9	20.3	18.5	66.4	66.0	66.4	3,872	4,350	3,567	3,758	4,025	3,679
	408, 409	I275SB10	4,350	70	3	1,585										3,758	4,025	3,681
	409, 410	I275SB11	4,350	70	3	458										3,757	4,025	3,682
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB12	6,770	70	5	631	21.0	28.3	22.1	61.6	52.8	58.3	6,025	6,770	5,551	5,823	6,231	5,654
	411, 412	I275SB13	6,770	70	5	244										5,821	6,231	5,655
	412, 413	I275SB14	6,770	70	4	608										5,823	6,221	5,667
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB15	8,760	70	4	492	34.5	68.9	70.8	54.9	33.3	29.9	7,796	8,760	7,183	7,593	7,964	7,533
	414, 415	I275SB16	8,760	70	4	3,870										7,596	7,750	7,753
	415, 416	I275SB17	8,760	70	4	1,086										7,596	7,716	7,786
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB18	7,110	70	3	1,385	38.1	89.2	103.3	55.4	28.8	20.4	6,328	7,110	5,830	6,028	5,997	6,169
	417, 418	I275SB19	7,110	70	3	343										6,028	5,980	6,185
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB20	8,360	70	3	1,507	51.1	79.6	84.1	41.1	26.4	22.7	7,440	8,360	6,855	6,851	6,841	6,999
	419, 420	I275SB21	9,480	70	3	3,297										7,810	7,847	7,903
	420, 421	I275SB22	9,480	70	3	430										7,810	7,847	7,903

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Gandy On Ramp to South of Gandy	421, 422	I275SB23	9,480	70	3	403	51.6	54.8	56.1	48.5	46.1	45.1	8,437	9,480	7,774	7,810	7,846	7,904
	422, 423	I275SB24	9,480	70	3	426										7,810	7,845	7,901
	423, 424	I275SB25	9,480	70	3	412										7,809	7,844	7,900
	424, 425	I275SB26	9,480	70	3	734										7,809	7,842	7,901
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,460	50	3	841	18.1	21.2	16.5	47.2	45.4	47.8	3,079	3,460	2,837	3,081	3,463	2,840
	500, 501	GandyEB3	3,460	50	4	954										3,081	3,460	2,843
	501, 502	GandyEB4	3,460	50	5	174										3,081	3,459	2,845
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,140	50	3	178	7.5	9.0	7.0	47.9	46.6	48.3	1,015	1,140	935	1,079	1,258	1,009
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,140	50	3	99	8.9	10.4	8.3	44.1	44.0	44.3	1,015	1,140	935	1,078	1,262	1,007
	505, 506	GandyEB10	1,140	50	3	119										1,079	1,262	1,008
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,715	50	3	1,167	16.7	18.0	16.3	45.7	45.5	45.9	2,416	2,715	2,226	2,425	2,593	2,370
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	4,215	55	3	181	18.5	21.2	16.8	44.9	43.8	45.5	3,751	4,215	3,456	2,888	3,232	2,654
	520, 521	GandyWB5	4,215	55	3	291										2,889	3,232	2,657
	521, 522	GandyWB6	4,215	55	4	590										2,884	3,229	2,663
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,965	55	3	1,768	13.0	14.7	12.1	52.4	52.2	52.6	2,639	2,965	2,431	2,045	2,299	1,914
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,615	55	5	1,179	16.9	18.3	16.8	52.8	52.6	52.8	4,107	4,615	3,784	4,462	4,805	4,431
	524, 525	GandyWB9	4,615	55	5	455										4,464	4,804	4,430
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,560	50	1	525	103.5	104.2	103.1	21.2	21.0	21.3	2,278	2,560	2,099	2,191	2,191	2,195
	600, 7001	GdyNBoff2	2,560	50	1	300										2,191	2,191	2,195
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,575	50	1	263	29.8	29.6	30.2	45.8	45.8	45.8	1,402	1,575	1,292	1,340	1,334	1,357
	3, 4	GdyNBoff6	1,575	50	1	359										1,340	1,334	1,357
	4, 5	GdyNBoff7	1,575	50	1	464										1,341	1,334	1,357
	5, 506	GdyNBoff8	1,575	50	1	241										1,342	1,334	1,357
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	985	50	1	267	18.1	18.2	17.8	47.5	47.6	47.5	877	985	808	850	857	838
	2, 8	GdyNBoff11	985	50	1	341										850	857	838
	8, 9	GdyNBoff12	985	50	1	483										850	857	838
	9, 10	GdyNBoff13	985	50	1	492										849	857	838
	10, 11	GdyNBoff14	985	50	1	389										849	858	838
	11, 7022	GdyNBoff15	985	50	1	196										849	857	838
I-275 On Ramp at EB Gandy	502, 7002	GdyNBon1	2,320	50	2	179	31.5	45.2	25.8	32.6	25.1	36.0	2,065	2,320	1,902	2,002	2,201	1,838
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,200	50	2	501	10.8	12.0	10.0	48.6	48.6	48.7	1,068	1,200	984	1,043	1,159	968
	623, 624	GdyNBon6	1,200	50	2	299										1,043	1,159	968
	624, 625	GdyNBon7	1,200	50	2	253										1,044	1,158	969
	625, 626	GdyNBon8	1,200	50	2	238										1,043	1,158	969
	626, 627	GdyNBon9	1,200	50	2	242										1,043	1,158	969
	627, 628	GdyNBon10	1,200	50	2	277										1,044	1,158	969
	628, 629	GdyNBon11	1,200	50	2	337										1,043	1,159	969
	629, 630	GdyNBon12	1,200	50	2	877										1,044	1,158	970
	630, 307	GdyNBon13	1,200	50	2	344										1,045	1,157	971
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,650	50	2	481	16.1	17.8	18.3	48.7	46.6	46.3	1,469	1,650	1,353	1,570	1,653	1,684
	660, 661	GdySBoff2	1,650	50	2	394										1,571	1,652	1,684
	661, 7020	GdySBoff3	1,650	50	2	336										1,570	1,653	1,683
I-275 Off Ramp at Gandy	7024, 662	GdySBoff6	2,635	50	2	714	26.0	27.1	27.2	47.3	47.1	47.1	2,345	2,635	2,161	2,421	2,510	2,519
	662, 523	GdySBoff7	2,635	50	2	424										2,421	2,510	2,518
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,120	50	1	286	21.2	23.3	19.4	46.3	45.9	46.2	997	1,120	918	958	1,042	875
	621, 622	GdySBon3	1,120	50	1	204										958	1,042	875
	622, 419	GdySBon4	1,120	50	1	319										959	1,042	875
	522, 640	GdySBonLoop1	1,250	35	1	302										827	923	766
	640, 641	GdySBonLoop2	1,250	35	1	259										825	922	767

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Loop On Ramp Loop from WB Gandy	641, 642	GdySBonLoop3	1,250	35	1	227	25.9	33.9	25.3	32.0	29.3	30.9	1,113	1,250	1,025	824	922	768
	642, 643	GdySBonLoop4	1,250	35	1	211										823	922	769
	643, 644	GdySBonLoop5	1,250	35	1	211										823	922	768
	644, 645	GdySBonLoop6	1,250	35	1	207										822	923	768
	645, 418	GdySBonLoop7	1,250	35	1	252										821	921	770
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4,145	60	4	1,418	19.1	21.5	17.3	56.3	56.0	56.9	3,689	4,145	3,399	3,690	4,151	3,398
	541, 542	RvEB3	4,145	60	3	1,028										3,691	4,148	3,401
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,240	60	2	513	18.2	21.2	16.0	56.1	54.7	57.8	1,994	2,240	1,837	2,008	2,238	1,850
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2,155	60	2	120	21.2	25.1	19.1	51.8	49.2	53.2	1,918	2,155	1,767	2,048	2,302	1,897
	546, 547	RvEB10	2,155	60	2	165										2,047	2,302	1,898
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3,315	60	2	1,053	18.2	20.7	16.9	55.4	54.1	56.0	2,950	3,315	2,718	2,401	2,661	2,247
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,635	60	2	756	19.3	33.3	18.1	57.6	46.6	57.2	2,345	2,635	2,161	2,344	2,635	2,164
	558, 559	RvWB3	2,635	60	2	146										2,344	2,634	2,166
	559, 560	RvWB4	2,635	60	3	151										2,343	2,633	2,168
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,305	60	2	125	20.2	90.8	18.5	52.2	19.1	54.6	2,051	2,305	1,890	2,063	2,216	1,896
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,875	60	2	133	16.0	18.0	14.6	56.7	56.3	56.9	1,669	1,875	1,538	1,776	1,989	1,632
	567, 568	RvWB14	1,875	60	2	750										1,778	1,987	1,634
	568, 569	RvWB15	1,875	60	2	281										1,779	1,987	1,634
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,275	60	4	1,137	13.0	14.1	12.4	57.5	57.4	57.5	2,915	3,275	2,686	2,996	3,238	2,849
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,000	50	2	228	27.2	27.6	26.8	48.7	48.9	49.0	2,670	3,000	2,460	2,648	2,699	2,627
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,000	50	2	168	23.6	24.0	23.3	46.8	46.9	46.9	2,670	3,000	2,460	2,648	2,698	2,626
	701, 702	RvNBoff5	3,000	50	2	198										2,647	2,698	2,627
	702, 703	RvNBoff6	3,000	50	3	130										2,647	2,698	2,627
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	7.2	7.4	7.0	49.1	49.0	49.0	356	400	328	354	361	345
	704, 705	RvNBoff8	400	50	1	200										354	361	345
	705, 706	RvNBoff9	400	50	1	223										354	360	346
	706, 707	RvNBoff10	400	50	1	262										354	361	346
	707, 547	RvNBoff11	400	50	1	264										354	361	346
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,400	50	2	248	12.6	12.9	12.5	48.4	48.4	48.4	1,246	1,400	1,148	1,215	1,248	1,216
	715, 716	RvNBoff21	1,400	50	2	642										1,216	1,250	1,215
	716, 569	RvNBoff22	1,400	50	2	670										1,214	1,251	1,213
NB I-275 On Ramp from WB Roosevelt	560, 757	RvNBon3	330	50	1	296	5.4	9.3	5.3	51.8	45.9	51.8	294	330	271	280	414	274
	757, 7016	RvNBon4	330	50	1	127										280	415	274
NB I-275 On Ramp from Roosevelt/118th	7030, 756	RvNBon9	1,680	50	2	261	15.1	17.0	15.5	47.4	47.2	47.4	1,495	1,680	1,378	1,392	1,560	1,428
	756, 317	RvNBon10	1,680	50	2	444										1,391	1,558	1,430
SB I-275 Off Ramp to Roosevelt/118th	407, 770	RvSBoff1	2,290	50	2	223	23.2	26.3	22.2	46.8	44.5	47.4	2,038	2,290	1,878	2,172	2,299	2,097
	770, 7032	RvSBoff2	2,290	50	2	150										2,173	2,298	2,099
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,420	50	3	102	23.8	26.5	22.2	40.8	39.2	41.7	2,154	2,420	1,984	2,063	2,208	1,968
	793, 410	RvSBon5	2,420	50	3	655										2,063	2,210	1,968
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,905	50	2	270	17.4	19.8	16.0	48.5	48.2	48.7	1,695	1,905	1,562	1,684	1,908	1,553
	790, 7011	RvSBon11	1,905	50	2	250										1,685	1,907	1,555
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,600	50	2	311	18.8	19.2	18.7	48.0	47.9	47.9	2,314	2,600	2,132	2,294	2,337	2,283
	708, 710	118NBoff2	2,600	50	2	567										2,294	2,337	2,283
	710, 711	118NBoff3	2,600	50	2	460										2,295	2,335	2,285
	711, 712	118NBoff4	2,600	50	3	472										2,295	2,336	2,284
	712, 713	118NBoff5	2,600	50	3	395										2,296	2,337	2,282
	713, 714	118NBoff6	2,600	50	4	188										2,296	2,337	2,283
	714, 717	118NBoff7	1,200	50	2	212										1,081	1,089	1,067
	717, 718	118NBoff8	1,200	50	2	389										1,081	1,088	1,068

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to 118th	718, 719	118NBoff9	1,200	50	2	373	11.0	11.1	10.9	49.0	48.9	48.9	1,068	1,200	984	1,081	1,088	1,068
	719, 720	118NBoff10	1,200	50	2	589										1,081	1,089	1,069
	720, 721	118NBoff11	1,200	50	2	311										1,081	1,088	1,070
	721, 722	118NBoff12	1,200	50	2	381										1,081	1,088	1,070
	722, 723	118NBoff13	1,200	50	2	562										1,082	1,088	1,070
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,290	60	3	1,252	18.0	18.5	17.6	56.3	56.2	56.3	2,928	3,290	2,698	3,030	3,117	2,965
	724, 725	118NBoff15	3,290	60	3	575										3,030	3,115	2,967
EB 118th from West of I-275 to SB I-275 On Ramp	740, 741	118NBon2	3,140	60	2	611	26.3	61.6	77.5	53.9	35.3	28.1	2,795	3,140	2,575	2,796	2,920	2,796
	741, 742	118NBon3	3,140	60	2	1,107										2,797	2,888	2,828
NB I-275 On Ramp from 118th	742, 749	118NBon4	1,150	50	2	758	16.0	16.8	16.3	48.1	47.4	47.4	1,024	1,150	943	1,033	1,072	1,037
	749, 750	118NBon5	1,150	50	2	1,140										1,033	1,070	1,039
	750, 751	118NBon6	1,150	50	1	304										1,034	1,071	1,039
	751, 752	118NBon7	1,150	50	1	341										1,034	1,071	1,039
	752, 753	118NBon8	1,150	50	1	406										1,035	1,070	1,039
	753, 754	118NBon9	1,150	50	1	250										1,035	1,070	1,039
	754, 7009	118NBon10	1,150	50	1	349										1,035	1,070	1,040
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2,090	50	1	147	44.1	46.3	42.8	44.7	44.3	44.8	1,860	2,090	1,714	1,947	2,029	1,889
	775, 776	118SBoff3	2,090	50	1	934										1,947	2,028	1,890
	776, 777	118SBoff4	2,090	50	1	371										1,948	2,027	1,891
	777, 778	118SBoff5	2,090	50	1	446										1,948	2,027	1,891
	778, 723	118SBoff6	2,090	50	1	1,329										1,949	2,026	1,894
SB I-275 On Ramp from 118th	742, 743	118SBon1	1,990	50	1	227	39.4	106.6	98.2	45.0	22.4	24.3	1,771	1,990	1,632	1,764	1,811	1,797
	743, 744	118SBon2	1,990	50	1	418										1,765	1,802	1,805
	744, 745	118SBon3	1,990	50	1	223										1,765	1,797	1,809
	745, 746	118SBon4	1,990	50	1	201										1,765	1,794	1,813
	746, 747	118SBon5	1,990	50	1	200										1,765	1,789	1,818
	747, 748	118SBon6	1,990	50	1	166										1,765	1,786	1,822
	748, 413	118SBon7	1,990	50	1	973										1,767	1,761	1,845
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,520	60	3	2,420	18.4	20.7	16.9	57.3	57.0	57.4	3,133	3,520	2,886	3,132	3,518	2,895
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2,230	50	2	647	21.0	23.9	19.3	48.1	47.8	48.3	1,985	2,230	1,829	2,019	2,290	1,865
	811, 812	UlmNBon4	2,230	50	2	590										2,018	2,291	1,867
	812, 813	UlmNBon5	2,230	50	2	323										2,020	2,290	1,867
	813, 814	UlmNBon6	2,230	50	2	328										2,019	2,290	1,867
	814, 815	UlmNBon7	2,230	50	2	288										2,019	2,290	1,868
	815, 816	UlmNBon8	2,230	50	2	273										2,019	2,289	1,868
	816, 321	UlmNBon9	2,230	50	2	1,098										2,022	2,287	1,870
SB I-275 Off Ramp to Ulmerton/MLK	403, 830	UlmSBoff1	2,180	50	2	573	20.2	21.3	19.7	48.4	48.3	48.5	1,940	2,180	1,788	1,950	2,060	1,912
	830, 831	UlmSBoff2	2,180	50	2	346										1,949	2,060	1,912
	831, 7036	UlmSBoff3	2,180	50	2	283										1,949	2,060	1,912
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,820	50	2	398	14.6	15.4	14.4	56.4	56.4	56.5	1,620	1,820	1,492	1,628	1,718	1,603
	834, 835	UlmSBoff8	1,820	60	2	584										1,629	1,716	1,605
	835, 836	UlmSBoff9	1,820	60	2	481										1,629	1,716	1,607
	836, 837	UlmSBoff10	1,820	60	2	2,160										1,628	1,711	1,611
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,290	35	1	493	25.8	28.7	23.7	44.2	43.8	44.6	1,148	1,290	1,058	1,112	1,227	1,032
	802, 803	UlmSBon2	1,290	35	1	214										1,113	1,227	1,032
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	21.7	23.7	20.2	40.8	40.8	40.9	863	970	795	866	947	807
	808, 809	UlmSBon4	970	35	1	163										866	946	808
	809, 810	UlmSBon5	970	35	1	228										865	947	808
	810, 404	UlmSBon6	970	50	1	1,030										866	947	808
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	5.7	6.6	5.2	43.8	43.6	43.7	285	320	262	247	281	225
	804, 805	UlmSBMLK2	320	50	1	361										247	281	225

2040 No Build PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
	805, 806	UlmSBMLK3	320	50	1	499										247	281	225
SB MLK	806, 807	UlmSBMLK4	680	50	2	1,171	5.8	6.4	5.5	49.2	49.0	49.1	605	680	558	571	624	538
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1,080	8.9	10.0	8.3	49.3	49.2	49.3	436	490	402	436	489	404
	851, 852	MLKNBon3	490	50	1	350										437	488	405
	852, 853	MLKNBon4	490	50	1	370										437	487	405
	853, 320	MLKNBon5	490	50	1	885										436	488	404
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	6.7	7.1	6.5	48.8	48.6	48.7	320	360	295	324	343	311
	839, 840	MLKSBoff4	360	50	1	336										324	342	312
	840, 841	MLKSBoff5	360	50	1	395										324	343	312
	841, 806	MLKSBoff6	360	50	1	539										324	343	312
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1,270	5.7	6.5	5.3	58.5	58.2	58.5	783	880	722	783	880	724
	901, 902	4thNBon3	880	60	2	634										783	879	725
	902, 903	4thNBon4	880	60	2	322										783	879	725
	903, 904	4thNBon5	880	60	2	279										783	879	725
	904, 905	4thNBon6	880	60	2	388										784	879	725
	905, 906	4thNBon7	880	60	1	313										784	878	726
	906, 907	4thNBon8	880	60	1	300										784	878	726
	907, 323	4thNBon9	880	60	1	684										784	879	726
SB I-275 Off Ramp to 4th	401, 920	4thSBoff1	1,440	60	1	467	15.8	17.3	15.5	56.7	56.3	56.8	1,282	1,440	1,181	1,271	1,379	1,249
	920, 921	4thSBoff2	1,440	60	1	492										1,271	1,380	1,250
	921, 922	4thSBoff3	1,440	60	1	420										1,272	1,380	1,250
	922, 923	4thSBoff4	1,440	60	1	393										1,271	1,380	1,250
	923, 924	4thSBoff5	1,440	60	1	384										1,271	1,380	1,250
	924, 925	4thSBoff6	1,440	60	1	354										1,271	1,381	1,249
	925, 926	4thSBoff7	1,440	60	1	501										1,269	1,381	1,248
	926, 927	4thSBoff8	1,440	60	1	416										1,270	1,380	1,249
	927, 928	4thSBoff9	1,440	60	2	1,153										1,271	1,377	1,252
	928, 929	4thSBoff10	1,440	60	2	1,242										1,269	1,376	1,254

Master Plan

Design Year (2040) HCS 2010 Output
I-275 Mainline

BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4380*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2376*	pc/h/ln
S	*54.0*	mph
D = v_p / S	*44.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2050*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7070*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2557*	pc/h/ln
S	*48.6*	mph
D = v_p / S	*52.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*8/10/2015 1:50:40 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2329*	pc/h/ln
S	*55.2*	mph
D = v_p / S	*42.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2012*	pc/h/ln
S	*62.4*	mph
D = v_p / S	*32.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1762*	pc/h/ln
S	*66.3*	mph
D = v_p / S	*26.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7630*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2759*	pc/h/ln
S	*41.8*	mph
D = v_p / S	*66.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3023*	pc/h/ln
S	*31.4*	mph
D = v_p / S	*96.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6750*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3661*	pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2210*	pc/h/ln
S	*58.2*	mph
D = v_p / S	*38.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2567*	pc/h/ln
S	*48.3*	mph
D = v_p / S	*53.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2210*	pc/h/ln
S	*58.2*	mph
D = v_p / S	*38.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9970*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2704*	pc/h/ln
S	*43.8*	mph
D = v_p / S	*61.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3302*	pc/h/ln
S	*18.7*	mph
D = v_p / S	*176.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10740*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2913*	pc/h/ln
S	*36.0*	mph
D = v_p / S	*81.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9830*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3555*	pc/h/ln
S	*5.7*	mph
D = v_p / S	*627.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*11230*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3046*	pc/h/ln
S	*30.5*	mph
D = v_p / S	*100.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2848*	pc/h/ln
S	*38.5*	mph
D = v_p / S	*74.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3493*	pc/h/ln
S	*9.0*	mph
D = v_p / S	*387.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3898*	pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6280*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2271*	pc/h/ln
S	*56.7*	mph
D = v_p / S	*40.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7260*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1969*	pc/h/ln
S	*63.1*	mph
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2311*	pc/h/ln
S	*55.7*	mph
D = v_p / S	*41.5*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7680*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2777*	pc/h/ln
S	*41.2*	mph
D = v_p / S	*67.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3309*	pc/h/ln
S	*18.4*	mph
D = v_p / S	*179.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2929*	pc/h/ln
S	*35.3*	mph
D = v_p / S	*82.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
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Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9190*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2492*	pc/h/ln
S	*50.6*	mph
D = v_p / S	*49.2*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2716*	pc/h/ln
S	*43.3*	mph
D = v_p / S	*62.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5620*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2032*	pc/h/ln
S	*62.0*	mph
D = v_p / S	*32.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6180*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1676*	pc/h/ln
S	*67.4*	mph
D = v_p / S	*24.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1501*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4710*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1703*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4160*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1504*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*31stStS On to 22ndAveS Off*
Date Performed	*8/10/2015 1:50:40 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4860*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1318*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*18.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1302*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1112*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 1:50:40 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275 SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2430*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1318*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*18.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2460*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1334*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1215*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1490*	pc/h/ln
S	*69.0*	mph
D = v_p / S	*21.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*26thAveS Off to 22ndAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1237*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4340*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1177*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.8*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5010*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1087*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1493*	pc/h/ln
S	*69.0*	mph
D = v_p / S	*21.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1721*	pc/h/ln
S	*66.9*	mph
D = v_p / S	*25.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2050*	pc/h/ln
S	*61.6*	mph
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5770*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1565*	pc/h/ln
S	*68.5*	mph
D = v_p / S	*22.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1895*	pc/h/ln
S	*64.4*	mph
D = v_p / S	*29.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6920*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1877*	pc/h/ln
S	*64.7*	mph
D = v_p / S	*29.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2381*	pc/h/ln
S	*53.8*	mph
D = v_p / S	*44.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7660*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2770*	pc/h/ln
S	*41.4*	mph
D = v_p / S	*66.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2381*	pc/h/ln
S	*53.8*	mph
D = v_p / S	*44.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7590*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2745*	pc/h/ln
S	*42.3*	mph
D = v_p / S	*64.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2308*	pc/h/ln
S	*55.8*	mph
D = v_p / S	*41.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7630*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2069*	pc/h/ln
S	*61.2*	mph
D = v_p / S	*33.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*54thAveN Off WB to 22ndStN On*
Date Performed	*8/10/2015 2:33:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6730*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2434*	pc/h/ln
S	*52.3*	mph
D = v_p / S	*46.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7470*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2701*	pc/h/ln
S	*43.9*	mph
D = v_p / S	*61.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3034*	pc/h/ln
S	*31.0*	mph
D = v_p / S	*97.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2449*	pc/h/ln
S	*51.9*	mph
D = v_p / S	*47.2*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9810*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2661*	pc/h/ln
S	*45.2*	mph
D = v_p / S	*58.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8380*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3030*	pc/h/ln
S	*31.2*	mph
D = v_p / S	*97.3*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9530*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3446*	pc/h/ln
S	*11.5*	mph
D = v_p / S	*300.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8090*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2925*	pc/h/ln
S	*35.5*	mph
D = v_p / S	*82.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9150*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2482*	pc/h/ln
S	*50.9*	mph
D = v_p / S	*48.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7180*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2596*	pc/h/ln
S	*47.4*	mph
D = v_p / S	*54.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5910*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2137*	pc/h/ln
S	*59.8*	mph
D = v_p / S	*35.7*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1809*	pc/h/ln
S	*65.7*	mph
D = v_p / S	*27.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1895*	pc/h/ln
S	*64.4*	mph
D = v_p / S	*29.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6790*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2455*	pc/h/ln
S	*51.7*	mph
D = v_p / S	*47.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6300*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2278*	pc/h/ln
S	*56.5*	mph
D = v_p / S	*40.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*31stStS On to 22ndAveS Off*
Date Performed	*8/10/2015 2:33:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1926*	pc/h/ln
S	*63.9*	mph
D = v_p / S	*30.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*22ndAveS Off to 26thAveS On*
Date Performed	*8/10/2015 2:33:56 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5730*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2072*	pc/h/ln
S	*61.2*	mph
D = v_p / S	*33.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6430*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1744*	pc/h/ln
S	*66.6*	mph
D = v_p / S	*26.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 2:33:56 PM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275 SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2040 LC Master*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3570*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1936*	pc/h/ln
S	*63.7*	mph
D = v_p / S	*30.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Design Year (2040) HCS 2010 Output
I-275 Ramps

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4380	
	Ramp Volume, V_R: 1290	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4380	0.95	Level	2	0	0.990	0.98	4752
Ramp	1290	0.95	Level	2	0	0.990	0.98	1399
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4752 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6151	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6721	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 34.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 3.257 (Exibit 13-11)

S_R = -21.2 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -21.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5670	
	Ramp Volume, V_R: 1400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5670	0.95	Level	2	0	0.990	0.98	6151
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 3619 pc/h

V_3 or V_{av34} = 2532 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3619 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7670	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5138	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.946 (Exibit 13-11)

S_R = 43.5 mph (Exhibit 13-11)

S_0 = 62.1 mph (Exhibit 13-11)

S = 48.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	5385 ft	Deceleration Lane Length L_D	200	L_{down} =	ft
V_u =	1400 veh/h	Freeway Volume, V_F	7070	V_D =	veh/h
		Ramp Volume, V_R	630		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7070	0.95	Level	2	0	0.990	0.98	7670
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7769.74 (Equation 13-12 or 13-13)

P_{FD} = 0.537 using Equation (Exhibit 13-7)

V_{12} = 4434 pc/h

V_3 or V_{av34} 3236 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4970 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7670	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6987	Exhibit 13-8	7200	No
V_R	683	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4434	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 45.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 630 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6440	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6440	0.95	Level	2	0	0.990	0.98	6986
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream	630	0.95	Level	2	0	0.990	0.98	683
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1516.99 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 4196 pc/h

V_3 or V_{av34} = 2790 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4286 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8049	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5349	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.084 (Exibit 13-11)

S_R = 39.7 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 44.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7420	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7420	0.95	Level	2	0	0.990	0.98	8050
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.123 using Equation (Exhibit 13-6)

V_{12} = 990 pc/h

V_3 or V_{av34} = 3530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3220 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8809	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3979	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.380 (Exibit 13-11)

S_R = 59.4 mph (Exhibit 13-11)

S_0 = 62.8 mph (Exhibit 13-11)

S = 61.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1825 ft
V_u = 700 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	700
Freeway Volume, V_F	8120
Ramp Volume, V_R	490
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8120	0.95	Level	2	0	0.990	0.98	8809
Ramp	490	0.95	Level	2	0	0.990	0.98	532
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 4257 pc/h
V_3 or V_{av34} 4552 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6109 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8809	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8277	Exhibit 13-8	7200	Yes
V_R	532	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4257	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 33.3 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.281 (Exhibit 13-12)
S_R= 62.1 mph (Exhibit 13-12)
S_0= 71.3 mph (Exhibit 13-12)
S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1610 veh/h
	Freeway Volume, V_F: 7630	
	Ramp Volume, V_R: 730	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7630	0.95	Level	2	0	0.990	0.98	8277
Ramp	730	0.95	Level	2	0	0.990	0.98	792
UpStream								
DownStream	1610	0.95	Level	2	0	0.990	0.98	1747

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 10404.07 (Equation 13-6 or 13-7)

P_{FM} = 0.771 using Equation (Exhibit 13-6)

V_{12} = 6382 pc/h

V_3 or V_{av34} 1895 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6382 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9069	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7174	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 57.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 5.356 (Exibit 13-11)

S_R = -80.0 mph (Exhibit 13-11)

S_0 = 65.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8360
Ramp Volume, V_R	1610
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8360	0.95	Level	2	0	0.990	0.98	9069
Ramp	1610	0.95	Level	2	0	0.990	0.98	1747
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 9069 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9069	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	7322	Exhibit 13-8	4800	Yes
V_R	1747	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	9069	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 55.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.390 (Exhibit 13-12)
S_R = 59.1 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 59.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6750	
	Ramp Volume, V_R: 1400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6750	0.95	Level	2	0	0.990	0.98	7323
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 7323 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8842	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	9720	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 64.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 65.095 (Exibit 13-11)

S_R = -1752.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -1752.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 650 ft
V_u = 1400 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	8150
Ramp Volume, V_R	1050
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8150	0.95	Level	2	0	0.990	0.98	8842
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8088.31 (Equation 13-12 or 13-13)
P_{FD} = 0.487 using Equation (Exhibit 13-7)
V_{12} = 4887 pc/h
V_3 or V_{av34} 3955 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6142 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8842	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7703	Exhibit 13-8	7200	Yes
V_R	1139	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4887	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 51.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)
S_R= 60.6 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	2	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No ☐ Off
L_{up} =	2395 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	1050 veh/h	Freeway Volume, V_F	7100	V_D = veh/h
		Ramp Volume, V_R	1050	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7100	0.95	Level	2	0	0.990	0.98	7702
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1050	0.95	Level	2	0	0.990	0.98	1139
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 4275 pc/h

V_3 or V_{av34} 3427 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 5002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8841	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6141	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.683 (Exibit 13-11)

S_R= 22.9 mph (Exhibit 13-11)

S_0= 61.1 mph (Exhibit 13-11)

S = 28.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 8150	
	Ramp Volume, V_R: 1820	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8150	0.95	Level	2	0	0.990	0.98	8842
Ramp	1820	0.95	Level	2	0	0.990	0.98	1974
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = -0.029 using Equation (Exhibit 13-6)

V_{12} = -255 pc/h

V_3 or V_{av34} 4548 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3536 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10816	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5510	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.207 (Exibit 13-11)

S_R= 36.2 mph (Exhibit 13-11)

S_0= 61.4 mph (Exhibit 13-11)

S = 45.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1820 veh/h	Freeway Volume, V_F	9970	V_D =	veh/h
		Ramp Volume, V_R	840		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9970	0.95	Level	2	0	0.990	0.98	10816
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	1820	0.95	Level	2	0	0.990	0.98	1974
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7879.23 (Equation 13-12 or 13-13)

P_{FD} = 0.448 using Equation (Exhibit 13-7)

V_{12} = 5345 pc/h

V_3 or V_{av34} 5471 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 8116 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10816	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9905	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5345	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 60.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)

S_R= 61.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2920 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 840 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9130	
	Ramp Volume, V_R: 1610	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9130	0.95	Level	2	0	0.990	0.98	9905
Ramp	1610	0.95	Level	2	0	0.990	0.98	1747
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3372.53 (Equation 13-6 or 13-7)

P_{FM} = 0.591 using Equation (Exhibit 13-6)

V_{12} = 5851 pc/h

V_3 or V_{av34} 4054 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7205 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	11652	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8952	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 65.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 30.292 (Exibit 13-11)

S_R = -778.2 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 356.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2325 ft
V_u = 1610 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	10740
Ramp Volume, V_R	910
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	10740	0.95	Level	2	0	0.990	0.98	11651
Ramp	910	0.95	Level	2	0	0.990	0.98	987
UpStream	1610	0.95	Level	2	0	0.990	0.98	1747
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 5786 pc/h
V_3 or V_{av34} 5865 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 8951 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	11651	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	10664	Exhibit 13-8	7200	Yes
V_R	987	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5786	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 54.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.322 (Exhibit 13-12)
S_R= 61.0 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 3130 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 910 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9830	
	Ramp Volume, V_R: 1400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9830	0.95	Level	2	0	0.990	0.98	10664
Ramp	1400	0.95	Level	2	0	0.990	0.98	1519
UpStream	910	0.95	Level	2	0	0.990	0.98	987
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3486.16 (Equation 13-6 or 13-7)

P_{FM} = 0.597 using Equation (Exhibit 13-6)

V_{12} = 6364 pc/h

V_3 or V_{av34} 4300 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7964 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	12183	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	9483	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 69.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 51.396 (Exibit 13-11)

S_R = -1369.1 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 326.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2470 ft
V_u = 1400 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	810
Freeway Volume, V_F	11230
Ramp Volume, V_R	730
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	11230	0.95	Level	2	0	0.990	0.98	12183
Ramp	730	0.95	Level	2	0	0.990	0.98	792
UpStream	1400	0.95	Level	2	0	0.990	0.98	1519
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5219.63 (Equation 13-12 or 13-13)
P_{FD} = 0.419 using Equation (Exhibit 13-7)
V_{12} = 5565 pc/h
V_3 or V_{av34} 6618 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 9483 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	12183	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	11391	Exhibit 13-8	7200	Yes
V_R	792	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5565	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 78.5 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.304 (Exhibit 13-12)
S_R= 61.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	10500
Ramp Volume, V_R	840
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	10500	0.95	Level	2	0	0.990	0.98	11391
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.433 using Equation (Exhibit 13-7)
V_{12} = 5452 pc/h
V_3 or V_{av34} 5939 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 8691 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	11391	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	10480	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5452	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 65.5 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.510 (Exhibit 13-12)
S_R= 55.7 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 58.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2070 ft	Acceleration Lane Length, L_A: 575	L_{down} = ft
V_u = 840 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9660	
	Ramp Volume, V_R: 1120	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9660	0.95	Level	2	0	0.990	0.98	10480
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2971.03 (Equation 13-6 or 13-7)

P_{FM} = 0.537 using Equation (Exhibit 13-6)

V_{12} = 5624 pc/h

V_3 or V_{av34} 4856 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7780 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	11695	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8995	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 71.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 31.708 (Exibit 13-11)

S_R = -817.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 352.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7360
Ramp Volume, V_R	1080
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1685 ft
V_D = 980 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7360	0.95	Level	2	0	0.990	0.98	7985
Ramp	1080	0.95	Level	2	0	0.990	0.98	1172
UpStream								
DownStream	980	0.95	Level	2	0	0.990	0.98	1063

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.506 using Equation (Exhibit 13-7)
V_{12} = 4623 pc/h
V_3 or V_{av34} 3362 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 5285 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7985	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6813	Exhibit 13-8	7200	No
V_R	1172	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4623	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.338 (Exhibit 13-12)
S_R= 60.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☑ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 1315 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1260 veh/h
	Freeway Volume, V_F: 6280	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6280	0.95	Level	2	0	0.990	0.98	6813
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream								
DownStream	1260	0.95	Level	2	0	0.990	0.98	1367

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 4221 pc/h

V_3 or V_{av34} 2592 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4221 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7876	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5284	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 36.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.985 (Exibit 13-11)

S_R = 42.4 mph (Exhibit 13-11)

S_0 = 61.7 mph (Exhibit 13-11)

S = 47.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7260	
	Ramp Volume, V_R: 1260	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7260	0.95	Level	2	0	0.990	0.98	7876
Ramp	1260	0.95	Level	2	0	0.990	0.98	1367
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.047 using Equation (Exhibit 13-6)

V_{12} = 370 pc/h

V_3 or V_{av34} = 3753 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3150 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9243	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4517	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.608 (Exibit 13-11)

S_R = 53.0 mph (Exhibit 13-11)

S_0 = 63.1 mph (Exhibit 13-11)

S = 57.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Site Information

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 2360 ft

V_u = 1260 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8520
Ramp Volume, V_R	840
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8520	0.95	Level	2	0	0.990	0.98	9243
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	1260	0.95	Level	2	0	0.990	0.98	1367
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6377.33 (Equation 13-12 or 13-13)

P_{FD} = 0.487 using Equation (Exhibit 13-7)

V_{12} = 4969 pc/h

V_3 or V_{av34} 4274 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6543 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9243	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8332	Exhibit 13-8	7200	Yes
V_R	911	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4969	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 47.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)

S_R= 61.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	395	☑ No ☐ Off
L_{up} =	2955 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	840 veh/h	Freeway Volume, V_F	7680	V_D = veh/h
		Ramp Volume, V_R	1470	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7680	0.95	Level	2	0	0.990	0.98	8332
Ramp	1470	0.95	Level	2	0	0.990	0.98	1595
UpStream	840	0.95	Level	2	0	0.990	0.98	911
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2512.76 (Equation 13-6 or 13-7)

P_{FM} = 0.589 using Equation (Exhibit 13-6)

V_{12} = 4904 pc/h

V_3 or V_{av34} 3428 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5632 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9927	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7227	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 58.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 5.648 (Exibit 13-11)

S_R = -88.2 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2830 ft
V_u = 1470 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9150
Ramp Volume, V_R	1050
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9150	0.95	Level	2	0	0.990	0.98	9926
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream	1470	0.95	Level	2	0	0.990	0.98	1595
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7497.63 (Equation 13-12 or 13-13)
P_{FD} = 0.459 using Equation (Exhibit 13-7)
V_{12} = 5176 pc/h
V_3 or V_{av34} 4750 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 7226 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9926	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8787	Exhibit 13-8	7200	Yes
V_R	1139	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5176	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 52.9 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.336 (Exhibit 13-12)
S_R= 60.6 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1680 veh/h
	Freeway Volume, V_F: 8100	
	Ramp Volume, V_R: 1090	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8100	0.95	Level	2	0	0.990	0.98	8787
Ramp	1090	0.95	Level	2	0	0.990	0.98	1182
UpStream								
DownStream	1680	0.95	Level	2	0	0.990	0.98	1823

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6749.35 (Equation 13-6 or 13-7)

P_{FM} = 0.748 using Equation (Exhibit 13-6)

V_{12} = 6575 pc/h

V_3 or V_{av34} 2212 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6575 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9969	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7757	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 56.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 9.289 (Exibit 13-11)

S_R = -190.1 mph (Exhibit 13-11)

S_0 = 63.8 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9190
Ramp Volume, V_R	1680
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 750 ft
V_D = 1890 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9190	0.95	Level	2	0	0.990	0.98	9970
Ramp	1680	0.95	Level	2	0	0.990	0.98	1823
UpStream								
DownStream	1890	0.95	Level	2	0	0.990	0.98	2050

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 13042.68 (Equation 13-12 or 13-13)
P_{FD} = 0.746 using Equation (Exhibit 13-7)
V_{12} = 7897 pc/h
V_3 or V_{av34} 2073 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9970	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8147	Exhibit 13-8	7200	Yes
V_R	1823	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	7897	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 58.7 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.397 (Exhibit 13-12)
S_R= 58.9 mph (Exhibit 13-12)
S_0= 72.6 mph (Exhibit 13-12)
S = 61.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7510
Ramp Volume, V_R	1890
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7510	0.95	Level	2	0	0.990	0.98	8147
Ramp	1890	0.95	Level	2	0	0.990	0.98	2050
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 4794 pc/h
V_3 or V_{av34} 3353 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = 5447 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8147	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6097	Exhibit 13-8	7200	No
V_R	2050	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4794	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.4 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.418 (Exhibit 13-12)
S_R= 58.3 mph (Exhibit 13-12)
S_0= 71.2 mph (Exhibit 13-12)
S = 61.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2030 veh/h
	Freeway Volume, V_F: 5620	
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5620	0.95	Level	2	0	0.990	0.98	6097
Ramp	560	0.95	Level	2	0	0.990	0.98	608
UpStream								
DownStream	2030	0.95	Level	2	0	0.990	0.98	2202

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 12553.80 (Equation 13-6 or 13-7)

P_{FM} = 0.900 using Equation (Exhibit 13-6)

V_{12} = 5490 pc/h

V_3 or V_{av34} 607 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5490 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6705	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6098	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 48.9 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 1.995 (Exibit 13-11)

S_R = 14.1 mph (Exhibit 13-11)

S_0 = 69.6 mph (Exhibit 13-11)

S = 15.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1645 ft
V_u = 560 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	6180
Ramp Volume, V_R	2030
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6180	0.95	Level	2	0	0.990	0.98	6704
Ramp	2030	0.95	Level	2	0	0.990	0.98	2202
UpStream	560	0.95	Level	2	0	0.990	0.98	608
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 4228 pc/h
V_3 or V_{av34} 2476 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6704	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4502	Exhibit 13-8	7200	No
V_R	2202	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4228	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 15.4 (pc/mi/ln)
LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.431 (Exhibit 13-12)
S_R = 57.9 mph (Exhibit 13-12)
S_0 = 71.9 mph (Exhibit 13-12)
S = 62.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 1605 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 550 veh/h
	Freeway Volume, V_F: 4150	
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4150	0.95	Level	2	0	0.990	0.98	4502
Ramp	560	0.95	Level	2	0	0.990	0.98	608
UpStream								
DownStream	550	0.95	Level	2	0	0.990	0.98	597

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2210.29 (Equation 13-6 or 13-7)

P_{FM} = 0.646 using Equation (Exhibit 13-6)

V_{12} = 2910 pc/h

V_3 or V_{av34} = 1592 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2910 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5110	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3867	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.357 (Exibit 13-11)

S_R = 60.0 mph (Exhibit 13-11)

S_0 = 67.3 mph (Exhibit 13-11)

S = 61.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 560 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 4710	
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4710	0.95	Level	2	0	0.990	0.98	5110
Ramp	550	0.95	Level	2	0	0.990	0.98	597
UpStream	560	0.95	Level	2	0	0.990	0.98	608
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4247.06 (Equation 13-12 or 13-13)

P_{FD} = 0.605 using Equation (Exhibit 13-7)

V_{12} = 3326 pc/h

V_3 or V_{av34} 1784 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5110	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4513	Exhibit 13-8	7200	No
V_R	597	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3326	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 31.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.287 (Exhibit 13-12)

S_R= 62.0 mph (Exhibit 13-12)

S_0= 73.7 mph (Exhibit 13-12)

S = 65.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☑ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1000	☐ No	☑ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	50 ft
		Freeway Volume, V_F	4160		
V_u =	veh/h	Ramp Volume, V_R	700	V_D =	1260 veh/h
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4160	0.95	Level	2	0	0.990	0.98	4513
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream	1260	0.95	Level	2	0	0.990	0.98	1367

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6311.17 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4513 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5272	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5272	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 40.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.981 (Exibit 13-11)

S_R = 42.5 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 42.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 50 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 700 veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 4860	
	Ramp Volume, V_R: 1260	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4860	0.95	Level	2	0	0.990	0.98	5272
Ramp	1260	0.95	Level	2	0	0.990	0.98	1367
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8589.47 (Equation 13-12 or 13-13)

P_{FD} = 0.565 using Equation (Exhibit 13-7)

V_{12} = 3575 pc/h

V_3 or V_{av34} 1697 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5272	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3905	Exhibit 13-8	7200	No
V_R	1367	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3575	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.356 (Exhibit 13-12)

S_R= 60.0 mph (Exhibit 13-12)

S_0= 74.1 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1670 veh/h
	Freeway Volume, V_F: 3600	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3600	0.95	Level	2	0	0.990	0.98	3905
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream								
DownStream	1670	0.95	Level	2	0	0.990	0.98	1812

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6708.63 (Equation 13-6 or 13-7)

P_{FM} = 0.649 using Equation (Exhibit 13-6)

V_{12} = 2533 pc/h

V_3 or V_{av34} 1372 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2533 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4447	Exhibit 13-8		No

Capacity Checks

	Actual	Capacity		
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3075	Exhibit 13-8	4600:All	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 19.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = 0.255 (Exibit 13-11)

S_R = 62.8 mph (Exhibit 13-11)

S_0 = 66.9 mph (Exhibit 13-11)

S = 64.0 mph (Exhibit 13-13)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/12/2015 11:41:59 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	4770 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	500 veh/h	Freeway Volume, V_F	4100	V_D =	veh/h
		Ramp Volume, V_R	1670		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4100	0.95	Level	2	0	0.990	0.98	4448
Ramp	1670	0.95	Level	2	0	0.990	0.98	1812
UpStream	500	0.95	Level	2	0	0.990	0.98	542
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 2998 pc/h

V_3 or V_{av34} 1450 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4448	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2636	Exhibit 13-8	7200	No
V_R	1812	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2998	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -10.5 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.396 (Exhibit 13-12)

S_R= 58.9 mph (Exhibit 13-12)

S_0= 75.0 mph (Exhibit 13-12)

S = 63.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2460	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2460	0.95	Level	2	0	0.990	0.98	2669
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2669 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3645	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3965	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 14.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.227 (Exibit 13-11)

S_R = 63.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 63.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3360	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3360	0.95	Level	2	0	0.990	0.98	3645
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 2145 pc/h

V_3 or V_{av34} = 1500 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2145 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4469	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2969	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.358 (Exibit 13-11)

S_R = 60.0 mph (Exhibit 13-11)

S_0 = 66.4 mph (Exhibit 13-11)

S = 62.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 5385 ft
V_u = 760 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	200
Freeway Volume, V_F	4120
Ramp Volume, V_R	700
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4120	0.95	Level	2	0	0.990	0.98	4470
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream	760	0.95	Level	2	0	0.990	0.98	824
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7095.74 (Equation 13-12 or 13-13)
P_{FD} = 0.635 using Equation (Exhibit 13-7)
V_{12} = 3116 pc/h
V_3 or V_{av34} 1354 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4470	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3711	Exhibit 13-8	7200	No
V_R	759	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3116	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 29.2 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.301 (Exhibit 13-12)
S_R= 61.6 mph (Exhibit 13-12)
S_0= 75.4 mph (Exhibit 13-12)
S = 65.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 700 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3420	
	Ramp Volume, V_R: 920	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3420	0.95	Level	2	0	0.990	0.98	3710
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 802.01 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 2228 pc/h

V_3 or V_{av34} 1482 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 2228 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4708	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3226	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.361 (Exibit 13-11)

S_R= 59.9 mph (Exhibit 13-11)

S_0= 66.5 mph (Exhibit 13-11)

S = 61.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4340	
	Ramp Volume, V_R: 670	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4340	0.95	Level	2	0	0.990	0.98	4708
Ramp	670	0.95	Level	2	0	0.990	0.98	727
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.127 using Equation (Exhibit 13-6)

V_{12} = 598 pc/h

V_3 or V_{av34} = 2055 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1883 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5435	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2610	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.1 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.224 (Exibit 13-11)

S_R = 63.7 mph (Exhibit 13-11)

S_0 = 66.7 mph (Exhibit 13-11)

S = 65.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	670 veh/h	Freeway Volume, V_F	5010	V_D =	veh/h
		Ramp Volume, V_R	880		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5010	0.95	Level	2	0	0.990	0.98	5435
Ramp	880	0.95	Level	2	0	0.990	0.98	955
UpStream	670	0.95	Level	2	0	0.990	0.98	727
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 2971 pc/h

V_3 or V_{av34} 2464 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3105 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5435	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4480	Exhibit 13-8	7200	No
V_R	955	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2971	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 6.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 61.1 mph (Exhibit 13-12)

S_0= 72.2 mph (Exhibit 13-12)

S = 65.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 980 veh/h
	Freeway Volume, V_F: 4130	
	Ramp Volume, V_R: 630	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4130	0.95	Level	2	0	0.990	0.98	4480
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream								
DownStream	980	0.95	Level	2	0	0.990	0.98	1063

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6330.58 (Equation 13-6 or 13-7)

P_{FM} = 0.684 using Equation (Exhibit 13-6)

V_{12} = 3064 pc/h

V_3 or V_{av34} 1416 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3064 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5163	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3747	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 31.0 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.432 (Exibit 13-11)

S_R= 57.9 mph (Exhibit 13-11)

S_0= 66.7 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4760
Ramp Volume, V_R	980
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4760	0.95	Level	2	0	0.990	0.98	5164
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 5164 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5164	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	4101	Exhibit 13-8	4800	No
V_R	1063	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5164	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 21.7 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.329 (Exhibit 13-12)
S_R = 60.8 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 60.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	3780	V_D =	veh/h
		Ramp Volume, V_R	1990		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3780	0.95	Level	2	0	0.990	0.98	4101
Ramp	1990	0.95	Level	2	0	0.990	0.98	2159
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4101 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6260	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6752	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 43.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 3.508 (Exibit 13-11)

S_R = -28.2 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -28.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 650 ft

V_u = 1990 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	5770
Ramp Volume, V_R	530
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5770	0.95	Level	2	0	0.990	0.98	6260
Ramp	530	0.95	Level	2	0	0.990	0.98	575
UpStream	1990	0.95	Level	2	0	0.990	0.98	2159
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 12605.09 (Equation 13-12 or 13-13)

P_{FD} = 0.577 using Equation (Exhibit 13-7)

V_{12} = 3856 pc/h

V_3 or V_{av34} 2404 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6260	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5685	Exhibit 13-8	7200	No
V_R	575	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3856	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 31.3 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.285 (Exhibit 13-12)

S_R = 62.0 mph (Exhibit 13-12)

S_0 = 71.3 mph (Exhibit 13-12)

S = 65.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 530 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5240	
	Ramp Volume, V_R: 1680	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5240	0.95	Level	2	0	0.990	0.98	5685
Ramp	1680	0.95	Level	2	0	0.990	0.98	1823
UpStream	530	0.95	Level	2	0	0.990	0.98	575
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 3155 pc/h

V_3 or V_{av34} = 2530 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3248 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7508	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5071	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.492 (Exibit 13-11)

S_R = 56.2 mph (Exhibit 13-11)

S_0 = 62.6 mph (Exhibit 13-11)

S = 58.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6920	
	Ramp Volume, V_R: 1860	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6920	0.95	Level	2	0	0.990	0.98	7507
Ramp	1860	0.95	Level	2	0	0.990	0.98	2018
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = -0.034 using Equation (Exhibit 13-6)

V_{12} = -258 pc/h

V_3 or V_{av34} 3882 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9525	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5020	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 38.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.834 (Exibit 13-11)

S_R = 46.7 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 53.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2785 ft
V_u = 1860 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8780
Ramp Volume, V_R	1120
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8780	0.95	Level	2	0	0.990	0.98	9525
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream	1860	0.95	Level	2	0	0.990	0.98	2018
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 10205.58 (Equation 13-12 or 13-13)
P_{FD} = 0.466 using Equation (Exhibit 13-7)
V_{12} = 5087 pc/h
V_3 or V_{av34} 4438 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6825 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9525	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8310	Exhibit 13-8	7200	Yes
V_R	1215	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5087	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 49.4 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.342 (Exhibit 13-12)
S_R= 60.4 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1190 veh/h
	Freeway Volume, V_F: 7660	
	Ramp Volume, V_R: 1120	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7660	0.95	Level	2	0	0.990	0.98	8310
Ramp	1120	0.95	Level	2	0	0.990	0.98	1215
UpStream								
DownStream	1190	0.95	Level	2	0	0.990	0.98	1291

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4779.71 (Equation 13-6 or 13-7)

P_{FM} = 0.695 using Equation (Exhibit 13-6)

V_{12} = 5772 pc/h

V_3 or V_{av34} 2538 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 5772 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9525	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6987	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 50.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 4.393 (Exibit 13-11)

S_R = -53.0 mph (Exhibit 13-11)

S_0 = 62.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1120 veh/h	Freeway Volume, V_F	8780	V_D =	veh/h
		Ramp Volume, V_R	1190		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8780	0.95	Level	2	0	0.990	0.98	9525
Ramp	1190	0.95	Level	2	0	0.990	0.98	1291
UpStream	1120	0.95	Level	2	0	0.990	0.98	1215
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4996 pc/h

V_3 or V_{av34} 4529 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6825 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9525	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8234	Exhibit 13-8	7200	Yes
V_R	1291	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4996	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 35.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.349 (Exhibit 13-12)

S_R= 60.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 62.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 3130 ft

V_u = 1190 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	7590
Ramp Volume, V_R	920
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7590	0.95	Level	2	0	0.990	0.98	8234
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream	1190	0.95	Level	2	0	0.990	0.98	1291
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2854.65 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 5101 pc/h

V_3 or V_{av34} 3133 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5534 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9232	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6532	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 46.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 2.849 (Exibit 13-11)

S_R = -9.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2470 ft	Deceleration Lane Length L_D	810	L_{down} =	ft
V_u =	920 veh/h	Freeway Volume, V_F	8510	V_D =	veh/h
		Ramp Volume, V_R	880		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8510	0.95	Level	2	0	0.990	0.98	9232
Ramp	880	0.95	Level	2	0	0.990	0.98	955
UpStream	920	0.95	Level	2	0	0.990	0.98	998
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4735.33 (Equation 13-12 or 13-13)

P_{FD} = 0.485 using Equation (Exhibit 13-7)

V_{12} = 4972 pc/h

V_3 or V_{av34} 4260 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6532 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9232	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8277	Exhibit 13-8	7200	Yes
V_R	955	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4972	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 53.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.319 (Exhibit 13-12)

S_R= 61.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7630
Ramp Volume, V_R	900
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7630	0.95	Level	2	0	0.990	0.98	8277
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.508 using Equation (Exhibit 13-7)
V_{12} = 4686 pc/h
V_3 or V_{av34} 3591 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 5577 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8277	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7301	Exhibit 13-8	7200	Yes
V_R	976	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4686	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 38.7 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.516 (Exhibit 13-12)
S_R= 55.6 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 59.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2440 veh/h
	Freeway Volume, V_F: 6730	
	Ramp Volume, V_R: 740	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6730	0.95	Level	2	0	0.990	0.98	7301
Ramp	740	0.95	Level	2	0	0.990	0.98	803
UpStream								
DownStream	2440	0.95	Level	2	0	0.990	0.98	2647

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 15468.22 (Equation 13-6 or 13-7)

P_{FM} = 0.634 using Equation (Exhibit 13-6)

V_{12} = 4627 pc/h

V_3 or V_{av34} 2674 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4627 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8104	Exhibit 13-8		Yes

	Actual	Capacity		
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5430	Exhibit 13-8	4600:All	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 43.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = 1.153 (Exibit 13-11)

S_R = 37.7 mph (Exhibit 13-11)

S_0 = 61.2 mph (Exhibit 13-11)

S = 43.2 mph (Exhibit 13-13)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9480
Ramp Volume, V_R	1090
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9480	0.95	Level	2	0	0.990	0.98	10284
Ramp	1090	0.95	Level	2	0	0.990	0.98	1182
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.449 using Equation (Exhibit 13-7)
V_{12} = 5265 pc/h
V_3 or V_{av34} 5019 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 7584 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10284	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9102	Exhibit 13-8	7200	Yes
V_R	1182	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5265	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 56.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.339 (Exhibit 13-12)
S_R= 60.5 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	1685 ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	1090 veh/h	Freeway Volume, V_F	8390	V_D =	veh/h
		Ramp Volume, V_R	640		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	35.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8390	0.95	Level	2	0	0.990	0.98	9102
Ramp	640	0.95	Level	2	0	0.990	0.98	694
UpStream	1090	0.95	Level	2	0	0.990	0.98	1182
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2190.54 (Equation 13-6 or 13-7)

P_{FM} = 0.587 using Equation (Exhibit 13-6)

V_{12} = 5347 pc/h

V_3 or V_{av34} 3755 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 6402 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9796	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7096	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 51.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 4.924 (Exibit 13-11)

S_R= -67.9 mph (Exhibit 13-11)

S_0= 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 9030	
	Ramp Volume, V_R: 780	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	9030	0.95	Level	2	0	0.990	0.98	9796
Ramp	780	0.95	Level	2	0	0.990	0.98	846
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.112 using Equation (Exhibit 13-6)

V_{12} = 1098 pc/h

V_3 or V_{av34} = 4349 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4396 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10642	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5242	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.988 (Exibit 13-11)

S_R = 42.3 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 50.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2360 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	780 veh/h	Freeway Volume, V_F	9810	V_D =	veh/h
		Ramp Volume, V_R	1430		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9810	0.95	Level	2	0	0.990	0.98	10642
Ramp	1430	0.95	Level	2	0	0.990	0.98	1551
UpStream	780	0.95	Level	2	0	0.990	0.98	846
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4275.10 (Equation 13-12 or 13-13)

P_{FD} = 0.423 using Equation (Exhibit 13-7)

V_{12} = 5393 pc/h

V_3 or V_{av34} 5249 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7942 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10642	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9091	Exhibit 13-8	7200	Yes
V_R	1551	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5393	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 59.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.373 (Exhibit 13-12)

S_R= 59.6 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 61.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	395	☑ No ☐ Off
L_{up} =	2955 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	1430 veh/h	Freeway Volume, V_F	8380	V_D = veh/h
		Ramp Volume, V_R	1150	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8380	0.95	Level	2	0	0.990	0.98	9091
Ramp	1150	0.95	Level	2	0	0.990	0.98	1248
UpStream	1430	0.95	Level	2	0	0.990	0.98	1551
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2600.93 (Equation 13-6 or 13-7)

P_{FM} = 0.589 using Equation (Exhibit 13-6)

V_{12} = 5351 pc/h

V_3 or V_{av34} 3740 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 6391 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10339	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7639	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 62.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 8.384 (Exibit 13-11)

S_R = -164.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1150 veh/h	Freeway Volume, V_F	9530	V_D =	veh/h
		Ramp Volume, V_R	1440		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9530	0.95	Level	2	0	0.990	0.98	10339
Ramp	1440	0.95	Level	2	0	0.990	0.98	1562
UpStream	1150	0.95	Level	2	0	0.990	0.98	1248
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6565.48 (Equation 13-12 or 13-13)

P_{FD} = 0.430 using Equation (Exhibit 13-7)

V_{12} = 5333 pc/h

V_3 or V_{av34} 5006 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7639 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10339	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8777	Exhibit 13-8	7200	Yes
V_R	1562	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5333	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 56.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.374 (Exhibit 13-12)

S_R= 59.5 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 62.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1970 veh/h
	Freeway Volume, V_F: 8090	
	Ramp Volume, V_R: 1060	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8090	0.95	Level	2	0	0.990	0.98	8776
Ramp	1060	0.95	Level	2	0	0.990	0.98	1150
UpStream								
DownStream	1970	0.95	Level	2	0	0.990	0.98	2137

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7911.88 (Equation 13-6 or 13-7)

P_{FM} = 0.783 using Equation (Exhibit 13-6)

V_{12} = 6869 pc/h

V_3 or V_{av34} 1907 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6869 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9926	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8019	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 58.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 12.020 (Exibit 13-11)

S_R = -266.6 mph (Exhibit 13-11)

S_0 = 64.9 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2400 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1060 veh/h	Freeway Volume, V_F	9150	V_D =	veh/h
		Ramp Volume, V_R	1970		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9150	0.95	Level	2	0	0.990	0.98	9926
Ramp	1970	0.95	Level	2	0	0.990	0.98	2137
UpStream	1060	0.95	Level	2	0	0.990	0.98	1150
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8401.15 (Equation 13-12 or 13-13)

P_{FD} = 0.414 using Equation (Exhibit 13-7)

V_{12} = 5358 pc/h

V_3 or V_{av34} 4568 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7226 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9926	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7789	Exhibit 13-8	7200	Yes
V_R	2137	Exhibit 13-10	2100	Yes

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5358	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 52.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.425 (Exhibit 13-12)

S_R= 58.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 60.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7180
Ramp Volume, V_R	1270
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7180	0.95	Level	2	0	0.990	0.98	7789
Ramp	1270	0.95	Level	2	0	0.990	0.98	1378
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 4263 pc/h
V_3 or V_{av34} 3526 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 5089 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7789	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6411	Exhibit 13-8	7200	No
V_R	1378	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4263	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 23.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.357 (Exhibit 13-12)
S_R= 60.0 mph (Exhibit 13-12)
S_0= 71.2 mph (Exhibit 13-12)
S = 63.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1430 veh/h
	Freeway Volume, V_F: 5910	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5910	0.95	Level	2	0	0.990	0.98	6411
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream								
DownStream	1430	0.95	Level	2	0	0.990	0.98	1551

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8842.39 (Equation 13-6 or 13-7)

P_{FM} = 0.796 using Equation (Exhibit 13-6)

V_{12} = 5106 pc/h

V_3 or V_{av34} 1305 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5106 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7235	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5930	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 47.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.727 (Exibit 13-11)

S_R = 21.7 mph (Exhibit 13-11)

S_0 = 67.1 mph (Exhibit 13-11)

S = 24.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 1645 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 760 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6670	
	Ramp Volume, V_R: 1430	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6670	0.95	Level	2	0	0.990	0.98	7236
Ramp	1430	0.95	Level	2	0	0.990	0.98	1551
UpStream	760	0.95	Level	2	0	0.990	0.98	824
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4109 pc/h

V_3 or V_{av34} 3127 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4536 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7236	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	5685	Exhibit 13-8	7200	No
V_R	1551	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4109	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 18.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.373 (Exhibit 13-12)

S_R= 59.6 mph (Exhibit 13-12)

S_0= 71.0 mph (Exhibit 13-12)

S = 63.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 1605 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 490 veh/h
	Freeway Volume, V_F: 5240	
	Ramp Volume, V_R: 1550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5240	0.95	Level	2	0	0.990	0.98	5685
Ramp	1550	0.95	Level	2	0	0.990	0.98	1682
UpStream								
DownStream	490	0.95	Level	2	0	0.990	0.98	532

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1969.64 (Equation 13-6 or 13-7)

P_{FM} = 0.636 using Equation (Exhibit 13-6)

V_{12} = 3615 pc/h

V_3 or V_{av34} 2070 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3615 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7367	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5730	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 40.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.372 (Exibit 13-11)

S_R = 31.6 mph (Exhibit 13-11)

S_0 = 65.9 mph (Exhibit 13-11)

S = 35.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1605 ft	Deceleration Lane Length L_D	195	L_{down} =	ft
V_u =	1550 veh/h	Freeway Volume, V_F	6790	V_D =	veh/h
		Ramp Volume, V_R	490		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6790	0.95	Level	2	0	0.990	0.98	7366
Ramp	490	0.95	Level	2	0	0.990	0.98	532
UpStream	1550	0.95	Level	2	0	0.990	0.98	1682
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8410.59 (Equation 13-12 or 13-13)

P_{FD} = 0.551 using Equation (Exhibit 13-7)

V_{12} = 4300 pc/h

V_3 or V_{av34} 3066 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4666 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7366	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6834	Exhibit 13-8	7200	No
V_R	532	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4300	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 42.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.281 (Exhibit 13-12)

S_R= 62.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☑ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1000	☐ No	☑ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	50 ft
		Freeway Volume, V_F	6300		
V_u =	veh/h	Ramp Volume, V_R	800	V_D =	1370 veh/h
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6300	0.95	Level	2	0	0.990	0.98	6835
Ramp	800	0.95	Level	2	0	0.990	0.98	868
UpStream								
DownStream	1370	0.95	Level	2	0	0.990	0.98	1486

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6860.57 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 6835 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7703	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7703	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 58.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 8.859 (Exibit 13-11)

S_R = -178.1 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp: ☑ Yes ☑ On / ☐ No ☐ Off; L_{up} = 50 ft; V_u = 800 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1000
Freeway Volume, V_F	7100
Ramp Volume, V_R	1370
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp: ☐ Yes ☐ On / ☑ No ☐ Off; L_{down} = ft; V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7100	0.95	Level	2	0	0.990	0.98	7702
Ramp	1370	0.95	Level	2	0	0.990	0.98	1486
UpStream	800	0.95	Level	2	0	0.990	0.98	868
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6419.64 (Equation 13-12 or 13-13)

P_{FD} = 0.499 using Equation (Exhibit 13-7)

V_{12} = 4588 pc/h

V_3 or V_{av34} 3114 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5002 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7702	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6216	Exhibit 13-8	7200	No
V_R	1486	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4588	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 38.3 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.367 (Exhibit 13-12)

S_R= 59.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2860 veh/h
	Freeway Volume, V_F: 5730	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5730	0.95	Level	2	0	0.990	0.98	6216
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream	2860	0.95	Level	2	0	0.990	0.98	3103

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 11488.34 (Equation 13-6 or 13-7)

P_{FM} = 0.720 using Equation (Exhibit 13-6)

V_{12} = 4473 pc/h

V_3 or V_{av34} 1743 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4473 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6975	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5232	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.5 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.901 (Exibit 13-11)

S_R = 44.8 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 48.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/12/2015 12:37:26 PM	Jurisdiction	FDOT
Analysis Time Period	PM	Analysis Year	2040 LC Master

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	4770 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	700 veh/h	Freeway Volume, V_F	6430	V_D =	veh/h
		Ramp Volume, V_R	2860		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6430	0.95	Level	2	0	0.990	0.98	6976
Ramp	2860	0.95	Level	2	0	0.990	0.98	3103
UpStream	700	0.95	Level	2	0	0.990	0.98	759
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4846 pc/h

V_3 or V_{av34} 2130 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6976	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3873	Exhibit 13-8	7200	No
V_R	3103	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4846	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 5.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.512 (Exhibit 13-12)

S_R= 55.7 mph (Exhibit 13-12)

S_0= 72.4 mph (Exhibit 13-12)

S = 59.9 mph (Exhibit 13-13)

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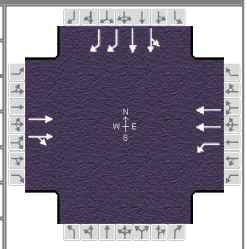
Design Year (2040) HCS 2010 Output
I-275 Ramp Terminal Intersections

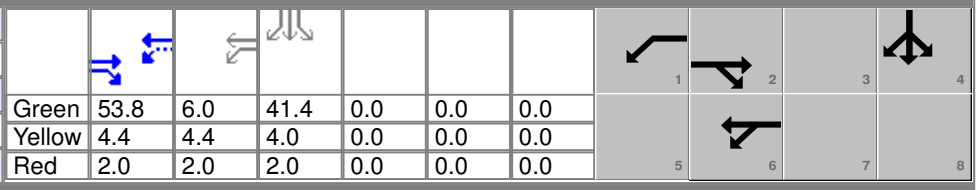
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_AM_Build_(A).xus				
Project Description	2040 Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1535	35	20	495					370	485	825

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	53.8	6.0	41.4	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		60.2	12.4	72.6				47.4
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					37.5
Green Extension Time (g_e), s		0.0	1.2	0.0				3.9
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.13

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		828	825	21	521					468	432	868
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1863	1848	1774	1773					1788	1863	1397
Queue Service Time (g_s), s		61.3	53.2	0.0	5.8					27.9	23.7	35.5
Cycle Queue Clearance Time (g_c), s		61.3	53.2	0.0	5.8					27.9	23.7	35.5
Green Ratio (*g/C*)		0.45	0.45	0.48	0.55					0.34	0.34	0.34
Capacity (*c*), veh/h		835	829	149	1957					617	642	963
Volume-to-Capacity Ratio (*X*)		0.991	0.995	0.142	0.266					0.759	0.672	0.901
Available Capacity (c_a), veh/h		835	829	409	1957					769	801	1201
Back of Queue (*Q*), veh/ln (50th percentile)		25.5	26.0	0.6	2.0					11.9	10.3	12.3
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.08	0.15					0.00	0.00	0.90
Uniform Delay (d_1), s/veh		23.9	24.4	54.1	7.9					34.9	33.5	37.4
Incremental Delay (d_2), s/veh		29.1	30.1	0.2	0.3					2.5	0.9	7.2
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		52.9	54.4	54.3	8.2					37.4	34.4	44.6
Level of Service (LOS)		D	D	D	A					D	C	D
Approach Delay, s/veh / LOS	53.7	D		10.0	A		0.0			40.2	D	
Intersection Delay, s/veh / LOS	41.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	2.1	B	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.9	A	0.9	A			1.9	A

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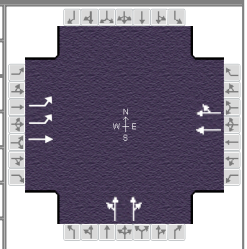
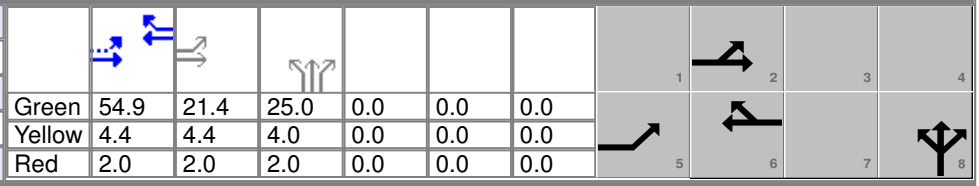
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_AM_Build_(B).xus				
Project Description	2040 Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	980	925			500	280	15	560	50			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	54.9	21.4	25.0	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		12.0		
Phase Duration, s	27.8	89.0		61.3		31.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	21.6					23.9		
Green Extension Time (g_e), s	0.0	0.0		0.0		1.1		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.02		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	1032	974			436	385	349		309			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1863			1863	1637	1859		1807			
Queue Service Time (g_s), s	19.6	17.0			22.6	19.2	21.9		19.6			
Cycle Queue Clearance Time (g_c), s	19.6	17.0			22.6	19.2	21.9		19.6			
Green Ratio (*g/C*)	0.62	0.69			0.46	0.46	0.21		0.21			
Capacity (*c*), veh/h	1068	1282			852	748	387		376			
Volume-to-Capacity Ratio (*X*)	0.966	0.759			0.512	0.514	0.901		0.822			
Available Capacity (c_a), veh/h	1068	1282			852	748	542		527			
Back of Queue (*Q*), veh/ln (50th percentile)	17.6	3.7			6.1	7.4	11.2		9.2			
Queue Storage Ratio (*RQ*) (50th percentile)	1.65	0.27			0.00	0.00	0.00		0.00			
Uniform Delay (d_1), s/veh	39.4	2.2			15.8	21.4	46.3		45.4			
Incremental Delay (d_2), s/veh	19.7	4.3			2.2	2.5	11.5		5.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	59.1	6.5			18.0	23.9	57.8		50.4			
Level of Service (LOS)	E	A			B	C	E		D			
Approach Delay, s/veh / LOS	33.5	C		20.8	C		54.3	D		0.0		
Intersection Delay, s/veh / LOS	34.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.6	A	2.5	B	2.3	B	2.9	C
Bicycle LOS Score / LOS	3.8	D	1.2	A	1.0	A		

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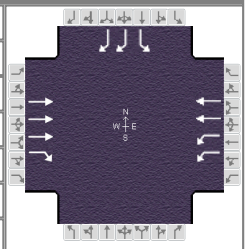
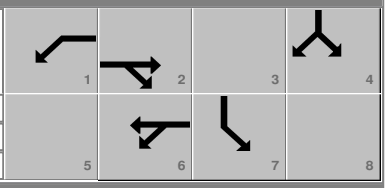
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_AM_Build_(A).xus				
Project Description	2040 Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1670	720	370	1345					375		675

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	59.3	7.2	33.8	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.9	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		65.7	13.6	79.3				40.7
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			6.2					31.4
Green Extension Time (g_e), s		0.0	1.0	0.0				2.4
Phase Call Probability			1.00					1.00
Max Out Probability			0.08					0.04

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1758	758	389	1416					395		711
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1691	1579	1723	1773					1774		1397
Queue Service Time (g_s), s		26.4	56.1	4.2	19.5					24.7		29.4
Cycle Queue Clearance Time (g_c), s		26.4	56.1	4.2	19.5					24.7		29.4
Green Ratio (*g/C*)		0.49	0.49	0.54	0.61					0.28		0.28
Capacity (*c*), veh/h		2506	780	467	2154					500		787
Volume-to-Capacity Ratio (*X*)		0.701	0.972	0.834	0.657					0.790		0.902
Available Capacity (c_a), veh/h		2506	780	937	2154					657		1035
Back of Queue (*Q*), veh/ln (50th percentile)		7.9	25.4	5.7	4.6					10.7		10.4
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	2.15	0.76	0.49					0.00		0.00
Uniform Delay (d_1), s/veh		14.9	29.6	48.0	6.3					39.8		41.5
Incremental Delay (d_2), s/veh		1.7	26.1	1.5	1.6					3.5		7.6
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		16.5	55.7	49.6	7.9					43.3		49.1
Level of Service (LOS)		B	E	D	A					D		D
Approach Delay, s/veh / LOS	28.3	C		16.9	B		0.0			47.0	D	
Intersection Delay, s/veh / LOS	28.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	3.3	C	3.0	C
Bicycle LOS Score / LOS	1.9	A	2.0	A				F

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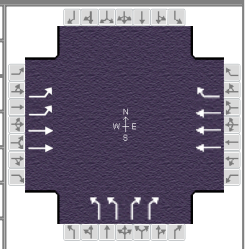
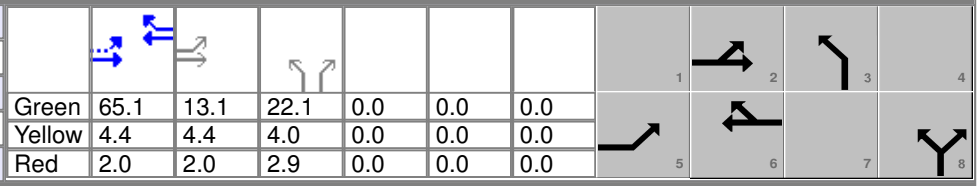
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_AM_Build_(B).xus				
Project Description	2040 Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	780	1265			1195	830	520		320			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	65.1	13.1	22.1	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	19.5	91.0		71.5		29.0		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	13.0					20.5		
Green Extension Time (g_e), s	0.1	0.0		0.0		1.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.13		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	821	1332			1258	874	547		337			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1773			1691	1579	1723		1397			
Queue Service Time (g_s), s	11.0	5.4			12.3	65.0	18.5		13.4			
Cycle Queue Clearance Time (g_c), s	11.0	5.4			12.3	65.0	18.5		13.4			
Green Ratio (*g/C*)	0.63	0.71			0.54	0.54	0.18		0.18			
Capacity (*c*), veh/h	869	2502			2750	855	633		513			
Volume-to-Capacity Ratio (*X*)	0.945	0.532			0.457	1.021	0.865		0.656			
Available Capacity (c_a), veh/h	872	2502			2750	855	807		654			
Back of Queue (*Q*), veh/ln (50th percentile)	13.8	1.2			3.7	30.9	8.2		4.5			
Queue Storage Ratio (*RQ*) (50th percentile)	1.85	0.13			0.00	5.23	0.00		0.00			
Uniform Delay (d_1), s/veh	37.8	1.2			9.3	27.5	47.5		45.5			
Incremental Delay (d_2), s/veh	18.2	0.8			0.6	36.3	6.7		0.7			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	56.0	2.0			9.9	63.7	54.2		46.2			
Level of Service (LOS)	E	A			A	F	D		D			
Approach Delay, s/veh / LOS	22.6	C		32.0	C		51.1	D		0.0		
Intersection Delay, s/veh / LOS	31.4						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.5	B	3.0	C	3.3	C
Bicycle LOS Score / LOS	2.3	B	1.7	A		F		

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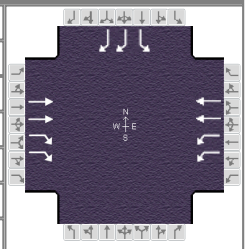
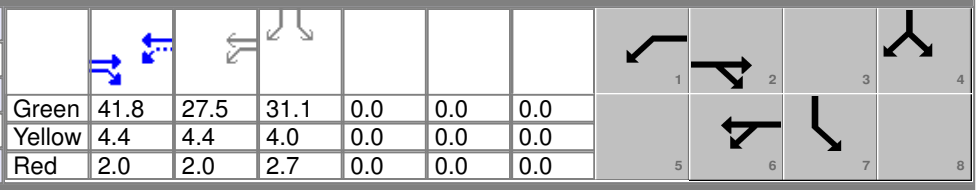
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_AM_Build_(A).xus				
Project Description	2040 Build AM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1275	695	775	1035					395		445

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	41.8	27.5	31.1	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.7	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		48.2	33.9	82.2				37.8
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			25.2					29.2
Green Extension Time (g_e), s		0.0	2.3	0.0				1.9
Phase Call Probability			1.00					1.00
Max Out Probability			0.05					0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1342	732	816	1089					416		468
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1773	1397	1723	1773					1774		1397
Queue Service Time (g_s), s		41.8	27.7	23.2	9.9					27.2		17.9
Cycle Queue Clearance Time (g_c), s		41.8	27.7	23.2	9.9					27.2		17.9
Green Ratio (*g/C*)		0.35	0.35	0.56	0.63					0.26		0.26
Capacity (*c*), veh/h		1237	974	910	2239					460		725
Volume-to-Capacity Ratio (*X*)		1.085	0.751	0.897	0.487					0.903		0.646
Available Capacity (c_a), veh/h		1237	974	1429	2239					730		1150
Back of Queue (*Q*), veh/ln (50th percentile)		24.4	9.8	11.7	2.6					12.2		5.9
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	1.38	0.89	0.17					0.00		0.00
Uniform Delay (d_1), s/veh		32.1	34.5	42.9	4.3					43.0		39.5
Incremental Delay (d_2), s/veh		52.0	5.3	3.4	0.8					6.6		0.4
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		84.1	39.8	46.2	5.0					49.5		39.9
Level of Service (LOS)		F	D	D	A					D		D
Approach Delay, s/veh / LOS	68.5	E		22.7	C		0.0			44.4	D	
Intersection Delay, s/veh / LOS	46.2						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	3.0	C	3.0	C
Bicycle LOS Score / LOS	2.2	B	2.1	B				F

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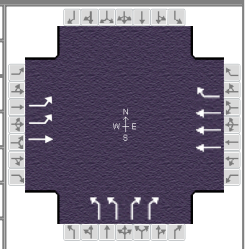
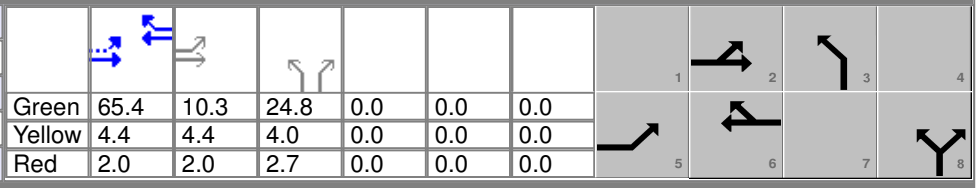
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_AM_Build_(B).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	625	1045			1380	775	430		480			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	65.4	10.3	24.8	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	16.7	88.5		71.8		31.5		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	10.2					23.0		
Green Extension Time (g_e), s	0.0	0.0		0.0		1.8		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.12		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	658	1100			1453	816	453		505			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1863			1691	1579	1723		1397			
Queue Service Time (g_s), s	8.2	29.3			15.2	58.5	14.4		21.0			
Cycle Queue Clearance Time (g_c), s	8.2	29.3			15.2	58.5	14.4		21.0			
Green Ratio (*g/C*)	0.61	0.68			0.54	0.54	0.21		0.21			
Capacity (*c*), veh/h	708	1274			2762	859	712		578			
Volume-to-Capacity Ratio (*X*)	0.929	0.863			0.526	0.949	0.635		0.875			
Available Capacity (c_a), veh/h	711	1274			2762	859	899		729			
Back of Queue (*Q*), veh/ln (50th percentile)	11.2	5.4			4.3	24.9	5.9		7.6			
Queue Storage Ratio (*RQ*) (50th percentile)	0.85	0.35			0.00	3.02	0.00		0.00			
Uniform Delay (d_1), s/veh	40.7	3.0			9.6	25.8	43.5		46.1			
Incremental Delay (d_2), s/veh	18.2	7.9			0.7	20.6	0.4		8.3			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	58.9	10.9			10.3	46.4	43.8		54.3			
Level of Service (LOS)	E	B			B	D	D		D			
Approach Delay, s/veh / LOS	28.9	C		23.3	C		49.4	D		0.0		
Intersection Delay, s/veh / LOS	30.3						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.5	B	3.0	C	3.2	C
Bicycle LOS Score / LOS	3.4	C	1.7	A		F		

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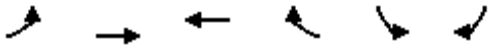


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	700	900	0	625	205
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	737	947	0	658	216
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1732	1732	0	915	421
Arrive On Green	0.00	0.49	0.49	0.00	0.27	0.27
Sat Flow, veh/h	0	3725	3725	0	3442	1583
Grp Volume(v), veh/h	0	737	947	0	658	216
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1721	1583
Q Serve(g_s), s	0.0	7.0	9.8	0.0	9.1	6.1
Cycle Q Clear(g_c), s	0.0	7.0	9.8	0.0	9.1	6.1
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1732	1732	0	915	421
V/C Ratio(X)	0.00	0.43	0.55	0.00	0.72	0.51
Avail Cap(c_a), veh/h	0	1732	1732	0	1750	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	8.6	9.3	0.0	17.4	16.3
Incr Delay (d2), s/veh	0.0	0.8	1.2	0.0	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	3.6	5.0	0.0	4.4	2.8
LnGrp Delay(d),s/veh	0.0	9.4	10.6	0.0	18.5	17.3
LnGrp LOS		A	B		B	B
Approach Vol, veh/h		737	947		874	
Approach Delay, s/veh		9.4	10.6		18.2	
Approach LOS		A	B		B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		32.0		20.3		32.0		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		25.6		26.6		25.6		
Max Q Clear Time (g_c+I1), s		9.0		11.1		11.8		
Green Ext Time (p_c), s		7.1		2.8		6.5		

Intersection Summary	
HCM 2010 Ctrl Delay	12.8
HCM 2010 LOS	B

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	185	1140	0	0	900	1215	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	195	1200	0	0	947	1279	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	947	0	0	1200	0	0	2063	2536	600
Stage 1	-	-	-	-	-	-	1589	1589	-
Stage 2	-	-	-	-	-	-	474	947	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	721	-	-	577	-	0	47	27	444
Stage 1	-	-	-	-	-	0	153	166	-
Stage 2	-	-	-	-	-	0	592	338	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	721	-	-	577	-	-	34	0	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	34	0	-
Stage 1	-	-	-	-	-	-	112	0	-
Stage 2	-	-	-	-	-	-	592	0	-

Approach	EB	WB	NB
HCM Control Delay, s	1.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	721	-	-	577	-
HCM Lane V/C Ratio	-	0.27	-	-	-	-
HCM Control Delay (s)	0	11.8	-	-	0	-
HCM Lane LOS	A	B	-	-	A	-
HCM 95th %tile Q(veh)	-	1.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	310	345	155	710	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	326	363	163	747	0	0	0	0	0	0	0

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	747	0	-	326	0	0				1237	1400	374
Stage 1	-	-	-	-	-	-				1074	1074	-
Stage 2	-	-	-	-	-	-				163	326	-
Critical Hdwy	4.14	-	-	4.14	-	-				6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-				5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-				3.52	4.02	3.32
Pot Cap-1 Maneuver	857	-	0	1230	-	-				168	139	623
Stage 1	-	-	0	-	-	-				289	294	-
Stage 2	-	-	0	-	-	-				849	647	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	857	-	-	1230	-	-				146	0	623
Mov Cap-2 Maneuver	-	-	-	-	-	-				146	0	-
Stage 1	-	-	-	-	-	-				251	0	-
Stage 2	-	-	-	-	-	-				849	0	-

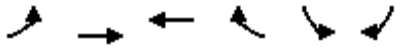
Approach	EB	WB	SB
HCM Control Delay, s	0	1.5	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	857	-	1230	-	-	-
HCM Lane V/C Ratio	-	-	0.133	-	-	-
HCM Control Delay (s)	0	-	8.4	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.5	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	310	0	0	475	390	240
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	0	1863	1863	1863
Adj Flow Rate, veh/h	326	0	0	500	411	253
Adj No. of Lanes	2	0	0	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1233	0	0	1233	599	535
Arrive On Green	0.35	0.00	0.00	0.35	0.34	0.34
Sat Flow, veh/h	3725	0	0	3725	1774	1583
Grp Volume(v), veh/h	326	0	0	500	411	253
Grp Sat Flow(s),veh/h/ln	1770	0	0	1770	1774	1583
Q Serve(g_s), s	1.7	0.0	0.0	2.7	5.1	3.2
Cycle Q Clear(g_c), s	1.7	0.0	0.0	2.7	5.1	3.2
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1233	0	0	1233	599	535
V/C Ratio(X)	0.26	0.00	0.00	0.41	0.69	0.47
Avail Cap(c_a), veh/h	2221	0	0	2221	1113	994
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	6.3	7.3	6.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.2	1.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	0.0	1.4	2.6	1.4
LnGrp Delay(d),s/veh	6.1	0.0	0.0	6.5	8.7	7.3
LnGrp LOS	A			A	A	A
Approach Vol, veh/h	326			500	664	
Approach Delay, s/veh	6.1			6.5	8.2	
Approach LOS	A			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		12.6		12.9				12.9
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		16.0				16.0
Max Q Clear Time (g_c+I1), s		7.1		3.7				4.7
Green Ext Time (p_c), s		1.5		4.4				4.2

Intersection Summary	
HCM 2010 Ctrl Delay	7.1
HCM 2010 LOS	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1290	510	0	380	880
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1358	537	0	400	926
Adj No. of Lanes	0	3	3	0	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1502	2531	0	670	1053
Arrive On Green	0.00	0.50	0.50	0.00	0.38	0.38
Sat Flow, veh/h	0	4731	5421	0	1774	2787
Grp Volume(v), veh/h	0	1358	537	0	400	926
Grp Sat Flow(s),veh/h/ln	0	1006	1695	0	1774	1393
Q Serve(g_s), s	0.0	33.0	4.8	0.0	14.6	24.9
Cycle Q Clear(g_c), s	0.0	33.0	4.8	0.0	14.6	24.9
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1502	2531	0	670	1053
V/C Ratio(X)	0.00	0.90	0.21	0.00	0.60	0.88
Avail Cap(c_a), veh/h	0	1502	2531	0	773	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	18.4	11.3	0.0	20.1	23.3
Incr Delay (d2), s/veh	0.0	9.3	0.2	0.0	1.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	10.3	2.3	0.0	7.3	10.5
LnGrp Delay(d),s/veh	0.0	27.7	11.5	0.0	21.0	30.3
LnGrp LOS		C	B		C	C
Approach Vol, veh/h		1358	537		1326	
Approach Delay, s/veh		27.7	11.5		27.5	
Approach LOS		C	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		35.4
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		6.8				35.0		26.9
Green Ext Time (p_c), s		17.9				4.1		3.5

Intersection Summary	
HCM 2010 Ctrl Delay	24.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	415	0	75	0	5	5	50	515	0	10	385	645
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	437	0	79	0	5	5	53	542	0	11	405	679
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	0	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	642	0	536	0	52	52	335	1696	0	91	878	1335
Arrive On Green	0.19	0.00	0.34	0.00	0.06	0.06	0.48	0.48	0.00	0.48	0.48	0.48
Sat Flow, veh/h	3442	0	1583	0	856	856	518	3632	0	14	1833	2787
Grp Volume(v), veh/h	437	0	79	0	0	10	53	542	0	416	0	679
Grp Sat Flow(s),veh/h/ln	1721	0	1583	0	0	1712	518	1770	0	1847	0	1393
Q Serve(g_s), s	5.2	0.0	1.5	0.0	0.0	0.2	3.3	4.1	0.0	0.0	0.0	7.4
Cycle Q Clear(g_c), s	5.2	0.0	1.5	0.0	0.0	0.2	9.9	4.1	0.0	6.6	0.0	7.4
Prop In Lane	1.00		1.00	0.00		0.50	1.00		0.00	0.03		1.00
Lane Grp Cap(c), veh/h	642	0	536	0	0	103	335	1696	0	969	0	1335
V/C Ratio(X)	0.68	0.00	0.15	0.00	0.00	0.10	0.16	0.32	0.00	0.43	0.00	0.51
Avail Cap(c_a), veh/h	1256	0	1301	0	0	625	335	1696	0	969	0	1335
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.6	0.0	10.1	0.0	0.0	19.5	11.0	7.0	0.0	7.7	0.0	7.9
Incr Delay (d2), s/veh	1.3	0.0	0.1	0.0	0.0	0.4	1.0	0.5	0.0	1.4	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.7	0.0	0.0	0.1	0.6	2.1	0.0	3.7	0.0	3.1
LnGrp Delay(d),s/veh	17.9	0.0	10.2	0.0	0.0	19.9	12.0	7.5	0.0	9.0	0.0	9.2
LnGrp LOS	B		B			B	B	A		A		A
Approach Vol, veh/h		516			10			595			1095	
Approach Delay, s/veh		16.7			19.9			7.9			9.2	
Approach LOS		B			B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		25.0		18.8		25.0	12.2	6.6
Change Period (Y+Rc), s		4.0		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		21.0		36.0		21.0	16.0	16.0
Max Q Clear Time (g_c+I1), s		11.9		3.5		9.4	7.2	2.2
Green Ext Time (p_c), s		5.9		0.4		7.1	1.0	0.3

Intersection Summary	
HCM 2010 Ctrl Delay	10.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	315	0	235	0	460	0	0	485	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h	0	0	0	332	0	247	0	484	0	0	511	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	0	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	419	0	0	419	356	215	1000	0	0	1900	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.54	0.00	0.00	0.54	0.00
Sat Flow, veh/h	0	1863	0	0	1863	1583	885	1863	0	0	3725	0
Grp Volume(v), veh/h	0	0	0	0	0	247	0	484	0	0	511	0
Grp Sat Flow(s),veh/h/ln	0	1863	0	0	1863	1583	885	1863	0	0	1770	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.8	0.0	5.5	0.0	0.0	2.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	4.8	0.0	5.5	0.0	0.0	2.6	0.0
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	419	0	0	419	356	215	1000	0	0	1900	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.69	0.00	0.48	0.00	0.00	0.27	0.00
Avail Cap(c_a), veh/h	0	889	0	0	1888	1605	215	1000	0	0	1900	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	11.9	0.0	4.9	0.0	0.0	4.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	2.4	0.0	1.7	0.0	0.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	2.3	0.0	3.2	0.0	0.0	1.4	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	14.4	0.0	6.5	0.0	0.0	4.6	0.0
LnGrp LOS						B		A			A	
Approach Vol, veh/h		0			247			484			511	
Approach Delay, s/veh		0.0			14.4			6.5			4.6	
Approach LOS					B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		22.0	0.0	11.5		22.0		11.5
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0	14.0	16.0		18.0		34.0
Max Q Clear Time (g_c+I1), s		7.5	0.0	0.0		4.6		6.8
Green Ext Time (p_c), s		4.6	0.0	0.0		5.3		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	7.3
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	460	480	250	550	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	484	505	263	579	0

Major/Minor	Minor2						Major1			Major2		
Conflicting Flow All	1589	1589	289				579	0	0	484	0	0
Stage 1	1105	1105	-				-	-	-	-	-	-
Stage 2	484	484	-				-	-	-	-	-	-
Critical Hdwy	6.63	6.53	6.93				4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	5.83	5.53	-				-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-				-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319				2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	108	107	708				991	-	-	1079	-	-
Stage 1	279	286	-				-	-	-	-	-	-
Stage 2	619	551	-				-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	0	708				991	-	-	1079	-	-
Mov Cap-2 Maneuver	82	0	-				-	-	-	-	-	-
Stage 1	211	0	-				-	-	-	-	-	-
Stage 2	619	0	-				-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	991	-	-	-	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.244	-	-
HCM Control Delay (s)	0	-	-	0	9.4	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1465	1260	0	1345	0	0	0	0	330	0	750
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	1542	1326	0	1416	0				347	0	789
Adj No. of Lanes	0	2	2	0	3	0				1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	0				2	0	2
Cap, veh/h	0	1933	1522	0	2778	0				611	0	960
Arrive On Green	0.00	0.55	0.55	0.00	0.55	0.00				0.34	0.00	0.34
Sat Flow, veh/h	0	3632	2787	0	5421	0				1774	0	2787
Grp Volume(v), veh/h	0	1542	1326	0	1416	0				347	0	789
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	0				1774	0	1393
Q Serve(g_s), s	0.0	32.0	37.7	0.0	16.0	0.0				14.6	0.0	23.7
Cycle Q Clear(g_c), s	0.0	32.0	37.7	0.0	16.0	0.0				14.6	0.0	23.7
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1933	1522	0	2778	0				611	0	960
V/C Ratio(X)	0.00	0.80	0.87	0.00	0.51	0.00				0.57	0.00	0.82
Avail Cap(c_a), veh/h	0	1935	1524	0	2780	0				776	0	1219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	16.7	18.0	0.0	13.0	0.0				24.4	0.0	27.4
Incr Delay (d2), s/veh	0.0	2.6	5.9	0.0	0.2	0.0				1.2	0.0	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	16.1	15.6	0.0	7.5	0.0				7.3	0.0	9.7
LnGrp Delay(d),s/veh	0.0	19.2	23.9	0.0	13.3	0.0				25.6	0.0	31.6
LnGrp LOS		B	C		B					C		C
Approach Vol, veh/h		2868			1416						1136	
Approach Delay, s/veh		21.4			13.3						29.8	
Approach LOS		C			B						C	

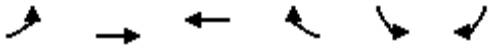
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		55.0		36.5		55.0		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		50.0		40.0		50.0		
Max Q Clear Time (g_c+I1), s		39.7		25.7		18.0		
Green Ext Time (p_c), s		10.3		5.8		31.6		

Intersection Summary	
HCM 2010 Ctrl Delay	21.0
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	1430	0	470	2200	0	0	0	0	385	0	15
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	0	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	1505	0	495	2316	0				405	0	16
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	2	2	0				2	0	2
Cap, veh/h	0	2006	0	727	2595	0				459	0	211
Arrive On Green	0.00	0.57	0.00	0.10	0.73	0.00				0.13	0.00	0.13
Sat Flow, veh/h	0	3725	0	3442	3632	0				3442	0	1583
Grp Volume(v), veh/h	0	1505	0	495	2316	0				405	0	16
Grp Sat Flow(s),veh/h/ln	0	1770	0	1721	1770	0				1721	0	1583
Q Serve(g_s), s	0.0	19.2	0.0	1.3	30.3	0.0				6.9	0.0	0.5
Cycle Q Clear(g_c), s	0.0	19.2	0.0	1.3	30.3	0.0				6.9	0.0	0.5
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2006	0	727	2595	0				459	0	211
V/C Ratio(X)	0.00	0.75	0.00	0.68	0.89	0.00				0.88	0.00	0.08
Avail Cap(c_a), veh/h	0	2006	0	727	2595	0				459	0	211
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	9.8	0.0	22.5	6.2	0.0				25.5	0.0	22.8
Incr Delay (d2), s/veh	0.0	2.6	0.0	2.6	5.2	0.0				18.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.9	0.0	4.0	16.0	0.0				4.4	0.0	0.2
LnGrp Delay(d),s/veh	0.0	12.4	0.0	25.1	11.4	0.0				43.5	0.0	22.9
LnGrp LOS		B		C	B					D		C
Approach Vol, veh/h		1505			2811						421	
Approach Delay, s/veh		12.4			13.8						42.7	
Approach LOS		B			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	10.0	38.0		12.0		48.0		
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		
Max Green Setting (Gmax), s	6.0	34.0		8.0		44.0		
Max Q Clear Time (g_c+I1), s	3.3	21.2		8.9		32.3		
Green Ext Time (p_c), s	2.7	8.5		0.0		10.9		

Intersection Summary	
HCM 2010 Ctrl Delay	15.9
HCM 2010 LOS	B



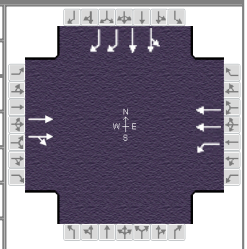
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	285	1530	2670	0	0	0
Number	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	0		
Adj Flow Rate, veh/h	300	1611	2811	0		
Adj No. of Lanes	2	2	2	0		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	0		
Cap, veh/h	413	3349	2969	0		
Arrive On Green	0.05	0.95	0.84	0.00		
Sat Flow, veh/h	3442	3632	3725	0		
Grp Volume(v), veh/h	300	1611	2811	0		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	0		
Q Serve(g_s), s	1.3	3.3	46.3	0.0		
Cycle Q Clear(g_c), s	1.3	3.3	46.3	0.0		
Prop In Lane	1.00			0.00		
Lane Grp Cap(c), veh/h	413	3349	2969	0		
V/C Ratio(X)	0.73	0.48	0.95	0.00		
Avail Cap(c_a), veh/h	414	3377	2996	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	32.6	0.2	4.7	0.0		
Incr Delay (d2), s/veh	6.2	0.1	7.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.3	1.4	24.1	0.0		
LnGrp Delay(d),s/veh	38.8	0.3	12.1	0.0		
LnGrp LOS	D	A	B			
Approach Vol, veh/h		1911	2811			
Approach Delay, s/veh		6.4	12.1			
Approach LOS		A	B			

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		74.4			8.0	66.4		
Change Period (Y+Rc), s		4.0			4.0	4.0		
Max Green Setting (Gmax), s		71.0			4.0	63.0		
Max Q Clear Time (g_c+I1), s		5.3			3.3	48.3		
Green Ext Time (p_c), s		25.4			0.6	14.1		

Intersection Summary	
HCM 2010 Ctrl Delay	9.8
HCM 2010 LOS	A

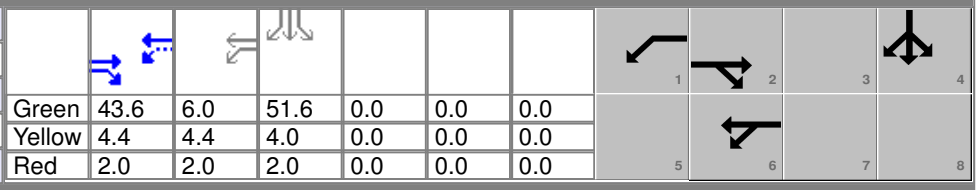
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Southbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_SB_I275_PM_Build_(A).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1485	50	20	855					175	585	1210

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	43.6	6.0	51.6	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.0	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		8.3	1.0	4.0				11.0
Phase Duration, s		50.0	12.4	62.4				57.6
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.0
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			2.0					53.6
Green Extension Time (g_e), s		0.0	2.3	0.0				0.0
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7	4	14
Adjusted Flow Rate (*v*), veh/h		811	805	21	900					419	381	1274
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1863	1841	1774	1773					1823	1863	1397
Queue Service Time (g_s), s		59.1	43.6	0.0	17.4					20.4	17.6	51.6
Cycle Queue Clearance Time (g_c), s		59.1	43.6	0.0	17.4					20.4	17.6	51.6
Green Ratio (*g/C*)		0.36	0.36	0.40	0.47					0.43	0.43	0.43
Capacity (*c*), veh/h		677	669	149	1656					783	801	1201
Volume-to-Capacity Ratio (*X*)		1.197	1.203	0.142	0.543					0.535	0.476	1.061
Available Capacity (c_a), veh/h		677	669	409	1656					784	801	1201
Back of Queue (*Q*), veh/ln (50th percentile)		36.4	36.6	0.6	5.9					8.4	7.3	23.3
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	0.00	0.08	0.43					0.00	0.00	0.00
Uniform Delay (d_1), s/veh		30.9	31.4	54.1	15.4					25.3	24.5	34.2
Incremental Delay (d_2), s/veh		102.6	105.2	0.2	1.3					0.4	0.2	43.7
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0	0.0	0.0
Control Delay (*d*), s/veh		133.5	136.6	54.3	16.6					25.7	24.7	77.9
Level of Service (LOS)		F	F	D	B					C	C	F
Approach Delay, s/veh / LOS	135.0	F		17.5	B		0.0			57.6	E	
Intersection Delay, s/veh / LOS	76.7						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	2.1	B	2.9	C	2.8	C
Bicycle LOS Score / LOS	1.8	A	1.2	A			2.2	B

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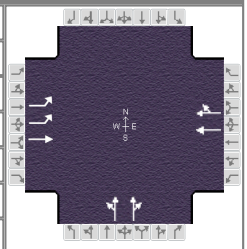
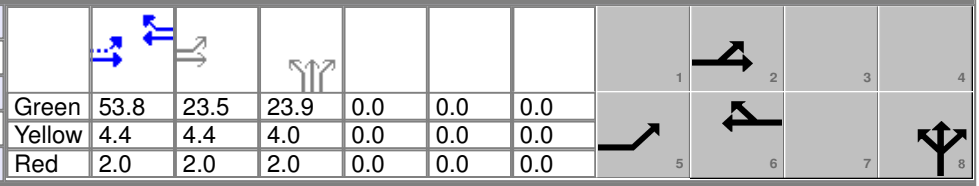
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/7/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	5th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	5th_Ave_N_NB_I275_PM_Build_(B).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	840	820			860	490	15	530	50			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	53.8	23.5	23.9	0.0	0.0	0.0			
Yellow	4.4	4.4	4.0	0.0	0.0	0.0			
Red	2.0	2.0	2.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		8.3		12.0		
Phase Duration, s	29.9	90.1		60.2		29.9		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.0		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	25.5					22.9		
Green Extension Time (g_e), s	0.0	0.0		0.0		1.0		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.01		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3	8	18			
Adjusted Flow Rate (*v*), veh/h	884	863			747	674	332		294			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1863			1863	1637	1858		1805			
Queue Service Time (g_s), s	23.5	10.2			49.1	45.9	20.9		18.7			
Cycle Queue Clearance Time (g_c), s	23.5	10.2			49.1	45.9	20.9		18.7			
Green Ratio (*g/C*)	0.63	0.70			0.45	0.45	0.20		0.20			
Capacity (*c*), veh/h	812	1299			835	734	370		359			
Volume-to-Capacity Ratio (*X*)	1.089	0.664			0.895	0.918	0.897		0.819			
Available Capacity (c_a), veh/h	812	1299			835	734	527		511			
Back of Queue (*Q*), veh/ln (50th percentile)	18.5	2.5			17.7	20.3	10.7		8.8			
Queue Storage Ratio (*RQ*) (50th percentile)	1.74	0.18			0.00	0.00	0.00		0.00			
Uniform Delay (d_1), s/veh	46.2	1.6			21.7	29.0	46.9		46.0			
Incremental Delay (d_2), s/veh	58.6	2.7			14.1	18.4	11.0		4.7			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	104.9	4.3			35.8	47.3	57.8		50.7			
Level of Service (LOS)	F	A			D	D	E		D			
Approach Delay, s/veh / LOS	55.2	E		41.3	D		54.5	D		0.0		
Intersection Delay, s/veh / LOS	49.9						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	1.6	A	2.5	B	2.3	B	2.9	C
Bicycle LOS Score / LOS	3.4	C	1.7	A	1.0	A		

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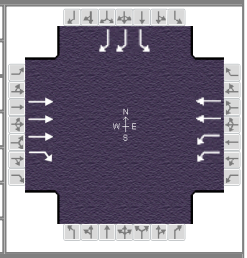
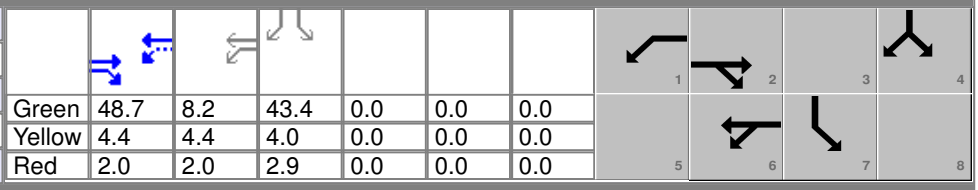
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_SB_I275_PM_Build_(A).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1490	700	360	1730					515		925

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	48.7	8.2	43.4	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		55.1	14.6	69.7				50.3
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.9
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			7.3					42.9
Green Extension Time (g_e), s		0.0	1.0	0.0				0.4
Phase Call Probability			1.00					1.00
Max Out Probability			0.20					1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1568	737	379	1821					542		974
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1691	1579	1723	1773					1774		1397
Queue Service Time (g_s), s		28.9	48.7	5.3	58.0					33.7		40.9
Cycle Queue Clearance Time (g_c), s		28.9	48.7	5.3	58.0					33.7		40.9
Green Ratio (*g/C*)		0.41	0.41	0.46	0.53					0.36		0.36
Capacity (*c*), veh/h		2061	641	452	1870					642		1011
Volume-to-Capacity Ratio (*X*)		0.761	1.149	0.839	0.974					0.844		0.963
Available Capacity (c_a), veh/h		2061	641	896	1870					646		1018
Back of Queue (*Q*), veh/ln (50th percentile)		10.1	32.8	5.5	19.8					15.3		15.8
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	2.78	0.74	2.09					0.00		0.00
Uniform Delay (d_1), s/veh		23.0	35.6	50.7	17.1					35.2		37.5
Incremental Delay (d_2), s/veh		2.7	84.4	1.6	15.5					9.4		19.5
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		25.7	120.0	52.4	32.6					44.6		57.0
Level of Service (LOS)		C	F	D	C					D		E
Approach Delay, s/veh / LOS	55.8	E		36.0	D		0.0			52.6	D	
Intersection Delay, s/veh / LOS	47.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	3.3	C	3.0	C
Bicycle LOS Score / LOS	1.8	A	2.3	B				F

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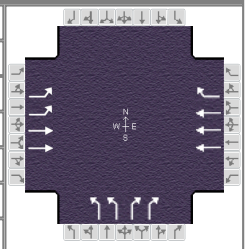
HCS 2010 Signalized Intersection Results Summary

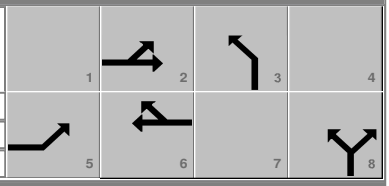
General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	22nd Ave N/Northbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	22nd_Ave_N_NB_I275_PM_Build_(B).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	545	1460			1395	575	695		425			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	65.2	7.7	27.5	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.9	0.0	0.0	0.0						



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	14.1	85.6		71.6		34.4		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.9		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	7.6					26.9		
Green Extension Time (g_e), s	0.0	0.0		0.0		0.5		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					1.00		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	574	1537			1468	605	732		447			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1773			1691	1579	1723		1397			
Queue Service Time (g_s), s	5.6	14.7			15.6	34.1	24.9		17.6			
Cycle Queue Clearance Time (g_c), s	5.6	14.7			15.6	34.1	24.9		17.6			
Green Ratio (*g/C*)	0.59	0.66			0.54	0.54	0.23		0.23			
Capacity (*c*), veh/h	625	2342			2753	856	788		639			
Volume-to-Capacity Ratio (*X*)	0.918	0.656			0.533	0.707	0.928		0.700			
Available Capacity (c_a), veh/h	627	2342			2753	856	807		654			
Back of Queue (*Q*), veh/ln (50th percentile)	9.8	3.0			4.5	12.9	12.0		6.1			
Queue Storage Ratio (*RQ*) (50th percentile)	1.31	0.32			0.00	2.18	0.00		0.00			
Uniform Delay (d_1), s/veh	41.5	3.3			9.8	20.4	45.3		42.5			
Incremental Delay (d_2), s/veh	18.2	1.5			0.7	4.9	16.3		2.7			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	59.7	4.8			10.5	25.3	61.6		45.2			
Level of Service (LOS)	E	A			B	C	E		D			
Approach Delay, s/veh / LOS	19.7	B		14.8	B		55.3	E		0.0		
Intersection Delay, s/veh / LOS	25.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.5	B	3.0	C	3.3	C
Bicycle LOS Score / LOS	2.2	B	1.6	A		F		

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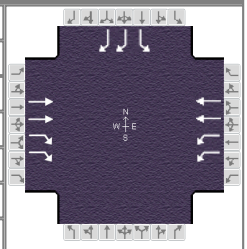
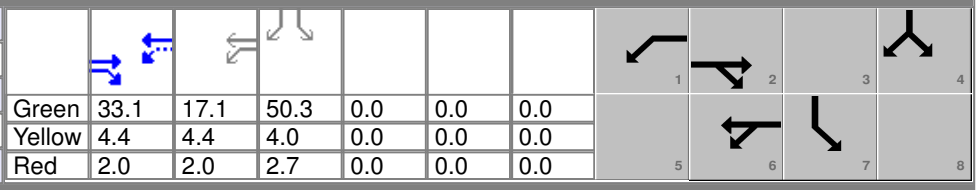
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Southbound I-2	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_SB_I275_PM_Build_(A).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h		1200	650	500	1105					660		770

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	33.1	17.1	50.3	0.0	0.0	0.0
Yellow	4.4	4.4	4.0	0.0	0.0	0.0
Red	2.0	2.0	2.7	0.0	0.0	0.0

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2	1	6				4
Case Number		7.3	1.0	4.0				9.0
Phase Duration, s		39.5	23.5	63.0				57.0
Change Period, ($Y+R_c$), s		6.4	6.4	6.4				6.7
Max Allow Headway (*MAH*), s		0.0	3.1	0.0				3.1
Queue Clearance Time (g_s), s			15.6					46.9
Green Extension Time (g_e), s		0.0	1.5	0.0				3.4
Phase Call Probability			1.00					1.00
Max Out Probability			0.00					0.12

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement		2	12	1	6					7		14
Adjusted Flow Rate (*v*), veh/h		1263	684	526	1163					695		811
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1773	1397	1723	1773					1774		1397
Queue Service Time (g_s), s		33.1	28.2	13.6	25.9					44.9		28.5
Cycle Queue Clearance Time (g_c), s		33.1	28.2	13.6	25.9					44.9		28.5
Green Ratio (*g/C*)		0.28	0.28	0.40	0.47					0.42		0.42
Capacity (*c*), veh/h		979	771	611	1673					743		1171
Volume-to-Capacity Ratio (*X*)		1.291	0.887	0.861	0.695					0.935		0.692
Available Capacity (c_a), veh/h		979	771	1429	1673					884		1393
Back of Queue (*Q*), veh/ln (50th percentile)		31.7	11.0	7.6	8.7					20.7		9.0
Queue Storage Ratio (*RQ*) (50th percentile)		0.00	1.55	0.58	0.57					0.00		0.00
Uniform Delay (d_1), s/veh		37.9	41.7	48.4	16.6					33.3		28.5
Incremental Delay (d_2), s/veh		138.5	14.3	1.4	2.4					14.1		0.8
Initial Queue Delay (d_3), s/veh		0.0	0.0	0.0	0.0					0.0		0.0
Control Delay (*d*), s/veh		176.4	56.0	49.8	19.0					47.4		29.3
Level of Service (LOS)		F	E	D	B					D		C
Approach Delay, s/veh / LOS	134.1	F		28.6	C		0.0			37.7	D	
Intersection Delay, s/veh / LOS	71.2						E					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.5	B	1.9	A	3.0	C	3.0	C
Bicycle LOS Score / LOS	2.1	B	1.9	A				F

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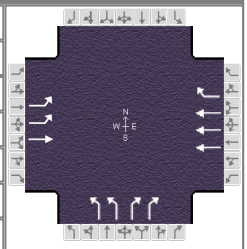
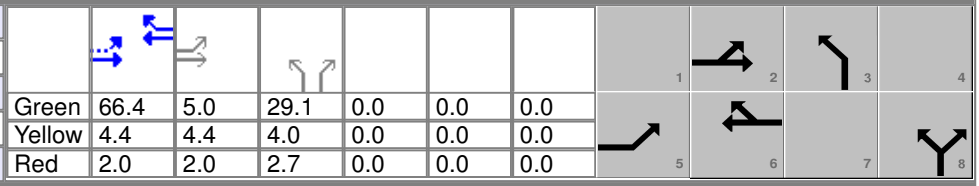
HCS 2010 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	11/11/2014	Area Type	Other
Jurisdiction		Time Period		PHF	0.95
Intersection	38th Ave N/Northbound I-27	Analysis Year	2014	Analysis Period	1> 7:00
File Name	38th_Ave_N_NB_I275_PM_Build_(B).xus				
Project Description	2040 Build PM				



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	535	1325			1000	385	605		585			

Signal Information			
Cycle, s	120.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	66.4	5.0	29.1	0.0	0.0	0.0						
Yellow	4.4	4.4	4.0	0.0	0.0	0.0						
Red	2.0	2.0	2.7	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	5	2		6		8		
Case Number	1.0	4.0		7.3		9.0		
Phase Duration, s	11.4	84.2		72.8		35.8		
Change Period, ($Y+R_c$), s	6.4	6.4		6.4		6.7		
Max Allow Headway (*MAH*), s	3.1	0.0		0.0		3.1		
Queue Clearance Time (g_s), s	2.0					27.7		
Green Extension Time (g_e), s	2.0	0.0		0.0		1.4		
Phase Call Probability	1.00					1.00		
Max Out Probability	1.00					0.86		

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2			6	16	3		18			
Adjusted Flow Rate (*v*), veh/h	563	1395			1053	405	637		616			
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1723	1863			1691	1579	1723		1397			
Queue Service Time (g_s), s	0.0	77.8			9.0	18.5	20.6		25.7			
Cycle Queue Clearance Time (g_c), s	0.0	77.8			9.0	18.5	20.6		25.7			
Green Ratio (*g/C*)	0.58	0.65			0.55	0.55	0.24		0.24			
Capacity (*c*), veh/h	756	1207			2807	873	836		678			
Volume-to-Capacity Ratio (*X*)	0.745	1.155			0.375	0.464	0.762		0.908			
Available Capacity (c_a), veh/h	756	1207			2807	873	899		729			
Back of Queue (*Q*), veh/ln (50th percentile)	8.3	31.9			2.8	6.7	8.7		9.8			
Queue Storage Ratio (*RQ*) (50th percentile)	0.63	2.08			0.00	0.81	0.00		0.00			
Uniform Delay (d_1), s/veh	30.9	8.1			8.2	16.1	42.2		44.1			
Incremental Delay (d_2), s/veh	3.6	79.5			0.4	1.8	3.1		14.0			
Initial Queue Delay (d_3), s/veh	0.0	0.0			0.0	0.0	0.0		0.0			
Control Delay (*d*), s/veh	34.5	87.7			8.6	17.9	45.3		58.2			
Level of Service (LOS)	C	F			A	B	D		E			
Approach Delay, s/veh / LOS	72.4	E		11.2	B		51.6	D		0.0		
Intersection Delay, s/veh / LOS	47.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.1	B	2.5	B	3.0	C	3.2	C
Bicycle LOS Score / LOS	3.7	D	1.3	A		F		

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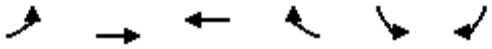


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1085	935	0	1120	560
Number	5	2	6	16	7	14
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1142	984	0	1179	589
Adj No. of Lanes	0	2	2	0	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1406	1406	0	1391	640
Arrive On Green	0.00	0.40	0.40	0.00	0.40	0.40
Sat Flow, veh/h	0	3725	3725	0	3442	1583
Grp Volume(v), veh/h	0	1142	984	0	1179	589
Grp Sat Flow(s),veh/h/ln	0	1770	1770	0	1721	1583
Q Serve(g_s), s	0.0	18.5	15.0	0.0	20.0	22.7
Cycle Q Clear(g_c), s	0.0	18.5	15.0	0.0	20.0	22.7
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1406	1406	0	1391	640
V/C Ratio(X)	0.00	0.81	0.70	0.00	0.85	0.92
Avail Cap(c_a), veh/h	0	1406	1406	0	1420	653
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	17.3	16.2	0.0	17.4	18.2
Incr Delay (d2), s/veh	0.0	5.2	2.9	0.0	4.9	18.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	9.9	7.8	0.0	10.3	13.1
LnGrp Delay(d),s/veh	0.0	22.5	19.2	0.0	22.3	36.4
LnGrp LOS		C	B		C	D
Approach Vol, veh/h		1142	984		1768	
Approach Delay, s/veh		22.5	19.2		27.0	
Approach LOS		C	B		C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		32.5		32.5		32.5		
Change Period (Y+Rc), s		6.4		6.4		6.4		
Max Green Setting (Gmax), s		25.6		26.6		25.6		
Max Q Clear Time (g_c+I1), s		20.5		24.7		17.0		
Green Ext Time (p_c), s		3.8		1.3		5.9		

Intersection Summary	
HCM 2010 Ctrl Delay	23.7
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	130	2075	0	0	935	630	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	220	-	-	-	-	0	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	137	2184	0	0	984	663	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	984	0	0	2184	0	0	2950	3442	1092
Stage 1	-	-	-	-	-	-	2458	2458	-
Stage 2	-	-	-	-	-	-	492	984	-
Critical Hdwy	4.14	-	-	4.14	-	-	6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32
Pot Cap-1 Maneuver	698	-	-	239	-	0	11	7	210
Stage 1	-	-	-	-	-	0	50	60	-
Stage 2	-	-	-	-	-	0	580	325	-
Platoon blocked, %		-	-		-				
Mov Cap-1 Maneuver	698	-	-	239	-	-	9	0	210
Mov Cap-2 Maneuver	-	-	-	-	-	-	9	0	-
Stage 1	-	-	-	-	-	-	40	0	-
Stage 2	-	-	-	-	-	-	580	0	-

Approach	EB	WB	NB
HCM Control Delay, s	0.7	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	698	-	-	239	-
HCM Lane V/C Ratio	-	0.196	-	-	-	-
HCM Control Delay (s)	0	11.4	-	-	0	-
HCM Lane LOS	A	B	-	-	A	-
HCM 95th %tile Q(veh)	-	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	335	510	190	710	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Free	-	-	None	-	-	None	-	-	None
Storage Length	-	-	261	266	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	1081	843	712	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	95	95	95	95	92	95	92	95	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	353	537	200	747	0	0	0	0	0	0	0

Major/Minor	Major1			Major2						Minor2		
Conflicting Flow All	747	0	-	353	0	0				1323	1500	374
Stage 1	-	-	-	-	-	-				1147	1147	-
Stage 2	-	-	-	-	-	-				176	353	-
Critical Hdwy	4.14	-	-	4.14	-	-				6.84	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-				5.84	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-				5.84	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-				3.52	4.02	3.32
Pot Cap-1 Maneuver	857	-	0	1202	-	-				148	121	623
Stage 1	-	-	0	-	-	-				265	272	-
Stage 2	-	-	0	-	-	-				837	629	-
Platoon blocked, %		-			-	-						
Mov Cap-1 Maneuver	857	-	-	1202	-	-				123	0	623
Mov Cap-2 Maneuver	-	-	-	-	-	-				123	0	-
Stage 1	-	-	-	-	-	-				221	0	-
Stage 2	-	-	-	-	-	-				837	0	-

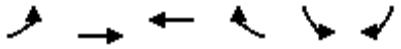
Approach	EB	WB	SB
HCM Control Delay, s	0	1.8	0
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	857	-	1202	-	-	-
HCM Lane V/C Ratio	-	-	0.166	-	-	-
HCM Control Delay (s)	0	-	8.6	-	-	0
HCM Lane LOS	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0	-	0.6	-	-	-

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	335	0	0	405	495	205
Number	4	14	3	8	5	12
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	0	1863	1863	1863
Adj Flow Rate, veh/h	353	0	0	426	521	216
Adj No. of Lanes	2	0	0	2	1	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	0	0	2	2	2
Cap, veh/h	1115	0	0	1115	686	612
Arrive On Green	0.32	0.00	0.00	0.32	0.39	0.39
Sat Flow, veh/h	3725	0	0	3725	1774	1583
Grp Volume(v), veh/h	353	0	0	426	521	216
Grp Sat Flow(s),veh/h/ln	1770	0	0	1770	1774	1583
Q Serve(g_s), s	2.0	0.0	0.0	2.5	6.8	2.6
Cycle Q Clear(g_c), s	2.0	0.0	0.0	2.5	6.8	2.6
Prop In Lane		0.00	0.00		1.00	1.00
Lane Grp Cap(c), veh/h	1115	0	0	1115	686	612
V/C Ratio(X)	0.32	0.00	0.00	0.38	0.76	0.35
Avail Cap(c_a), veh/h	2110	0	0	2110	1058	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	7.0	0.0	0.0	7.2	7.1	5.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	1.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.0	1.2	3.5	1.1
LnGrp Delay(d),s/veh	7.2	0.0	0.0	7.4	8.9	6.2
LnGrp LOS	A			A	A	A
Approach Vol, veh/h	353			426	737	
Approach Delay, s/veh	7.2			7.4	8.1	
Approach LOS	A			A	A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		14.4		12.5				12.5
Change Period (Y+Rc), s		4.0		4.0				4.0
Max Green Setting (Gmax), s		16.0		16.0				16.0
Max Q Clear Time (g_c+I1), s		8.8		4.0				4.5
Green Ext Time (p_c), s		1.5		4.1				4.0

Intersection Summary	
HCM 2010 Ctrl Delay	7.7
HCM 2010 LOS	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1375	585	0	330	1040
Number	1	6	2	12	3	18
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	1863
Adj Flow Rate, veh/h	0	1447	616	0	347	1095
Adj No. of Lanes	0	3	3	0	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	2
Cap, veh/h	0	1635	2399	0	728	1143
Arrive On Green	0.00	0.47	0.47	0.00	0.41	0.41
Sat Flow, veh/h	0	4880	5421	0	1774	2787
Grp Volume(v), veh/h	0	1447	616	0	347	1095
Grp Sat Flow(s),veh/h/ln	0	1155	1695	0	1774	1393
Q Serve(g_s), s	0.0	32.1	6.2	0.0	12.2	32.4
Cycle Q Clear(g_c), s	0.0	32.1	6.2	0.0	12.2	32.4
Prop In Lane	0.00			0.00	1.00	1.00
Lane Grp Cap(c), veh/h	0	1635	2399	0	728	1143
V/C Ratio(X)	0.00	0.89	0.26	0.00	0.48	0.96
Avail Cap(c_a), veh/h	0	1635	2399	0	732	1150
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	20.3	13.5	0.0	18.3	24.3
Incr Delay (d2), s/veh	0.0	7.4	0.3	0.0	0.5	17.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	11.3	2.9	0.0	6.0	15.1
LnGrp Delay(d),s/veh	0.0	27.7	13.7	0.0	18.8	41.6
LnGrp LOS		C	B		B	D
Approach Vol, veh/h		1447	616		1442	
Approach Delay, s/veh		27.7	13.7		36.1	
Approach LOS		C	B		D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2				6		8
Phs Duration (G+Y+Rc), s		45.0				45.0		39.8
Change Period (Y+Rc), s		5.0				5.0		5.0
Max Green Setting (Gmax), s		40.0				40.0		35.0
Max Q Clear Time (g_c+I1), s		8.2				34.1		34.4
Green Ext Time (p_c), s		19.3				5.0		0.4

Intersection Summary	
HCM 2010 Ctrl Delay	28.7
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	780	0	100	0	5	5	25	370	0	5	455	770
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1863	1863	1900	1900	1863	1863
Adj Flow Rate, veh/h	821	0	105	0	5	5	26	389	0	5	479	811
Adj No. of Lanes	2	1	0	0	1	0	1	2	0	0	1	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	973	0	674	0	54	54	233	1472	0	74	772	1159
Arrive On Green	0.28	0.00	0.43	0.00	0.06	0.06	0.42	0.42	0.00	0.42	0.42	0.42
Sat Flow, veh/h	3442	0	1583	0	856	856	426	3632	0	4	1855	2787
Grp Volume(v), veh/h	821	0	105	0	0	10	26	389	0	484	0	811
Grp Sat Flow(s),veh/h/ln	1721	0	1583	0	0	1712	426	1770	0	1859	0	1393
Q Serve(g_s), s	11.3	0.0	2.1	0.0	0.0	0.3	2.6	3.6	0.0	0.0	0.0	12.1
Cycle Q Clear(g_c), s	11.3	0.0	2.1	0.0	0.0	0.3	12.9	3.6	0.0	10.3	0.0	12.1
Prop In Lane	1.00		1.00	0.00		0.50	1.00		0.00	0.01		1.00
Lane Grp Cap(c), veh/h	973	0	674	0	0	109	233	1472	0	845	0	1159
V/C Ratio(X)	0.84	0.00	0.16	0.00	0.00	0.09	0.11	0.26	0.00	0.57	0.00	0.70
Avail Cap(c_a), veh/h	1091	0	1129	0	0	543	233	1472	0	845	0	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.0	0.0	8.9	0.0	0.0	22.3	16.7	9.7	0.0	11.6	0.0	12.1
Incr Delay (d2), s/veh	5.6	0.0	0.1	0.0	0.0	0.4	1.0	0.4	0.0	2.8	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.9	0.0	0.0	0.1	0.4	1.9	0.0	5.9	0.0	5.1
LnGrp Delay(d),s/veh	22.7	0.0	9.0	0.0	0.0	22.6	17.7	10.1	0.0	14.4	0.0	15.7
LnGrp LOS	C		A			C	B	B		B		B
Approach Vol, veh/h		926			10			415			1295	
Approach Delay, s/veh		21.1			22.6			10.6			15.2	
Approach LOS		C			C			B			B	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6	7	8
Phs Duration (G+Y+Rc), s		25.0		25.5		25.0	18.3	7.2
Change Period (Y+Rc), s		4.0		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		21.0		36.0		21.0	16.0	16.0
Max Q Clear Time (g_c+I1), s		14.9		4.1		14.1	13.3	2.3
Green Ext Time (p_c), s		4.3		0.6		4.7	0.9	0.4

Intersection Summary	
HCM 2010 Ctrl Delay	16.6
HCM 2010 LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	200	0	290	0	460	0	0	935	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1863	1863	0	0	1863	1900
Adj Flow Rate, veh/h	0	0	0	211	0	305	0	484	0	0	984	0
Adj No. of Lanes	0	1	0	0	1	1	1	1	0	0	2	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	483	0	0	483	411	205	955	0	0	1814	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.26	0.00	0.51	0.00	0.00	0.51	0.00
Sat Flow, veh/h	0	1863	0	0	1863	1583	570	1863	0	0	3725	0
Grp Volume(v), veh/h	0	0	0	0	0	305	0	484	0	0	984	0
Grp Sat Flow(s),veh/h/ln	0	1863	0	0	1863	1583	570	1863	0	0	1770	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	6.0	0.0	0.0	6.6	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	6.2	0.0	6.0	0.0	0.0	6.6	0.0
Prop In Lane	0.00		0.00	0.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	483	0	0	483	411	205	955	0	0	1814	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.51	0.00	0.00	0.54	0.00
Avail Cap(c_a), veh/h	0	849	0	0	1804	1533	205	955	0	0	1814	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	11.9	0.0	5.6	0.0	0.0	5.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	2.7	0.0	1.9	0.0	0.0	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	2.9	0.0	3.5	0.0	0.0	3.4	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	14.6	0.0	7.6	0.0	0.0	6.9	0.0
LnGrp LOS						B		A			A	
Approach Vol, veh/h		0			305			484			984	
Approach Delay, s/veh		0.0			14.6			7.6			6.9	
Approach LOS					B			A			A	

Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4		6		8
Phs Duration (G+Y+Rc), s		22.0	0.0	13.1		22.0		13.1
Change Period (Y+Rc), s		4.0	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s		18.0	14.0	16.0		18.0		34.0
Max Q Clear Time (g_c+I1), s		8.0	0.0	0.0		8.6		8.2
Green Ext Time (p_c), s		6.3	0.0	0.0		6.1		1.0

Intersection Summary	
HCM 2010 Ctrl Delay	8.4
HCM 2010 LOS	A

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	0	0	0	0	460	295	335	800	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	None	-	-	Yeild	-	-	None
Storage Length	-	-	-	-	-	-	-	-	210	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	484	311	353	842	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	2031	2031	421	842	0	0	484	0	0
Stage 1	1547	1547	-	-	-	-	-	-	-
Stage 2	484	484	-	-	-	-	-	-	-
Critical Hdwy	6.63	6.53	6.93	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	5.83	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.43	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	2.22	-	-	2.218	-	-
Pot Cap-1 Maneuver	56	57	582	789	-	-	1079	-	-
Stage 1	162	175	-	-	-	-	-	-	-
Stage 2	619	551	-	-	-	-	-	-	-
Platoon blocked, %					-	-		-	-
Mov Cap-1 Maneuver	38	0	582	789	-	-	1079	-	-
Mov Cap-2 Maneuver	38	0	-	-	-	-	-	-	-
Stage 1	109	0	-	-	-	-	-	-	-
Stage 2	619	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	2.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	SBL	SBT	SBR
Capacity (veh/h)	789	-	-	-	1079	-	-
HCM Lane V/C Ratio	-	-	-	-	0.327	-	-
HCM Control Delay (s)	0	-	-	0	9.9	-	-
HCM Lane LOS	A	-	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	780	780	0	1850	0	0	0	0	560	0	530
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	0	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	821	821	0	1947	0				589	0	558
Adj No. of Lanes	0	2	2	0	3	0				1	0	2
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	2	0	2	0				2	0	2
Cap, veh/h	0	1840	1449	0	2644	0				665	0	1045
Arrive On Green	0.00	0.52	0.52	0.00	0.52	0.00				0.38	0.00	0.38
Sat Flow, veh/h	0	3632	2787	0	5421	0				1774	0	2787
Grp Volume(v), veh/h	0	821	821	0	1947	0				589	0	558
Grp Sat Flow(s),veh/h/ln	0	1770	1393	0	1695	0				1774	0	1393
Q Serve(g_s), s	0.0	13.8	19.1	0.0	28.4	0.0				29.6	0.0	14.9
Cycle Q Clear(g_c), s	0.0	13.8	19.1	0.0	28.4	0.0				29.6	0.0	14.9
Prop In Lane	0.00		1.00	0.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1840	1449	0	2644	0				665	0	1045
V/C Ratio(X)	0.00	0.45	0.57	0.00	0.74	0.00				0.89	0.00	0.53
Avail Cap(c_a), veh/h	0	1857	1462	0	2668	0				745	0	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	14.3	15.6	0.0	17.8	0.0				27.9	0.0	23.3
Incr Delay (d2), s/veh	0.0	0.2	0.6	0.0	1.2	0.0				12.0	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.8	7.4	0.0	13.4	0.0				16.6	0.0	5.8
LnGrp Delay(d),s/veh	0.0	14.5	16.2	0.0	19.0	0.0				39.9	0.0	23.9
LnGrp LOS		B	B		B					D		C
Approach Vol, veh/h		1642			1947						1147	
Approach Delay, s/veh		15.4			19.0						32.1	
Approach LOS		B			B						C	

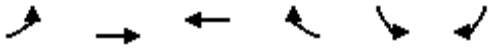
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		54.5		40.7		54.5		
Change Period (Y+Rc), s		5.0		5.0		5.0		
Max Green Setting (Gmax), s		50.0		40.0		50.0		
Max Q Clear Time (g_c+I1), s		21.1		31.6		30.4		
Green Ext Time (p_c), s		28.0		4.1		19.2		

Intersection Summary	
HCM 2010 Ctrl Delay	20.9
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	2240	0	515	1790	0	0	0	0	115	0	85
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	0	1863	1863	0				1863	0	1863
Adj Flow Rate, veh/h	0	2358	0	542	1884	0				121	0	89
Adj No. of Lanes	0	2	0	2	2	0				2	0	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				0.95	0.95	0.95
Percent Heavy Veh, %	0	2	0	2	2	0				2	0	2
Cap, veh/h	0	2360	0	620	2991	0				274	0	126
Arrive On Green	0.00	0.67	0.00	0.14	0.85	0.00				0.08	0.00	0.08
Sat Flow, veh/h	0	3725	0	3442	3632	0				3442	0	1583
Grp Volume(v), veh/h	0	2358	0	542	1884	0				121	0	89
Grp Sat Flow(s),veh/h/ln	0	1770	0	1721	1770	0				1721	0	1583
Q Serve(g_s), s	0.0	70.8	0.0	12.1	18.8	0.0				3.6	0.0	5.8
Cycle Q Clear(g_c), s	0.0	70.8	0.0	12.1	18.8	0.0				3.6	0.0	5.8
Prop In Lane	0.00		0.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2360	0	620	2991	0				274	0	126
V/C Ratio(X)	0.00	1.00	0.00	0.87	0.63	0.00				0.44	0.00	0.71
Avail Cap(c_a), veh/h	0	2360	0	620	2991	0				1034	0	476
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	17.7	0.0	43.0	2.7	0.0				46.7	0.0	47.8
Incr Delay (d2), s/veh	0.0	18.4	0.0	13.1	1.0	0.0				1.1	0.0	7.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	40.1	0.0	8.9	9.3	0.0				1.7	0.0	2.8
LnGrp Delay(d),s/veh	0.0	36.1	0.0	56.1	3.7	0.0				47.9	0.0	54.8
LnGrp LOS		D		E	A					D		D
Approach Vol, veh/h		2358			2426						210	
Approach Delay, s/veh		36.1			15.5						50.8	
Approach LOS		D			B						D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4		6		
Phs Duration (G+Y+Rc), s	19.0	75.0		12.5		94.0		
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		
Max Green Setting (Gmax), s	15.0	71.0		32.0		90.0		
Max Q Clear Time (g_c+I1), s	14.1	72.8		7.8		20.8		
Green Ext Time (p_c), s	0.8	0.0		0.7		38.0		

Intersection Summary	
HCM 2010 Ctrl Delay	26.7
HCM 2010 LOS	C



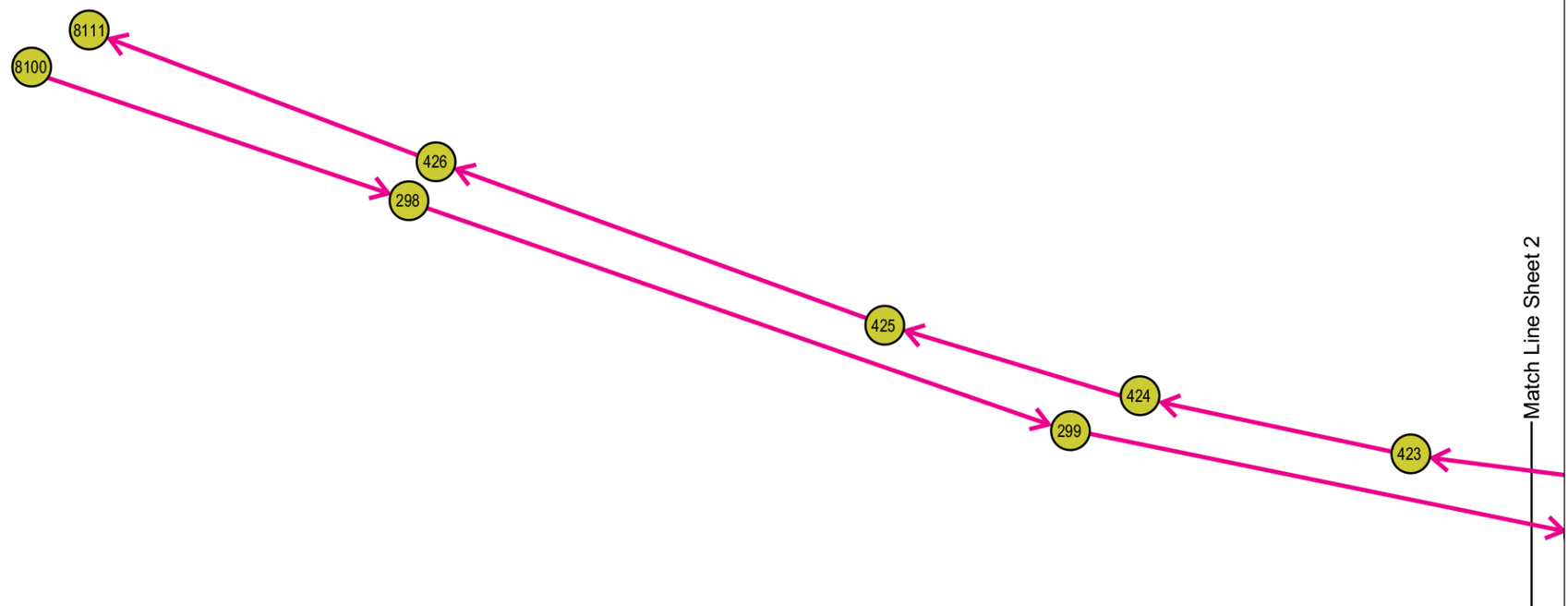
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	200	2155	2305	0	0	0
Number	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	0		
Adj Flow Rate, veh/h	211	2268	2426	0		
Adj No. of Lanes	2	2	2	0		
Peak Hour Factor	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	0		
Cap, veh/h	520	3334	2927	0		
Arrive On Green	0.06	0.94	0.83	0.00		
Sat Flow, veh/h	3442	3632	3725	0		
Grp Volume(v), veh/h	211	2268	2426	0		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	0		
Q Serve(g_s), s	0.0	7.1	26.0	0.0		
Cycle Q Clear(g_c), s	0.0	7.1	26.0	0.0		
Prop In Lane	1.00			0.00		
Lane Grp Cap(c), veh/h	520	3334	2927	0		
V/C Ratio(X)	0.41	0.68	0.83	0.00		
Avail Cap(c_a), veh/h	524	3646	3235	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	22.8	0.3	3.3	0.0		
Incr Delay (d2), s/veh	0.5	0.5	1.8	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	3.1	12.5	0.0		
LnGrp Delay(d),s/veh	23.3	0.8	5.1	0.0		
LnGrp LOS	C	A	A			
Approach Vol, veh/h		2479	2426			
Approach Delay, s/veh		2.7	5.1			
Approach LOS		A	A			

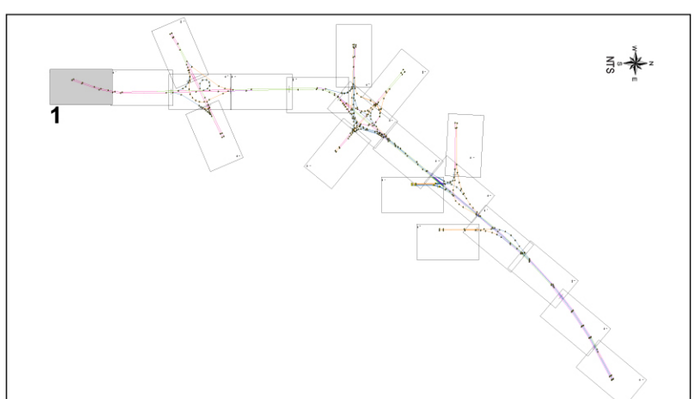
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2			5	6		
Phs Duration (G+Y+Rc), s		68.9			7.9	61.0		
Change Period (Y+Rc), s		4.0			4.0	4.0		
Max Green Setting (Gmax), s		71.0			4.0	63.0		
Max Q Clear Time (g_c+I1), s		9.1			2.0	28.0		
Green Ext Time (p_c), s		43.1			1.9	29.0		

Intersection Summary	
HCM 2010 Ctrl Delay	3.9
HCM 2010 LOS	A

Design Year (2040) CORSIM Output

NTS





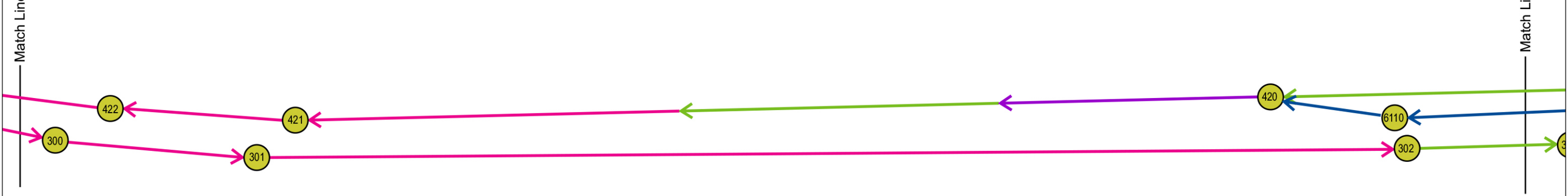
Legend

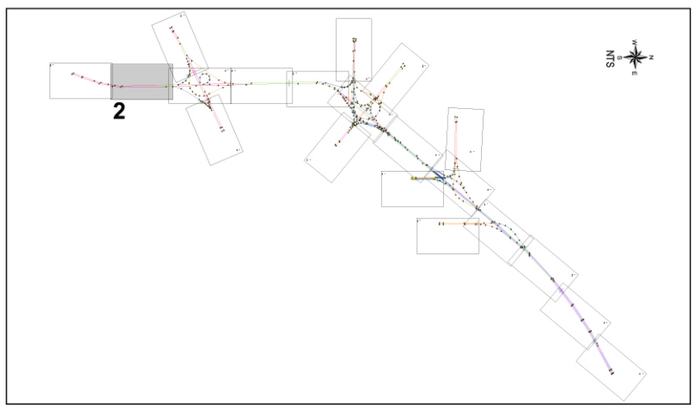
- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 1

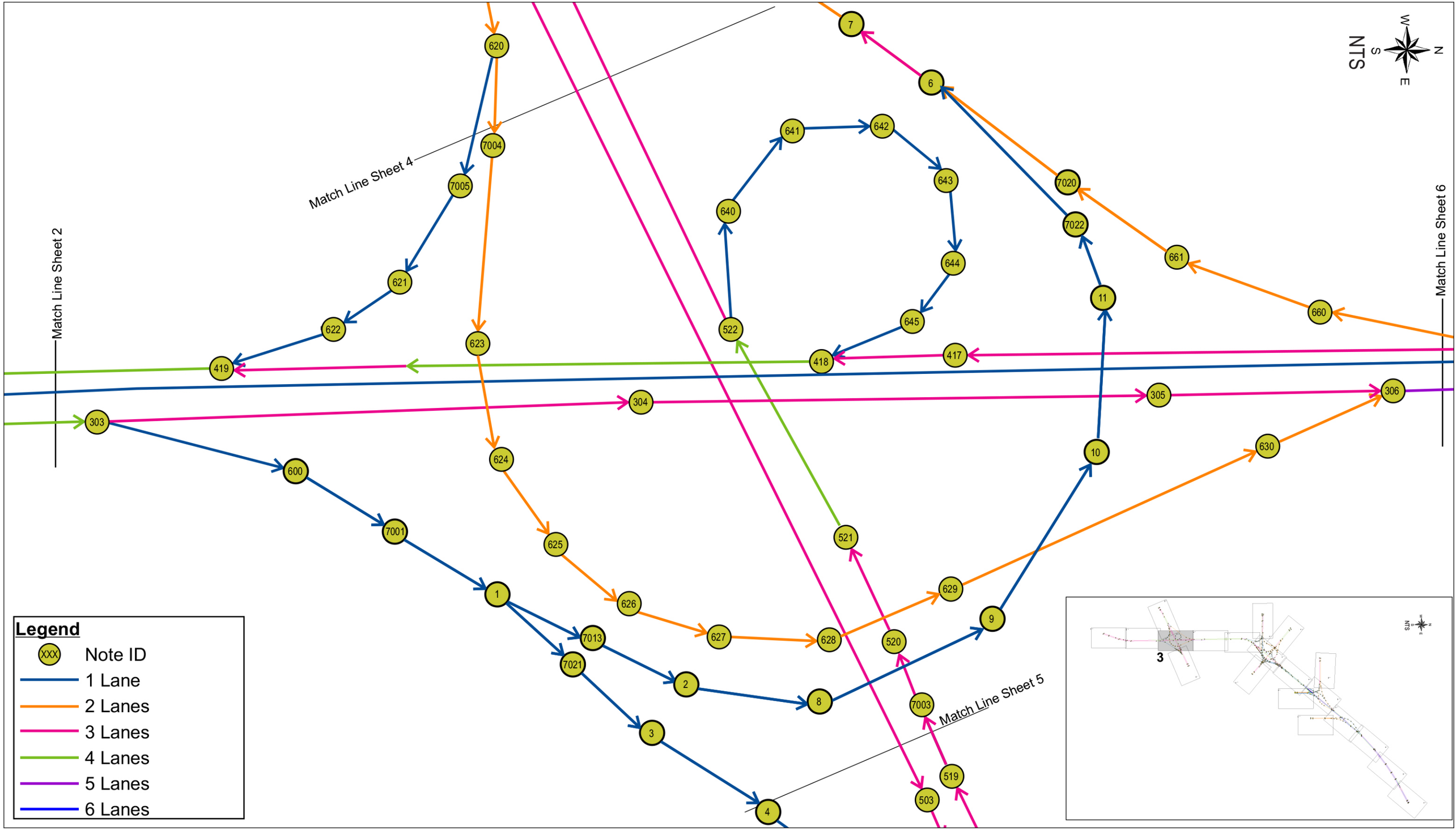
Match Line Sheet 3





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes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Match Line Sheet 2
Match Line Sheet 4
Match Line Sheet 5
Match Line Sheet 6
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10
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7003
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Legend
XXX Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes
3
NTS

NTS

Match Line Sheet 3

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525
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501
502
7012
7002
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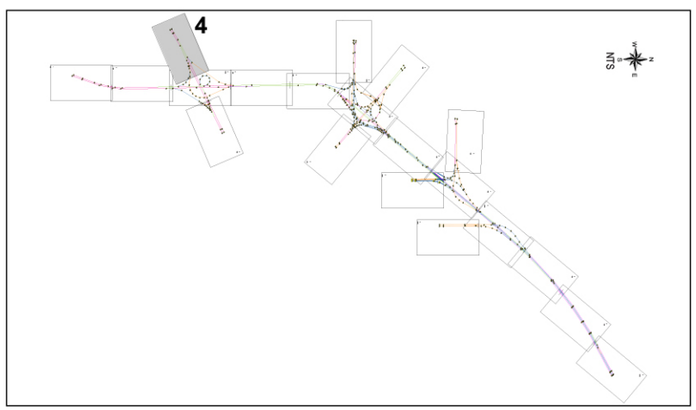
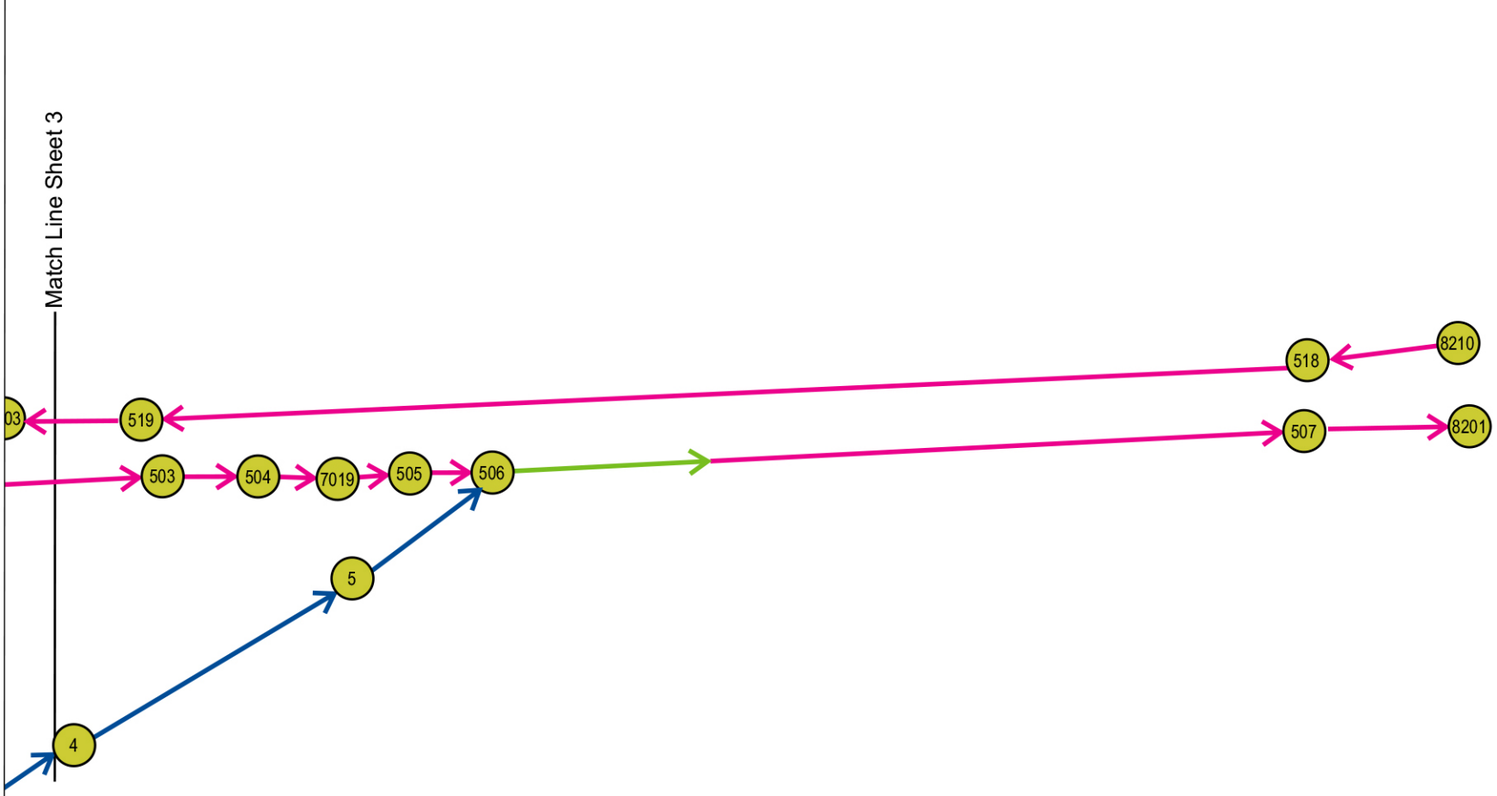
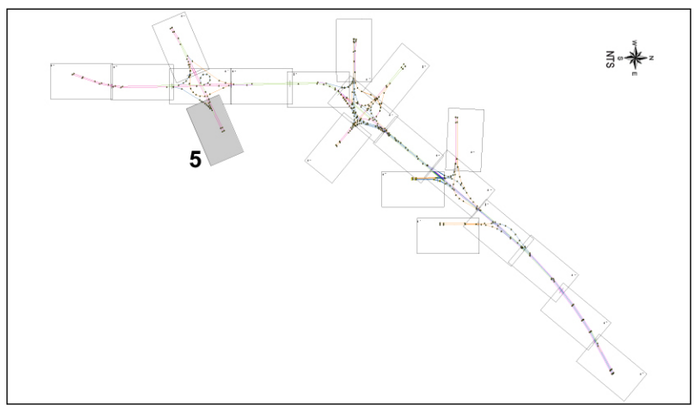
7004
7005



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

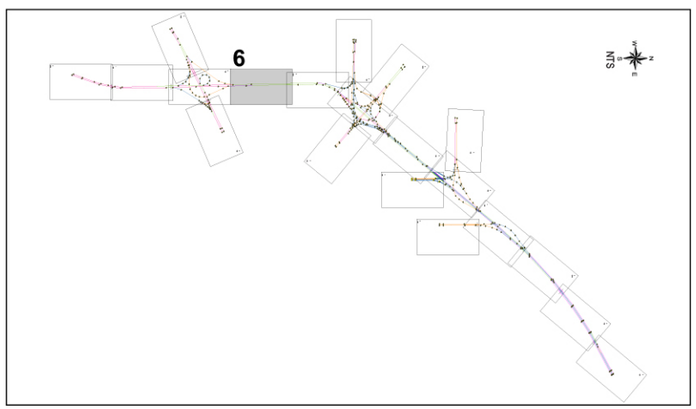
Match Line Sheet 3

Match Line Sheet 7

416

415

307



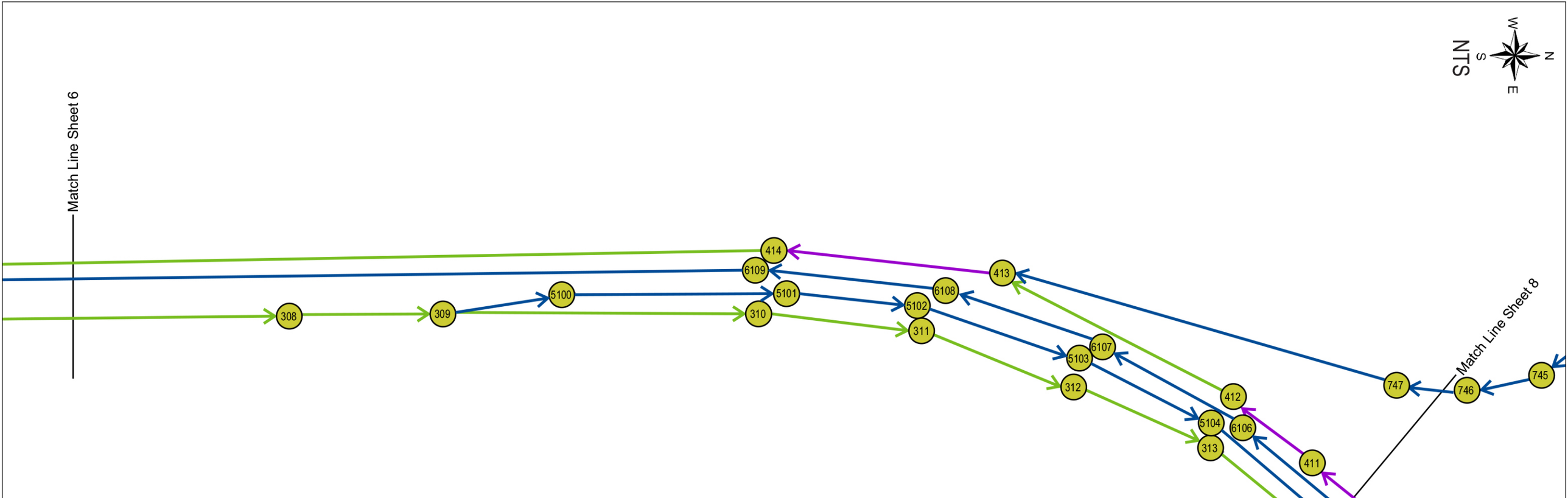
Legend

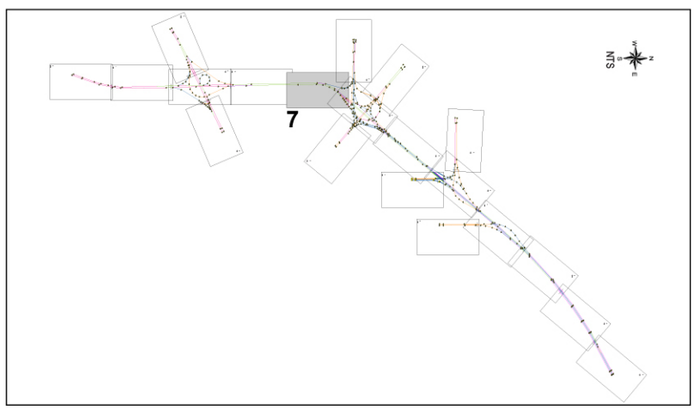
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 6

NTS

Match Line Sheet 8





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 10

Match Line Sheet 11

Match Line Sheet 7

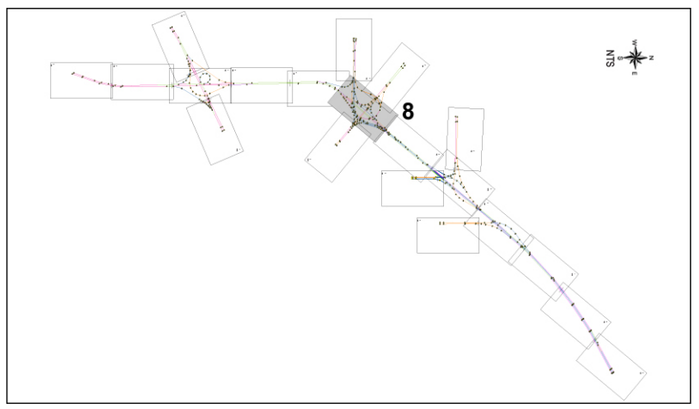
Match Line Sheet 12

Match Line Sheet 9

NTS

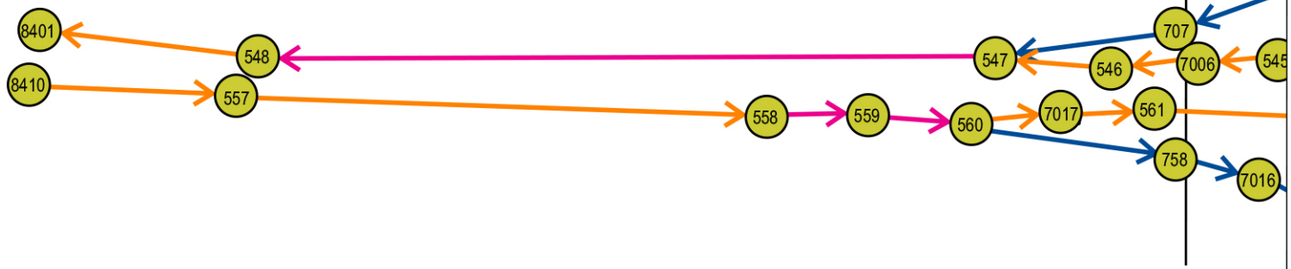
Legend

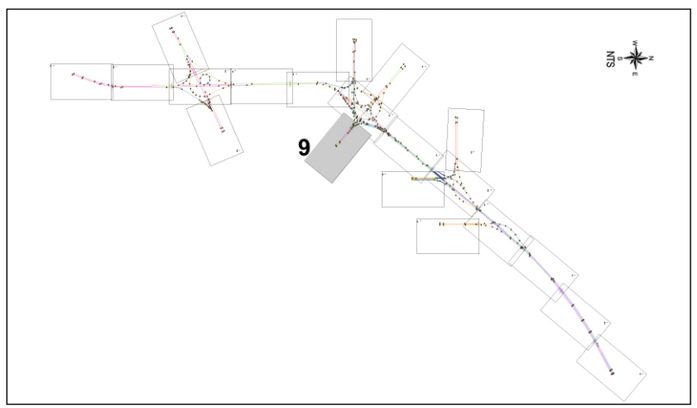
- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 8

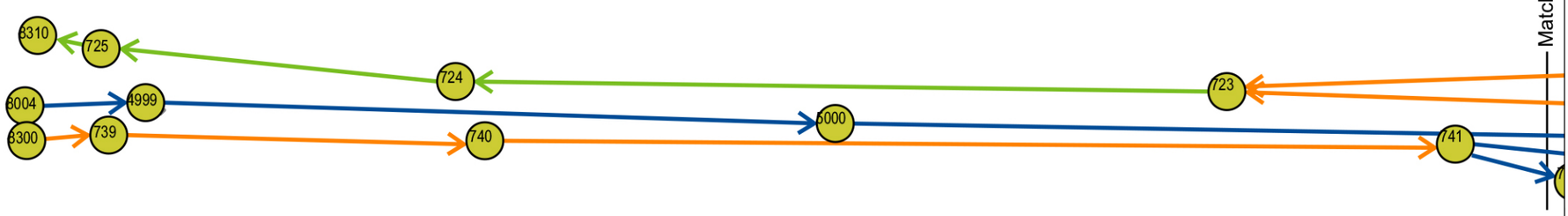


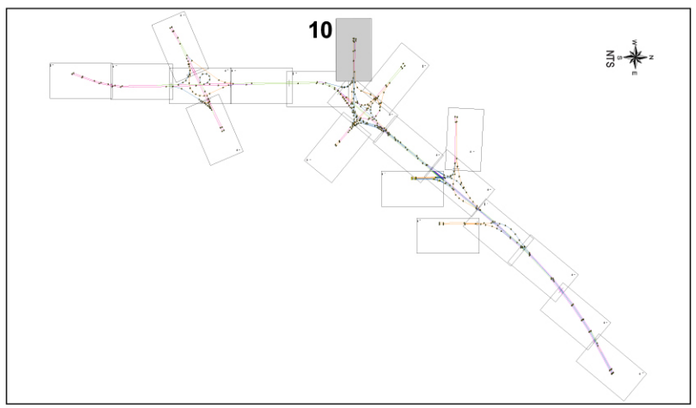


Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
W E
S
NTS





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

719

Match Line Sheet 8

542

718

566

7018

567

541

568

569

540

8400

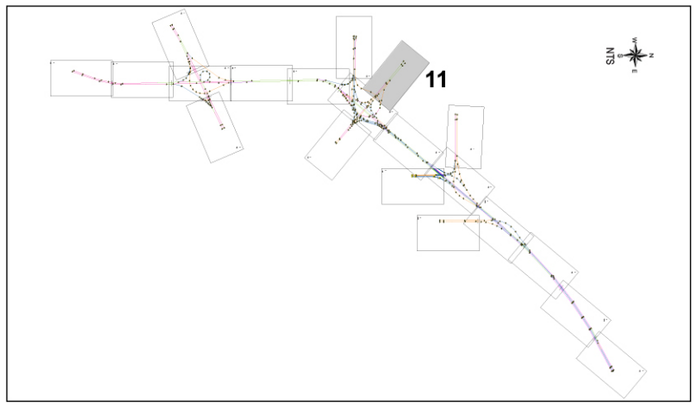
570

8411

716

717

715



Legend

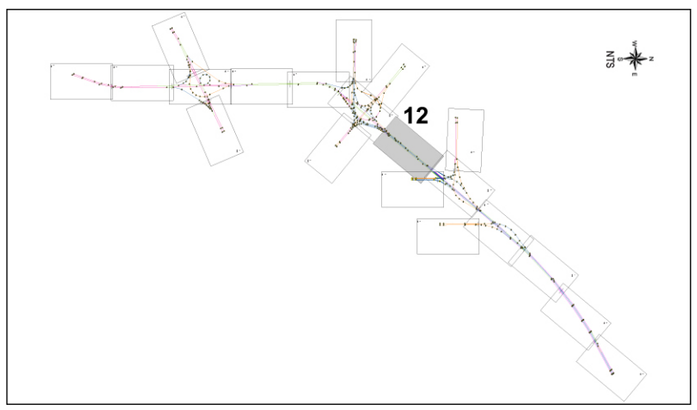
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 8

Match Line Sheet 13

770
406
405
404
403
402
6102
6101
6100
6007
6006
6009
6008
6012
5013
5014
5011
5109
5110
5111
317
318
319



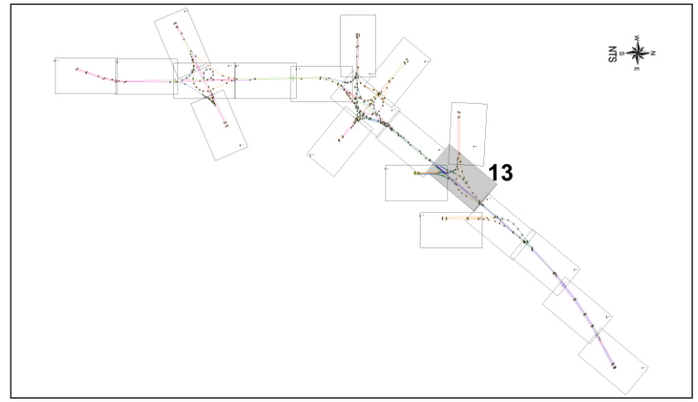
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

807

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



N
W
E
S
NTS

836 801 835 802 811 803 808 804 809 810 805 841 840 839 7015 838 833 7014 834 812 832 7036 831 830 5015 320 321 813 5016 322 853 852 806 851 814 815 816

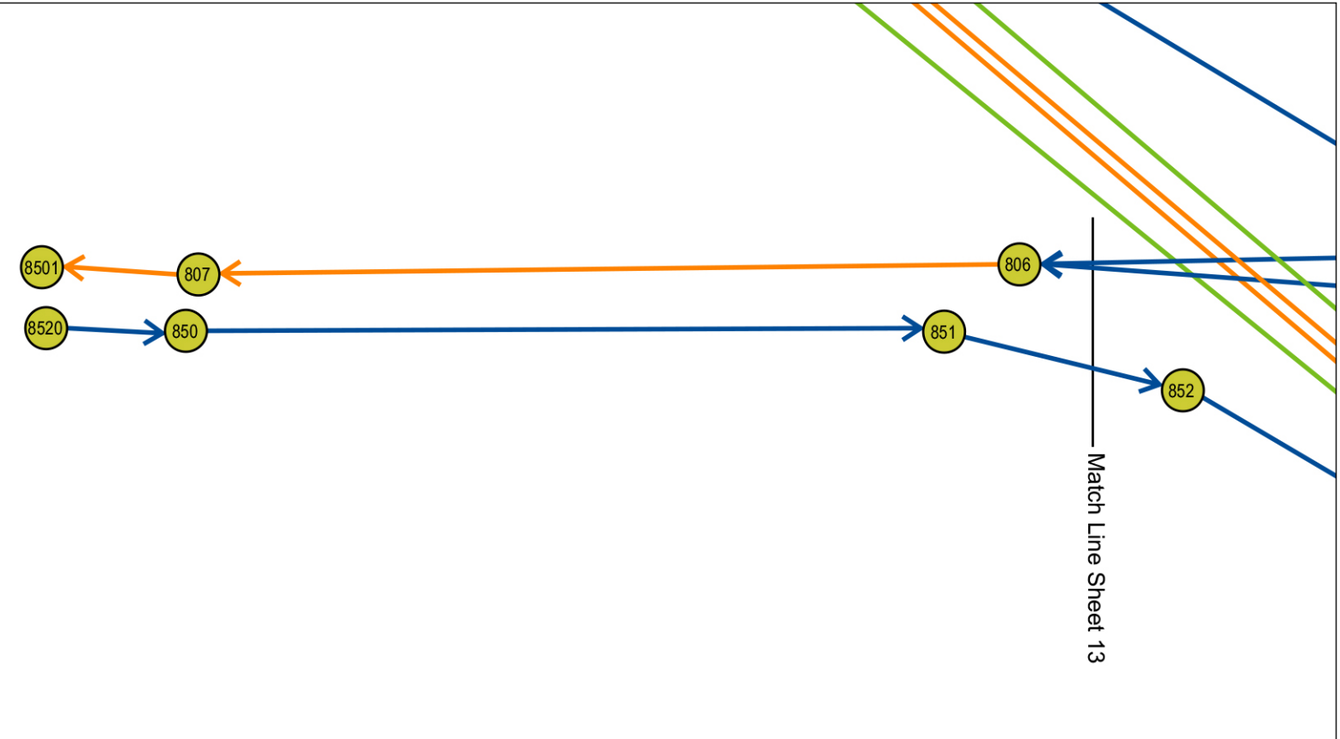
Match Line Sheet 15

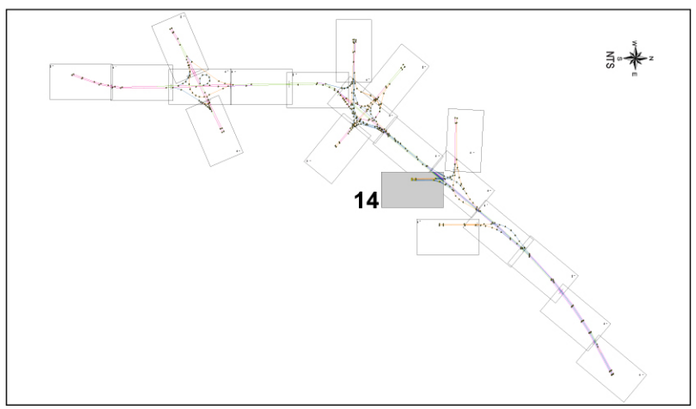
Match Line Sheet 12

Match Line Sheet 14

Match Line Sheet 16

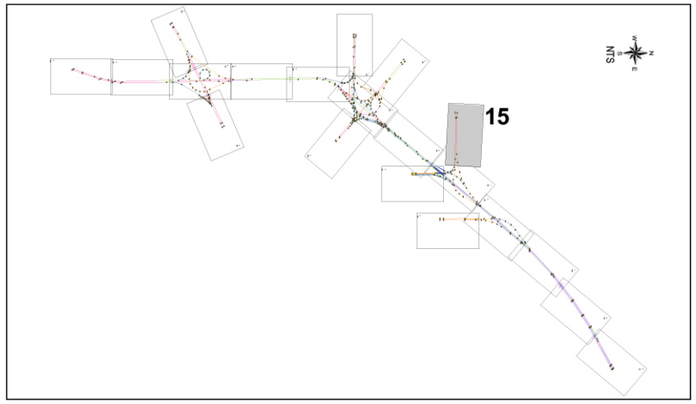
NTS





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

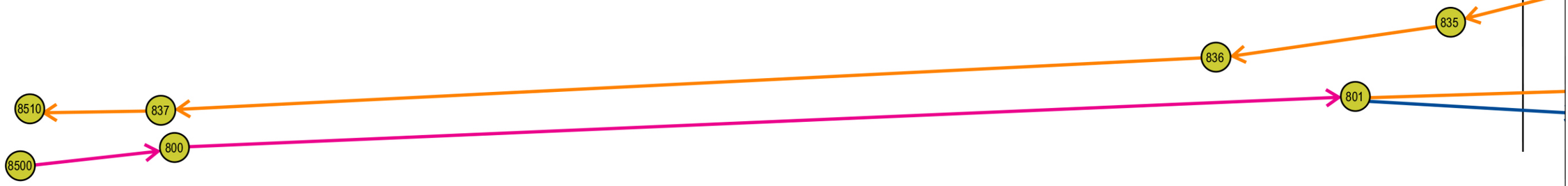


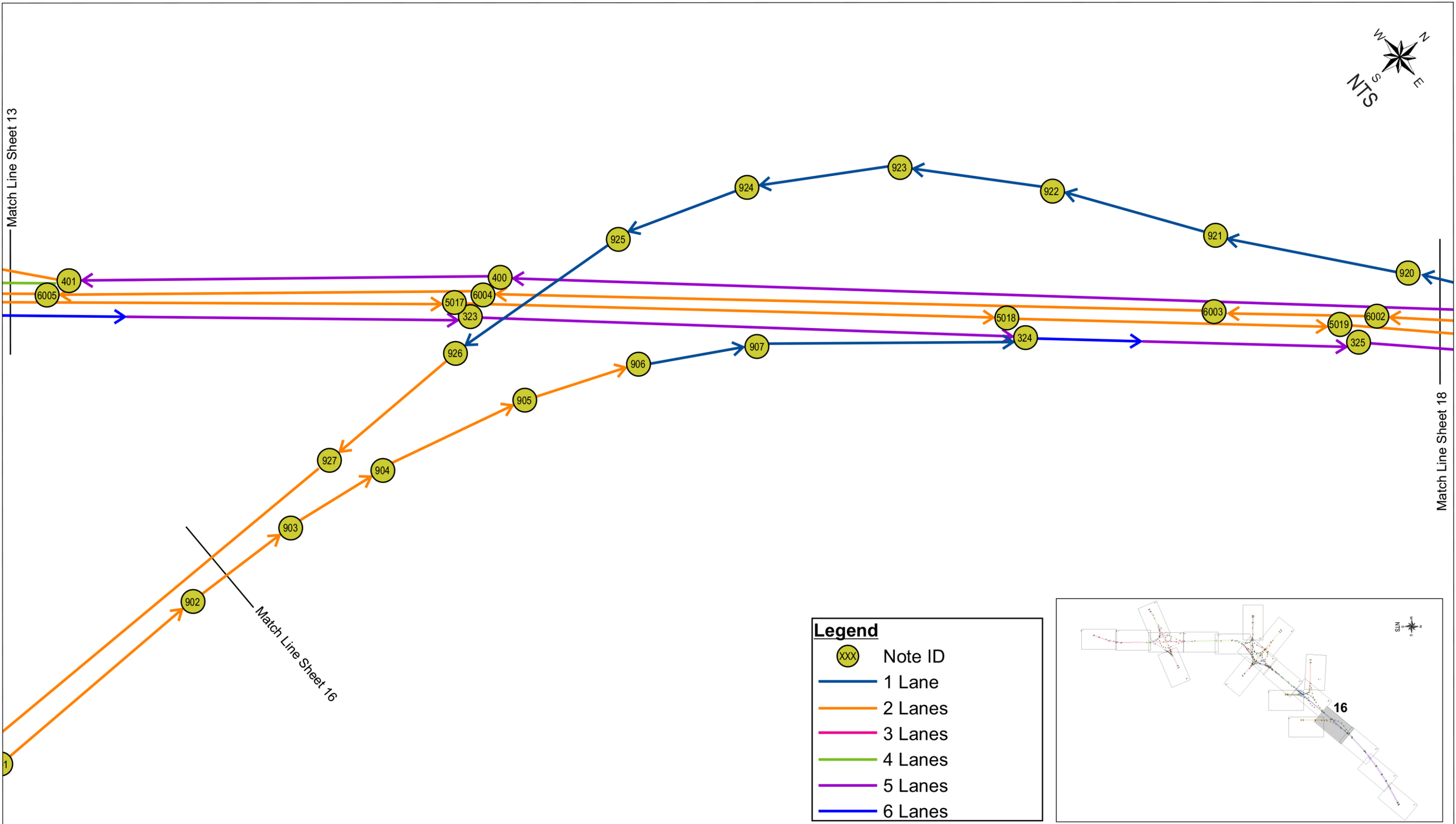
Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

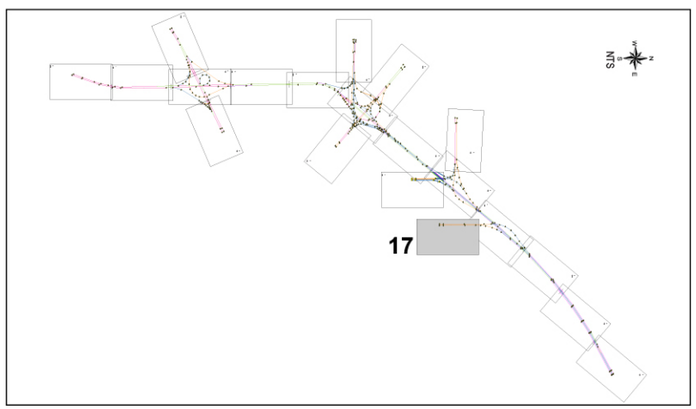
N
W E
S
NTS

Match Line Sheet 13




NTS
Match Line Sheet 13
Match Line Sheet 18
Match Line Sheet 16
923
924
922
925
921
920
401
400
6005
6004
5017
323
5018
6003
6002
5019
325
324
926
907
906
905
927
904
903
902
Legend
XXX
Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes
16

NTS



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 16

Match Line Sheet 19

920

399

6002

6001

325

5020

326

398

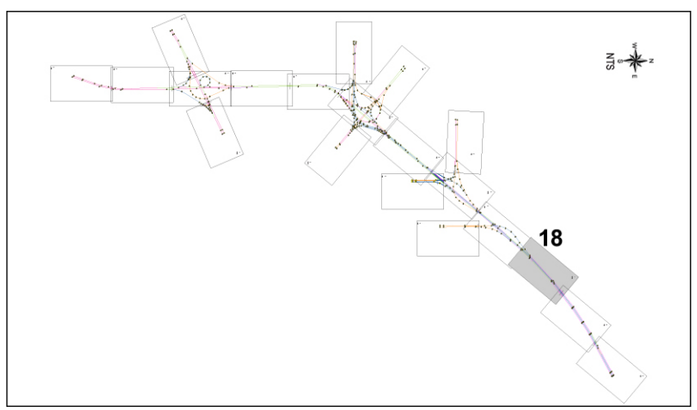
5021

6000

327

328

5022



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 18

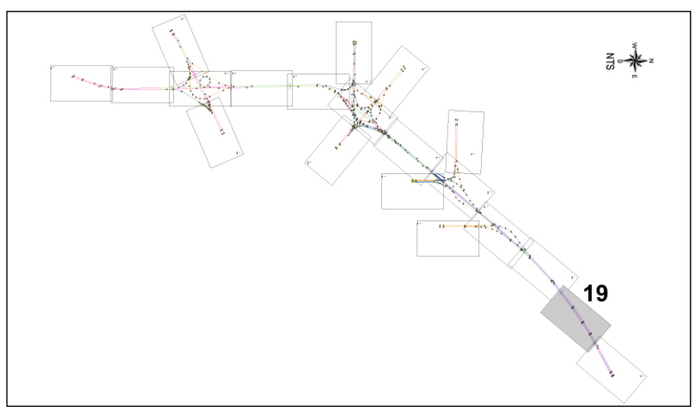
397
5999
5023
329

396
5998
5024
330

395
5997
5025
331

Match Line Sheet 20

NTS



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 20

394

5996

393

5995

5026

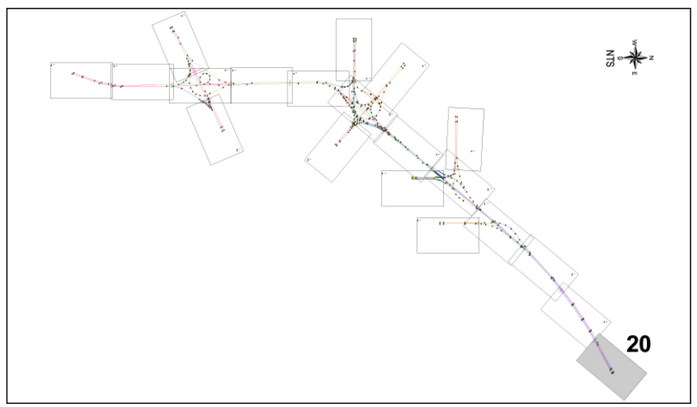
332

8110

8002

8001

8101



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

2040 Master AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	10,780	70	4	1,087	31.1	33.0	31.4	29.8	34.1	34.2	34.2	34.2	34.2	34.1	34.3	34.1	28.8	30.4	29.1	27.5	31.5	31.8	31.7	31.7	31.7	31.7	31.8	31.5
	299, 300	I275NB2	10,780	70	4	805	30.5	32.3	30.8	29.2	33.3	33.5	33.5	33.5	33.5	33.4	33.6	33.4												
	300, 301	I275NB3	10,780	70	4	478	31.1	32.9	31.4	29.7	34.0	34.3	34.2	34.2	34.2	34.2	34.4	34.1												
	301, 302	I275NB4	10,780	70	4	2,687	27.2	28.7	27.5	26.0	29.8	30.1	30.0	30.0	30.0	29.9	30.1	29.9												
	302, 303	I275NB5	10,780	70	5	382	26.4	28.1	26.7	25.4	29.7	29.9	29.7	29.7	29.8	29.8	29.6	29.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	7,980	70	4	1,375	22.8	24.1	23.3	22.1	25.0	24.9	25.1	25.1	25.2	25.3	25.2	25.0	22.7	24.0	23.1	21.9	24.8	24.7	24.8	24.9	24.9	25.1	25.1	24.8
	304, 305	I275NB7	7,980	70	4	1,306	22.6	23.8	22.9	21.8	24.6	24.4	24.6	24.7	24.7	24.9	24.9	24.5												
	305, 306	I275NB8	7,980	70	4	591	22.7	23.9	23.0	21.9	24.6	24.5	24.7	24.8	24.8	25.0	25.0	24.6												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	9,200	70	6	764	17.9	19.0	18.1	17.2	19.9	19.9	20.0	20.2	19.7	19.5	19.5	19.1	20.5	21.7	20.9	19.6	22.8	23.4	24.4	32.3	36.6	31.1	28.0	24.1
	307, 308	I275NB10	9,200	70	6	3,335	20.9	22.1	21.3	20.1	23.2	23.8	24.3	32.4	37.7	32.2	28.1	24.1												
	308, 309	I275NB11	9,200	70	5	350	21.9	23.3	23.5	20.8	25.2	27.5	35.0	57.5	63.2	46.0	45.9	35.5												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	7,940	70	4	745	24.5	31.9	29.0	23.4	33.2	40.5	56.8	65.7	59.4	56.8	59.5	49.3	29.0	37.8	35.5	27.5	38.0	45.7	54.4	58.8	54.0	53.7	56.3	49.9
	310, 311	I275NB13	7,940	70	4	380	26.6	39.6	33.7	25.4	39.9	51.8	64.3	67.5	59.2	61.2	64.8	56.6												
	311, 312	I275NB14	7,940	70	4	399	29.6	41.1	38.9	28.1	41.4	51.4	58.0	59.4	55.3	56.1	58.8	53.7												
	312, 313	I275NB15	7,940	70	4	368	33.9	42.5	43.0	31.7	42.0	48.4	50.7	52.8	50.2	50.1	52.7	49.0												
	313, 314	I275NB16	7,940	70	4	460	34.0	39.1	38.6	32.0	38.3	42.1	42.3	44.8	42.9	43.1	44.9	43.0												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,300	70	3	879	8.5	9.1	8.8	8.5	9.2	9.6	9.7	9.6	9.7	9.5	9.5	9.4	8.2	8.8	8.5	8.2	8.9	9.3	9.3	9.2	9.4	9.1	9.1	9.1
	315, 316	I275NB18	2,300	70	3	1,293	8.1	8.7	8.4	8.1	8.8	9.2	9.2	9.1	9.3	9.0	9.0	9.0												
	316, 317	I275NB19	2,300	70	3	1,158	8.1	8.6	8.4	8.1	8.7	9.1	9.2	9.1	9.2	9.0	8.9	9.0												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4,180	70	5	372	10.3	11.0	10.6	10.1	11.8	12.7	12.4	12.2	11.6	11.6	11.5	11.1	11.1	11.8	11.4	10.9	12.6	13.5	13.2	13.0	12.5	12.5	12.3	12.0
	318, 319	I275NB21	4,180	70	5	2,609	11.1	11.8	11.5	10.9	12.6	13.5	13.2	13.1	12.6	12.5	12.3	12.0												
	319, 320	I275NB22	4,180	70	4	1,810	11.2	11.9	11.5	11.0	12.6	13.6	13.3	13.1	12.7	12.6	12.4	12.1												
	320, 321	I275NB23	4,180	70	4	495	11.2	12.0	11.5	11.0	12.6	13.6	13.2	13.2	12.7	12.6	12.4	12.1												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,800	70	4	1,808	12.3	13.1	12.7	12.1	14.2	15.4	14.9	14.7	14.0	13.9	13.7	13.3	12.3	13.1	12.7	12.1	14.2	15.4	14.9	14.7	14.0	13.9	13.7	13.3
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,850	70	5	1,261	14.5	15.5	14.8	14.0	18.0	19.8	19.0	18.2	16.4	16.5	16.2	15.5	14.8	15.8	15.2	14.4	18.1	19.8	19.1	18.4	16.8	16.9	16.6	15.9
	323, 324	I275NB26	6,850	70	5	1,405	15.1	16.2	15.6	14.7	18.1	19.9	19.3	18.6	17.2	17.2	16.9	16.3												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	8,110	70	5	839	17.0	18.5	17.4	16.3	22.3	26.2	24.2	22.7	19.7	19.8	19.4	18.3	18.0	19.2	18.5	17.4	22.1	24.7	23.8	22.7	20.6	20.7	20.2	19.3
	325, 326	I275NB28	8,110	70	5	664	18.7	19.9	19.1	18.0	23.3	25.9	25.0	23.7	21.4	21.5	21.0	20.0												
	326, 327	I275NB29	8,110	70	5	2,007	18.1	19.3	18.6	17.6	21.8	24.0	23.4	22.4	20.6	20.8	20.2	19.5												
	327, 328	I275NB30	8,110	70	5	868	18.2	19.3	18.7	17.7	21.7	24.0	23.5	22.4	20.8	20.9	20.3	19.6												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	7,650	70	4	1,068	21.3	22.5	21.9	20.7	25.5	28.0	27.4	26.2	24.3	24.5	23.7	22.9	21.3	22.5	22.0	20.8	25.3	27.9	27.4	26.4	24.3	24.4	23.8	22.9
	329, 330	I275NB32	7,650	70	4	1,023	21.3	22.5	21.9	20.8	25.3	27.8	27.3	26.3	24.2	24.4	23.7	22.8												
	330, 331	I275NB33	7,650	70	4	824	21.3	22.5	22.0	20.8	25.3	27.8	27.4	26.4	24.3	24.4	23.8	22.9												
	331, 332	I275NB34	7,650	70	4	2,521	21.2	22.6	22.0	20.8	25.2	27.9	27.5	26.5	24.4	24.4	23.9	22.9												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	6,600	70	4	1,081	18.7	19.8	18.8	17.8	24.8	26.6	25.0	23.7	20.6	21.6	20.6	19.4	18.7	19.8	18.8	17.8	24.8	26.6	25.0	23.7	20.6	21.6	20.6	19.4
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,890	70	5	1,446	15.6	16.5	15.7	14.9	24.7	33.3	28.6	22.5	17.8	18.3	17.5	16.3	18.8	20.0	19.1	18.1	26.8	30.8	28.9	25.9	21.5	22.3	21.2	19.8
	395, 396	I275SB1	6,890	70	5	816	19.4	20.7	19.7	18.6	34.9	40.8	38.5	32.0	23.4	24.4	22.6	20.6												
	396, 397	I275SB1	6,890	70	4	1,045	19.7	21.0	20.0	19.0	27.5	30.1	28.9	26.8	22.5	23.5	22.2	20.8												
	397, 398	I275SB1	6,890	70	4	1,908	19.5	20.7	19.7	18.8	25.6	27.7	26.8	25.3	21.9	22.8	21.7	20.5												
	398, 399	I275SB1	6,890	70	4	2,118	19.8	21.0	20.1	19.1	25.9	28.2	27.4	26.0	22.4	23.3	22.1	20.9												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,190	70	4	2,746	16.4	17.1	16.5	15.5	20.8	22.8	22.1	20.9	18.3	18.8	17.9	17.1	16.3	17.0	16.4	15.4	21.0	23.4	22.6	21.1	18.3	18.9	17.9	17.0
	400, 401	I275SB3	6,190	70	5	1,080	16.1	16.7	16.1	15.1	21.4	25.0	23.9	21.7	18.4	18.9	17.9	16.8												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,890	70	4	4,105	8.2	8.5	8.2	7.8	10.2	11.4	10.9	10.4	9.1	9.1	8.9	8.5	8.2	8.5	8.2	7.8	10.2	11.4	10.9	10.4	9.1	9.1	8.9	8.5
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,660	70	5	720	8.8	9.1	8.8	8.4	11.0	12.3	11.7	11.2	9.8	9.8	9.5	9.2	10.1	10.4	10.1	9.6	12.6	14.1	13.5	13.0	11.2	11.2	11.0	10.5
	403, 404	I275SB6	3,660	70	5	1,327	10.3	10.7	10.4	9.9	13.0	14.6	13.9	13.4	11.6	11.6	11.3	10.8												
	404, 405	I275SB7	3,660	70	4	461	10.5	10.9	10.6	10.0	13.0	14.7	14.1	13.6	11.8	11.7	11.4	11.0												
	405, 406	I275SB8	3,660	70	4	452	10.8	11.1	10.9	10.3	13.4	15.2	14.6	14.0	12.1	12.0	11.8	11.4												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,410	70	3	855	8.8	9.1	8.8	8.4	10.7	11.9	11.6	11.2	9.8	9.6	9.5	9.2	8.8	9.0	8.8	8.4	10.6	11.9	11.5	11.1	9.7	9.6	9.5	9.2
	407, 408	I275SB10	2,410	70	3	347	8.7	9.0	8.8	8.4	10.6	11.8	11.5	11.0	9.7	9.6	9.5	9.2												
	408, 409	I275SB11	2,410	70	3	1,585	8.8	9.0	8.7	8.4	10.5	11.8	11.5	11.0	9.7	9.6	9.5	9.2												
	409, 410	I275SB12	2,410	70	3	458	8.8	8.9	8.8	8.4	10.5	11.9	11.5	11.1	9.7	9.6	9.5	9.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	3,580	70	5	629	8.7	8.7	8.6	8.3	10.4	11.6	11.3	10.9	9.6	9.5	9.2	9.0	9.3	9.3	9.2	8.9	11.1	12.4	12.1	11.6	10.3	10.2	9.9	9.6
	411, 412	I275SB14	3,580	70	5	247	8.5	8.6	8.5	8.2	10.2	11.5	11.2	10.7	9.5	9.4	9.1	8.8												
	412, 413	I275SB15	3,580	70	4	608	10.2	10.2	10.1	9.7	12.2	13.7	13.3	12.8	11.3	11.1	10.9	10.5												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,180	70	5	492	13.4	13.6	13.3	12.8	16.8	18.7	17.9	17.2	15.0	15.0	14.6	14.0	14.9	15.2	14.8	14.2	18.6	20.8	20.2	19.4	16.9	16.7	16.3	15.6
	414, 415	I275SB17	5,180	70	5	3,870	14.9	15.2	14.8	14.2	18.7	20.9	20.2	19.4	16.9	16.7	16.3	15.6												
	415, 416	I275SB18	5,180	70	4	1,086	15.6	15.8	15.5	14.8	19.4	21.5	21.3	20.4	17.8	17.5	17.0	16.4												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,980	70	3	1,385	14.4	14.8	14.5	13.8	17.4	19.6	19.4	18.6	16.5	16.2	15.6	15.1	14.3	14.8	14.4	13.7	17.3	19.5	19.3	18.5	16.5	16.1	15.5	15.1
	417, 418	I275SB20	3,980	70	3	343	14.1	14.6	14.2	13.6	17.0	19.1	18.9	18.2	16.2	15.8	15.3	14.9												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,380	70	4	1,507	14.1	14.5	14.3	13.6	17.3	19.2	18.7	18.0	16.2	16.0	15.3	14.9	14.1	14.5	14.3	13.6	17.3	19.2	18.7	18.0	16.2	16.0	15.3	14.9
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	6,920	70	5	1,015	14.6	15.0	14.9	14.1	18.1	19.5	19.3	18.6	16.8	16.2	15.5	15.1	14.6	15.0	14.9	14.1	18.1	19.5	19.3	18.6	16.8	16.2	15.5	15.1
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	7,360	70	6	2,282	15.0	15.4	15.2	14.4	18.4	20.1	19.9	19.2	17.3	16.7	16.0	15.6	15.0	15.4	15.2	14.4	18.2	20.0	19.8	19.1	17.3	16.6	16.0	15.6
	421, 422	I275SB24	7,360	70	5	430	15.0	15.4	15.2	14.4	18.1	19.9	19.6	19.0	17.2	16.5	16.0	15.5												
	422, 423	I275SB25	7,360	70	5	403	15.0	15.3	15.2	14.4	18.1	19.9	19.7	19.1	17.2	16.5	16.0	15.6												
	423, 424	I275SB26	7,360	70	5	426	15.0	15.3	15.2	14.5	18.1	19.9	19.7	19.1	17.2	16.5	16.0	15.6												
	424, 425	I275SB27	7,360	70	5	412	15.0	15.3	15.2	14.5	18.0	19.9	19.6	19.1	17.2	16.5	16.0	15.6												
	425, 426	I275SB28	7,360	70	5	734	15.0	15.3	15.2	14.5	18.0	19.8	19.6	19.1	17.2	16.5	16.0	15.5												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4,445	50	3	841	23.8	24.8	23.8	22.3	32.6	59.7	92.6	70.9	30.6	24.7	23.5	22.1	20.0	21.1	20.1	18.6	37.6	65.3	85.6	71.2	32.5	22.0	20.6	19.2
	500, 501	GandyEB3	4,445	50	4	954	17.1	18.2	17.3	16.1	41.0	74.2	87.1	76.6	34.4	19.2	17.9	16.7												
	501, 502	GandyEB4	4,445	50	5	174	17.1	18.9	17.5	14.6	43.0	43.8	44.2	43.5	31.2	24.7	21.1	18.3												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,685	50	3	178	9.4	10.2	9.6	9.0	11.8	11.1	11.0	11.6	10.4	10.6	9.8	8.9	9.4	10.2	9.6	9.0	11.8	11.1	11.0	11.6	10.4	10.6	9.8	8.9
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,685	50	3	99	11.0	11.9	11.2	10.8	13.0	12.2	12.0	12.9	11.7	12.2	11.3	10.5	10.0	10.8	10.1	9.7	11.8	11.1	10.8	11.6	10.5	11.1	10.2	9.5
	505, 506	GandyEB10	1,685	50	3	119	9.1	9.8	9.3	8.9	10.7	10.1	9.8	10.6	9.6	10.1	9.3	8.7												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3,415	50	3	1,167	18.1	19.3	18.4	17.3	20.0	20.4	19.7	20.7	19.5	19.9	19.0	18.7	18.1	19.3	18.4	17.3	20.0	20.4	19.7	20.7	19.5	19.9	19.0	18.7
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,840	55	3	181	14.6	15.3	14.5	13.8	19.2	20.4	19.5	18.4	16.0	16.8	16.1	15.2	11.7	12.3	11.7	11.1	15.5	16.4	15.7	14.8	12.9	13.5	12.9	12.2
	520, 521	GandyWB5	3,840	55	3	291	12.2	12.8	12.1	11.6	15.9	16.9	16.2	15.3	13.4	14.0	13.4	12.7												
	521, 522	GandyWB6	3,840	55	4	590	10.6	11.2	10.6	10.1	14.1	15.0	14.2	13.4	11.7	12.2	11.7	11.1												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,440	55	3	1,768	8.3	8.8	8.2	7.9	10.7	11.6	11.3	10.6	9.1	9.5	9.3	8.6	8.3	8.8	8.2	7.9	10.7	11.6	11.3	10.6	9.1	9.5	9.3	8.6

2040 Master AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	5,210	55	5	1,179	12.1	12.5	12.0	11.5	14.7	15.8	15.6	14.8	13.3	13.4	13.3	12.7	12.0	12.5	11.9	11.5	14.6	15.8	15.6	14.8	13.3	13.4	13.2	12.7
	524, 525	GandyWB9	5,210	55	5	455	11.9	12.5	11.9	11.4	14.5	15.7	15.5	14.7	13.2	13.3	13.2	12.7												
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,800	50	2	269	21.5	22.6	21.3	20.0	22.9	24.7	24.0	23.6	23.6	23.1	23.4	23.7	21.9	22.9	21.6	20.3	23.2	25.0	24.3	23.9	23.9	23.4	23.7	24.0
	600, 7001	GdyNBoff2	2,800	50	2	167	22.4	23.4	22.1	20.8	23.6	25.4	24.7	24.4	24.4	23.8	24.1	24.5												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,730	50	1	263	31.9	34.2	32.0	29.6	33.1	36.3	35.2	35.6	35.5	34.7	34.4	35.2	29.7	31.5	29.9	27.7	30.8	33.7	32.8	33.0	32.8	32.3	32.2	32.7
	3, 4	GdyNBoff6	1,730	50	1	359	28.6	30.4	29.0	26.8	29.6	32.5	31.7	31.7	31.7	31.0	31.1	31.5												
	4, 5	GdyNBoff7	1,730	50	1	464	29.0	30.6	29.4	27.2	30.1	32.9	32.0	32.2	32.0	31.6	31.5	32.0												
	5, 506	GdyNBoff8	1,730	50	1	241	30.0	31.7	30.3	28.1	31.4	34.1	33.0	33.7	33.0	32.8	32.6	33.4												
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	1,070	50	1	267	20.9	21.9	20.9	19.5	23.2	24.4	23.9	22.8	22.8	22.2	22.8	23.4	17.8	18.6	18.0	16.5	19.7	20.7	20.4	19.5	19.4	19.0	19.3	19.9
	2, 8	GdyNBoff11	1,070	50	1	341	17.3	18.0	17.4	16.0	19.3	20.2	19.9	19.0	18.9	18.5	18.8	19.4												
	8, 9	GdyNBoff12	1,070	50	1	483	17.3	18.0	17.4	15.9	19.1	20.1	19.7	18.9	18.9	18.4	18.7	19.3												
	9, 10	GdyNBoff13	1,070	50	1	492	17.3	18.2	17.6	16.0	19.2	20.1	19.9	19.0	19.0	18.6	18.7	19.4												
	10, 11	GdyNBoff14	1,070	50	1	389	17.3	18.2	17.7	16.1	19.2	20.1	20.0	19.0	19.0	18.7	18.8	19.5												
	11, 7022	GdyNBoff15	1,070	50	1	196	17.4	18.3	17.8	16.1	19.3	20.1	20.1	19.1	19.1	18.8	18.9	19.6												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,760	50	2	179	33.9	36.9	33.4	27.0	90.3	104.6	108.1	100.8	68.7	50.5	43.3	37.1	33.9	36.9	33.4	27.0	90.3	104.6	108.1	100.8	68.7	50.5	43.3	37.1
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,220	50	2	501	10.5	11.5	10.3	9.8	13.3	13.4	13.6	14.0	11.7	10.6	10.5	9.8	9.7	10.7	9.6	9.1	12.1	12.4	12.4	12.8	10.8	9.8	9.8	9.1
	623, 624	GdyNBon6	1,220	50	2	299	9.7	10.6	9.5	9.0	12.1	12.2	12.3	12.7	10.7	9.7	9.7	9.1												
	624, 625	GdyNBon7	1,220	50	2	253	9.7	10.6	9.5	9.0	12.0	12.2	12.3	12.6	10.6	9.7	9.7	9.1												
	625, 626	GdyNBon8	1,220	50	2	238	9.6	10.6	9.5	9.0	12.0	12.1	12.3	12.6	10.6	9.7	9.7	9.0												
	626, 627	GdyNBon9	1,220	50	2	242	9.6	10.6	9.5	9.0	12.0	12.1	12.2	12.6	10.7	9.7	9.7	9.0												
	627, 628	GdyNBon10	1,220	50	2	277	9.6	10.6	9.5	9.0	11.9	12.2	12.2	12.6	10.7	9.7	9.7	9.0												
	628, 629	GdyNBon11	1,220	50	2	337	9.6	10.6	9.5	9.0	11.8	12.2	12.2	12.5	10.7	9.7	9.7	9.0												
	629, 630	GdyNBon12	1,220	50	2	877	9.6	10.6	9.5	9.0	11.8	12.2	12.2	12.6	10.7	9.7	9.7	9.0												
	630, 306	GdyNBon13	1,220	50	2	344	9.6	10.6	9.5	9.0	11.8	12.2	12.2	12.6	10.8	9.6	9.7	9.0												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,200	50	2	481	10.8	10.7	10.5	10.2	13.3	14.4	14.1	13.4	11.8	11.7	11.8	11.1	10.7	10.7	10.5	10.2	13.2	14.4	14.0	13.4	11.8	11.7	11.8	11.1
	660, 661	GdySBoff2	1,200	50	2	394	10.7	10.7	10.4	10.2	13.2	14.3	14.0	13.3	11.7	11.6	11.8	11.1												
	661, 7020	GdySBoff3	1,200	50	2	336	10.7	10.7	10.4	10.2	13.2	14.4	14.0	13.4	11.8	11.7	11.8	11.1												
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,270	50	2	714	20.4	20.9	20.1	19.1	24.0	25.9	25.5	24.4	22.4	22.2	22.2	21.9	20.0	20.6	19.8	18.8	23.6	25.4	25.0	24.0	22.0	21.8	21.8	21.5
	662, 523	GdySBoff7	2,270	50	2	424	19.5	20.0	19.2	18.3	22.9	24.5	24.3	23.3	21.4	21.2	21.2	20.9												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,540	50	1	286	25.5	25.9	26.2	25.1	31.6	30.9	31.2	31.2	28.3	26.7	25.1	25.0	23.5	23.8	24.3	23.1	29.1	28.6	28.7	28.7	26.1	24.5	23.1	22.9
	621, 622	GdySBon3	1,540	50	1	204	22.5	22.8	23.2	22.2	27.9	27.3	27.4	27.5	25.0	23.6	22.2	22.0												
	622, 419	GdySBon4	1,540	50	1	319	22.4	22.5	23.1	21.9	27.7	27.2	27.3	27.2	24.8	23.1	21.9	21.6												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,400	35	1	302	22.2	23.1	22.9	21.5	29.7	31.3	28.7	27.5	25.2	25.9	24.3	23.6	22.6	23.2	23.4	21.8	29.8	31.4	29.0	27.9	25.5	26.4	24.5	23.9
	640, 641	GdySBonLoop2	1,400	35	1	259	22.4	23.2	23.3	21.7	29.6	31.2	28.8	27.7	25.4	26.2	24.5	23.7												
	641, 642	GdySBonLoop3	1,400	35	1	227	22.5	23.2	23.4	21.7	29.6	31.3	28.9	27.8	25.5	26.3	24.5	23.8												
	642, 643	GdySBonLoop4	1,400	35	1	211	22.7	23.3	23.6	21.8	29.9	31.5	29.1	28.0	25.6	26.5	24.6	24.0												
	643, 644	GdySBonLoop5	1,400	35	1	211	22.8	23.2	23.7	21.9	30.0	31.5	29.2	28.0	25.6	26.6	24.6	24.1												
	644, 645	GdySBonLoop6	1,400	35	1	207	22.8	23.3	23.7	22.0	30.0	31.6	29.3	28.1	25.7	26.7	24.7	24.2												
	645, 418	GdySBonLoop7	1,400	35	1	252	22.9	23.3	23.7	22.1	30.0	31.7	29.3	28.1	25.7	26.8	24.7	24.2												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,130	60	4	1,418	7.1	7.4	7.2	6.7	9.3	9.9	9.4	8.9	7.7	8.2	7.7	7.4	8.1	8.4	8.1	7.7	10.6	11.3	10.7	10.1	8.8	9.3	8.8	8.4
	541, 542	RvEB3	2,130	60	3	1,028	9.4	9.8	9.5	8.9	12.3	13.1	12.5	11.7	10.3	10.8	10.2	9.8												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,430	60	2	513	9.1	9.7	9.3	8.7	12.3	12.9	12.3	11.4	10.2	10.7	10.0	9.6	9.1	9.7	9.3	8.7	12.3	12.9	12.3	11.4	10.2	10.7	10.0	9.6
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,815	60	2	120	12.4	13.0	12.5	12.1	16.3	19.6	19.5	17.7	14.9	14.9	14.0	13.0	11.3	11.8	11.4	11.0	14.7	17.6	17.5	15.9	13.5	13.5	12.7	11.8
	546, 547	RvEB10	1,815	60	2	165	10.5	11.0	10.6	10.2	13.6	16.1	16.0	14.6	12.5	12.5	11.8	11.0												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3,255	60	2	1,053	17.5	18.5	18.0	17.2	21.2	23.9	23.6	22.3	20.4	20.6	19.4	18.8	17.5	18.5	18.0	17.2	21.2	23.9	23.6	22.3	20.4	20.6	19.4	18.8
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,805	60	2	756	18.5	19.7	18.8	17.5	24.9	25.9	24.7	23.5	20.4	21.5	20.3	19.4	17.2	18.3	17.4	16.3	23.2	24.2	23.0	21.9	18.9	20.0	18.9	18.1
	558, 559	RvWB3	2,805	60	2	146	15.7	16.6	15.9	14.8	21.6	22.4	21.1	20.1	17.4	18.2	17.3	16.6												
	559, 560	RvWB4	2,805	60	3	151	12.2	12.9	12.2	11.5	16.6	17.3	16.4	15.6	13.4	14.1	13.3	12.8												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,670	60	2	125	17.3	18.3	17.4	16.4	23.4	24.3	23.3	22.0	19.2	20.2	19.0	18.2	17.3	18.3	17.4	16.4	23.4	24.3	23.3	22.0	19.2	20.2	19.0	18.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,215	60	2	133	17.1	18.3	17.1	16.1	23.0	24.1	23.1	21.8	19.0	20.1	19.5	18.0	14.7	15.6	14.8	13.8	19.5	20.5	19.7	18.6	16.3	17.2	16.6	15.5
	567, 568	RvWB14	2,215	60	2	750	14.4	15.3	14.5	13.6	19.1	20.0	19.3	18.2	16.0	16.8	16.3	15.2												
	568, 569	RvWB15	2,215	60	2	281	14.4	15.3	14.5	13.6	19.0	20.0	19.3	18.2	16.0	16.8	16.3	15.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,775	60	4	1,137	16.4	17.3	16.7	16.0	19.1	20.1	19.8	18.9	18.3	18.5	18.5	17.7	16.4	17.3	16.7	16.0	19.1	20.1	19.8	18.9	18.3	18.5	18.5	17.7
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5,640	50	2	228	51.1	56.0	55.1	49.1	55.2	59.4	59.7	64.0	61.0	62.0	63.3	62.7	51.1	56.0	55.1	49.1	55.2	59.4	59.7	64.0	61.0	62.0	63.3	62.7
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5,640	50	2	168	56.4	63.0	60.3	56.4	61.6	66.4	68.4	70.9	68.5	70.3	70.2	72.0	41.2	45.1	43.6	40.6	44.6	48.2	48.7	49.3	49.2	49.6	49.8	50.3
	701, 702	RvNBoff5	5,640	50	2	198	34.4	37.3	36.3	33.7	37.3	40.6	40.2	40.0	41.1	40.7	41.1	41.0												
	702, 703	RvNBoff6	5,640	50	3	130	31.7	33.9	33.1	30.7	33.9	36.5	36.1	35.7	36.7	36.5	36.7	36.5												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,440	50	1	336	22.8	24.4	24.3	22.1	25.1	26.4	25.8	25.7	25.4	26.4	25.1	25.3	22.6	24.0	24.0	22.0	24.6	25.9	25.2	25.3	24.9	25.7	24.6	24.8
	704, 705	RvNBoff8	1,440	50	1	200	22.6	24.1	24.1	22.0	24.8	25.9	25.4	25.4	25.0	25.8	24.6	24.9												
	705, 706	RvNBoff9	1,440	50	1	223	22.5	23.8	23.9	21.9	24.5	25.7	25.0	25.1	24.7	25.5	24.4	24.6												
	706, 707	RvNBoff10	1,440	50	1	262	22.5	23.7	23.8	21.9	24.3	25.6	24.8	25.0	24.6	25.3	24.3	24.5												
	707, 547	RvNBoff11	1,440	50	1	264	22.5	23.7	23.9	21.9	24.4	25.7	24.8	25.1	24.7	25.2	24.4	24.6												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,560	50	2	248	21.3	22.5	21.9	21.1	22.4	23.4	23.3	22.8	23.8	23.2	23.9	23.4	21.3	22.5	22.0	21.1	22.3	23.4	23.4	22.7	23.8	23.2	23.9	23.4
	715, 716	RvNBoff21	2,560	50	2	642	21.2	22.5	21.9	21.1	22.4	23.3	23.3	22.7	23.8	23.2	23.9	23.4												
	716, 569	RvNBoff22	2,560	50	2	670	21.3	22.6	22.0	21.1	22.3	23.4	23.5	22.7	23.9	23.3	23.9	23.4												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	135	50	1	296	1.9	2.1	2.1	1.7	2.5	2.8	2.6	2.4	1.9	2.0	2.1	2.0	1.9	2.2	2.1	1.8	2.5	2.8	2.7	2.5	2.0	2.0	2.2	2.0
	758, 7016	RvNBon4	135	50	1	127	2.1	2.3	2.3	1.9	2.7	3.0	2.8	2.6	2.1	2.1	2.3	2.1												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,880	50	2	97	18.3	19.5	18.9	17.3	22.1	24.5	23.3	22.6	20.4	21.0	20.5	19.3	16.3	17.3	16.8	15.5	19.6	21.7	20.6	20.0	18.2	18.7	18.3	17.2
	757, 317	RvNBon10	1,880	50	2	123	14.7	15.7	15.2	14.0	17.7	19.4	18.6	18.0	16.4	16.8	16.5	15.5												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,250	50	2	223	9.9	10.0	10.0	9.4	12.3	14.2	13.5	12.9	11.1	11.2	10.7	10.3	10.2	10.3	10.2	9.7	12.6	14.5	14.0	13.2	11.4	11.5	11.0	10.5
	770, 7032	RvSBoff2	1,250	50	2	150	10.5	10.6	10.6	10.0	13.0	15.0	14.8	13.7	11.8	11.9	11.4	10.9												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,170	50	3	102	8.2	8.0	8.0	7.6	9.9	10.7	10.5	10.2	9.0	9.0	8.4	8.1	9.5	9.2	9.3	8.8	11.5	12.5	12.2	11.7	10.4	10.4	9.7	9.4
	793, 410	RvSBon5	1,170	50	3	655	9.7	9.4	9.5	9.0	11.7	12.7	12.5	12.0	10.6	10.7	10.0	9.6												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	5.7	5.6	5.4	5.2	6.8	7.6	7.2	6.9	6.0	6.2	6.1	5.7	5.7	5.6	5.5	5.2	6.8	7.5	7.2	6.9	6.0	6.2	6.1	5.7
	790, 7011	RvSBon11	700	50	2	250	5.7	5.6	5.5	5.2	6.8	7.5	7.2	6.9	6.0	6.2	6.1	5.7												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4,200	50	2	311	34.0	36.0	35.0	33.1	35.7	37.5	38.0	37.2	38.6	37.7	38.6	38.0	27.4	29.0	28.1	26.7	28.7	30.1	30.5	29.6	30.9	30.1	30.7	30.3
	708, 710	118NBoff2	4,200	50	2	567	34.7	37.1	35.7	33.8	36.7	38.3	39.1	37.8	39.4	38.5	39.3	38.7												
	710, 711	118NBoff3	4,200	50	2	460	25.9	27.5	26.6	25.3	27.2	28.5	28.8	27.8	29.3	28.5	29.1	28.6												
	711, 712	118NBoff4	4,200	50	3	472	22.2	23.4	22.7	21.7	23.0	24.2	24.4	23.7	24.8	24.1	24.6	24.2												
	712, 713	118NBoff5	4,200	50	3	395	22.1	23.3	22.5	21.6	22.9	24.1	24.2	23.6	24.6	24.0	24.4	24.2												
	713, 714	118NBoff6	4,200	50	3	188	22.1	23.2	22.5	21.7	22.9	24.1	24.2	23.6	24.6	24.1	24.4	24.1												
	714, 717	118NBoff7	1,640	50	2	212	11.6	12.2	11.8	11.3	11.8	12.6	12.9	12.5	13.0	12.7	12.6	12.6												

2040 Master AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,640	50	2	389	11.6	12.1	11.7	11.2	11.7	12.5	12.8	12.4	12.9	12.6	12.5	12.5	11.5	12.1	11.7	11.3	11.6	12.4	12.8	12.5	12.8	12.6	12.4	12.5
	718, 719	118NBoff9	1,640	50	2	373	11.5	12.1	11.6	11.2	11.6	12.4	12.8	12.4	12.8	12.6	12.4	12.5												
	719, 720	118NBoff10	1,640	50	2	589	11.5	12.1	11.7	11.3	11.6	12.4	12.7	12.4	12.8	12.6	12.4	12.5												
	720, 721	118NBoff11	1,640	50	2	311	11.5	12.0	11.7	11.3	11.6	12.4	12.7	12.5	12.8	12.5	12.4	12.5												
	721, 722	118NBoff12	1,640	50	2	327	11.5	12.0	11.7	11.3	11.6	12.4	12.7	12.5	12.8	12.5	12.4	12.5												
	722, 723	118NBoff13	1,640	50	2	626	11.5	12.0	11.7	11.3	11.6	12.4	12.7	12.5	12.8	12.5	12.4	12.6												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,240	60	4	1,252	14.1	14.3	14.4	13.6	16.0	18.0	17.8	16.9	15.7	15.7	15.3	15.0	13.9	14.1	14.2	13.5	15.8	17.7	17.5	16.7	15.5	15.5	15.1	14.8
	724, 725	118NBoff15	4,240	60	4	575	13.5	13.7	13.8	13.1	15.3	17.1	17.0	16.1	15.1	15.1	14.7	14.4												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,060	60	2	611	20.3	21.6	20.4	19.3	27.0	28.6	27.2	25.7	22.5	23.6	22.5	21.2	20.4	21.8	20.7	19.5	27.3	29.1	27.6	26.1	22.8	23.8	22.8	21.5
	740, 741	118NBon3	3,060	60	2	1,571	20.5	21.9	20.8	19.6	27.4	29.2	27.7	26.3	22.9	23.8	22.9	21.6												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,460	50	1	268	20.4	21.9	20.7	19.3	26.7	28.9	27.5	25.7	22.6	23.6	22.8	21.1	23.5	25.1	24.1	22.3	30.3	33.3	31.6	29.7	26.3	27.1	26.1	24.3
	748, 749	118NBon5	1,460	50	1	541	23.5	25.3	24.0	22.2	30.6	33.3	31.8	29.7	26.2	27.1	26.2	24.4												
	749, 750	118NBon6	1,460	50	1	715	23.5	25.3	24.1	22.3	30.5	33.3	31.7	29.8	26.2	27.2	26.1	24.4												
	750, 751	118NBon7	1,460	50	1	245	23.7	25.3	24.3	22.4	30.5	33.2	31.8	29.9	26.4	27.2	26.3	24.5												
	751, 752	118NBon8	1,460	50	1	252	23.8	25.5	24.4	22.6	30.6	33.6	32.0	30.1	26.7	27.4	26.5	24.6												
	752, 753	118NBon9	1,460	50	1	352	23.8	25.5	24.4	22.6	30.7	33.8	32.0	30.2	26.7	27.4	26.5	24.7												
	753, 754	118NBon10	1,460	50	1	264	23.8	25.4	24.5	22.6	30.5	33.8	31.9	30.1	26.6	27.4	26.5	24.6												
	754, 755	118NBon11	1,460	50	1	415	23.9	25.4	24.5	22.7	30.4	33.9	31.9	30.2	26.7	27.6	26.6	24.7												
	755, 7009	118NBon12	1,460	50	1	733	24.1	25.5	24.7	22.9	30.5	34.1	32.1	30.3	26.9	27.8	26.6	24.9												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	850	50	1	147	23.2	23.2	23.3	22.3	28.3	32.5	30.8	29.9	24.9	26.0	24.5	23.6	15.5	15.4	15.5	14.9	18.8	21.8	20.7	20.1	16.7	17.5	16.4	15.8
	775, 776	118SBoff3	850	50	1	934	15.0	15.0	15.1	14.5	18.3	21.2	20.0	19.6	16.2	17.0	15.9	15.3												
	776, 777	118SBoff4	850	50	1	371	14.8	14.7	14.8	14.3	18.0	20.9	19.9	19.3	16.0	16.7	15.7	15.2												
	777, 778	118SBoff5	850	50	1	446	14.9	14.7	14.9	14.3	18.0	21.0	20.0	19.3	16.1	16.7	15.8	15.2												
	778, 6020	118SBoff6	850	50	1	340	15.0	14.7	15.0	14.4	18.0	21.1	20.1	19.4	16.2	16.8	15.8	15.2												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,600	50	2	990	20.2	20.4	20.7	19.5	24.5	28.3	27.4	25.8	22.7	23.0	22.2	21.2	20.2	20.4	20.7	19.5	24.5	28.3	27.4	25.8	22.7	23.0	22.2	21.2
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,600	50	1	197	25.8	27.1	25.8	24.9	35.1	36.9	35.1	33.7	28.9	30.0	28.9	27.8	25.6	27.0	25.9	24.9	34.5	36.7	34.8	33.3	28.9	29.9	28.8	27.6
	742, 743	118SBon2	1,600	50	1	119	25.8	27.3	26.0	25.0	35.4	37.3	35.4	33.9	29.0	30.2	29.1	28.0												
	743, 744	118SBon3	1,600	50	1	126	25.6	27.1	25.9	24.9	35.2	37.1	35.2	33.8	28.9	30.0	29.0	27.8												
	744, 745	118SBon4	1,600	50	1	162	25.4	27.0	25.8	24.7	34.8	36.9	34.9	33.4	28.7	29.8	28.7	27.5												
	745, 746	118SBon5	1,600	50	1	200	25.3	26.8	25.6	24.6	34.4	36.5	34.5	33.0	28.5	29.6	28.5	27.3												
	746, 747	118SBon6	1,600	50	1	166	25.3	26.8	25.6	24.6	34.1	36.3	34.3	32.9	28.5	29.5	28.4	27.3												
	747, 413	118SBon7	1,600	50	1	973	25.6	27.0	26.0	24.9	34.2	36.6	34.8	33.2	29.0	30.0	28.8	27.6												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	13.9	14.7	14.1	13.2	18.3	19.5	18.6	17.6	15.3	16.0	15.4	14.6	13.9	14.7	14.1	13.2	18.3	19.5	18.6	17.6	15.3	16.0	15.4	14.6
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2,050	50	2	647	16.2	17.4	16.5	15.3	21.4	22.7	22.2	20.7	17.9	18.7	18.3	17.0	16.3	17.4	16.4	15.3	21.4	22.7	22.2	20.8	18.0	18.7	18.2	16.9
	811, 812	UlmNBon4	2,050	50	2	590	16.2	17.4	16.4	15.2	21.3	22.7	22.1	20.7	17.9	18.6	18.2	16.9												
	812, 813	UlmNBon5	2,050	50	2	323	16.2	17.4	16.4	15.3	21.4	22.8	22.1	20.8	18.0	18.7	18.2	16.9												
	813, 814	UlmNBon6	2,050	50	2	328	16.3	17.4	16.4	15.3	21.4	22.7	22.2	20.8	18.0	18.8	18.2	16.9												
	814, 815	UlmNBon7	2,050	50	2	288	16.3	17.4	16.3	15.3	21.4	22.7	22.2	20.8	18.0	18.7	18.2	16.9												
	815, 816	UlmNBon8	2,050	50	2	273	16.3	17.5	16.4	15.3	21.4	22.7	22.2	20.8	18.1	18.8	18.2	16.9												
	816, 322	UlmNBon9	2,050	50	2	881	16.4	17.5	16.4	15.4	21.3	22.8	22.2	20.8	18.2	18.8	18.3	17.0												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	3,300	50	2	316	26.4	27.5	26.5	25.1	33.4	36.3	36.3	34.3	30.0	30.8	29.1	27.5	25.9	27.0	26.0	24.6	32.3	35.0	35.1	33.4	29.4	30.1	28.4	27.0
	830, 831	UlmSBoff2	3,300	50	2	346	25.6	26.7	25.7	24.4	31.7	34.1	34.3	32.7	28.9	29.6	28.0	26.6												
	831, 7036	UlmSBoff3	3,300	50	2	283	25.8	26.9	25.9	24.5	31.9	34.7	34.9	33.1	29.2	29.8	28.1	26.9												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,670	50	2	398	21.8	22.8	22.2	20.9	27.0	29.2	29.7	28.4	25.0	25.3	23.9	23.0	18.0	18.8	18.3	17.2	22.1	23.9	24.6	23.3	20.6	20.8	19.7	19.0
	834, 835	UlmSBoff8	2,670	60	2	584	18.7	19.6	19.0	17.9	23.1	25.0	25.5	24.2	21.4	21.7	20.5	19.7												
	835, 836	UlmSBoff9	2,670	60	2	481	17.2	18.0	17.5	16.5	21.1	22.9	23.4	22.2	19.7	19.9	18.8	18.1												
	836, 837	UlmSBoff10	2,670	60	2	2,160	17.3	18.1	17.6	16.6	21.1	22.9	23.6	22.4	19.8	19.9	18.9	18.3												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,100	35	1	493	16.1	16.7	16.3	15.8	21.3	23.2	21.4	20.8	17.8	19.0	17.4	17.0	18.0	18.7	18.1	17.7	23.9	25.9	23.9	23.3	19.9	21.2	19.4	19.1
	802, 803	UlmSBon2	1,100	35	1	214	22.3	23.3	22.5	22.0	29.7	32.1	29.9	29.1	24.7	26.2	24.1	23.8												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	770	35	1	163	17.2	17.8	17.3	17.1	22.8	24.7	23.3	22.3	19.0	20.5	18.5	18.2	14.2	14.6	14.1	14.0	18.6	20.2	19.1	18.2	15.6	16.7	15.2	14.9
	808, 809	UlmSBon4	770	35	1	163	17.1	17.7	17.1	17.0	22.4	24.4	23.1	22.0	18.9	20.3	18.3	18.0												
	809, 810	UlmSBon5	770	35	1	228	17.2	17.7	17.1	17.0	22.6	24.5	23.2	22.2	18.9	20.3	18.5	18.1												
	810, 402	UlmSBon6	770	50	1	1,170	12.8	13.2	12.7	12.6	16.7	18.1	17.2	16.4	14.0	15.0	13.7	13.4												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	330	35	1	201	6.6	6.9	6.4	6.3	8.2	8.7	8.0	8.1	7.1	7.1	7.1	6.7	5.3	5.5	5.1	5.1	6.5	7.0	6.4	6.5	5.7	5.7	5.7	5.4
	804, 805	UlmSBMLK2	330	50	1	361	5.5	5.8	5.3	5.3	6.8	7.2	6.6	6.7	5.9	5.9	5.9	5.6												
	805, 806	UlmSBMLK3	330	50	1	499	4.6	4.8	4.5	4.5	5.7	6.2	5.6	5.6	5.0	5.0	5.0	4.7												
SB MLK	806, 807	UlmSBMLK4	960	50	2	1,171	7.2	7.4	7.0	6.8	8.5	9.6	9.2	8.9	7.8	8.2	7.7	7.3	7.2	7.4	7.0	6.8	8.5	9.6	9.2	8.9	7.8	8.2	7.7	7.3
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	620	50	1	1,080	9.6	10.2	9.7	9.2	12.5	13.4	12.8	12.0	10.6	11.1	10.6	10.2	9.5	10.2	9.7	9.2	12.5	13.4	12.8	12.0	10.6	11.1	10.5	10.2
	851, 852	MLKNBon3	620	50	1	350	9.5	10.1	9.6	9.1	12.4	13.3	12.7	12.0	10.5	11.0	10.5	10.1												
	852, 853	MLKNBon4	620	50	1	360	9.5	10.2	9.6	9.2	12.5	13.3	12.8	12.1	10.6	11.1	10.5	10.1												
	853, 321	MLKNBon5	620	50	1	548	9.5	10.2	9.7	9.2	12.6	13.4	12.9	12.1	10.7	11.1	10.6	10.2												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	630	50	1	294	10.5	10.8	10.4	10.0	12.1	14.2	13.8	13.1	11.6	12.3	11.4	10.7	9.9	10.3	9.8	9.4	11.5	13.3	13.0	12.4	10.9	11.6	10.7	10.0
	839, 840	MLKSBoff4	630	50	1	336	9.7	10.1	9.7	9.2	11.2	13.1	12.8	12.2	10.7	11.4	10.5	9.9												
	840, 841	MLKSBoff5	630	50	1	395	9.8	10.1	9.7	9.3	11.3	13.1	12.9	12.3	10.7	11.5	10.6	9.9												
	841, 806	MLKSBoff6	630	50	1	539	9.8	10.1	9.7	9.2	11.4	13.1	12.9	12.3	10.7	11.5	10.6	9.9												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,260	60	2	1,270	8.1	8.6	8.2	7.8	10.7	11.3	10.8	10.3	9.0	9.5	9.0	8.6	10.8	11.5	10.9	10.4	14.3	15.4	14.5	13.8	12.0	12.6	12.1	11.3
	901, 902	4thNBon3	1,260	60	2	634	8.0	8.5	8.1	7.7	10.6	11.3	10.6	10.2	8.8	9.4	8.9	8.4												
	902, 903	4thNBon4	1,260	60	2	322	8.2	8.7	8.2	7.8	10.8	11.5	10.9	10.4	9.0	9.5	9.1	8.5												
	903, 904	4thNBon5	1,260	60	2	279	8.3	8.9	8.3	8.0	11.1	11.9	11.2	10.7	9.2	9.8	9.3	8.7												
	904, 905	4thNBon6	1,260	60	2	388	9.1	9.7	9.1	8.7	12.1	13.2	12.3	11.7	10.1	10.7	10.2	9.5												
	905, 906	4thNBon7	1,260	60	1	313	16.7	17.8	16.8	16.0	22.1	24.1	22.5	21.4	18.6	19.5	18.6	17.5												
	906, 907	4thNBon8	1,260	60	1	299	16.6	17.7	16.7	16.0	21.8	23.9	22.3	21.3	18.5	19.4	18.5	17.3												
	907, 324	4thNBon9	1,260	60	1	667	16.6	17.7	16.8	16.1	21.8	23.8	22.2	21.3	18.5	19.3	18.7	17.3												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	700	60	1	465	8.5	10.2	9.6	9.6	12.4	13.7	13.6	12.8	11.3	11.2	11.1	10.2	6.8	8.0	7.6	7.5	9.8	10.7	10.6	10.0	9.0	8.8	8.8	8.1
	920, 921	4thSBoff2	700	60	1	492	8.5	10.1	9.5	9.5	12.2	13.4	13.3	12.5	11.2	11.1	11.0	10.2												
	921, 922	4thSBoff3	700	60	1	420	8.5	10.1	9.6	9.5	12.3	13.5	13.3	12.5	11.3	11.1	11.0	10.2												
	922, 923	4thSBoff4	700	60	1	393	8.6	10.2	9.6	9.6	12.4	13.6	13.4	12.6	11.4	11.2	11.1	10.2												
	923, 924	4thSBoff5	700	60	1	384	8.6	10.2	9.6	9.6	12.4	13.7	13.4	12.6	11.4	11.3	11.2	10.3												
	924, 925	4thSBoff6	700	60	1	354	8.6	10.2	9.7	9.6	12.4	13.8	13.5	12.7	11.4	11.3	11.2	10.3												
	925, 926	4thSBoff7	700	60	1	501	8.7	10.2	9.8	9.6	12.5	13.8	13.6	12.7	11.4	11.2	11.3	10.3												
	926, 927	4thSBoff8	700	60	1	416	8.4	9.8	9.5	9.2	12.1	13.2	13.2	12.2	11.1	10.9	11.0	9.9												
	927, 928	4thSBoff9	700	60	2	1,153	4.3	5.0	4.9	4.7	6.2	6.7	6.8	6.3	5.7	5.6	5.6	5.1												
	928, 929	4thSBoff10	700	60	2	1,242	4.3	4.9	4.8	4.7	6.0	6.6	6.7	6.2	5.5	5.5	5.5	5.0												
	4999, 5000	SULNB1	1,190	70	1	1,116	13.4	13.9	13.3	12.7	17.6	18.6	17.7	16.7	14.5	15.4	14.7	13.8												
	5000, 5001	SULNB2	1,190	70	1	2,205	13.3	13.9	13.3	12.7	17.5	18.6	17.7	16.7	14.6	15.3	14.7	13.8												

2040 Master AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,190	70	1	528	13.5	14.1	13.6	12.9	17.8	19.0	18.1	17.0	14.9	15.6	14.9	14.1	13.5	14.2	13.6	13.0	17.8	19.0	18.2	17.1	15.0	15.6	15.0	14.2
	5002, 5003	SULNB4	1,190	70	1	346	13.6	14.1	13.7	13.0	17.8	19.1	18.2	17.1	15.1	15.7	15.0	14.2												
	5003, 5004	SULNB5	1,190	70	1	235	13.6	14.1	13.7	13.0	17.9	19.1	18.3	17.2	15.1	15.7	15.1	14.2												
	5004, 5005	SULNB6	1,190	70	1	270	13.6	14.2	13.8	13.0	17.9	19.2	18.4	17.2	15.1	15.8	15.1	14.3												
	5005, 5006	SULNB7	1,190	70	1	238	13.6	14.3	13.8	13.0	17.9	19.3	18.4	17.3	15.2	15.8	15.1	14.3												
	5006, 5007	SULNB8	1,190	70	1	261	13.6	14.3	13.8	13.1	17.9	19.3	18.4	17.3	15.3	15.8	15.2	14.4												
	5007, 5008	SULNB9	1,190	70	1	451	13.7	14.3	13.8	13.1	17.9	19.4	18.4	17.4	15.3	15.8	15.2	14.4												
	5008, 5009	SULNB10	1,190	70	1	242	13.6	14.4	13.8	13.2	17.9	19.4	18.4	17.4	15.4	15.8	15.2	14.4												
	5009, 5010	SULNB11	1,190	70	1	158	13.6	14.4	13.9	13.1	17.9	19.4	18.4	17.4	15.4	15.8	15.3	14.5												
	5010, 5011	SULNB12	1,190	70	1	539	13.6	14.5	13.9	13.1	17.9	19.4	18.5	17.4	15.4	15.9	15.3	14.5												
	5011, 5012	SULNB13	1,190	70	1	564	13.7	14.5	13.9	13.2	18.0	19.4	18.6	17.5	15.5	15.9	15.4	14.5												
	5012, 5013	SULNB14	1,190	70	1	1,295	13.8	14.6	13.9	13.3	18.0	19.5	18.6	17.7	15.5	16.0	15.4	14.6												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,450	70	2	409	14.5	14.9	14.4	14.1	17.0	18.2	17.5	17.2	16.1	15.9	16.1	15.4	14.2	14.5	14.1	13.8	16.2	17.8	17.1	16.8	15.7	15.6	15.6	15.1
	5014, 5015	SULNB16	2,450	70	2	2,441	14.2	14.6	14.0	13.8	16.5	17.8	17.1	16.8	15.7	15.6	15.6	15.1												
	5015, 5016	SULNB17	2,450	70	2	2,058	14.2	14.5	14.0	13.7	16.3	17.7	17.1	16.8	15.7	15.6	15.6	15.0												
	5016, 5017	SULNB18	2,450	70	2	1,249	14.2	14.5	14.0	13.7	16.2	17.8	17.1	16.9	15.7	15.5	15.6	15.1												
	5017, 5018	SULNB19	2,450	70	2	1,432	14.2	14.4	14.0	13.8	16.2	17.7	17.1	16.8	15.7	15.6	15.6	15.1												
	5018, 5019	SULNB20	2,450	70	2	788	14.2	14.4	14.0	13.9	16.0	17.7	17.2	16.8	15.7	15.6	15.6	15.2												
	5019, 5020	SULNB21	2,450	70	2	659	14.2	14.5	14.0	13.9	16.0	17.7	17.2	16.8	15.7	15.6	15.6	15.2												
	5020, 5021	SULNB22	2,450	70	2	2,083	14.1	14.4	14.1	13.8	16.1	17.8	17.2	16.9	15.7	15.6	15.6	15.2												
	5021, 5022	SULNB23	2,450	70	2	1,364	14.1	14.5	14.2	13.7	16.0	17.8	17.2	16.9	15.8	15.5	15.7	15.2												
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,910	70	2	546	12.8	13.1	12.9	12.4	14.7	16.6	16.3	15.6	14.5	14.2	14.3	14.1	16.7	17.0	16.7	16.3	18.9	21.1	20.8	20.1	18.8	18.4	18.4	18.0
	5023, 5024	SULNB25	2,910	70	2	1,030	17.4	17.9	17.4	17.0	19.9	22.3	22.0	21.2	19.6	19.2	19.4	18.9												
	5024, 5025	SULNB26	2,910	70	2	820	17.2	17.4	17.1	16.7	19.4	21.5	21.2	20.6	19.2	18.9	18.9	18.4												
	5025, 5026	SULNB27	2,910	70	2	2,524	17.1	17.3	17.1	16.8	19.3	21.4	21.2	20.4	19.2	18.9	18.8	18.4												
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,260	70	1	266	14.7	15.0	14.4	14.3	16.1	16.8	16.2	18.4	18.5	16.2	17.8	16.7	15.0	15.1	14.6	14.6	16.0	16.8	15.9	16.9	16.5	15.5	16.7	16.2
	5100, 5101	SULNBRamp2	1,260	70	1	528	14.7	14.9	14.3	14.2	15.9	16.5	15.8	17.3	17.2	15.5	16.9	16.1												
	5101, 5102	SULNBRamp3	1,260	70	1	379	14.7	14.9	14.3	14.2	15.8	16.4	15.6	16.8	16.5	15.2	16.5	15.9												
	5102, 5103	SULNBRamp4	1,260	70	1	376	14.7	14.9	14.3	14.2	15.9	16.4	15.6	16.6	16.2	15.2	16.4	15.8												
	5103, 5104	SULNBRamp5	1,260	70	1	363	14.7	15.0	14.4	14.3	15.9	16.5	15.5	16.5	16.1	15.2	16.4	15.8												
	5104, 5105	SULNBRamp6	1,260	70	1	352	14.8	15.0	14.4	14.4	15.9	16.5	15.6	16.6	16.0	15.2	16.4	15.8												
	5105, 5106	SULNBRamp7	1,260	70	1	831	14.9	15.0	14.5	14.5	16.0	16.6	15.7	16.7	16.1	15.4	16.5	15.9												
	5106, 5107	SULNBRamp8	1,260	70	1	1,172	14.9	15.1	14.6	14.6	16.1	16.7	15.9	16.8	16.3	15.5	16.6	16.1												
	5107, 5108	SULNBRamp9	1,260	70	1	656	15.0	15.1	14.8	14.6	16.0	17.0	15.9	16.7	16.4	15.6	16.6	16.3												
	5108, 5109	SULNBRamp10	1,260	70	1	803	15.2	15.1	14.8	14.7	16.0	17.0	16.1	16.8	16.5	15.6	16.7	16.3												
	5109, 5110	SULNBRamp11	1,260	70	1	897	15.2	15.2	14.8	14.8	16.0	17.1	16.1	16.9	16.6	15.7	16.8	16.3												
	5110, 5111	SULNBRamp12	1,260	70	1	513	15.3	15.2	14.9	14.9	16.1	17.1	16.2	16.9	16.6	15.8	16.9	16.4												
	5111, 5013	SULNBRamp13	1,260	70	1	738	15.3	15.2	15.0	14.8	16.1	17.2	16.3	16.9	16.7	15.8	16.9	16.4												
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	460	70	1	513	5.8	5.8	5.7	5.6	6.4	7.3	7.6	6.8	6.2	6.3	6.2	6.3	5.8	5.8	5.7	5.6	6.4	7.3	7.6	6.8	6.2	6.3	6.2	6.3
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,480	70	2	922	11.3	11.7	11.2	10.6	15.0	16.0	15.0	14.2	12.4	13.2	12.5	11.6	11.3	11.7	11.2	10.6	15.0	16.0	15.0	14.2	12.4	13.2	12.5	11.6
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,190	70	2	1,601	12.2	12.7	12.1	11.4	16.0	17.1	16.2	15.3	13.2	14.0	13.4	12.6	12.4	13.4	13.0	12.2	16.7	18.1	17.3	16.4	14.2	14.9	14.2	13.6
	5997, 5998	SULSB1	2,190	70	2	826	12.2	12.7	12.3	11.5	16.0	17.0	16.2	15.4	13.3	14.0	13.5	12.7												
	5998, 5999	SULSB1	2,190	70	2	1,034	12.2	12.8	12.3	11.5	16.0	17.0	16.2	15.5	13.3	14.0	13.5	12.7												
	5999, 6000	SULSB1	2,190	70	2	1,921	12.3	12.8	12.4	11.6	16.0	17.0	16.3	15.5	13.4	14.0	13.6	12.7												
	6000, 6001	SULSB2	2,190	70	2	2,057	12.2	12.9	12.4	11.6	15.9	17.1	16.4	15.6	13.4	14.1	13.6	12.8												
	6001, 6002	SULSB3	2,190	70	2	547	12.3	12.8	12.5	11.6	15.9	17.0	16.4	15.6	13.5	14.1	13.6	12.9												
	6002, 6003	SULSB4	2,190	70	2	424	12.3	12.8	12.5	11.6	15.9	17.0	16.4	15.7	13.5	14.1	13.6	12.9												
	6003, 6004	SULSB5	2,190	70	2	1,865	12.3	12.8	12.5	11.7	15.9	17.0	16.5	15.7	13.5	14.2	13.6	12.9												
	6004, 6005	SULSB6	2,190	70	2	1,086	12.4	12.8	12.5	11.7	16.0	17.0	16.6	15.8	13.6	14.2	13.6	13.0												
	6005, 6006	SULSB7	2,190	70	2	4,087	12.5	12.9	12.5	11.7	15.9	17.2	16.6	15.8	13.8	14.3	13.6	13.1												
	6006, 6007	SULSB8	2,190	70	2	1,179	13.0	13.4	13.1	12.2	16.7	18.7	18.0	16.8	14.6	15.2	14.3	13.8												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,750	70	1	1,199	20.5	21.2	20.7	19.8	26.2	30.3	28.3	26.4	23.5	24.1	22.7	22.2	20.5	21.2	20.9	19.8	25.5	29.1	27.7	25.9	23.3	23.8	22.7	21.9
	6008, 6009	SULSB10	1,750	70	1	614	20.3	20.9	20.5	19.6	25.3	29.0	27.3	25.6	23.0	23.6	22.4	21.6												
	6009, 6010	SULSB11	1,750	70	1	382	20.3	21.0	20.6	19.6	25.3	28.6	27.1	25.5	23.0	23.6	22.4	21.6												
	6010, 6011	SULSB12	1,750	70	1	135	20.4	21.1	20.6	19.6	25.3	28.5	27.1	25.6	23.1	23.7	22.4	21.7												
	6011, 6012	SULSB13	1,750	70	1	204	20.4	21.2	20.7	19.6	25.3	28.5	27.2	25.7	23.1	23.7	22.5	21.7												
	6012, 6013	SULSB14	1,750	70	1	613	20.5	21.3	20.8	19.7	25.4	28.5	27.4	25.8	23.2	23.7	22.6	21.9												
	6013, 6014	SULSB15	1,750	70	1	251	20.5	21.3	21.0	19.8	25.3	28.6	27.6	26.0	23.3	23.7	22.7	21.9												
	6014, 6015	SULSB16	1,750	70	1	233	20.5	21.3	21.0	19.8	25.3	28.7	27.6	26.0	23.3	23.8	22.8	22.0												
	6015, 6016	SULSB17	1,750	70	1	274	20.6	21.3	21.0	19.8	25.3	28.8	27.7	25.9	23.4	23.8	22.8	22.0												
	6016, 6017	SULSB18	1,750	70	1	238	20.6	21.2	21.1	19.8	25.3	28.8	27.7	25.9	23.4	23.9	22.8	22.0												
	6017, 6018	SULSB19	1,750	70	1	314	20.6	21.3	21.1	19.9	25.2	28.8	27.8	25.9	23.3	23.9	22.9	22.0												
	6018, 6019	SULSB20	1,750	70	1	879	20.7	21.3	21.1	20.0	25.2	28.8	27.9	25.9	23.4	23.9	23.1	22.0												
	6019, 6020	SULSB21	1,750	70	1	207	20.6	21.3	21.2	20.0	25.2	28.8	28.1	25.9	23.5	23.9	23.1	22.0												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	1,013	5.2	5.3	4.9	4.5	6.2	6.7	6.8	6.5	5.3	5.5	5.5	5.1	5.3	5.4	5.0	4.7	6.1	6.8	6.9	6.9	5.4	5.6	5.7	5.2
	6100, 6101	SULSBRamp2	440	70	1	621	5.3	5.2	4.9	4.5	6.2	6.7	6.8	6.6	5.3	5.5	5.6	5.0												
	6101, 6102	SULSBRamp3	440	70	1	317	5.3	5.3	5.0	4.5	6.2	6.7	6.8	6.6	5.3	5.5	5.6	5.0												
	6102, 6103	SULSBRamp4	440	70	1	915	5.3	5.3	5.0	4.5	6.2	6.7	6.8	6.6	5.3	5.6	5.6	5.1												
	6103, 6104	SULSBRamp5	440	70	1	1,093	5.3	5.3	5.0	4.5	6.2	6.8	6.9	6.7	5.4	5.6	5.6	5.1												
	6104, 6105	SULSBRamp6	440	70	1	1,068	5.4	5.3	5.0	4.6	6.1	6.8	6.9	6.8	5.4	5.6	5.7	5.1												
	6105, 6106	SULSBRamp7	440	70	1	788	5.3	5.4	5.0	4.6	6.1	6.8	6.9	6.8	5.4	5.6	5.7	5.1												
	6106, 6107	SULSBRamp8	440	70	1	367	5.3	5.4	5.1	4.5	6.1	6.8	6.9	6.9	5.4	5.6	5.8	5.0												
	6107, 6108	SULSBRamp9	440	70	1	373	5.3	5.4	5.1	4.5	6.1	6.9	6.8	6.9	5.3	5.6	5.8	5.1												
	6108, 6109	SULSBRamp10	440	70	1	445	5.3	5.4	5.1	4.6	6.1	6.9	6.8	7.0	5.4	5.6	5.7	5.1												
	6109, 6110	SULSBRamp11	440	70	1	8,866	5.4	5.4	5.1	4.8	6.0	6.9	7.0	7.0	5.5	5.7	5.8	5.2												
	6110, 420	SULSBRamp12	440	70	1	292	5.4	5.4	5.1	4.9	5.9	6.9	7.1	7.0	5.7	5.7	5.8	5.3												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	290	70	1	167	3.4	3.6	3.5	3.5	4.6	4.9	4.6	4.5	4.0	4.0	3.9	3.5	3.4	3.6	3.5	3.5	4.6	4.9	4.6	4.5	4.0	4.0	3.9	3.5

2040 Master AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	10,780	70	4	1,087	66.6	66.5	66.6	66.8	66.3	66.3	66.4	66.3	66.4	66.4	66.4	66.4	65.3	65.0	65.2	65.5	64.7	64.6	64.7	64.6	64.8	64.7	64.7	64.9
	299, 300	I275NB2	10,780	70	4	805	66.8	66.6	66.7	67.0	66.5	66.4	66.5	66.4	66.5	66.5	66.4	66.5												
	300, 301	I275NB3	10,780	70	4	478	65.5	65.2	65.5	65.7	65.1	65.0	65.1	65.0	65.1	65.0	65.0	65.1												
	301, 302	I275NB4	10,780	70	4	2,687	64.7	64.4	64.7	65.0	64.1	63.9	64.2	64.0	64.2	64.1	64.0	64.3												
	302, 303	I275NB5	10,780	70	5	382	61.8	61.0	61.9	61.7	59.4	59.8	60.1	60.2	60.0	59.7	60.3	60.8												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	7,980	70	4	1,375	65.7	65.2	65.5	65.8	65.0	65.1	65.0	65.1	65.0	64.9	65.2	65.1	66.0	65.7	66.0	66.2	65.6	65.7	65.6	65.7	65.7	65.6	65.7	65.7
	304, 305	I275NB7	7,980	70	4	1,306	66.4	66.1	66.3	66.6	66.1	66.2	66.1	66.1	66.1	66.1	66.2	66.2												
	305, 306	I275NB8	7,980	70	4	591	66.2	66.0	66.1	66.4	65.9	66.0	66.0	66.0	66.0	65.9	65.9	66.0												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	9,200	70	6	764	64.6	64.3	64.6	64.8	64.2	64.2	64.1	64.1	64.3	64.5	64.4	64.6	65.0	64.7	64.7	65.3	64.3	63.4	61.8	52.6	49.7	55.7	57.7	61.3
	307, 308	I275NB10	9,200	70	6	3,335	65.3	65.0	65.1	65.5	64.6	63.6	62.4	51.4	47.5	54.6	57.7	61.5												
	308, 309	I275NB11	9,200	70	5	350	63.4	62.9	61.4	64.4	60.9	59.3	50.4	38.1	38.9	46.8	43.8	52.6												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	7,940	70	4	745	60.9	51.6	56.8	61.6	50.7	44.2	32.7	29.2	33.5	33.4	31.6	38.0	52.7	44.2	46.5	53.6	43.9	38.5	33.2	30.9	33.9	33.7	31.6	35.9
	310, 311	I275NB13	7,940	70	4	380	56.3	43.3	49.0	57.1	42.2	34.2	28.4	27.0	30.8	29.7	27.9	32.3												
	311, 312	I275NB14	7,940	70	4	399	51.0	40.6	41.5	51.7	40.0	33.9	30.5	29.4	31.9	31.5	29.2	33.0												
	312, 313	I275NB15	7,940	70	4	368	45.0	38.5	36.9	46.1	38.8	35.4	34.1	32.3	34.1	34.4	31.6	35.0												
	313, 314	I275NB16	7,940	70	4	460	44.1	40.7	40.1	45.6	41.7	39.6	39.6	37.1	38.9	38.8	36.7	38.8												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,300	70	3	879	65.3	64.9	64.9	65.6	65.1	64.5	64.4	64.5	64.8	64.5	64.1	64.7	67.4	67.2	67.3	67.6	67.4	67.1	67.0	67.1	67.1	66.9	66.9	67.1
	315, 316	I275NB18	2,300	70	3	1,293	68.1	67.9	68.0	68.2	68.1	67.8	67.8	67.9	67.8	67.6	67.8	67.8												
	316, 317	I275NB19	2,300	70	3	1,158	68.2	68.1	68.2	68.3	68.3	68.1	68.0	68.1	68.1	67.9	68.1	68.1												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4,180	70	5	372	58.9	58.8	59.0	59.1	58.3	57.9	58.2	58.2	58.8	58.5	58.6	59.0	66.6	66.6	66.7	66.6	66.5	66.2	66.3	66.3	66.6	66.4	66.5	66.5
	318, 319	I275NB21	4,180	70	5	2,609	66.7	66.7	66.8	66.7	66.5	66.1	66.3	66.3	66.6	66.4	66.5	66.6												
	319, 320	I275NB22	4,180	70	4	1,810	67.9	67.8	67.9	67.8	67.8	67.5	67.6	67.6	67.8	67.6	67.7	67.7												
	320, 321	I275NB23	4,180	70	4	495	67.9	67.8	67.9	67.8	67.8	67.5	67.6	67.6	67.8	67.6	67.6	67.7												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,800	70	4	1,808	66.6	66.4	66.6	66.6	66.1	65.7	65.9	66.2	66.4	66.3	66.3	66.5	66.6	66.4	66.6	66.6	66.1	65.7	65.9	66.2	66.4	66.3	66.3	66.5
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,850	70	5	1,261	63.3	62.9	63.3	63.6	60.2	59.2	60.2	61.0	62.7	62.5	62.6	63.1	65.3	65.0	65.3	65.5	63.3	62.4	63.2	63.7	64.8	64.7	64.8	65.2
	323, 324	I275NB26	6,850	70	5	1,405	67.1	66.9	67.2	67.1	66.0	65.4	65.9	66.2	66.7	66.6	66.7	67.0												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	8,110	70	5	839	63.2	61.4	63.1	63.7	57.5	53.0	55.8	57.6	61.4	61.5	61.3	62.4	65.6	64.9	65.5	65.8	63.6	62.0	62.8	63.4	64.7	64.8	64.8	65.2
	325, 326	I275NB28	8,110	70	5	664	64.8	64.0	64.8	65.2	62.0	60.4	61.0	61.9	63.6	63.8	63.9	64.2												
	326, 327	I275NB29	8,110	70	5	2,007	66.6	66.3	66.5	66.6	65.7	65.1	65.3	65.4	66.1	66.0	66.2	66.3												
	327, 328	I275NB30	8,110	70	5	868	66.4	66.0	66.2	66.3	65.6	64.9	65.2	65.4	65.7	65.8	65.9	66.0												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	7,650	70	4	1,068	66.4	66.2	66.3	66.4	65.6	65.0	65.2	65.5	65.8	65.8	66.0	66.1	66.3	66.1	66.3	66.3	65.6	65.1	65.3	65.4	65.8	65.8	65.9	66.1
	329, 330	I275NB32	7,650	70	4	1,023	66.4	66.2	66.4	66.4	65.8	65.3	65.5	65.5	66.0	65.9	66.1	66.2												
	330, 331	I275NB33	7,650	70	4	824	66.3	66.1	66.2	66.3	65.7	65.2	65.4	65.4	65.8	65.8	65.9	66.1												
	331, 332	I275NB34	7,650	70	4	2,521	66.2	66.0	66.2	66.2	65.6	65.1	65.2	65.3	65.7	65.7	65.8	66.0												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	6,600	70	4	1,081	68.1	68.0	68.0	68.2	67.3	66.5	67.3	67.4	67.9	67.8	67.9	68.0	68.1	68.0	68.0	68.2	67.3	66.5	67.3	67.4	67.9	67.8	67.9	68.0
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,890	70	5	1,446	67.1	66.8	66.9	67.2	55.5	43.8	48.8	58.6	65.1	65.8	65.9	66.6	66.1	65.7	65.8	66.0	60.4	57.0	58.4	61.2	64.7	64.5	65.0	65.5
	395, 396	I275SB1	6,890	70	5	816	63.3	62.7	63.0	63.4	45.8	41.6	42.8	48.8	58.5	58.5	60.1	62.1												
	396, 397	I275SB1	6,890	70	4	1,045	66.1	65.5	65.8	66.1	61.1	59.7	60.4	61.7	64.6	64.1	64.9	65.4												
	397, 398	I275SB1	6,890	70	4	1,908	66.7	66.5	66.6	66.7	65.4	64.9	65.3	65.4	66.4	66.1	66.3	66.4												
	398, 399	I275SB1	6,890	70	4	2,118	65.9	65.4	65.6	65.6	64.4	63.5	63.8	63.9	65.3	64.6	65.3	65.3												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,190	70	4	2,746	66.7	66.4	66.4	66.7	65.8	65.1	65.4	65.5	66.3	66.0	66.3	66.4	64.4	64.1	64.3	64.5	62.7	61.2	61.7	62.5	63.7	63.2	63.8	64.2
	400, 401	I275SB3	6,190	70	5	1,080	58.6	58.5	58.7	59.1	54.9	51.1	52.2	54.8	57.1	56.3	57.3	58.5												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,890	70	4	4,105	68.3	68.1	68.3	68.2	67.9	67.6	67.6	67.7	68.2	68.1	68.2	68.2	68.3	68.1	68.3	68.2	67.9	67.6	67.6	67.7	68.2	68.1	68.2	68.2
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,660	70	5	720	64.3	64.2	64.4	64.3	63.6	63.4	63.6	63.6	64.2	64.0	64.3	64.2	65.9	65.9	66.0	66.0	65.0	64.5	64.8	64.9	65.6	65.6	65.7	65.7
	403, 404	I275SB6	3,660	70	5	1,327	66.5	66.5	66.6	66.6	65.5	64.9	65.3	65.4	66.3	66.3	66.3	66.3												
	404, 405	I275SB7	3,660	70	4	461	67.1	67.1	67.3	67.3	66.4	65.8	66.0	66.2	66.8	67.0	66.9	67.0												
	405, 406	I275SB8	3,660	70	4	452	65.2	65.1	65.4	65.5	64.4	63.9	63.9	64.2	65.0	65.0	65.0	65.0												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,410	70	3	855	68.2	68.0	68.3	68.3	67.8	67.4	67.4	67.5	68.0	68.1	68.1	68.0	68.5	68.4	68.6	68.5	68.2	67.9	67.9	68.0	68.3	68.3	68.4	68.3
	407, 408	I275SB10	2,410	70	3	347	68.6	68.5	68.8	68.7	68.4	68.1	68.1	68.2	68.4	68.5	68.6	68.4												
	408, 409	I275SB11	2,410	70	3	1,585	68.6	68.5	68.8	68.6	68.4	68.1	68.1	68.2	68.4	68.4	68.5	68.5												
	409, 410	I275SB12	2,410	70	3	458	68.5	68.5	68.6	68.5	68.3	68.0	68.0	68.1	68.3	68.3	68.4	68.4												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	3,580	70	5	629	63.2	63.2	63.2	63.2	62.9	62.8	62.8	62.8	63.0	63.0	63.2	63.2	65.4	65.4	65.4	65.4	65.2	64.9	64.9	64.9	65.2	65.2	65.3	65.4
	411, 412	I275SB14	3,580	70	5	247	66.2	66.2	66.1	66.2	66.0	65.6	65.6	65.6	66.0	66.0	66.1	66.2												
	412, 413	I275SB15	3,580	70	4	608	67.3	67.3	67.4	67.4	67.1	66.7	66.7	66.8	67.1	67.2	67.2	67.3												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,180	70	5	492	59.1	58.9	59.2	59.1	57.6	57.1	57.5	57.8	58.6	58.3	58.5	58.7	64.3	64.1	64.6	64.5	62.5	61.6	61.8	62.2	63.4	63.5	63.7	64.0
	414, 415	I275SB17	5,180	70	5	3,870	65.2	64.9	65.6	65.4	63.3	62.3	62.6	63.1	64.3	64.4	64.6	64.9												
	415, 416	I275SB18	5,180	70	4	1,086	63.5	63.4	63.6	63.6	61.7	61.3	60.7	61.1	62.3	62.6	62.9	63.1												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,980	70	3	1,385	67.1	66.9	67.1	67.1	66.3	65.9	65.7	65.7	66.4	66.5	66.8	66.8	67.3	67.1	67.3	67.3	66.6	66.2	66.0	66.0	66.6	66.8	67.0	67.1
	417, 418	I275SB20	3,980	70	3	343	68.1	67.9	68.1	68.1	67.7	67.4	67.4	67.3	67.6	67.8	67.8	67.9												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,380	70	4	1,507	64.6	64.5	64.5	64.6	63.9	63.8	64.0	64.0	64.2	64.2	64.3	64.4	64.6	64.5	64.5	64.6	63.9	63.8	64.0	64.0	64.2	64.2	64.3	64.4
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	6,920	70	5	1,015	64.4	64.2	64.5	64.2	63.1	63.4	63.4	63.2	63.7	63.9	64.3	64.4	64.4	64.2	64.5	64.2	63.1	63.4	63.4	63.2	63.7	63.9	64.3	64.4
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	7,360	70	6	2,282	66.7	66.3	66.9	66.6	65.4	65.3	65.4	65.3	65.7	65.9	66.3	66.4	67.0	66.8	67.2	67.0	66.1	65.9	66.0	66.0	66.3	66.5	66.7	66.8
	421, 422	I275SB24	7,360	70	5	430	67.3	67.1	67.5	67.3	66.8	66.6	66.7	66.7	66.8	67.0	67.1	67.2												
	422, 423	I275SB25	7,360	70	5	403	67.3	67.1	67.4	67.3	66.8	66.5	66.7	66.6	66.8	67.0	67.1	67.1												
	423, 424	I275SB26	7,360	70	5	426	67.3	67.1	67.4	67.3	66.7	66.5	66.6	66.6	66.9	67.0	67.1	67.1												
	424, 425	I275SB27	7,360	70	5	412	67.4	67.2	67.4	67.3	66.8	66.5	66.6	66.6	66.9	67.1	67.1	67.2												
	425, 426	I275SB28	7,360	70	5	734	67.4	67.2	67.4	67.4	66.9	66.6	66.7	66.7	66.9	67.1	67.2	67.3												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4,445	50	3	841	47.6	47.8	47.7	48.0	44.2	23.1	13.5	19.7	36.8	42.5	42.5	42.9	46.9	46.7	46.9	47.7	33.2	17.5	12.0	15.7	30.7	40.2	40.8	41.5
	500, 501	GandyEB3	4,445	50	4	954	47.6	47.2	47.6	48.2	26.1	12.0	9.9	12.1	26.9	40.6	41.3	42.0												
	501, 502	GandyEB4	4,445	50	5	174	39.5	38.4	39.3	43.7	19.6	20.7	16.1	16.6	21.4	26.2	29.1	31.6												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,685	50	3	178	47.7	47.5	47.6	48.2	44.7	44.1	39.5	39.4	40.8	41.3	41.8	42.3	47.7	47.5	47.6	48.2	44.7	44.1	39.5	39.4	40.8	41.3	41.8	42.3
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,685	50	3	99	48.1	48.2	48.1	48.1	47.6	47.4	42.6	42.5	43.0	42.9	43.0	43.3	48.5	48.7	48.6	48.7	48.1	48.0	43.2	43.0	43.5	43.4	43.4	43.7
	505, 506	GandyEB10	1,685	50	3	119	48.9	49.1	49.0	49.1	48.6	48.5	43.6	43.5	43.9	43.8	43.8	44.0												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3,415	50	3	1,167	46.4	46.3	46.4	46.7	46.2	46.0	46.2	45.8	46.3	46.2	46.1	46.2	46.4	46.3	46.4	46.7	46.2	46.0	46.2	45.8	46.3	46.2	46.1	46.2
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,840	55	3	181	53.2	53.1	53.4	53.2	52.4	52.2	52.5	52.6	52.9	52.9	52.8	53.1	51.3	51.4	51.5	51.4	50.6	50.5	50.8	50.9	51.1	51.2	51.1	51.2
	520, 521	GandyWB5	3,840	55	3	291	53.8	53.9	54.0	53.8	53.5	53.4	53.6	53.6	53.7	53.8	53.7	53.8												
	521, 522	GandyWB6	3,840	55	4	590	49.5	49.6	49.7	49.7	48.6	48.5	48.9	49.0	49.3	49.4	49.3	49.4												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,440	55	3	1,768	54.0	54.1	54.2	54.0	53.8	53.7	53.7	53.8	53.9	54.0	53.9	54.0	54.0	54.1	54.2	54.0	53.8	53.7	53.7	53.8	53.9	54.0	53.9	54.0

2040 Master AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	5,210	55	5	1,179	53.4	53.4	53.5	53.4	53.1	53.1	53.1	53.1	53.3	53.3	53.3	53.3	53.5	53.5	53.6	53.5	53.2	53.2	53.2	53.2	53.4	53.4	53.4	53.4
	524, 525	GandyWB9	5,210	55	5	455	53.8	53.8	53.9	53.8	53.5	53.4	53.5	53.5	53.6	53.6	53.6	53.7												
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,800	50	2	269	50.3	50.3	50.5	50.6	50.1	49.6	50.0	50.0	50.1	50.0	49.9	50.0	49.6	49.6	49.8	49.8	49.5	49.1	49.4	49.4	49.5	49.4	49.4	49.4
	600, 7001	GdyNBoff2	2,800	50	2	167	48.4	48.6	48.6	48.5	48.5	48.3	48.5	48.4	48.5	48.4	48.5	48.4												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,730	50	1	263	44.9	43.9	44.5	45.3	44.8	44.2	44.2	44.2	43.9	44.4	44.6	44.6	45.6	45.0	45.3	45.8	45.4	45.0	45.2	45.0	45.0	45.2	45.2	45.3
	3, 4	GdyNBoff6	1,730	50	1	359	46.7	45.9	46.1	46.8	46.6	45.9	46.0	46.1	46.0	46.2	46.1	46.4												
	4, 5	GdyNBoff7	1,730	50	1	464	45.8	45.5	45.6	46.0	45.6	45.4	45.6	45.5	45.5	45.5	45.5	45.6												
	5, 506	GdyNBoff8	1,730	50	1	241	44.3	44.0	44.2	44.6	43.8	43.8	44.2	43.5	44.0	43.9	43.9	43.8												
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	1,070	50	1	267	42.5	42.4	42.4	42.4	41.8	41.8	42.2	42.2	42.5	42.4	42.0	42.4	47.2	47.1	47.1	47.1	46.5	46.4	46.9	46.8	47.0	46.9	47.0	47.0
	2, 8	GdyNBoff11	1,070	50	1	341	48.0	48.0	47.9	47.9	46.9	47.0	47.6	47.5	47.9	47.7	47.5	47.8												
	8, 9	GdyNBoff12	1,070	50	1	483	48.1	48.1	48.0	48.1	47.4	47.3	47.9	47.7	47.9	47.8	47.9	48.0												
	9, 10	GdyNBoff13	1,070	50	1	492	47.8	47.6	47.7	47.7	47.2	47.1	47.6	47.4	47.6	47.5	47.7	47.6												
	10, 11	GdyNBoff14	1,070	50	1	389	47.6	47.5	47.5	47.6	47.1	47.1	47.5	47.3	47.4	47.4	47.6	47.4												
	11, 7022	GdyNBoff15	1,070	50	1	196	47.4	47.3	47.3	47.4	46.9	46.9	47.2	47.0	47.2	47.1	47.4	47.1												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,760	50	2	179	30.1	29.4	31.1	35.5	14.3	15.3	10.4	11.2	14.9	18.3	20.9	23.6	30.1	29.4	31.1	35.5	14.3	15.3	10.4	11.2	14.9	18.3	20.9	23.6
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,220	50	2	501	47.0	46.8	46.9	46.8	46.0	46.0	40.9	40.9	41.4	41.8	41.9	42.1	48.8	48.6	48.7	48.7	48.6	48.1	43.5	43.4	43.6	43.7	43.6	43.8
	623, 624	GdyNBon6	1,220	50	2	299	48.9	48.8	48.9	48.8	48.8	48.5	43.6	43.6	43.7	43.8	43.7	43.9												
	624, 625	GdyNBon7	1,220	50	2	253	49.0	48.8	49.0	49.0	49.0	48.5	43.8	43.8	43.9	43.9	43.8	44.0												
	625, 626	GdyNBon8	1,220	50	2	238	49.0	48.8	49.0	49.1	49.0	48.5	43.9	43.8	43.9	43.9	43.9	44.1												
	626, 627	GdyNBon9	1,220	50	2	242	49.1	48.9	49.1	49.1	49.1	48.5	43.9	43.8	44.0	44.0	43.9	44.1												
	627, 628	GdyNBon10	1,220	50	2	277	49.1	48.9	49.1	49.1	49.1	48.4	44.0	43.9	44.0	44.0	43.9	44.1												
	628, 629	GdyNBon11	1,220	50	2	337	49.1	49.0	49.1	49.1	49.1	48.5	44.0	43.9	44.0	44.1	43.9	44.1												
	629, 630	GdyNBon12	1,220	50	2	877	49.1	49.0	49.1	49.1	49.2	48.5	44.0	43.9	44.0	44.1	43.9	44.1												
	630, 306	GdyNBon13	1,220	50	2	344	49.1	49.0	49.1	49.1	49.1	48.6	44.0	43.9	44.0	44.0	43.9	44.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,200	50	2	481	49.0	49.1	49.1	49.0	48.8	48.8	48.9	48.8	49.0	48.9	48.9	48.9	49.0	49.2	49.2	49.1	48.9	48.8	49.0	48.9	49.1	49.0	48.9	49.0
	660, 661	GdySBoff2	1,200	50	2	394	49.2	49.3	49.3	49.2	49.0	49.0	49.1	49.1	49.2	49.2	49.0	49.1												
	661, 7020	GdySBoff3	1,200	50	2	336	49.0	49.2	49.2	49.0	48.9	48.8	49.0	48.9	49.1	49.0	48.9	49.0												
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,270	50	2	714	47.2	47.3	47.4	47.5	46.7	46.5	46.7	46.7	47.1	47.2	47.1	47.1	47.6	47.6	47.7	47.8	47.1	47.0	47.1	47.1	47.5	47.5	47.5	47.5
	662, 523	GdySBoff7	2,270	50	2	424	48.2	48.2	48.3	48.3	47.7	47.8	47.9	47.8	48.1	48.1	48.2	48.2												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,540	50	1	286	44.5	43.7	44.9	43.5	44.0	44.7	40.0	39.3	39.5	38.6	39.3	39.0	46.3	45.8	46.8	45.5	45.9	46.5	41.9	41.1	41.2	40.5	41.1	40.9
	621, 622	GdySBon3	1,540	50	1	204	47.1	46.6	47.6	46.2	46.7	47.4	42.7	41.8	41.9	41.1	41.7	41.6												
	622, 419	GdySBon4	1,540	50	1	319	47.4	47.1	47.9	46.9	47.1	47.6	43.0	42.3	42.3	41.8	42.3	42.1												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,400	35	1	302	33.9	34.0	34.0	33.9	33.2	33.1	33.6	33.6	33.6	33.9	33.7	33.8	33.4	33.5	33.5	33.4	33.1	32.9	33.2	33.3	33.2	33.4	33.3	33.4
	640, 641	GdySBonLoop2	1,400	35	1	259	33.6	33.7	33.7	33.6	33.3	33.3	33.5	33.5	33.4	33.6	33.5	33.6												
	641, 642	GdySBonLoop3	1,400	35	1	227	33.5	33.6	33.6	33.5	33.3	33.1	33.3	33.4	33.3	33.5	33.5	33.5												
	642, 643	GdySBonLoop4	1,400	35	1	211	33.3	33.4	33.3	33.3	33.0	32.8	33.1	33.2	33.1	33.3	33.2	33.3												
	643, 644	GdySBonLoop5	1,400	35	1	211	33.3	33.3	33.2	33.2	32.9	32.8	33.1	33.1	33.0	33.2	33.1	33.3												
	644, 645	GdySBonLoop6	1,400	35	1	207	33.2	33.2	33.1	33.1	32.8	32.7	32.9	33.0	32.9	33.1	33.0	33.2												
	645, 418	GdySBonLoop7	1,400	35	1	252	33.1	33.2	33.1	33.0	32.8	32.7	32.9	33.0	32.9	33.0	33.0	33.1												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,130	60	4	1,418	59.0	59.1	58.9	58.9	58.7	58.6	58.7	58.6	58.9	58.8	59.0	59.0	58.4	58.4	58.3	58.3	58.1	58.0	58.0	58.1	58.3	58.1	58.4	58.4
	541, 542	RvEB3	2,130	60	3	1,028	57.5	57.6	57.5	57.4	57.2	57.1	57.2	57.3	57.4	57.3	57.5	57.5												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,430	60	2	513	58.7	58.6	58.5	58.6	58.3	58.2	58.2	58.3	58.5	58.3	58.5	58.7	58.7	58.6	58.5	58.6	58.3	58.2	58.2	58.3	58.5	58.3	58.5	58.7
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,815	60	2	120	57.0	56.6	56.5	56.4	55.2	51.6	51.6	53.4	55.7	55.6	56.0	56.7	57.8	57.5	57.4	57.3	56.3	53.2	53.2	54.8	56.7	56.6	56.9	57.5
	546, 547	RvEB10	1,815	60	2	165	58.3	58.1	58.1	57.9	57.0	54.4	54.4	55.8	57.4	57.3	57.5	58.1												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3,255	60	2	1,053	54.9	55.0	55.2	54.8	53.8	52.2	52.1	53.3	54.3	53.6	54.6	54.9	54.9	55.0	55.2	54.8	53.8	52.2	52.1	53.3	54.3	53.6	54.6	54.9
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,805	60	2	756	58.6	58.5	58.5	58.7	58.0	58.0	58.3	58.2	58.5	58.4	58.4	58.6	58.5	58.4	58.5	58.7	57.6	57.6	58.1	58.0	58.3	58.3	58.3	58.4
	558, 559	RvWB3	2,805	60	2	146	58.2	58.3	58.4	58.7	56.4	56.5	57.8	57.5	57.9	58.3	57.9	57.9												
	559, 560	RvWB4	2,805	60	3	151	58.1	58.2	58.4	58.4	56.3	56.4	57.4	57.2	57.9	58.0	58.0	57.9												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,670	60	2	125	58.3	58.2	58.4	58.5	57.2	57.1	57.5	57.6	58.1	58.1	58.1	58.2	58.3	58.2	58.4	58.5	57.2	57.1	57.5	57.6	58.1	58.1	58.1	58.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,215	60	2	133	55.5	55.0	55.6	55.7	54.1	54.0	54.5	54.4	55.1	54.5	54.7	55.2	57.6	57.2	57.6	57.6	56.7	56.7	57.0	56.9	57.3	56.9	57.1	57.4
	567, 568	RvWB14	2,215	60	2	750	57.9	57.5	57.8	57.9	57.0	57.0	57.3	57.2	57.6	57.2	57.4	57.7												
	568, 569	RvWB15	2,215	60	2	281	57.8	57.4	57.7	57.8	57.0	56.9	57.2	57.2	57.5	57.2	57.3	57.6												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,775	60	4	1,137	57.0	56.8	56.9	57.0	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.9	57.0	56.8	56.9	57.0	56.7	56.7	56.7	56.7	56.7	56.7	56.7	56.9
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5,640	50	2	228	41.8	40.3	40.3	42.5	41.1	39.8	39.7	36.9	39.2	38.4	37.4	37.8	41.8	40.3	40.3	42.5	41.1	39.8	39.7	36.9	39.2	38.4	37.4	37.8
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5,640	50	2	168	42.1	40.0	41.0	41.4	40.8	39.7	38.5	37.1	38.9	37.6	37.7	36.7	43.3	41.9	42.5	43.2	42.3	40.9	40.7	40.0	40.6	40.0	39.9	39.6
	701, 702	RvNBoff5	5,640	50	2	198	43.2	42.0	42.4	43.2	42.1	40.4	40.8	40.4	40.3	40.2	39.9	39.9												
	702, 703	RvNBoff6	5,640	50	3	130	44.9	44.3	44.5	45.4	44.3	43.1	43.5	43.3	43.1	42.9	42.6	42.8												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,440	50	1	336	47.0	46.5	46.9	47.5	46.5	46.4	46.1	46.6	46.5	45.4	46.4	46.2	47.5	47.3	47.5	47.8	47.2	47.3	47.2	47.3	47.4	46.8	47.3	47.2
	704, 705	RvNBoff8	1,440	50	1	200	47.3	47.2	47.4	47.8	47.0	47.2	46.9	47.2	47.3	46.6	47.2	47.1												
	705, 706	RvNBoff9	1,440	50	1	223	47.6	47.6	47.7	48.0	47.4	47.7	47.5	47.6	47.8	47.2	47.6	47.6												
	706, 707	RvNBoff10	1,440	50	1	262	47.8	47.8	47.9	48.1	47.8	47.9	47.9	47.8	48.0	47.5	47.8	47.8												
	707, 547	RvNBoff11	1,440	50	1	264	47.7	47.7	47.8	47.9	47.7	47.8	47.8	47.7	47.8	47.5	47.8	47.7												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,560	50	2	248	48.8	48.7	48.7	48.8	48.6	48.7	48.6	48.6	48.6	48.7	48.6	48.7	48.7	48.6	48.7	48.7	48.6	48.7	48.6	48.6	48.5	48.6	48.5	48.7
	715, 716	RvNBoff21	2,560	50	2	642	48.8	48.6	48.7	48.8	48.7	48.8	48.6	48.7	48.6	48.7	48.6	48.7												
	716, 569	RvNBoff22	2,560	50	2	670	48.7	48.4	48.6	48.6	48.6	48.7	48.5	48.5	48.4	48.5	48.4	48.6												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	135	50	1	296	53.2	54.1	53.8	54.5	53.4	53.1	54.0	53.3	53.9	54.1	54.0	54.0	51.9	52.8	52.6	53.1	52.2	51.9	52.7	52.1	52.6	52.8	52.6	52.6
	758, 7016	RvNBon4	135	50	1	127	49.0	49.7	49.6	49.8	49.4	49.2	49.7	49.4	49.8	49.8	49.4	49.5												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,880	50	2	97	44.9	45.0	45.1	45.0	44.7	44.1	44.2	44.3	44.8	44.7	44.8	44.8	46.0	46.2	46.2	46.1	45.9	45.4	45.5	45.5	46.0	45.8	45.9	46.0
	757, 317	RvNBon10	1,880	50	2	123	46.9	47.0	47.1	46.9	46.8	46.5	46.5	46.5	46.9	46.8	46.8	46.9												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,250	50	2	223	52.4	52.1	52.3	52.3	51.7	51.5	51.3	51.6	52.2	52.1	52.2	52.1	51.1	50.9	51.0	51.1	50.6	50.4	49.7	50.4	51.0	50.9	51.0	50.9
	770, 7032	RvSBoff2	1,250	50	2	150	49.3	49.1	49.2	49.2	48.9	48.7	47.2	48.6	49.1	49.1	49.2	49.1												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,170	50	3	102	45.3	45.4	45.4	45.5	45.3	45.0	45.2	45.1	45.1	45.1	45.8	45.7	46.6	46.8	46.8	47.0	46.4	46.3	46.3	46.4	46.6	46.4	46.9	46.9
	793, 410	RvSBon5	1,170	50	3	655	46.8	47.0	47.0	47.2	46.6	46.4	46.5	46.6	46.8	46.5	47.0	47.1												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	49.4	49.4	49.4	49.3	49.3	49.4	49.2	49.4	49.2	49.4	49.6	49.5	49.5	49.4	49.4	49.3	49.4	49.4	49.3	49.4	49.2	49.4	49.6	49.5
	790, 7011	RvSBon11	700	50	2	250	49.5	49.5	49.4	49.3	49.4	49.4	49.3	49.4	49.3	49.4	49.7	49.5												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4,200	50	2	311	47.1	46.8	46.9	47.4	46.7	46.4	46.2	46.2	46.1	46.3	45.7	46.2	47.2	46.9	47.1	47.4	46.9	46.9	46.6	46.8	46.6	46.8	46.6	46.7
	708, 710	118NBoff2	4,200	50	2	567	46.0	45.4	45.9	46.3	45.4	45.6	44.9	45.3	45.1	45.3	45.0	45.2												
	710, 711	118NBoff3	4,200	50	2	460	46.3	45.9	46.1	46.4	45.8	45.8	45.5	45.9	45.6	45.7	45.5	45.7												
	711, 712	118NBoff4	4,200	50	3	472	48.2	48.0	48.1	48.2	48.1	48.1	48.0	48.0	47.9	48.1	48.0	48.1												
	712, 713	118NBoff5	4,200	50	3	395	48.4	48.3	48.4	48.5	48.3	48.3	48.3	48.3	48.2	48.3	48.2	48.3												
	713, 714	118NBoff6	4,200	50	3	188	48.4	48.3	48.4	48.5	48.3	48.3	48.3	48.3	48.2	48.4	48.3	48.2												
	714, 717	118NBoff7	1,640	50	2	212	48.2	48.1	48.1	48.3	48.2	48.0	48.2	48.2	48.1	48.2	48.2	48.1												

2040 Master AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,640	50	2	389	48.6	48.5	48.5	48.7	48.6	48.5	48.5	48.6	48.6	48.6	48.6	48.5	48.6	48.5	48.6	48.8	48.7	48.6	48.6	48.6	48.6	48.7	48.5	
	718, 719	118NBoff9	1,640	50	2	373	48.7	48.6	48.7	48.9	48.7	48.7	48.7	48.7	48.7	48.7	48.8	48.6												
	719, 720	118NBoff10	1,640	50	2	589	48.7	48.6	48.7	48.8	48.8	48.7	48.7	48.7	48.7	48.7	48.7	48.6												
	720, 721	118NBoff11	1,640	50	2	311	48.7	48.6	48.7	48.8	48.8	48.7	48.7	48.7	48.7	48.7	48.7	48.6												
	721, 722	118NBoff12	1,640	50	2	327	48.7	48.6	48.7	48.9	48.8	48.7	48.7	48.7	48.7	48.7	48.7	48.6												
	722, 723	118NBoff13	1,640	50	2	626	48.7	48.6	48.7	48.8	48.7	48.6	48.7	48.7	48.7	48.6	48.7	48.5												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,240	60	4	1,252	56.1	56.0	55.9	56.0	55.7	55.5	55.6	55.6	55.9	55.8	55.9	55.9	56.8	56.7	56.7	56.8	56.5	56.3	56.4	56.4	56.7	56.6	56.6	56.7
	724, 725	118NBoff15	4,240	60	4	575	58.4	58.3	58.3	58.4	58.2	58.0	58.1	58.2	58.3	58.2	58.2	58.3												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,060	60	2	611	58.7	58.5	58.6	58.6	58.2	57.9	58.1	58.1	58.4	58.4	58.4	58.5	57.0	56.7	56.9	57.0	56.2	55.8	56.1	56.0	56.7	56.5	56.5	56.6
	740, 741	118NBon3	3,060	60	2	1,571	56.3	56.0	56.2	56.3	55.4	55.0	55.3	55.2	56.0	55.8	55.8	55.9												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,460	50	1	268	54.4	54.0	54.3	54.3	53.7	53.2	53.4	53.4	54.1	53.7	53.8	54.2	47.2	47.0	47.1	47.2	46.7	46.3	46.4	46.5	46.9	46.8	46.9	47.0
	748, 749	118NBon5	1,460	50	1	541	47.2	46.9	47.0	47.1	46.6	46.2	46.1	46.4	46.9	46.7	46.8	47.0												
	749, 750	118NBon6	1,460	50	1	715	47.1	46.9	47.0	47.1	46.6	46.2	46.2	46.3	46.8	46.6	46.8	46.9												
	750, 751	118NBon7	1,460	50	1	245	46.8	46.7	46.7	46.9	46.5	46.2	46.2	46.2	46.6	46.5	46.6	46.7												
	751, 752	118NBon8	1,460	50	1	252	46.5	46.4	46.5	46.6	46.1	45.8	45.8	45.9	46.3	46.2	46.3	46.3												
	752, 753	118NBon9	1,460	50	1	352	46.5	46.3	46.4	46.5	45.9	45.6	45.7	45.8	46.2	46.1	46.2	46.3												
	753, 754	118NBon10	1,460	50	1	264	46.5	46.3	46.4	46.6	46.1	45.7	45.9	45.8	46.3	46.2	46.2	46.4												
	754, 755	118NBon11	1,460	50	1	415	46.3	46.3	46.2	46.5	46.0	45.6	45.8	45.8	46.2	46.0	46.1	46.2												
	755, 7009	118NBon12	1,460	50	1	733	46.2	46.0	46.0	46.2	45.7	45.3	45.5	45.5	45.9	45.8	45.9	46.0												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	850	50	1	147	34.5	34.3	34.2	34.4	34.5	34.3	34.2	34.3	34.5	34.5	34.5	34.6	46.7	46.4	46.4	46.5	46.4	46.2	46.1	46.2	46.5	46.5	46.5	46.7
	775, 776	118SBoff3	850	50	1	934	47.1	46.9	46.9	47.1	47.1	46.8	46.6	46.7	47.0	47.1	47.1	47.4												
	776, 777	118SBoff4	850	50	1	371	47.9	47.7	47.8	47.8	47.6	47.4	47.3	47.4	47.9	47.7	47.7	47.9												
	777, 778	118SBoff5	850	50	1	446	47.8	47.5	47.6	47.6	47.5	47.2	47.1	47.2	47.7	47.5	47.5	47.8												
	778, 6020	118SBoff6	850	50	1	340	47.7	47.4	47.4	47.4	47.3	47.0	46.9	47.1	47.6	47.3	47.4	47.6												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,600	50	2	990	50.2	50.1	50.1	50.0	49.6	49.4	49.4	49.5	50.0	49.8	49.9	50.0	50.2	50.1	50.1	50.0	49.6	49.4	49.4	49.5	50.0	49.8	49.9	50.0
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,600	50	1	197	46.4	46.7	46.8	46.7	45.4	45.4	45.5	45.5	46.3	46.3	46.3	46.0	46.8	46.8	46.9	46.8	45.8	45.7	45.9	46.0	46.5	46.4	46.4	46.4
	742, 743	118SBon2	1,600	50	1	119	46.3	46.4	46.5	46.4	45.0	44.9	45.1	45.2	46.1	46.0	45.9	45.7												
	743, 744	118SBon3	1,600	50	1	126	46.6	46.6	46.8	46.7	45.2	45.1	45.3	45.5	46.4	46.2	46.2	46.0												
	744, 745	118SBon4	1,600	50	1	162	47.0	46.9	47.1	47.0	45.6	45.4	45.8	45.9	46.8	46.5	46.6	46.5												
	745, 746	118SBon5	1,600	50	1	200	47.3	47.2	47.4	47.3	46.1	45.9	46.3	46.4	47.1	46.9	46.9	46.9												
	746, 747	118SBon6	1,600	50	1	166	47.3	47.3	47.4	47.3	46.4	46.2	46.6	46.6	47.1	47.0	47.0	47.0												
	747, 413	118SBon7	1,600	50	1	973	46.7	46.7	46.7	46.7	45.9	45.9	46.0	46.1	46.4	46.4	46.4	46.4												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	57.7	57.6	57.5	57.6	57.2	57.1	57.2	57.2	57.4	57.5	57.4	57.4	57.7	57.6	57.5	57.6	57.2	57.1	57.2	57.2	57.4	57.5	57.4	57.4
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2,050	50	2	647	48.7	48.6	48.6	48.7	48.1	48.0	48.0	48.1	48.4	48.4	48.4	48.5	48.6	48.5	48.5	48.6	48.0	47.9	48.0	48.1	48.4	48.4	48.3	48.4
	811, 812	UlmNBon4	2,050	50	2	590	48.8	48.7	48.6	48.7	48.2	48.1	48.2	48.4	48.5	48.6	48.5	48.6												
	812, 813	UlmNBon5	2,050	50	2	323	48.6	48.5	48.5	48.6	48.0	47.9	48.0	48.2	48.4	48.4	48.3	48.4												
	813, 814	UlmNBon6	2,050	50	2	328	48.6	48.5	48.5	48.6	48.0	47.9	48.0	48.1	48.4	48.4	48.3	48.4												
	814, 815	UlmNBon7	2,050	50	2	288	48.6	48.5	48.5	48.6	48.0	47.9	48.0	48.1	48.3	48.4	48.3	48.4												
	815, 816	UlmNBon8	2,050	50	2	273	48.5	48.5	48.4	48.5	48.0	47.9	48.0	48.1	48.3	48.3	48.3	48.3												
	816, 322	UlmNBon9	2,050	50	2	881	48.5	48.4	48.3	48.4	47.8	47.7	47.8	48.0	48.2	48.3	48.2	48.3												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	3,300	50	2	316	47.0	46.8	46.7	46.9	45.8	45.2	45.4	45.6	46.4	46.1	46.4	46.7	47.8	47.7	47.6	47.8	47.2	46.8	46.9	46.9	47.4	47.3	47.5	47.5
	830, 831	UlmSBoff2	3,300	50	2	346	48.4	48.3	48.2	48.4	48.1	47.9	48.0	47.9	48.1	48.1	48.3	48.1												
	831, 7036	UlmSBoff3	3,300	50	2	283	48.1	47.9	47.8	48.0	47.6	47.1	47.2	47.3	47.7	47.7	47.9	47.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,670	50	2	398	48.1	47.9	47.6	47.8	47.5	47.1	47.2	47.2	47.5	47.5	47.8	47.7	56.2	56.0	55.8	56.1	55.6	55.3	55.3	55.3	55.7	55.6	55.9	55.8
	834, 835	UlmSBoff8	2,670	60	2	584	53.7	53.4	53.1	53.5	52.9	52.6	52.5	52.6	53.1	52.9	53.3	53.2												
	835, 836	UlmSBoff9	2,670	60	2	481	58.2	58.0	57.7	58.1	57.7	57.4	57.3	57.4	57.7	57.6	58.0	57.8												
	836, 837	UlmSBoff10	2,670	60	2	2,160	57.9	57.7	57.5	57.8	57.4	57.1	57.0	57.0	57.5	57.4	57.7	57.5												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,100	35	1	493	50.3	49.9	49.6	49.9	49.0	48.4	48.8	49.1	49.6	49.0	49.5	49.4	46.0	45.6	45.4	45.7	44.8	44.3	44.6	44.8	45.4	45.0	45.3	45.2
	802, 803	UlmSBon2	1,100	35	1	214	36.2	35.8	35.7	36.0	35.1	34.8	35.0	35.0	35.6	35.5	35.7	35.4												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	770	35	1	163	33.7	33.6	33.6	33.7	33.3	33.2	33.2	33.2	33.5	33.5	33.5	33.3	41.8	41.7	41.8	41.7	41.5	41.5	41.3	41.4	41.8	41.6	41.7	41.5
	808, 809	UlmSBon4	770	35	1	163	33.9	33.8	33.8	33.9	33.7	33.6	33.5	33.6	33.8	33.8	33.8	33.7												
	809, 810	UlmSBon5	770	35	1	228	33.8	33.7	33.8	33.7	33.6	33.5	33.4	33.4	33.7	33.6	33.7	33.5												
	810, 402	UlmSBon6	770	50	1	1,170	45.6	45.5	45.6	45.5	45.3	45.3	45.1	45.2	45.6	45.4	45.4	45.3												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	330	35	1	201	34.7	34.6	34.4	34.8	34.5	34.5	34.5	34.5	34.4	34.6	34.5	34.5	43.8	43.8	43.6	43.9	43.7	43.7	43.8	43.7	43.6	43.8	43.6	43.6
	804, 805	UlmSBMLK2	330	50	1	361	41.5	41.5	41.3	41.5	41.4	41.4	41.4	41.4	41.3	41.5	41.3	41.3												
	805, 806	UlmSBMLK3	330	50	1	499	49.2	49.3	48.9	49.2	49.0	49.0	49.2	49.1	48.9	49.2	49.0	48.9												
SB MLK	806, 807	UlmSBMLK4	960	50	2	1,171	49.1	49.1	48.8	49.0	48.8	48.8	48.9	48.8	48.9	48.9	48.8	48.9	49.1	49.1	48.8	49.0	48.8	48.8	48.9	48.8	48.9	48.9	48.8	48.9
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	620	50	1	1,080	49.6	49.5	49.6	49.7	49.6	49.6	49.5	49.5	49.5	49.6	49.6	49.4	49.3	49.1	49.3	49.4	49.2	49.2	49.1	49.1	49.1	49.3	49.3	49.1
	851, 852	MLKNBon3	620	50	1	350	49.3	49.1	49.3	49.3	49.1	49.2	49.0	49.1	49.1	49.3	49.3	49.1												
	852, 853	MLKNBon4	620	50	1	360	49.1	48.9	49.0	49.1	48.9	48.9	48.8	48.9	48.8	49.0	49.0	48.9												
	853, 321	MLKNBon5	620	50	1	548	48.8	48.6	48.8	48.9	48.6	48.6	48.5	48.5	48.5	48.7	48.7	48.7												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	630	50	1	294	48.4	48.1	47.8	48.0	48.0	47.8	47.8	47.6	47.8	47.9	47.9	47.8	48.6	48.5	48.4	48.5	48.4	48.1	48.2	48.1	48.2	48.3	48.3	48.3
	839, 840	MLKSBoff4	630	50	1	336	48.9	48.7	48.6	48.7	48.7	48.4	48.5	48.3	48.5	48.6	48.5	48.5												
	840, 841	MLKSBoff5	630	50	1	395	48.7	48.6	48.5	48.5	48.4	48.2	48.3	48.1	48.3	48.4	48.3	48.4												
	841, 806	MLKSBoff6	630	50	1	539	48.6	48.6	48.4	48.5	48.3	48.1	48.3	48.1	48.3	48.2	48.3	48.4												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,260	60	2	1,270	59.3	59.3	59.4	59.4	59.3	59.3	59.3	59.2	59.3	59.2	59.4	59.4	58.1	58.1	58.3	58.3	57.7	57.5	57.7	57.7	58.0	57.8	58.0	58.1
	901, 902	4thNBon3	1,260	60	2	634	59.2	59.2	59.2	59.3	59.1	59.0	59.0	58.9	59.1	59.0	59.2	59.2												
	902, 903	4thNBon4	1,260	60	2	322	58.3	58.1	58.4	58.4	57.8	57.7	57.8	57.6	58.1	58.0	58.2	58.3												
	903, 904	4thNBon5	1,260	60	2	279	57.2	56.9	57.3	57.3	56.2	55.9	56.2	56.1	56.9	56.6	56.8	56.9												
	904, 905	4thNBon6	1,260	60	2	388	56.7	56.7	57.1	57.2	55.7	55.1	55.7	55.8	56.6	56.1	56.4	56.6												
	905, 906	4thNBon7	1,260	60	1	313	56.9	56.9	57.2	57.2	56.1	55.4	55.9	56.0	56.6	56.3	56.6	56.8												
	906, 907	4thNBon8	1,260	60	1	299	57.1	57.1	57.3	57.3	56.6	56.0	56.3	56.4	56.8	56.7	57.0	57.0												
	907, 324	4thNBon9	1,260	60	1	667	57.0	56.9	57.2	57.0	56.5	56.1	56.4	56.5	56.8	56.7	56.8	56.9												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	700	60	1	465	58.5	58.3	58.1	58.3	57.8	57.1	57.3	57.2	58.2	57.9	58.0	58.1	58.4	58.5	58.2	58.5	58.1	58.0	58.0	58.0	58.3	58.3	58.1	58.4
	920, 921	4thSBoff2	700	60	1	492	58.8	58.8	58.4	58.8	58.6	58.4	58.5	58.4	58.7	58.7	58.6	58.7												
	921, 922	4thSBoff3	700	60	1	420	58.6	58.7	58.3	58.6	58.3	58.3	58.3	58.2	58.5	58.5	58.3	58.5												
	922, 923	4thSBoff4	700	60	1	393	58.4	58.4	58.1	58.4	57.9	57.9	57.9	57.9	58.1	58.2	58.0	58.3												
	923, 924	4thSBoff5	700	60	1	384	58.2	58.1	57.9	58.1	57.7	57.6	57.7	57.6	57.8	57.9	57.7	58.1												
	924, 925	4thSBoff6	700	60	1	354	58.1	58.0	57.7	58.0	57.5	57.5	57.5	57.5	57.7	57.7	57.6	58.0												
	925, 926	4thSBoff7	700	60	1	501	57.9	57.9	57.5	57.9	57.4	57.3	57.3	57.3	57.5	57.6	57.4	57.8												
	926, 927	4thSBoff8	700	60	1	416	57.7	57.7	57.4	57.8	57.2	57.1	57.1	57.1	57.3	57.4	57.2	57.7												
	927, 928	4thSBoff9	700	60	2	1,153	58.4	58.5	58.2	58.5	58.2	58.1	58.1	58.0	58.3	58.3	58.1	58.4												
	928, 929	4thSBoff10	700	60	2	1,242	58.9	59.2	58.8	59.1	58.9	58.9	58.8	58.8	59.0	59.0	58.9	59.0												
	4999, 5000	SULNB1	1,190	70	1	1,116	68.8	68.9	68.7	68.7	68.6	68.3	68.5	68.5	68.9	68.8	68.7	68.6												
	5000, 5001	SULNB2	1,190	70	1	2,205	68.0	68.1	68.0	67.9	67.6	67.3	67.4	67.6	68.0	68.0	67.8	67.8												

2040 Master AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,190	70	1	528	66.7	66.9	66.7	66.7	66.2	65.8	66.0	66.3	66.7	66.6	66.5	66.4	66.7	66.8	66.6	66.7	66.2	65.8	66.0	66.2	66.6	66.5	66.4	66.4
	5002, 5003	SULNB4	1,190	70	1	346	66.5	66.6	66.4	66.4	65.9	65.5	65.7	66.0	66.4	66.2	66.2	66.2												
	5003, 5004	SULNB5	1,190	70	1	235	66.3	66.5	66.2	66.3	65.7	65.3	65.5	65.8	66.2	66.0	65.9	66.0												
	5004, 5005	SULNB6	1,190	70	1	270	66.2	66.3	66.1	66.1	65.5	65.1	65.3	65.6	66.0	65.8	65.8	65.8												
	5005, 5006	SULNB7	1,190	70	1	238	66.1	66.1	65.9	66.0	65.4	64.9	65.1	65.5	65.9	65.6	65.6	65.7												
	5006, 5007	SULNB8	1,190	70	1	261	66.0	66.0	65.7	65.9	65.3	64.8	65.0	65.3	65.8	65.5	65.5	65.6												
	5007, 5008	SULNB9	1,190	70	1	451	65.9	65.9	65.6	65.7	65.1	64.6	64.8	65.2	65.6	65.4	65.4	65.5												
	5008, 5009	SULNB10	1,190	70	1	242	65.8	65.8	65.5	65.6	65.1	64.5	64.8	65.1	65.5	65.3	65.3	65.3												
	5009, 5010	SULNB11	1,190	70	1	158	65.7	65.7	65.4	65.6	65.0	64.5	64.8	65.0	65.4	65.2	65.2	65.3												
	5010, 5011	SULNB12	1,190	70	1	539	65.6	65.6	65.3	65.5	65.0	64.4	64.7	64.9	65.3	65.1	65.0	65.1												
	5011, 5012	SULNB13	1,190	70	1	564	65.4	65.4	65.1	65.3	64.8	64.2	64.4	64.7	65.1	64.8	64.8	64.9												
	5012, 5013	SULNB14	1,190	70	1	1,295	65.1	65.0	64.8	65.0	64.4	63.9	64.1	64.4	64.8	64.6	64.6	64.7												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,450	70	2	409	64.8	64.8	64.8	64.7	64.5	64.2	64.4	64.5	64.6	64.6	64.5	64.6	66.4	66.6	66.6	66.4	66.3	65.9	65.8	66.1	66.3	66.2	66.2	66.2
	5014, 5015	SULNB16	2,450	70	2	2,441	66.4	66.4	66.5	66.4	66.3	65.8	66.0	66.2	66.2	66.2	66.2	66.2												
	5015, 5016	SULNB17	2,450	70	2	2,058	66.5	66.7	66.7	66.6	66.4	66.1	66.0	66.2	66.5	66.4	66.4	66.4												
	5016, 5017	SULNB18	2,450	70	2	1,249	66.6	66.7	66.8	66.6	66.4	66.0	66.0	66.2	66.5	66.4	66.3	66.4												
	5017, 5018	SULNB19	2,450	70	2	1,432	66.6	66.7	66.8	66.5	66.4	66.1	65.9	66.1	66.5	66.3	66.3	66.3												
	5018, 5019	SULNB20	2,450	70	2	788	66.5	66.7	66.8	66.5	66.5	66.0	65.8	66.2	66.4	66.3	66.3	66.3												
	5019, 5020	SULNB21	2,450	70	2	659	66.4	66.7	66.8	66.5	66.5	66.0	65.7	66.2	66.4	66.3	66.2	66.2												
	5020, 5021	SULNB22	2,450	70	2	2,083	66.4	66.7	66.7	66.4	66.4	65.9	65.7	66.0	66.3	66.3	66.2	66.2												
	5021, 5022	SULNB23	2,450	70	2	1,364	66.5	66.5	66.7	66.4	66.3	65.8	65.6	65.9	66.2	66.2	66.1	66.1												
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,910	70	2	546	63.9	63.5	63.7	63.7	62.9	61.6	61.3	62.3	62.5	63.1	62.8	62.5	65.8	65.8	65.8	65.6	65.3	64.8	64.6	64.9	65.3	65.4	65.3	65.3
	5023, 5024	SULNB25	2,910	70	2	1,030	65.2	65.0	65.1	65.0	64.3	63.4	63.1	63.7	64.2	64.6	64.4	64.4												
	5024, 5025	SULNB26	2,910	70	2	820	66.3	66.4	66.4	66.3	66.0	65.5	65.3	65.5	66.0	66.1	66.0	66.0												
	5025, 5026	SULNB27	2,910	70	2	2,524	66.3	66.5	66.3	66.1	66.1	65.8	65.6	65.8	66.1	66.0	66.0	66.0												
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,260	70	1	266	66.2	66.4	66.2	66.7	66.1	64.9	64.2	59.9	59.1	62.6	61.8	63.9	65.4	65.7	65.6	65.5	65.5	65.3	65.5	65.0	64.8	65.3	65.2	65.2
	5100, 5101	SULNBRamp2	1,260	70	1	528	66.7	67.0	66.8	67.1	66.8	66.1	65.8	63.3	62.7	64.8	64.4	65.5												
	5101, 5102	SULNBRamp3	1,260	70	1	379	66.8	67.1	67.0	67.0	67.0	66.7	66.7	65.5	65.2	66.2	66.1	66.3												
	5102, 5103	SULNBRamp4	1,260	70	1	376	66.7	66.9	66.9	66.8	66.8	66.7	66.8	66.2	66.1	66.6	66.6	66.4												
	5103, 5104	SULNBRamp5	1,260	70	1	363	66.4	66.6	66.7	66.5	66.4	66.5	66.7	66.5	66.4	66.6	66.7	66.4												
	5104, 5105	SULNBRamp6	1,260	70	1	352	66.1	66.3	66.4	66.2	66.2	66.2	66.5	66.4	66.4	66.4	66.5	66.3												
	5105, 5106	SULNBRamp7	1,260	70	1	831	65.8	66.1	66.2	65.8	65.9	65.9	66.1	66.1	66.0	66.0	66.2	65.9												
	5106, 5107	SULNBRamp8	1,260	70	1	1,172	65.4	65.8	65.7	65.4	65.4	65.4	65.7	65.6	65.3	65.6	65.6	65.4												
	5107, 5108	SULNBRamp9	1,260	70	1	656	65.1	65.4	65.2	65.1	65.0	65.0	65.4	65.4	65.0	65.2	65.2	65.0												
	5108, 5109	SULNBRamp10	1,260	70	1	803	64.9	65.1	65.0	64.8	64.9	64.7	65.0	65.0	64.8	64.9	64.9	64.8												
	5109, 5110	SULNBRamp11	1,260	70	1	897	64.6	64.9	64.8	64.6	64.7	64.5	64.8	64.7	64.4	64.7	64.6	64.6												
	5110, 5111	SULNBRamp12	1,260	70	1	513	64.4	64.7	64.7	64.4	64.5	64.4	64.7	64.5	64.3	64.6	64.4	64.5												
	5111, 5013	SULNBRamp13	1,260	70	1	738	64.3	64.5	64.5	64.3	64.4	64.3	64.5	64.3	64.3	64.4	64.3	64.3												
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	460	70	1	513	68.2	68.2	68.0	67.9	68.1	67.9	67.5	68.0	67.9	68.3	67.9	68.0	68.2	68.2	68.0	67.9	68.1	67.9	67.5	68.0	67.9	68.3	67.9	68.0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,480	70	2	922	67.4	67.0	67.6	67.7	65.8	65.5	66.5	66.3	66.9	66.0	66.6	67.3	67.4	67.0	67.6	67.7	65.8	65.5	66.5	66.3	66.9	66.0	66.6	67.3
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,190	70	2	1,601	68.4	68.1	68.6	68.4	67.3	67.0	67.5	67.6	68.3	67.8	67.9	68.3	67.3	66.8	67.0	67.1	66.0	65.5	65.8	66.1	66.7	66.4	66.5	66.6
	5997, 5998	SULSB1	2,190	70	2	826	68.0	67.8	68.1	68.0	67.3	67.1	67.3	67.5	68.0	67.8	67.6	67.8												
	5998, 5999	SULSB1	2,190	70	2	1,034	67.9	67.6	67.9	67.8	67.1	66.9	67.1	67.3	67.8	67.7	67.4	67.6												
	5999, 6000	SULSB1	2,190	70	2	1,921	67.7	67.4	67.8	67.7	66.8	66.6	66.9	66.9	67.5	67.4	67.2	67.5												
	6000, 6001	SULSB2	2,190	70	2	2,057	67.5	67.2	67.6	67.4	66.7	66.4	66.6	66.7	67.4	67.2	67.0	67.3												
	6001, 6002	SULSB3	2,190	70	2	547	67.4	67.0	67.5	67.4	66.6	66.3	66.4	66.6	67.3	67.0	67.0	67.1												
	6002, 6003	SULSB4	2,190	70	2	424	67.4	67.0	67.4	67.4	66.6	66.3	66.4	66.5	67.2	67.0	66.9	67.1												
	6003, 6004	SULSB5	2,190	70	2	1,865	67.4	66.9	67.3	67.3	66.6	66.2	66.3	66.4	67.1	66.8	66.8	67.0												
	6004, 6005	SULSB6	2,190	70	2	1,086	67.3	66.9	67.2	67.2	66.4	66.2	66.2	66.3	66.9	66.7	66.7	66.9												
	6005, 6006	SULSB7	2,190	70	2	4,087	66.9	66.7	66.8	67.0	66.0	65.6	65.8	66.0	66.5	66.3	66.4	66.4												
	6006, 6007	SULSB8	2,190	70	2	1,179	64.4	64.1	64.0	64.5	61.9	60.1	61.1	62.0	63.1	62.2	63.3	63.1												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,750	70	1	1,199	64.5	64.1	64.3	64.6	62.1	59.9	61.7	62.4	63.1	62.8	63.3	63.3	64.4	64.2	64.3	64.3	63.2	62.5	63.1	63.4	63.8	63.5	63.6	63.8
	6008, 6009	SULSB10	1,750	70	1	614	65.1	64.9	65.2	65.0	64.0	62.9	63.9	64.2	64.6	64.3	64.4	64.6												
	6009, 6010	SULSB11	1,750	70	1	382	64.9	64.8	65.0	64.8	64.1	63.7	64.2	64.3	64.6	64.3	64.3	64.6												
	6010, 6011	SULSB12	1,750	70	1	135	64.8	64.6	64.9	64.6	64.0	63.8	64.1	64.1	64.5	64.1	64.2	64.5												
	6011, 6012	SULSB13	1,750	70	1	204	64.6	64.5	64.7	64.5	63.9	63.8	64.0	64.0	64.4	64.0	64.1	64.3												
	6012, 6013	SULSB14	1,750	70	1	613	64.4	64.2	64.4	64.3	63.6	63.6	63.7	63.7	64.2	63.8	63.9	64.0												
	6013, 6014	SULSB15	1,750	70	1	251	64.1	64.0	64.1	64.2	63.5	63.4	63.4	63.3	63.9	63.7	63.6	63.8												
	6014, 6015	SULSB16	1,750	70	1	233	64.1	64.0	64.0	64.2	63.4	63.3	63.3	63.3	63.8	63.6	63.6	63.7												
	6015, 6016	SULSB17	1,750	70	1	274	64.1	64.0	64.0	64.1	63.4	63.1	63.2	63.3	63.7	63.5	63.5	63.6												
	6016, 6017	SULSB18	1,750	70	1	238	64.1	63.9	63.9	64.1	63.4	63.0	63.2	63.3	63.7	63.4	63.4	63.5												
	6017, 6018	SULSB19	1,750	70	1	314	64.0	63.8	63.9	64.0	63.3	63.0	63.2	63.3	63.6	63.4	63.4	63.4												
	6018, 6019	SULSB20	1,750	70	1	879	63.9	63.7	63.8	63.8	63.2	63.0	63.1	63.3	63.5	63.3	63.3	63.4												
	6019, 6020	SULSB21	1,750	70	1	207	63.8	63.6	63.7	63.6	62.9	62.9	62.8	63.2	63.4	63.1	63.1	63.3												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	1,013	68.3	68.1	68.2	68.3	68.0	67.8	67.6	67.9	68.2	68.4	68.1	68.0	66.5	66.6	66.7	66.8	66.2	66.2	65.9	65.9	66.5	66.8	66.5	66.6
	6100, 6101	SULSBRamp2	440	70	1	621	68.0	67.8	68.1	68.1	67.8	67.7	67.3	67.6	68.1	68.2	67.9	67.9												
	6101, 6102	SULSBRamp3	440	70	1	317	67.7	67.7	67.9	67.9	67.5	67.5	67.1	67.4	68.0	68.0	67.7	67.8												
	6102, 6103	SULSBRamp4	440	70	1	915	67.5	67.6	67.7	67.8	67.3	67.3	66.9	67.1	67.7	67.8	67.5	67.6												
	6103, 6104	SULSBRamp5	440	70	1	1,093	67.2	67.5	67.5	67.6	67.1	67.0	66.6	66.9	67.4	67.6	67.2	67.4												
	6104, 6105	SULSBRamp6	440	70	1	1,068	67.0	67.1	67.2	67.4	66.8	66.7	66.3	66.6	67.1	67.4	66.8	67.1												
	6105, 6106	SULSBRamp7	440	70	1	788	66.9	66.9	67.0	67.2	66.5	66.5	66.2	66.3	66.8	67.3	66.7	67.0												
	6106, 6107	SULSBRamp8	440	70	1	367	66.7	66.8	66.9	67.1	66.4	66.4	66.1	66.3	66.7	67.2	66.6	66.9												
	6107, 6108	SULSBRamp9	440	70	1	373	66.7	66.7	66.8	67.0	66.3	66.4	66.0	66.1	66.6	67.0	66.5	66.9												
	6108, 6109	SULSBRamp10	440	70	1	445	66.7	66.6	66.7	66.9	66.3	66.3	65.9	66.0	66.5	67.0	66.5	66.8												
	6109, 6110	SULSBRamp11	440	70	1	8,866	65.9	65.9	66.1	66.1	65.6	65.6	65.3	65.1	65.8	66.1	66.0	66.1												
	6110, 420	SULSBRamp12	440	70	1	292	65.4	65.3	65.6	65.7	65.0	65.1	64.8	64.6	65.2	65.5	65.5	65.5												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	290	70	1	167	66.7	66.6	66.3	67.2	66.1	65.1	66.0	65.3	66.7	66.3	66.2	66.5	66.7	66.6	66.3	67.2	66.1	65.1	66.0	65.3	66.7	66.3	66.2	66.5

2040 Master AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	10,780	70	4	1,087	2,037	2,151	2,056	1,951	2,216	2,228	2,228	2,225	2,228	2,223	2,232	2,219	24	17	23	24	16	16	14	16	15	15	13	13
	299, 300	I275NB2	10,780	70	4	805	2,037	2,148	2,056	1,953	2,213	2,229	2,227	2,224	2,228	2,221	2,233	2,218	53	57	59	57	59	57	55	58	60	55	57	57
	300, 301	I275NB3	10,780	70	4	478	2,038	2,146	2,059	1,953	2,211	2,229	2,227	2,226	2,227	2,221	2,233	2,218	51	53	51	55	50	52	50	51	51	50	51	52
	301, 302	I275NB4	10,780	70	4	2,687	2,039	2,142	2,061	1,954	2,203	2,230	2,229	2,225	2,226	2,223	2,229	2,222	1379	1457	1383	1302	1473	1542	1509	1504	1513	1490	1501	1509
	302, 303	I275NB5	10,780	70	5	382	2,039	2,140	2,062	1,955	2,199	2,232	2,229	2,226	2,227	2,220	2,229	2,222	193	208	199	193	223	225	227	219	222	227	227	221
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	7,980	70	4	1,375	1,496	1,575	1,522	1,452	1,625	1,620	1,629	1,634	1,637	1,644	1,646	1,626	144	156	150	140	166	163	153	159	164	163	163	161
	304, 305	I275NB7	7,980	70	4	1,306	1,500	1,574	1,521	1,453	1,624	1,619	1,627	1,635	1,634	1,645	1,648	1,625	113	117	113	111	120	120	123	118	125	120	119	121
	305, 306	I275NB8	7,980	70	4	591	1,501	1,574	1,520	1,452	1,623	1,621	1,627	1,633	1,635	1,644	1,650	1,625	56	55	53	50	57	57	55	56	54	60	59	56
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	9,200	70	6	764	1,738	1,830	1,757	1,671	1,911	1,918	1,925	1,937	1,904	1,880	1,886	1,846	205	222	211	198	240	239	239	243	226	212	215	204
	307, 308	I275NB10	9,200	70	6	3,335	1,738	1,826	1,765	1,674	1,897	1,919	1,916	1,900	1,920	1,889	1,892	1,859	1210	1252	1174	1146	1316	1333	1282	1415	1479	1365	1350	1296
	308, 309	I275NB11	9,200	70	5	350	1,737	1,825	1,766	1,674	1,892	1,922	1,910	1,890	1,925	1,893	1,892	1,866	749	748	727	721	736	696	576	587	674	626	612	669
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	7,940	70	4	745	1,490	1,572	1,531	1,440	1,613	1,647	1,644	1,616	1,654	1,642	1,622	1,614	376	358	374	357	377	346	408	389	389	401	407	394
	310, 311	I275NB13	7,940	70	4	380	1,490	1,570	1,532	1,442	1,607	1,641	1,646	1,614	1,656	1,639	1,624	1,619	164	207	157	159	199	248	299	282	247	281	287	258
	311, 312	I275NB14	7,940	70	4	399	1,488	1,569	1,532	1,447	1,597	1,640	1,646	1,614	1,655	1,640	1,623	1,622	168	222	182	163	226	299	341	306	274	306	318	290
	312, 313	I275NB15	7,940	70	4	368	1,485	1,570	1,531	1,452	1,589	1,641	1,647	1,613	1,654	1,639	1,624	1,622	117	148	150	101	159	190	220	207	198	191	201	187
	313, 314	I275NB16	7,940	70	4	460	1,483	1,569	1,530	1,457	1,583	1,642	1,646	1,614	1,655	1,636	1,625	1,623	102	120	129	92	121	134	122	124	116	117	128	119
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,300	70	3	879	415	442	427	416	449	467	466	466	470	457	458	457	24	35	29	23	34	39	42	45	36	40	40	39
	315, 316	I275NB18	2,300	70	3	1,293	415	441	428	416	448	467	467	464	471	457	456	458	27	30	27	28	30	34	31	33	36	35	31	35
	316, 317	I275NB19	2,300	70	3	1,158	415	440	428	417	448	465	467	465	472	457	456	457	23	29	28	23	27	30	33	33	29	30	31	28
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4,180	70	5	372	758	810	784	745	863	917	899	884	856	850	841	820	206	226	217	199	241	261	259	256	238	243	238	227
	318, 319	I275NB21	4,180	70	5	2,609	759	809	781	748	857	918	898	887	858	850	841	820	154	155	151	146	182	216	199	206	181	178	181	167
	319, 320	I275NB22	4,180	70	4	1,810	759	810	784	745	854	921	895	889	859	849	841	818	86	98	88	81	101	111	102	103	104	97	93	95
	320, 321	I275NB23	4,180	70	4	495	759	811	783	746	853	920	895	890	859	849	839	820	24	25	23	22	24	30	32	28	28	28	27	26
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,800	70	4	1,808	873	931	905	860	1,001	1,083	1,052	1,038	993	981	969	944	241	264	254	236	327	352	343	318	278	280	276	264
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,850	70	5	1,261	1,268	1,353	1,306	1,235	1,502	1,624	1,585	1,540	1,432	1,434	1,409	1,360	341	359	338	312	464	504	486	452	386	400	384	356
	323, 324	I275NB26	6,850	70	5	1,405	1,272	1,349	1,308	1,235	1,495	1,623	1,589	1,534	1,437	1,438	1,407	1,362	128	144	140	121	186	215	192	177	153	151	156	142
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	8,110	70	5	839	1,510	1,598	1,546	1,465	1,801	1,952	1,907	1,836	1,701	1,711	1,674	1,609	391	413	391	375	521	585	557	511	445	449	444	403
	325, 326	I275NB28	8,110	70	5	664	1,511	1,595	1,545	1,466	1,801	1,951	1,909	1,835	1,699	1,713	1,675	1,610	99	113	102	91	149	180	170	155	124	124	116	109
	326, 327	I275NB29	8,110	70	5	2,007	1,507	1,594	1,548	1,470	1,784	1,953	1,912	1,832	1,702	1,718	1,673	1,616	586	611	591	579	658	719	714	677	637	643	638	638
	327, 328	I275NB30	8,110	70	5	868	1,513	1,590	1,549	1,472	1,780	1,946	1,916	1,829	1,707	1,720	1,671	1,617	96	101	101	97	115	121	113	117	109	105	113	105
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	7,650	70	4	1,068	1,413	1,489	1,455	1,378	1,667	1,816	1,790	1,718	1,599	1,609	1,567	1,514	93	92	94	87	99	105	106	101	98	103	103	101
	329, 330	I275NB32	7,650	70	4	1,023	1,414	1,489	1,454	1,380	1,664	1,813	1,790	1,723	1,597	1,607	1,570	1,509	84	91	88	87	87	91	93	92	91	100	87	92
	330, 331	I275NB33	7,650	70	4	824	1,414	1,488	1,457	1,381	1,658	1,813	1,788	1,727	1,600	1,602	1,569	1,513	76	73	76	71	80	78	71	77	79	74	76	78
	331, 332	I275NB34	7,650	70	4	2,521	1,402	1,488	1,462	1,379	1,644	1,812	1,792	1,725	1,610	1,599	1,577	1,508	238	246	250	228	276	282	280	279	253	256	255	242
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	6,600	70	4	1,081	1,252	1,319	1,255	1,197	1,635	1,737	1,653	1,568	1,376	1,438	1,375	1,296	38	39	36	40	33	29	30	31	35	35	36	35
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,890	70	5	1,446	1,304	1,380	1,314	1,254	1,698	1,803	1,739	1,648	1,447	1,507	1,442	1,355	440	472	440	414	494	565	506	508	472	506	485	451
	395, 396	I275SB1	6,890	70	5	816	1,304	1,377	1,314	1,255	1,686	1,798	1,742	1,653	1,452	1,509	1,441	1,358	144	148	143	128	508	629	617	430	217	227	188	160
	396, 397	I275SB1	6,890	70	4	1,045	1,303	1,377	1,313	1,257	1,678	1,795	1,746	1,655	1,453	1,511	1,439	1,361	98	117	100	99	191	198	205	168	129	135	123	109
	397, 398	I275SB1	6,890	70	4	1,908	1,302	1,375	1,316	1,255	1,673	1,793	1,749	1,655	1,458	1,508	1,441	1,366	213	224	215	199	263	261	260	262	221	230	229	223
	398, 399	I275SB1	6,890	70	4	2,118	1,301	1,370	1,318	1,255	1,659	1,797	1,749	1,658	1,467	1,501	1,440	1,371	298	325	312	296	410	446	431	403	361	367	351	333
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,190	70	4	2,746	1,179	1,219	1,182	1,117	1,471	1,589	1,557	1,480	1,312	1,333	1,278	1,228	1037	1078	1050	986	1362	1489	1479	1375	1176	1202	1154	1092
	400, 401	I275SB3	6,190	70	5	1,080	1,178	1,221	1,180	1,118	1,460	1,588	1,559	1,486	1,316	1,330	1,280	1,226	256	280	258	241	364	446	439	384	318	324	301	272
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,890	70	4	4,105	557	582	560	531	685	770	736	708	624	615	610	583	134	133	127	118	176	203	188	182	144	153	144	133
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,660	70	5	720	704	730	706	675	871	972	930	896	783	786	766	735	294	313	295	294	363	394	379	366	319	333	317	316
	403, 404	I275SB6	3,660	70	5	1,327	704	729	710	676	865	970	932	897	786	785	765	738	238	243	245	224	335	375	356	337	284	277	275	261
	404, 405	I275SB7	3,660	70	4	461	705	727	711	675	863	971	932	897	786	784	766	738	41	36	36	33	52	61	58	53	44	39	43	38
	405, 406	I275SB8	3,660	70	4	452	707	725	711	677	862	970	933	897	788	783	766	738	23	25	20	19	29	34	32	33	25	26	26	20
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,410	70	3	855	449	462	452	430	543	604	587	565	498	491	487	472	23	23	24	23	31	35	32	31	28	27	23	26
	407, 408	I275SB10	2,410	70	3	347	449	461	452	431	542	604	587	564	499	491	487	472	7	9	9	7	10	13	12	11	8	10	8	8
	408, 409	I275SB11	2,410	70	3	1,585	450	460	450	433	539	604	587	565	499	494	486	472	37	36	32	33	46	50	43	45	40	37	40	34
	409, 410	I275SB12	2,410	70	3	458	450	459	451	433	538	605	587	565	499	495	485	472	10	11	10	8	13	15	14	12	12	11	12	10
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	3,580	70	5	629	686	688	682	654	818	912	888	854	760	749	730	708	207	204	211	194	251	275	267	256	229	229	223	212
	411, 412	I275SB14	3,580	70	5	247	685	689	682	656	816	912	889	855	760	749	731	708	17	17	21	19	19	29	24	25	24	23	19	22
	412, 413	I275SB15	3,580	70	4	608	686	688	683	655	815	912	887	856	760	748	732	707	42	38	42	39	52	57	52	51	45	45	41	44
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,180	70	5	492	987	1,003	985	946	1,205	1,331	1,287	1,241	1,097	1,094	1,067	1,029	328	340	329	324	397	426	402	385	352	370	359	346
	414, 415	I275SB17	5,180	70	5	3,870	987	1,005	983	945	1,195	1,321	1,294	1,241	1,109	1,092	1,071	1,030	738	767	731	708	975	1086	1045	999	849	879	823	793
	415, 416	I275SB18	5,180	70	4	1,086	988	1,004	984	942	1,191	1,320	1,296	1,245	1,108	1,093	1,069	1,032	177	177	170	169	248	267	281	259	219	199	198	182
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,980	70	3	1,385	721	743	727	694	861	966	954	919	824	806	781	759	63	71	68	60	80	94	92	89	75	78	76	69
	417, 418	I275SB20	3,980	70	3	343	722	743	727	693	861	965	955	919	824	805	780	760	12	11	14	11	16	18	13	14	11	13	12	11
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,380	70	4	1,507	908	936	922	878	1,103	1,224	1,199	1,146	1,040	1,026	985	961	132	137	131	131	173	173	167	166	145	158	145	144
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	6,920	70	5	1,015	1,173	1,200	1,198	1,132	1,426	1,546	1,522	1,468	1,336	1,294	1,241	1,214	368	367	385	357	447	446	445	443	405	378	362	358
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	7,360	70	6	2,282	1,259	1,291	1,280	1,214	1,514	1,654	1,639	1,583	1,439	1,381	1,341	1,301	237	241	236	226	320	341	344	331	289	277	255	252
	421, 422	I275SB24	7,360	70	5	430	1,261	1,287	1,282	1,214	1,511	1,655	1,638	1,587	1,436	1,383	1,340	1,305	38	43	38	33	42	48	46	47	42	42	38	39
	422, 423	I275SB25	7,360	70	5	403	1,261	1,286	1,283	1,215	1,508	1,655	1,637	1,588	1,437	1,384	1,341	1,305	35	36	36	36	43	48	48	46	38	40	41	39
	423, 424	I275SB26	7,360	70	5	426	1,260	1,288	1,282	1,217	1,507	1,654	1,636	1,589	1,438	1,382	1,343	1,306	38	36	38	38	44	48	44	47	46	40	40	40
	424, 425	I275SB27	7,360	70	5	412	1,260	1,286	1,282	1,219	1,505	1,653	1,635	1,590	1,439	1,381	1,345	1,304	34	34	37	35	41	43	46	47	37	37	40	38
	425, 426	I275SB28	7,360	70	5	734	1,260	1,283	1,286	1,219	1,502	1,650	1,635	1,591	1,441	1,384	1,344	1,302	60	63	61	63	78	90	85	88	78	70	70	65
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4,445	50	3	841	844	886	849	800	1,057	1,015	988	987	857	873	830	787	468	483	471	444	558	534	552	535	460	469	454	441
	500, 501	GandyEB3	4,445	50	4	954	839	887	850	799	1,033	985	986	1,005	888	873	831	788	685	733	686	625	1296	1420	1385	1383	985	770	716	666
	501, 502	GandyEB4	4,445	50	5	174	837	888	850	799	1,028	986	986	1,004	892	872	832	787	99	110	104	92	151	118	105	104	118	123	114	99
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,685	50	3	178	334	362	340	325	395	364	363	379	353	365	342	314	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,685	50	3	99	335	362	340	327	391	367	358	383	352	367	340	318	16	20	17	18	17	17	12	16	15	18	15	17
	505, 506	GandyEB10	1,685	50	3	119	334	361	340	327	391	367	358	383	352	367	340	318	19	20	19	16	20	16	17	18	16	19	20	18
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3,415	50	3	1,167	666	709	678	640	731	743	724	749	715	727	696	685	476	507	479	439	493	531	519	530	522	516	513	521
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,840	55	3	181	528	555	526	500	686	726	698	657	575	605	579	547	8	10	9	8	12	14	17	15	11	11	12	12
	520, 521	GandyWB5	3,840	55	3	291	526	554	526	501	684	726	698	657	576	605	578	547	14	13	13	11	19	22	20	17	15	16	17	12
	521, 522	GandyWB6	3,840	55	4	590	525	553	528	503	681	727	696	658	578	602	579	548	402	422	418	387	540	563	524	500	443	465	444	423
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,440	55	3	1,768	337	355	334	322	432	466	455	429	366	384	374	346	35	38	32	29	53	58	57	48	39	42	40	33

2040 Master AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	5,210	55	5	1,179	803	839	800	768	972	1,050	1,038	983	886	891	885	849	105	107	99	95	128	139	139	126	119	109	109	111
	524, 525	GandyWB9	5,210	55	5	455	801	841	801	769	968	1,051	1,038	981	889	890	886	850	26	25	25	24	33	35	37	34	29	29	31	27
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,800	50	2	269	542	568	537	505	573	612	600	591	590	578	584	594	17	17	18	18	20	23	20	19	19	18	22	19
	600, 7001	GdyNBoff2	2,800	50	2	167	542	568	537	506	573	613	599	592	591	576	584	595	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,730	50	1	263	333	349	332	313	346	374	363	366	364	359	358	365	0	0	0	0	0	0	0	0	0	0	0	0
	3, 4	GdyNBoff6	1,730	50	1	359	333	348	334	313	345	374	365	366	364	358	358	365	0	0	0	0	0	0	0	0	0	0	0	0
	4, 5	GdyNBoff7	1,730	50	1	464	333	348	334	313	343	374	365	366	363	360	358	365	0	0	0	0	0	0	0	0	0	0	0	0
	5, 506	GdyNBoff8	1,730	50	1	241	333	348	335	313	344	373	364	367	363	360	358	365	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	1,070	50	1	267	208	216	208	192	227	237	236	225	226	220	223	232	0	0	0	0	0	0	0	0	0	0	0	0
	2, 8	GdyNBoff11	1,070	50	1	341	208	216	209	192	226	237	236	225	226	220	224	232	0	0	0	0	0	0	0	0	0	0	0	0
	8, 9	GdyNBoff12	1,070	50	1	483	208	216	209	191	226	237	236	225	226	220	224	231	0	0	0	0	0	0	0	0	0	0	0	0
	9, 10	GdyNBoff13	1,070	50	1	492	206	216	210	191	227	236	237	225	226	221	223	231	0	0	0	0	0	0	0	0	0	0	0	0
	10, 11	GdyNBoff14	1,070	50	1	389	206	217	210	192	227	236	237	225	226	222	223	230	0	0	0	0	0	0	0	0	0	0	0	0
	11, 7022	GdyNBoff15	1,070	50	1	196	206	216	211	191	227	236	237	224	226	222	224	231	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,760	50	2	179	501	526	510	476	627	621	624	626	544	506	491	475	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,220	50	2	501	236	259	234	220	295	298	298	307	259	238	236	221	16	17	17	15	25	26	26	27	22	18	18	16
	623, 624	GdyNBon6	1,220	50	2	299	236	259	233	220	295	297	298	308	259	237	237	221	5	5	5	5	7	7	8	7	7	5	6	4
	624, 625	GdyNBon7	1,220	50	2	253	237	259	233	220	294	297	299	307	260	238	237	221	4	5	3	3	6	6	6	6	5	4	4	5
	625, 626	GdyNBon8	1,220	50	2	238	236	260	232	220	294	296	299	306	260	238	237	221	3	4	4	2	6	4	6	5	4	4	4	3
	626, 627	GdyNBon9	1,220	50	2	242	236	260	233	221	293	297	299	306	261	237	237	221	4	4	3	3	5	5	5	4	4	4	4	3
	627, 628	GdyNBon10	1,220	50	2	277	236	260	233	221	291	298	299	306	260	238	238	221	3	5	4	4	5	7	4	6	5	3	3	4
	628, 629	GdyNBon11	1,220	50	2	337	236	260	233	221	290	298	299	306	262	237	238	221	4	6	4	4	7	6	6	6	6	6	4	4
	629, 630	GdyNBon12	1,220	50	2	877	235	260	232	222	290	297	299	308	263	236	238	221	11	13	12	10	16	17	18	17	15	11	13	12
	630, 306	GdyNBon13	1,220	50	2	344	235	260	233	222	289	298	298	308	263	236	237	221	4	5	4	3	6	9	6	7	5	6	4	4
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,200	50	2	481	264	263	257	250	323	350	344	327	289	286	289	272	11	12	12	10	17	17	16	18	13	12	12	14
	660, 661	GdySBoff2	1,200	50	2	394	263	263	257	250	323	351	343	328	289	286	288	273	5	6	5	6	7	8	10	5	6	6	7	6
	661, 7020	GdySBoff3	1,200	50	2	336	263	264	257	250	322	350	344	328	288	287	288	273	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,270	50	2	714	469	482	465	443	547	586	581	555	515	509	511	502	54	57	56	52	58	67	64	58	59	60	62	66
	662, 523	GdySBoff7	2,270	50	2	424	469	482	465	444	545	586	581	556	515	509	510	503	19	22	20	18	22	25	24	24	23	18	22	22
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,540	50	1	286	266	265	276	257	325	323	326	320	291	268	257	254	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1,540	50	1	204	265	265	277	256	326	323	326	320	291	269	257	253	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1,540	50	1	319	265	265	277	256	326	323	325	320	291	268	257	253	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,400	35	1	302	188	196	196	182	246	259	241	232	211	220	205	199	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1,400	35	1	259	189	195	197	182	246	259	241	232	212	220	205	200	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1,400	35	1	227	189	195	196	182	247	259	241	232	212	220	204	200	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1,400	35	1	211	189	194	197	182	247	258	242	232	211	221	204	200	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1,400	35	1	211	189	194	197	182	247	258	241	232	211	221	204	200	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1,400	35	1	207	189	194	196	182	246	258	242	231	212	221	204	200	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1,400	35	1	252	190	193	196	182	246	259	241	232	211	221	204	201	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,130	60	4	1,418	406	423	408	385	527	562	534	505	442	467	441	421	314	331	325	292	421	444	422	399	348	364	341	334
	541, 542	RvEB3	2,130	60	3	1,028	406	425	407	384	526	562	536	504	444	466	441	421	23	27	26	27	38	40	37	37	27	33	26	27
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,430	60	2	513	266	286	271	255	358	375	358	333	297	312	292	280	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,815	60	2	120	306	319	307	296	389	437	436	408	360	358	339	319	3	4	2	3	7	17	18	12	4	5	4	3
	546, 547	RvEB10	1,815	60	2	165	306	318	307	296	388	437	436	408	360	358	339	319	4	5	4	4	9	20	20	11	6	8	6	6
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3,255	60	2	1,053	571	605	592	558	677	742	731	708	659	656	630	614	357	378	372	348	397	442	430	425	401	404	395	392
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,805	60	2	756	530	562	536	504	703	732	705	667	582	613	580	556	21	24	25	23	27	27	26	26	24	23	25	25
	558, 559	RvWB3	2,805	60	2	146	530	561	537	504	702	732	705	667	582	613	580	556	18	23	18	16	26	28	26	25	20	19	21	20
	559, 560	RvWB4	2,805	60	3	151	530	561	536	505	702	732	705	668	583	613	579	556	17	20	21	16	27	32	26	26	19	20	18	17
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,670	60	2	125	506	532	508	482	669	695	670	635	557	586	551	529	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,215	60	2	133	416	440	416	393	546	570	552	521	459	480	468	436	8	7	6	6	9	10	11	10	10	8	10	8
	567, 568	RvWB14	2,215	60	2	750	417	438	420	392	543	570	553	520	461	480	466	438	27	29	29	27	34	33	36	31	30	33	31	30
	568, 569	RvWB15	2,215	60	2	281	418	438	419	392	542	570	553	521	461	480	466	439	10	10	9	10	13	13	13	10	12	12	10	11
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,775	60	4	1,137	938	980	955	910	1,081	1,138	1,121	1,076	1,037	1,047	1,047	1,006	126	134	135	123	149	160	155	150	141	141	139	145
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5,640	50	2	228	1,068	1,125	1,105	1,042	1,130	1,178	1,177	1,152	1,185	1,177	1,169	1,167	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5,640	50	2	168	1,068	1,126	1,104	1,044	1,127	1,177	1,173	1,157	1,185	1,173	1,172	1,168	164	150	155	158	161	155	145	147	144	145	145	145
	701, 702	RvNBoff5	5,640	50	2	198	1,067	1,126	1,104	1,045	1,126	1,177	1,173	1,157	1,184	1,173	1,172	1,168	321	343	342	314	353	371	361	375	364	373	363	364
	702, 703	RvNBoff6	5,640	50	3	130	1,066	1,126	1,104	1,046	1,126	1,176	1,174	1,157	1,185	1,172	1,173	1,168	84	87	88	84	93	96	94	98	97	92	102	98
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,440	50	1	336	268	284	286	263	291	305	297	299	296	300	290	292	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	1,440	50	1	200	268	284	286	263	290	306	297	299	295	300	290	293	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	1,440	50	1	223	268	284	285	263	291	306	297	299	295	301	290	293	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	1,440	50	1	262	268	283	285	263	290	306	297	299	295	300	291	294	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	1,440	50	1	264	268	283	285	263	290	307	296	299	295	300	291	294	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,560	50	2	248	519	548	533	513	545	570	567	554	578	564	582	569	9	10	10	10	11	12	11	11	11	12	10	9
	715, 716	RvNBoff21	2,560	50	2	642	518	547	535	514	542	569	569	552	579	564	582	568	23	21	21	19	24	25	25	24	24	21	23	27
	716, 569	RvNBoff22	2,560	50	2	670	518	547	535	514	542	570	569	552	577	567	579	569	27	25	28	24	26	27	27	27	25	29	29	32
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	135	50	1	296	25	29	28	24	33	37	35	32	26	27	29	27	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	135	50	1	127	25	29	28	24	33	37	35	32	26	27	29	27	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,880	50	2	97	345	368	357	328	415	452	432	419	384	394	385	363	18	15	14	14	21	23	22	20	16	19	17	16
	757, 317	RvNBon10	1,880	50	2	123	344	368	357	328	415	451	432	419	385	393	385	363	24	26	25	25	31	36	39	36	30	29	29	28
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,250	50	2	223	259	261	261	247	317	365	346	332	290	292	280	268	3	3	4	3	6	6	6	5	4	5	5	4
	770, 7032	RvSBoff2	1,250	50	2	150	259	261	261	247	317	365	346	332	290	292	280	268	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,170	50	3	102	235	230	232	219	284	306	301	290	257	258	243	235	71	69	67	65	83	90	86	85	76	77	78	70
	793, 410	RvSBon5	1,170	50	3	655	235	228	233	220	283	307	301	290	258	257	243	236	28	28	27	21	37	46	42	39	31	34	32	28
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	140	139	134	128	168	187	178	171	147	153	150	140	2	2	3	2	3	3	4	3	3	2	3	2
	790, 7011	RvSBon11	700	50	2	250	140	139	135	128	168	186	178	171	148	153	150	140	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4,200	50	2	311	799	842	819	783	833	871	877	858	888	873	882	876	73	68	70	72	70	69	70	65	71	70	71	68
	708, 710	118NBoff2	4,200	50	2	567	799	842	820	783	834	872	877	854	891	871	884	875	98	108	103	104	107	106	112	106	112	108	112	116
	710, 711	118NBoff3	4,200	50	2	460	800	843	818	784	832	872	878	853	891	871	886	874	186	214	205	185	212	224	229	221	232	223	238	224
	711, 712	118NBoff4	4,200	50	3	472	800	842	818	786	830	872	877	854	891	871	884	875	81	85	77	78	80	82	90	87	89	81	86	85
	712, 713	118NBoff5	4,200	50	3	395	801	841	817	787	829	873	876	856	890	872	883	874	35	33	31	31	35	37	33	33	38	34	36	37
	713, 714	118NBoff6	4,200	50	3	188	800	842	817	787	829	872	876	856	890	873	884	873	13	12	12	12	13	14	12	11	11	13	13	11
	714, 717	118NBoff7	1,640	50	2	212	281	294	285	274	284	302	310	302	312	307	303	304	9	11	11	10	11	13	11	14	14	12	12	12

2040 Master AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,640	50	2	389	282	293	284	275	283	302	310	302	312	307	303	304	13	14	15	12	14	18	14	13	16	14	15	14
	718, 719	118NBoff9	1,640	50	2	373	281	293	284	275	283	302	311	302	313	305	303	304	10	9	8	8	9	9	11	10	8	10	9	8
	719, 720	118NBoff10	1,640	50	2	589	281	293	284	275	283	303	310	303	312	306	302	304	12	13	12	13	15	13	14	14	15	14	12	14
	720, 721	118NBoff11	1,640	50	2	311	280	293	285	275	283	302	310	304	312	305	303	304	7	7	5	7	6	7	7	7	8	7	7	7
	721, 722	118NBoff12	1,640	50	2	327	280	293	285	276	284	301	310	303	313	304	303	305	6	8	7	6	6	8	8	8	7	7	8	8
	722, 723	118NBoff13	1,640	50	2	626	281	292	285	275	284	300	310	305	311	305	303	305	13	12	14	14	13	14	15	14	16	14	15	15
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,240	60	4	1,252	790	800	805	765	890	995	988	940	882	879	855	840	158	167	168	165	188	209	213	207	192	185	177	170
	724, 725	118NBoff15	4,240	60	4	575	790	798	807	765	889	994	990	938	883	879	856	839	37	36	36	38	44	57	56	49	43	43	43	42
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,060	60	2	611	578	614	583	550	761	805	766	723	640	666	638	603	200	210	196	196	225	242	238	230	219	216	210	198
	740, 741	118NBon3	3,060	60	2	1,571	577	613	583	552	757	803	766	726	641	664	641	604	88	102	94	82	144	160	144	132	104	109	111	102
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,460	50	1	268	277	296	282	262	358	384	368	344	306	317	307	286	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	1,460	50	1	541	277	296	282	262	355	385	366	345	306	317	306	286	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	1,460	50	1	715	277	296	284	262	355	383	367	346	308	316	306	286	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	1,460	50	1	245	277	295	284	263	354	384	366	345	308	316	306	286	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	1,460	50	1	252	277	295	284	263	353	386	365	345	309	316	306	285	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	1,460	50	1	352	277	294	284	264	352	386	366	345	308	317	307	286	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	1,460	50	1	264	277	294	284	263	351	387	365	346	308	317	307	286	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	1,460	50	1	415	278	294	284	264	349	387	366	345	309	318	306	286	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	1,460	50	1	733	279	293	284	265	349	386	364	346	309	319	305	286	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	850	50	1	147	177	176	177	170	217	247	234	228	191	199	187	181	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	850	50	1	934	177	176	177	171	214	248	234	229	191	200	187	182	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	850	50	1	371	177	175	178	170	215	248	236	229	191	199	188	181	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	850	50	1	446	178	174	178	170	214	248	236	228	192	199	187	181	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	850	50	1	340	179	174	178	170	213	248	235	229	192	199	188	181	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,600	50	2	990	507	512	518	487	609	698	677	638	568	571	554	533	94	96	90	87	103	108	112	108	101	98	95	94
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,600	50	1	197	299	316	303	291	398	418	399	383	335	347	334	320	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,600	50	1	119	299	316	303	290	398	419	399	383	335	347	334	320	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,600	50	1	126	299	316	303	291	398	419	399	383	335	347	334	320	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,600	50	1	162	299	316	303	291	397	419	399	383	335	347	334	320	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,600	50	1	200	299	316	303	291	396	419	399	383	336	347	334	320	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,600	50	1	166	299	316	303	291	395	419	399	383	336	347	334	321	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,600	50	1	973	299	315	304	291	392	420	401	383	337	347	334	321	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	597	632	600	570	775	826	795	753	653	684	658	623	384	392	380	361	497	526	502	490	421	428	412	390
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2,050	50	2	647	394	424	400	371	514	546	532	500	433	452	442	411	21	20	19	18	23	28	26	27	22	25	21	22
	811, 812	UlmNBon4	2,050	50	2	590	395	423	398	371	515	546	531	501	434	453	441	409	14	16	15	14	18	19	21	19	17	17	16	15
	812, 813	UlmNBon5	2,050	50	2	323	395	423	399	370	515	545	532	501	435	454	439	410	8	9	10	8	10	15	12	11	12	11	10	9
	813, 814	UlmNBon6	2,050	50	2	328	395	423	397	372	514	544	532	501	435	453	440	409	9	11	9	8	12	13	12	13	9	10	9	9
	814, 815	UlmNBon7	2,050	50	2	288	396	424	396	372	513	545	532	500	436	453	441	409	9	8	7	8	10	10	12	10	10	11	9	10
	815, 816	UlmNBon8	2,050	50	2	273	396	424	396	373	512	544	532	499	437	453	440	410	8	6	7	6	9	10	11	10	9	9	8	10
	816, 322	UlmNBon9	2,050	50	2	881	398	422	396	374	509	545	531	501	438	454	441	411	25	27	24	24	31	34	35	34	30	29	28	25
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	3,300	50	2	316	620	644	619	589	762	818	824	783	696	710	675	641	59	61	54	53	74	85	84	76	65	72	69	55
	830, 831	UlmSBoff2	3,300	50	2	346	621	645	619	589	761	818	823	783	696	711	675	641	20	19	17	18	18	18	18	18	19	17	19	20
	831, 7036	UlmSBoff3	3,300	50	2	283	621	645	619	589	759	818	824	783	696	711	673	643	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,670	50	2	398	502	523	506	476	613	656	671	639	567	574	546	525	15	15	15	16	19	20	18	19	19	16	17	14
	834, 835	UlmSBoff8	2,670	60	2	584	503	523	505	479	610	657	670	638	568	573	546	525	48	46	50	46	50	54	54	56	52	51	48	47
	835, 836	UlmSBoff9	2,670	60	2	481	501	523	506	479	608	655	672	639	569	573	545	525	8	8	7	8	10	10	9	9	10	9	7	8
	836, 837	UlmSBoff10	2,670	60	2	2,160	504	522	506	481	602	653	673	639	572	571	547	527	55	55	57	55	67	77	82	73	67	65	63	59
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,100	35	1	493	203	209	201	197	261	280	261	255	220	233	216	210	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	1,100	35	1	214	202	209	200	198	260	279	262	255	220	233	215	210	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	770	35	1	163	145	150	145	144	189	205	194	185	160	171	155	152	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	770	35	1	163	145	149	145	144	190	205	194	185	160	171	155	152	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	770	35	1	228	145	150	144	144	189	205	194	185	160	170	156	152	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	770	50	1	1,170	146	149	145	142	190	204	194	184	161	170	155	153	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	330	35	1	201	57	60	55	55	70	75	69	70	61	62	61	58	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	330	50	1	361	57	60	55	55	70	75	69	69	61	62	61	58	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	330	50	1	499	57	59	55	55	70	75	69	69	61	62	61	58	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	960	50	2	1,171	177	182	172	167	207	233	223	217	192	201	188	179	25	24	22	22	28	35	34	34	28	28	25	24
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	620	50	1	1,080	117	123	118	113	153	163	156	147	129	135	129	124	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	620	50	1	350	116	124	118	113	153	163	156	147	129	136	129	124	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	620	50	1	360	116	124	118	112	153	163	156	147	129	135	129	124	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	620	50	1	548	116	124	118	113	153	162	157	147	130	135	129	124	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	630	50	1	294	119	123	118	112	137	159	155	148	130	139	128	120	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	630	50	1	336	119	123	118	112	137	159	155	148	130	139	128	120	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	630	50	1	395	119	123	118	112	137	158	156	148	130	139	128	120	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	630	50	1	539	119	123	117	112	137	158	155	148	130	139	128	120	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,260	60	2	1,270	238	252	239	229	313	332	314	300	261	277	264	250	9	8	7	8	11	12	11	8	8	8	8	8
	901, 902	4thNBon3	1,260	60	2	634	238	253	240	228	312	333	314	300	261	277	264	248	99	102	98	95	125	129	127	119	106	111	105	100
	902, 903	4thNBon4	1,260	60	2	322	238	253	239	228	311	333	314	300	262	276	263	248	12	13	15	12	19	25	21	19	16	17	17	14
	903, 904	4thNBon5	1,260	60	2	279	238	253	239	228	311	333	314	300	262	276	263	248	8	8	6	5	11	11	10	10	8	9	8	8
	904, 905	4thNBon6	1,260	60	2	388	238	252	240	228	310	334	314	300	263	275	264	248	1	1	1	1	2	2	2	1	1	2	1	1
	905, 906	4thNBon7	1,260	60	1	313	238	252	240	229	309	335	313	301	262	275	264	248	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	1,260	60	1	299	237	253	240	229	309	334	313	301	262	275	264	247	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	1,260	60	1	667	237	252	239	229	309	333	314	301	263	273	265	246	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	700	60	1	465	124	149	139	141	179	196	194	182	165	163	161	149	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	700	60	1	492	125	148	139	140	179	196	194	182	165	162	161	149	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	700	60	1	420	125	148	139	140	179	197	194	181	166	162	161	149	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	700	60	1	393	126	148	139	140	179	198	194	182	165	163	161	149	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	700	60	1	384	125	148	140	139	179	198	194	182	165	163	161	149	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	700	60	1	354	126	147	140	139	179	198	194	182	165	162	162	149	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	700	60	1	501	126	146	141	138	179	197	195	182	164	162	163	148	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	700	60	1	416	126	146	141	138	179	196	196	181	165	162	163	148	1	1	1	1	2	1	2	1	2	1	1	1
	927, 928	4thSBoff9	700	60	2	1,153	126	146	142	138	178	195	196	182	164	162	163	147	24	30	30	27	43	48	48	43	36	35	40	31
	928, 929	4thSBoff10	700	60	2	1,242	125	146	142	138	178	195	196	183	163	163	163	147	10	9	12	10	14	16	16	14	14	14	12	10
	4999, 5000	SULNB1	1,190	70	1	1,116	226	236	226	215	297	313	299	282	247	260	248	233	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	1,190	70	1	2,205	225	236	227	215	294	313	299	282	249	260	248	235	0	0	0	0	0	0	0	0	0	0	0	0

2040 Master AM			Demand	FFS	No. Full	Length	Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	(mph)	Lanes	(ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,190	70	1	528	226	235	227	216	293	313	299	282	249	259	249	235	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	1,190	70	1	346	225	235	227	215	293	312	300	282	250	259	248	235	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	1,190	70	1	235	226	235	227	215	293	312	300	283	250	259	248	235	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	1,190	70	1	270	225	236	228	215	293	312	300	282	250	259	249	235	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	1,190	70	1	238	225	236	227	216	292	313	299	283	251	259	248	236	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	1,190	70	1	261	225	236	227	216	292	313	299	283	251	258	249	235	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	1,190	70	1	451	225	237	227	216	290	313	299	283	251	258	249	236	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	1,190	70	1	242	224	237	226	216	291	313	298	283	252	258	249	236	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	1,190	70	1	158	224	237	227	215	291	312	299	283	252	259	249	236	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	1,190	70	1	539	224	237	226	215	291	313	299	283	251	258	249	236	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	1,190	70	1	564	224	237	226	215	291	312	299	284	252	258	249	235	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	1,190	70	1	1,295	225	237	227	217	289	311	299	285	251	260	248	235	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,450	70	2	409	471	482	467	456	548	585	564	555	522	514	518	498	55	54	58	58	68	65	65	63	62	62	61	56
	5014, 5015	SULNB16	2,450	70	2	2,441	473	482	465	457	546	584	564	554	521	518	516	501	80	88	85	82	95	99	96	99	94	89	96	88
	5015, 5016	SULNB17	2,450	70	2	2,058	472	484	468	458	539	587	562	556	522	515	520	500	55	56	59	56	66	64	62	64	61	59	59	60
	5016, 5017	SULNB18	2,450	70	2	1,249	472	483	468	459	539	584	564	557	522	516	518	501	34	33	29	32	36	42	37	38	37	35	35	33
	5017, 5018	SULNB19	2,450	70	2	1,432	472	481	468	462	533	586	566	555	521	518	518	502	36	40	38	36	40	47	37	43	42	41	40	40
	5018, 5019	SULNB20	2,450	70	2	788	471	482	470	461	532	585	567	555	521	518	516	503	20	19	24	19	24	23	23	26	23	23	21	22
	5019, 5020	SULNB21	2,450	70	2	659	470	481	470	460	534	585	565	558	519	518	516	503	16	18	19	17	18	19	17	16	18	19	18	18
	5020, 5021	SULNB22	2,450	70	2	2,083	469	481	472	456	534	585	564	556	523	514	519	503	50	52	52	51	63	61	59	56	60	56	57	57
	5021, 5022	SULNB23	2,450	70	2	1,364	469	481	474	455	531	586	563	558	524	513	519	503	34	34	39	33	39	42	39	39	35	40	42	38
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,910	70	2	546	568	579	569	551	640	709	692	674	630	620	624	610	124	126	122	121	141	156	163	147	135	138	135	138
	5023, 5024	SULNB25	2,910	70	2	1,030	569	579	568	552	640	705	693	676	631	622	624	607	35	38	38	35	43	49	46	46	39	39	41	37
	5024, 5025	SULNB26	2,910	70	2	820	568	579	566	553	641	703	695	672	632	625	621	607	20	22	19	19	22	24	23	24	23	20	21	21
	5025, 5026	SULNB27	2,910	70	2	2,524	565	573	571	555	633	707	694	672	635	622	622	610	68	70	66	68	73	80	78	72	74	74	76	69
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,260	70	1	266	244	249	238	238	267	272	260	273	269	251	272	263	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	1,260	70	1	528	245	249	239	238	266	272	260	274	268	252	272	263	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	1,260	70	1	379	245	249	239	238	265	272	260	274	267	252	272	263	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	1,260	70	1	376	245	249	240	237	264	273	260	274	267	252	273	263	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	1,260	70	1	363	245	249	240	238	264	274	259	275	266	252	273	263	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	1,260	70	1	352	245	249	239	239	263	273	259	275	266	253	273	262	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	1,260	70	1	831	245	248	240	239	264	272	260	275	265	253	272	264	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	1,260	70	1	1,172	244	248	241	239	261	274	260	274	265	254	271	264	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	1,260	70	1	656	245	247	241	238	261	275	261	273	267	254	271	265	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	1,260	70	1	803	246	247	240	240	259	275	261	274	266	253	272	264	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	1,260	70	1	897	247	246	241	240	259	275	261	273	267	254	271	264	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	1,260	70	1	513	246	245	242	239	259	276	262	272	267	255	271	264	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	1,260	70	1	738	246	245	242	239	259	275	263	272	269	255	271	264	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	460	70	1	513	99	98	97	96	109	124	129	116	105	108	106	108	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,480	70	2	922	474	490	475	448	615	653	621	588	516	542	519	487	100	106	103	100	132	144	127	132	117	119	117	102
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,190	70	2	1,601	417	431	416	390	537	571	545	517	451	474	455	429	22	24	20	20	36	37	33	32	25	29	28	23
	5997, 5998	SULSB1	2,190	70	2	826	416	431	418	390	538	569	545	519	450	473	456	429	18	16	17	16	25	21	23	22	16	17	16	19
	5998, 5999	SULSB1	2,190	70	2	1,034	416	431	419	391	536	568	545	521	450	473	456	430	20	21	23	21	28	28	26	24	22	22	24	22
	5999, 6000	SULSB1	2,190	70	2	1,921	414	431	421	391	533	567	546	519	452	473	456	429	43	39	39	38	58	56	55	50	47	44	46	43
	6000, 6001	SULSB2	2,190	70	2	2,057	413	431	420	393	531	565	546	520	453	473	456	431	46	48	46	42	62	63	58	54	49	51	50	45
	6001, 6002	SULSB3	2,190	70	2	547	413	430	420	393	530	565	546	521	453	472	455	433	12	11	13	11	15	18	15	13	14	12	12	12
	6002, 6003	SULSB4	2,190	70	2	424	414	429	421	391	530	565	546	521	454	473	455	432	10	10	9	9	12	12	12	11	9	11	9	9
	6003, 6004	SULSB5	2,190	70	2	1,865	417	429	419	391	530	562	549	521	453	474	453	433	46	42	42	38	56	54	53	50	44	42	42	44
	6004, 6005	SULSB6	2,190	70	2	1,086	418	428	419	392	529	561	547	523	455	474	451	434	25	24	23	25	33	30	31	26	27	26	28	23
	6005, 6006	SULSB7	2,190	70	2	4,087	420	431	419	392	518	564	548	522	460	473	453	436	246	253	239	228	295	303	297	293	261	269	263	255
	6006, 6007	SULSB8	2,190	70	2	1,179	419	431	418	396	514	564	551	521	460	473	453	437	29	27	28	23	43	54	51	42	37	37	29	32
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,750	70	1	1,199	331	339	333	320	405	455	435	411	371	379	360	350	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	1,750	70	1	614	330	340	334	318	405	455	436	410	371	380	361	349	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	1,750	70	1	382	330	341	334	317	404	455	435	411	372	380	360	349	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	1,750	70	1	135	330	341	335	317	405	455	435	411	372	379	360	349	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	1,750	70	1	204	329	342	334	317	404	455	435	411	372	379	361	349	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	1,750	70	1	613	329	341	336	318	402	454	436	412	372	378	362	350	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	1,750	70	1	251	329	340	337	317	402	454	437	411	372	378	362	349	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	1,750	70	1	233	329	341	336	318	401	454	437	410	372	378	362	350	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	1,750	70	1	274	330	340	337	317	400	454	438	409	372	378	362	350	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	1,750	70	1	238	330	339	337	318	400	454	438	409	372	379	363	349	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	1,750	70	1	314	331	339	337	318	399	453	439	410	371	379	364	349	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	1,750	70	1	879	330	339	338	318	396	453	440	409	373	377	365	348	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	1,750	70	1	207	329	339	338	318	396	453	441	409	373	377	365	348	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	1,013	90	89	84	77	105	114	114	111	90	93	95	86	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	440	70	1	621	90	89	84	77	104	114	114	111	91	94	95	86	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	440	70	1	317	91	89	84	76	104	113	114	111	90	94	95	86	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	440	70	1	915	90	89	84	76	104	113	114	111	90	94	95	85	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	440	70	1	1,093	90	89	84	77	103	114	114	112	90	94	95	86	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	440	70	1	1,068	89	91	84	77	102	114	114	112	90	94	95	85	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	440	70	1	788	89	91	85	76	102	113	114	113	89	94	96	84	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	440	70	1	367	89	90	85	76	102	114	113	114	89	94	96	84	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	440	70	1	373	88	90	85	76	101	114	113	115	89	94	96	85	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	440	70	1	445	89	90	85	77	101	114	113	115	89	94	95	85	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	440	70	1	8,866	88	89	84	81	97	113	115	113	92	94	95	87	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 420	SULSBRamp12	440	70	1	292	88	89	84	81	96	112	115	114	92	94	95	87	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	290	70	1	167	57	60	58	59	76	79	76	74	67	67	65	58	0	0	0	0	0	0	0	0	0	0	0	0

2040 Master AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	10,780	70	4	1,087	28.9	31.7	31.7	65.3	64.7	64.7	8,193	10,780	8,947	8,195	8,897	8,901
	299, 300	I275NB2	10,780	70	4	805										8,194	8,894	8,900
	300, 301	I275NB3	10,780	70	4	478										8,195	8,893	8,899
	301, 302	I275NB4	10,780	70	4	2,687										8,196	8,888	8,900
	302, 303	I275NB5	10,780	70	5	382										8,196	8,886	8,899
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	7,980	70	4	1,375	22.9	24.8	25.0	66.0	65.6	65.7	6,065	7,980	6,623	6,045	6,507	6,552
	304, 305	I275NB7	7,980	70	4	1,306										6,047	6,505	6,553
	305, 306	I275NB8	7,980	70	4	591										6,047	6,505	6,554
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	9,200	70	6	764	20.7	25.7	29.9	64.9	60.5	56.1	6,992	9,200	7,636	6,996	7,691	7,515
	307, 308	I275NB10	9,200	70	6	3,335										7,002	7,632	7,561
	308, 309	I275NB11	9,200	70	5	350										7,002	7,614	7,576
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	7,940	70	4	745	32.4	49.3	53.5	49.3	36.6	33.8	6,034	7,940	6,590	6,033	6,520	6,532
	310, 311	I275NB13	7,940	70	4	380										6,034	6,507	6,538
	311, 312	I275NB14	7,940	70	4	399										6,036	6,498	6,539
	312, 313	I275NB15	7,940	70	4	368										6,038	6,490	6,540
	313, 314	I275NB16	7,940	70	4	460										6,039	6,486	6,540
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,300	70	3	879	8.4	9.2	9.2	67.4	67.1	67.0	1,748	2,300	1,909	1,700	1,847	1,842
	315, 316	I275NB18	2,300	70	3	1,293										1,700	1,846	1,842
	316, 317	I275NB19	2,300	70	3	1,158										1,700	1,845	1,841
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	4,180	70	5	372	11.3	13.1	12.3	66.7	66.3	66.5	3,177	4,180	3,469	3,096	3,562	3,368
	318, 319	I275NB21	4,180	70	5	2,609										3,097	3,559	3,369
	319, 320	I275NB22	4,180	70	4	1,810										3,098	3,559	3,367
	320, 321	I275NB23	4,180	70	4	495										3,099	3,558	3,367
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,800	70	4	1,808	12.5	14.8	13.7	66.5	66.0	66.4	3,648	4,800	3,984	3,569	4,173	3,887
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,850	70	5	1,261	15.1	18.9	16.5	65.3	63.2	64.9	5,206	6,850	5,686	5,162	6,251	5,634
	323, 324	I275NB26	6,850	70	5	1,405										5,165	6,241	5,643
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	8,110	70	5	839	18.3	23.3	20.2	65.5	62.9	64.9	6,164	8,110	6,731	6,119	7,496	6,694
	325, 326	I275NB28	8,110	70	5	664										6,117	7,496	6,697
	326, 327	I275NB29	8,110	70	5	2,007										6,119	7,481	6,709
	327, 328	I275NB30	8,110	70	5	868										6,124	7,471	6,714
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	7,650	70	4	1,068	21.6	26.7	23.9	66.2	65.4	65.9	5,814	7,650	6,350	5,735	6,992	6,289
	329, 330	I275NB32	7,650	70	4	1,023										5,738	6,990	6,283
	330, 331	I275NB33	7,650	70	4	824										5,740	6,985	6,284
	331, 332	I275NB34	7,650	70	4	2,521										5,731	6,972	6,294
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	6,600	70	4	1,081	18.8	25.0	20.6	68.1	67.1	67.9	5,016	6,600	5,478	5,023	6,592	5,485
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,890	70	5	1,446	19.0	28.1	21.2	65.9	59.2	64.9	5,236	6,890	5,719	5,252	6,888	5,751
	395, 396	I275SB1	6,890	70	5	816										5,250	6,880	5,760
	396, 397	I275SB1	6,890	70	4	1,045										5,250	6,875	5,764
	397, 398	I275SB1	6,890	70	4	1,908										5,247	6,871	5,773
	398, 399	I275SB1	6,890	70	4	2,118										5,244	6,863	5,779
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,190	70	4	2,746	16.3	22.0	18.0	64.3	62.0	63.7	4,704	6,190	5,138	4,696	6,098	5,151
	400, 401	I275SB3	6,190	70	5	1,080										4,697	6,092	5,151
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,890	70	4	4,105	8.2	10.7	8.9	68.3	67.7	68.2	2,196	2,890	2,399	2,230	2,898	2,431
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,660	70	5	720	10.0	13.3	11.0	65.9	64.8	65.7	2,782	3,660	3,038	2,815	3,668	3,070
	403, 404	I275SB6	3,660	70	5	1,327										2,819	3,663	3,074
	404, 405	I275SB7	3,660	70	4	461										2,819	3,663	3,074
	405, 406	I275SB8	3,660	70	4	452										2,820	3,661	3,075
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,410	70	3	855	8.7	11.3	9.5	68.5	68.0	68.3	1,832	2,410	2,000	1,793	2,299	1,947
	407, 408	I275SB10	2,410	70	3	347										1,793	2,298	1,949
	408, 409	I275SB11	2,410	70	3	1,585										1,793	2,295	1,950
	409, 410	I275SB12	2,410	70	3	458										1,793	2,294	1,950
SB I-275 from Roosevelt On Ramp to 118th	410, 411	I275SB13	3,580	70	5	629										2,710	3,472	2,947

2040 Master AM Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	411, 412	I275SB14	3,580	70	5	247	9.2	11.8	10.0	65.4	65.0	65.3	2,721	3,580	2,971	2,712	3,471	2,948
	412, 413	I275SB15	3,580	70	4	608										2,712	3,470	2,947
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,180	70	5	492	14.8	19.8	16.4	64.4	62.0	63.6	3,937	5,180	4,299	3,921	5,065	4,288
	414, 415	I275SB17	5,180	70	5	3,870										3,920	5,051	4,301
	415, 416	I275SB18	5,180	70	4	1,086										3,918	5,051	4,302
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,980	70	3	1,385	14.3	18.6	15.8	67.2	66.2	66.9	3,025	3,980	3,303	2,885	3,700	3,169
	417, 418	I275SB20	3,980	70	3	343										2,885	3,700	3,170
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,380	70	4	1,507	14.1	18.3	15.6	64.5	63.9	64.3	4,089	5,380	4,465	3,644	4,672	4,012
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	6,920	70	5	1,015	14.6	18.9	15.9	64.3	63.3	64.1	5,259	6,920	5,744	4,703	5,963	5,085
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	7,360	70	6	2,282	15.0	19.3	16.4	67.0	66.0	66.6	5,594	7,360	6,109	5,045	6,390	5,463
	421, 422	I275SB24	7,360	70	5	430										5,044	6,390	5,464
	422, 423	I275SB25	7,360	70	5	403										5,045	6,388	5,466
	423, 424	I275SB26	7,360	70	5	426										5,046	6,385	5,470
	424, 425	I275SB27	7,360	70	5	412										5,048	6,382	5,469
	425, 426	I275SB28	7,360	70	5	734										5,048	6,378	5,471
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	4,445	50	3	841	19.9	64.9	23.6	47.0	19.6	38.3	3,378	4,445	3,689	3,379	4,046	3,346
	500, 501	GandyEB3	4,445	50	4	954										3,374	4,009	3,380
	501, 502	GandyEB4	4,445	50	5	174										3,374	4,004	3,383
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,685	50	3	178	9.5	11.4	9.9	47.8	41.9	41.5	1,281	1,685	1,399	1,362	1,501	1,373
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,685	50	3	99	10.2	11.3	10.3	48.6	45.6	43.5	1,281	1,685	1,399	1,363	1,499	1,378
	505, 506	GandyEB10	1,685	50	3	119										1,363	1,499	1,377
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	3,415	50	3	1,167	18.3	20.2	19.3	46.5	46.0	46.2	2,595	3,415	2,834	2,692	2,947	2,822
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,840	55	3	181	11.7	15.6	12.9	51.4	50.7	51.2	2,918	3,840	3,187	2,108	2,766	2,306
	520, 521	GandyWB5	3,840	55	3	291										2,108	2,764	2,305
	521, 522	GandyWB6	3,840	55	4	590										2,109	2,762	2,306
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,440	55	3	1,768	8.3	11.1	9.1	54.1	53.8	53.9	1,854	2,440	2,025	1,348	1,782	1,470
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	5,210	55	5	1,179	12.0	15.2	13.1	53.5	53.2	53.4	3,960	5,210	4,324	3,210	4,042	3,511
	524, 525	GandyWB9	5,210	55	5	455										3,211	4,038	3,513
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,800	50	2	269	21.7	24.1	23.7	49.7	49.4	49.4	2,128	2,800	2,324	2,152	2,376	2,345
	600, 7001	GdyNBoff2	2,800	50	2	167										2,152	2,376	2,346
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,730	50	1	263	29.7	32.6	32.5	45.4	45.1	45.2	1,315	1,730	1,436	1,327	1,449	1,446
	3, 4	GdyNBoff6	1,730	50	1	359										1,328	1,448	1,446
	4, 5	GdyNBoff7	1,730	50	1	464										1,328	1,448	1,445
	5, 506	GdyNBoff8	1,730	50	1	241										1,328	1,449	1,445
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	1,070	50	1	267	17.7	20.0	19.4	47.1	46.7	47.0	813	1,070	888	824	926	901
	2, 8	GdyNBoff11	1,070	50	1	341										824	925	902
	8, 9	GdyNBoff12	1,070	50	1	483										824	925	902
	9, 10	GdyNBoff13	1,070	50	1	492										824	925	901
	10, 11	GdyNBoff14	1,070	50	1	389										824	924	901
	11, 7022	GdyNBoff15	1,070	50	1	196										824	924	902
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,760	50	2	179	32.8	100.9	49.9	31.5	12.8	19.5	2,098	2,760	2,291	2,012	2,497	2,016
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,220	50	2	501	9.8	12.4	9.9	48.7	45.9	43.7	927	1,220	1,013	948	1,197	954
	623, 624	GdyNBon6	1,220	50	2	299										948	1,197	954
	624, 625	GdyNBon7	1,220	50	2	253										949	1,196	955
	625, 626	GdyNBon8	1,220	50	2	238										949	1,196	955
	626, 627	GdyNBon9	1,220	50	2	242										949	1,195	956
	627, 628	GdyNBon10	1,220	50	2	277										950	1,194	956
	628, 629	GdyNBon11	1,220	50	2	337										949	1,194	957
	629, 630	GdyNBon12	1,220	50	2	877										949	1,193	957
	630, 306	GdyNBon13	1,220	50	2	344										950	1,193	957

2040 Master AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,200	50	2	481	10.5	13.7	11.6	49.1	48.9	49.0	912	1,200	996	1,034	1,344	1,136
	660, 661	GdySBoff2	1,200	50	2	394										1,034	1,344	1,136
	661, 7020	GdySBoff3	1,200	50	2	336										1,034	1,344	1,137
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,270	50	2	714	19.8	24.5	21.8	47.7	47.1	47.5	1,725	2,270	1,884	1,859	2,269	2,036
	662, 523	GdySBoff7	2,270	50	2	424										1,860	2,268	2,036
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,540	50	1	286	23.7	28.8	24.1	46.1	43.9	40.9	1,170	1,540	1,278	1,063	1,294	1,070
	621, 622	GdySBon3	1,540	50	1	204										1,063	1,294	1,070
	622, 419	GdySBon4	1,540	50	1	319										1,063	1,294	1,070
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,400	35	1	302	22.8	29.5	25.1	33.5	33.1	33.3	1,064	1,400	1,162	762	978	835
	640, 641	GdySBonLoop2	1,400	35	1	259										762	978	837
	641, 642	GdySBonLoop3	1,400	35	1	227										761	978	836
	642, 643	GdySBonLoop4	1,400	35	1	211										762	978	836
	643, 644	GdySBonLoop5	1,400	35	1	211										761	978	836
	644, 645	GdySBonLoop6	1,400	35	1	207										761	977	837
	645, 418	GdySBonLoop7	1,400	35	1	252										760	978	838
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	2,130	60	4	1,418	8.1	10.7	8.8	58.4	58.0	58.3	1,619	2,130	1,768	1,621	2,128	1,771
	541, 542	RvEB3	2,130	60	3	1,028										1,621	2,127	1,772
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,430	60	2	513	9.2	12.2	10.1	58.6	58.3	58.5	1,087	1,430	1,187	1,079	1,423	1,181
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,815	60	2	120	11.4	16.4	12.9	57.5	54.4	56.9	1,379	1,815	1,506	1,228	1,669	1,376
	546, 547	RvEB10	1,815	60	2	165										1,228	1,669	1,376
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	3,255	60	2	1,053	17.8	22.8	19.8	55.0	52.9	54.4	2,474	3,255	2,702	2,326	2,858	2,559
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,805	60	2	756	17.3	23.1	19.0	58.5	57.8	58.3	2,132	2,805	2,328	2,131	2,807	2,330
	558, 559	RvWB3	2,805	60	2	146										2,131	2,807	2,330
	559, 560	RvWB4	2,805	60	3	151										2,132	2,806	2,331
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,670	60	2	125	17.4	23.3	19.1	58.4	57.4	58.1	2,029	2,670	2,216	2,027	2,669	2,223
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,215	60	2	133	14.7	19.6	16.4	57.5	56.8	57.1	1,683	2,215	1,838	1,666	2,189	1,843
	567, 568	RvWB14	2,215	60	2	750										1,667	2,186	1,846
	568, 569	RvWB15	2,215	60	2	281										1,667	2,186	1,847
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,775	60	4	1,137	16.6	19.5	18.2	56.9	56.7	56.7	3,629	4,775	3,963	3,783	4,416	4,136
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	5,640	50	2	228	52.8	59.6	62.3	41.2	39.4	38.2	4,286	5,640	4,681	4,340	4,637	4,698
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	5,640	50	2	168	42.6	47.7	49.7	42.7	41.0	40.0	4,286	5,640	4,681	4,342	4,634	4,698
	701, 702	RvNBoff5	5,640	50	2	198										4,342	4,633	4,698
	702, 703	RvNBoff6	5,640	50	3	130										4,342	4,632	4,698
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,440	50	1	336	23.1	25.2	25.0	47.5	47.3	47.2	1,094	1,440	1,195	1,100	1,192	1,178
	704, 705	RvNBoff8	1,440	50	1	200										1,100	1,192	1,178
	705, 706	RvNBoff9	1,440	50	1	223										1,099	1,193	1,179
	706, 707	RvNBoff10	1,440	50	1	262										1,099	1,193	1,179
	707, 547	RvNBoff11	1,440	50	1	264										1,099	1,192	1,180
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,560	50	2	248	21.7	23.0	23.6	48.7	48.6	48.6	1,946	2,560	2,125	2,113	2,235	2,293
	715, 716	RvNBoff21	2,560	50	2	642										2,114	2,232	2,293
	716, 569	RvNBoff22	2,560	50	2	670										2,113	2,232	2,292
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	135	50	1	296	2.0	2.6	2.1	52.6	52.2	52.7	103	135	112	106	137	108
	758, 7016	RvNBon4	135	50	1	127										106	137	108
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,880	50	2	97	16.5	20.5	18.1	46.1	45.6	45.9	1,429	1,880	1,560	1,398	1,718	1,526
	757, 317	RvNBon10	1,880	50	2	123										1,398	1,716	1,527
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,250	50	2	223	10.1	13.6	11.1	51.0	50.2	50.9	950	1,250	1,038	1,028	1,361	1,130
	770, 7032	RvSBoff2	1,250	50	2	150										1,028	1,361	1,130
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,170	50	3	102	9.2	12.0	10.0	46.8	46.3	46.7	889	1,170	971	915	1,182	993
	793, 410	RvSBon5	1,170	50	3	655										915	1,181	994
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	700	50	2	270	5.5	7.1	6.0	49.4	49.4	49.4	532	700	581	542	703	591
	790, 7011	RvSBon11	700	50	2	250										542	703	591

2040 Master AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	4,200	50	2	311	27.8	29.7	30.5	47.1	46.8	46.7	3,192	4,200	3,486	3,244	3,439	3,520
	708, 710	118NBoff2	4,200	50	2	567										3,243	3,437	3,521
	710, 711	118NBoff3	4,200	50	2	460										3,245	3,434	3,521
	711, 712	118NBoff4	4,200	50	3	472										3,246	3,433	3,521
	712, 713	118NBoff5	4,200	50	3	395										3,246	3,434	3,519
	713, 714	118NBoff6	4,200	50	3	188										3,246	3,433	3,519
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,640	50	2	212	11.6	12.3	12.6	48.7	48.6	48.6	1,246	1,640	1,361	1,133	1,198	1,226
	717, 718	118NBoff8	1,640	50	2	389										1,134	1,198	1,225
	718, 719	118NBoff9	1,640	50	2	373										1,133	1,198	1,226
	719, 720	118NBoff10	1,640	50	2	589										1,133	1,199	1,224
	720, 721	118NBoff11	1,640	50	2	311										1,133	1,198	1,225
	721, 722	118NBoff12	1,640	50	2	327										1,133	1,198	1,225
	722, 723	118NBoff13	1,640	50	2	626										1,133	1,198	1,225
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,240	60	4	1,252	13.9	16.9	15.2	56.7	56.4	56.6	3,222	4,240	3,519	3,159	3,813	3,454
	724, 725	118NBoff15	4,240	60	4	575										3,160	3,811	3,456
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,060	60	2	611	20.6	27.5	22.7	56.9	56.0	56.6	2,326	3,060	2,540	2,325	3,056	2,547
	740, 741	118NBon3	3,060	60	2	1,571										2,326	3,052	2,550
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,460	50	1	268	23.8	31.2	26.0	47.1	46.5	46.9	1,110	1,460	1,212	1,117	1,453	1,215
	748, 749	118NBon5	1,460	50	1	541										1,118	1,452	1,215
	749, 750	118NBon6	1,460	50	1	715										1,118	1,451	1,216
	750, 751	118NBon7	1,460	50	1	245										1,119	1,449	1,216
	751, 752	118NBon8	1,460	50	1	252										1,119	1,449	1,216
	752, 753	118NBon9	1,460	50	1	352										1,118	1,449	1,217
	753, 754	118NBon10	1,460	50	1	264										1,118	1,448	1,218
	754, 755	118NBon11	1,460	50	1	415										1,119	1,446	1,219
	755, 7009	118NBon12	1,460	50	1	733										1,121	1,446	1,218
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	850	50	1	147	15.3	20.4	16.6	46.5	46.2	46.6	646	850	706	701	926	759
	775, 776	118SBoff3	850	50	1	934										701	926	759
	776, 777	118SBoff4	850	50	1	371										700	926	759
	777, 778	118SBoff5	850	50	1	446										700	925	759
	778, 6020	118SBoff6	850	50	1	340										701	924	759
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,600	50	2	990	20.2	26.5	22.3	50.1	49.5	49.9	1,976	2,600	2,158	2,024	2,622	2,225
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,600	50	1	197	25.8	34.8	28.8	46.8	45.9	46.5	1,216	1,600	1,328	1,208	1,599	1,335
	742, 743	118SBon2	1,600	50	1	119										1,208	1,599	1,335
	743, 744	118SBon3	1,600	50	1	126										1,208	1,598	1,336
	744, 745	118SBon4	1,600	50	1	162										1,209	1,598	1,336
	745, 746	118SBon5	1,600	50	1	200										1,209	1,597	1,337
	746, 747	118SBon6	1,600	50	1	166										1,210	1,596	1,338
	747, 413	118SBon7	1,600	50	1	973										1,209	1,596	1,339
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	14.0	18.5	15.3	57.6	57.2	57.5	2,394	3,150	2,615	2,398	3,149	2,618
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	2,050	50	2	647	16.4	21.8	18.0	48.6	48.0	48.4	1,558	2,050	1,702	1,588	2,092	1,739
	811, 812	UlmNBon4	2,050	50	2	590										1,587	2,092	1,738
	812, 813	UlmNBon5	2,050	50	2	323										1,587	2,092	1,737
	813, 814	UlmNBon6	2,050	50	2	328										1,586	2,092	1,737
	814, 815	UlmNBon7	2,050	50	2	288										1,587	2,090	1,739
	815, 816	UlmNBon8	2,050	50	2	273										1,588	2,088	1,740
	816, 322	UlmNBon9	2,050	50	2	881										1,589	2,086	1,743
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	3,300	50	2	316	25.9	34.0	28.7	47.7	47.0	47.4	2,508	3,300	2,739	2,473	3,187	2,722
	830, 831	UlmSBoff2	3,300	50	2	346										2,473	3,185	2,723
	831, 7036	UlmSBoff3	3,300	50	2	283										2,475	3,184	2,723
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,670	50	2	398	18.1	23.5	20.0	56.0	55.4	55.8	2,029	2,670	2,216	2,006	2,579	2,211
	834, 835	UlmSBoff8	2,670	60	2	584										2,010	2,575	2,212
	835, 836	UlmSBoff9	2,670	60	2	481										2,010	2,574	2,212
	836, 837	UlmSBoff10	2,670	60	2	2,160										2,012	2,566	2,216

2040 Master AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,100	35	1	493	18.1	24.3	19.9	45.7	44.6	45.2	836	1,100	913	810	1,057	878
	802, 803	UlmSBon2	1,100	35	1	214										809	1,057	878
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	770	35	1	163	14.2	19.0	15.6	41.7	41.4	41.6	585	770	639	583	773	638
	808, 809	UlmSBon4	770	35	1	163										583	773	638
	809, 810	UlmSBon5	770	35	1	228										583	773	638
	810, 402	UlmSBon6	770	50	1	1,170										583	772	639
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	330	35	1	201	5.3	6.6	5.6	43.8	43.7	43.7	251	330	274	227	283	241
	804, 805	UlmSBMLK2	330	50	1	361										226	283	241
	805, 806	UlmSBMLK3	330	50	1	499										227	283	241
SB MLK	806, 807	UlmSBMLK4	960	50	2	1,171	7.1	9.0	7.8	49.0	48.8	48.9	730	960	797	697	880	760
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	620	50	1	1,080	9.6	12.7	10.6	49.3	49.2	49.2	471	620	515	471	619	518
	851, 852	MLKNBon3	620	50	1	350										471	619	517
	852, 853	MLKNBon4	620	50	1	360										471	619	517
	853, 321	MLKNBon5	620	50	1	548										472	618	517
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	630	50	1	294	9.8	12.6	10.8	48.5	48.2	48.3	479	630	523	472	599	516
	839, 840	MLKSBoff4	630	50	1	336										472	599	516
	840, 841	MLKSBoff5	630	50	1	395										472	598	517
	841, 806	MLKSBoff6	630	50	1	539										471	599	517
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,260	60	2	1,270	10.9	14.5	12.0	58.2	57.6	58.0	958	1,260	1,046	958	1,259	1,052
	901, 902	4thNBon3	1,260	60	2	634										958	1,259	1,050
	902, 903	4thNBon4	1,260	60	2	322										958	1,258	1,050
	903, 904	4thNBon5	1,260	60	2	279										957	1,258	1,050
	904, 905	4thNBon6	1,260	60	2	388										958	1,258	1,049
	905, 906	4thNBon7	1,260	60	1	313										958	1,257	1,049
	906, 907	4thNBon8	1,260	60	1	299										958	1,257	1,049
	907, 324	4thNBon9	1,260	60	1	667										958	1,257	1,048
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	700	60	1	465	7.5	10.3	8.7	58.4	58.0	58.3	532	700	581	553	752	637
	920, 921	4thSBoff2	700	60	1	492										552	752	637
	921, 922	4thSBoff3	700	60	1	420										552	752	638
	922, 923	4thSBoff4	700	60	1	393										552	752	638
	923, 924	4thSBoff5	700	60	1	384										552	752	638
	924, 925	4thSBoff6	700	60	1	354										552	752	638
	925, 926	4thSBoff7	700	60	1	501										552	753	637
	926, 927	4thSBoff8	700	60	1	416										551	752	638
	927, 928	4thSBoff9	700	60	2	1,153										551	753	637
	928, 929	4thSBoff10	700	60	2	1,242										551	752	637
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,190	70	1	1,116	13.6	18.0	15.0	66.7	66.1	66.5	904	1,190	988	903	1,190	989
	5000, 5001	SULNB2	1,190	70	1	2,205										903	1,188	991
	5001, 5002	SULNB3	1,190	70	1	528										904	1,187	992
	5002, 5003	SULNB4	1,190	70	1	346										903	1,187	992
	5003, 5004	SULNB5	1,190	70	1	235										903	1,187	992
	5004, 5005	SULNB6	1,190	70	1	270										903	1,187	993
	5005, 5006	SULNB7	1,190	70	1	238										903	1,186	993
	5006, 5007	SULNB8	1,190	70	1	261										903	1,186	993
	5007, 5008	SULNB9	1,190	70	1	451										904	1,186	994
	5008, 5009	SULNB10	1,190	70	1	242										903	1,185	995
	5009, 5010	SULNB11	1,190	70	1	158										903	1,185	995
	5010, 5011	SULNB12	1,190	70	1	539										902	1,186	995
	5011, 5012	SULNB13	1,190	70	1	564										902	1,185	994
	5012, 5013	SULNB14	1,190	70	1	1,295										905	1,184	993
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,450	70	2	409	14.1	17.0	15.5	66.5	66.0	66.2	1,862	2,450	2,034	1,876	2,251	2,052
	5014, 5015	SULNB16	2,450	70	2	2,441										1,878	2,248	2,055
	5015, 5016	SULNB17	2,450	70	2	2,058										1,881	2,244	2,056
	5016, 5017	SULNB18	2,450	70	2	1,249										1,881	2,243	2,056
	5017, 5018	SULNB19	2,450	70	2	1,432										1,882	2,240	2,058

2040 Master AM Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ramp North of 4th	5018, 5019	SULNB20	2,450	70	2	788										1,884	2,239	2,058
	5019, 5020	SULNB21	2,450	70	2	659										1,881	2,241	2,056
	5020, 5021	SULNB22	2,450	70	2	2,083										1,877	2,239	2,059
	5021, 5022	SULNB23	2,450	70	2	1,364										1,879	2,237	2,059
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,910	70	2	546	16.7	20.2	18.4	65.8	64.9	65.3	2,212	2,910	2,415	2,267	2,715	2,485
	5023, 5024	SULNB25	2,910	70	2	1,030										2,268	2,714	2,484
	5024, 5025	SULNB26	2,910	70	2	820										2,266	2,711	2,486
	5025, 5026	SULNB27	2,910	70	2	2,524										2,263	2,707	2,489
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,260	70	1	266	14.8	16.4	16.2	65.6	65.3	65.1	958	1,260	1,046	969	1,072	1,055
	5100, 5101	SULNBRamp2	1,260	70	1	528										970	1,072	1,055
	5101, 5102	SULNBRamp3	1,260	70	1	379										971	1,072	1,055
	5102, 5103	SULNBRamp4	1,260	70	1	376										971	1,071	1,055
	5103, 5104	SULNBRamp5	1,260	70	1	363										971	1,071	1,054
	5104, 5105	SULNBRamp6	1,260	70	1	352										972	1,071	1,054
	5105, 5106	SULNBRamp7	1,260	70	1	831										971	1,071	1,055
	5106, 5107	SULNBRamp8	1,260	70	1	1,172										970	1,070	1,055
	5107, 5108	SULNBRamp9	1,260	70	1	656										971	1,069	1,056
	5108, 5109	SULNBRamp10	1,260	70	1	803										972	1,069	1,056
	5109, 5110	SULNBRamp11	1,260	70	1	897										973	1,068	1,057
	5110, 5111	SULNBRamp12	1,260	70	1	513										972	1,069	1,057
	5111, 5013	SULNBRamp13	1,260	70	1	738										972	1,068	1,058
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	460	70	1	513	5.7	7.0	6.3	68.1	67.9	68.0	350	460	382	389	478	427
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,480	70	2	922	11.2	15.1	12.4	67.4	66.0	66.7	1,885	2,480	2,058	1,886	2,476	2,064
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,190	70	2	1,601	12.8	17.1	14.2	67.0	65.8	66.5	1,664	2,190	1,818	1,655	2,170	1,810
	5997, 5998	SULSB1	2,190	70	2	826										1,655	2,171	1,809
	5998, 5999	SULSB1	2,190	70	2	1,034										1,657	2,170	1,809
	5999, 6000	SULSB1	2,190	70	2	1,921										1,657	2,165	1,811
	6000, 6001	SULSB2	2,190	70	2	2,057										1,657	2,162	1,812
	6001, 6002	SULSB3	2,190	70	2	547										1,656	2,162	1,813
	6002, 6003	SULSB4	2,190	70	2	424										1,656	2,162	1,813
	6003, 6004	SULSB5	2,190	70	2	1,865										1,656	2,162	1,814
	6004, 6005	SULSB6	2,190	70	2	1,086										1,657	2,160	1,815
	6005, 6006	SULSB7	2,190	70	2	4,087										1,663	2,152	1,822
	6006, 6007	SULSB8	2,190	70	2	1,179										1,663	2,150	1,823
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,750	70	1	1,199	20.6	27.0	22.9	64.3	63.0	63.7	1,330	1,750	1,453	1,323	1,706	1,459
	6008, 6009	SULSB10	1,750	70	1	614										1,322	1,706	1,460
	6009, 6010	SULSB11	1,750	70	1	382										1,322	1,705	1,461
	6010, 6011	SULSB12	1,750	70	1	135										1,322	1,705	1,461
	6011, 6012	SULSB13	1,750	70	1	204										1,322	1,705	1,461
	6012, 6013	SULSB14	1,750	70	1	613										1,323	1,703	1,462
	6013, 6014	SULSB15	1,750	70	1	251										1,323	1,703	1,461
	6014, 6015	SULSB16	1,750	70	1	233										1,324	1,702	1,462
	6015, 6016	SULSB17	1,750	70	1	274										1,324	1,702	1,462
	6016, 6017	SULSB18	1,750	70	1	238										1,324	1,701	1,462
	6017, 6018	SULSB19	1,750	70	1	314										1,325	1,701	1,461
	6018, 6019	SULSB20	1,750	70	1	879										1,325	1,699	1,463
	6019, 6020	SULSB21	1,750	70	1	207										1,325	1,698	1,463
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	1,013	5.1	6.7	5.5	66.6	66.0	66.6	334	440	365	339	444	364
	6100, 6101	SULSBRamp2	440	70	1	621										340	443	364
	6101, 6102	SULSBRamp3	440	70	1	317										340	443	364
	6102, 6103	SULSBRamp4	440	70	1	915										339	443	365
	6103, 6104	SULSBRamp5	440	70	1	1,093										340	442	365
	6104, 6105	SULSBRamp6	440	70	1	1,068										341	442	365
	6105, 6106	SULSBRamp7	440	70	1	788										341	442	364

2040 Master AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
	6106, 6107	SULSBRamp8	440	70	1	367										340	443	364
	6107, 6108	SULSBRamp9	440	70	1	373										340	443	364
	6108, 6109	SULSBRamp10	440	70	1	445										340	442	364
	6109, 6110	SULSBRamp11	440	70	1	8,866										341	437	369
	6110, 420	SULSBRamp12	440	70	1	292										341	437	368
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	290	70	1	167	3.5	4.6	3.9	66.7	65.6	66.4	220	290	241	232	304	256

2040 Master PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	7,470	70	4	1,087	25.1	26.5	25.1	23.8	28.3	30.1	28.3	27.1	23.1	24.3	23.1	21.9	23.1	24.4	23.3	21.9	26.2	27.7	26.3	25.0	21.4	22.3	21.3	20.1
	299, 300	I275NB2	7,470	70	4	805	24.5	25.9	24.6	23.3	27.7	29.3	27.8	26.5	22.7	23.8	22.6	21.4												
	300, 301	I275NB3	7,470	70	4	478	24.9	26.3	25.0	23.6	28.2	29.9	28.3	27.0	23.0	24.0	23.0	21.7												
	301, 302	I275NB4	7,470	70	4	2,687	21.8	23.0	22.0	20.7	24.7	26.2	25.0	23.7	20.3	21.0	20.2	19.0												
	302, 303	I275NB5	7,470	70	5	382	21.3	22.4	21.6	19.9	24.2	25.8	24.5	23.0	19.7	20.2	19.6	18.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	5,030	70	4	1,375	16.7	17.5	16.8	15.7	18.6	19.9	19.0	18.0	15.6	16.1	15.4	14.6	16.6	17.3	16.7	15.7	18.5	19.8	18.9	17.9	15.6	16.0	15.3	14.5
	304, 305	I275NB7	5,030	70	4	1,306	16.5	17.2	16.7	15.6	18.4	19.6	18.8	17.8	15.5	15.9	15.2	14.5												
	305, 306	I275NB8	5,030	70	4	591	16.6	17.3	16.7	15.7	18.4	19.7	18.8	17.8	15.6	16.0	15.3	14.5												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	6,230	70	6	764	14.2	14.9	14.2	13.4	15.7	16.7	16.2	15.3	13.3	13.6	13.1	12.5	15.9	16.8	16.0	15.1	17.6	18.9	18.2	17.2	15.0	15.3	14.7	14.1
	307, 308	I275NB10	6,230	70	6	3,335	16.2	17.1	16.3	15.4	18.0	19.2	18.6	17.6	15.3	15.6	15.0	14.4												
	308, 309	I275NB11	6,230	70	5	350	16.6	17.6	16.7	15.9	18.5	19.9	19.1	18.1	15.7	16.0	15.4	14.7												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	5,190	70	4	745	17.4	18.4	17.5	16.7	19.2	20.9	20.1	19.1	16.4	16.7	16.1	15.2	17.7	18.8	17.7	17.0	19.5	21.4	20.5	19.5	16.7	17.0	16.4	15.5
	310, 311	I275NB13	5,190	70	4	380	17.5	18.6	17.6	16.8	19.3	21.1	20.3	19.3	16.5	16.8	16.2	15.3												
	311, 312	I275NB14	5,190	70	4	399	17.6	18.7	17.6	16.9	19.4	21.2	20.4	19.4	16.6	16.9	16.3	15.4												
	312, 313	I275NB15	5,190	70	4	368	17.6	18.7	17.5	16.9	19.4	21.3	20.4	19.4	16.6	16.9	16.2	15.4												
	313, 314	I275NB16	5,190	70	4	460	18.5	19.8	18.5	17.9	20.5	22.7	21.6	20.6	17.6	17.8	17.2	16.2												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,190	70	3	879	9.0	9.6	9.4	8.9	9.9	10.8	10.3	9.8	8.7	8.9	8.5	8.1	9.0	9.6	9.3	8.8	9.8	10.6	10.2	9.7	8.6	8.8	8.4	8.1
	315, 316	I275NB18	2,190	70	3	1,293	8.9	9.5	9.3	8.8	9.7	10.6	10.2	9.7	8.6	8.8	8.4	8.1												
	316, 317	I275NB19	2,190	70	3	1,158	8.9	9.5	9.3	8.8	9.7	10.5	10.2	9.7	8.6	8.8	8.4	8.1												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,870	70	5	372	11.1	11.5	11.1	10.8	12.1	13.2	12.7	11.8	10.6	10.9	10.4	10.2	12.0	12.4	12.1	11.8	12.9	14.2	13.7	12.8	11.5	11.8	11.2	10.9
	318, 319	I275NB21	3,870	70	5	2,609	12.0	12.4	12.1	11.8	13.0	14.3	13.8	12.9	11.5	11.8	11.3	11.0												
	319, 320	I275NB22	3,870	70	4	1,810	12.1	12.5	12.2	11.9	13.0	14.3	13.9	12.9	11.6	11.9	11.3	11.0												
	320, 321	I275NB23	3,870	70	4	495	12.1	12.5	12.3	11.9	12.9	14.2	13.9	12.9	11.7	11.8	11.4	11.0												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,360	70	4	1,808	13.0	13.6	13.3	12.7	14.0	15.4	15.1	13.9	12.6	12.7	12.2	11.9	13.0	13.6	13.3	12.7	14.0	15.4	15.1	13.9	12.6	12.7	12.2	11.9
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,220	70	5	1,261	15.3	16.3	15.8	15.0	17.2	18.7	18.2	16.7	14.7	15.1	14.4	13.7	15.7	16.6	16.1	15.3	17.4	19.0	18.5	17.1	15.0	15.4	14.8	14.1
	323, 324	I275NB26	6,220	70	5	1,405	16.0	16.9	16.5	15.6	17.6	19.3	18.7	17.4	15.3	15.7	15.1	14.4												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,100	70	5	839	17.0	18.2	17.5	16.4	19.0	21.2	20.6	18.7	16.3	16.7	16.0	15.1	18.3	19.3	18.7	17.7	20.0	22.1	21.6	19.9	17.5	17.9	17.3	16.3
	325, 326	I275NB28	7,100	70	5	664	18.9	19.9	19.3	18.2	20.8	23.0	22.4	20.6	18.0	18.5	17.8	16.7												
	326, 327	I275NB29	7,100	70	5	2,007	18.5	19.4	19.0	17.9	20.1	22.1	21.7	20.1	17.7	18.1	17.5	16.5												
	327, 328	I275NB30	7,100	70	5	868	18.6	19.5	19.1	18.0	20.2	22.2	21.9	20.2	17.9	18.1	17.6	16.6												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	6,710	70	4	1,068	21.8	22.9	22.4	21.2	23.7	26.0	25.6	23.7	20.9	21.3	20.6	19.4	21.8	22.8	22.5	21.3	23.6	25.9	25.6	23.7	21.0	21.3	20.6	19.5
	329, 330	I275NB32	6,710	70	4	1,023	21.7	22.8	22.4	21.2	23.6	25.8	25.5	23.7	21.0	21.3	20.6	19.4												
	330, 331	I275NB33	6,710	70	4	824	21.7	22.9	22.5	21.2	23.6	25.9	25.6	23.7	21.1	21.3	20.6	19.5												
	331, 332	I275NB34	6,710	70	4	2,521	21.8	22.8	22.5	21.3	23.5	25.9	25.7	23.8	21.1	21.3	20.7	19.6												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	8,160	70	4	1,081	29.2	34.2	30.4	26.3	52.5	78.4	76.5	54.1	26.9	27.0	25.4	24.0	29.2	34.2	30.4	26.3	52.5	78.4	76.5	54.1	26.9	27.0	25.4	24.0
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	8,520	70	5	1,446	43.2	51.3	46.8	35.9	56.1	65.5	66.0	60.3	36.3	35.4	29.8	23.0	34.1	36.6	35.4	31.8	38.8	43.3	43.7	40.3	31.9	31.7	29.7	26.5
	395, 396	I275SB1	8,520	70	5	816	41.0	40.4	40.7	40.8	42.0	44.3	43.5	41.5	40.7	41.7	38.7	33.0												
	396, 397	I275SB1	8,520	70	4	1,045	31.5	32.8	32.1	30.4	34.3	37.0	36.9	34.9	30.3	30.4	29.3	27.1												
	397, 398	I275SB1	8,520	70	4	1,908	29.1	30.4	29.8	28.1	31.6	34.1	34.3	32.4	28.0	28.0	27.1	25.6												
	398, 399	I275SB1	8,520	70	4	2,118	31.0	32.7	32.2	29.6	34.5	39.1	40.5	36.2	29.8	29.4	28.7	26.8												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	7,080	70	4	2,746	22.1	23.2	22.7	21.4	23.9	25.9	26.2	25.0	21.5	21.4	21.0	19.8	21.6	22.6	22.2	20.9	23.4	25.3	25.6	24.4	21.1	20.9	20.5	19.4
	400, 401	I275SB3	7,080	70	5	1,080	20.3	21.2	20.8	19.7	22.1	23.8	24.1	22.9	19.9	19.6	19.4	18.2												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,900	70	4	4,105	16.2	17.3	16.8	15.9	17.5	18.8	19.2	18.4	16.0	15.6	15.6	14.6	16.2	17.3	16.8	15.9	17.5	18.8	19.2	18.4	16.0	15.6	15.6	14.6
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,870	70	5	720	16.6	17.5	17.1	16.3	18.1	19.2	19.5	18.8	16.2	15.9	15.9	15.0	19.8	20.9	20.3	19.3	21.5	23.3	24.3	23.5	19.8	18.7	18.7	17.7
	403, 404	I275SB6	5,870	70	5	1,327	20.5	21.6	21.0	20.0	22.4	24.1	24.7	23.6	20.1	19.4	19.5	18.3												
	404, 405	I275SB7	5,870	70	4	461	20.8	21.9	21.4	20.3	22.6	24.6	26.8	26.0	21.5	19.6	19.6	18.5												
	405, 406	I275SB8	5,870	70	4	452	21.7	23.0	22.4	21.1	23.2	26.0	28.7	27.9	22.7	20.4	20.3	19.4												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,580	70	3	855	15.4	16.4	15.7	15.3	16.5	17.8	18.5	17.7	15.5	14.8	14.6	13.9	15.2	16.0	15.4	15.1	16.1	17.3	17.9	17.2	15.2	14.6	14.5	13.7
	407, 408	I275SB10	3,580	70	3	347	15.1	16.0	15.3	15.0	16.1	17.2	17.8	17.1	15.1	14.5	14.4	13.6												
	408, 409	I275SB11	3,580	70	3	1,585	15.0	15.9	15.3	15.0	16.0	17.1	17.7	17.0	15.1	14.5	14.4	13.6												
	409, 410	I275SB12	3,580	70	3	458	15.1	15.9	15.3	15.1	16.0	17.2	17.8	17.0	15.2	14.5	14.6	13.6												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	6,000	70	5	629	16.9	17.9	17.2	16.7	18.3	19.0	19.2	18.4	16.8	16.5	16.2	15.6	18.1	19.4	18.5	17.9	20.0	20.8	21.3	20.0	18.0	17.7	17.4	16.7
	411, 412	I275SB14	6,000	70	5	247	16.8	18.1	17.2	16.6	18.4	19.2	19.2	18.5	16.8	16.4	16.2	15.5												
	412, 413	I275SB15	6,000	70	4	608	19.9	21.5	20.4	19.7	22.3	23.4	24.2	22.4	19.7	19.4	19.1	18.3												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	7,990	70	5	492	30.5	36.7	31.1	28.0	41.0	49.0	51.8	42.4	25.9	27.1	25.6	23.6	31.1	36.4	33.6	30.4	37.5	48.5	56.0	49.3	31.7	29.2	28.0	26.5
	414, 415	I275SB17	7,990	70	5	3,870	30.4	35.0	32.6	29.7	36.2	48.5	58.3	50.6	31.5	28.7	27.7	26.4												
	415, 416	I275SB18	7,990	70	4	1,086	33.9	41.6	38.2	34.1	40.2	48.1	49.8	47.7	35.0	31.9	30.3	28.1												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	6,340	70	3	1,385	27.9	29.7	29.0	28.1	29.3	32.7	33.9	33.2	28.7	26.7	26.1	25.2	27.6	29.3	28.7	27.8	28.9	32.2	33.4	32.7	28.4	26.5	25.9	25.1
	417, 418	I275SB20	6,340	70	3	343	26.5	27.8	27.4	26.6	27.5	30.3	31.3	30.8	27.3	25.5	25.0	24.4												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	7,590	70	4	1,507	23.8	24.8	24.6	23.7	24.9	27.2	27.6	27.1	24.2	22.9	22.4	21.8	23.8	24.8	24.6	23.7	24.9	27.2	27.6	27.1	24.2	22.9	22.4	21.8
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	8,710	70	5	1,015	21.8	22.8	22.6	21.7	23.1	25.0	25.4	24.7	22.1	21.0	20.5	20.0	21.8	22.8	22.6	21.7	23.1	25.0	25.4	24.7	22.1	21.0	20.5	20.0
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	9,480	70	6	2,282	23.2	24.1	24.2	23.0	24.6	26.6	27.1	26.2	23.6	22.4	22.0	21.3	23.1	24.0	24.1	23.1	24.5	26.5	27.0	26.1	23.6	22.4	22.0	21.4
	421, 422	I275SB24	9,480	70	5	430	23.1	24.0	24.1	23.0	24.4	26.5	26.8	26.1	23.6	22.3	22.0	21.4												
	422, 423	I275SB25	9,480	70	5	403	23.1	24.0	24.1	23.1	24.3	26.5	26.8	26.1	23.7	22.3	22.0	21.4												
	423, 424	I275SB26	9,480	70	5	426	23.1	24.0	24.1	23.1	24.3	26.5	26.8	26.1	23.7	22.3	22.0	21.5												
	424, 425	I275SB27	9,480	70	5	412	23.1	24.0	24.1	23.2	24.3	26.5	26.9	26.1	23.7	22.3	22.0	21.5												
	425, 426	I275SB28	9,480	70	5	734	23.1	23.9	24.1	23.1	24.2	26.4	26.9	26.1	23.6	22.3	21.9	21.5												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,460	50	3	841	21.5	22.7	21.5	20.5	24.3	25.9	24.3	23.0	19.8	20.8	19.7	18.8	18.0	19.3	18.0	17.2	21.0	23.0	21.6	19.6	16.6	17.3	16.4	15.7
	500, 501	GandyEB3	3,460	50	4	954	15.5	16.6	15.6	14.8	18.1	19.9	19.0	16.9	14.4	14.9	14.2	13.5												
	501, 502	GandyEB4	3,460	50	5	174	14.8	18.1	15.1	14.0	21.4	26.7	22.9	18.9	13.1	13.6	12.7	12.2												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,140	50	3	178	7.7	8.0	7.9	7.2	9.0	9.6	8.9	8.5	7.2	7.4	7.0	6.3	7.7	8.0	7.9	7.2	9.0	9.6	8.9	8.5	7.2	7.4	7.0	6.3
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,140	50	3	99	8.9	9.4	9.2	8.5	10.3	11.0	10.2	9.8	8.5	8.8	8.3	7.5	8.1	8.5	8.3	7.7	9.3	10.0	9.2	8.9	7.7	8.0	7.5	6.8
	505, 506	GandyEB10	1,140	50	3	119	7.4	7.8	7.6	7.1	8.5	9.1	8.4	8.2	7.0	7.3	6.8	6.2												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	4,915	50	3	1,167	16.3	17.1	16.8	15.6	18.8	19.7	19.0	18.0	15.5	16.0	15.3	14.1	16.3	17.1	16.8	15.6	18.8	19.7	19.0	18.0	15.5	16.0	15.3	14.1
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,275	55	3	181	20.4	21.7	20.7	19.4	23.2	24.4	23.3	22.0	19.0	19.8	18.8	17.7	16.3	17.2	16.5	15.5	18.5	19.5	18.6	17.5	15.2	15.8	15.0	14.1
	520, 521	GandyWB5	3,275	55	3	291	16.9	17.9	17.1	16.1	19.1	20.1	19.3	18.2	15.8	16.4	15.7	14.8												
	521, 522	GandyWB6	3,275	55	4	590	14.7	15.5	14.9	14.1	16.8	17.7	16.8	15.8	13.7	14.2	13.5	12.7												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,025	55	3	1,768	12.7	13.5	12.9	12.2	14.3	15.1	14.5	13.7	11.8	12.5	11.9	11.2	12.7	13.5	12.9	12.2	14.3	15.1	14.5	13.7	11.8	12.5	11.9	11.2

2040 Master PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,615	55	5	1,179	17.1	18.2	17.7	16.7	18.7	19.9	19.6	18.8	16.5	16.7	16.4	15.4	17.1	18.2	17.7	16.7	18.6	19.9	19.6	18.8	16.5	16.7	16.3	15.4
	524, 525	GandyWB9	4,615	55	5	455	17.0	18.1	17.6	16.6	18.5	19.8	19.5	18.7	16.5	16.6	16.3	15.3												
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,440	50	2	269	21.5	22.8	22.0	20.5	24.6	25.8	25.0	23.4	20.0	20.6	20.1	18.7	21.9	23.2	22.4	21.0	25.0	26.1	25.4	23.8	20.4	21.0	20.5	19.1
	600, 7001	GdyNBoff2	2,440	50	2	167	22.5	23.8	23.1	21.6	25.6	26.6	26.1	24.5	21.0	21.7	21.2	19.8												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,500	50	1	263	32.0	33.3	32.4	30.1	37.3	37.7	37.9	34.4	30.2	30.3	29.9	28.1	29.6	30.8	30.3	28.1	34.2	34.8	34.9	32.1	28.1	28.3	27.9	26.3
	3, 4	GdyNBoff6	1,500	50	1	359	28.5	29.9	29.3	27.1	33.1	33.6	33.7	31.0	27.2	27.3	27.0	25.4												
	4, 5	GdyNBoff7	1,500	50	1	464	28.9	30.1	29.8	27.5	33.3	33.9	33.9	31.5	27.4	27.8	27.4	25.7												
	5, 506	GdyNBoff8	1,500	50	1	241	29.8	31.0	30.7	28.4	34.4	35.3	35.1	32.6	28.2	28.7	28.2	26.5												
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	940	50	1	267	21.5	23.3	22.3	20.8	23.9	25.4	24.8	23.5	20.1	21.1	19.8	18.9	18.5	19.7	19.1	17.7	20.3	21.5	21.1	20.0	17.1	17.9	16.8	16.1
	2, 8	GdyNBoff11	940	50	1	341	17.9	19.3	18.5	17.2	19.8	21.0	20.6	19.5	16.7	17.4	16.4	15.7												
	8, 9	GdyNBoff12	940	50	1	483	17.9	19.1	18.5	17.1	19.7	20.9	20.5	19.4	16.6	17.3	16.3	15.6												
	9, 10	GdyNBoff13	940	50	1	492	18.1	19.1	18.7	17.2	19.9	21.0	20.7	19.5	16.7	17.5	16.4	15.7												
	10, 11	GdyNBoff14	940	50	1	389	18.2	19.1	18.7	17.3	20.0	21.0	20.7	19.5	16.8	17.6	16.5	15.8												
	11, 7022	GdyNBoff15	940	50	1	196	18.3	19.2	18.8	17.3	20.1	21.1	20.8	19.6	16.9	17.7	16.6	15.9												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,320	50	2	179	30.1	38.1	31.3	28.0	45.3	55.1	48.2	40.0	25.4	26.3	24.9	24.3	30.1	38.1	31.3	28.0	45.3	55.1	48.2	40.0	25.4	26.3	24.9	24.3
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,200	50	2	501	11.8	12.7	11.5	10.9	12.9	13.6	13.3	12.7	10.8	11.2	10.7	10.6	11.0	11.9	10.8	10.3	12.0	12.7	12.5	11.9	10.1	10.6	10.1	9.9
	623, 624	GdyNBon6	1,200	50	2	299	10.9	11.8	10.6	10.2	11.9	12.6	12.4	11.7	10.0	10.5	10.0	9.8												
	624, 625	GdyNBon7	1,200	50	2	253	10.9	11.8	10.6	10.2	11.9	12.6	12.3	11.8	10.0	10.5	9.9	9.8												
	625, 626	GdyNBon8	1,200	50	2	238	10.9	11.8	10.7	10.2	11.9	12.5	12.3	11.8	10.0	10.5	9.9	9.8												
	626, 627	GdyNBon9	1,200	50	2	242	10.9	11.8	10.6	10.2	11.9	12.5	12.4	11.8	9.9	10.5	10.0	9.8												
	627, 628	GdyNBon10	1,200	50	2	277	10.9	11.8	10.6	10.2	11.9	12.5	12.4	11.7	10.0	10.5	10.0	9.8												
	628, 629	GdyNBon11	1,200	50	2	337	10.9	11.8	10.6	10.2	11.9	12.5	12.3	11.8	9.9	10.4	10.0	9.8												
	629, 630	GdyNBon12	1,200	50	2	877	10.8	11.8	10.7	10.2	11.8	12.5	12.4	11.8	10.0	10.4	10.0	9.8												
	630, 306	GdyNBon13	1,200	50	2	344	10.8	11.8	10.7	10.3	11.8	12.5	12.4	11.8	10.0	10.4	10.0	9.8												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,650	50	2	481	17.0	18.5	17.9	16.7	18.3	19.0	19.6	19.2	17.1	16.5	16.7	15.5	16.8	18.3	17.7	16.6	18.0	18.7	19.3	18.9	17.0	16.4	16.6	15.4
	660, 661	GdySBoff2	1,650	50	2	394	16.7	18.0	17.6	16.4	17.8	18.5	19.1	18.7	16.9	16.3	16.5	15.4												
	661, 7020	GdySBoff3	1,650	50	2	336	16.7	18.1	17.6	16.5	17.9	18.6	19.1	18.8	17.0	16.4	16.6	15.4												
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,590	50	2	714	27.4	29.7	28.7	27.0	29.6	31.2	31.6	30.5	27.2	26.6	26.4	24.8	26.9	29.1	28.2	26.5	29.0	30.6	31.0	29.9	26.7	26.2	26.0	24.4
	662, 523	GdySBoff7	2,590	50	2	424	26.1	28.1	27.3	25.8	27.9	29.6	29.9	29.0	25.9	25.4	25.3	23.6												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,120	50	1	286	21.4	22.0	22.1	21.0	24.1	25.1	25.1	23.3	20.9	20.7	20.5	19.5	19.8	20.3	20.5	19.4	22.2	23.1	23.1	21.6	19.2	19.1	18.8	18.0
	621, 622	GdySBon3	1,120	50	1	204	19.0	19.5	19.6	18.6	21.3	22.2	22.1	20.7	18.4	18.3	18.1	17.2												
	622, 419	GdySBon4	1,120	50	1	319	18.9	19.3	19.6	18.5	21.0	22.0	21.9	20.5	18.2	18.2	17.9	17.1												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,250	35	1	302	25.5	26.3	25.9	24.0	28.6	30.3	28.9	26.8	23.7	24.3	22.7	21.6	25.8	26.5	26.3	24.4	28.7	30.6	29.1	27.0	24.1	24.5	23.1	22.0
	640, 641	GdySBonLoop2	1,250	35	1	259	25.6	26.5	26.1	24.2	28.5	30.3	28.9	26.8	23.9	24.5	22.9	21.9												
	641, 642	GdySBonLoop3	1,250	35	1	227	25.7	26.6	26.2	24.3	28.6	30.4	29.0	26.8	24.1	24.5	23.0	22.0												
	642, 643	GdySBonLoop4	1,250	35	1	211	25.9	26.6	26.4	24.5	28.7	30.7	29.2	27.0	24.2	24.6	23.2	22.1												
	643, 644	GdySBonLoop5	1,250	35	1	211	26.0	26.6	26.5	24.6	28.7	30.8	29.2	27.2	24.2	24.6	23.4	22.2												
	644, 645	GdySBonLoop6	1,250	35	1	207	26.1	26.5	26.6	24.6	28.8	30.9	29.3	27.3	24.3	24.6	23.5	22.3												
	645, 418	GdySBonLoop7	1,250	35	1	252	26.1	26.6	26.7	24.6	28.8	31.1	29.3	27.3	24.5	24.6	23.5	22.3												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4,145	60	4	1,418	16.6	17.5	16.7	15.8	19.0	20.0	19.1	17.8	15.2	16.1	15.3	14.4	18.9	19.9	19.0	18.0	21.5	23.4	21.8	20.3	17.4	18.3	17.4	16.4
	541, 542	RvEB3	4,145	60	3	1,028	22.1	23.2	22.2	21.0	25.0	28.0	25.5	23.7	20.3	21.3	20.4	19.3												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,240	60	2	513	17.3	17.9	17.2	16.4	19.0	24.5	21.0	18.8	15.8	16.5	16.1	14.8	17.3	17.9	17.2	16.4	19.0	24.5	21.0	18.8	15.8	16.5	16.1	14.8
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2,155	60	2	120	20.5	22.2	23.0	21.7	26.4	31.7	31.4	29.7	22.6	21.2	20.8	18.3	18.5	20.0	20.5	19.4	23.3	27.6	27.4	25.9	20.1	18.9	18.6	16.5
	546, 547	RvEB10	2,155	60	2	165	17.1	18.3	18.6	17.7	21.1	24.7	24.5	23.1	18.3	17.3	17.0	15.2												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,555	60	2	1,053	17.4	18.0	17.8	17.4	19.7	22.4	22.4	21.1	17.5	16.9	16.5	15.1	17.4	18.0	17.8	17.4	19.7	22.4	22.4	21.1	17.5	16.9	16.5	15.1
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,635	60	2	756	20.6	21.7	20.7	19.5	23.5	29.5	29.0	22.7	18.9	20.0	19.0	18.0	19.3	20.3	19.4	18.2	22.2	35.1	36.5	23.4	17.7	18.7	17.7	16.8
	558, 559	RvWB3	2,635	60	2	146	17.8	18.8	17.8	16.9	20.8	45.4	50.2	24.1	16.3	17.4	16.2	15.4												
	559, 560	RvWB4	2,635	60	3	151	13.9	14.6	14.0	13.2	17.4	53.0	61.0	26.2	12.8	13.5	12.7	11.9												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,305	60	2	125	18.0	19.5	19.1	17.7	27.7	108.3	124.5	60.1	17.3	17.9	16.8	15.7	18.0	19.5	19.1	17.7	27.7	108.3	124.5	60.1	17.3	17.9	16.8	15.7
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,875	60	2	133	17.1	18.5	19.4	17.7	20.7	22.7	22.6	22.7	17.9	17.6	16.7	15.7	14.7	15.5	16.2	14.8	17.2	18.9	18.9	18.8	15.0	14.8	14.0	13.3
	567, 568	RvWB14	1,875	60	2	750	14.4	15.2	15.8	14.5	16.8	18.5	18.4	18.4	14.7	14.4	13.7	13.0												
	568, 569	RvWB15	1,875	60	2	281	14.3	15.1	15.6	14.3	16.5	18.2	18.2	18.1	14.5	14.3	13.6	13.0												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,275	60	4	1,137	13.1	13.8	13.5	13.0	14.7	16.1	16.1	15.7	12.9	12.8	12.5	11.6	13.1	13.8	13.5	13.0	14.7	16.1	16.1	15.7	12.9	12.8	12.5	11.6
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,000	50	2	228	27.4	29.0	26.6	26.3	30.0	32.9	31.8	30.6	25.8	26.0	25.3	23.7	27.4	29.0	26.6	26.3	30.0	32.9	31.8	30.6	25.8	26.0	25.3	23.7
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,000	50	2	168	33.3	35.1	32.4	31.9	36.4	39.6	38.7	37.2	31.3	31.7	30.7	28.9	24.2	25.6	23.7	23.2	26.4	28.8	28.1	27.1	22.9	23.1	22.4	21.1
	701, 702	RvNBoff5	3,000	50	2	198	20.0	21.3	19.6	19.2	21.8	23.8	23.3	22.5	19.1	19.1	18.5	17.4												
	702, 703	RvNBoff6	3,000	50	3	130	18.8	20.0	18.5	18.1	20.5	22.3	21.9	21.1	17.9	18.0	17.4	16.5												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	7.8	7.7	7.4	7.5	8.1	8.9	8.4	8.7	7.3	7.5	6.9	6.4	7.8	7.6	7.4	7.4	8.0	8.8	8.3	8.7	7.3	7.5	6.9	6.4
	704, 705	RvNBoff8	400	50	1	200	7.8	7.6	7.4	7.4	8.0	8.8	8.3	8.7	7.3	7.5	6.9	6.4												
	705, 706	RvNBoff9	400	50	1	223	7.8	7.6	7.4	7.4	8.0	8.8	8.3	8.8	7.2	7.4	6.9	6.4												
	706, 707	RvNBoff10	400	50	1	262	7.8	7.6	7.4	7.4	8.0	8.8	8.3	8.7	7.3	7.4	6.9	6.4												
	707, 547	RvNBoff11	400	50	1	264	7.8	7.5	7.4	7.5	8.0	8.9	8.3	8.8	7.3	7.4	6.9	6.4												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,400	50	2	248	13.9	14.7	13.5	13.5	15.2	16.4	16.4	15.6	13.2	13.4	13.1	11.8	13.9	14.6	13.5	13.5	15.2	16.4	16.4	15.6	13.2	13.4	13.1	11.8
	715, 716	RvNBoff21	1,400	50	2	642	13.9	14.6	13.5	13.5	15.2	16.4	16.4	15.6	13.2	13.4	13.1	11.8												
	716, 569	RvNBoff22	1,400	50	2	670	13.9	14.6	13.5	13.5	15.2	16.4	16.5	15.6	13.2	13.4	13.2	11.8												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	330	50	1	296	5.2	5.9	5.6	5.4	6.8	10.0	10.0	7.1	5.2	5.4	4.9	4.8	5.4	6.1	5.7	5.5	6.9	9.8	9.7	7.1	5.3	5.5	5.0	4.9
	758, 7016	RvNBon4	330	50	1	127	5.7	6.4	6.0	5.9	7.2	9.3	9.1	7.2	5.6	5.9	5.3	5.2												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,680	50	2	97	18.9	19.3	18.6	18.5	20.7	22.7	21.6	19.9	17.9	18.5	17.7	17.7	16.9	17.2	16.5	16.5	18.4	20.1	19.3	17.7	16.0	16.5	15.8	15.8
	757, 317	RvNBon10	1,680	50	2	123	15.3	15.5	14.9	14.9	16.6	18.1	17.4	16.0	14.4	14.9	14.3	14.3												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	2,290	50	2	223	21.8	22.6	23.2	21.0	23.6	29.9	37.0	33.1	24.9	20.3	20.7	19.7	22.6	23.4	24.6	21.7	25.4	35.2	43.9	36.7	26.7	20.8	21.4	20.2
	770, 7032	RvSBoff2	2,290	50	2	150	23.9	24.7	26.7	22.9	28.2	43.0	54.1	42.0	29.3	21.5	22.5	20.9												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,420	50	3	102	21.6	23.9	21.7	20.4	25.8	26.9	25.7	23.5	21.3	20.7	19.9	19.8	23.6	25.6	24.0	22.7	27.1	27.6	26.5	25.0	23.0	23.1	22.1	22.1
	793, 410	RvSBon5	2,420	50	3	655	23.9	25.9	24.4	23.1	27.3	27.7	26.7	25.3	23.2	23.5	22.5	22.5												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,905	50	2	270	17.4	18.7	17.8	16.6	20.1	20.8	20.0	18.6	16.4	17.0	16.1	15.7	17.4	18.7	17.8	16.6	20.1	20.7	19.9	18.6	16.3	17.0	16.0	15.6
	790, 7011	RvSBon11	1,905	50	2	250	17.3	18.6	17.7	16.5	20.1	20.6	19.8	18.5	16.3	17.0	16.0	15.6												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,600	50	2	311	24.1	25.7	23.7	23.3	26.4	28.6	28.2	26.8	22.9	23.0	22.4	21.3	19.5	20.8	19.3	18.8	21.3	23.2	22.8	21.7	18.6	18.7	18.2	17.2
	708, 710	118NBoff2	2,600	50	2	567	24.4	26.2	24.2	23.7	27.0	29.3	28.9	27.4	23.3	23.5	22.8	21.6												
	710, 711	118NBoff3	2,600	50	2	460	18.3	19.6	18.1	17.7	20.1	21.9	21.5	20.4	17.5	17.6	17.1	16.2												
	711, 712	118NBoff4	2,600	50	3	472	16.0	17.0	15.8	15.5	17.4	18.9	18.6	17.7	15.2	15.3	14.9	14.1												
	712, 713	118NBoff5	2,600	50	3	395	15.9	16.9	15.7	15.4	17.3	18.9	18.6	17.6	15.3	15.2	14.9	14.1												
	713, 714	118NBoff6	2,600	50	3	188	15.9	16.9	15.8	15.4	17.3	18.9	18.5	17.6	15.3	15.2	15.0	14.1												
	714, 717	118NBoff7	1,200	50	2	212	10.0	10.6	10.1	9.5	10.7	11.9	11.3	10.7	9.6	9.3	9.3	9.3												

2040 Master PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,200	50	2	389	9.9	10.5	10.1	9.5	10.6	11.8	11.2	10.6	9.6	9.3	9.2	9.2	9.9	10.5	10.1	9.5	10.5	11.8	11.2	10.6	9.5	9.3	9.2	9.2
	718, 719	118NBoff9	1,200	50	2	373	9.9	10.5	10.0	9.5	10.5	11.8	11.2	10.6	9.5	9.3	9.2	9.2												
	719, 720	118NBoff10	1,200	50	2	589	9.9	10.4	10.1	9.4	10.5	11.7	11.2	10.6	9.5	9.3	9.2	9.2												
	720, 721	118NBoff11	1,200	50	2	311	9.9	10.5	10.0	9.4	10.5	11.8	11.2	10.6	9.5	9.3	9.2	9.2												
	721, 722	118NBoff12	1,200	50	2	327	10.0	10.5	10.0	9.5	10.5	11.8	11.2	10.6	9.5	9.3	9.2	9.2												
	722, 723	118NBoff13	1,200	50	2	626	10.0	10.4	10.0	9.5	10.5	11.8	11.2	10.6	9.5	9.3	9.2	9.2												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,800	60	4	1,252	19.2	19.9	19.8	18.6	20.3	22.2	21.7	21.1	19.0	18.0	18.0	17.6	18.9	19.6	19.5	18.3	20.0	21.8	21.4	20.8	18.7	17.7	17.8	17.3
	724, 725	118NBoff15	4,800	60	4	575	18.2	19.0	18.8	17.8	19.3	21.0	20.6	20.0	18.0	17.1	17.2	16.8												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,140	60	2	611	24.7	26.1	24.9	23.4	27.9	29.3	28.0	26.5	22.8	24.0	22.8	21.6	25.3	26.8	25.4	23.9	28.7	30.9	28.8	27.2	23.2	24.5	23.2	21.9
	740, 741	118NBon3	3,140	60	2	1,571	25.5	27.1	25.6	24.1	29.0	31.5	29.1	27.4	23.4	24.6	23.4	22.1												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,150	50	1	268	18.2	19.6	18.5	17.7	21.5	22.3	21.0	20.0	17.5	18.2	17.4	16.2	21.1	22.5	21.3	20.5	24.6	25.6	24.2	23.2	20.1	21.1	19.9	18.9
	748, 749	118NBon5	1,150	50	1	541	21.0	22.6	21.2	20.4	24.7	25.5	24.1	23.1	20.1	21.0	20.0	18.7												
	749, 750	118NBon6	1,150	50	1	715	21.0	22.6	21.3	20.4	24.8	25.6	24.1	23.2	20.1	21.1	20.0	18.8												
	750, 751	118NBon7	1,150	50	1	245	21.2	22.7	21.4	20.6	24.8	25.8	24.2	23.4	20.3	21.2	20.1	19.0												
	751, 752	118NBon8	1,150	50	1	252	21.4	22.8	21.5	20.7	24.9	25.9	24.4	23.6	20.4	21.3	20.1	19.1												
	752, 753	118NBon9	1,150	50	1	352	21.5	22.8	21.6	20.7	24.9	25.9	24.4	23.6	20.4	21.4	20.2	19.2												
	753, 754	118NBon10	1,150	50	1	264	21.4	22.8	21.6	20.8	24.8	25.9	24.5	23.6	20.4	21.4	20.1	19.1												
	754, 755	118NBon11	1,150	50	1	415	21.4	22.7	21.7	20.9	24.8	26.0	24.6	23.6	20.5	21.5	20.2	19.2												
	755, 7009	118NBon12	1,150	50	1	733	21.6	22.8	21.9	21.1	24.8	26.1	24.8	23.6	20.6	21.7	20.3	19.3												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2,090	50	1	147	66.5	66.6	69.6	64.6	69.2	74.7	75.4	74.0	66.1	61.6	63.9	60.9	44.4	45.0	46.4	43.5	46.1	49.5	50.2	49.1	44.5	41.4	42.8	41.0
	775, 776	118SBoff3	2,090	50	1	934	43.5	43.7	45.5	42.6	45.2	48.4	49.1	48.2	43.2	40.4	41.8	40.0												
	776, 777	118SBoff4	2,090	50	1	371	42.3	43.2	44.3	41.5	44.1	47.1	47.8	46.8	42.6	39.7	40.9	39.2												
	777, 778	118SBoff5	2,090	50	1	446	42.2	43.3	44.2	41.5	43.9	47.1	47.7	46.7	42.8	39.7	40.9	39.2												
	778, 6020	118SBoff6	2,090	50	1	340	42.4	43.5	44.3	41.6	43.9	47.2	47.8	46.8	42.9	39.8	41.0	39.4												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	3,600	50	2	990	33.7	35.1	35.2	33.1	35.9	39.1	38.4	37.5	33.8	31.8	32.0	30.9	33.7	35.1	35.2	33.1	35.9	39.1	38.4	37.5	33.8	31.8	32.0	30.9
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,990	50	1	197	40.0	42.9	40.1	37.4	44.7	51.6	46.6	43.0	36.0	38.0	36.2	34.4	40.0	42.9	39.8	37.1	45.6	58.1	56.4	45.0	35.8	37.5	36.1	34.0
	742, 743	118SBon2	1,990	50	1	119	40.3	43.5	40.4	37.7	45.3	52.7	47.5	43.6	36.3	38.3	36.8	34.7												
	743, 744	118SBon3	1,990	50	1	126	40.0	43.3	40.1	37.5	45.0	53.0	47.6	43.4	36.1	38.2	36.7	34.5												
	744, 745	118SBon4	1,990	50	1	162	39.5	42.6	39.5	37.1	44.4	53.3	47.9	42.8	35.7	37.7	36.3	34.1												
	745, 746	118SBon5	1,990	50	1	200	39.1	41.8	38.9	36.7	43.6	54.0	48.7	42.2	35.4	37.2	35.8	33.7												
	746, 747	118SBon6	1,990	50	1	166	38.8	41.3	38.7	36.5	43.0	55.9	50.1	42.2	35.2	36.9	35.5	33.5												
	747, 413	118SBon7	1,990	50	1	973	40.4	43.4	40.0	37.1	47.0	62.8	64.8	47.1	35.8	37.4	36.1	34.0												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	16.3	17.2	16.4	15.5	18.4	19.5	18.6	17.5	15.0	15.8	15.1	14.3	16.3	17.2	16.4	15.5	18.4	19.5	18.6	17.5	15.0	15.8	15.1	14.3
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,860	50	2	647	17.3	18.5	17.7	16.2	19.4	21.3	20.0	18.6	15.9	17.0	16.2	14.8	17.2	18.6	17.7	16.3	19.4	21.3	20.0	18.7	16.0	17.0	16.2	14.9
	811, 812	UlmNBon4	1,860	50	2	590	17.2	18.5	17.6	16.2	19.4	21.2	19.9	18.6	15.9	17.0	16.1	14.8												
	812, 813	UlmNBon5	1,860	50	2	323	17.2	18.6	17.7	16.2	19.4	21.3	20.0	18.7	15.9	17.0	16.2	14.9												
	813, 814	UlmNBon6	1,860	50	2	328	17.1	18.6	17.7	16.2	19.4	21.4	20.0	18.7	16.0	17.0	16.2	14.9												
	814, 815	UlmNBon7	1,860	50	2	288	17.1	18.6	17.7	16.3	19.4	21.3	20.0	18.8	16.0	17.0	16.2	14.9												
	815, 816	UlmNBon8	1,860	50	2	273	17.2	18.6	17.7	16.3	19.5	21.3	20.0	18.7	16.1	17.0	16.2	15.0												
	816, 322	UlmNBon9	1,860	50	2	881	17.2	18.6	17.8	16.3	19.5	21.2	20.2	18.8	16.1	17.1	16.2	15.0												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,180	50	2	316	20.0	20.1	20.4	19.1	21.3	23.2	23.3	22.3	19.6	19.6	18.7	17.9	19.7	19.8	20.1	18.9	21.0	22.9	23.0	22.0	19.3	19.4	18.5	17.7
	830, 831	UlmSBoff2	2,180	50	2	346	19.6	19.7	19.9	18.7	20.8	22.6	22.7	21.7	19.2	19.2	18.3	17.6												
	831, 7036	UlmSBoff3	2,180	50	2	283	19.7	19.8	20.0	18.8	20.9	22.8	22.9	21.8	19.3	19.3	18.5	17.6												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,820	50	2	398	17.2	17.2	17.6	16.4	18.2	20.2	20.0	19.3	17.2	16.9	16.2	15.6	14.2	14.2	14.5	13.6	14.9	16.7	16.5	15.9	14.2	14.0	13.4	12.9
	834, 835	UlmSBoff8	1,820	60	2	584	14.8	14.7	15.1	14.1	15.5	17.2	17.1	16.5	14.6	14.5	13.9	13.3												
	835, 836	UlmSBoff9	1,820	60	2	481	13.6	13.6	13.9	13.0	14.3	15.9	15.8	15.2	13.6	13.4	12.8	12.3												
	836, 837	UlmSBoff10	1,820	60	2	2,160	13.7	13.7	14.0	13.1	14.3	16.0	15.9	15.3	13.7	13.4	12.9	12.4												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,290	35	1	493	23.1	23.7	22.9	22.3	26.0	26.7	25.6	25.0	21.3	21.7	20.8	21.0	25.9	26.6	25.7	25.1	29.0	29.9	28.7	28.0	23.9	24.3	23.4	23.6
	802, 803	UlmSBon2	1,290	35	1	214	32.4	33.3	32.0	31.3	36.1	37.3	35.8	35.0	29.8	30.2	29.3	29.6												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	26.3	27.1	26.3	25.2	29.2	30.0	29.0	28.6	24.4	24.6	24.3	24.1	21.5	22.0	21.4	20.6	23.9	24.4	23.7	23.4	20.0	20.1	19.8	19.7
	808, 809	UlmSBon4	970	35	1	163	25.9	26.7	26.0	24.9	28.9	29.5	28.7	28.2	24.2	24.3	24.0	23.8												
	809, 810	UlmSBon5	970	35	1	228	26.1	26.8	26.0	25.1	28.9	29.7	28.8	28.4	24.3	24.5	24.0	23.9												
	810, 402	UlmSBon6	970	50	1	1,170	19.3	19.7	19.2	18.5	21.4	21.8	21.2	21.0	18.0	18.1	17.8	17.7												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	7.4	7.4	6.9	7.3	8.0	8.3	7.7	7.6	6.8	6.9	6.5	6.5	6.0	6.0	5.5	5.9	6.4	6.7	6.2	6.1	5.5	5.5	5.2	5.3
	804, 805	UlmSBMLK2	320	50	1	361	6.2	6.2	5.7	6.1	6.7	6.9	6.4	6.3	5.7	5.8	5.4	5.5												
	805, 806	UlmSBMLK3	320	50	1	499	5.2	5.2	4.8	5.2	5.6	5.9	5.4	5.3	4.8	4.8	4.5	4.6												
SB MLK	806, 807	UlmSBMLK4	680	50	2	1,171	5.7	5.9	5.7	5.8	6.1	6.5	6.5	6.2	5.5	5.5	5.3	5.2	5.7	5.9	5.7	5.8	6.1	6.5	6.5	6.2	5.5	5.5	5.3	5.2
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1,080	9.0	9.3	9.0	8.4	10.2	10.5	10.1	9.5	8.3	8.7	8.1	7.9	8.9	9.2	9.0	8.4	10.2	10.5	10.0	9.5	8.3	8.6	8.1	7.9
	851, 852	MLKNBon3	490	50	1	350	8.9	9.2	8.9	8.3	10.1	10.4	9.9	9.4	8.2	8.6	8.1	7.8												
	852, 853	MLKNBon4	490	50	1	360	8.9	9.2	8.9	8.3	10.1	10.5	10.0	9.4	8.3	8.6	8.1	7.9												
	853, 321	MLKNBon5	490	50	1	548	8.9	9.3	9.0	8.4	10.2	10.5	10.0	9.5	8.3	8.6	8.2	7.9												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	6.7	7.1	7.1	6.9	7.3	7.8	8.1	7.5	6.7	6.8	6.5	6.2	6.3	6.7	6.8	6.5	6.9	7.4	7.6	7.1	6.3	6.4	6.2	5.9
	839, 840	MLKSBoff4	360	50	1	336	6.2	6.6	6.7	6.4	6.8	7.2	7.5	7.0	6.2	6.3	6.1	5.8												
	840, 841	MLKSBoff5	360	50	1	395	6.2	6.6	6.7	6.4	6.8	7.3	7.5	7.1	6.2	6.2	6.1	5.8												
	841, 806	MLKSBoff6	360	50	1	539	6.3	6.6	6.7	6.4	6.8	7.3	7.5	7.1	6.2	6.3	6.1	5.8												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1,270	6.6	7.1	6.7	6.4	7.5	7.8	7.6	7.2	6.1	6.5	6.2	5.8	8.8	9.4	8.9	8.4	9.9	10.5	10.1	9.5	8.1	8.5	8.3	7.7
	901, 902	4thNBon3	880	60	2	634	6.6	7.0	6.6	6.3	7.4	7.7	7.5	7.1	6.0	6.4	6.1	5.7												
	902, 903	4thNBon4	880	60	2	322	6.6	7.1	6.7	6.3	7.6	7.9	7.6	7.2	6.1	6.4	6.2	5.8												
	903, 904	4thNBon5	880	60	2	279	6.7	7.2	6.8	6.4	7.7	8.0	7.7	7.3	6.2	6.5	6.3	5.9												
	904, 905	4thNBon6	880	60	2	388	7.4	7.9	7.4	7.0	8.3	8.8	8.4	8.0	6.8	7.1	6.9	6.4												
	905, 906	4thNBon7	880	60	1	313	13.5	14.4	13.6	12.8	15.2	16.2	15.4	14.6	12.5	13.1	12.7	11.7												
	906, 907	4thNBon8	880	60	1	299	13.4	14.4	13.6	12.8	15.2	16.1	15.4	14.6	12.5	13.1	12.7	11.7												
	907, 324	4thNBon9	880	60	1	667	13.4	14.4	13.7	12.9	15.2	16.2	15.6	14.6	12.5	13.1	12.7	11.8												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,440	60	1	465	22.7	23.8	23.3	21.9	24.5	26.8	27.5	25.1	22.3	21.1	20.9	19.0	17.2	18.1	17.7	16.9	18.3	19.7	20.4	18.7	17.1	16.3	16.1	14.9
	920, 921	4thSBoff2	1,440	60	1	492	21.5	22.6	22.0	21.2	22.9	24.6	25.3	23.3	21.3	20.3	20.1	18.5												
	921, 922	4thSBoff3	1,440	60	1	420	21.5	22.6	22.1	21.2	22.8	24.6	25.3	23.3	21.4	20.4	20.1	18.6												
	922, 923	4thSBoff4	1,440	60	1	393	21.7	22.7	22.3	21.4	23.1	24.8	25.6	23.5	21.6	20.5	20.3	18.8												
	923, 924	4thSBoff5	1,440	60	1	384	21.9	22.9	22.5	21.4	23.2	24.9	25.8	23.6	21.7	20.7	20.4	18.9												
	924, 925	4thSBoff6	1,440	60	1	354	21.9	23.1	22.6	21.5	23.3	25.0	25.9	23.7	21.7	20.8	20.5	18.9												
	925, 926	4thSBoff7	1,440	60	1	501	21.9	23.2	22.7	21.5	23.3	25.1	26.0	23.8	21.8	20.9	20.5	19.0												
	926, 927	4thSBoff8	1,440	60	1	416	21.3	22.4	21.9	20.9	22.5	24.3	25.2	22.9	21.1	20.2	19.8	18.4												
	927, 928	4thSBoff9	1,440	60	2	1,153	10.7	11.3	11.1	10.6	11.3	12.2	12.7	11.6	10.7	10.2	10.0	9.4												
	928, 929	4thSBoff10	1,440	60	2	1,242	10.6	11.1	10.9	10.5	11.1	12.0	12.5	11.5	10.5	10.1	9.9	9.2												
	4999, 5000	SULNB1	1,200	70	1	1,116	15.9	16.6	15.8	14.9	17.9	18.7	17.8	16.9	14.6	15.3	14.5	13.9												
	5000, 5001	SULNB2	1,200	70	1	2,205	15.9	16.6	15.9	14.9	17.8	18.7	17.9	16.9	14.6	15.3	14.5	13.8												

2040 Master PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,200	70	1	528	16.2	16.9	16.2	15.2	18.1	19.0	18.3	17.2	15.0	15.5	14.8	14.1	16.2	17.0	16.3	15.2	18.1	19.1	18.3	17.3	15.0	15.5	14.9	14.1
	5002, 5003	SULNB4	1,200	70	1	346	16.3	17.0	16.3	15.2	18.2	19.1	18.4	17.3	15.1	15.5	14.9	14.1												
	5003, 5004	SULNB5	1,200	70	1	235	16.3	17.1	16.3	15.3	18.2	19.1	18.4	17.4	15.1	15.5	15.0	14.2												
	5004, 5005	SULNB6	1,200	70	1	270	16.4	17.1	16.4	15.3	18.3	19.2	18.5	17.4	15.2	15.6	15.1	14.2												
	5005, 5006	SULNB7	1,200	70	1	238	16.4	17.1	16.5	15.4	18.3	19.2	18.5	17.4	15.3	15.6	15.1	14.2												
	5006, 5007	SULNB8	1,200	70	1	261	16.4	17.1	16.5	15.4	18.3	19.3	18.6	17.4	15.3	15.6	15.1	14.2												
	5007, 5008	SULNB9	1,200	70	1	451	16.4	17.2	16.5	15.5	18.3	19.4	18.6	17.5	15.3	15.7	15.2	14.3												
	5008, 5009	SULNB10	1,200	70	1	242	16.4	17.2	16.6	15.5	18.4	19.4	18.6	17.5	15.4	15.7	15.2	14.3												
	5009, 5010	SULNB11	1,200	70	1	158	16.4	17.2	16.6	15.5	18.4	19.4	18.7	17.6	15.4	15.7	15.2	14.3												
	5010, 5011	SULNB12	1,200	70	1	539	16.4	17.2	16.6	15.6	18.3	19.5	18.7	17.6	15.4	15.8	15.2	14.4												
	5011, 5012	SULNB13	1,200	70	1	564	16.5	17.3	16.7	15.6	18.4	19.5	18.7	17.7	15.4	15.8	15.3	14.4												
	5012, 5013	SULNB14	1,200	70	1	1,295	16.6	17.4	16.7	15.7	18.5	19.5	18.8	17.8	15.5	15.8	15.4	14.5												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,240	70	2	409	15.5	16.4	15.8	14.8	17.3	18.4	17.8	16.7	14.9	15.0	14.5	13.9	15.1	15.9	15.4	14.4	16.6	17.9	17.4	16.4	14.6	14.6	14.1	13.6
	5014, 5015	SULNB16	2,240	70	2	2,441	15.1	16.0	15.4	14.4	16.7	17.9	17.4	16.3	14.5	14.7	14.1	13.6												
	5015, 5016	SULNB17	2,240	70	2	2,058	15.1	15.9	15.4	14.4	16.6	17.9	17.3	16.3	14.5	14.6	14.1	13.5												
	5016, 5017	SULNB18	2,240	70	2	1,249	15.1	15.9	15.3	14.4	16.5	17.9	17.3	16.4	14.5	14.6	14.1	13.5												
	5017, 5018	SULNB19	2,240	70	2	1,432	15.1	15.9	15.3	14.5	16.5	17.9	17.4	16.5	14.5	14.6	14.0	13.6												
	5018, 5019	SULNB20	2,240	70	2	788	15.1	15.9	15.4	14.4	16.5	17.9	17.5	16.4	14.6	14.7	14.1	13.6												
	5019, 5020	SULNB21	2,240	70	2	659	15.1	15.9	15.4	14.4	16.4	17.9	17.5	16.4	14.7	14.6	14.1	13.6												
	5020, 5021	SULNB22	2,240	70	2	2,083	15.1	15.8	15.5	14.5	16.4	17.8	17.4	16.5	14.7	14.6	14.1	13.6												
	5021, 5022	SULNB23	2,240	70	2	1,364	15.1	15.9	15.5	14.5	16.5	17.9	17.5	16.6	14.7	14.6	14.2	13.6												
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,630	70	2	546	13.5	14.2	14.0	12.9	14.7	16.4	15.7	15.0	13.1	13.1	12.6	12.2	17.4	18.4	18.1	16.8	19.0	20.9	20.4	19.2	17.2	17.0	16.4	15.9
	5023, 5024	SULNB25	2,630	70	2	1,030	18.3	19.3	18.9	17.5	19.9	22.1	21.4	20.2	17.9	17.8	17.1	16.7												
	5024, 5025	SULNB26	2,630	70	2	820	17.8	18.9	18.4	17.2	19.5	21.3	20.9	19.6	17.6	17.5	16.7	16.3												
	5025, 5026	SULNB27	2,630	70	2	2,524	17.8	18.9	18.5	17.2	19.4	21.2	20.9	19.6	17.7	17.3	16.9	16.3												
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,040	70	1	266	14.1	15.2	14.3	13.3	15.8	17.0	16.3	14.8	13.8	13.7	13.1	13.1	14.3	15.4	14.6	13.6	15.9	17.2	16.5	15.2	14.0	13.9	13.5	13.2
	5100, 5101	SULNBRamp2	1,040	70	1	528	14.1	15.1	14.3	13.2	15.7	16.9	16.2	14.8	13.7	13.7	13.1	13.0												
	5101, 5102	SULNBRamp3	1,040	70	1	379	14.1	15.1	14.2	13.3	15.6	16.8	16.2	14.8	13.7	13.7	13.1	13.1												
	5102, 5103	SULNBRamp4	1,040	70	1	376	14.2	15.2	14.2	13.3	15.7	16.9	16.2	14.9	13.8	13.7	13.1	13.1												
	5103, 5104	SULNBRamp5	1,040	70	1	363	14.3	15.2	14.3	13.4	15.7	16.9	16.3	15.0	13.8	13.8	13.2	13.1												
	5104, 5105	SULNBRamp6	1,040	70	1	352	14.3	15.3	14.4	13.4	15.8	17.0	16.4	15.1	13.9	13.8	13.3	13.1												
	5105, 5106	SULNBRamp7	1,040	70	1	831	14.3	15.5	14.4	13.5	15.8	17.1	16.4	15.2	14.0	13.8	13.5	13.2												
	5106, 5107	SULNBRamp8	1,040	70	1	1,172	14.3	15.5	14.6	13.6	15.9	17.1	16.5	15.2	14.0	13.9	13.5	13.3												
	5107, 5108	SULNBRamp9	1,040	70	1	656	14.3	15.5	14.6	13.7	15.9	17.2	16.7	15.3	14.1	14.0	13.5	13.2												
	5108, 5109	SULNBRamp10	1,040	70	1	803	14.4	15.5	14.7	13.7	15.9	17.3	16.7	15.4	14.2	14.0	13.7	13.1												
	5109, 5110	SULNBRamp11	1,040	70	1	897	14.4	15.5	14.7	13.8	16.0	17.4	16.8	15.4	14.2	14.1	13.6	13.2												
	5110, 5111	SULNBRamp12	1,040	70	1	513	14.5	15.5	14.8	13.9	16.0	17.4	16.8	15.6	14.3	14.1	13.7	13.3												
	5111, 5013	SULNBRamp13	1,040	70	1	738	14.5	15.5	14.9	13.9	16.1	17.4	16.8	15.6	14.4	14.1	13.8	13.3												
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	390	70	1	513	5.6	5.6	5.8	5.2	5.8	6.6	6.2	5.9	5.4	5.4	5.2	5.1	5.6	5.6	5.8	5.2	5.8	6.6	6.2	5.9	5.4	5.4	5.2	5.1
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,640	70	2	922	14.3	15.0	14.3	13.5	16.1	17.1	16.4	15.4	13.2	13.7	13.0	12.4	14.3	15.0	14.3	13.5	16.1	17.1	16.4	15.4	13.2	13.7	13.0	12.4
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,280	70	2	1,601	15.0	15.9	15.2	14.2	16.9	18.0	17.1	16.0	14.0	14.5	13.5	13.0	15.2	16.5	15.8	15.0	17.3	18.7	17.8	16.8	14.7	15.0	14.2	13.5
	5997, 5998	SULSB1	2,280	70	2	826	15.0	15.9	15.2	14.3	16.9	18.0	17.1	16.0	14.0	14.6	13.6	13.0												
	5998, 5999	SULSB1	2,280	70	2	1,034	15.0	16.0	15.2	14.4	16.9	18.1	17.1	16.0	14.0	14.7	13.7	13.1												
	5999, 6000	SULSB1	2,280	70	2	1,921	15.0	16.0	15.2	14.5	16.9	18.2	17.2	16.2	14.1	14.8	13.7	13.1												
	6000, 6001	SULSB2	2,280	70	2	2,057	15.1	16.1	15.3	14.5	16.9	18.2	17.3	16.3	14.1	14.7	13.8	13.1												
	6001, 6002	SULSB3	2,280	70	2	547	15.1	16.1	15.4	14.5	16.9	18.2	17.4	16.3	14.3	14.7	13.9	13.2												
	6002, 6003	SULSB4	2,280	70	2	424	15.1	16.2	15.3	14.6	16.9	18.2	17.4	16.3	14.2	14.7	13.9	13.1												
	6003, 6004	SULSB5	2,280	70	2	1,865	15.2	16.1	15.4	14.6	16.9	18.3	17.5	16.3	14.3	14.7	14.0	13.1												
	6004, 6005	SULSB6	2,280	70	2	1,086	15.3	16.0	15.4	14.7	16.8	18.3	17.4	16.4	14.4	14.6	14.0	13.2												
	6005, 6006	SULSB7	2,280	70	2	4,087	15.3	16.1	15.5	14.7	16.8	18.3	17.4	16.6	14.6	14.6	14.1	13.3												
	6006, 6007	SULSB8	2,280	70	2	1,179	15.8	16.6	16.1	15.3	17.3	19.1	18.1	17.4	15.0	15.2	14.5	13.8												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,510	70	1	1,199	20.9	21.7	21.0	20.5	22.7	25.1	23.8	23.1	19.6	19.7	18.8	18.1	20.7	21.8	21.1	20.3	22.7	24.9	23.6	23.0	19.8	19.6	18.8	18.2
	6008, 6009	SULSB10	1,510	70	1	614	20.5	21.4	20.7	20.2	22.4	24.7	23.4	22.6	19.5	19.5	18.6	18.0												
	6009, 6010	SULSB11	1,510	70	1	382	20.5	21.6	20.8	20.2	22.5	24.7	23.4	22.6	19.6	19.6	18.7	18.0												
	6010, 6011	SULSB12	1,510	70	1	135	20.6	21.7	20.9	20.2	22.5	24.8	23.5	22.7	19.6	19.6	18.7	18.1												
	6011, 6012	SULSB13	1,510	70	1	204	20.6	21.7	20.9	20.3	22.6	24.8	23.5	22.8	19.7	19.7	18.8	18.2												
	6012, 6013	SULSB14	1,510	70	1	613	20.6	21.7	21.1	20.3	22.7	24.9	23.6	22.9	19.8	19.7	18.8	18.3												
	6013, 6014	SULSB15	1,510	70	1	251	20.7	21.8	21.2	20.3	22.8	25.0	23.6	23.0	19.9	19.6	18.8	18.4												
	6014, 6015	SULSB16	1,510	70	1	233	20.7	21.9	21.2	20.2	22.8	25.0	23.5	23.0	20.0	19.6	18.8	18.4												
	6015, 6016	SULSB17	1,510	70	1	274	20.7	21.9	21.2	20.2	22.9	25.0	23.5	23.0	20.0	19.6	18.8	18.5												
	6016, 6017	SULSB18	1,510	70	1	238	20.7	21.9	21.2	20.2	22.9	25.0	23.5	23.1	20.1	19.6	18.9	18.5												
	6017, 6018	SULSB19	1,510	70	1	314	20.8	21.9	21.3	20.2	22.9	25.0	23.5	23.1	20.1	19.6	18.9	18.5												
	6018, 6019	SULSB20	1,510	70	1	879	20.7	21.9	21.4	20.2	22.9	25.1	23.6	23.1	20.2	19.7	19.0	18.4												
	6019, 6020	SULSB21	1,510	70	1	207	20.7	22.0	21.5	20.3	23.0	25.1	23.6	23.2	20.2	19.8	19.1	18.4												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	770	70	1	1,013	10.3	10.9	10.5	9.9	11.2	12.3	11.9	11.2	9.9	10.2	9.9	9.2	10.6	11.1	10.9	10.2	11.3	12.6	12.4	11.4	10.5	10.4	10.2	9.5
	6100, 6101	SULSBRamp2	770	70	1	621	10.4	10.9	10.4	10.0	11.2	12.3	11.9	11.1	10.0	10.2	9.9	9.2												
	6101, 6102	SULSBRamp3	770	70	1	317	10.4	11.0	10.5	10.1	11.2	12.4	11.9	11.2	10.1	10.2	9.9	9.2												
	6102, 6103	SULSBRamp4	770	70	1	915	10.4	11.0	10.6	10.1	11.2	12.5	12.1	11.3	10.2	10.2	10.0	9.2												
	6103, 6104	SULSBRamp5	770	70	1	1,093	10.5	11.0	10.6	10.1	11.2	12.5	12.1	11.3	10.2	10.3	10.0	9.4												
	6104, 6105	SULSBRamp6	770	70	1	1,068	10.6	11.1	10.7	10.1	11.3	12.5	12.3	11.3	10.4	10.3	10.0	9.5												
	6105, 6106	SULSBRamp7	770	70	1	788	10.5	11.2	10.7	10.2	11.3	12.6	12.3	11.3	10.4	10.3	10.1	9.5												
	6106, 6107	SULSBRamp8	770	70	1	367	10.5	11.2	10.7	10.3	11.3	12.6	12.3	11.3	10.4	10.3	10.1	9.5												
	6107, 6108	SULSBRamp9	770	70	1	373	10.5	11.2	10.7	10.3	11.3	12.6	12.3	11.4	10.4	10.4	10.2	9.5												
	6108, 6109	SULSBRamp10	770	70	1	445	10.5	11.2	10.7	10.3	11.3	12.7	12.4	11.4	10.5	10.4	10.2	9.5												
	6109, 6110	SULSBRamp11	770	70	1	8,866	10.7	11.2	11.1	10.3	11.3	12.7	12.6	11.5	10.6	10.6	10.3	9.5												
	6110, 420	SULSBRamp12	770	70	1	292	10.8	11.0	11.4	10.5	11.4	12.6	12.8	11.7	10.7	10.6	10.5	9.7												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	360	70	1	167	4.9	5.0	4.7	4.6	5.3	5.4	5.4	5.3	4.3	4.7	4.8	4.4	4.9	5.0	4.7	4.6	5.3	5.4	5.4	5.3	4.3	4.7	4.8	4.4

2040 Master PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	7,470	70	4	1,087	67.3	67.2	67.2	67.5	66.8	66.7	66.8	67.0	67.5	67.4	67.5	67.6	66.1	65.9	66.0	66.4	65.4	65.2	65.4	65.7	66.3	66.4	66.4	66.6
	299, 300	I275NB2	7,470	70	4	805	67.6	67.5	67.5	67.8	67.1	67.0	67.1	67.3	67.7	67.7	67.8	67.9												
	300, 301	I275NB3	7,470	70	4	478	66.6	66.4	66.5	66.9	66.0	65.8	65.9	66.2	66.8	66.8	66.9	67.0												
	301, 302	I275NB4	7,470	70	4	2,687	65.7	65.4	65.5	65.9	64.8	64.6	64.7	65.1	65.9	65.9	65.9	66.2												
	302, 303	I275NB5	7,470	70	5	382	62.3	62.2	62.0	63.2	61.3	60.6	61.2	62.0	63.0	63.2	63.0	63.8												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	5,030	70	4	1,375	66.7	66.6	66.5	66.9	66.4	66.0	66.3	66.5	66.8	66.8	66.9	67.2	67.1	66.9	66.9	67.2	66.8	66.4	66.7	66.9	67.1	67.2	67.2	67.4
	304, 305	I275NB7	5,030	70	4	1,306	67.4	67.3	67.3	67.4	67.2	66.8	67.0	67.2	67.4	67.4	67.5	67.6												
	305, 306	I275NB8	5,030	70	4	591	67.2	67.1	67.1	67.3	67.0	66.6	66.9	67.0	67.2	67.3	67.4	67.5												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	6,230	70	6	764	64.8	64.6	64.8	64.9	64.7	64.3	64.4	64.5	64.9	64.9	64.9	65.0	66.3	66.0	66.2	66.4	65.9	65.5	65.7	65.9	66.4	66.3	66.5	66.6
	307, 308	I275NB10	6,230	70	6	3,335	66.6	66.4	66.5	66.8	66.3	65.9	66.0	66.3	66.7	66.6	66.9	67.0												
	308, 309	I275NB11	6,230	70	5	350	66.2	65.9	66.0	66.2	65.3	64.9	65.4	65.8	66.3	66.4	66.6	66.7												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	5,190	70	4	745	65.4	65.0	65.3	65.7	64.8	64.0	64.3	64.8	65.8	65.5	66.0	66.2	64.3	63.8	64.3	64.5	63.5	62.6	63.1	63.6	64.6	64.4	64.8	65.1
	310, 311	I275NB13	5,190	70	4	380	65.0	64.5	64.9	65.2	64.3	63.5	63.8	64.2	65.3	65.0	65.4	65.7												
	311, 312	I275NB14	5,190	70	4	399	64.7	64.1	64.7	65.0	63.8	63.1	63.5	64.0	64.9	64.7	65.1	65.4												
	312, 313	I275NB15	5,190	70	4	368	64.7	64.1	64.8	65.0	63.6	62.8	63.3	63.9	65.0	64.7	65.2	65.6												
	313, 314	I275NB16	5,190	70	4	460	61.4	60.6	61.5	61.4	60.4	58.8	60.0	60.3	61.5	61.3	61.7	62.4												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,190	70	3	879	67.6	67.3	67.5	67.4	67.3	66.9	67.0	67.4	67.5	67.6	67.7	67.8	68.2	68.0	68.0	68.1	68.0	67.8	67.8	68.1	68.1	68.1	68.3	68.3
	315, 316	I275NB18	2,190	70	3	1,293	68.5	68.3	68.2	68.3	68.2	68.1	68.1	68.3	68.3	68.3	68.5	68.4												
	316, 317	I275NB19	2,190	70	3	1,158	68.4	68.2	68.2	68.2	68.2	68.2	68.0	68.3	68.3	68.3	68.5	68.4												
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,870	70	5	372	59.1	59.2	59.3	59.0	58.7	58.3	58.6	59.1	59.2	59.1	59.1	59.1	66.6	66.6	66.6	66.5	66.3	65.9	66.1	66.4	66.6	66.6	66.7	66.8
	318, 319	I275NB21	3,870	70	5	2,609	66.6	66.6	66.6	66.5	66.3	65.6	66.0	66.4	66.7	66.7	66.7	66.9												
	319, 320	I275NB22	3,870	70	4	1,810	67.8	67.7	67.8	67.7	67.6	67.3	67.5	67.6	67.8	67.8	67.9	68.0												
	320, 321	I275NB23	3,870	70	4	495	67.8	67.7	67.7	67.7	67.5	67.3	67.5	67.6	67.7	67.8	67.8	68.0												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,360	70	4	1,808	66.6	66.3	66.4	66.6	66.2	65.9	66.0	66.4	66.4	66.7	66.7	66.7	66.6	66.3	66.4	66.6	66.2	65.9	66.0	66.4	66.4	66.7	66.7	66.7
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,220	70	5	1,261	63.1	62.2	62.6	62.8	61.1	61.3	61.3	62.1	63.3	63.0	63.2	63.8	65.2	64.5	64.8	65.0	63.8	63.8	63.9	64.4	65.3	65.1	65.3	65.7
	323, 324	I275NB26	6,220	70	5	1,405	67.0	66.7	66.8	66.9	66.2	66.0	66.2	66.5	67.1	67.0	67.1	67.3												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,100	70	5	839	63.9	63.1	63.9	64.1	62.5	60.8	61.3	62.9	64.0	64.0	64.3	64.8	65.7	65.4	65.7	65.9	65.0	64.2	64.5	65.2	65.9	65.9	66.0	66.4
	325, 326	I275NB28	7,100	70	5	664	65.1	64.7	65.3	65.5	64.2	63.1	63.6	64.4	65.3	65.3	65.5	66.0												
	326, 327	I275NB29	7,100	70	5	2,007	66.5	66.4	66.5	66.6	66.1	65.5	65.8	66.2	66.7	66.6	66.7	67.1												
	327, 328	I275NB30	7,100	70	5	868	66.1	66.0	66.1	66.3	65.8	65.2	65.2	65.8	66.4	66.3	66.4	66.8												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	6,710	70	4	1,068	66.2	66.1	66.1	66.4	65.8	65.3	65.4	65.8	66.4	66.4	66.5	66.8	66.2	66.1	66.0	66.2	65.8	65.4	65.5	65.8	66.3	66.3	66.4	66.6
	329, 330	I275NB32	6,710	70	4	1,023	66.3	66.2	66.1	66.4	65.9	65.6	65.7	65.9	66.4	66.4	66.5	66.7												
	330, 331	I275NB33	6,710	70	4	824	66.2	66.0	66.0	66.2	65.7	65.5	65.6	65.8	66.3	66.2	66.4	66.6												
	331, 332	I275NB34	6,710	70	4	2,521	66.1	66.0	65.9	66.1	65.7	65.3	65.5	65.8	66.2	66.2	66.3	66.5												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	8,160	70	4	1,081	63.4	56.7	61.3	66.9	39.4	27.2	27.8	37.5	63.6	66.4	67.0	67.4	63.4	56.7	61.3	66.9	39.4	27.2	27.8	37.5	63.6	66.4	67.0	67.4
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	8,520	70	5	1,446	35.3	30.8	32.8	40.7	29.3	26.6	26.4	27.5	39.8	41.8	47.6	58.0	54.7	53.9	54.0	55.9	53.0	51.3	51.2	52.3	55.6	56.1	57.7	60.8
	395, 396	I275SB1	8,520	70	5	816	43.3	45.9	44.5	42.0	45.8	46.3	47.3	47.0	41.9	41.1	43.3	48.0												
	396, 397	I275SB1	8,520	70	4	1,045	59.9	60.0	59.8	59.8	59.3	58.8	59.2	59.4	59.8	59.8	60.6	61.7												
	397, 398	I275SB1	8,520	70	4	1,908	64.7	64.6	64.5	64.9	64.2	63.6	63.8	63.9	64.8	65.0	65.5	65.6												
	398, 399	I275SB1	8,520	70	4	2,118	60.8	60.0	59.8	61.6	58.7	55.4	54.2	57.4	61.1	61.9	61.8	62.8												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	7,080	70	4	2,746	65.8	65.6	65.6	66.0	65.3	64.7	64.7	64.9	65.8	66.0	66.0	66.2	64.6	64.5	64.6	64.9	64.0	63.6	63.6	63.9	64.6	64.8	64.8	65.0
	400, 401	I275SB3	7,080	70	5	1,080	61.6	61.8	61.8	62.1	60.7	60.8	60.8	61.2	61.7	61.8	61.7	62.1												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,900	70	4	4,105	66.9	66.9	66.9	67.2	66.7	66.6	66.5	66.7	67.1	67.2	67.2	67.3	66.9	66.9	66.9	67.2	66.7	66.6	66.5	66.7	67.1	67.2	67.2	67.3
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,870	70	5	720	62.7	62.7	62.8	62.9	62.3	62.2	62.4	62.5	63.0	63.1	63.0	63.1	62.2	61.9	62.1	62.7	61.3	60.5	59.4	60.2	61.6	62.8	62.8	63.1
	403, 404	I275SB6	5,870	70	5	1,327	62.2	62.0	62.3	62.8	61.1	60.5	60.2	60.8	62.2	63.0	62.7	63.3												
	404, 405	I275SB7	5,870	70	4	461	62.9	62.4	62.5	63.5	61.7	60.6	57.6	58.6	60.8	63.6	63.8	64.0												
	405, 406	I275SB8	5,870	70	4	452	60.3	59.6	60.0	61.1	59.9	57.5	54.3	56.4	58.2	61.1	61.8	61.4												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,580	70	3	855	66.0	65.7	65.9	66.5	65.9	65.0	64.3	64.9	65.5	66.4	66.8	66.6	67.3	67.1	67.2	67.5	67.1	66.8	66.4	66.8	67.0	67.4	67.6	67.6
	407, 408	I275SB10	3,580	70	3	347	67.6	67.4	67.6	67.8	67.5	67.2	66.8	67.1	67.4	67.7	67.9	67.9												
	408, 409	I275SB11	3,580	70	3	1,585	67.8	67.7	67.8	67.9	67.7	67.5	67.3	67.5	67.7	67.9	67.9	68.0												
	409, 410	I275SB12	3,580	70	3	458	67.6	67.4	67.6	67.6	67.4	67.2	67.1	67.3	67.4	67.7	67.7	67.8												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	6,000	70	5	629	60.9	60.2	60.6	60.9	60.2	60.3	60.5	60.7	60.5	60.8	60.8	60.7	62.7	61.4	62.3	62.7	61.2	60.9	60.6	61.7	62.5	62.7	62.7	62.9
	411, 412	I275SB14	6,000	70	5	247	63.1	61.4	62.3	63.0	61.9	61.6	62.2	62.3	62.4	62.9	62.9	63.2												
	412, 413	I275SB15	6,000	70	4	608	64.4	62.7	63.9	64.5	61.9	61.1	60.0	62.5	64.5	64.6	64.6	65.0												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	7,990	70	5	492	46.1	39.9	46.0	48.9	37.1	32.9	30.9	36.8	52.0	49.8	51.6	53.7	54.0	48.7	51.4	54.6	47.9	39.3	34.7	39.3	53.1	55.7	57.2	58.0
	414, 415	I275SB17	7,990	70	5	3,870	55.9	51.3	53.5	56.5	50.2	40.0	33.9	39.2	54.1	57.4	58.6	59.0												
	415, 416	I275SB18	7,990	70	4	1,086	50.9	43.4	46.6	50.7	44.7	39.7	39.3	40.5	50.0	52.4	54.6	56.5												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	6,340	70	3	1,385	62.5	60.9	61.6	62.3	61.5	59.3	58.6	59.2	62.2	63.1	63.5	64.1	63.1	61.7	62.3	63.0	62.2	60.3	59.6	60.2	62.9	63.7	64.1	64.5
	417, 418	I275SB20	6,340	70	3	343	65.7	65.0	65.3	65.6	65.3	64.0	63.5	63.9	65.5	66.1	66.3	66.4												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	7,590	70	4	1,507	63.8	63.4	63.6	63.8	63.5	62.8	62.6	62.9	63.7	64.1	64.2	64.3	63.8	63.4	63.6	63.8	63.5	62.8	62.6	62.9	63.7	64.1	64.2	64.3
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	8,710	70	5	1,015	64.1	63.4	63.7	64.1	63.2	63.0	62.6	62.9	63.9	64.2	64.3	64.6	64.1	63.4	63.7	64.1	63.2	63.0	62.6	62.9	63.9	64.2	64.3	64.6
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	9,480	70	6	2,282	65.5	64.9	65.1	65.5	64.6	64.5	64.2	64.6	65.2	65.5	65.6	65.9	65.8	65.4	65.5	65.7	65.2	65.0	64.8	65.1	65.6	65.8	65.9	66.1
	421, 422	I275SB24	9,480	70	5	430	66.1	65.9	65.9	66.1	65.8	65.5	65.3	65.6	65.9	66.2	66.2	66.3												
	422, 423	I275SB25	9,480	70	5	403	66.1	65.8	65.8	66.0	65.7	65.5	65.3	65.6	65.9	66.2	66.2	66.3												
	423, 424	I275SB26	9,480	70	5	426	66.0	65.8	65.8	65.9	65.7	65.5	65.3	65.5	65.8	66.1	66.1	66.3												
	424, 425	I275SB27	9,480	70	5	412	66.0	65.8	65.8	65.9	65.7	65.4	65.3	65.5	65.8	66.1	66.1	66.3												
	425, 426	I275SB28	9,480	70	5	734	66.1	65.9	65.9	66.0	65.8	65.5	65.4	65.6	65.9	66.2	66.2	66.3												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,460	50	3	841	47.8	47.9	47.9	48.0	47.6	47.2	47.5	47.8	48.2	48.0	48.2	48.3	47.3	46.6	47.3	47.5	45.6	44.2	44.6	46.4	47.9	47.8	48.0	48.0
	500, 501	GandyEB3	3,460	50	4	954	48.0	47.3	47.9	48.0	46.2	44.4	44.4	47.1	48.3	48.2	48.5	48.4												
	501, 502	GandyEB4	3,460	50	5	174	41.7	36.8	40.9	42.4	32.8	28.2	31.7	35.7	43.9	44.0	44.8	44.3												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,140	50	3	178	47.8	47.5	47.8	48.0	46.8	46.1	46.9	47.0	48.3	48.3	48.4	48.4	47.8	47.5	47.8	48.0	46.8	46.1	46.9	47.0	48.3	48.3	48.4	48.4
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,140	50	3	99	48.6	48.7	48.7	48.6	48.2	48.0	48.6	48.5	48.6	48.5	48.7	48.8	49.0	49.0	49.1	49.0	48.6	48.5	48.9	48.9	49.0	48.9	49.2	49.2
	505, 506	GandyEB10	1,140	50	3	119	49.3	49.3	49.4	49.3	49.1	48.9	49.2	49.3	49.4	49.3	49.5	49.5												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	4,915	50	3	1,167	46.7	46.4	46.7	46.7	46.1	46.1	46.0	46.5	46.6	46.6	47.0	47.0	46.7	46.4	46.7	46.7	46.1	46.1	46.0	46.5	46.6	46.6	47.0	47.0
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,275	55	3	181	52.2	51.9	52.1	52.3	51.6	51.6	51.7	51.8	52.3	52.4	52.4	52.8	51.0	50.9	50.8	50.9	50.3	50.4	50.5	50.8	51.1	51.2	51.2	51.6
	520, 521	GandyWB5	3,275	55	3	291	53.4	53.3	53.3	53.4	53.1	53.1	53.2	53.2	53.4	53.5	53.5	53.7												
	521, 522	GandyWB6	3,275	55	4	590	49.5	49.4	49.2	49.2	48.5	48.6	48.8	49.3	49.5	49.7	49.6	50.1												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,025	55	3	1,768	53.6	53.6	53.5	53.5	53.4	53.3	53.4	53.5	53.7	53.6	53.6	53.9	53.6	53.6	53.5	53.5	53.4	53.3	53.4	53.5	53.7	53.6	53.6	53.9

2040 Master PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,615	55	5	1,179	52.9	52.9	52.9	52.9	52.8	52.8	52.7	52.8	53.0	53.0	53.0	53.1	53.0	53.0	53.0	53.0	52.9	52.9	52.8	52.9	53.1	53.1	53.1	53.2
	524, 525	GandyWB9	4,615	55	5	455	53.3	53.3	53.3	53.3	53.2	53.1	53.1	53.1	53.4	53.4	53.3	53.5												
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,440	50	2	269	50.7	50.4	50.6	50.9	49.8	49.7	49.7	50.2	51.1	51.1	51.1	51.4	49.8	49.6	49.7	50.0	49.1	49.0	49.0	49.4	50.1	50.1	50.1	50.3
	600, 7001	GdyNBoff2	2,440	50	2	167	48.3	48.2	48.1	48.4	47.9	48.0	47.8	48.1	48.5	48.5	48.4	48.5												
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,500	50	1	263	44.6	44.2	44.6	45.3	43.5	43.9	43.2	44.8	44.6	45.4	45.2	45.1	45.5	45.3	45.3	45.9	44.7	44.9	44.5	45.5	45.4	45.9	45.8	45.8
	3, 4	GdyNBoff6	1,500	50	1	359	46.5	46.1	46.3	46.9	45.6	45.8	45.3	46.5	46.2	46.9	46.7	46.6												
	4, 5	GdyNBoff7	1,500	50	1	464	45.8	45.8	45.6	46.2	45.2	45.4	45.1	45.7	45.8	46.1	46.0	46.1												
	5, 506	GdyNBoff8	1,500	50	1	241	44.4	44.2	44.2	44.6	43.7	43.7	43.6	44.2	44.6	44.7	44.7	44.7												
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	940	50	1	267	42.1	42.0	42.3	42.3	42.2	42.2	42.1	41.9	42.3	42.2	42.3	42.4	46.7	46.8	46.8	47.0	46.8	47.0	46.7	46.6	47.1	47.0	47.0	47.1
	2, 8	GdyNBoff11	940	50	1	341	47.4	47.3	47.7	47.7	47.6	47.7	47.4	47.2	47.9	47.7	47.8	47.8												
	8, 9	GdyNBoff12	940	50	1	483	47.6	47.6	47.8	48.0	47.8	48.0	47.6	47.5	48.1	48.0	47.9	48.0												
	9, 10	GdyNBoff13	940	50	1	492	47.3	47.5	47.4	47.6	47.4	47.7	47.3	47.3	47.8	47.7	47.6	47.7												
	10, 11	GdyNBoff14	940	50	1	389	47.3	47.4	47.3	47.5	47.2	47.5	47.2	47.2	47.7	47.5	47.5	47.6												
	11, 7022	GdyNBoff15	940	50	1	196	47.1	47.1	47.0	47.3	47.0	47.3	46.9	46.9	47.4	47.3	47.2	47.3												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,320	50	2	179	32.9	28.3	31.6	34.7	24.7	21.4	24.0	27.0	36.4	36.2	37.0	37.0	32.9	28.3	31.6	34.7	24.7	21.4	24.0	27.0	36.4	36.2	37.0	37.0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,200	50	2	501	46.9	47.1	47.0	47.4	46.9	46.6	46.9	47.0	47.1	47.2	47.4	47.2	48.5	48.6	48.6	48.8	48.6	48.4	48.5	48.7	48.8	48.6	48.8	48.8
	623, 624	GdyNBon6	1,200	50	2	299	48.6	48.8	48.8	49.0	48.8	48.6	48.7	48.9	49.0	48.8	49.0	49.0												
	624, 625	GdyNBon7	1,200	50	2	253	48.6	48.8	48.8	49.0	48.8	48.7	48.8	48.9	49.0	48.8	49.1	49.1												
	625, 626	GdyNBon8	1,200	50	2	238	48.7	48.8	48.9	49.1	48.9	48.7	48.8	48.9	49.1	48.8	49.1	49.1												
	626, 627	GdyNBon9	1,200	50	2	242	48.8	48.8	48.9	49.1	49.0	48.8	48.9	49.0	49.1	48.9	49.1	49.1												
	627, 628	GdyNBon10	1,200	50	2	277	48.9	48.8	48.9	49.0	49.0	48.8	48.9	49.0	49.1	48.9	49.1	49.2												
	628, 629	GdyNBon11	1,200	50	2	337	48.9	48.9	48.9	49.1	49.0	48.8	48.9	49.0	49.1	48.9	49.1	49.2												
	629, 630	GdyNBon12	1,200	50	2	877	48.9	48.8	48.9	49.1	49.0	48.8	48.8	49.0	49.2	48.8	49.1	49.2												
	630, 306	GdyNBon13	1,200	50	2	344	48.8	48.7	48.8	49.0	48.9	48.8	48.7	48.9	49.1	48.8	49.0	49.2												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,650	50	2	481	48.2	47.8	48.1	48.2	47.9	47.8	47.6	47.7	48.2	48.4	48.5	48.7	48.7	48.4	48.6	48.6	48.5	48.4	48.3	48.4	48.5	48.7	48.7	48.9
	660, 661	GdySBoff2	1,650	50	2	394	49.1	49.0	49.1	49.0	49.0	48.9	48.8	48.9	48.9	49.0	49.0	49.1												
	661, 7020	GdySBoff3	1,650	50	2	336	48.8	48.8	48.9	48.8	48.8	48.7	48.7	48.7	48.7	48.8	48.8	49.0												
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,590	50	2	714	46.7	46.2	46.4	46.6	46.1	46.2	46.0	46.3	46.6	46.7	46.8	46.8	47.0	46.7	46.8	47.0	46.6	46.7	46.5	46.7	47.0	47.1	47.2	47.2
	662, 523	GdySBoff7	2,590	50	2	424	47.6	47.6	47.5	47.8	47.5	47.6	47.4	47.4	47.7	47.8	47.8	47.8												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,120	50	1	286	45.2	44.5	45.3	44.9	44.0	44.4	44.0	44.0	44.5	44.5	44.4	45.0	46.9	46.4	47.1	46.8	46.0	46.4	45.9	45.9	46.5	46.4	46.4	46.9
	621, 622	GdySBon3	1,120	50	1	204	47.8	47.1	48.0	47.6	46.8	47.1	46.7	46.7	47.4	47.1	47.2	47.8												
	622, 419	GdySBon4	1,120	50	1	319	48.0	47.6	48.0	47.8	47.3	47.6	47.2	47.1	47.8	47.6	47.7	48.0												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,250	35	1	302	33.9	33.9	33.6	33.9	33.3	33.5	33.4	33.6	33.8	33.8	33.9	34.3	33.5	33.4	33.3	33.4	33.0	33.2	33.1	33.3	33.4	33.4	33.4	33.6
	640, 641	GdySBonLoop2	1,250	35	1	259	33.7	33.6	33.5	33.6	33.3	33.4	33.3	33.5	33.6	33.6	33.7	33.8												
	641, 642	GdySBonLoop3	1,250	35	1	227	33.6	33.5	33.4	33.5	33.2	33.3	33.3	33.4	33.5	33.5	33.5	33.7												
	642, 643	GdySBonLoop4	1,250	35	1	211	33.3	33.3	33.2	33.3	32.9	33.1	33.0	33.2	33.3	33.3	33.3	33.5												
	643, 644	GdySBonLoop5	1,250	35	1	211	33.2	33.2	33.1	33.2	32.9	33.0	33.0	33.2	33.2	33.2	33.2	33.4												
	644, 645	GdySBonLoop6	1,250	35	1	207	33.2	33.1	33.0	33.1	32.8	32.9	32.8	33.0	33.1	33.1	33.1	33.3												
	645, 418	GdySBonLoop7	1,250	35	1	252	33.1	33.1	33.0	33.1	32.7	32.9	32.8	33.0	33.1	33.0	33.1	33.3												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4,145	60	4	1,418	57.3	57.1	57.2	57.5	56.5	56.1	56.4	57.1	57.6	57.5	57.4	57.7	56.6	56.4	56.5	56.7	55.9	54.7	55.7	56.4	56.9	56.8	56.7	56.9
	541, 542	RvEB3	4,145	60	3	1,028	55.6	55.4	55.5	55.7	55.0	52.7	54.7	55.5	55.9	55.8	55.8	55.9												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,240	60	2	513	57.7	57.5	57.6	57.8	57.4	52.7	54.6	57.3	57.8	57.8	57.9	57.8	57.7	57.5	57.6	57.8	57.4	52.7	54.6	57.3	57.8	57.8	57.9	57.8
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2,155	60	2	120	54.7	52.8	50.7	51.7	48.0	44.0	44.2	44.6	49.6	51.9	51.9	54.6	56.0	54.3	52.5	53.6	50.2	46.8	47.0	47.4	51.5	53.7	53.5	55.8
	546, 547	RvEB10	2,155	60	2	165	56.8	55.5	53.9	54.9	51.8	48.8	49.0	49.4	52.9	55.0	54.8	56.7												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,555	60	2	1,053	56.4	56.0	55.9	55.9	54.7	53.2	52.7	53.9	55.2	56.3	56.1	56.7	56.4	56.0	55.9	55.9	54.7	53.2	52.7	53.9	55.2	56.3	56.1	56.7
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,635	60	2	756	58.3	58.2	58.1	58.0	57.7	49.7	48.8	57.0	58.3	58.1	58.1	58.3	57.8	57.7	57.7	57.5	56.4	42.8	41.6	52.5	57.9	57.6	57.8	58.1
	558, 559	RvWB3	2,635	60	2	146	57.0	56.7	56.9	56.5	54.9	30.8	29.4	46.7	57.2	56.5	57.4	57.7												
	559, 560	RvWB4	2,635	60	3	151	56.4	56.2	56.0	56.0	51.3	20.0	17.7	35.7	56.3	56.0	56.9	57.5												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,305	60	2	125	57.3	55.0	53.8	54.6	43.9	11.4	10.0	22.6	54.7	55.4	56.3	57.3	57.3	55.0	53.8	54.6	43.9	11.4	10.0	22.6	54.7	55.4	56.3	57.3
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,875	60	2	133	55.4	53.9	52.6	53.1	52.7	52.4	52.3	52.2	53.5	53.3	53.7	54.8	57.6	57.0	56.4	56.8	56.6	56.3	56.2	56.1	56.9	56.8	57.0	57.5
	567, 568	RvWB14	1,875	60	2	750	57.8	57.3	56.6	57.1	56.9	56.6	56.4	56.3	57.2	57.1	57.3	57.7												
	568, 569	RvWB15	1,875	60	2	281	57.9	57.7	57.4	57.7	57.5	57.4	57.3	57.2	57.8	57.8	57.8	58.0												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,275	60	4	1,137	57.6	57.5	57.5	57.6	57.4	57.4	57.4	57.6	57.6	57.6	57.5	57.7	57.6	57.5	57.5	57.6	57.4	57.4	57.4	57.4	57.6	57.6	57.5	57.7
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,000	50	2	228	49.4	49.1	49.7	49.7	49.0	48.2	48.8	48.9	49.8	49.5	49.8	50.1	49.4	49.1	49.7	49.7	49.0	48.2	48.8	48.9	49.8	49.5	49.8	50.1
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,000	50	2	168	45.0	45.0	45.4	45.5	44.9	44.6	44.6	44.7	45.5	45.3	45.4	45.8	46.6	46.3	46.7	46.9	46.4	46.1	46.0	46.1	46.5	46.8	46.7	47.1
	701, 702	RvNBoff5	3,000	50	2	198	47.0	46.6	47.1	47.3	46.8	46.5	46.4	46.4	46.8	47.2	47.1	47.5												
	702, 703	RvNBoff6	3,000	50	3	130	48.0	47.4	47.8	48.0	47.7	47.4	47.3	47.3	47.6	48.0	47.9	48.1												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	49.0	48.7	48.9	48.9	48.8	48.6	48.7	48.7	48.9	48.7	48.8	48.9	49.2	48.9	49.2	49.1	48.9	48.9	49.0	48.9	49.1	49.1	49.0	49.0
	704, 705	RvNBoff8	400	50	1	200	49.2	48.9	49.2	49.1	48.9	48.9	49.1	48.9	49.1	48.9	49.1	49.1												
	705, 706	RvNBoff9	400	50	1	223	49.3	49.0	49.3	49.2	49.0	49.0	49.2	49.0	49.2	49.0	49.2	49.1												
	706, 707	RvNBoff10	400	50	1	262	49.3	49.0	49.4	49.2	49.0	49.0	49.2	48.9	49.2	49.1	49.3	49.1												
	707, 547	RvNBoff11	400	50	1	264	49.2	49.0	49.3	49.2	49.0	48.9	49.1	48.8	49.2	49.0	49.3	49.0												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,400	50	2	248	49.2	49.0	49.0	49.1	49.0	49.0	49.0	48.9	49.1	49.0	49.0	49.2	49.2	49.1	49.0	49.2	49.0	49.1	49.0	48.9	49.1	49.0	49.1	49.2
	715, 716	RvNBoff21	1,400	50	2	642	49.2	49.1	49.0	49.2	49.1	49.1	49.0	49.0	49.1	49.0	49.1	49.3												
	716, 569	RvNBoff22	1,400	50	2	670	49.2	49.0	49.0	49.1	49.0	49.0	49.0	48.9	49.0	49.0	49.0	49.2												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	330	50	1	296	53.5	53.0	53.4	53.0	52.1	43.9	43.7	49.1	53.1	53.3	53.3	53.9	52.1	51.7	52.1	51.7	51.2	44.8	44.7	48.9	51.8	52.0	52.0	52.5
	758, 7016	RvNBon4	330	50	1	127	48.8	48.8	49.1	48.6	48.9	46.8	47.3	48.4	48.7	49.0	49.0	49.2												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,680	50	2	97	45.3	45.0	45.2	45.1	44.8	44.8	45.2	45.0	45.4	45.3	45.2	45.7	46.3	46.1	46.2	46.2	45.9	45.9	46.2	46.1	46.4	46.3	46.3	46.7
	757, 317	RvNBon10	1,680	50	2	123	47.1	47.0	47.1	47.0	46.9	46.8	47.1	47.0	47.2	47.2	47.1	47.4												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	2,290	50	2	223	49.8	49.7	49.1	49.9	48.9	42.9	39.2	44.7	46.8	50.3	50.1	50.2	48.1	48.0	46.8	48.3	45.8	38.2	34.8	41.6	45.1	49.1	48.5	49.0
	770, 7032	RvSBoff2	2,290	50	2	150	45.5	45.5	43.5	45.8	41.3	31.4	28.1	36.9	42.5	47.3	46.1	47.3												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,420	50	3	102	37.8	35.9	38.2	39.0	34.9	33.4	34.4	35.8	37.6	39.2	39.2	39.5	41.2	39.9	41.1	41.7	39.4	38.7	39.4	40.0	41.3	41.7	41.9	42.1
	793, 410	RvSBon5	2,420	50	3	655	41.7	40.5	41.5	42.1	40.1	39.5	40.2	40.6	41.9	42.1	42.4	42.5												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,905	50	2	270	48.4	48.2	48.4	48.4	48.2	48.0	48.1	48.3	48.4	48.5	48.5	48.6	48.5	48.3	48.5	48.5	48.2	48.2	48.2	48.4	48.5	48.6	48.6	48.7
	790, 7011	RvSBon11	1,905	50	2	250	48.6	48.5	48.6	48.6	48.3	48.4	48.3	48.5	48.6	48.7	48.7	48.8												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,600	50	2	311	48.3	48.1	48.2	48.3	48.1	47.9	47.8	47.9	48.1	48.3	48.3	48.4	48.0	47.8	47.9	48.0	47.8	47.6	47.6	47.7	47.9	47.9	48.1	48.2
	708, 710	118NBoff2	2,600	50	2	567	47.5	47.1	47.3	47.4	47.0	46.8	46.8	46.9	47.3	47.3	47.5	47.7												
	710, 711	118NBoff3	2,600	50	2	460	47.4	47.2	47.3	47.4	47.1	46.9	46.9	47.0	47.3	47.3	47.5	47.7												
	711, 712	118NBoff4	2,600	50	3	472	48.4	48.4	48.4	48.4	48.3	48.3	48.3	48.3	48.4	48.4	48.5	48.6												
	712, 713	118NBoff5	2,600	50	3	395	48.6	48.5	48.6	48.6	48.5	48.4	48.4	48.4	48.6	48.6	48.6	48.7												
	713, 714	118NBoff6	2,600	50	3	188	48.6	48.5	48.6	48.6	48.5	48.4	48.4	48.4	48.6	48.6	48.6	48.7												
	714, 717	118NBoff7	1,200	50	2	212	48.2	48.3	48.3	48.4	48.2	48.1	48.2	48.2	48.3	48.3	48.3	48.4												

2040 Master PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,200	50	2	389	48.6	48.6	48.6	48.7	48.6	48.4	48.5	48.6	48.7	48.6	48.7	48.7	48.6	48.7	48.7	48.8	48.7	48.5	48.5	48.6	48.7	48.6	48.8	48.8
	718, 719	118NBoff9	1,200	50	2	373	48.7	48.7	48.7	48.8	48.7	48.6	48.6	48.7	48.8	48.7	48.8	48.8												
	719, 720	118NBoff10	1,200	50	2	589	48.7	48.8	48.7	48.8	48.7	48.6	48.6	48.7	48.7	48.7	48.8	48.8												
	720, 721	118NBoff11	1,200	50	2	311	48.7	48.7	48.8	48.8	48.7	48.6	48.6	48.7	48.7	48.7	48.8	48.8												
	721, 722	118NBoff12	1,200	50	2	327	48.7	48.7	48.8	48.8	48.7	48.6	48.6	48.7	48.7	48.7	48.8	48.9												
	722, 723	118NBoff13	1,200	50	2	626	48.7	48.7	48.8	48.8	48.8	48.6	48.6	48.7	48.8	48.6	48.8	48.9												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,800	60	4	1,252	55.1	55.0	55.1	55.2	55.0	54.7	54.9	54.9	55.2	55.3	55.4	55.4	56.0	55.9	56.0	56.1	55.9	55.6	55.8	55.8	56.1	56.2	56.2	56.2
	724, 725	118NBoff15	4,800	60	4	575	57.9	57.9	57.9	58.0	57.9	57.7	57.8	57.8	58.0	58.0	58.0	58.0												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,140	60	2	611	58.2	58.0	58.2	58.3	57.9	57.8	58.0	58.1	58.4	58.2	58.3	58.4	55.6	55.3	55.8	56.0	55.1	53.9	55.2	55.5	56.2	55.9	56.0	56.3
	740, 741	118NBon3	3,140	60	2	1,571	54.6	54.3	54.9	55.1	54.0	52.4	54.1	54.6	55.4	55.0	55.2	55.5												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,150	50	1	268	54.5	54.5	54.6	54.5	54.1	53.9	54.3	54.3	54.7	54.6	54.7	55.0	47.4	47.3	47.4	47.4	47.1	47.0	47.2	47.2	47.5	47.5	47.4	47.8
	748, 749	118NBon5	1,150	50	1	541	47.3	47.3	47.4	47.4	47.0	47.0	47.2	47.2	47.5	47.5	47.5	47.8												
	749, 750	118NBon6	1,150	50	1	715	47.3	47.2	47.3	47.3	46.9	46.9	47.1	47.0	47.4	47.4	47.3	47.7												
	750, 751	118NBon7	1,150	50	1	245	47.0	46.9	47.0	47.0	46.7	46.7	46.9	46.7	47.1	47.1	47.0	47.4												
	751, 752	118NBon8	1,150	50	1	252	46.7	46.7	46.8	46.7	46.4	46.4	46.6	46.4	46.8	46.9	46.7	47.1												
	752, 753	118NBon9	1,150	50	1	352	46.6	46.6	46.7	46.7	46.3	46.3	46.5	46.4	46.7	46.8	46.7	47.0												
	753, 754	118NBon10	1,150	50	1	264	46.7	46.6	46.7	46.7	46.4	46.4	46.6	46.5	46.7	46.7	46.7	47.0												
	754, 755	118NBon11	1,150	50	1	415	46.5	46.5	46.6	46.5	46.3	46.2	46.5	46.3	46.6	46.6	46.5	46.9												
	755, 7009	118NBon12	1,150	50	1	733	46.3	46.3	46.3	46.3	46.1	45.9	46.2	46.1	46.4	46.4	46.3	46.7												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2,090	50	1	147	32.8	33.5	32.7	33.0	32.7	32.3	32.4	32.3	33.1	33.4	33.2	33.2	44.3	44.9	44.3	44.3	44.3	44.2	44.1	44.1	44.6	44.8	44.6	44.7
	775, 776	118SBoff3	2,090	50	1	934	44.5	45.4	44.4	44.5	44.5	44.3	44.2	44.2	45.1	45.3	44.9	45.0												
	776, 777	118SBoff4	2,090	50	1	371	45.6	46.1	45.6	45.7	45.5	45.5	45.4	45.5	45.8	46.0	45.9	46.0												
	777, 778	118SBoff5	2,090	50	1	446	45.7	45.9	45.7	45.7	45.6	45.5	45.5	45.6	45.7	45.9	45.9	45.9												
	778, 6020	118SBoff6	2,090	50	1	340	45.5	45.7	45.5	45.5	45.6	45.5	45.5	45.5	45.6	45.8	45.8	45.7												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	3,600	50	2	990	48.0	48.0	48.0	48.3	48.1	47.7	47.8	47.9	48.1	48.3	48.4	48.3	48.0	48.0	48.0	48.3	48.1	47.7	47.8	47.9	48.1	48.3	48.4	48.3
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,990	50	1	197	44.6	43.8	44.7	45.0	43.9	41.1	43.0	44.4	45.5	45.0	45.2	45.4	44.7	43.8	45.0	45.6	43.1	37.8	37.3	43.1	45.9	45.3	45.4	45.9
	742, 743	118SBon2	1,990	50	1	119	44.2	43.2	44.3	44.7	43.4	40.4	42.2	43.9	45.1	44.4	44.5	45.0												
	743, 744	118SBon3	1,990	50	1	126	44.5	43.4	44.6	44.9	43.6	40.3	42.2	44.0	45.4	44.6	44.7	45.3												
	744, 745	118SBon4	1,990	50	1	162	45.0	44.1	45.3	45.4	44.2	40.4	42.2	44.6	45.8	45.1	45.2	45.8												
	745, 746	118SBon5	1,990	50	1	200	45.7	44.9	45.9	45.9	45.0	40.2	41.9	45.4	46.3	45.7	45.9	46.4												
	746, 747	118SBon6	1,990	50	1	166	46.0	45.4	46.3	46.2	45.5	39.4	41.2	45.5	46.6	46.1	46.2	46.6												
	747, 413	118SBon7	1,990	50	1	973	44.3	43.4	44.8	45.8	41.9	35.2	32.6	41.4	45.9	45.4	45.5	46.0												
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	57.5	57.4	57.4	57.6	57.3	57.1	57.2	57.3	57.7	57.6	57.6	57.6	57.5	57.4	57.4	57.6	57.3	57.1	57.2	57.3	57.7	57.6	57.6	57.6
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,860	50	2	647	48.5	48.5	48.4	48.7	48.3	48.1	48.2	48.4	48.8	48.6	48.7	48.9	48.5	48.4	48.4	48.7	48.2	48.0	48.2	48.3	48.7	48.4	48.6	48.8
	811, 812	UlmNBon4	1,860	50	2	590	48.6	48.6	48.6	48.8	48.4	48.3	48.4	48.5	48.8	48.6	48.8	48.9												
	812, 813	UlmNBon5	1,860	50	2	323	48.5	48.5	48.4	48.7	48.2	48.0	48.2	48.3	48.7	48.4	48.6	48.8												
	813, 814	UlmNBon6	1,860	50	2	328	48.5	48.4	48.3	48.7	48.2	48.0	48.2	48.3	48.7	48.4	48.6	48.8												
	814, 815	UlmNBon7	1,860	50	2	288	48.5	48.4	48.3	48.7	48.2	48.0	48.2	48.3	48.7	48.4	48.6	48.8												
	815, 816	UlmNBon8	1,860	50	2	273	48.4	48.4	48.3	48.7	48.1	47.9	48.1	48.3	48.6	48.4	48.5	48.8												
	816, 322	UlmNBon9	1,860	50	2	881	48.4	48.3	48.2	48.5	48.0	47.9	48.0	48.2	48.5	48.3	48.4	48.7												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,180	50	2	316	47.8	47.8	47.8	47.9	47.6	47.5	47.4	47.3	47.7	47.8	47.8	47.9	48.4	48.4	48.4	48.5	48.3	48.2	48.1	48.1	48.3	48.4	48.4	48.5
	830, 831	UlmSBoff2	2,180	50	2	346	48.8	48.9	48.8	48.8	48.8	48.8	48.7	48.6	48.7	48.8	48.8	48.9												
	831, 7036	UlmSBoff3	2,180	50	2	283	48.5	48.6	48.5	48.6	48.5	48.4	48.4	48.3	48.4	48.5	48.6	48.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,820	50	2	398	48.5	48.4	48.4	48.5	48.2	48.1	48.1	48.1	48.1	48.2	48.3	48.4	56.6	56.6	56.5	56.6	56.5	56.2	56.2	56.2	56.4	56.5	56.5	56.5
	834, 835	UlmSBoff8	1,820	60	2	584	54.2	54.1	54.0	54.3	53.9	53.8	53.8	53.7	53.9	53.9	54.1	54.1												
	835, 836	UlmSBoff9	1,820	60	2	481	58.7	58.6	58.5	58.7	58.4	58.2	58.3	58.1	58.4	58.4	58.5	58.6												
	836, 837	UlmSBoff10	1,820	60	2	2,160	58.4	58.3	58.3	58.3	58.2	58.0	57.9	57.9	58.1	58.2	58.2	58.2												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,290	35	1	493	48.5	48.5	48.2	48.5	47.8	47.6	47.9	48.0	49.1	49.0	49.2	48.4	44.2	44.2	44.1	44.3	43.8	43.5	43.7	43.8	44.9	44.8	44.8	44.1
	802, 803	UlmSBon2	1,290	35	1	214	34.6	34.5	34.5	34.7	34.4	33.9	34.2	34.3	35.2	35.1	34.9	34.4												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	33.0	33.0	33.0	33.1	33.0	32.8	32.9	33.0	33.2	33.2	33.0	33.1	41.2	41.3	41.2	41.3	41.1	41.1	41.1	41.3	41.4	41.5	41.3	41.3
	808, 809	UlmSBon4	970	35	1	163	33.4	33.5	33.4	33.5	33.4	33.3	33.4	33.4	33.6	33.6	33.4	33.5												
	809, 810	UlmSBon5	970	35	1	228	33.2	33.3	33.3	33.3	33.2	33.2	33.2	33.3	33.4	33.5	33.4	33.3												
	810, 402	UlmSBon6	970	50	1	1,170	45.0	45.2	45.0	45.1	44.9	44.9	44.9	45.1	45.1	45.3	45.1	45.1												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	34.6	34.3	34.5	34.6	34.6	34.4	34.5	34.5	34.7	34.7	34.7	34.5	43.8	43.5	43.7	43.7	43.8	43.5	43.7	43.6	43.9	44.1	43.9	43.8
	804, 805	UlmSBMLK2	320	50	1	361	41.4	41.3	41.4	41.4	41.4	41.3	41.4	41.4	41.5	41.7	41.5	41.4												
	805, 806	UlmSBMLK3	320	50	1	499	49.2	48.8	49.1	49.1	49.2	48.8	49.1	49.0	49.3	49.6	49.3	49.2												
SB MLK	806, 807	UlmSBMLK4	680	50	2	1,171	49.1	49.0	49.0	49.2	49.2	49.0	49.2	49.1	49.3	49.5	49.2	49.2	49.1	49.0	49.0	49.2	49.2	49.0	49.2	49.1	49.3	49.5	49.2	49.2
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1,080	49.7	49.7	49.6	49.5	49.4	49.5	49.6	49.6	49.6	49.6	49.8	49.5	49.4	49.3	49.3	49.2	49.0	49.2	49.4	49.3	49.3	49.3	49.5	49.2
	851, 852	MLKNBon3	490	50	1	350	49.4	49.3	49.2	49.2	49.0	49.2	49.4	49.2	49.3	49.4	49.5	49.3												
	852, 853	MLKNBon4	490	50	1	360	49.1	49.1	49.1	49.0	48.7	49.0	49.2	49.1	49.2	49.2	49.4	49.0												
	853, 321	MLKNBon5	490	50	1	548	48.9	48.8	48.9	48.8	48.5	48.7	48.9	48.8	48.9	49.0	49.1	48.8												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	48.5	48.4	48.4	48.6	48.1	48.2	48.5	48.6	48.5	48.3	48.3	48.6	48.8	48.8	48.7	49.0	48.6	48.7	48.9	48.9	48.9	48.9	48.7	48.9
	839, 840	MLKSBoff4	360	50	1	336	49.1	49.0	49.0	49.2	48.8	48.9	49.1	49.2	49.1	49.1	48.9	49.1												
	840, 841	MLKSBoff5	360	50	1	395	49.0	48.8	48.7	49.0	48.7	48.7	49.0	49.0	49.0	49.0	48.8	49.0												
	841, 806	MLKSBoff6	360	50	1	539	48.8	48.8	48.6	49.0	48.7	48.7	48.9	48.8	48.9	48.9	48.8	49.0												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1,270	59.3	59.3	59.4	59.5	59.4	59.4	59.4	59.5	59.6	59.6	59.6	59.5	58.2	58.3	58.5	58.7	58.3	58.2	58.3	58.4	58.8	58.6	58.6	58.7
	901, 902	4thNBon3	880	60	2	634	59.1	59.2	59.3	59.4	59.2	59.2	59.3	59.4	59.5	59.5	59.5	59.4												
	902, 903	4thNBon4	880	60	2	322	58.3	58.5	58.6	58.8	58.2	58.3	58.4	58.5	58.9	58.8	58.7	58.8												
	903, 904	4thNBon5	880	60	2	279	57.4	57.5	57.6	58.0	57.2	57.1	57.4	57.4	58.1	57.9	57.8	58.1												
	904, 905	4thNBon6	880	60	2	388	57.1	57.3	57.5	57.9	57.3	56.8	57.2	57.2	57.9	57.6	57.6	58.0												
	905, 906	4thNBon7	880	60	1	313	57.2	57.3	57.7	58.0	57.4	57.0	57.3	57.4	58.0	57.7	57.8	58.1												
	906, 907	4thNBon8	880	60	1	299	57.4	57.4	57.8	58.0	57.5	57.1	57.4	57.6	58.1	57.8	57.8	58.1												
	907, 324	4thNBon9	880	60	1	667	57.3	57.3	57.6	57.8	57.4	56.9	57.2	57.4	57.9	57.6	57.6	57.9												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,440	60	1	465	54.8	54.7	54.5	55.6	53.8	52.7	52.6	53.0	54.8	55.9	55.3	56.3	57.2	57.2	57.0	57.2	57.0	56.8	56.8	56.9	56.9	57.3	57.1	57.5
	920, 921	4thSBoff2	1,440	60	1	492	57.6	57.6	57.4	57.7	57.5	57.2	57.3	57.1	57.3	57.8	57.5	57.9												
	921, 922	4thSBoff3	1,440	60	1	420	57.6	57.6	57.4	57.5	57.5	57.3	57.5	57.2	57.2	57.6	57.4	57.7												
	922, 923	4thSBoff4	1,440	60	1	393	57.0	57.1	56.9	57.0	56.9	56.7	56.8	56.8	56.7	57.1	57.0	57.2												
	923, 924	4thSBoff5	1,440	60	1	384	56.6	56.7	56.5	56.7	56.6	56.4	56.3	56.5	56.3	56.8	56.6	56.9												
	924, 925	4thSBoff6	1,440	60	1	354	56.6	56.4	56.3	56.5	56.3	56.3	56.1	56.3	56.1	56.6	56.4	56.8												
	925, 926	4thSBoff7	1,440	60	1	501	56.4	56.2	56.1	56.3	56.1	56.0	56.0	56.1	56.0	56.3	56.2	56.6												
	926, 927	4thSBoff8	1,440	60	1	416	56.1	56.0	55.9	56.0	55.8	55.8	55.7	55.9	55.7	56.1	56.0	56.3												
	927, 928	4thSBoff9	1,440	60	2	1,153	57.7	57.6	57.5	57.6	57.5	57.5	57.4	57.5	57.3	57.6	57.5	57.8												
	928, 929	4thSBoff10	1,440	60	2	1,242	58.6	58.5	58.4	58.4	58.4	58.4	58.3	58.4	58.2	58.4	58.3	58.6												
	4999, 5000	SULNB1	1,200	70	1	1,116	68.4	68.3	68.5	68.8	68.5	68.4	68.5	68.4	68.7	68.7	68.7	68.7												
	5000, 5001	SULNB2	1,200	70	1	2,205	67.5	67.4	67.6	67.9	67.5	67.4	67.5	67.4	67.8	67.9	67.9	67.8												

2040 Master PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,200	70	1	528	66.0	66.0	66.2	66.5	66.0	65.9	66.2	66.0	66.4	66.6	66.6	66.6	66.1	66.0	66.2	66.5	66.1	65.9	66.1	66.0	66.4	66.5	66.5	66.5
	5002, 5003	SULNB4	1,200	70	1	346	65.7	65.7	65.9	66.2	65.8	65.7	65.9	65.8	66.1	66.3	66.3	66.3												
	5003, 5004	SULNB5	1,200	70	1	235	65.6	65.5	65.7	66.0	65.6	65.4	65.7	65.6	65.9	66.1	66.1	66.1												
	5004, 5005	SULNB6	1,200	70	1	270	65.4	65.3	65.6	65.8	65.4	65.2	65.5	65.4	65.7	65.9	65.9	65.9												
	5005, 5006	SULNB7	1,200	70	1	238	65.3	65.2	65.4	65.6	65.3	65.0	65.3	65.2	65.6	65.8	65.7	65.8												
	5006, 5007	SULNB8	1,200	70	1	261	65.1	65.1	65.3	65.5	65.2	64.9	65.2	65.1	65.4	65.7	65.6	65.7												
	5007, 5008	SULNB9	1,200	70	1	451	65.0	65.0	65.1	65.4	65.0	64.7	65.1	65.0	65.3	65.6	65.5	65.5												
	5008, 5009	SULNB10	1,200	70	1	242	64.9	64.9	65.0	65.3	64.9	64.6	65.0	64.9	65.1	65.5	65.4	65.4												
	5009, 5010	SULNB11	1,200	70	1	158	64.9	64.8	65.0	65.2	64.8	64.6	64.9	64.8	65.0	65.4	65.3	65.4												
	5010, 5011	SULNB12	1,200	70	1	539	64.7	64.7	64.9	65.1	64.7	64.5	64.8	64.7	64.9	65.3	65.2	65.2												
	5011, 5012	SULNB13	1,200	70	1	564	64.5	64.4	64.7	64.9	64.5	64.3	64.5	64.5	64.7	65.1	65.0	65.0												
	5012, 5013	SULNB14	1,200	70	1	1,295	64.3	64.2	64.4	64.6	64.2	64.1	64.3	64.2	64.5	64.8	64.6	64.7												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,240	70	2	409	64.5	64.4	64.4	64.7	64.3	64.1	64.3	64.3	64.6	64.8	64.7	64.8	66.1	66.2	66.1	66.4	66.0	65.8	65.9	65.9	66.4	66.5	66.5	66.5
	5014, 5015	SULNB16	2,240	70	2	2,441	66.0	66.1	66.1	66.3	66.0	65.8	65.9	65.9	66.2	66.4	66.4	66.4												
	5015, 5016	SULNB17	2,240	70	2	2,058	66.3	66.4	66.4	66.6	66.2	66.0	66.1	66.2	66.5	66.6	66.6	66.7												
	5016, 5017	SULNB18	2,240	70	2	1,249	66.3	66.4	66.4	66.6	66.2	66.0	66.1	66.2	66.5	66.6	66.6	66.7												
	5017, 5018	SULNB19	2,240	70	2	1,432	66.2	66.3	66.3	66.5	66.2	65.9	66.0	66.0	66.5	66.6	66.7	66.7												
	5018, 5019	SULNB20	2,240	70	2	788	66.2	66.3	66.2	66.5	66.2	65.9	66.0	66.0	66.4	66.6	66.6	66.7												
	5019, 5020	SULNB21	2,240	70	2	659	66.1	66.2	66.2	66.5	66.1	65.9	66.0	65.9	66.4	66.6	66.6	66.7												
	5020, 5021	SULNB22	2,240	70	2	2,083	66.0	66.2	66.1	66.4	66.0	65.8	65.9	65.9	66.5	66.6	66.5	66.6												
	5021, 5022	SULNB23	2,240	70	2	1,364	66.0	66.1	65.9	66.3	65.9	65.7	65.8	65.7	66.4	66.5	66.5	66.5												
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,630	70	2	546	62.9	62.8	62.7	63.6	62.8	61.6	62.4	61.8	63.8	63.7	63.5	63.6	65.2	65.2	65.3	65.7	65.1	64.7	64.9	64.8	65.7	65.8	65.7	65.8
	5023, 5024	SULNB25	2,630	70	2	1,030	64.3	64.4	64.4	65.0	64.2	63.4	63.9	63.6	65.0	65.1	65.0	65.1												
	5024, 5025	SULNB26	2,630	70	2	820	65.8	65.9	65.9	66.2	65.6	65.4	65.6	65.5	66.4	66.3	66.3	66.4												
	5025, 5026	SULNB27	2,630	70	2	2,524	65.8	65.9	66.0	66.2	65.9	65.6	65.7	65.7	66.3	66.4	66.2	66.4												
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,040	70	1	266	66.6	66.4	66.4	66.8	66.1	65.8	66.2	66.6	66.5	67.0	66.9	66.7	65.4	65.4	65.2	65.6	65.3	64.9	65.2	65.5	65.5	65.7	65.7	65.7
	5100, 5101	SULNBRamp2	1,040	70	1	528	66.7	66.7	66.7	67.0	66.5	66.2	66.5	66.9	66.8	67.2	67.1	66.9												
	5101, 5102	SULNBRamp3	1,040	70	1	379	66.6	66.7	66.7	67.0	66.6	66.3	66.5	66.9	66.8	67.2	67.0	66.8												
	5102, 5103	SULNBRamp4	1,040	70	1	376	66.4	66.6	66.4	66.8	66.5	66.1	66.4	66.7	66.6	66.9	66.8	66.7												
	5103, 5104	SULNBRamp5	1,040	70	1	363	66.1	66.3	66.1	66.5	66.2	65.8	66.1	66.3	66.3	66.6	66.5	66.5												
	5104, 5105	SULNBRamp6	1,040	70	1	352	65.9	66.0	65.8	66.3	65.9	65.5	65.8	66.1	66.1	66.3	66.2	66.2												
	5105, 5106	SULNBRamp7	1,040	70	1	831	65.7	65.6	65.5	66.0	65.7	65.2	65.5	65.8	65.8	66.1	65.9	66.0												
	5106, 5107	SULNBRamp8	1,040	70	1	1,172	65.4	65.4	65.2	65.7	65.3	64.9	65.2	65.4	65.6	65.6	65.6	65.7												
	5107, 5108	SULNBRamp9	1,040	70	1	656	65.1	65.1	64.8	65.2	64.9	64.6	64.8	65.1	65.2	65.3	65.3	65.4												
	5108, 5109	SULNBRamp10	1,040	70	1	803	64.9	64.9	64.6	65.0	64.7	64.3	64.6	64.8	64.9	65.0	65.0	65.3												
	5109, 5110	SULNBRamp11	1,040	70	1	897	64.7	64.8	64.5	64.9	64.5	64.1	64.4	64.6	64.8	64.8	64.9	65.0												
	5110, 5111	SULNBRamp12	1,040	70	1	513	64.6	64.6	64.3	64.6	64.3	64.1	64.2	64.5	64.7	64.7	64.8	64.8												
	5111, 5013	SULNBRamp13	1,040	70	1	738	64.4	64.4	64.1	64.5	64.1	63.9	64.1	64.3	64.5	64.6	64.6	64.7												
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	390	70	1	513	67.6	68.2	68.1	68.3	68.0	67.9	68.1	68.0	68.4	68.0	68.2	68.6	67.6	68.2	68.1	68.3	68.0	67.9	68.1	68.0	68.4	68.0	68.2	68.6
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,640	70	2	922	66.2	65.8	65.8	66.5	66.1	65.0	64.9	65.3	66.4	66.4	66.7	67.1	66.2	65.8	65.8	66.5	66.1	65.0	64.9	65.3	66.4	66.4	66.7	67.1
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,280	70	2	1,601	67.6	67.3	67.3	68.0	67.5	66.9	67.0	67.3	67.7	67.9	68.1	68.3	66.5	66.3	66.4	66.6	66.4	65.8	66.0	66.2	66.5	66.7	66.9	67.0
	5997, 5998	SULSB1	2,280	70	2	826	67.4	67.3	67.4	67.8	67.4	67.1	67.2	67.5	67.5	67.7	67.8	67.9												
	5998, 5999	SULSB1	2,280	70	2	1,034	67.2	67.1	67.3	67.6	67.3	66.8	66.9	67.3	67.4	67.5	67.6	67.7												
	5999, 6000	SULSB1	2,280	70	2	1,921	66.9	66.9	67.1	67.3	67.1	66.5	66.7	67.0	67.2	67.3	67.4	67.4												
	6000, 6001	SULSB2	2,280	70	2	2,057	66.8	66.7	66.8	67.0	66.9	66.4	66.4	66.7	67.0	67.1	67.2	67.2												
	6001, 6002	SULSB3	2,280	70	2	547	66.6	66.5	66.7	66.9	66.8	66.2	66.3	66.6	66.9	67.1	67.0	67.1												
	6002, 6003	SULSB4	2,280	70	2	424	66.5	66.5	66.7	66.8	66.7	66.1	66.2	66.5	66.9	67.0	67.0	67.1												
	6003, 6004	SULSB5	2,280	70	2	1,865	66.4	66.4	66.6	66.7	66.6	66.1	66.2	66.5	66.8	66.9	67.0	67.1												
	6004, 6005	SULSB6	2,280	70	2	1,086	66.3	66.3	66.4	66.5	66.5	66.0	66.1	66.3	66.7	66.8	66.9	67.0												
	6005, 6006	SULSB7	2,280	70	2	4,087	66.1	66.1	66.2	66.4	66.3	65.7	65.9	66.1	66.2	66.6	66.7	66.7												
	6006, 6007	SULSB8	2,280	70	2	1,179	63.9	63.9	64.0	64.4	63.9	62.8	63.4	63.5	64.1	64.3	65.0	64.9												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,510	70	1	1,199	64.0	64.0	64.2	64.2	64.0	62.9	63.3	63.4	64.4	64.6	65.0	65.2	64.1	64.0	64.1	64.4	64.1	63.4	63.7	63.7	64.3	64.5	64.6	64.7
	6008, 6009	SULSB10	1,510	70	1	614	64.9	64.8	65.0	65.1	64.8	64.2	64.4	64.6	64.9	65.2	65.4	65.4												
	6009, 6010	SULSB11	1,510	70	1	382	64.7	64.6	64.7	65.0	64.7	64.1	64.2	64.5	64.7	65.0	65.0	65.1												
	6010, 6011	SULSB12	1,510	70	1	135	64.5	64.4	64.5	64.8	64.6	63.9	64.1	64.3	64.6	64.8	64.8	64.9												
	6011, 6012	SULSB13	1,510	70	1	204	64.3	64.3	64.3	64.7	64.5	63.8	64.0	64.1	64.5	64.7	64.7	64.8												
	6012, 6013	SULSB14	1,510	70	1	613	64.1	64.0	64.0	64.4	64.2	63.6	63.8	63.9	64.3	64.5	64.5	64.6												
	6013, 6014	SULSB15	1,510	70	1	251	64.0	63.8	63.9	64.3	64.1	63.4	63.7	63.6	64.2	64.3	64.5	64.4												
	6014, 6015	SULSB16	1,510	70	1	233	64.0	63.7	63.9	64.2	64.0	63.3	63.7	63.5	64.2	64.3	64.4	64.3												
	6015, 6016	SULSB17	1,510	70	1	274	63.9	63.7	63.9	64.2	63.9	63.3	63.7	63.4	64.2	64.2	64.4	64.3												
	6016, 6017	SULSB18	1,510	70	1	238	63.9	63.6	63.8	64.2	63.8	63.3	63.6	63.4	64.1	64.2	64.3	64.3												
	6017, 6018	SULSB19	1,510	70	1	314	63.8	63.6	63.8	64.1	63.8	63.4	63.6	63.4	64.0	64.1	64.3	64.2												
	6018, 6019	SULSB20	1,510	70	1	879	63.6	63.5	63.6	64.0	63.6	63.3	63.4	63.3	63.8	63.9	64.1	64.1												
	6019, 6020	SULSB21	1,510	70	1	207	63.4	63.3	63.3	63.9	63.4	63.1	63.2	63.2	63.6	63.7	64.0	63.9												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	770	70	1	1,013	66.9	66.7	66.9	67.2	66.7	66.7	66.3	67.1	66.5	66.8	67.1	66.7	64.9	64.9	64.9	65.1	65.0	64.8	64.5	65.1	64.7	65.1	65.1	65.0
	6100, 6101	SULSBRamp2	770	70	1	621	66.5	66.6	66.7	66.9	66.6	66.6	66.3	66.9	66.3	66.7	66.9	66.6												
	6101, 6102	SULSBRamp3	770	70	1	317	66.2	66.3	66.3	66.5	66.3	66.3	66.0	66.6	66.0	66.4	66.6	66.4												
	6102, 6103	SULSBRamp4	770	70	1	915	66.0	66.0	66.0	66.1	66.0	65.9	65.6	66.3	65.8	66.2	66.3	66.1												
	6103, 6104	SULSBRamp5	770	70	1	1,093	65.6	65.7	65.8	65.8	65.8	65.6	65.3	65.9	65.6	66.0	66.0	65.8												
	6104, 6105	SULSBRamp6	770	70	1	1,068	65.3	65.5	65.5	65.6	65.4	65.3	65.0	65.6	65.3	65.7	65.6	65.5												
	6105, 6106	SULSBRamp7	770	70	1	788	65.1	65.2	65.3	65.3	65.2	65.0	64.8	65.4	65.0	65.5	65.4	65.3												
	6106, 6107	SULSBRamp8	770	70	1	367	65.1	65.0	65.2	65.3	65.1	64.9	64.7	65.4	65.0	65.4	65.3	65.2												
	6107, 6108	SULSBRamp9	770	70	1	373	65.0	65.0	65.2	65.2	65.1	64.8	64.6	65.2	64.9	65.3	65.2	65.0												
	6108, 6109	SULSBRamp10	770	70	1	445	64.9	64.9	65.0	65.2	65.0	64.7	64.5	65.1	64.8	65.1	65.1	64.9												
	6109, 6110	SULSBRamp11	770	70	1	8,866	64.2	64.3	64.2	64.4	64.3	64.1	63.9	64.4	64.1	64.4	64.3	64.3												
	6110, 420	SULSBRamp12	770	70	1	292	63.8	63.9	63.6	63.8	63.8	63.7	63.5	63.9	63.6	63.9	63.8	63.8												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	360	70	1	167	66.2	66.0	66.1	65.5	66.3	65.4	65.7	65.1	66.2	65.6	66.2	66.5	66.2	66.0	66.1	65.5	66.3	65.4	65.7	65.1	66.2	65.6	66.2	66.5

2040 Master PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	7,470	70	4	1,087	1,660	1,750	1,660	1,577	1,862	1,967	1,861	1,786	1,536	1,610	1,534	1,455	30	31	33	34	29	23	26	27	37	34	34	37
	299, 300	I275NB2	7,470	70	4	805	1,659	1,747	1,663	1,577	1,860	1,965	1,864	1,785	1,538	1,609	1,535	1,454	48	50	51	46	54	53	52	46	45	49	46	43
	300, 301	I275NB3	7,470	70	4	478	1,659	1,746	1,664	1,576	1,858	1,964	1,868	1,785	1,540	1,605	1,537	1,455	45	47	43	45	50	51	50	44	42	44	41	42
	301, 302	I275NB4	7,470	70	4	2,687	1,656	1,740	1,674	1,574	1,852	1,955	1,877	1,785	1,548	1,598	1,543	1,461	1307	1375	1323	1246	1473	1551	1483	1424	1226	1272	1206	1140
	302, 303	I275NB5	7,470	70	5	382	1,656	1,739	1,676	1,573	1,850	1,955	1,878	1,784	1,550	1,598	1,543	1,461	139	150	140	132	163	178	167	155	133	131	129	118
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	5,030	70	4	1,375	1,113	1,162	1,121	1,052	1,235	1,312	1,257	1,195	1,045	1,074	1,030	976	112	121	115	99	128	132	124	118	101	107	97	90
	304, 305	I275NB7	5,030	70	4	1,306	1,115	1,158	1,123	1,056	1,232	1,312	1,259	1,192	1,048	1,075	1,028	979	88	89	83	84	93	102	97	93	82	89	82	78
	305, 306	I275NB8	5,030	70	4	591	1,114	1,159	1,120	1,057	1,232	1,310	1,259	1,194	1,047	1,075	1,029	981	41	43	47	43	49	47	47	44	42	38	39	35
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	6,230	70	6	764	1,377	1,445	1,380	1,311	1,518	1,614	1,564	1,484	1,294	1,329	1,272	1,223	207	232	208	200	222	236	237	220	195	201	191	188
	307, 308	I275NB10	6,230	70	6	3,335	1,376	1,445	1,382	1,313	1,507	1,615	1,563	1,485	1,304	1,325	1,279	1,223	987	1056	1011	943	1137	1185	1170	1072	958	953	925	903
	308, 309	I275NB11	6,230	70	5	350	1,377	1,446	1,381	1,314	1,505	1,614	1,565	1,485	1,304	1,325	1,278	1,224	483	503	478	462	526	558	544	517	458	461	444	428
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	5,190	70	4	745	1,139	1,197	1,141	1,095	1,241	1,337	1,294	1,237	1,078	1,095	1,059	1,005	260	260	253	253	284	299	289	282	248	252	242	227
	310, 311	I275NB13	5,190	70	4	380	1,138	1,198	1,140	1,096	1,239	1,337	1,293	1,240	1,079	1,094	1,058	1,007	118	122	111	106	130	143	141	131	110	110	103	94
	311, 312	I275NB14	5,190	70	4	399	1,137	1,200	1,138	1,097	1,237	1,336	1,293	1,241	1,081	1,093	1,059	1,007	106	111	100	99	122	135	135	120	92	96	94	82
	312, 313	I275NB15	5,190	70	4	368	1,137	1,199	1,136	1,098	1,236	1,336	1,294	1,241	1,082	1,093	1,059	1,007	36	46	34	31	47	51	46	40	32	34	33	30
	313, 314	I275NB16	5,190	70	4	460	1,136	1,199	1,136	1,101	1,235	1,333	1,295	1,242	1,082	1,093	1,059	1,008	24	29	24	23	30	35	32	28	23	23	22	18
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,190	70	3	879	458	488	477	448	498	540	520	496	441	451	432	413	24	23	21	21	23	33	30	23	20	19	21	17
	315, 316	I275NB18	2,190	70	3	1,293	458	488	475	448	496	540	521	498	440	451	432	413	30	29	29	27	32	41	35	32	30	28	28	25
	316, 317	I275NB19	2,190	70	3	1,158	460	487	474	450	497	538	520	498	442	451	431	413	24	30	32	24	29	36	34	31	25	28	24	25
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,870	70	5	372	820	849	827	800	885	962	930	874	783	803	768	752	233	225	225	226	239	262	258	235	214	221	212	226
	318, 319	I275NB21	3,870	70	5	2,609	819	847	827	805	880	961	934	873	783	806	770	749	178	178	171	169	190	234	208	184	157	164	156	147
	319, 320	I275NB22	3,870	70	4	1,810	818	849	829	805	874	958	940	871	788	803	772	749	92	96	94	96	100	113	113	101	89	94	90	83
	320, 321	I275NB23	3,870	70	4	495	817	848	830	805	874	957	941	871	790	802	771	751	26	27	28	26	30	34	30	26	23	23	24	26
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,360	70	4	1,808	927	963	943	907	990	1,085	1,063	991	896	904	874	849	244	259	251	243	276	297	281	264	239	236	235	213
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,220	70	5	1,261	1,345	1,406	1,375	1,304	1,455	1,592	1,548	1,445	1,290	1,318	1,267	1,213	357	390	375	347	418	449	437	399	332	350	334	305
	323, 324	I275NB26	6,220	70	5	1,405	1,341	1,409	1,377	1,301	1,456	1,586	1,553	1,452	1,286	1,316	1,270	1,213	139	155	148	130	160	174	179	160	133	140	124	122
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,100	70	5	839	1,536	1,614	1,574	1,486	1,671	1,813	1,782	1,659	1,470	1,506	1,455	1,379	321	356	334	320	376	414	397	361	316	322	313	290
	325, 326	I275NB28	7,100	70	5	664	1,538	1,613	1,574	1,490	1,665	1,814	1,782	1,661	1,471	1,506	1,458	1,377	94	101	99	90	113	128	131	112	90	97	88	84
	326, 327	I275NB29	7,100	70	5	2,007	1,538	1,609	1,576	1,496	1,659	1,806	1,788	1,659	1,480	1,501	1,460	1,380	576	602	605	574	629	682	663	622	574	563	565	535
	327, 328	I275NB30	7,100	70	5	868	1,537	1,607	1,578	1,495	1,657	1,810	1,781	1,661	1,482	1,502	1,458	1,385	104	112	101	105	111	120	127	111	99	97	97	90
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	6,710	70	4	1,068	1,444	1,511	1,480	1,407	1,556	1,695	1,672	1,565	1,391	1,412	1,370	1,297	94	101	98	90	94	107	103	100	93	91	87	89
	329, 330	I275NB32	6,710	70	4	1,023	1,437	1,511	1,481	1,405	1,553	1,696	1,677	1,562	1,394	1,412	1,370	1,299	86	91	86	82	90	92	97	89	85	86	89	83
	330, 331	I275NB33	6,710	70	4	824	1,439	1,510	1,481	1,408	1,550	1,692	1,681	1,563	1,396	1,411	1,370	1,302	75	71	69	66	74	80	78	80	71	69	72	73
	331, 332	I275NB34	6,710	70	4	2,521	1,439	1,507	1,481	1,415	1,540	1,693	1,679	1,564	1,405	1,409	1,371	1,303	240	260	247	229	259	268	270	252	237	232	237	211
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	8,160	70	4	1,081	1,814	1,893	1,832	1,726	1,995	2,093	2,087	1,975	1,688	1,760	1,671	1,590	35	52	45	28	83	119	114	112	44	29	33	31
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	8,520	70	5	1,446	1,887	1,967	1,921	1,816	2,043	2,172	2,181	2,070	1,809	1,822	1,767	1,666	771	984	896	635	1005	1199	1231	1133	654	567	537	504
	395, 396	I275SB1	8,520	70	5	816	1,886	1,967	1,920	1,816	2,040	2,174	2,181	2,069	1,811	1,819	1,773	1,671	575	485	529	632	460	405	380	425	621	682	606	451
	396, 397	I275SB1	8,520	70	4	1,045	1,884	1,965	1,924	1,818	2,035	2,171	2,184	2,068	1,813	1,820	1,772	1,675	192	185	188	206	175	171	160	170	197	195	184	186
	397, 398	I275SB1	8,520	70	4	1,908	1,881	1,966	1,923	1,821	2,025	2,164	2,193	2,072	1,817	1,817	1,775	1,681	317	322	319	329	340	334	332	323	310	316	293	282
	398, 399	I275SB1	8,520	70	4	2,118	1,881	1,963	1,925	1,828	2,013	2,161	2,193	2,079	1,826	1,815	1,778	1,682	629	673	653	589	680	772	849	735	596	572	556	520
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	7,080	70	4	2,746	1,566	1,638	1,605	1,526	1,678	1,808	1,831	1,751	1,531	1,518	1,491	1,415	1059	1080	1076	1019	1147	1267	1287	1191	1030	1015	952	918
	400, 401	I275SB3	7,080	70	5	1,080	1,565	1,637	1,605	1,527	1,676	1,808	1,829	1,754	1,533	1,518	1,495	1,413	285	293	295	274	302	326	336	320	282	273	274	258
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,900	70	4	4,105	1,084	1,152	1,124	1,069	1,169	1,245	1,279	1,231	1,072	1,049	1,048	987	312	321	311	305	338	356	361	339	304	287	294	273
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,870	70	5	720	1,303	1,372	1,339	1,282	1,405	1,490	1,518	1,469	1,277	1,252	1,249	1,188	439	448	444	423	469	474	484	475	420	420	417	415
	403, 404	I275SB6	5,870	70	5	1,327	1,307	1,370	1,340	1,288	1,395	1,492	1,519	1,464	1,287	1,249	1,249	1,188	558	598	584	545	617	671	650	642	552	540	538	495
	404, 405	I275SB7	5,870	70	4	461	1,305	1,371	1,342	1,286	1,394	1,491	1,520	1,466	1,288	1,246	1,252	1,187	109	123	116	106	130	144	157	136	115	98	100	98
	405, 406	I275SB8	5,870	70	4	452	1,306	1,369	1,343	1,286	1,393	1,491	1,518	1,465	1,292	1,248	1,250	1,188	60	70	62	57	68	85	103	99	75	55	51	53
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,580	70	3	855	765	807	776	763	815	868	893	861	763	739	733	694	53	57	54	52	60	65	72	65	53	50	52	49
	407, 408	I275SB10	3,580	70	3	347	765	807	775	764	814	868	893	863	763	739	733	694	14	16	13	14	15	17	21	16	15	13	14	15
	408, 409	I275SB11	3,580	70	3	1,585	765	806	776	765	811	865	896	859	766	736	740	691	63	68	66	67	63	66	72	67	62	59	60	55
	409, 410	I275SB12	3,580	70	3	458	766	805	777	766	810	865	895	861	766	737	740	690	18	18	19	19	19	21	21	20	19	19	19	17
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	6,000	70	5	629	1,283	1,348	1,301	1,272	1,379	1,431	1,449	1,396	1,271	1,251	1,233	1,186	528	566	538	506	598	611	609	568	496	512	482	480
	411, 412	I275SB14	6,000	70	5	247	1,283	1,348	1,301	1,271	1,378	1,431	1,450	1,395	1,271	1,252	1,232	1,186	49	59	51	48	63	62	61	50	46	49	44	44
	412, 413	I275SB15	6,000	70	4	608	1,282	1,348	1,301	1,272	1,376	1,432	1,449	1,398	1,269	1,253	1,231	1,189	97	111	102	99	115	125	122	114	95	91	90	84
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	7,990	70	5	492	1,726	1,816	1,750	1,696	1,850	1,948	1,963	1,880	1,687	1,673	1,645	1,581	322	362	325	329	377	421	431	388	328	314	339	321
	414, 415	I275SB17	7,990	70	5	3,870	1,720	1,805	1,765	1,709	1,802	1,908	1,955	1,928	1,735	1,667	1,649	1,584	1397	1376	1414	1376	1378	1532	1586	1569	1380	1357	1337	1325
	415, 416	I275SB18	7,990	70	4	1,086	1,715	1,799	1,769	1,716	1,791	1,907	1,954	1,932	1,746	1,665	1,651	1,588	526	664	615	505	615	695	617	662	525	478	438	411
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	6,340	70	3	1,385	1,307	1,354	1,341	1,310	1,349	1,455	1,489	1,476	1,339	1,265	1,244	1,216	118	130	131	133	125	135	141	130	125	124	125	115
	417, 418	I275SB20	6,340	70	3	343	1,306	1,354	1,342	1,311	1,349	1,453	1,490	1,477	1,338	1,265	1,244	1,216	18	17	20	16	16	20	20	19	15	18	17	17
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	7,590	70	4	1,507	1,518	1,575	1,562	1,516	1,579	1,710	1,727	1,706	1,545	1,468	1,437	1,404	168	179	175	176	181	203	204	198	176	174	159	166
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	8,710	70	5	1,015	1,744	1,802	1,799	1,737	1,825	1,969	1,989	1,945	1,767	1,681	1,652	1,613	336	342	344	330	362	381	373	356	326	319	315	303
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	9,480	70	6	2,282	1,910	1,973	1,985	1,900	2,005	2,166	2,192	2,138	1,943	1,847	1,817	1,774	374	412	405	379	414	427	428	427	376	362	358	344
	421, 422	I275SB24	9,480	70	5	430	1,909	1,976	1,982	1,903	2,002	2,168	2,191	2,138	1,946	1,845	1,818	1,775	51	58	56	52	56	59	59	56	50	53	52	52
	422, 423	I275SB25	9,480	70	5	403	1,907	1,976	1,981	1,905	1,999	2,169	2,189	2,140	1,948	1,844	1,818	1,777	52	53	53	53	53	53	58	52	51	55	48	52
	423, 424	I275SB26	9,480	70	5	426	1,906	1,975	1,980	1,908	1,997	2,167	2,193	2,137	1,948	1,847	1,816	1,778	56	54	55	54	53	56	59	54	52	51	48	53
	424, 425	I275SB27	9,480	70	5	412	1,905	1,972	1,982	1,910	1,994	2,167	2,194	2,137	1,948	1,848	1,815	1,779	51	52	55	53	53	55	52	62	52	49	49	47
	425, 426	I275SB28	9,480	70	5	734	1,905	1,972	1,981	1,912	1,991	2,165	2,195	2,142	1,945	1,850	1,815	1,779	111	109	107	106	114	127	122	121	108	106	104	97
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,460	50	3	841	768	811	767	735	861	912	864	819	715	745	708	677	460	496	460	448	502	529	509	475	429	447	432	420
	500, 501	GandyEB3	3,460	50	4	954	768	808	772	733	861	905	869	820	718	742	711	677	641	711	643	612	783	878	824	729	590	610	579	574
	501, 502	GandyEB4	3,460	50	5	174	767	808	773	732	860	903	870	821	719	742	711	677	88	102	85	83	112	131	116	105	80	78	75	77
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,140	50	3	178	275	287	282	260	316	332	313	299	260	269	254	230	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,140	50	3	99	273	287	282	261	313	334	312	301	259	271	254	230	16	16	16	16	18	18	19	15	14	12	14	12
	505, 506	GandyEB10	1,140	50	3	119	273	287	282	261	313	334	311	302	259	271	254	230	14	17	17	15	18	17	17	17	13	17	17	12
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	4,915	50	3	1,167	603	631	622	578	685	719	694	665	572	591	570	528	460	484	471	434	531	547	547	512	435	445	436	411
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,275	55	3	181	726	767	733	692	815	858	822	777	678	706	672	636	18	18	13	15	20	20	22	21	16	16	15	13
	520, 521	GandyWB5	3,275	55	3	291	726	767	732	692	815	858	822	777	678	706	672	637	20	21	22	17	23	27	22	21	19	21	18	16
	521, 522	GandyWB6	3,275	55	4	590	725	764	736	693	813	859	821	776	677	708	673	638	481	497	480	452	537	562	529	507	439	446	423	403
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,025	55	3	1,768	510	539	520	491	570	605	584	551	477	505	479	454	67	70	66	62	71	79	76	69	60	65	60	58

2040 Master PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,615	55	5	1,179	1,132	1,204	1,169	1,104	1,233	1,313	1,291	1,240	1,098	1,110	1,085	1,021	151	164	159	150	165	166	166	167	150	144	141	136
	524, 525	GandyWB9	4,615	55	5	455	1,129	1,204	1,170	1,106	1,230	1,312	1,293	1,239	1,101	1,107	1,085	1,025	44	45	47	41	48	49	48	50	39	39	38	37
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,440	50	2	269	544	574	557	523	614	639	623	588	510	526	514	481	15	17	16	16	17	24	20	21	14	15	15	14
	600, 7001	GdyNBoff2	2,440	50	2	167	544	574	557	523	614	639	624	588	510	527	513	480	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,500	50	1	263	332	343	338	318	376	385	381	360	314	321	315	295	0	0	0	0	0	0	0	0	0	0	0	0
	3, 4	GdyNBoff6	1,500	50	1	359	331	344	339	318	376	385	382	360	315	320	315	296	0	0	0	0	0	0	0	0	0	0	0	0
	4, 5	GdyNBoff7	1,500	50	1	464	331	344	339	317	375	385	382	360	314	320	315	296	0	0	0	0	0	0	0	0	0	0	0	0
	5, 506	GdyNBoff8	1,500	50	1	241	332	343	339	317	375	385	383	360	313	321	314	297	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	940	50	1	267	212	228	220	205	235	250	244	230	199	208	195	188	0	0	0	0	0	0	0	0	0	0	0	0
	2, 8	GdyNBoff11	940	50	1	341	212	228	220	205	235	250	244	231	199	207	196	187	0	0	0	0	0	0	0	0	0	0	0	0
	8, 9	GdyNBoff12	940	50	1	483	213	227	221	205	235	250	244	231	199	208	196	187	0	0	0	0	0	0	0	0	0	0	0	0
	9, 10	GdyNBoff13	940	50	1	492	215	226	221	205	236	250	244	230	200	209	196	187	0	0	0	0	0	0	0	0	0	0	0	0
	10, 11	GdyNBoff14	940	50	1	389	215	226	221	205	235	250	244	230	200	209	195	188	0	0	0	0	0	0	0	0	0	0	0	0
	11, 7022	GdyNBoff15	940	50	1	196	215	227	222	205	235	249	244	230	201	209	195	188	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,320	50	2	179	492	520	493	471	543	570	559	524	460	472	457	447	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,200	50	2	501	265	289	259	250	291	305	302	287	246	255	244	241	16	19	16	17	21	22	22	19	18	18	15	15
	623, 624	GdyNBon6	1,200	50	2	299	266	288	260	250	290	306	301	287	246	256	244	241	5	6	4	5	6	7	7	4	3	3	5	4
	624, 625	GdyNBon7	1,200	50	2	253	265	289	260	250	290	305	301	288	245	256	244	241	6	4	3	4	6	6	5	5	5	4	4	4
	625, 626	GdyNBon8	1,200	50	2	238	265	289	260	250	290	305	302	288	244	256	244	241	5	3	3	4	5	6	5	5	4	4	3	4
	626, 627	GdyNBon9	1,200	50	2	242	265	289	260	250	290	304	302	288	245	256	245	241	4	4	3	3	4	5	5	5	3	3	4	4
	627, 628	GdyNBon10	1,200	50	2	277	266	288	260	250	292	304	302	288	245	255	246	241	4	6	3	4	5	5	4	5	3	4	4	4
	628, 629	GdyNBon11	1,200	50	2	337	265	288	260	250	291	305	302	288	244	255	246	240	6	5	6	6	5	7	6	7	5	6	5	5
	629, 630	GdyNBon12	1,200	50	2	877	264	287	262	251	289	306	301	290	245	253	246	242	13	14	13	13	16	19	17	17	13	11	13	14
	630, 306	GdyNBon13	1,200	50	2	344	264	287	261	251	289	306	301	289	245	253	246	242	4	7	6	4	6	7	6	7	5	6	5	5
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,650	50	2	481	409	442	431	403	437	453	466	458	412	399	404	377	28	38	35	30	33	40	43	39	25	23	23	21
	660, 661	GdySBoff2	1,650	50	2	394	409	442	430	404	437	452	466	457	412	400	405	378	10	11	9	11	9	10	12	10	10	9	9	9
	661, 7020	GdySBoff3	1,650	50	2	336	408	443	429	405	437	453	465	457	414	398	406	378	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,590	50	2	714	623	668	649	614	664	704	709	688	619	606	604	565	63	70	63	66	69	66	70	63	64	63	65	58
	662, 523	GdySBoff7	2,590	50	2	424	623	667	648	616	662	705	708	689	619	605	605	566	25	25	25	25	24	25	27	24	25	23	24	24
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,120	50	1	286	227	230	235	221	249	262	258	241	217	216	213	205	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1,120	50	1	204	227	230	235	221	249	261	258	242	218	216	213	205	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1,120	50	1	319	227	230	235	221	248	261	259	241	218	216	213	206	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,250	35	1	302	216	223	218	204	237	254	241	225	201	206	193	185	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1,250	35	1	259	216	223	218	204	237	253	242	224	202	205	193	185	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1,250	35	1	227	216	222	219	204	237	254	241	224	201	205	193	185	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1,250	35	1	211	216	221	219	204	236	254	241	225	201	205	193	185	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1,250	35	1	211	217	220	220	204	236	254	241	225	201	204	194	185	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1,250	35	1	207	216	220	220	204	236	255	240	226	201	203	194	186	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1,250	35	1	252	216	220	220	204	235	256	240	224	203	203	194	186	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4,145	60	4	1,418	921	967	923	878	1,034	1,086	1,044	984	851	893	851	807	695	730	707	666	783	836	807	762	640	673	662	611
	541, 542	RvEB3	4,145	60	3	1,028	922	966	926	877	1,029	1,084	1,046	985	854	891	854	809	76	79	79	71	82	102	90	79	65	67	66	63
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,240	60	2	513	501	515	495	474	544	584	567	538	458	476	465	430	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2,155	60	2	120	486	508	501	485	545	601	599	570	483	476	466	431	8	13	20	17	28	46	42	42	18	16	13	6
	546, 547	RvEB10	2,155	60	2	165	486	508	501	485	544	601	599	569	483	476	465	431	11	14	20	18	31	42	38	40	18	17	16	8
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,555	60	2	1,053	583	598	593	577	641	706	702	676	575	568	549	510	151	150	152	149	171	194	184	193	157	147	142	128
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,635	60	2	756	586	616	587	553	661	692	659	630	541	567	540	513	46	51	46	45	55	59	62	54	45	48	48	43
	558, 559	RvWB3	2,635	60	2	146	586	615	587	553	660	689	661	631	542	567	540	513	42	50	46	42	60	106	106	67	47	49	43	40
	559, 560	RvWB4	2,635	60	3	151	586	615	588	553	659	683	664	634	542	567	539	514	41	44	42	41	50	47	44	44	37	38	35	35
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,305	60	2	125	516	536	513	483	570	569	560	551	473	496	474	450	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,875	60	2	133	416	435	448	413	479	522	519	519	419	412	393	375	8	13	14	14	12	18	15	15	12	12	13	11
	567, 568	RvWB14	1,875	60	2	750	415	434	447	413	476	522	521	518	420	412	394	375	31	37	37	34	38	41	41	41	38	39	35	31
	568, 569	RvWB15	1,875	60	2	281	414	435	447	414	475	522	522	517	421	411	394	376	9	10	11	12	12	11	10	12	10	9	10	9
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,275	60	4	1,137	755	794	778	747	843	923	927	902	743	737	721	667	105	100	103	100	110	122	123	117	99	106	102	86
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,000	50	2	228	676	712	661	653	735	793	776	748	641	644	628	594	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,000	50	2	168	675	712	662	652	734	794	776	747	640	646	627	595	76	70	70	72	76	80	78	84	73	74	68	68
	701, 702	RvNBoff5	3,000	50	2	198	676	711	663	653	733	794	775	748	640	646	627	594	123	126	121	118	131	147	136	139	113	117	110	101
	702, 703	RvNBoff6	3,000	50	3	130	677	710	662	653	733	794	776	749	639	647	627	594	69	69	66	68	68	69	70	70	63	62	69	65
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	96	93	91	91	98	108	102	107	89	91	85	79	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	400	50	1	200	96	93	91	91	98	108	102	107	89	92	85	79	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	400	50	1	223	96	93	91	91	98	108	102	107	89	91	86	79	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	400	50	1	262	96	93	91	92	98	108	102	107	90	91	85	79	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	400	50	1	264	96	92	91	92	98	108	102	107	89	91	85	79	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,400	50	2	248	341	359	330	332	371	403	402	382	324	329	320	291	7	7	6	7	7	8	8	7	5	5	6	7
	715, 716	RvNBoff21	1,400	50	2	642	342	358	330	332	373	402	403	382	322	329	323	290	15	16	14	13	18	16	16	16	11	15	15	11
	716, 569	RvNBoff22	1,400	50	2	670	343	358	330	332	371	401	403	382	323	329	323	291	16	16	16	16	17	19	19	19	16	16	11	17
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	330	50	1	296	70	79	74	71	89	108	107	87	69	72	65	64	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	330	50	1	127	70	79	74	71	89	108	107	87	69	72	65	65	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,680	50	2	97	361	364	351	350	389	425	410	376	341	352	336	339	13	16	16	14	15	16	16	16	12	15	11	12
	757, 317	RvNBon10	1,680	50	2	123	361	363	351	350	390	424	410	376	341	352	336	339	22	22	23	19	23	24	23	23	20	22	20	18
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	2,290	50	2	223	542	560	570	523	576	622	624	605	532	509	518	495	11	12	14	11	13	22	31	26	22	11	11	9
	770, 7032	RvSBoff2	2,290	50	2	150	542	560	569	524	574	621	625	605	534	508	517	495	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,420	50	3	102	517	543	526	504	569	567	556	532	505	513	494	496	172	178	173	166	190	201	199	185	165	165	163	153
	793, 410	RvSBon5	2,420	50	3	655	517	543	525	505	569	567	555	533	504	514	494	496	178	204	181	157	219	236	211	196	158	170	151	149
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,905	50	2	270	421	451	432	401	485	499	479	449	397	413	389	381	16	17	13	13	14	17	17	14	14	13	12	13
	790, 7011	RvSBon11	1,905	50	2	250	421	451	431	402	484	499	479	449	397	413	389	381	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,600	50	2	311	581	617	572	561	634	685	675	642	551	554	542	516	48	51	47	50	52	56	63	58	48	49	49	45
	708, 710	118NBoff2	2,600	50	2	567	580	619	572	561	633	685	674	640	553	556	542	515	64	66	62	63	69	79	79	75	61	63	59	55
	710, 711	118NBoff3	2,600	50	2	460	579	618	573	562	632	685	674	640	553	557	543	514	104	119	103	98	119	136	138	124	101	101	88	86
	711, 712	118NBoff4	2,600	50	3	472	581	616	574	562	631	686	674	640	554	556	543	514	49	55	47	49	57	56	58	55	45	49	46	40
	712, 713	118NBoff5	2,600	50	3	395	580	616	573	563	630	687	674	639	556	555	545	515	22	24	24	24	26	30	28	26	24	22	21	20
	713, 714	118NBoff6	2,600	50	3	188	581	615	575	562	628	688	674	639	557	554	545	514	9	9	10	9	10	10	12	11	9	8	10	7
	714, 717	118NBoff7	1,200	50	2	212	240	255	245	230	258	285	272	257	233	225	225	225	9	9	8	7	9	9	9	8	7	7	7	7

2040 Master PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,200	50	2	389	241	255	245	230	257	286	271	257	233	226	225	224	11	12	11	8	13	13	12	11	10	8	9	8
	718, 719	118NBoff9	1,200	50	2	373	240	255	245	230	257	286	272	257	232	226	224	224	6	9	6	7	7	9	9	7	5	6	6	6
	719, 720	118NBoff10	1,200	50	2	589	242	254	245	231	256	285	273	258	231	227	224	224	10	8	11	11	12	11	13	11	9	10	10	10
	720, 721	118NBoff11	1,200	50	2	311	243	255	245	230	256	286	272	258	231	227	223	225	6	5	6	3	7	6	6	7	4	4	6	5
	721, 722	118NBoff12	1,200	50	2	327	243	255	245	231	255	286	272	259	231	227	223	224	4	5	5	5	6	6	7	5	5	5	4	4
	722, 723	118NBoff13	1,200	50	2	626	243	254	245	232	255	285	272	258	234	226	223	224	12	13	10	9	12	12	14	10	9	9	10	8
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,800	60	4	1,252	1,055	1,097	1,090	1,029	1,117	1,213	1,193	1,159	1,047	994	998	974	232	236	241	227	233	254	254	257	236	218	218	208
	724, 725	118NBoff15	4,800	60	4	575	1,055	1,097	1,091	1,031	1,115	1,213	1,194	1,159	1,047	995	1,000	974	60	62	58	54	63	72	67	66	56	58	51	51
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,140	60	2	611	697	733	704	663	783	821	788	746	645	678	645	612	219	226	218	216	233	233	235	228	208	212	213	211
	740, 741	118NBon3	3,140	60	2	1,571	694	736	701	662	781	824	786	749	649	675	647	614	133	138	127	117	153	166	162	145	115	127	111	97
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,150	50	1	268	248	267	253	241	290	300	285	272	239	249	237	223	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	1,150	50	1	541	249	267	251	241	291	300	285	273	239	249	237	224	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	1,150	50	1	715	249	267	252	242	290	301	284	273	239	250	236	225	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	1,150	50	1	245	249	266	252	242	289	301	284	274	239	250	236	225	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	1,150	50	1	252	250	266	252	242	289	300	284	273	239	250	235	225	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	1,150	50	1	352	249	265	253	243	288	301	285	274	238	250	235	225	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	1,150	50	1	264	249	265	253	243	287	301	285	274	239	251	235	225	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	1,150	50	1	415	249	264	253	244	286	301	286	273	238	252	235	226	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	1,150	50	1	733	250	263	254	245	285	299	287	272	239	252	236	226	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2,090	50	1	147	485	496	505	473	503	536	543	532	486	457	470	449	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	2,090	50	1	934	483	497	504	474	502	536	543	532	487	457	469	450	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	2,090	50	1	371	482	497	504	474	501	536	543	533	488	456	470	450	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	2,090	50	1	446	482	497	504	474	500	537	543	532	489	456	470	450	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	2,090	50	1	340	482	496	505	474	501	537	543	532	490	455	469	451	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	3,600	50	2	990	812	841	848	798	862	933	919	897	813	770	774	749	117	117	123	118	119	115	126	122	125	120	125	122
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,990	50	1	197	445	469	448	421	491	525	501	478	409	426	409	390	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,990	50	1	119	445	469	448	421	490	525	501	478	409	426	409	390	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,990	50	1	126	445	470	447	421	490	524	502	478	409	425	410	390	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,990	50	1	162	446	469	447	421	490	523	503	478	410	425	410	390	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,990	50	1	200	446	469	447	422	489	523	503	479	410	425	410	391	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,990	50	1	166	446	469	448	422	489	522	504	479	410	425	410	391	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,990	50	1	973	446	467	447	426	486	517	508	481	411	423	411	391	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	700	736	704	666	781	830	790	748	648	679	649	615	458	484	461	448	517	545	517	499	437	448	430	412
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,860	50	2	647	418	449	429	395	469	512	483	450	388	414	393	363	21	22	23	18	24	28	25	21	18	18	18	18
	811, 812	UlmNBon4	1,860	50	2	590	417	451	427	395	469	513	481	452	387	413	394	364	15	19	16	15	18	18	17	15	15	15	14	14
	812, 813	UlmNBon5	1,860	50	2	323	416	451	427	395	469	513	482	453	388	413	393	364	11	9	9	10	11	13	12	12	8	10	10	7
	813, 814	UlmNBon6	1,860	50	2	328	416	451	427	395	468	513	481	453	389	412	394	364	9	9	8	8	10	12	10	8	8	10	9	8
	814, 815	UlmNBon7	1,860	50	2	288	416	450	427	396	469	512	481	453	390	411	393	364	7	8	7	8	8	8	9	9	8	8	6	6
	815, 816	UlmNBon8	1,860	50	2	273	417	449	429	396	469	510	483	452	391	412	393	365	9	9	9	7	8	11	9	9	7	9	8	6
	816, 322	UlmNBon9	1,860	50	2	881	415	449	427	398	467	507	486	452	391	413	392	366	27	27	29	24	28	32	30	30	24	25	24	24
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,180	50	2	316	478	480	487	458	507	552	552	529	467	468	447	429	36	38	40	33	41	46	47	45	37	35	34	32
	830, 831	UlmSBoff2	2,180	50	2	346	478	480	486	458	506	552	553	528	466	468	448	429	14	13	14	15	14	14	15	15	13	13	14	14
	831, 7036	UlmSBoff3	2,180	50	2	283	477	480	486	458	506	552	553	527	468	468	448	428	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,820	50	2	398	398	398	407	381	419	464	460	442	394	390	374	361	15	10	13	12	14	14	14	15	12	14	12	10
	834, 835	UlmSBoff8	1,820	60	2	584	400	397	407	382	418	464	460	443	395	390	375	360	39	41	40	39	42	47	44	41	40	35	40	33
	835, 836	UlmSBoff9	1,820	60	2	481	400	397	407	382	418	464	460	443	396	389	376	360	5	5	6	5	6	6	7	6	6	7	4	4
	836, 837	UlmSBoff10	1,820	60	2	2,160	397	400	406	382	416	463	462	440	399	391	374	362	41	45	40	38	41	48	50	44	45	40	40	31
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,290	35	1	493	280	287	276	272	310	317	306	300	262	265	255	255	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	1,290	35	1	214	280	287	276	272	310	317	306	301	262	265	256	255	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	216	223	216	209	241	245	239	236	203	204	200	199	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	970	35	1	163	216	223	217	209	240	246	239	236	203	205	200	199	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	970	35	1	228	216	224	216	209	240	246	239	236	203	205	200	199	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	970	50	1	1,170	217	222	216	209	241	245	239	237	203	204	201	199	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	64	64	59	63	69	71	66	65	59	60	56	57	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	320	50	1	361	64	64	59	63	69	71	66	65	59	60	56	56	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	320	50	1	499	64	64	59	64	69	71	66	65	60	59	56	57	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	680	50	2	1,171	140	144	140	142	150	161	159	152	136	135	132	128	15	16	15	14	17	18	18	16	14	13	15	12
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1,080	110	113	110	102	124	128	123	116	101	106	100	97	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	490	50	1	350	109	113	110	102	124	128	123	116	102	106	100	97	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	490	50	1	360	109	113	110	103	124	128	123	116	102	105	100	96	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	490	50	1	548	109	114	109	103	123	128	123	116	102	105	102	96	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	76	81	81	79	83	89	92	86	76	77	75	71	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	360	50	1	336	76	81	82	78	82	89	92	86	77	77	75	71	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	360	50	1	395	76	81	81	79	82	88	92	87	76	77	74	72	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	360	50	1	539	76	81	81	79	82	88	92	87	76	77	74	71	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1,270	194	207	196	188	220	229	221	210	180	189	182	170	6	6	5	6	6	7	6	5	5	5	5	4
	901, 902	4thNBon3	880	60	2	634	194	206	196	187	220	229	222	211	180	189	182	171	79	89	83	84	95	100	98	88	82	82	79	73
	902, 903	4thNBon4	880	60	2	322	193	206	196	186	220	229	222	210	180	188	183	170	11	11	9	8	9	10	10	10	7	9	9	8
	903, 904	4thNBon5	880	60	2	279	193	206	197	186	220	229	222	210	180	189	183	170	6	5	5	4	7	6	6	6	5	5	4	3
	904, 905	4thNBon6	880	60	2	388	193	207	196	186	219	231	221	210	180	189	183	171	0	1	1	1	1	1	1	1	0	1	0	1
	905, 906	4thNBon7	880	60	1	313	193	207	197	186	218	231	221	210	181	189	183	170	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	880	60	1	299	192	207	197	186	218	230	222	210	181	189	183	171	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	880	60	1	667	193	207	197	186	217	230	223	209	181	189	183	171	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,440	60	1	465	311	325	316	305	329	353	362	333	305	294	288	268	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	1,440	60	1	492	310	325	317	305	328	352	363	333	305	293	289	268	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	1,440	60	1	420	310	325	317	305	328	351	363	333	306	293	288	268	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	1,440	60	1	393	310	324	318	304	328	351	364	333	306	293	289	269	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	1,440	60	1	384	310	325	318	304	328	351	363	334	304	294	289	269	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	1,440	60	1	354	310	325	318	303	327	352	364	334	304	295	289	269	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	1,440	60	1	501	310	325	319	303	326	352	364	334	304	294	288	269	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	1,440	60	1	416	310	325	318	304	325	352	364	333	305	295	288	270	4	4	4	5	4	5	5	4	4	4	3	4
	927, 928	4thSBoff9	1,440	60	2	1,153	310	325	317	305	325	352	364	333	305	294	289	270	89	95	94	88	96	104	105	99	87	85	80	74
	928, 929	4thSBoff10	1,440	60	2	1,242	310	324	319	305	325	351	363	336	304	295	288	270	31	34	30	29	36	37	40	31	31	29	27	29
	4999, 5000	SULNB1	1,200	70	1	1,116	268	280	267	253	301	315	301	284	247	259	245	235	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	1,200	70	1	2,205	268	279	269	252	300	314	302	284	249	258	247	235	0	0	0	0	0	0	0	0	0	0	0	0

2040 Master PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	5001, 5002	SULNB3	1,200	70	1	528	268	279	269	252	299	314	302	284	249	258	247	235	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	1,200	70	1	346	268	279	268	253	299	313	303	284	249	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	1,200	70	1	235	267	280	269	252	299	312	303	285	249	256	249	234	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	1,200	70	1	270	267	279	269	252	300	312	303	284	250	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	1,200	70	1	238	267	279	269	252	299	313	303	283	250	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	1,200	70	1	261	267	278	270	253	298	313	303	284	250	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	1,200	70	1	451	267	278	269	254	297	314	303	284	250	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	1,200	70	1	242	266	278	269	254	298	314	303	285	250	257	249	234	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	1,200	70	1	158	265	278	270	253	297	314	303	284	250	257	248	235	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	1,200	70	1	539	266	279	269	254	296	315	303	284	250	257	248	234	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	1,200	70	1	564	266	279	269	253	297	314	302	286	250	257	249	234	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	1,200	70	1	1,295	266	278	270	254	296	313	303	286	250	257	249	235	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,240	70	2	409	499	529	508	477	554	590	572	537	481	487	469	451	59	63	63	59	65	67	64	60	60	61	56	56
	5014, 5015	SULNB16	2,240	70	2	2,441	500	528	509	478	551	591	572	539	482	487	470	452	90	93	93	85	100	102	100	93	87	87	84	82
	5015, 5016	SULNB17	2,240	70	2	2,058	500	526	510	479	547	588	574	542	482	487	470	452	59	62	58	58	62	66	63	67	58	57	52	49
	5016, 5017	SULNB18	2,240	70	2	1,249	500	526	507	482	546	589	573	544	483	486	469	453	31	34	35	35	39	36	42	36	31	34	31	31
	5017, 5018	SULNB19	2,240	70	2	1,432	499	526	508	480	545	588	576	541	485	488	468	455	40	43	38	38	42	46	45	38	39	40	32	38
	5018, 5019	SULNB20	2,240	70	2	788	498	526	509	479	544	590	576	540	487	488	468	454	19	23	19	22	22	24	25	23	23	21	19	20
	5019, 5020	SULNB21	2,240	70	2	659	501	524	512	479	543	589	576	540	488	486	468	454	19	18	16	16	18	20	19	19	17	18	16	17
	5020, 5021	SULNB22	2,240	70	2	2,083	498	524	513	481	543	585	574	546	488	486	469	453	52	58	53	52	55	61	63	62	56	58	52	50
	5021, 5022	SULNB23	2,240	70	2	1,364	498	525	511	480	541	588	576	546	488	487	470	452	35	39	40	34	39	37	43	38	40	39	33	35
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,630	70	2	546	590	619	611	569	639	701	682	644	582	578	557	541	119	122	128	114	126	145	136	129	118	117	115	112
	5023, 5024	SULNB25	2,630	70	2	1,030	588	622	608	570	639	699	685	643	583	580	554	543	37	42	40	35	42	45	44	44	36	40	33	34
	5024, 5025	SULNB26	2,630	70	2	820	585	624	608	569	640	695	687	644	583	580	556	542	19	20	22	21	23	22	23	21	24	22	20	18
	5025, 5026	SULNB27	2,630	70	2	2,524	586	617	614	568	638	694	687	643	589	572	563	542	64	74	73	71	75	76	79	72	71	78	65	64
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,040	70	1	266	235	252	238	222	261	280	269	247	229	230	219	218	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	1,040	70	1	528	235	253	237	222	260	279	269	248	229	230	220	219	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	1,040	70	1	379	235	253	236	223	261	279	269	248	229	230	219	218	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	1,040	70	1	376	235	253	237	223	261	279	268	249	230	229	220	218	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	1,040	70	1	363	236	252	237	223	260	279	269	249	229	229	220	217	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	1,040	70	1	352	235	253	236	223	260	278	269	250	229	228	221	217	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	1,040	70	1	831	234	253	237	223	259	278	269	250	229	228	222	218	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	1,040	70	1	1,172	233	253	237	224	259	278	270	249	230	228	221	217	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	1,040	70	1	656	233	252	238	224	258	278	270	250	231	228	222	215	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	1,040	70	1	803	234	251	238	223	258	278	270	249	230	229	222	214	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	1,040	70	1	897	234	251	238	224	257	278	270	250	231	229	221	216	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	1,040	70	1	513	233	251	238	224	257	278	269	251	232	228	223	215	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	1,040	70	1	738	233	250	239	223	259	277	269	251	232	229	222	215	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	390	70	1	513	94	95	99	90	99	112	106	101	92	91	89	87	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,640	70	2	922	588	617	588	558	660	690	664	627	546	566	540	517	141	142	137	128	151	155	158	154	127	130	135	124
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,280	70	2	1,601	507	534	511	484	569	604	573	539	474	493	462	443	33	32	33	29	36	42	35	36	28	31	26	24
	5997, 5998	SULSB1	2,280	70	2	826	505	536	511	485	569	604	574	539	474	494	463	442	20	21	21	18	22	24	21	21	19	19	19	16
	5998, 5999	SULSB1	2,280	70	2	1,034	504	536	511	486	566	604	573	540	473	496	462	442	27	29	29	24	32	32	31	27	23	28	23	21
	5999, 6000	SULSB1	2,280	70	2	1,921	503	536	511	487	565	604	574	541	474	496	462	442	51	53	52	47	59	61	59	53	48	49	48	47
	6000, 6001	SULSB2	2,280	70	2	2,057	504	536	514	485	564	602	576	542	477	492	465	443	57	58	59	51	61	62	60	56	53	55	51	52
	6001, 6002	SULSB3	2,280	70	2	547	503	537	511	486	564	602	577	541	477	493	466	441	12	15	14	12	17	17	17	16	16	13	15	14
	6002, 6003	SULSB4	2,280	70	2	424	504	537	511	486	564	601	578	541	476	492	467	440	12	13	11	11	13	14	13	14	12	11	12	9
	6003, 6004	SULSB5	2,280	70	2	1,865	506	534	511	489	560	605	577	541	480	489	469	442	50	53	51	46	54	56	58	47	47	52	45	44
	6004, 6005	SULSB6	2,280	70	2	1,086	507	531	514	488	560	602	574	545	482	487	469	443	30	30	30	28	34	35	32	32	25	26	28	24
	6005, 6006	SULSB7	2,280	70	2	4,087	507	531	515	490	553	601	573	552	482	489	471	444	291	314	305	285	324	334	328	325	273	296	276	267
	6006, 6007	SULSB8	2,280	70	2	1,179	507	531	513	494	550	600	573	553	480	490	470	448	34	32	33	31	37	45	39	38	28	29	25	22
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,510	70	1	1,199	334	347	337	329	363	396	377	364	316	317	305	294	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	1,510	70	1	614	333	347	337	329	364	396	376	364	317	318	304	293	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	1,510	70	1	382	331	349	336	328	364	396	376	365	317	318	304	294	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	1,510	70	1	135	331	349	336	328	364	396	376	365	317	318	304	294	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	1,510	70	1	204	331	349	337	327	364	395	376	365	318	318	303	295	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	1,510	70	1	613	331	348	338	326	365	395	376	365	319	316	303	295	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	1,510	70	1	251	330	348	338	326	365	396	375	366	321	315	303	296	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	1,510	70	1	233	331	348	338	325	365	396	374	365	321	315	303	296	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	1,510	70	1	274	331	348	339	324	366	395	374	365	322	315	303	297	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	1,510	70	1	238	331	348	339	324	366	395	373	365	322	315	304	296	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	1,510	70	1	314	331	348	340	324	365	397	373	366	322	315	305	296	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	1,510	70	1	879	328	348	341	324	365	397	373	367	322	314	305	295	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	1,510	70	1	207	328	348	341	324	365	396	373	366	321	315	305	295	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	770	70	1	1,013	173	182	175	167	187	205	198	187	166	171	165	153	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	770	70	1	621	172	182	174	168	186	206	197	186	167	170	165	153	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	770	70	1	317	173	181	174	168	185	205	197	186	167	170	166	153	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	770	70	1	915	172	182	174	167	184	205	199	187	167	169	166	153	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	770	70	1	1,093	173	181	175	167	184	206	198	186	169	169	164	155	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	770	70	1	1,068	172	182	175	167	185	204	199	185	169	168	165	155	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	770	70	1	788	171	182	175	166	185	205	199	185	169	169	166	155	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	770	70	1	367	171	182	174	168	184	205	199	185	170	169	166	155	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	770	70	1	373	171	181	174	168	183	205	199	186	169	169	166	155	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	770	70	1	445	171	182	174	168	182	205	199	186	170	169	166	155	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	770	70	1	8,866	172	175	181	167	182	201	204	187	170	169	167	154	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 420	SULSBRamp12	770	70	1	292	172	175	180	167	182	201	203	187	169	170	167	154	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	360	70	1	167	81	82	77	75	88	88	89	87	72	76	79	73	0	0	0	0	0	0	0	0	0	0	0	0

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	298, 299	I275NB1	7,470	70	4	1,087	23.2	26.3	21.3	66.1	65.4	66.4	5,677	7,470	6,200	6,646	7,476	6,135
	299, 300	I275NB2	7,470	70	4	805										6,646	7,474	6,136
	300, 301	I275NB3	7,470	70	4	478										6,645	7,475	6,137
	301, 302	I275NB4	7,470	70	4	2,687										6,644	7,469	6,150
	302, 303	I275NB5	7,470	70	5	382										6,643	7,467	6,152
NB I-275 from Gandy Off Ramp to Gandy On Ramp	303, 304	I275NB6	5,030	70	4	1,375	16.6	18.7	15.3	67.0	66.7	67.2	3,823	5,030	4,175	4,448	4,999	4,124
	304, 305	I275NB7	5,030	70	4	1,306										4,451	4,995	4,130
	305, 306	I275NB8	5,030	70	4	591										4,451	4,995	4,131
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	306, 307	I275NB9	6,230	70	6	764	16.0	18.0	14.8	66.2	65.8	66.5	4,735	6,230	5,171	5,513	6,180	5,118
	307, 308	I275NB10	6,230	70	6	3,335										5,517	6,170	5,130
	308, 309	I275NB11	6,230	70	5	350										5,518	6,169	5,131
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	309, 310	I275NB12	5,190	70	4	745	17.8	20.2	16.4	64.2	63.2	64.7	3,944	5,190	4,308	4,572	5,108	4,238
	310, 311	I275NB13	5,190	70	4	380										4,572	5,109	4,238
	311, 312	I275NB14	5,190	70	4	399										4,572	5,107	4,239
	312, 313	I275NB15	5,190	70	4	368										4,571	5,106	4,240
	313, 314	I275NB16	5,190	70	4	460										4,571	5,104	4,243
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,190	70	3	879	9.2	10.1	8.5	68.1	67.9	68.2	1,664	2,190	1,818	1,870	2,053	1,736
	315, 316	I275NB18	2,190	70	3	1,293										1,870	2,054	1,736
	316, 317	I275NB19	2,190	70	3	1,158										1,870	2,053	1,737
NB I-275 from Roosevelt/118th Off Ramp to MLK On Ramp	317, 318	I275NB20	3,870	70	5	372	12.1	13.4	11.3	66.6	66.2	66.7	2,941	3,870	3,212	3,296	3,651	3,106
	318, 319	I275NB21	3,870	70	5	2,609										3,298	3,647	3,109
	319, 320	I275NB22	3,870	70	4	1,810										3,301	3,643	3,112
	320, 321	I275NB23	3,870	70	4	495										3,300	3,643	3,113
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,360	70	4	1,808	13.1	14.6	12.3	66.5	66.2	66.6	3,314	4,360	3,619	3,739	4,129	3,523
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,220	70	5	1,261	15.9	18.0	14.8	64.9	64.0	65.3	4,727	6,220	5,163	5,430	6,040	5,087
	323, 324	I275NB26	6,220	70	5	1,405										5,427	6,046	5,085
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,100	70	5	839	18.5	20.9	17.2	65.7	64.7	66.0	5,396	7,100	5,893	6,210	6,925	5,811
	325, 326	I275NB28	7,100	70	5	664										6,213	6,922	5,811
	326, 327	I275NB29	7,100	70	5	2,007										6,219	6,912	5,820
	327, 328	I275NB30	7,100	70	5	868										6,217	6,909	5,827
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	328, 329	I275NB31	6,710	70	4	1,068	22.1	24.7	20.6	66.1	65.6	66.4	5,100	6,710	5,569	5,841	6,488	5,470
	329, 330	I275NB32	6,710	70	4	1,023										5,834	6,487	5,475
	330, 331	I275NB33	6,710	70	4	824										5,838	6,486	5,478
	331, 332	I275NB34	6,710	70	4	2,521										5,841	6,475	5,488
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	8,160	70	4	1,081	30.0	65.4	25.8	62.1	33.0	66.1	6,202	8,160	6,773	7,265	8,151	6,710
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	8,520	70	5	1,446	34.5	41.5	29.9	54.6	51.9	57.5	6,475	8,520	7,072	7,592	8,466	7,063
	395, 396	I275SB1	8,520	70	5	816										7,590	8,463	7,073
	396, 397	I275SB1	8,520	70	4	1,045										7,591	8,458	7,080
	397, 398	I275SB1	8,520	70	4	1,908										7,591	8,453	7,089
	398, 399	I275SB1	8,520	70	4	2,118										7,596	8,446	7,101
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	7,080	70	4	2,746	21.8	24.7	20.5	64.6	63.8	64.8	5,381	7,080	5,876	6,335	7,068	5,956
	400, 401	I275SB3	7,080	70	5	1,080										6,334	7,066	5,959
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,900	70	4	4,105	16.5	18.5	15.4	67.0	66.7	67.2	3,724	4,900	4,067	4,429	4,924	4,157
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,870	70	5	720	20.1	23.1	18.7	62.2	60.3	62.6	4,461	5,870	4,872	5,297	5,881	4,965
	403, 404	I275SB6	5,870	70	5	1,327										5,305	5,871	4,972
	404, 405	I275SB7	5,870	70	4	461										5,304	5,871	4,973
	405, 406	I275SB8	5,870	70	4	452										5,304	5,867	4,977
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,580	70	3	855	15.4	17.2	14.5	67.3	66.8	67.4	2,721	3,580	2,971	3,111	3,438	2,928
	407, 408	I275SB10	3,580	70	3	347										3,111	3,437	2,928
	408, 409	I275SB11	3,580	70	3	1,585										3,113	3,431	2,933
	409, 410	I275SB12	3,580	70	3	458										3,114	3,431	2,933
SB I-275 from Roosevelt On Ramp to 118th	410, 411	I275SB13	6,000	70	5	629										5,204	5,655	4,941

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	411, 412	I275SB14	6,000	70	5	247	18.5	20.5	17.4	62.3	61.1	62.7	4,560	6,000	4,980	5,203	5,655	4,941
	412, 413	I275SB15	6,000	70	4	608										5,202	5,656	4,942
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	7,990	70	5	492	32.9	47.8	28.8	52.2	40.3	56.0	6,072	7,990	6,632	6,988	7,642	6,586
	414, 415	I275SB17	7,990	70	5	3,870										6,999	7,593	6,635
	415, 416	I275SB18	7,990	70	4	1,086										6,999	7,583	6,650
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	6,340	70	3	1,385	28.4	31.8	26.5	62.5	60.6	63.8	4,818	6,340	5,262	5,312	5,769	5,063
	417, 418	I275SB20	6,340	70	3	343										5,312	5,768	5,064
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	7,590	70	4	1,507	24.2	26.7	22.8	63.7	62.9	64.1	5,768	7,590	6,300	6,171	6,722	5,854
SB I-275 Between Gandy On Ramp and SUL On Ramp	419, 420	I275SB22	8,710	70	5	1,015	22.2	24.6	20.9	63.8	62.9	64.2	6,620	8,710	7,229	7,082	7,728	6,713
SB I-275 from SB SUL Slip Ramp to South of Gandy	420, 421	I275SB23	9,480	70	6	2,282	23.6	26.0	22.3	65.6	65.0	65.8	7,205	9,480	7,868	7,768	8,501	7,381
	421, 422	I275SB24	9,480	70	5	430										7,769	8,499	7,384
	422, 423	I275SB25	9,480	70	5	403										7,769	8,497	7,386
	423, 424	I275SB26	9,480	70	5	426										7,770	8,493	7,388
	424, 425	I275SB27	9,480	70	5	412										7,770	8,492	7,390
	425, 426	I275SB28	9,480	70	5	734										7,770	8,493	7,388
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,460	50	3	841	18.1	21.3	16.5	47.2	45.2	47.9	2,630	3,460	2,872	3,081	3,456	2,845
	500, 501	GandyEB3	3,460	50	4	954										3,081	3,455	2,848
	501, 502	GandyEB4	3,460	50	5	174										3,080	3,455	2,849
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,140	50	3	178	7.7	9.0	7.0	47.8	46.7	48.4	866	1,140	946	1,103	1,259	1,014
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,140	50	3	99	8.2	9.4	7.5	49.0	48.8	49.1	866	1,140	946	1,104	1,259	1,015
	505, 506	GandyEB10	1,140	50	3	119										1,104	1,260	1,014
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	4,915	50	3	1,167	16.5	18.9	15.2	46.6	46.2	46.8	3,735	4,915	4,079	2,434	2,763	2,260
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,275	55	3	181	16.4	18.5	15.0	50.9	50.5	51.2	2,489	3,275	2,718	2,917	3,271	2,692
	520, 521	GandyWB5	3,275	55	3	291										2,917	3,271	2,693
	521, 522	GandyWB6	3,275	55	4	590										2,917	3,269	2,696
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,025	55	3	1,768	12.8	14.4	11.9	53.6	53.4	53.7	1,539	2,025	1,681	2,060	2,310	1,915
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,615	55	5	1,179	17.4	19.2	16.2	53.0	52.9	53.1	3,507	4,615	3,830	4,609	5,076	4,314
	524, 525	GandyWB9	4,615	55	5	455										4,609	5,074	4,318
NB I-275 Off Ramp to Gandy	303, 600	GdyNBoff1	2,440	50	2	269	22.1	25.1	20.3	49.7	49.1	50.1	1,854	2,440	2,025	2,198	2,464	2,030
	600, 7001	GdyNBoff2	2,440	50	2	167										2,198	2,464	2,030
NB I-275 Off Ramp to EB Gandy	7021, 3	GdyNBoff5	1,500	50	1	263	29.7	34.0	27.6	45.5	44.9	45.7	1,140	1,500	1,245	1,332	1,503	1,245
	3, 4	GdyNBoff6	1,500	50	1	359										1,331	1,503	1,245
	4, 5	GdyNBoff7	1,500	50	1	464										1,331	1,503	1,245
	5, 506	GdyNBoff8	1,500	50	1	241										1,331	1,503	1,245
NB I-275 Off Ramp to WB Gandy	7013, 2	GdyNBoff10	940	50	1	267	18.7	20.7	17.0	46.8	46.8	47.1	714	940	780	865	959	791
	2, 8	GdyNBoff11	940	50	1	341										866	960	790
	8, 9	GdyNBoff12	940	50	1	483										866	960	789
	9, 10	GdyNBoff13	940	50	1	492										867	960	791
	10, 11	GdyNBoff14	940	50	1	389										867	959	792
	11, 7022	GdyNBoff15	940	50	1	196										867	958	793
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,320	50	2	179	31.9	47.2	25.2	31.9	24.3	36.7	1,763	2,320	1,926	1,976	2,196	1,836
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,200	50	2	501	11.0	12.3	10.2	48.6	48.6	48.8	912	1,200	996	1,063	1,185	986
	623, 624	GdyNBon6	1,200	50	2	299										1,064	1,185	986
	624, 625	GdyNBon7	1,200	50	2	253										1,064	1,185	986
	625, 626	GdyNBon8	1,200	50	2	238										1,064	1,185	986
	626, 627	GdyNBon9	1,200	50	2	242										1,064	1,184	986
	627, 628	GdyNBon10	1,200	50	2	277										1,063	1,185	986
	628, 629	GdyNBon11	1,200	50	2	337										1,064	1,186	985
	629, 630	GdyNBon12	1,200	50	2	877										1,064	1,186	985
	630, 306	GdyNBon13	1,200	50	2	344										1,063	1,186	986

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,650	50	2	481	17.3	18.7	16.4	48.6	48.4	48.7	1,254	1,650	1,370	1,685	1,814	1,593
	660, 661	GdySBoff2	1,650	50	2	394										1,685	1,813	1,594
	661, 7020	GdySBoff3	1,650	50	2	336										1,685	1,812	1,595
SB I-275 Off Ramp to Gandy	7024, 662	GdySBoff6	2,590	50	2	714	27.7	30.1	25.8	46.9	46.7	47.1	1,968	2,590	2,150	2,554	2,765	2,394
	662, 523	GdySBoff7	2,590	50	2	424										2,554	2,765	2,395
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,120	50	1	286	20.0	22.5	18.8	46.8	46.1	46.5	851	1,120	930	913	1,010	852
	621, 622	GdySBon3	1,120	50	1	204										913	1,010	852
	622, 419	GdySBon4	1,120	50	1	319										913	1,009	853
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,250	35	1	302	25.8	28.8	23.4	33.4	33.2	33.5	950	1,250	1,038	860	957	784
	640, 641	GdySBonLoop2	1,250	35	1	259										860	956	784
	641, 642	GdySBonLoop3	1,250	35	1	227										861	956	785
	642, 643	GdySBonLoop4	1,250	35	1	211										861	956	785
	643, 644	GdySBonLoop5	1,250	35	1	211										860	956	785
	644, 645	GdySBonLoop6	1,250	35	1	207										860	957	784
	645, 418	GdySBonLoop7	1,250	35	1	252										860	956	786
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	4,145	60	4	1,418	19.0	21.7	17.4	56.6	55.7	56.8	3,150	4,145	3,440	3,690	4,147	3,401
	541, 542	RvEB3	4,145	60	3	1,028										3,691	4,145	3,407
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,240	60	2	513	17.2	20.8	15.8	57.7	55.5	57.8	1,702	2,240	1,859	1,985	2,234	1,828
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	2,155	60	2	120	19.6	26.1	18.5	54.1	47.8	53.6	1,638	2,155	1,789	1,980	2,314	1,855
	546, 547	RvEB10	2,155	60	2	165										1,980	2,313	1,856
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,555	60	2	1,053	17.6	21.4	16.5	56.0	53.6	56.1	1,942	2,555	2,121	2,351	2,725	2,202
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,635	60	2	756	19.3	29.3	17.7	57.7	48.3	57.8	2,003	2,635	2,187	2,341	2,641	2,161
	558, 559	RvWB3	2,635	60	2	146										2,341	2,641	2,162
	559, 560	RvWB4	2,635	60	3	151										2,342	2,640	2,162
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,305	60	2	125	18.6	80.2	16.9	55.2	22.0	55.9	1,752	2,305	1,913	2,048	2,251	1,892
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,875	60	2	133	15.3	18.4	14.3	56.9	56.3	57.1	1,425	1,875	1,556	1,711	2,039	1,599
	567, 568	RvWB14	1,875	60	2	750										1,710	2,037	1,602
	568, 569	RvWB15	1,875	60	2	281										1,710	2,037	1,603
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,275	60	4	1,137	13.4	15.7	12.4	57.5	57.4	57.6	2,489	3,275	2,718	3,074	3,595	2,868
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	3,000	50	2	228	27.3	31.3	25.2	49.5	48.7	49.8	2,280	3,000	2,490	2,701	3,051	2,507
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	3,000	50	2	168	24.2	27.6	22.3	46.6	46.1	46.8	2,280	3,000	2,490	2,701	3,051	2,507
	701, 702	RvNBoff5	3,000	50	2	198										2,702	3,050	2,507
	702, 703	RvNBoff6	3,000	50	3	130										2,702	3,051	2,507
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	400	50	1	336	7.6	8.5	7.0	49.1	48.9	49.0	304	400	332	371	415	344
	704, 705	RvNBoff8	400	50	1	200										371	415	344
	705, 706	RvNBoff9	400	50	1	223										371	415	344
	706, 707	RvNBoff10	400	50	1	262										371	415	344
	707, 547	RvNBoff11	400	50	1	264										371	415	344
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,400	50	2	248	13.9	15.9	12.9	49.1	49.0	49.1	1,064	1,400	1,162	1,362	1,559	1,263
	715, 716	RvNBoff21	1,400	50	2	642										1,362	1,559	1,264
	716, 569	RvNBoff22	1,400	50	2	670										1,363	1,558	1,265
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	330	50	1	296	5.7	8.4	5.2	51.9	47.4	52.1	251	330	274	294	390	270
	758, 7016	RvNBon4	330	50	1	127										294	390	270
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,680	50	2	97	16.8	18.9	16.0	46.2	46.1	46.4	1,277	1,680	1,394	1,425	1,599	1,368
	757, 317	RvNBon10	1,680	50	2	123										1,425	1,600	1,368
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	2,290	50	2	223	23.1	35.3	22.3	47.8	40.1	47.9	1,740	2,290	1,901	2,194	2,427	2,053
	770, 7032	RvSBoff2	2,290	50	2	150										2,195	2,425	2,054
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,420	50	3	102	24.0	26.6	22.6	41.0	39.4	41.7	1,839	2,420	2,009	2,090	2,224	2,007
	793, 410	RvSBon5	2,420	50	3	655										2,089	2,225	2,008
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,905	50	2	270	17.6	19.8	16.3	48.5	48.2	48.6	1,448	1,905	1,581	1,705	1,912	1,579
	790, 7011	RvSBon11	1,905	50	2	250										1,705	1,911	1,580

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,600	50	2	311	19.6	22.3	18.2	48.0	47.7	48.0	1,976	2,600	2,158	2,331	2,636	2,163
	708, 710	118NBoff2	2,600	50	2	567										2,332	2,632	2,166
	710, 711	118NBoff3	2,600	50	2	460										2,332	2,631	2,167
	711, 712	118NBoff4	2,600	50	3	472										2,333	2,630	2,168
	712, 713	118NBoff5	2,600	50	3	395										2,333	2,629	2,170
	713, 714	118NBoff6	2,600	50	3	188										2,333	2,629	2,171
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,200	50	2	212	10.0	11.0	9.3	48.7	48.6	48.7	912	1,200	996	970	1,071	908
	717, 718	118NBoff8	1,200	50	2	389										971	1,071	907
	718, 719	118NBoff9	1,200	50	2	373										971	1,072	906
	719, 720	118NBoff10	1,200	50	2	589										972	1,072	906
	720, 721	118NBoff11	1,200	50	2	311										972	1,072	906
	721, 722	118NBoff12	1,200	50	2	327										973	1,072	906
	722, 723	118NBoff13	1,200	50	2	626										974	1,070	907
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	4,800	60	4	1,252	19.1	21.0	17.9	56.0	55.8	56.2	3,648	4,800	3,984	4,271	4,682	4,014
	724, 725	118NBoff15	4,800	60	4	575										4,274	4,680	4,016
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	3,140	60	2	611	25.3	28.9	23.2	55.7	54.9	56.1	2,386	3,140	2,606	2,797	3,138	2,581
	740, 741	118NBon3	3,140	60	2	1,571										2,792	3,140	2,584
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,150	50	1	268	21.3	24.4	20.0	47.4	47.1	47.5	874	1,150	955	1,009	1,147	949
	748, 749	118NBon5	1,150	50	1	541										1,009	1,148	948
	749, 750	118NBon6	1,150	50	1	715										1,009	1,147	949
	750, 751	118NBon7	1,150	50	1	245										1,009	1,147	949
	751, 752	118NBon8	1,150	50	1	252										1,009	1,147	949
	752, 753	118NBon9	1,150	50	1	352										1,010	1,147	949
	753, 754	118NBon10	1,150	50	1	264										1,009	1,147	949
	754, 755	118NBon11	1,150	50	1	415										1,010	1,146	950
	755, 7009	118NBon12	1,150	50	1	733										1,011	1,143	952
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	2,090	50	1	147	44.8	48.7	42.4	44.4	44.2	44.7	1,588	2,090	1,735	1,958	2,114	1,862
	775, 776	118SBoff3	2,090	50	1	934										1,957	2,114	1,863
	776, 777	118SBoff4	2,090	50	1	371										1,957	2,113	1,863
	777, 778	118SBoff5	2,090	50	1	446										1,957	2,113	1,864
	778, 6020	118SBoff6	2,090	50	1	340										1,957	2,112	1,865
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	3,600	50	2	990	34.3	37.7	32.1	48.1	47.9	48.3	2,736	3,600	2,988	3,298	3,611	3,105
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,990	50	1	197	39.9	51.3	35.9	44.8	40.3	45.6	1,512	1,990	1,652	1,783	1,994	1,635
	742, 743	118SBon2	1,990	50	1	119										1,783	1,994	1,635
	743, 744	118SBon3	1,990	50	1	126										1,783	1,994	1,635
	744, 745	118SBon4	1,990	50	1	162										1,783	1,994	1,635
	745, 746	118SBon5	1,990	50	1	200										1,784	1,994	1,635
	746, 747	118SBon6	1,990	50	1	166										1,784	1,994	1,635
	747, 413	118SBon7	1,990	50	1	973										1,786	1,992	1,636
EB Ulmerton from West of I-275 to I-275 On Ramp	800, 801	UlmNBon2	3,150	60	3	2,420	16.4	18.5	15.1	57.5	57.2	57.6	2,394	3,150	2,615	2,806	3,149	2,591
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,860	50	2	647	17.4	19.9	16.0	48.5	48.2	48.6	1,414	1,860	1,544	1,691	1,914	1,557
	811, 812	UlmNBon4	1,860	50	2	590										1,691	1,915	1,558
	812, 813	UlmNBon5	1,860	50	2	323										1,690	1,915	1,557
	813, 814	UlmNBon6	1,860	50	2	328										1,690	1,915	1,558
	814, 815	UlmNBon7	1,860	50	2	288										1,689	1,915	1,559
	815, 816	UlmNBon8	1,860	50	2	273										1,690	1,913	1,561
	816, 322	UlmNBon9	1,860	50	2	881										1,689	1,912	1,562
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,180	50	2	316	19.6	22.2	18.7	48.4	48.2	48.4	1,657	2,180	1,809	1,902	2,140	1,812
	830, 831	UlmSBoff2	2,180	50	2	346										1,902	2,139	1,812
	831, 7036	UlmSBoff3	2,180	50	2	283										1,901	2,138	1,813
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,820	50	2	398	14.1	16.0	13.6	56.6	56.3	56.5	1,383	1,820	1,511	1,585	1,786	1,519
	834, 835	UlmSBoff8	1,820	60	2	584										1,587	1,785	1,520
	835, 836	UlmSBoff9	1,820	60	2	481										1,586	1,784	1,521
	836, 837	UlmSBoff10	1,820	60	2	2,160										1,586	1,781	1,526

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,290	35	1	493	25.8	28.9	23.8	44.2	43.7	44.7	980	1,290	1,071	1,115	1,233	1,037
	802, 803	UlmSBon2	1,290	35	1	214										1,115	1,233	1,037
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	970	35	1	163	21.4	23.8	19.9	41.3	41.2	41.4	737	970	805	864	961	807
	808, 809	UlmSBon4	970	35	1	163										865	961	807
	809, 810	UlmSBon5	970	35	1	228										865	961	806
	810, 402	UlmSBon6	970	50	1	1,170										865	961	807
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	320	35	1	201	5.8	6.3	5.4	43.7	43.7	43.9	243	320	266	250	272	232
	804, 805	UlmSBMLK2	320	50	1	361										251	272	232
	805, 806	UlmSBMLK3	320	50	1	499										251	272	232
SB MLK	806, 807	UlmSBMLK4	680	50	2	1,171	5.8	6.3	5.4	49.1	49.1	49.3	517	680	564	567	622	530
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	490	50	1	1,080	8.9	10.0	8.2	49.3	49.2	49.4	372	490	407	435	491	404
	851, 852	MLKNBon3	490	50	1	350										435	490	404
	852, 853	MLKNBon4	490	50	1	360										435	490	404
	853, 321	MLKNBon5	490	50	1	548										435	490	404
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	360	50	1	294	6.6	7.2	6.2	48.8	48.8	48.9	274	360	299	317	349	299
	839, 840	MLKSBoff4	360	50	1	336										317	349	299
	840, 841	MLKSBoff5	360	50	1	395										317	349	299
	841, 806	MLKSBoff6	360	50	1	539										317	349	298
NB I-275 On Ramp from 4th	900, 901	4thNBon2	880	60	2	1,270	8.9	10.0	8.1	58.4	58.3	58.7	669	880	730	784	880	721
	901, 902	4thNBon3	880	60	2	634										783	881	722
	902, 903	4thNBon4	880	60	2	322										782	881	721
	903, 904	4thNBon5	880	60	2	279										782	881	722
	904, 905	4thNBon6	880	60	2	388										782	881	723
	905, 906	4thNBon7	880	60	1	313										782	880	723
	906, 907	4thNBon8	880	60	1	299										782	880	724
	907, 324	4thNBon9	880	60	1	667										783	879	724
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,440	60	1	465	17.5	19.3	16.1	57.2	56.9	57.2	1,094	1,440	1,195	1,256	1,376	1,155
	920, 921	4thSBoff2	1,440	60	1	492										1,256	1,376	1,155
	921, 922	4thSBoff3	1,440	60	1	420										1,257	1,376	1,155
	922, 923	4thSBoff4	1,440	60	1	393										1,256	1,376	1,156
	923, 924	4thSBoff5	1,440	60	1	384										1,256	1,376	1,156
	924, 925	4thSBoff6	1,440	60	1	354										1,256	1,376	1,156
	925, 926	4thSBoff7	1,440	60	1	501										1,257	1,376	1,156
	926, 927	4thSBoff8	1,440	60	1	416										1,257	1,375	1,157
	927, 928	4thSBoff9	1,440	60	2	1,153										1,258	1,374	1,158
	928, 929	4thSBoff10	1,440	60	2	1,242										1,258	1,374	1,157
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,200	70	1	1,116	16.2	18.2	14.9	66.2	66.0	66.5	912	1,200	996	1,067	1,201	986
	5000, 5001	SULNB2	1,200	70	1	2,205										1,067	1,200	988
	5001, 5002	SULNB3	1,200	70	1	528										1,068	1,199	988
	5002, 5003	SULNB4	1,200	70	1	346										1,068	1,199	988
	5003, 5004	SULNB5	1,200	70	1	235										1,068	1,199	989
	5004, 5005	SULNB6	1,200	70	1	270										1,067	1,199	989
	5005, 5006	SULNB7	1,200	70	1	238										1,067	1,198	989
	5006, 5007	SULNB8	1,200	70	1	261										1,068	1,198	989
	5007, 5008	SULNB9	1,200	70	1	451										1,068	1,198	989
	5008, 5009	SULNB10	1,200	70	1	242										1,067	1,198	989
	5009, 5010	SULNB11	1,200	70	1	158										1,067	1,199	990
	5010, 5011	SULNB12	1,200	70	1	539										1,068	1,198	990
	5011, 5012	SULNB13	1,200	70	1	564										1,068	1,199	990
	5012, 5013	SULNB14	1,200	70	1	1,295										1,068	1,198	990
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	2,240	70	2	409	15.2	17.1	14.2	66.2	65.9	66.5	1,702	2,240	1,859	2,013	2,253	1,889
	5014, 5015	SULNB16	2,240	70	2	2,441										2,014	2,253	1,891
	5015, 5016	SULNB17	2,240	70	2	2,058										2,015	2,252	1,890
	5016, 5017	SULNB18	2,240	70	2	1,249										2,015	2,252	1,891
	5017, 5018	SULNB19	2,240	70	2	1,432										2,013	2,251	1,895

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
[illegible]	5018, 5019	SULNB20	2,240	70	2	788										2,013	2,249	1,897
	5019, 5020	SULNB21	2,240	70	2	659										2,015	2,248	1,897
	5020, 5021	SULNB22	2,240	70	2	2,083										2,015	2,249	1,895
	5021, 5022	SULNB23	2,240	70	2	1,364										2,013	2,250	1,897
NB SUL from Slip Ramp North of 4th to Howard Frankland Bridge	5022, 5023	SULNB24	2,630	70	2	546	17.7	19.9	16.6	65.3	64.9	65.8	1,999	2,630	2,183	2,389	2,667	2,258
	5023, 5024	SULNB25	2,630	70	2	1,030										2,388	2,666	2,260
	5024, 5025	SULNB26	2,630	70	2	820										2,386	2,666	2,260
	5025, 5026	SULNB27	2,630	70	2	2,524										2,386	2,662	2,267
NB I-275 Slip Ramp to NB SUL	309, 5100	SULNBRamp1	1,040	70	1	266	14.5	16.2	13.7	65.4	65.2	65.6	790	1,040	863	947	1,057	897
	5100, 5101	SULNBRamp2	1,040	70	1	528										947	1,057	897
	5101, 5102	SULNBRamp3	1,040	70	1	379										947	1,057	896
	5102, 5103	SULNBRamp4	1,040	70	1	376										947	1,057	896
	5103, 5104	SULNBRamp5	1,040	70	1	363										947	1,057	895
	5104, 5105	SULNBRamp6	1,040	70	1	352										947	1,057	895
	5105, 5106	SULNBRamp7	1,040	70	1	831										947	1,056	897
	5106, 5107	SULNBRamp8	1,040	70	1	1,172										947	1,055	896
	5107, 5108	SULNBRamp9	1,040	70	1	656										947	1,055	895
	5108, 5109	SULNBRamp10	1,040	70	1	803										946	1,055	895
	5109, 5110	SULNBRamp11	1,040	70	1	897										945	1,055	896
	5110, 5111	SULNBRamp12	1,040	70	1	513										946	1,054	897
	5111, 5013	SULNBRamp13	1,040	70	1	738										945	1,055	898
NB I-275 Slip Ramp to NB SUL	328, 5022	SULNBRamp100	390	70	1	513	5.5	6.1	5.3	68.1	68.0	68.3	296	390	324	378	418	359
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	2,640	70	2	922	14.3	16.2	13.1	66.1	65.3	66.6	2,006	2,640	2,191	2,350	2,641	2,169
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	2,280	70	2	1,601	15.6	17.7	14.4	66.4	66.1	66.8	1,733	2,280	1,892	2,036	2,286	1,872
	5997, 5998	SULSB1	2,280	70	2	826										2,036	2,286	1,873
	5998, 5999	SULSB1	2,280	70	2	1,034										2,037	2,284	1,873
	5999, 6000	SULSB1	2,280	70	2	1,921										2,037	2,284	1,874
	6000, 6001	SULSB2	2,280	70	2	2,057										2,038	2,284	1,876
	6001, 6002	SULSB3	2,280	70	2	547										2,038	2,284	1,876
	6002, 6003	SULSB4	2,280	70	2	424										2,038	2,284	1,876
	6003, 6004	SULSB5	2,280	70	2	1,865										2,039	2,283	1,879
	6004, 6005	SULSB6	2,280	70	2	1,086										2,041	2,281	1,881
	6005, 6006	SULSB7	2,280	70	2	4,087										2,043	2,280	1,885
	6006, 6007	SULSB8	2,280	70	2	1,179										2,044	2,276	1,888
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,510	70	1	1,199	21.0	23.6	19.1	64.1	63.7	64.5	1,148	1,510	1,253	1,347	1,500	1,232
	6008, 6009	SULSB10	1,510	70	1	614										1,345	1,500	1,232
	6009, 6010	SULSB11	1,510	70	1	382										1,344	1,501	1,232
	6010, 6011	SULSB12	1,510	70	1	135										1,344	1,501	1,233
	6011, 6012	SULSB13	1,510	70	1	204										1,343	1,500	1,233
	6012, 6013	SULSB14	1,510	70	1	613										1,342	1,501	1,233
	6013, 6014	SULSB15	1,510	70	1	251										1,342	1,501	1,235
	6014, 6015	SULSB16	1,510	70	1	233										1,342	1,501	1,236
	6015, 6016	SULSB17	1,510	70	1	274										1,342	1,501	1,237
	6016, 6017	SULSB18	1,510	70	1	238										1,343	1,500	1,237
	6017, 6018	SULSB19	1,510	70	1	314										1,343	1,500	1,237
	6018, 6019	SULSB20	1,510	70	1	879										1,341	1,501	1,236
	6019, 6020	SULSB21	1,510	70	1	207										1,341	1,501	1,235
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	770	70	1	1,013	10.7	11.9	10.1	64.9	64.9	65.0	585	770	639	696	776	655
	6100, 6101	SULSBRamp2	770	70	1	621										696	774	656
	6101, 6102	SULSBRamp3	770	70	1	317										696	774	655
	6102, 6103	SULSBRamp4	770	70	1	915										695	775	654
	6103, 6104	SULSBRamp5	770	70	1	1,093										695	774	657
	6104, 6105	SULSBRamp6	770	70	1	1,068										695	773	658
	6105, 6106	SULSBRamp7	770	70	1	788										694	773	658

2040 Master PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
	6106, 6107	SULSBRamp8	770	70	1	367										694	772	659
	6107, 6108	SULSBRamp9	770	70	1	373										694	773	659
	6108, 6109	SULSBRamp10	770	70	1	445										695	772	660
	6109, 6110	SULSBRamp11	770	70	1	8,866										694	773	660
	6110, 420	SULSBRamp12	770	70	1	292										694	774	660
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp100	360	70	1	167	4.8	5.4	4.5	66.0	65.6	66.1	274	360	299	316	352	299

Appendix L.
Opening Year (2020) Traffic Operational Analysis Output

Appendix L.
Opening Year (2020) Traffic Operational Analysis Output

Opening Year (2020) HCS 2010 Output
I-275 Mainline

BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1698*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4050*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1465*	pc/h/ln
S	*69.2*	mph
D = v_p / S	*21.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5050*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1826*	pc/h/ln
S	*65.5*	mph
D = v_p / S	*27.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*26thAveS Off to 22ndAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1663*	pc/h/ln
S	*67.5*	mph
D = v_p / S	*24.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5300*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1437*	pc/h/ln
S	*69.3*	mph
D = v_p / S	*20.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5800*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1258*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*18.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5450*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1971*	pc/h/ln
S	*63.1*	mph
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5970*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2116*	pc/h/ln
S	*60.3*	mph
D = v_p / S	*35.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2615*	pc/h/ln
S	*46.8*	mph
D = v_p / S	*55.9*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1578*	pc/h/ln
S	*68.3*	mph
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5070*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1833*	pc/h/ln
S	*65.4*	mph
D = v_p / S	*28.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1578*	pc/h/ln
S	*68.3*	mph
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1931*	pc/h/ln
S	*63.8*	mph
D = v_p / S	*30.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2358*	pc/h/ln
S	*54.4*	mph
D = v_p / S	*43.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2080*	pc/h/ln
S	*61.0*	mph
D = v_p / S	*34.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7020*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2539*	pc/h/ln
S	*49.2*	mph
D = v_p / S	*51.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8020*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2175*	pc/h/ln
S	*59.0*	mph
D = v_p / S	*36.9*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2034*	pc/h/ln
S	*61.9*	mph
D = v_p / S	*32.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6900*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2495*	pc/h/ln
S	*50.5*	mph
D = v_p / S	*49.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2729*	pc/h/ln
S	*42.9*	mph
D = v_p / S	*63.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1631*	pc/h/ln
S	*67.8*	mph
D = v_p / S	*24.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5210*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1413*	pc/h/ln
S	*69.5*	mph
D = v_p / S	*20.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6110*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1657*	pc/h/ln
S	*67.6*	mph
D = v_p / S	*24.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1993*	pc/h/ln
S	*62.7*	mph
D = v_p / S	*31.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6560*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2372*	pc/h/ln
S	*54.1*	mph
D = v_p / S	*43.9*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5810*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2101*	pc/h/ln
S	*60.6*	mph
D = v_p / S	*34.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6590*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1787*	pc/h/ln
S	*66.0*	mph
D = v_p / S	*27.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1949*	pc/h/ln
S	*63.5*	mph
D = v_p / S	*30.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4040*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1461*	pc/h/ln
S	*69.2*	mph
D = v_p / S	*21.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1204*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2990*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1081*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1226*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3000*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1085*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*949*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*940*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2960*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*803*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.5*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:24:28 AM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275 SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1770*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*960*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*955*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*868*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*12.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2940*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1063*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*26thAveS Off to 22ndAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*882*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*12.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3100*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*841*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*12.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3580*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*777*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*11.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2950*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1067*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1230*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.6*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1465*	pc/h/ln
S	*69.2*	mph
D = v_p / S	*21.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4120*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1117*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3740*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1352*	pc/h/ln
S	*69.7*	mph
D = v_p / S	*19.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4940*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1340*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1701*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5470*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1978*	pc/h/ln
S	*63.0*	mph
D = v_p / S	*31.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*22ndAveN On to 38thAveN Off*
Date Performed	*8/7/2015 11:55:57 AM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1701*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1960*	pc/h/ln
S	*63.3*	mph
D = v_p / S	*31.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1649*	pc/h/ln
S	*67.7*	mph
D = v_p / S	*24.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5450*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1478*	pc/h/ln
S	*69.1*	mph
D = v_p / S	*21.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4810*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1739*	pc/h/ln
S	*66.6*	mph
D = v_p / S	*26.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5340*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1931*	pc/h/ln
S	*63.8*	mph
D = v_p / S	*30.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5850*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2115*	pc/h/ln
S	*60.3*	mph
D = v_p / S	*35.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6310*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1711*	pc/h/ln
S	*67.0*	mph
D = v_p / S	*25.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*54thAveN On EB to 38thAveN Off*
Date Performed	*8/7/2015 11:55:57 AM*	Jurisdiction	*FDOT*
Analysis Time Period	*PM*	Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6870*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1863*	pc/h/ln
S	*64.9*	mph
D = v_p / S	*28.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5850*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2115*	pc/h/ln
S	*60.3*	mph
D = v_p / S	*35.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6670*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2412*	pc/h/ln
S	*53.0*	mph
D = v_p / S	*45.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5640*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2040*	pc/h/ln
S	*61.8*	mph
D = v_p / S	*33.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1736*	pc/h/ln
S	*66.7*	mph
D = v_p / S	*26.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4990*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1804*	pc/h/ln
S	*65.8*	mph
D = v_p / S	*27.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1475*	pc/h/ln
S	*69.1*	mph
D = v_p / S	*21.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4620*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1253*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1302*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4710*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1703*	pc/h/ln
S	*67.1*	mph
D = v_p / S	*25.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1577*	pc/h/ln
S	*68.4*	mph
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4930*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1337*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3950*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1428*	pc/h/ln
S	*69.4*	mph
D = v_p / S	*20.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4450*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1207*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*17.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/7/2015 11:55:57 AM*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2020 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2410*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1307*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Opening Year (2020) HCS 2010 Output
I-275 Ramps

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3130	
	Ramp Volume, V_R: 920	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3130	0.95	Level	2	0	0.990	0.98	3396
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3396 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4394	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4801	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 20.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.495 (Exibit 13-11)

S_R = 56.1 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 56.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4050	
	Ramp Volume, V_R: 1000	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4050	0.95	Level	2	0	0.990	0.98	4394
Ramp	1000	0.95	Level	2	0	0.990	0.98	1085
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 2586 pc/h

V_3 or V_{av34} = 1808 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2586 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5479	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3671	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 31.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.435 (Exibit 13-11)

S_R = 57.8 mph (Exhibit 13-11)

S_0 = 65.3 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 5385 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1000 veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 5050	
	Ramp Volume, V_R: 450	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5050	0.95	Level	2	0	0.990	0.98	5479
Ramp	450	0.95	Level	2	0	0.990	0.98	488
UpStream	1000	0.95	Level	2	0	0.990	0.98	1085
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6784.26 (Equation 13-12 or 13-13)

P_{FD} = 0.601 using Equation (Exhibit 13-7)

V_{12} = 3485 pc/h

V_3 or V_{av34} 1994 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5479	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4991	Exhibit 13-8	7200	No
V_R	488	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3485	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 32.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.277 (Exhibit 13-12)

S_R= 62.2 mph (Exhibit 13-12)

S_0= 72.9 mph (Exhibit 13-12)

S = 65.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 450 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4600	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4600	0.95	Level	2	0	0.990	0.98	4990
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream	450	0.95	Level	2	0	0.990	0.98	488
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1024.79 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 2997 pc/h

V_3 or V_{av34} = 1993 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2997 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5749	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3756	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.430 (Exibit 13-11)

S_R = 58.0 mph (Exhibit 13-11)

S_0 = 64.6 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5300	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5300	0.95	Level	2	0	0.990	0.98	5750
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.150 using Equation (Exhibit 13-6)

V_{12} = 863 pc/h

V_3 or V_{av34} 2443 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 2300 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6292	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2842	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 18.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.238 (Exibit 13-11)

S_R= 63.3 mph (Exhibit 13-11)

S_0= 65.6 mph (Exhibit 13-11)

S = 64.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	500 veh/h	Freeway Volume, V_F	5800	V_D =	veh/h
		Ramp Volume, V_R	350		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5800	0.95	Level	2	0	0.990	0.98	6292
Ramp	350	0.95	Level	2	0	0.990	0.98	380
UpStream	500	0.95	Level	2	0	0.990	0.98	542
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3040 pc/h

V_3 or V_{av34} 3252 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3595 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6292	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5912	Exhibit 13-8	7200	No
V_R	380	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3040	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 10.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.267 (Exhibit 13-12)

S_R= 62.5 mph (Exhibit 13-12)

S_0= 70.9 mph (Exhibit 13-12)

S = 65.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1150 veh/h
	Freeway Volume, V_F: 5450	
	Ramp Volume, V_R: 520	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5450	0.95	Level	2	0	0.990	0.98	5912
Ramp	520	0.95	Level	2	0	0.990	0.98	564
UpStream								
DownStream	1150	0.95	Level	2	0	0.990	0.98	1248

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7432.33 (Equation 13-6 or 13-7)

P_{FM} = 0.708 using Equation (Exhibit 13-6)

V_{12} = 4183 pc/h

V_3 or V_{av34} 1729 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 4183 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6476	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4747	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 38.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.716 (Exibit 13-11)

S_R= 50.0 mph (Exhibit 13-11)

S_0= 65.6 mph (Exhibit 13-11)

S = 53.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	5970
Ramp Volume, V_R	1150
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5970	0.95	Level	2	0	0.990	0.98	6477
Ramp	1150	0.95	Level	2	0	0.990	0.98	1248
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 6477 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6477	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	5229	Exhibit 13-8	4800	Yes
V_R	1248	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	6477	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$
D_R = 33.0 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.345 (Exhibit 13-12)
S_R = 60.3 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	2	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1500	☑ No	☐ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	ft
V_u =	veh/h	Freeway Volume, V_F	4820	V_D =	veh/h
		Ramp Volume, V_R	1000		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4820	0.95	Level	2	0	0.990	0.98	5229
Ramp	1000	0.95	Level	2	0	0.990	0.98	1085
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 5229 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6314	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6941	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 44.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 4.203 (Exibit 13-11)

S_R = -47.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -47.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 650 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1000 veh/h	Deceleration Lane Length L_D: 675	V_D = veh/h
	Freeway Volume, V_F: 5820	
	Ramp Volume, V_R: 750	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5820	0.95	Level	2	0	0.990	0.98	6314
Ramp	750	0.95	Level	2	0	0.990	0.98	814
UpStream	1000	0.95	Level	2	0	0.990	0.98	1085
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7029.11 (Equation 13-12 or 13-13)

P_{FD} = 0.565 using Equation (Exhibit 13-7)

V_{12} = 3920 pc/h

V_3 or V_{av34} 2394 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6314	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5500	Exhibit 13-8	7200	No
V_R	814	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3920	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 31.9 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.306 (Exhibit 13-12)

S_R= 61.4 mph (Exhibit 13-12)

S_0= 71.4 mph (Exhibit 13-12)

S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 750 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5070	
	Ramp Volume, V_R: 750	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5070	0.95	Level	2	0	0.990	0.98	5500
Ramp	750	0.95	Level	2	0	0.990	0.98	814
UpStream	750	0.95	Level	2	0	0.990	0.98	814
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 3053 pc/h

V_3 or V_{av34} = 2447 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3142 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6314	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3956	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 7.7 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.075 (Exibit 13-11)

S_R = 67.9 mph (Exhibit 13-11)

S_0 = 63.1 mph (Exhibit 13-11)

S = 66.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5820	
	Ramp Volume, V_R: 1300	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5820	0.95	Level	2	0	0.990	0.98	6314
Ramp	1300	0.95	Level	2	0	0.990	0.98	1410
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.042 using Equation (Exhibit 13-6)

V_{12} = 262 pc/h

V_3 or V_{av34} = 3026 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2525 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7724	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3935	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.443 (Exibit 13-11)

S_R = 57.6 mph (Exhibit 13-11)

S_0 = 65.0 mph (Exhibit 13-11)

S = 61.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1300 veh/h	Freeway Volume, V_F	7120	V_D =	veh/h
		Ramp Volume, V_R	600		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7120	0.95	Level	2	0	0.990	0.98	7724
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream	1300	0.95	Level	2	0	0.990	0.98	1410
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7079.17 (Equation 13-12 or 13-13)

P_{FD} = 0.537 using Equation (Exhibit 13-7)

V_{12} = 4449 pc/h

V_3 or V_{av34} 3275 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5024 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7724	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7073	Exhibit 13-8	7200	No
V_R	651	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4449	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 34.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.292 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 650 veh/h
	Freeway Volume, V_F: 6520	
	Ramp Volume, V_R: 1150	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6520	0.95	Level	2	0	0.990	0.98	7073
Ramp	1150	0.95	Level	2	0	0.990	0.98	1248
UpStream								
DownStream	650	0.95	Level	2	0	0.990	0.98	705

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2610.14 (Equation 13-6 or 13-7)

P_{FM} = 0.628 using Equation (Exhibit 13-6)

V_{12} = 4445 pc/h

V_3 or V_{av34} 2628 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 4445 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8321	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5693	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 39.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.328 (Exibit 13-11)

S_R= 32.8 mph (Exhibit 13-11)

S_0= 61.5 mph (Exhibit 13-11)

S = 38.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1150 veh/h	Freeway Volume, V_F	7670	V_D =	veh/h
		Ramp Volume, V_R	650		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7670	0.95	Level	2	0	0.990	0.98	8321
Ramp	650	0.95	Level	2	0	0.990	0.98	705
UpStream	1150	0.95	Level	2	0	0.990	0.98	1248
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4132 pc/h

V_3 or V_{av34} 4189 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5621 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8321	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7616	Exhibit 13-8	7200	Yes
V_R	705	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4132	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.296 (Exhibit 13-12)

S_R= 61.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 3130 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 650 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7020	
	Ramp Volume, V_R: 1000	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7020	0.95	Level	2	0	0.990	0.98	7616
Ramp	1000	0.95	Level	2	0	0.990	0.98	1085
UpStream	650	0.95	Level	2	0	0.990	0.98	705
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2741.01 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 4718 pc/h

V_3 or V_{av34} 2898 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4916 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8701	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6001	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.746 (Exibit 13-11)

S_R = 21.1 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 26.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2470 ft	Deceleration Lane Length L_D	810	L_{down} =	ft
V_u =	1000 veh/h	Freeway Volume, V_F	8020	V_D =	veh/h
		Ramp Volume, V_R	520		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8020	0.95	Level	2	0	0.990	0.98	8701
Ramp	520	0.95	Level	2	0	0.990	0.98	564
UpStream	1000	0.95	Level	2	0	0.990	0.98	1085
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4753.37 (Equation 13-12 or 13-13)

P_{FD} = 0.517 using Equation (Exhibit 13-7)

V_{12} = 4767 pc/h

V_3 or V_{av34} 3934 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6001 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8701	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8137	Exhibit 13-8	7200	Yes
V_R	564	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4767	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 48.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.284 (Exhibit 13-12)

S_R= 62.1 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 7500	
	Ramp Volume, V_R: 600	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7500	0.95	Level	2	0	0.990	0.98	8136
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.527 using Equation (Exhibit 13-7)

V_{12} = 4593 pc/h

V_3 or V_{av34} 3543 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 5436 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8136	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7485	Exhibit 13-8	7200	Yes
V_R	651	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4593	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 37.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.487 (Exhibit 13-12)

S_R= 56.4 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 60.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2070 ft	Acceleration Lane Length, L_A: 575	L_{down} = ft
V_u = 600 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6900	
	Ramp Volume, V_R: 800	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6900	0.95	Level	2	0	0.990	0.98	7485
Ramp	800	0.95	Level	2	0	0.990	0.98	868
UpStream	600	0.95	Level	2	0	0.990	0.98	651
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2255.84 (Equation 13-6 or 13-7)

P_{FM} = 0.582 using Equation (Exhibit 13-6)

V_{12} = 4354 pc/h

V_3 or V_{av34} 3131 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4785 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8353	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5653	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 45.6 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.376 (Exibit 13-11)

S_R = 31.5 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 37.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5280	
	Ramp Volume, V_R: 770	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5280	0.95	Level	2	0	0.990	0.98	5728
Ramp	770	0.95	Level	2	0	0.990	0.98	835
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.578 using Equation (Exhibit 13-7)

V_{12} = 3665 pc/h

V_3 or V_{av34} 2063 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5728	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4893	Exhibit 13-8	7200	No
V_R	835	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3665	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 22.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.308 (Exhibit 13-12)

S_R = 61.4 mph (Exhibit 13-12)

S_0 = 72.6 mph (Exhibit 13-12)

S = 65.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1685 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 770 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4510	
	Ramp Volume, V_R: 700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4510	0.95	Level	2	0	0.990	0.98	4893
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream	770	0.95	Level	2	0	0.990	0.98	835
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1303.73 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 3031 pc/h

V_3 or V_{av34} 1862 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3031 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5652	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3790	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.389 (Exibit 13-11)

S_R = 59.1 mph (Exhibit 13-11)

S_0 = 65.1 mph (Exhibit 13-11)

S = 61.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5210	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5210	0.95	Level	2	0	0.990	0.98	5652
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.096 using Equation (Exhibit 13-6)

V_{12} = 541 pc/h

V_3 or V_{av34} = 2555 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2260 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6628	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3236	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.350 (Exibit 13-11)

S_R = 60.2 mph (Exhibit 13-11)

S_0 = 65.7 mph (Exhibit 13-11)

S = 62.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2360 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	900 veh/h	Freeway Volume, V_F	6110	V_D =	veh/h
		Ramp Volume, V_R	600		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6110	0.95	Level	2	0	0.990	0.98	6628
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream	900	0.95	Level	2	0	0.990	0.98	976
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5610.23 (Equation 13-12 or 13-13)

P_{FD} = 0.564 using Equation (Exhibit 13-7)

V_{12} = 4024 pc/h

V_3 or V_{av34} 2604 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6628	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5977	Exhibit 13-8	7200	No
V_R	651	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4024	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.292 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.5 mph (Exhibit 13-12)

S = 65.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 750 veh/h
	Freeway Volume, V_F: 5510	
	Ramp Volume, V_R: 1050	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5510	0.95	Level	2	0	0.990	0.98	5978
Ramp	1050	0.95	Level	2	0	0.990	0.98	1139
UpStream								
DownStream	750	0.95	Level	2	0	0.990	0.98	814

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5360.02 (Equation 13-6 or 13-7)

P_{FM} = 0.624 using Equation (Exhibit 13-6)

V_{12} = 3732 pc/h

V_3 or V_{av34} 2246 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3732 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7117	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4871	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 40.5 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.790 (Exibit 13-11)

S_R = 47.9 mph (Exhibit 13-11)

S_0 = 63.7 mph (Exhibit 13-11)

S = 51.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1050 veh/h	Freeway Volume, V_F	6560	V_D =	veh/h
		Ramp Volume, V_R	750		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6560	0.95	Level	2	0	0.990	0.98	7117
Ramp	750	0.95	Level	2	0	0.990	0.98	814
UpStream	1050	0.95	Level	2	0	0.990	0.98	1139
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6590.41 (Equation 13-12 or 13-13)

P_{FD} = 0.545 using Equation (Exhibit 13-7)

V_{12} = 4247 pc/h

V_3 or V_{av34} 2870 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4417 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7117	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6303	Exhibit 13-8	7200	No
V_R	814	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4247	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 28.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.306 (Exhibit 13-12)

S_R= 61.4 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1200 veh/h
	Freeway Volume, V_F: 5810	
	Ramp Volume, V_R: 780	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5810	0.95	Level	2	0	0.990	0.98	6303
Ramp	780	0.95	Level	2	0	0.990	0.98	846
UpStream								
DownStream	1200	0.95	Level	2	0	0.990	0.98	1302

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4820.44 (Equation 13-6 or 13-7)

P_{FM} = 0.691 using Equation (Exhibit 13-6)

V_{12} = 4357 pc/h

V_3 or V_{av34} 1946 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4357 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7149	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5203	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.880 (Exibit 13-11)

S_R = 45.4 mph (Exhibit 13-11)

S_0 = 64.8 mph (Exhibit 13-11)

S = 49.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	6590
Ramp Volume, V_R	1200
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 750 ft
V_D = 1350 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6590	0.95	Level	2	0	0.990	0.98	7149
Ramp	1200	0.95	Level	2	0	0.990	0.98	1302
UpStream								
DownStream	1350	0.95	Level	2	0	0.990	0.98	1465

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3329.49 (Equation 13-12 or 13-13)
P_{FD} = 0.708 using Equation (Exhibit 13-7)
V_{12} = 5442 pc/h
V_3 or V_{av34} 1707 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7149	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5847	Exhibit 13-8	7200	No
V_R	1302	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5442	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 37.6 (pc/mi/ln)
LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.350 (Exhibit 13-12)
S_R= 60.2 mph (Exhibit 13-12)
S_0= 74.0 mph (Exhibit 13-12)
S = 63.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	5390
Ramp Volume, V_R	1350
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5390	0.95	Level	2	0	0.990	0.98	5847
Ramp	1350	0.95	Level	2	0	0.990	0.98	1465
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 3437 pc/h
V_3 or V_{av34} 2410 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5847	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4382	Exhibit 13-8	7200	No
V_R	1465	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3437	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 8.3 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.365 (Exhibit 13-12)
S_R = 59.8 mph (Exhibit 13-12)
S_0 = 72.0 mph (Exhibit 13-12)
S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1450 veh/h
	Freeway Volume, V_F: 4040	
	Ramp Volume, V_R: 400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4040	0.95	Level	2	0	0.990	0.98	4383
Ramp	400	0.95	Level	2	0	0.990	0.98	434
UpStream								
DownStream	1450	0.95	Level	2	0	0.990	0.98	1573

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8967.82 (Equation 13-6 or 13-7)

P_{FM} = 0.800 using Equation (Exhibit 13-6)

V_{12} = 3506 pc/h

V_3 or V_{av34} 877 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3506 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4817	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3940	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.460 (Exibit 13-11)

S_R = 57.1 mph (Exhibit 13-11)

S_0 = 68.6 mph (Exhibit 13-11)

S = 58.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 1645 ft

V_u = 400 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4440
Ramp Volume, V_R	1450
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4440	0.95	Level	2	0	0.990	0.98	4817
Ramp	1450	0.95	Level	2	0	0.990	0.98	1573
UpStream	400	0.95	Level	2	0	0.990	0.98	434
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3033 pc/h

V_3 or V_{av34} 1784 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4817	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3244	Exhibit 13-8	7200	No
V_R	1573	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3033	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 4.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.375 (Exhibit 13-12)

S_R = 59.5 mph (Exhibit 13-12)

S_0 = 74.3 mph (Exhibit 13-12)

S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2625 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 1450 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2990	
	Ramp Volume, V_R: 400	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2990	0.95	Level	2	0	0.990	0.98	3244
Ramp	400	0.95	Level	2	0	0.990	0.98	434
UpStream	1450	0.95	Level	2	0	0.990	0.98	1573
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1666.09 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 2010 pc/h

V_3 or V_{av34} = 1234 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2010 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3678	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2685	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 16.8 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.228 (Exibit 13-11)

S_R = 63.6 mph (Exhibit 13-11)

S_0 = 68.2 mph (Exhibit 13-11)

S = 64.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 400 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 3390	
	Ramp Volume, V_R: 390	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3390	0.95	Level	2	0	0.990	0.98	3678
Ramp	390	0.95	Level	2	0	0.990	0.98	423
UpStream	400	0.95	Level	2	0	0.990	0.98	434
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3515.71 (Equation 13-12 or 13-13)

P_{FD} = 0.649 using Equation (Exhibit 13-7)

V_{12} = 2534 pc/h

V_3 or V_{av34} 1144 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3678	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3255	Exhibit 13-8	7200	No
V_R	423	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2534	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 24.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.271 (Exhibit 13-12)

S_R= 62.4 mph (Exhibit 13-12)

S_0= 76.2 mph (Exhibit 13-12)

S = 66.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 900 veh/h
	Freeway Volume, V_F: 3000	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3000	0.95	Level	2	0	0.990	0.98	3255
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream								
DownStream	900	0.95	Level	2	0	0.990	0.98	976

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4506.00 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3255 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3797	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3797	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.395 (Exibit 13-11)

S_R = 58.9 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 58.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 50 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 500 veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 3500	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3500	0.95	Level	2	0	0.990	0.98	3797
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream	500	0.95	Level	2	0	0.990	0.98	542
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6440.50 (Equation 13-12 or 13-13)

P_{FD} = 0.620 using Equation (Exhibit 13-7)

V_{12} = 2726 pc/h

V_3 or V_{av34} 1071 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3797	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2821	Exhibit 13-8	7200	No
V_R	976	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2726	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 18.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.321 (Exhibit 13-12)

S_R= 61.0 mph (Exhibit 13-12)

S_0= 76.5 mph (Exhibit 13-12)

S = 64.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2600	
	Ramp Volume, V_R: 360	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2600	0.95	Level	2	0	0.990	0.98	2821
Ramp	360	0.95	Level	2	0	0.990	0.98	391
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 1748 pc/h

V_3 or V_{av34} = 1073 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1748 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3212	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2139	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = 12.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.204 (Exibit 13-11)

S_R = 64.3 mph (Exhibit 13-11)

S_0 = 67.9 mph (Exhibit 13-11)

S = 65.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/11/2015 3:19:12 PM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4770 ft
V_u = 360 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	2960
Ramp Volume, V_R	1190
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2960	0.95	Level	2	0	0.990	0.98	3211
Ramp	1190	0.95	Level	2	0	0.990	0.98	1291
UpStream	360	0.95	Level	2	0	0.990	0.98	391
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2155 pc/h
V_3 or V_{av34} 1056 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3211	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	1920	Exhibit 13-8	7200	No
V_R	1291	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2155	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -17.7 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.349 (Exhibit 13-12)
S_R= 60.2 mph (Exhibit 13-12)
S_0= 76.6 mph (Exhibit 13-12)
S = 64.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 1760	
	Ramp Volume, V_R: 640	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1760	0.95	Level	2	0	0.990	0.98	1909
Ramp	640	0.95	Level	2	0	0.990	0.98	694
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 1909 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	2603	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2832	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 6.6 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.087 (Exibit 13-11)

S_R = 67.6 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 67.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2400	
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2400	0.95	Level	2	0	0.990	0.98	2604
Ramp	540	0.95	Level	2	0	0.990	0.98	586
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 1532 pc/h

V_3 or V_{av34} = 1072 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1532 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3190	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2118	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 19.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.314 (Exibit 13-11)

S_R = 61.2 mph (Exhibit 13-11)

S_0 = 67.9 mph (Exhibit 13-11)

S = 63.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 5385 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 540 veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 2940	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2940	0.95	Level	2	0	0.990	0.98	3189
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream	540	0.95	Level	2	0	0.990	0.98	586
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5680.77 (Equation 13-12 or 13-13)

P_{FD} = 0.658 using Equation (Exhibit 13-7)

V_{12} = 2285 pc/h

V_3 or V_{av34} 904 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3189	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2647	Exhibit 13-8	7200	No
V_R	542	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2285	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 22.1 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.282 (Exhibit 13-12)

S_R= 62.1 mph (Exhibit 13-12)

S_0= 76.8 mph (Exhibit 13-12)

S = 65.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 500 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2440	
	Ramp Volume, V_R: 660	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2440	0.95	Level	2	0	0.990	0.98	2647
Ramp	660	0.95	Level	2	0	0.990	0.98	716
UpStream	500	0.95	Level	2	0	0.990	0.98	542
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 514.18 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 1590 pc/h

V_3 or V_{av34} 1057 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1590 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3363	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2306	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 18.0 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.302 (Exibit 13-11)

S_R = 61.5 mph (Exhibit 13-11)

S_0 = 68.0 mph (Exhibit 13-11)

S = 63.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3100	
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3100	0.95	Level	2	0	0.990	0.98	3363
Ramp	480	0.95	Level	2	0	0.990	0.98	521
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.487 using Equation (Exhibit 13-6)

V_{12} = 1638 pc/h

V_3 or V_{av34} = 862 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1638 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3884	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2159	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 12.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.205 (Exibit 13-11)

S_R = 64.3 mph (Exhibit 13-11)

S_0 = 68.7 mph (Exhibit 13-11)

S = 66.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1825 ft
V_u = 480 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	700
Freeway Volume, V_F	3580
Ramp Volume, V_R	630
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3580	0.95	Level	2	0	0.990	0.98	3884
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream	480	0.95	Level	2	0	0.990	0.98	521
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2123 pc/h
V_3 or V_{av34} 1761 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2219 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3884	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3201	Exhibit 13-8	7200	No
V_R	683	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2123	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -1.8 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)
S_R= 61.8 mph (Exhibit 13-12)
S_0= 74.6 mph (Exhibit 13-12)
S = 66.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 700 veh/h
	Freeway Volume, V_F: 2950	
	Ramp Volume, V_R: 450	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2950	0.95	Level	2	0	0.990	0.98	3200
Ramp	450	0.95	Level	2	0	0.990	0.98	488
UpStream								
DownStream	700	0.95	Level	2	0	0.990	0.98	759

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4520.14 (Equation 13-6 or 13-7)

P_{FM} = 0.645 using Equation (Exhibit 13-6)

V_{12} = 2065 pc/h

V_3 or V_{av34} 1135 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2065 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3688	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2553	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.317 (Exibit 13-11)

S_R = 61.1 mph (Exhibit 13-11)

S_0 = 67.7 mph (Exhibit 13-11)

S = 63.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	3400
Ramp Volume, V_R	700
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3400	0.95	Level	2	0	0.990	0.98	3689
Ramp	700	0.95	Level	2	0	0.990	0.98	759
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 3689 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3689	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	2930	Exhibit 13-8	4800	No
V_R	759	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3689	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 9.0 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.301 (Exhibit 13-12)
S_R = 61.6 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 61.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2700	
	Ramp Volume, V_R: 1420	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2700	0.95	Level	2	0	0.990	0.98	2929
Ramp	1420	0.95	Level	2	0	0.990	0.98	1540
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2929 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4469	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4820	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.654 (Exibit 13-11)

S_R = 51.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 51.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 650 ft
V_u = 1420 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	4120
Ramp Volume, V_R	380
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4120	0.95	Level	2	0	0.990	0.98	4470
Ramp	380	0.95	Level	2	0	0.990	0.98	412
UpStream	1420	0.95	Level	2	0	0.990	0.98	1540
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 10807.17 (Equation 13-12 or 13-13)
P_{FD} = 0.629 using Equation (Exhibit 13-7)
V_{12} = 2966 pc/h
V_3 or V_{av34} 1504 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4470	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4058	Exhibit 13-8	7200	No
V_R	412	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2966	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 23.7 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.270 (Exhibit 13-12)
S_R= 62.4 mph (Exhibit 13-12)
S_0= 74.8 mph (Exhibit 13-12)
S = 66.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 380 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3740	
	Ramp Volume, V_R: 1200	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3740	0.95	Level	2	0	0.990	0.98	4057
Ramp	1200	0.95	Level	2	0	0.990	0.98	1302
UpStream	380	0.95	Level	2	0	0.990	0.98	412
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 2252 pc/h

V_3 or V_{av34} 1805 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2318 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5359	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3620	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 4.9 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

M_S = 0.017 (Exibit 13-11)

S_R = 69.5 mph (Exhibit 13-11)

S_0 = 65.5 mph (Exhibit 13-11)

S = 68.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4940	
	Ramp Volume, V_R: 1330	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4940	0.95	Level	2	0	0.990	0.98	5359
Ramp	1330	0.95	Level	2	0	0.990	0.98	1443
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.037 using Equation (Exhibit 13-6)

V_{12} = 201 pc/h

V_3 or V_{av34} = 2579 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2143 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6802	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3586	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 27.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.384 (Exibit 13-11)

S_R = 59.3 mph (Exhibit 13-11)

S_0 = 66.0 mph (Exhibit 13-11)

S = 62.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1330 veh/h	Freeway Volume, V_F	6270	V_D =	veh/h
		Ramp Volume, V_R	800		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6270	0.95	Level	2	0	0.990	0.98	6802
Ramp	800	0.95	Level	2	0	0.990	0.98	868
UpStream	1330	0.95	Level	2	0	0.990	0.98	1443
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8936.20 (Equation 13-12 or 13-13)

P_{FD} = 0.550 using Equation (Exhibit 13-7)

V_{12} = 4132 pc/h

V_3 or V_{av34} 2670 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6802	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5934	Exhibit 13-8	7200	No
V_R	868	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4132	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 26.3 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.311 (Exhibit 13-12)

S_R= 61.3 mph (Exhibit 13-12)

S_0= 70.3 mph (Exhibit 13-12)

S = 64.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 850 veh/h
	Freeway Volume, V_F: 5470	
	Ramp Volume, V_R: 800	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5470	0.95	Level	2	0	0.990	0.98	5934
Ramp	800	0.95	Level	2	0	0.990	0.98	868
UpStream								
DownStream	850	0.95	Level	2	0	0.990	0.98	922

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3413.55 (Equation 13-6 or 13-7)

P_{FM} = 0.653 using Equation (Exhibit 13-6)

V_{12} = 3874 pc/h

V_3 or V_{av34} 2060 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3874 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6802	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4742	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.618 (Exibit 13-11)

S_R = 52.7 mph (Exhibit 13-11)

S_0 = 64.4 mph (Exhibit 13-11)

S = 55.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	800 veh/h	Freeway Volume, V_F	6270	V_D =	veh/h
		Ramp Volume, V_R	850		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6270	0.95	Level	2	0	0.990	0.98	6802
Ramp	850	0.95	Level	2	0	0.990	0.98	922
UpStream	800	0.95	Level	2	0	0.990	0.98	868
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3568 pc/h

V_3 or V_{av34} 3234 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4102 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6802	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5880	Exhibit 13-8	7200	No
V_R	922	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3568	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 12.5 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.316 (Exhibit 13-12)

S_R= 61.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3130 ft
V_u = 850 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	5420
Ramp Volume, V_R	660
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5420	0.95	Level	2	0	0.990	0.98	5880
Ramp	660	0.95	Level	2	0	0.990	0.98	716
UpStream	850	0.95	Level	2	0	0.990	0.98	922
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2290.54 (Equation 13-6 or 13-7)
P_{FM} = 0.619 using Equation (Exhibit 13-6)
V_{12} = 3643 pc/h
V_3 or V_{av34} 2237 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 3643 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6596	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4359	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.7 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.476 (Exibit 13-11)
S_R = 56.7 mph (Exhibit 13-11)
S_0 = 63.7 mph (Exhibit 13-11)
S = 58.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	810
Freeway Volume, V_F	6080
Ramp Volume, V_R	630
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 885 ft
V_D = 640 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6080	0.95	Level	2	0	0.990	0.98	6596
Ramp	630	0.95	Level	2	0	0.990	0.98	683
UpStream								
DownStream	640	0.95	Level	2	0	0.990	0.98	694

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1011.40 (Equation 13-12 or 13-13)
P_{FD} = 0.575 using Equation (Exhibit 13-7)
V_{12} = 4081 pc/h
V_3 or V_{av34} 2515 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6596	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5913	Exhibit 13-8	7200	No
V_R	683	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4081	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 32.1 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)
S_R= 61.8 mph (Exhibit 13-12)
S_0= 70.9 mph (Exhibit 13-12)
S = 64.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5450	
	Ramp Volume, V_R: 640	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5450	0.95	Level	2	0	0.990	0.98	5912
Ramp	640	0.95	Level	2	0	0.990	0.98	694
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.580 using Equation (Exhibit 13-7)

V_{12} = 3722 pc/h

V_3 or V_{av34} 2190 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5912	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5218	Exhibit 13-8	7200	No
V_R	694	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3722	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 22.8 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.490 (Exhibit 13-12)

S_R = 56.3 mph (Exhibit 13-12)

S_0 = 72.1 mph (Exhibit 13-12)

S = 61.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1740 veh/h
	Freeway Volume, V_F: 4810	
	Ramp Volume, V_R: 530	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4810	0.95	Level	2	0	0.990	0.98	5218
Ramp	530	0.95	Level	2	0	0.990	0.98	575
UpStream								
DownStream	1740	0.95	Level	2	0	0.990	0.98	1888

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 11032.87 (Equation 13-6 or 13-7)

P_{FM} = 0.609 using Equation (Exhibit 13-6)

V_{12} = 3179 pc/h

V_3 or V_{av34} 2039 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3179 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5793	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3754	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.9 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.430 (Exibit 13-11)

S_R= 58.0 mph (Exhibit 13-11)

S_0= 64.5 mph (Exhibit 13-11)

S = 60.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1657 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	800 veh/h	Freeway Volume, V_F	6630	V_D =	veh/h
		Ramp Volume, V_R	780		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6630	0.95	Level	2	0	0.990	0.98	7193
Ramp	780	0.95	Level	2	0	0.990	0.98	846
UpStream	800	0.95	Level	2	0	0.990	0.98	868
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5042.32 (Equation 13-12 or 13-13)

P_{FD} = 0.541 using Equation (Exhibit 13-7)

V_{12} = 4281 pc/h

V_3 or V_{av34} 2912 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4493 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7193	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6347	Exhibit 13-8	7200	No
V_R	846	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4281	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.309 (Exhibit 13-12)

S_R= 61.3 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.4 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No ☐ Off
L_{up} =	1685 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	780 veh/h	Freeway Volume, V_F	5850	V_D = veh/h
		Ramp Volume, V_R	460	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5850	0.95	Level	2	0	0.990	0.98	6346
Ramp	460	0.95	Level	2	0	0.990	0.98	499
UpStream	780	0.95	Level	2	0	0.990	0.98	846
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1559.03 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 3931 pc/h

V_3 or V_{av34} 2415 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3931 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6845	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4430	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.4 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.543 (Exibit 13-11)

S_R = 54.8 mph (Exhibit 13-11)

S_0 = 62.8 mph (Exhibit 13-11)

S = 57.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6310	
	Ramp Volume, V_R: 560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6310	0.95	Level	2	0	0.990	0.98	6845
Ramp	560	0.95	Level	2	0	0.990	0.98	608
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.142 using Equation (Exhibit 13-6)

V_{12} = 971 pc/h

V_3 or V_{av34} = 2937 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2738 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7453	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3346	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.362 (Exibit 13-11)

S_R = 59.9 mph (Exhibit 13-11)

S_0 = 64.4 mph (Exhibit 13-11)

S = 62.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2360 ft
V_u = 560 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	6870
Ramp Volume, V_R	1020
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6870	0.95	Level	2	0	0.990	0.98	7453
Ramp	1020	0.95	Level	2	0	0.990	0.98	1107
UpStream	560	0.95	Level	2	0	0.990	0.98	608
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3841.12 (Equation 13-12 or 13-13)
P_{FD} = 0.523 using Equation (Exhibit 13-7)
V_{12} = 4424 pc/h
V_3 or V_{av34} 3029 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = 4753 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7453	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6346	Exhibit 13-8	7200	No
V_R	1107	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4424	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 31.6 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.333 (Exhibit 13-12)
S_R= 60.7 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1030 veh/h
	Freeway Volume, V_F: 5850	
	Ramp Volume, V_R: 820	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5850	0.95	Level	2	0	0.990	0.98	6346
Ramp	820	0.95	Level	2	0	0.990	0.98	890
UpStream								
DownStream	1030	0.95	Level	2	0	0.990	0.98	1117

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7355.22 (Equation 13-6 or 13-7)

P_{FM} = 0.652 using Equation (Exhibit 13-6)

V_{12} = 4140 pc/h

V_3 or V_{av34} 2206 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 4140 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7236	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5030	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.878 (Exibit 13-11)

S_R= 45.4 mph (Exhibit 13-11)

S_0= 63.9 mph (Exhibit 13-11)

S = 49.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	820 veh/h	Freeway Volume, V_F	6670	V_D =	veh/h
		Ramp Volume, V_R	1030		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6670	0.95	Level	2	0	0.990	0.98	7236
Ramp	1030	0.95	Level	2	0	0.990	0.98	1117
UpStream	820	0.95	Level	2	0	0.990	0.98	890
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5834.69 (Equation 13-12 or 13-13)

P_{FD} = 0.528 using Equation (Exhibit 13-7)

V_{12} = 4346 pc/h

V_3 or V_{av34} 2890 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4536 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7236	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6119	Exhibit 13-8	7200	No
V_R	1117	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4346	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 29.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.334 (Exhibit 13-12)

S_R= 60.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1410 veh/h
	Freeway Volume, V_F: 5640	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5640	0.95	Level	2	0	0.990	0.98	6119
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream								
DownStream	1410	0.95	Level	2	0	0.990	0.98	1530

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5664.57 (Equation 13-6 or 13-7)

P_{FM} = 0.716 using Equation (Exhibit 13-6)

V_{12} = 4383 pc/h

V_3 or V_{av34} 1736 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4383 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6943	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5207	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.883 (Exibit 13-11)

S_R = 45.3 mph (Exhibit 13-11)

S_0 = 65.6 mph (Exhibit 13-11)

S = 49.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	6400
Ramp Volume, V_R	1410
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 750 ft
V_D = 910 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6400	0.95	Level	2	0	0.990	0.98	6943
Ramp	1410	0.95	Level	2	0	0.990	0.98	1530
UpStream								
DownStream	910	0.95	Level	2	0	0.990	0.98	987

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 2722.83 (Equation 13-12 or 13-13)
P_{FD} = 0.633 using Equation (Exhibit 13-7)
V_{12} = 4958 pc/h
V_3 or V_{av34} 1985 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6943	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5413	Exhibit 13-8	7200	No
V_R	1530	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4958	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$
D_R = 33.4 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.371 (Exhibit 13-12)
S_R= 59.6 mph (Exhibit 13-12)
S_0= 72.9 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4990
Ramp Volume, V_R	910
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4990	0.95	Level	2	0	0.990	0.98	5413
Ramp	910	0.95	Level	2	0	0.990	0.98	987
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2979 pc/h
V_3 or V_{av34} 2434 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 3093 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5413	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4426	Exhibit 13-8	7200	No
V_R	987	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2979	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 5.2 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.322 (Exhibit 13-12)
S_R= 61.0 mph (Exhibit 13-12)
S_0= 72.2 mph (Exhibit 13-12)
S = 65.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1020 veh/h
	Freeway Volume, V_F: 4080	
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4080	0.95	Level	2	0	0.990	0.98	4426
Ramp	540	0.95	Level	2	0	0.990	0.98	586
UpStream								
DownStream	1020	0.95	Level	2	0	0.990	0.98	1107

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6311.11 (Equation 13-6 or 13-7)

P_{FM} = 0.726 using Equation (Exhibit 13-6)

V_{12} = 3211 pc/h

V_3 or V_{av34} 1215 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3211 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5012	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3797	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 31.0 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.433 (Exibit 13-11)

S_R = 57.9 mph (Exhibit 13-11)

S_0 = 67.4 mph (Exhibit 13-11)

S = 59.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1645 ft
V_u = 540 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4620
Ramp Volume, V_R	1020
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4620	0.95	Level	2	0	0.990	0.98	5012
Ramp	1020	0.95	Level	2	0	0.990	0.98	1107
UpStream	540	0.95	Level	2	0	0.990	0.98	586
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2864 pc/h
V_3 or V_{av34} 2148 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5012	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3905	Exhibit 13-8	7200	No
V_R	1107	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2864	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 3.1 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.333 (Exhibit 13-12)
S_R= 60.7 mph (Exhibit 13-12)
S_0= 72.9 mph (Exhibit 13-12)
S = 65.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2625 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 1020 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3600	
	Ramp Volume, V_R: 1110	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3600	0.95	Level	2	0	0.990	0.98	3905
Ramp	1110	0.95	Level	2	0	0.990	0.98	1204
UpStream	1020	0.95	Level	2	0	0.990	0.98	1107
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1972.33 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 2419 pc/h

V_3 or V_{av34} 1486 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 2419 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5109	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3913	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.0 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.366 (Exibit 13-11)

S_R= 59.7 mph (Exhibit 13-11)

S_0= 67.5 mph (Exhibit 13-11)

S = 61.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1605 ft
V_u = 1110 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	195
Freeway Volume, V_F	4710
Ramp Volume, V_R	350
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4710	0.95	Level	2	0	0.990	0.98	5110
Ramp	350	0.95	Level	2	0	0.990	0.98	380
UpStream	1110	0.95	Level	2	0	0.990	0.98	1204
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7541.50 (Equation 13-12 or 13-13)
P_{FD} = 0.615 using Equation (Exhibit 13-7)
V_{12} = 3288 pc/h
V_3 or V_{av34} 1822 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5110	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4730	Exhibit 13-8	7200	No
V_R	380	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3288	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.8 (pc/mi/ln)
LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.267 (Exhibit 13-12)
S_R= 62.5 mph (Exhibit 13-12)
S_0= 73.6 mph (Exhibit 13-12)
S = 66.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 980 veh/h
	Freeway Volume, V_F: 4360	
	Ramp Volume, V_R: 570	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4360	0.95	Level	2	0	0.990	0.98	4730
Ramp	570	0.95	Level	2	0	0.990	0.98	618
UpStream								
DownStream	980	0.95	Level	2	0	0.990	0.98	1063

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4907.66 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4730 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5348	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5348	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 40.6 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 1.041 (Exibit 13-11)

S_R = 40.9 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 40.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 50 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 570 veh/h	Deceleration Lane Length L_D: 1000	V_D = veh/h
	Freeway Volume, V_F: 4930	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4930	0.95	Level	2	0	0.990	0.98	5348
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream	570	0.95	Level	2	0	0.990	0.98	618
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5458.59 (Equation 13-12 or 13-13)

P_{FD} = 0.577 using Equation (Exhibit 13-7)

V_{12} = 3537 pc/h

V_3 or V_{av34} 1811 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5348	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4285	Exhibit 13-8	7200	No
V_R	1063	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3537	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.329 (Exhibit 13-12)

S_R= 60.8 mph (Exhibit 13-12)

S_0= 73.6 mph (Exhibit 13-12)

S = 64.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2040 veh/h
	Freeway Volume, V_F: 3950	
	Ramp Volume, V_R: 500	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3950	0.95	Level	2	0	0.990	0.98	4285
Ramp	500	0.95	Level	2	0	0.990	0.98	542
UpStream								
DownStream	2040	0.95	Level	2	0	0.990	0.98	2213

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8193.26 (Equation 13-6 or 13-7)

P_{FM} = 0.671 using Equation (Exhibit 13-6)

V_{12} = 2874 pc/h

V_3 or V_{av34} 1411 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2874 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4827	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3416	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 22.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.290 (Exibit 13-11)

S_R = 61.9 mph (Exhibit 13-11)

S_0 = 66.7 mph (Exhibit 13-11)

S = 63.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/12/2015 8:37:22 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2020 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4770 ft
V_u = 500 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4450
Ramp Volume, V_R	2040
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4450	0.95	Level	2	0	0.990	0.98	4828
Ramp	2040	0.95	Level	2	0	0.990	0.98	2213
UpStream	500	0.95	Level	2	0	0.990	0.98	542
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 3390 pc/h
V_3 or V_{av34} 1438 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4828	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2615	Exhibit 13-8	7200	No
V_R	2213	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3390	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -7.1 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.432 (Exhibit 13-12)
S_R= 57.9 mph (Exhibit 13-12)
S_0= 75.1 mph (Exhibit 13-12)
S = 62.1 mph (Exhibit 13-13)

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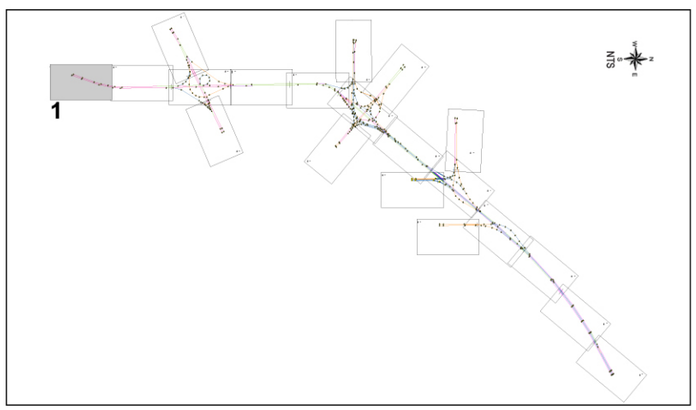
Opening Year (2020) CORSIM Output

NTS

8111
8100
425
299
424
300
423
422

Match Line Sheet 2



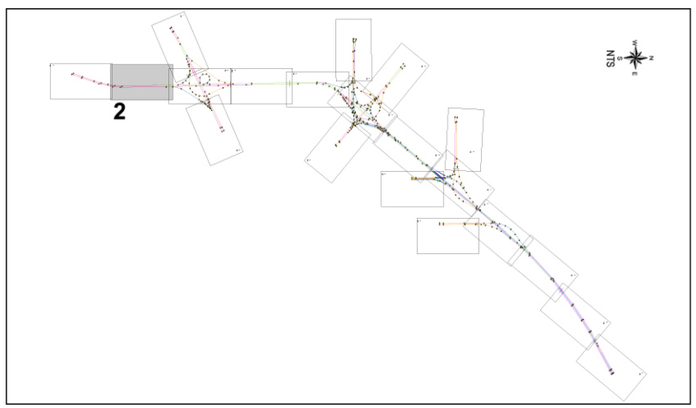
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 1

Match Line Sheet 3



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 2

Match Line Sheet 4

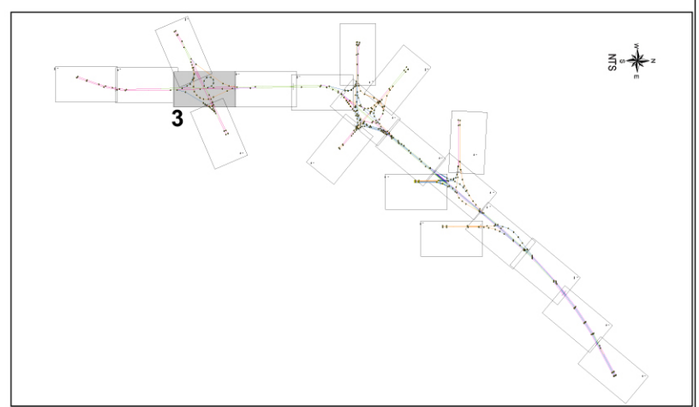
Match Line Sheet 5

Match Line Sheet 6

620 7004 7005 621 622 623 624 625 626 627 628 629 630 640 641 642 643 644 645 660 661 522 521 520 7003 519 503 418 417 419 304 305 306 307 600 601 7001 602 603

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



N
W
E
S
NTS

Match Line Sheet 3

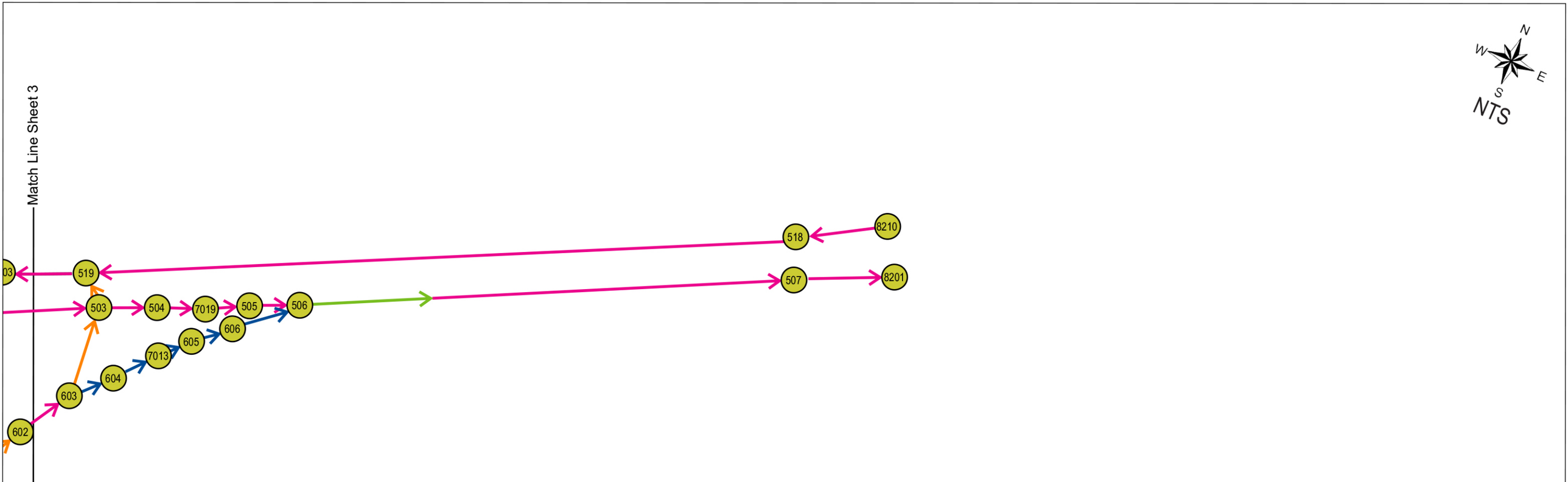
662
523
524
525
8211
500
501
502
7012
7002
619
620
499
8200
7004
7005

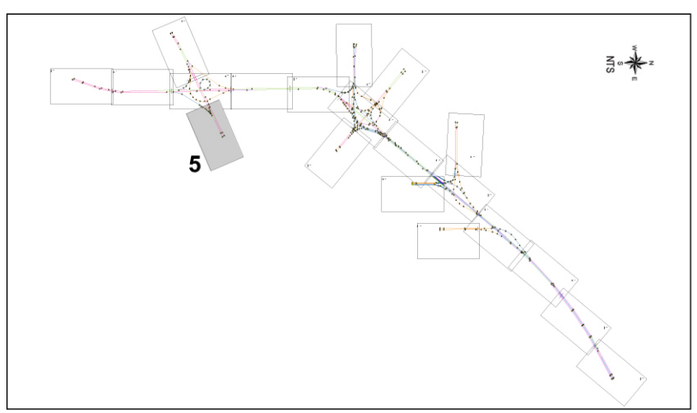
4

NTS

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

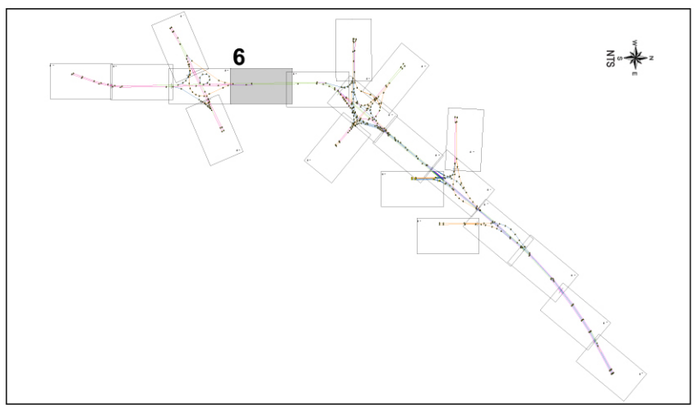
Match Line Sheet 3

Match Line Sheet 7

416

415

307



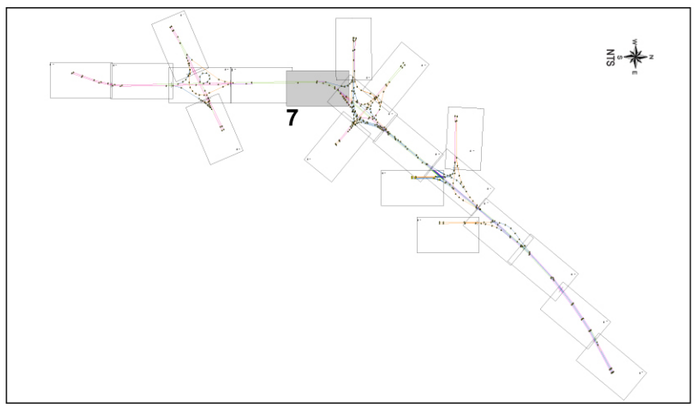
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 6

Match Line Sheet 8



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 10

Match Line Sheet 11

Match Line Sheet 7

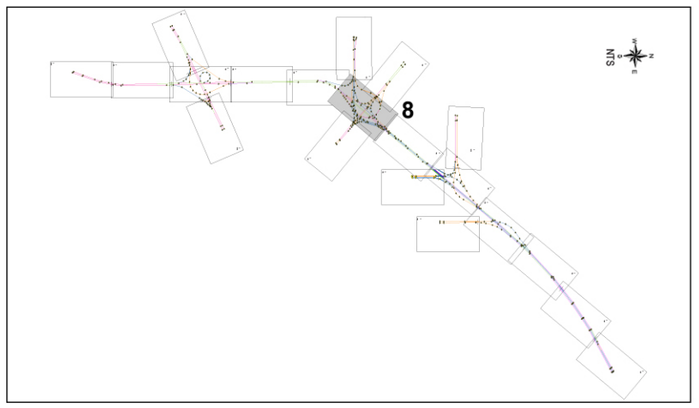
Match Line Sheet 12

Match Line Sheet 9

NTS

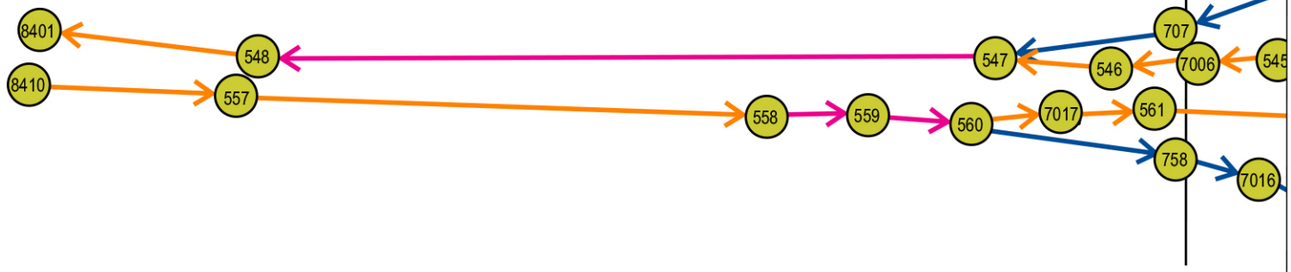
Legend

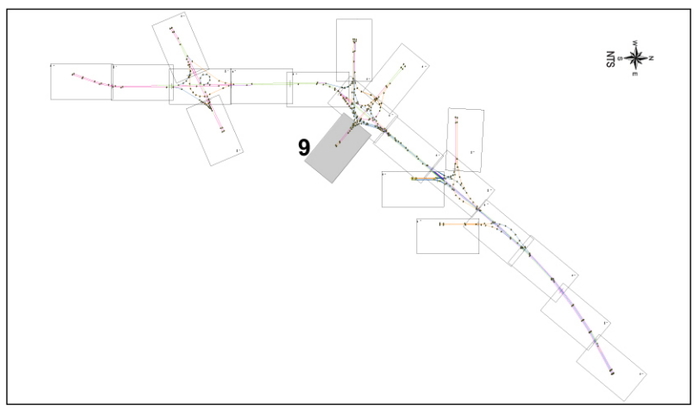
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 8





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

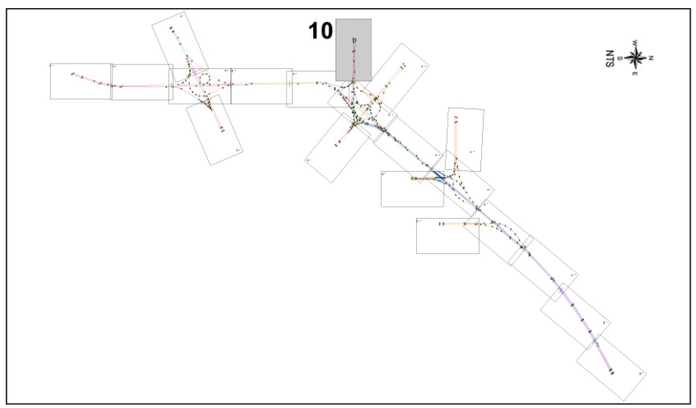
N
W E
S
NTS

8310 725 724 723

8004 4999 5000 741

8300 739 740

Match Line Sheet 8



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

719

Match Line Sheet 8

542

718

566

7018

567

541

568

569

540

8400

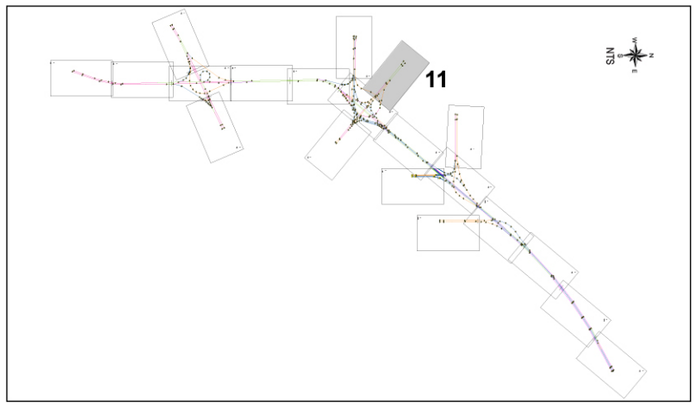
570

8411

716

717

715



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 8

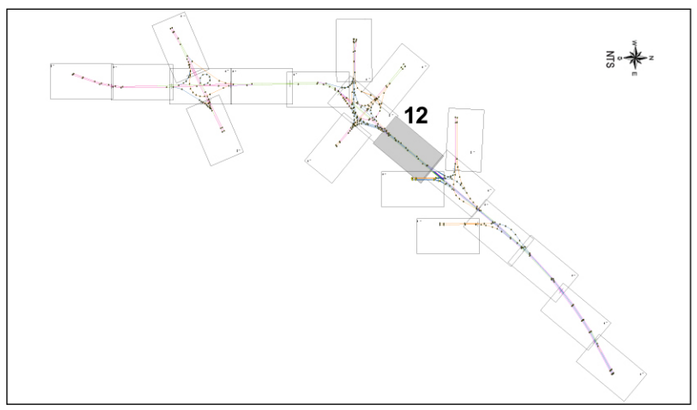
Match Line Sheet 13

770 406 405 404 403 402

6102 6101 6100 6007 6006

6009 5011 6008 5012 5013 5014

317 318 319



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

807

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

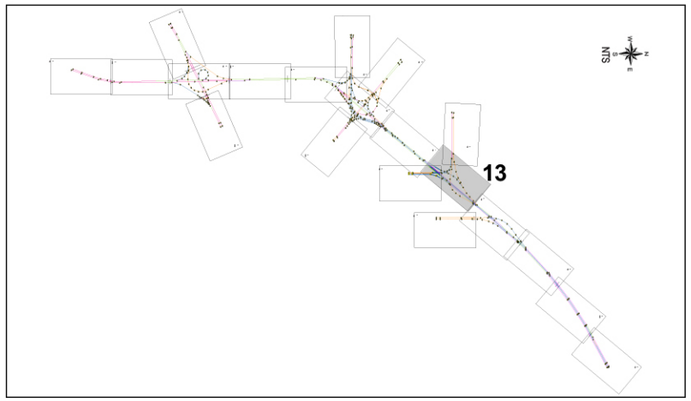
836 801 835 802 811 803 808 804 809 810 805 841 840 839 7015 838 833 834 7014 812 832 7036 831 830 5015 5016 320 321 813 322 853 852 806 851 814 815 816

Match Line Sheet 15

Match Line Sheet 12

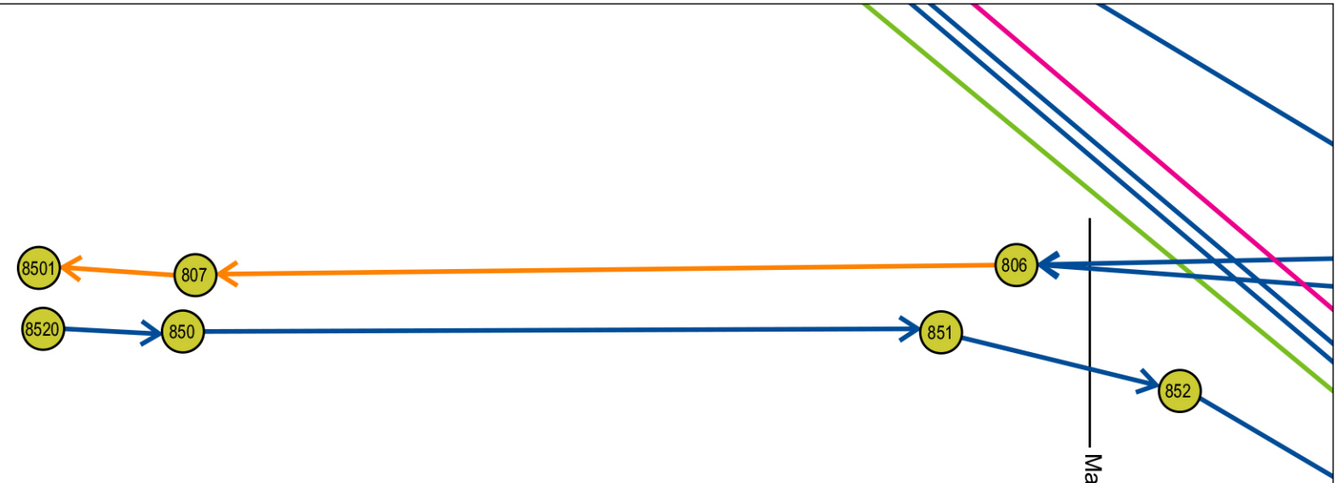
Match Line Sheet 14

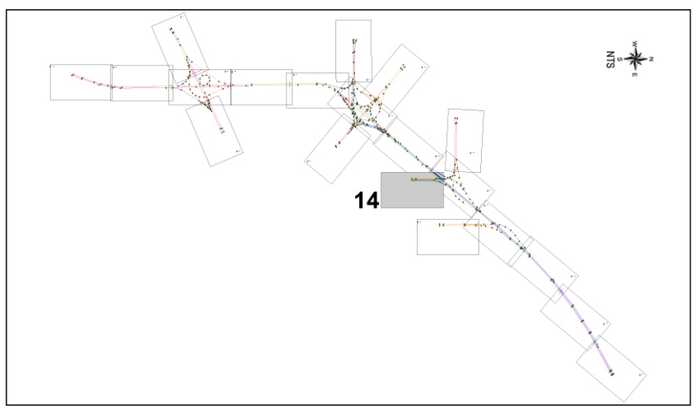
Match Line Sheet 16



N E S W NTS

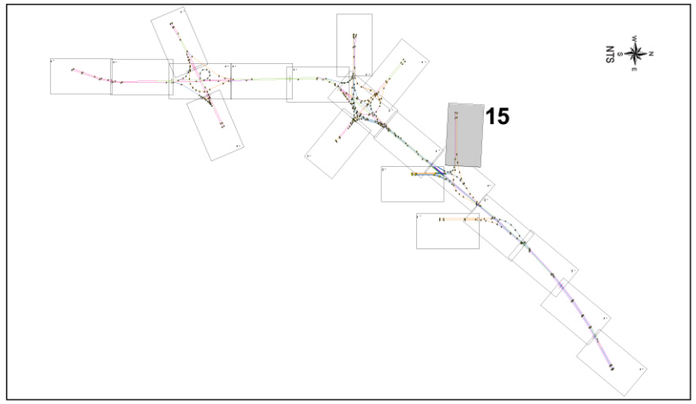
NTS





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

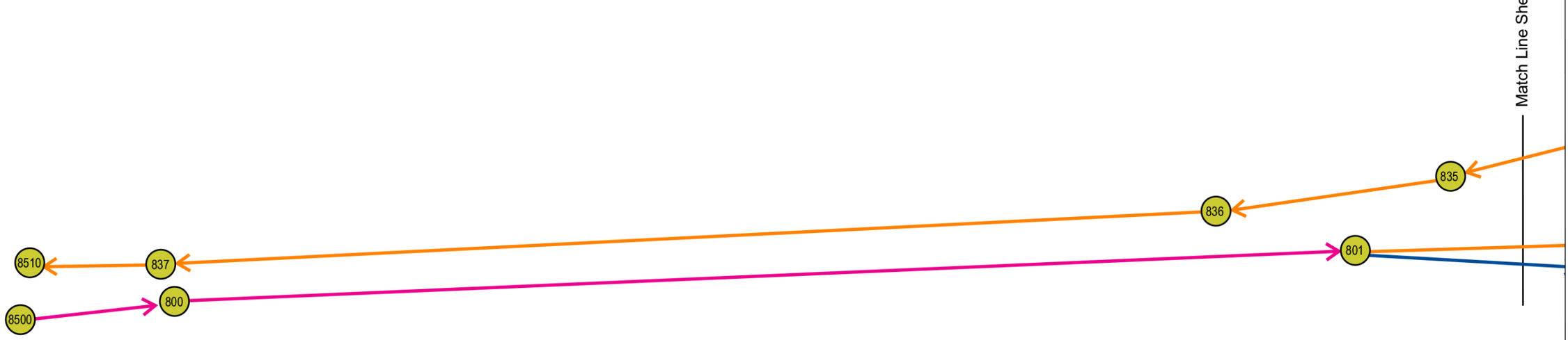


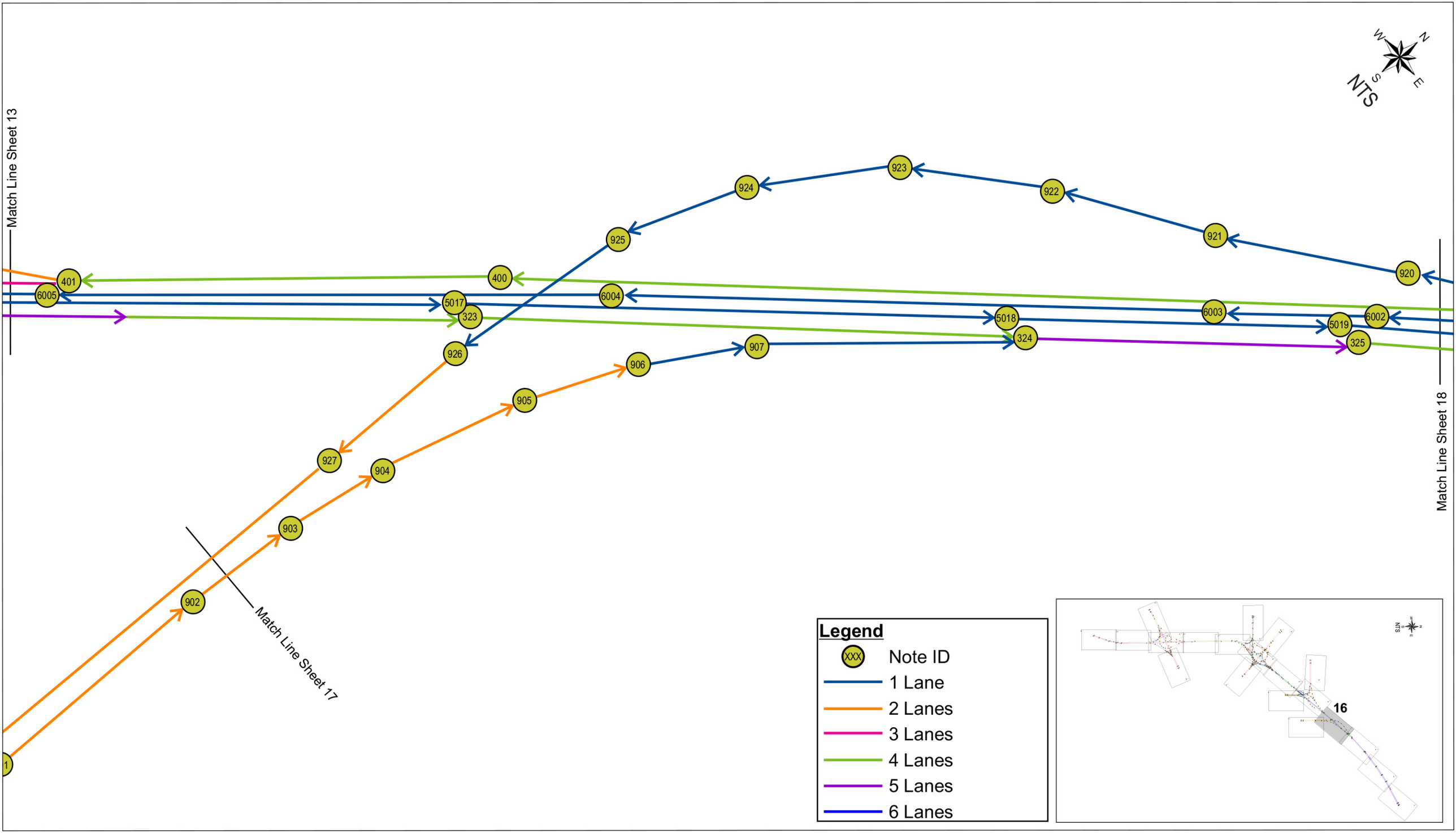
Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

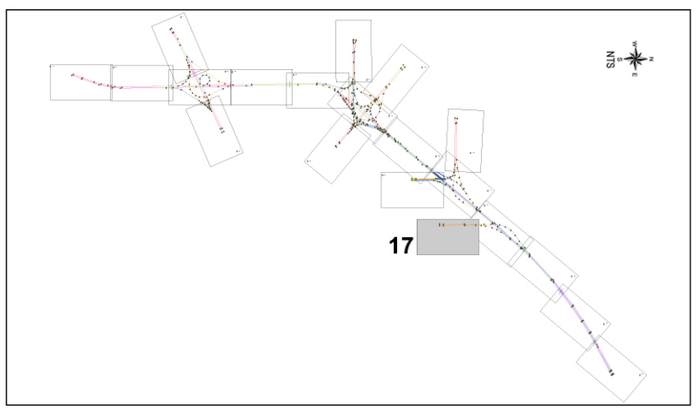
N
W E
S
NTS

Match Line Sheet 13




NTS
Match Line Sheet 13
Match Line Sheet 18
Match Line Sheet 17
401
400
6005
5017
6004
323
5018
6003
6002
5019
324
325
920
921
922
923
924
925
926
927
907
906
905
904
903
902
1
Legend
XXX
Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes
16

NTS



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

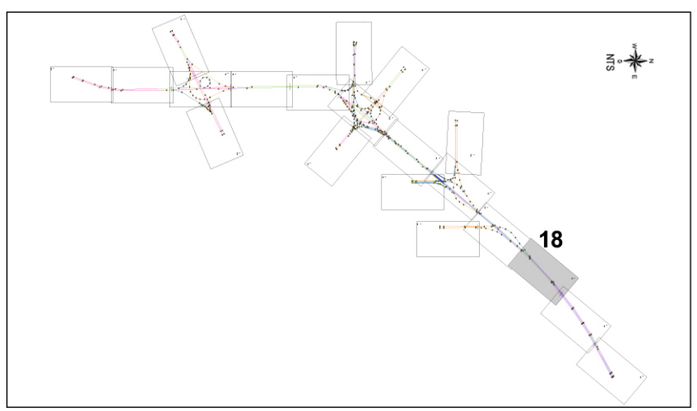
NTS

Match Line Sheet 16

920
399
6002
6001
325
5020
326

Match Line Sheet 19

398
5021
6000
327
5022



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

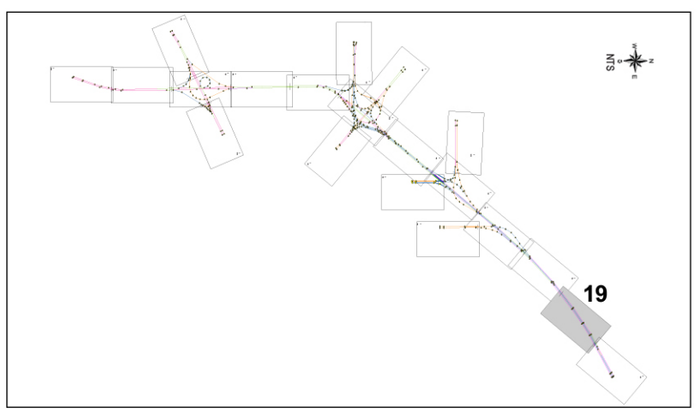
Match Line Sheet 18

397
5999
5023
328

396
5998
5024
329

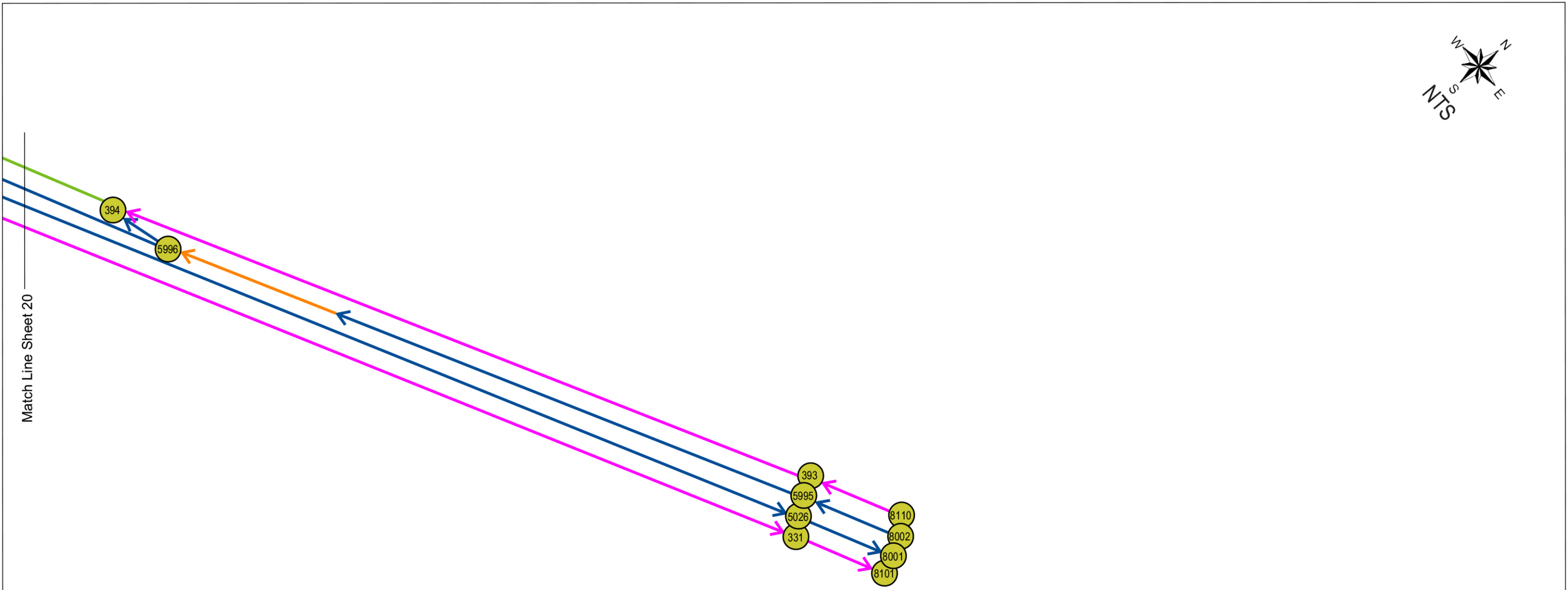
395
5997
5025
330

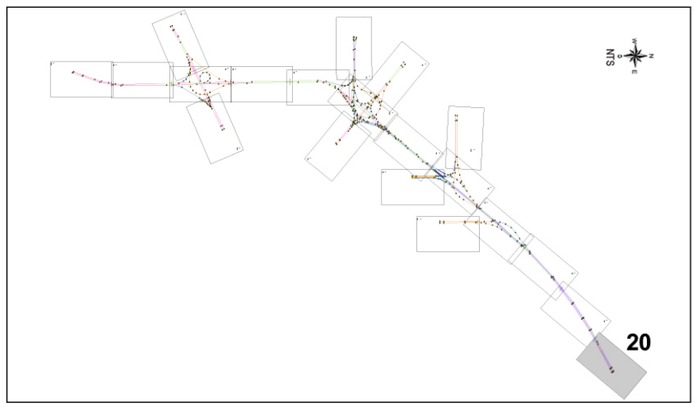
Match Line Sheet 20



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

2020 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7,700	70	3	1,087	29.7	31.4	29.8	28.2	34.0	34.3	34.3	34.2	34.2	34.4	34.4	34.3	29.7	31.7	30.0	28.1	35.3	35.9	36.0	36.1	35.8	35.8	36.5	36.2
	300, 301	I275NB3	7,700	70	3	805	29.1	30.7	29.2	27.6	33.2	33.5	33.5	33.4	33.5	33.6	33.6	33.5												
	301, 302	I275NB4	7,700	70	3	478	29.6	31.3	29.7	28.1	33.9	34.3	34.2	34.2	34.2	34.3	34.4	34.3												
	302, 303	I275NB5	7,700	70	3	2,687	30.8	33.0	31.2	29.0	37.6	38.5	38.8	38.9	38.3	38.2	39.5	39.0												
	303, 304	I275NB6	7,700	70	4	382	23.9	25.6	24.3	22.5	28.4	29.5	29.5	29.5	29.8	29.4	30.1	29.8												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5,700	70	3	1,375	21.7	23.0	22.1	20.8	24.8	25.4	25.4	25.3	25.7	25.5	25.6	25.4	21.6	22.9	22.0	20.7	24.6	25.2	25.1	25.1	25.4	25.2	25.3	25.1
	305, 306	I275NB8	5,700	70	3	1,306	21.6	22.7	21.9	20.7	24.4	24.9	24.9	24.8	25.2	25.0	25.0	24.9												
	306, 307	I275NB9	5,700	70	3	591	21.6	22.8	22.0	20.8	24.5	25.0	25.0	25.0	25.2	25.1	25.2	25.0												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	6,570	70	5	1,065	15.3	16.2	15.6	14.7	17.6	18.2	18.1	17.9	17.8	17.7	17.6	17.4	17.6	18.7	18.0	16.9	20.2	20.9	20.8	20.7	20.5	20.4	20.4	20.0
	308, 309	I275NB11	6,570	70	5	3,035	18.3	19.4	18.7	17.6	20.9	21.6	21.6	21.5	21.3	21.2	21.2	20.8												
	309, 2	I275NB12	6,570	70	4	350	18.8	19.9	19.2	18.1	21.5	22.3	22.2	22.3	22.0	21.8	21.7	21.4												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	6,240	70	4	745	17.8	18.7	18.1	17.1	20.3	21.2	21.1	21.0	20.7	20.6	20.7	20.1	18.8	19.9	19.3	18.1	21.9	23.4	23.5	23.2	22.8	22.5	22.7	22.0
	310, 311	I275NB13	6,240	70	4	380	18.2	19.3	18.6	17.6	20.9	22.1	22.0	21.9	21.5	21.4	21.5	20.8												
	311, 312	I275NB14	6,240	70	4	399	18.8	20.0	19.3	18.1	21.8	23.1	23.2	23.1	22.6	22.5	22.5	21.9												
	312, 313	I275NB15	6,240	70	4	368	19.4	20.5	20.0	18.4	23.1	25.1	25.7	25.0	24.6	23.8	24.2	23.3												
	313, 314	I275NB16	6,240	70	4	460	20.6	21.8	21.3	19.7	24.6	26.9	27.2	26.4	26.1	25.5	25.9	24.8												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,210	70	3	879	7.9	8.5	8.3	7.7	9.1	9.8	9.6	9.7	9.3	9.4	9.7	9.3	7.8	8.3	8.1	7.5	8.8	9.5	9.3	9.4	9.1	9.1	9.5	9.0
	315, 316	I275NB18	2,210	70	3	1,293	7.7	8.3	8.1	7.5	8.7	9.4	9.2	9.3	9.0	9.0	9.4	8.9												
	316, 317	I275NB19	2,210	70	3	1,158	7.7	8.3	8.1	7.5	8.7	9.4	9.2	9.3	9.0	9.0	9.4	8.9												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,455	70	5	372	8.3	8.8	8.5	7.9	9.9	10.0	10.2	10.2	9.3	9.5	9.5	9.1	10.6	11.2	10.9	10.2	12.6	12.9	13.1	13.0	12.1	12.3	12.3	11.8
	318, 319	I275NB21	3,455	70	5	2,611	9.4	9.9	9.6	9.0	11.1	11.4	11.5	11.5	10.6	10.8	10.9	10.4												
	319, 320	I275NB22	3,455	70	3	1,802	12.4	13.1	12.8	12.0	14.6	15.2	15.3	15.3	14.2	14.4	14.4	13.9												
	320, 321	I275NB23	3,455	70	3	501	12.5	13.1	12.9	12.0	14.5	15.2	15.3	15.2	14.3	14.3	14.4	13.9												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,755	70	3	1,814	12.6	13.2	13.1	12.1	14.9	15.6	15.6	15.5	14.4	14.5	14.5	14.0	12.6	13.2	13.1	12.1	14.9	15.6	15.6	15.5	14.4	14.5	14.5	14.0
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,060	70	5	814	11.6	12.2	12.1	11.4	14.5	16.0	16.7	16.3	14.3	14.6	14.6	14.7	13.0	13.7	13.6	12.8	16.1	17.8	18.6	18.2	15.9	16.3	16.3	16.4
	323, 324	I275NB26	5,060	70	5	1,850	13.7	14.3	14.2	13.4	16.8	18.6	19.4	19.1	16.6	17.0	17.1	17.1												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	5,960	70	4	838	14.6	15.3	15.1	14.2	18.8	24.5	28.6	23.3	18.0	18.1	18.8	19.2	16.9	17.9	17.6	16.4	22.8	28.5	31.2	28.1	22.2	22.2	22.1	22.3
	325, 326	I275NB28	5,960	70	4	704	18.2	19.5	19.0	17.6	29.0	41.5	46.0	40.1	26.7	26.5	26.6	26.9												
	326, 327	I275NB29	5,960	70	3	1,988	17.4	18.4	18.2	16.9	22.3	25.7	27.0	25.9	22.3	22.4	21.9	21.9												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,630	70	3	1,906	20.6	21.7	21.5	20.1	25.1	27.8	29.1	28.2	25.4	25.5	25.1	25.1	20.6	21.7	21.6	20.2	24.9	27.8	29.1	28.3	25.5	25.5	25.2	25.2
	328, 329	I275NB31	5,630	70	3	1,046	20.7	21.7	21.6	20.2	24.9	27.9	29.1	28.3	25.5	25.6	25.2	25.1												
	329, 330	I275NB32	5,630	70	3	803	20.6	21.7	21.6	20.2	24.9	27.8	29.1	28.3	25.5	25.6	25.2	25.2												
	330, 331	I275NB33	5,630	70	3	2,542	20.6	21.7	21.6	20.2	24.8	27.8	29.1	28.4	25.6	25.5	25.2	25.3												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	4,630	70	3	1,731	17.3	18.2	17.4	16.4	23.1	23.8	23.0	18.9	15.1	20.2	44.8	38.5	17.3	18.2	17.4	16.4	23.1	23.8	23.0	18.9	15.1	20.2	44.8	38.5
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	4,840	70	4	787	13.8	14.4	13.8	13.0	19.9	22.2	20.7	16.3	15.7	19.0	35.0	29.4	17.7	18.7	17.7	16.8	24.6	27.9	30.2	27.8	25.0	29.9	54.1	33.7
	395, 396	I275SB1	4,840	70	4	818	17.4	18.7	17.4	16.3	30.8	34.6	31.2	27.7	26.9	27.0	47.8	33.4												
	396, 397	I275SB1	4,840	70	3	1,049	18.6	19.7	18.7	17.7	25.9	27.7	33.0	33.4	29.7	32.4	59.6	36.2												
	397, 398	I275SB1	4,840	70	3	1,916	18.2	19.2	18.3	17.4	23.9	26.2	33.0	29.9	26.8	31.9	61.1	35.0												
	398, 399	I275SB1	4,840	70	3	2,120	18.4	19.4	18.4	17.6	23.9	28.9	29.5	27.4	23.7	32.2	54.5	33.0												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	4,340	70	3	2,742	15.6	16.4	15.6	15.0	20.0	26.2	22.2	20.4	21.1	29.2	50.6	29.8	15.0	15.8	15.0	14.5	19.6	25.2	20.8	19.0	19.3	26.6	45.9	27.2
	400, 401	I275SB3	4,340	70	4	1,083	13.6	14.4	13.6	13.2	18.6	22.6	17.2	15.4	14.7	20.0	34.0	20.6												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	1,945	70	3	4,105	7.5	7.8	9.3	13.9	19.6	27.4	21.0	24.5	13.1	17.7	19.2	19.1	7.5	7.8	9.3	13.9	19.6	27.4	21.0	24.5	13.1	17.7	19.2	19.1
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	2,495	70	4	720	8.0	8.2	15.5	17.9	22.4	22.1	20.1	24.5	18.8	22.1	20.6	23.1	15.8	29.1	31.7	31.1	34.7	35.6	33.4	37.4	34.4	34.5	37.0	39.2
	403, 404	I275SB6	2,495	70	4	1,327	10.4	17.9	22.1	22.8	26.4	26.6	24.7	29.3	26.7	26.2	26.5	30.5												
	404, 405	I275SB7	2,495	70	4	461	22.9	49.6	42.8	39.8	44.2	47.5	45.1	49.0	48.8	46.4	52.5	54.4												
	405, 406	I275SB8	2,495	70	4	452	37.1	74.5	74.2	67.4	68.8	71.4	68.0	70.0	67.1	66.2	78.5	74.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,585	70	3	855	3.1	3.1	2.6	2.6	3.0	2.5	1.8	2.5	2.2	2.0	2.6	2.3	3.1	2.8	2.4	2.3	2.5	2.2	1.6	2.2	2.0	1.8	2.4	2.1
	407, 408	I275SB10	1,585	70	3	347	3.1	2.8	2.3	2.2	2.5	2.1	1.6	2.2	1.9	1.7	2.3	2.0												
	408, 409	I275SB11	1,585	70	3	1,585	3.0	2.8	2.3	2.1	2.4	2.1	1.5	2.1	1.9	1.7	2.3	2.0												
	409, 410	I275SB12	1,585	70	3	458	3.0	2.8	2.2	2.1	2.3	2.0	1.5	2.1	1.8	1.6	2.2	1.9												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,555	70	4	629	4.6	4.4	4.0	4.0	4.9	5.0	4.5	4.7	4.2	4.1	4.3	3.9	4.9	4.7	4.3	4.3	5.2	5.2	4.7	4.9	4.4	4.3	4.6	4.2
	411, 412	I275SB14	2,555	70	4	247	5.2	5.1	4.6	4.6	5.6	5.6	5.0	5.3	4.7	4.6	4.9	4.4												
	412, 413	I275SB15	2,555	70	4	608	5.1	4.9	4.4	4.4	5.4	5.4	4.8	5.1	4.5	4.4	4.7	4.3												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	3,690	70	4	492	7.3	7.4	6.8	6.7	8.6	9.7	8.5	8.2	7.4	7.4	7.5	6.9	8.2	8.3	7.6	7.4	9.4	10.5	9.3	9.1	8.2	8.1	8.3	7.7
	414, 415	I275SB17	3,690	70	4	3,870	8.3	8.3	7.6	7.4	9.5	10.5	9.3	9.1	8.2	8.2	8.3	7.7												
	415, 416	I275SB18	3,690	70	4	1,086	8.5	8.6	7.9	7.7	9.8	10.8	9.6	9.4	8.4	8.4	8.6	7.9												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	2,830	70	3	1,385	8.3	8.2	7.4	7.1	9.0	9.9	9.0	8.7	7.9	7.8	8.1	7.3	8.3	8.2	7.4	7.1	9.0	9.9	9.0	8.7	7.9	7.8	8.1	7.3
	417, 418	I275SB20	2,830	70	3	343	8.3	8.2	7.4	7.1	9.0	9.9	9.0	8.7	7.9	7.8	8.1	7.3												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	3,830	70	3	1,507	10.7	10.8	9.9	9.5	12.0	13.0	12.4	12.2	10.8	10.8	10.9	10.1	10.7	10.8	9.9	9.5	12.0	13.0	12.4	12.2	10.8	10.8	10.9	10.1
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	4,930	70	3	1,015	12.8	12.8	12.0	11.8	15.0	16.5	15.7	15.1	13.3	13.4	13.3	12.4	12.8	12.8	12.0	11.8	15.0	16.5	15.7	15.1	13.3	13.4	13.3	12.4
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	5,280	70	3	2,282	13.4	13.6	12.7	12.4	15.6	17.2	16.6	15.8	13.9	14.0	14.3	13.2	15.3	15.6	14.6	14.3	17.8	19.6	19.0	18.1	16.0	16.0	16.4	15.2
	420, 421	I275SB23	5,280	70	3	430	17.2	17.5	16.3	16.0	19.9	21.8	21.2	20.3	17.9	17.9	18.3	17.0												
	421, 422	I275SB24	5,280	70	3	403	17.1	17.5	16.3	16.0	19.9	21.8	21.2	20.3	17.9	17.9	18.3	17.0												
	422, 423	I275SB25	5,280	70	3	426	17.1	17.5	16.4	16.0	19.8	21.8	21.2	20.3	17.9	17.9	18.3	17.0												
	423, 424	I275SB26	5,280	70	3	412	17.1	17.5	16.4	16.0	19.8	21.8	21.2	20.3	17.9	17.9	18.4	17.0												
	424, 425	I275SB27	5,280	70	3	734	17.2	17.5	16.3	16.0	19.8	21.8	21.2	20.3	18.0	17.9	18.3	17.0												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,290	50	3	841	17.2	18.2	17.1	16.4	22.9	24.3	23.1	22.0	18.8	20.0	18.8	18.0	14.3	15.1	14.2	13.6	19.0	20.5	19.3	18.3	15.6	16.6	15.6	15.0
	500, 501	GandyEB3	3,290	50	4	954	12.4	13.1	12.4	11.8	16.4	17.6	16.6	15.8	13.6	14.4	13.5	13.0												
	501, 502	GandyEB4	3,290	50	5	174	10.5	11.1	10.6	10.0	14.9	17.8	15.7	14.0	11.6	12.6	11.7	11.1												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,320	50	3	178	7.0	7.5	6.9	6.6	9.5	10.2	9.6	9.0	7.7	8.2	7.8	7.5	7.0	7.5	6.9	6.6	9.5	10.2	9.6	9.0	7.7	8.2	7.8	7.5
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,320	50	3	99	9.8	10.4	9.6	9.2	12.6	13.8	13.2	12.2	11.0	11.0	10.7	10.4	8.6	9.1	8.4	8.1	11.1	12.1	11.6	10.7	9.7	9.7	9.4	9.1
	505, 506	GandyEB10	1,320	50	3	119	7.6	8.1	7.5	7.2	9.9	10.8	10.3	9.6	8.6	8.6	8.4	8.1												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,555	50	3	1,167	13.2	14.1	13.2	12.6	15.8	17.3	16.8	16.2	14.9	15.2	15.0	14.6	13.2	14.1	13.2	12.6	15.8	17.3	16.8	16.2	14.9	15.2	15.0	14.6
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,020	55	3	181	20.0	21.2	20.3	19.2	25.5	26.6	25.7	25.1	22.4	23.2	22.1	21.7	14.2	14.9	14.4	13.8	18.0	19.0	18.6	17.8	15.9	16.6	15.6	15.3
	520, 521	GandyWB5	3,020	55	3	291	14.5	15.3	14.8	14.0	18.4	19.2	18.6	18.1	16.2	16.8	16.0	15.6												

2020 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,020	55	4	590	12.3	12.8	12.4	12.1	15.6	16.5	16.4	15.5	13.8	14.6	13.5	13.3												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,020	55	3	1,768	9.8	10.1	10.0	9.5	12.4	13.1	12.7	12.0	10.9	11.4	10.8	10.7	9.8	10.1	10.0	9.5	12.4	13.1	12.7	12.0	10.9	11.4	10.8	10.7
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2,880	55	3	1,179	10.1	10.4	10.2	9.8	12.6	13.6	12.8	12.3	11.1	11.5	11.0	10.9	11.0	11.3	11.2	10.7	13.7	14.8	14.0	13.4	12.1	12.5	12.0	11.8
	524, 525	GandyWB9	2,880	55	3	455	13.3	13.7	13.6	12.9	16.5	17.9	16.9	16.2	14.7	15.2	14.5	14.2												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,000	50	1	525	31.6	33.4	31.2	29.8	35.5	37.2	37.2	37.2	40.3	36.9	37.8	37.6	30.7	32.2	30.8	29.2	34.6	35.9	36.1	36.0	39.4	35.5	36.4	36.5
	600, 601	GdyNBoff2	2,000	50	1	1,220	31.7	33.1	31.9	30.2	35.5	36.8	37.1	36.8	40.7	36.4	37.1	37.3												
	601, 7001	GdyNBoff3	2,000	50	2	135	18.5	18.8	19.4	17.6	23.3	22.9	23.4	23.6	24.4	22.2	24.1	24.9												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,235	50	1	84	29.9	31.6	30.6	28.8	32.6	34.8	35.0	35.4	33.0	35.6	34.9	35.5	23.3	24.7	23.7	22.4	25.3	27.0	27.2	27.5	25.8	27.5	27.0	27.4
	605, 606	GdyNBoff9	1,235	50	1	107	21.7	22.9	22.0	20.8	23.5	25.0	25.3	25.6	23.9	25.6	25.1	25.5												
	606, 506	GdyNBoff10	1,235	50	1	158	20.8	22.1	21.1	20.1	22.6	24.2	24.4	24.6	23.2	24.5	24.1	24.3												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,970	50	2	179	17.0	17.9	17.7	16.1	26.4	32.8	28.4	25.1	19.7	21.8	19.4	18.3	17.0	17.9	17.7	16.1	26.4	32.8	28.4	25.1	19.7	21.8	19.4	18.3
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	870	50	2	501	7.5	8.4	7.8	6.9	9.7	10.3	9.9	9.6	8.4	8.7	8.3	7.6	7.0	7.8	7.2	6.6	9.0	9.6	9.3	9.0	7.9	8.1	7.8	7.2
	623, 624	GdyNBon6	870	50	2	299	7.0	7.7	7.2	6.5	8.9	9.6	9.2	8.9	7.9	8.1	7.7	7.1												
	624, 625	GdyNBon7	870	50	2	253	7.0	7.7	7.1	6.5	8.9	9.5	9.1	8.9	7.8	8.1	7.7	7.1												
	625, 626	GdyNBon8	870	50	2	238	7.0	7.7	7.1	6.5	8.9	9.5	9.1	8.9	7.8	8.0	7.7	7.1												
	626, 627	GdyNBon9	870	50	2	242	7.0	7.7	7.1	6.5	8.9	9.5	9.2	8.9	7.8	8.0	7.7	7.1												
	627, 628	GdyNBon10	870	50	2	277	7.0	7.7	7.1	6.5	8.9	9.5	9.2	8.9	7.8	8.0	7.7	7.1												
	628, 629	GdyNBon11	870	50	2	337	7.0	7.7	7.1	6.5	8.8	9.5	9.1	8.9	7.8	8.0	7.7	7.1												
	629, 630	GdyNBon12	870	50	2	877	7.0	7.6	7.2	6.5	8.8	9.4	9.1	8.9	7.9	8.0	7.7	7.1												
	630, 307	GdyNBon13	870	50	2	344	6.9	7.6	7.2	6.5	8.8	9.4	9.2	8.9	7.9	8.0	7.7	7.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	860	50	2	481	5.6	5.8	5.6	5.6	7.0	7.8	6.7	6.7	6.0	6.0	6.0	5.8	6.4	6.6	6.4	6.5	8.1	8.9	7.7	7.7	6.9	6.9	6.9	6.6
	660, 661	GdySBoff2	860	50	2	394	5.6	5.8	5.5	5.6	7.0	7.7	6.6	6.6	6.0	6.0	6.0	5.7												
	661, 662	GdySBoff3	860	50	2	1,949	5.7	5.9	5.7	5.8	7.2	7.9	6.8	6.8	6.1	6.2	6.2	5.9												
	662, 523	GdySBoff4	860	50	1	424	11.5	11.6	11.5	11.5	14.4	15.9	13.8	13.7	12.3	12.3	12.2	11.9												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,100	50	1	286	18.5	18.1	18.2	18.3	24.1	25.8	24.6	23.5	20.6	21.5	20.1	19.1	17.0	16.7	16.9	16.9	22.2	23.8	22.6	21.6	19.0	19.7	18.6	17.7
	621, 622	GdySBon3	1,100	50	1	204	16.3	15.9	16.2	16.2	21.3	22.9	21.7	20.8	18.3	18.8	17.8	16.9												
	622, 419	GdySBon4	1,100	50	1	319	16.1	15.9	16.1	16.1	21.0	22.5	21.5	20.5	18.1	18.6	17.7	16.8												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,000	35	1	302	23.0	23.7	22.3	22.1	27.5	29.6	29.4	29.3	25.2	25.7	25.0	24.3	23.0	23.8	22.2	21.8	27.3	29.3	29.3	29.1	25.2	25.5	24.9	24.6
	640, 641	GdySBonLoop2	1,000	35	1	259	22.8	23.4	22.0	21.7	27.2	29.0	29.0	28.7	25.0	25.3	24.8	24.3												
	641, 642	GdySBonLoop3	1,000	35	1	227	22.8	23.5	22.0	21.6	27.1	29.1	29.1	28.7	25.0	25.2	24.8	24.4												
	642, 643	GdySBonLoop4	1,000	35	1	211	23.0	23.8	22.2	21.7	27.3	29.3	29.4	29.2	25.2	25.4	25.0	24.7												
	643, 644	GdySBonLoop5	1,000	35	1	211	23.0	23.9	22.3	21.8	27.3	29.3	29.4	29.2	25.3	25.4	25.0	24.7												
	644, 645	GdySBonLoop6	1,000	35	1	207	23.1	24.1	22.4	21.8	27.3	29.3	29.5	29.2	25.4	25.5	25.0	24.8												
	645, 418	GdySBonLoop7	1,000	35	1	252	23.0	24.1	22.4	21.8	27.3	29.2	29.3	29.2	25.4	25.6	24.9	24.7												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1,610	60	4	1,418	5.3	5.7	5.4	5.0	7.1	7.4	7.0	6.7	5.9	6.1	5.9	5.5	6.0	6.4	6.1	5.7	8.0	8.5	8.0	7.6	6.7	6.9	6.7	6.3
	541, 542	RvEB3	1,610	60	3	1,028	7.0	7.5	7.1	6.7	9.3	9.9	9.3	8.9	7.8	8.1	7.8	7.3												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,010	60	2	513	6.4	6.9	6.7	6.1	8.4	9.0	8.6	8.2	7.2	7.4	7.3	6.8	6.4	6.9	6.7	6.1	8.4	9.0	8.6	8.2	7.2	7.4	7.3	6.8
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,155	60	2	120	11.9	12.2	12.2	11.7	13.4	14.1	13.9	13.6	12.5	12.9	12.6	12.3	10.8	11.1	11.1	10.7	12.2	12.8	12.6	12.3	11.4	11.7	11.5	11.2
	546, 547	RvEB10	1,155	60	2	165	10.0	10.3	10.3	9.9	11.3	11.9	11.7	11.4	10.6	10.8	10.6	10.4												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,185	60	2	1,053	14.5	14.9	15.0	14.2	16.7	17.5	17.6	16.9	16.4	16.2	16.2	15.5	14.5	14.9	15.0	14.2	16.7	17.5	17.6	16.9	16.4	16.2	16.2	15.5
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,425	60	2	756	16.0	16.9	15.9	15.3	21.1	22.5	21.2	20.1	17.6	18.5	17.6	16.7	14.9	15.7	14.8	14.2	19.6	20.9	19.7	18.7	16.4	17.1	16.4	15.5
	558, 559	RvWB3	2,425	60	2	146	13.5	14.3	13.4	12.9	17.8	19.0	17.9	17.2	14.9	15.6	15.0	14.1												
	559, 560	RvWB4	2,425	60	3	151	10.4	11.1	10.4	10.0	13.8	14.7	13.8	13.3	11.5	12.0	11.6	10.9												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,360	60	2	125	15.3	16.1	15.2	14.6	20.0	21.5	20.2	19.3	16.8	17.5	16.9	15.9	15.3	16.1	15.2	14.6	20.0	21.5	20.2	19.3	16.8	17.5	16.9	15.9
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,000	60	2	133	15.6	16.5	15.4	14.5	20.6	22.1	20.5	19.8	17.2	17.8	16.9	16.4	13.5	14.2	13.3	12.6	17.5	18.8	17.5	16.9	14.8	15.3	14.6	14.1
	567, 568	RvWB14	2,000	60	2	750	13.2	13.9	13.0	12.3	17.1	18.4	17.1	16.5	14.5	15.0	14.3	13.8												
	568, 569	RvWB15	2,000	60	2	281	13.2	14.0	13.0	12.3	17.1	18.4	17.1	16.5	14.5	15.0	14.3	13.9												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,830	60	4	1,137	13.2	14.0	13.1	12.5	15.8	17.0	16.4	15.9	14.9	15.1	14.6	14.5	13.2	14.0	13.1	12.5	15.8	17.0	16.4	15.9	14.9	15.1	14.6	14.5
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,030	50	2	228	32.7	34.2	33.3	31.4	37.5	40.1	40.6	39.1	39.1	38.6	38.8	37.5	32.7	34.2	33.3	31.4	37.5	40.1	40.6	39.1	39.1	38.6	38.8	37.5
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,030	50	2	168	39.4	40.7	39.8	37.8	44.6	46.7	47.0	45.8	45.8	45.5	45.4	44.2	28.7	29.6	29.0	27.6	32.6	34.1	34.2	33.5	33.4	33.2	33.0	32.2
	701, 702	RvNBoff5	4,030	50	2	198	23.8	24.5	24.2	22.9	27.2	28.5	28.5	27.9	27.8	27.6	27.5	26.9												
	702, 703	RvNBoff6	4,030	50	3	130	22.3	22.9	22.5	21.4	25.1	26.5	26.3	25.9	25.8	25.7	25.5	25.0												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,030	50	1	336	16.2	16.5	16.6	15.9	19.3	19.8	20.4	19.2	19.7	19.0	19.2	17.9	16.1	16.4	16.6	15.8	19.1	19.7	20.3	19.1	19.6	18.8	19.2	17.8
	704, 705	RvNBoff8	1,030	50	1	200	16.2	16.4	16.6	15.7	19.1	19.8	20.4	19.2	19.7	18.9	19.2	17.8												
	705, 706	RvNBoff9	1,030	50	1	223	16.1	16.3	16.6	15.7	19.0	19.7	20.2	19.1	19.6	18.7	19.1	17.8												
	706, 707	RvNBoff10	1,030	50	1	262	16.0	16.3	16.5	15.7	18.9	19.6	20.2	19.1	19.5	18.7	19.1	17.8												
	707, 547	RvNBoff11	1,030	50	1	264	16.0	16.4	16.5	15.8	19.0	19.6	20.3	19.1	19.6	18.7	19.2	17.9												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,830	50	2	248	15.5	16.3	15.3	14.8	17.0	18.0	18.1	17.6	17.7	17.6	17.2	17.4	15.5	16.3	15.3	14.7	16.9	18.0	18.1	17.6	17.7	17.6	17.2	17.5
	715, 716	RvNBoff21	1,830	50	2	642	15.5	16.3	15.3	14.7	16.9	18.0	18.1	17.6	17.7	17.6	17.2	17.4												
	716, 569	RvNBoff22	1,830	50	2	670	15.5	16.3	15.4	14.7	16.9	18.0	18.1	17.6	17.7	17.6	17.2	17.5												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	65	50	1	296	0.8	1.1	0.9	0.9	1.4	1.3	1.3	1.1	1.1	1.2	1.0	1.1	0.8	1.1	0.9	0.9	1.4	1.4	1.3	1.2	1.1	1.3	1.0	1.1
	758, 7016	RvNBon4	65	50	1	127	0.9	1.2	1.0	0.9	1.5	1.5	1.4	1.2	1.2	1.3	1.0	1.2												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,245	50	2	97	12.2	12.9	12.1	11.5	16.1	14.5	15.9	15.6	13.1	14.0	13.1	12.5	10.9	11.5	10.8	10.3	14.3	13.0	14.2	13.9	11.7	12.4	11.6	11.2
	757, 317	RvNBon10	1,245	50	2	123	9.9	10.4	9.8	9.3	12.9	11.7	12.8	12.5	10.6	11.3	10.5	10.1												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	910	50	2	223	85.3	161.4	157.1	148.4	150.2	146.8	144.4	144.2	141.1	138.5	158.9	154.5	94.6	168.3	164.2	156.1	158.7	154.4	153.0	152.3	149.9	146.5	165.9	161.9
	770, 7032	RvSBoff2	910	50	2	150	108.3	178.6	174.8	167.4	171.3	165.7	165.8	164.3	162.9	158.4	176.3	172.9												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	970	50	3	102	6.5	6.5	6.3	6.5	8.5	9.0	8.5	8.1	7.2	7.3	7.0	6.5	7.5	7.6	7.3	7.5	9.9	10.4	9.9	9.4	8.4	8.5	8.2	7.6
	793, 410	RvSBon5	970	50	3	655	7.6	7.7	7.5	7.6	10.1	10.6	10.1	9.6	8.6	8.6	8.4	7.8												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	600	50	2	270	4.5	4.8	4.5	4.5	6.2	6.5	5.9	5.9	5.0	5.3	5.0	4.8	4.5	4.8	4.5	4.5	6.2	6.5	5.9	5.9	5.1	5.3	5.0	4.8
	790, 7011	RvSBon11	600	50	2	250	4.5	4.8	4.5	4.5	6.2	6.5	6.0	5.8	5.1	5.3	5.0	4.8												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,000	50	2	311	24.4	25.3	24.5	23.4	26.6	28.5	28.1	28.1	27.5	27.8	27.5	27.4	19.7	20.4	19.8	19.0	21.5	22.9	22.7	22.6	22.3	22.4	22.2	22.2
	708, 710	118NBoff2	3,000	50	2	567	24.7	25.7	24.8	23.8	27.0	28.8	28.6	28.5	28.0	28.2	27.9	27.9												
	710, 711	118NBoff3	3,000	50	2	460	18.6	19.2	18.6	17.9	20.2	21.6	21.4	21.4	21.1	21.1	21.0	20.9												
	711, 712	118NBoff4	3,000	50	3	472	16.2	16.7	16.2	15.6	17.5	18.7	18.6	18.5	18.3	18.3	18.2	18.2												
	712, 713	118NBoff5	3,000	50	3	395	16.1	16.7	16.2	15.6	17.5	18.6	18.5	18.4	18.2	18.3	18.1	18.1												
	713, 714	118NBoff6	3,000	50	3	188	16.1	16.7	16.2	15.5	17.4	18.6	18.5	18.4	18.2	18.3	18.1	18.1												
	714, 717	118NBoff7	1,170	50	2	212	8.6	8.7	8.9	8.5	9.1	9.8	9.5	9.9	9.5	9.7	9.8	9.6												
	717, 718	118NBoff8	1,170	50	2	389	8.6	8.6	8.8	8.5	8.9	9.8	9.4	9.9	9.5	9.6	9.7	9.6												

2020 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	718, 719	118NBoff9	1,170	50	2	373	8.6	8.6	8.8	8.4	8.9	9.8	9.4	9.9	9.5	9.6	9.7	9.6	8.6	8.6	8.8	8.4	8.9	9.8	9.5	9.9	9.5	9.6	9.7	9.6
	719, 720	118NBoff10	1,170	50	2	589	8.6	8.6	8.8	8.5	8.9	9.8	9.4	9.8	9.5	9.6	9.7	9.6												
	720, 721	118NBoff11	1,170	50	2	311	8.6	8.6	8.8	8.4	8.9	9.8	9.5	9.8	9.4	9.6	9.7	9.6												
	721, 722	118NBoff12	1,170	50	2	327	8.5	8.6	8.8	8.4	8.9	9.8	9.4	9.9	9.4	9.6	9.7	9.6												
	722, 723	118NBoff13	1,170	50	2	626	8.6	8.5	8.8	8.4	8.9	9.8	9.5	9.9	9.4	9.6	9.7	9.6												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2,800	60	4	1,252	8.3	8.4	8.3	8.0	9.0	9.7	9.4	9.0	8.5	8.9	9.8	8.8	8.2	8.2	8.2	7.9	8.8	9.6	9.3	8.9	8.4	8.8	9.7	8.7
	724, 725	118NBoff15	2,800	60	4	575	8.0	8.0	8.0	7.7	8.6	9.3	9.0	8.6	8.2	8.5	9.5	8.4												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,180	60	2	611	14.4	15.2	14.5	13.7	19.1	20.2	19.2	18.2	15.9	16.6	15.9	15.1	14.5	15.3	14.6	13.7	19.2	20.4	19.4	18.3	16.0	16.7	15.9	15.2
	740, 741	118NBon3	2,180	60	2	1,571	14.5	15.3	14.6	13.7	19.2	20.4	19.4	18.4	16.0	16.8	15.9	15.3												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,045	50	1	268	14.6	15.0	14.5	13.4	19.4	16.4	19.0	18.4	15.3	16.3	15.6	14.8	16.9	17.3	16.7	15.6	22.1	19.1	21.8	21.2	17.8	18.9	17.8	17.1
	748, 749	118NBon5	1,045	50	1	541	16.8	17.3	16.7	15.4	22.3	18.9	21.9	21.2	17.6	18.8	17.8	17.1												
	749, 750	118NBon6	1,045	50	1	715	16.9	17.4	16.8	15.5	22.2	19.0	21.9	21.2	17.7	18.9	17.9	17.2												
	750, 751	118NBon7	1,045	50	1	245	17.0	17.5	16.8	15.8	22.3	19.2	22.1	21.3	17.9	19.0	18.0	17.2												
	751, 752	118NBon8	1,045	50	1	252	17.1	17.6	16.9	15.9	22.4	19.3	22.2	21.4	18.0	19.1	18.0	17.3												
	752, 753	118NBon9	1,045	50	1	352	17.2	17.6	16.9	15.9	22.4	19.3	22.1	21.4	18.0	19.2	18.0	17.4												
	753, 754	118NBon10	1,045	50	1	264	17.1	17.6	17.0	15.9	22.2	19.4	22.0	21.4	18.0	19.2	18.0	17.3												
	754, 755	118NBon11	1,045	50	1	415	17.1	17.7	17.0	16.0	22.3	19.5	22.1	21.5	18.2	19.2	18.1	17.4												
	755, 7009	118NBon12	1,045	50	1	733	17.2	17.7	17.1	16.0	22.5	19.5	22.1	21.6	18.3	19.3	18.1	17.4												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	620	50	1	147	9.5	8.5	7.5	8.6	7.1	7.1	6.1	7.0	5.9	7.0	8.1	7.5	6.2	5.6	4.7	5.6	4.6	4.5	4.0	4.4	4.0	4.6	5.3	5.0
	775, 776	118SBoff3	620	50	1	934	6.0	5.4	4.7	5.5	4.5	4.4	3.9	4.4	3.8	4.6	5.2	4.8												
	776, 777	118SBoff4	620	50	1	371	5.9	5.3	4.5	5.3	4.4	4.2	3.8	4.2	3.9	4.4	5.1	4.8												
	777, 778	118SBoff5	620	50	1	446	5.9	5.3	4.4	5.3	4.3	4.2	3.8	4.2	3.9	4.4	5.1	4.8												
	778, 6020	118SBoff6	620	50	1	340	6.0	5.3	4.4	5.3	4.3	4.2	3.8	4.2	4.0	4.4	5.1	4.8												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,630	50	2	990	10.2	10.3	9.8	9.7	11.3	12.2	11.6	10.4	9.9	10.6	12.3	10.2	10.2	10.3	9.8	9.7	11.3	12.2	11.6	10.4	9.9	10.6	12.3	10.2
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,135	50	1	197	18.0	19.2	18.3	17.2	23.5	30.0	24.9	22.8	20.6	21.3	20.2	19.5	18.0	19.3	18.2	17.3	23.4	29.7	25.0	22.8	20.6	21.3	20.2	19.4
	742, 743	118SBon2	1,135	50	1	119	18.1	19.3	18.3	17.3	23.5	30.3	25.1	22.9	20.7	21.3	20.3	19.5												
	743, 744	118SBon3	1,135	50	1	126	17.9	19.2	18.2	17.2	23.5	30.1	25.0	22.7	20.6	21.2	20.2	19.4												
	744, 745	118SBon4	1,135	50	1	162	17.9	19.1	18.1	17.1	23.3	29.7	24.8	22.6	20.6	21.1	20.1	19.3												
	745, 746	118SBon5	1,135	50	1	200	17.8	19.1	18.0	17.2	23.2	29.5	24.7	22.6	20.5	21.1	20.0	19.3												
	746, 747	118SBon6	1,135	50	1	166	17.9	19.2	18.0	17.2	23.3	29.4	24.7	22.6	20.5	21.2	20.1	19.3												
	747, 413	118SBon7	1,135	50	1	973	18.0	19.4	18.3	17.4	23.4	29.7	25.1	22.9	20.7	21.4	20.3	19.5												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,090	60	3	2,420	9.2	9.6	10.3	11.5	19.3	25.6	26.3	28.1	22.6	22.5	22.7	23.2	9.2	9.6	10.3	11.5	19.3	25.6	26.3	28.1	22.6	22.5	22.7	23.2
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,305	50	2	647	9.9	10.6	10.4	10.1	14.3	16.7	18.0	17.3	14.1	15.0	14.8	15.5	9.9	10.6	10.4	10.2	14.1	16.4	17.9	17.2	14.0	14.9	14.7	15.5
	811, 812	UlmNBon4	1,305	50	2	590	9.9	10.5	10.4	10.2	14.1	16.4	17.8	17.1	14.0	14.9	14.6	15.4												
	812, 813	UlmNBon5	1,305	50	2	323	9.9	10.6	10.4	10.2	14.1	16.4	17.8	17.2	14.0	14.8	14.7	15.5												
	813, 814	UlmNBon6	1,305	50	2	328	9.9	10.6	10.4	10.2	14.1	16.3	17.9	17.1	14.0	14.9	14.7	15.5												
	814, 815	UlmNBon7	1,305	50	2	288	9.9	10.6	10.4	10.2	14.1	16.3	17.9	17.1	14.0	14.9	14.6	15.5												
	815, 816	UlmNBon8	1,305	50	2	273	9.9	10.6	10.4	10.2	14.1	16.3	18.0	17.2	14.0	14.9	14.6	15.5												
	816, 322	UlmNBon9	1,305	50	2	888	9.9	10.6	10.4	10.2	14.1	16.2	18.0	17.2	14.0	15.0	14.6	15.6												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,395	50	2	318	18.4	19.8	19.0	18.1	22.1	17.1	9.3	5.1	7.6	9.8	21.4	11.0	18.1	19.6	18.8	17.8	21.1	15.8	7.7	4.3	6.2	8.3	18.7	9.5
	830, 831	UlmSBoff2	2,395	50	2	346	18.0	19.4	18.7	17.7	20.7	15.1	7.0	3.9	5.6	7.6	17.2	8.8												
	831, 7036	UlmSBoff3	2,395	50	2	283	18.1	19.5	18.8	17.7	20.7	15.2	6.8	3.8	5.4	7.4	17.3	8.8												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,945	50	2	398	15.5	16.7	16.5	15.2	17.7	13.3	5.9	3.4	4.8	6.2	14.5	7.6	12.8	13.7	13.6	12.6	14.5	11.2	4.9	2.9	3.9	5.0	11.9	6.3
	834, 835	UlmSBoff8	1,945	60	2	584	13.3	14.2	14.1	13.0	15.1	11.5	5.1	3.0	4.1	5.3	12.4	6.6												
	835, 836	UlmSBoff9	1,945	60	2	481	12.3	13.1	13.1	12.1	13.8	10.7	4.6	2.7	3.7	4.8	11.4	6.0												
	836, 837	UlmSBoff10	1,945	60	2	2,160	12.3	13.1	13.1	12.1	13.9	10.8	4.7	2.8	3.7	4.8	11.4	6.1												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	785	35	1	493	12.1	12.4	18.3	25.1	36.3	42.3	40.9	48.7	47.9	47.1	43.8	47.1	13.5	14.0	20.4	29.0	41.8	47.5	45.9	53.4	52.6	51.8	49.5	51.8
	802, 803	UlmSBon2	785	35	1	214	16.8	17.6	25.2	37.9	54.3	59.5	57.4	64.4	63.5	62.7	62.7	62.8												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	550	35	1	163	12.8	12.7	17.4	22.6	35.4	38.1	35.9	42.7	42.4	42.8	41.7	42.3	10.5	10.5	18.9	27.3	39.7	37.4	34.2	41.6	40.8	42.2	41.9	41.8
	808, 809	UlmSBon4	550	35	1	163	12.7	12.8	18.0	25.9	39.9	39.9	37.3	45.6	44.6	45.8	45.2	44.0												
	809, 810	UlmSBon5	550	35	1	228	12.7	12.8	18.5	27.6	42.2	41.3	36.1	44.9	43.7	44.8	44.8	44.0												
	810, 402	UlmSBon6	550	50	1	1,170	9.5	9.4	19.3	28.1	39.7	36.2	33.1	40.3	39.5	41.2	40.9	41.1												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	235	35	1	201	5.2	5.0	4.8	3.2	3.3	2.5	2.0	2.3	2.6	3.2	2.6	2.4	4.2	4.0	3.8	2.5	2.5	1.9	1.5	1.7	1.9	2.3	2.0	1.7
	804, 805	UlmSBMLK2	235	50	1	361	4.4	4.2	3.9	2.6	2.6	1.9	1.5	1.7	1.9	2.4	2.0	1.7												
	805, 806	UlmSBMLK3	235	50	1	499	3.7	3.5	3.3	2.2	2.2	1.6	1.2	1.4	1.6	2.0	1.7	1.5												
SB MLK	806, 807	UlmSBMLK4	685	50	2	1,171	5.0	5.1	4.9	4.2	4.7	3.5	1.8	1.4	1.5	2.2	3.8	2.2	5.0	5.1	4.9	4.2	4.7	3.5	1.8	1.4	1.5	2.2	3.8	2.2
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	300	50	1	1,080	4.5	4.9	4.7	4.4	6.2	6.5	6.1	5.9	4.9	5.4	5.1	4.8	4.5	4.9	4.7	4.4	6.1	6.5	6.1	5.8	4.9	5.4	5.1	4.8
	851, 852	MLKNBon3	300	50	1	350	4.5	4.9	4.7	4.3	6.1	6.4	6.0	5.8	4.9	5.3	5.1	4.8												
	852, 853	MLKNBon4	300	50	1	360	4.5	4.9	4.7	4.4	6.1	6.5	6.0	5.8	4.9	5.3	5.1	4.8												
	853, 321	MLKNBon5	300	50	1	548	4.6	4.8	4.7	4.4	6.1	6.5	6.1	5.8	5.0	5.3	5.1	4.8												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	450	50	1	294	6.9	7.3	7.0	6.8	7.9	5.9	2.5	1.5	1.7	2.8	6.4	3.2	6.5	6.9	6.6	6.4	7.4	5.6	2.4	1.4	1.6	2.6	6.1	3.0
	839, 840	MLKSBoff4	450	50	1	336	6.4	6.8	6.5	6.3	7.3	5.4	2.3	1.4	1.6	2.5	6.0	3.0												
	840, 841	MLKSBoff5	450	50	1	395	6.4	6.8	6.5	6.3	7.3	5.5	2.3	1.4	1.6	2.5	6.0	3.0												
	841, 806	MLKSBoff6	450	50	1	539	6.4	6.8	6.4	6.4	7.3	5.5	2.4	1.3	1.5	2.5	6.0	3.0												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	900	60	2	1,270	5.9	6.1	5.7	5.5	7.7	8.1	7.7	7.3	6.4	6.7	6.3	6.1	7.8	8.1	7.7	7.3	10.1	10.7	10.3	9.8	8.4	9.0	8.4	8.1
	901, 902	4thNBon3	900	60	2	634	5.8	6.1	5.7	5.5	7.6	8.0	7.6	7.3	6.3	6.7	6.3	6.0												
	902, 903	4thNBon4	900	60	2	322	5.9	6.1	5.7	5.5	7.6	8.1	7.7	7.4	6.4	6.8	6.4	6.1												
	903, 904	4thNBon5	900	60	2	279	6.0	6.3	5.8	5.6	7.8	8.3	7.9	7.5	6.4	6.9	6.5	6.2												
	904, 905	4thNBon6	900	60	2	388	6.5	6.8	6.4	6.1	8.5	9.0	8.6	8.2	7.0	7.5	7.0	6.8												
	905, 906	4thNBon7	900	60	1	313	11.9	12.4	11.8	11.2	15.5	16.5	15.8	15.0	12.9	13.8	12.9	12.4												
	906, 907	4thNBon8	900	60	1	305	11.9	12.4	11.8	11.2	15.4	16.4	15.8	15.0	12.9	13.8	12.9	12.4												
	907, 324	4thNBon9	900	60	1	666	12.0	12.4	11.8	11.2	15.4	16.5	15.9	15.0	12.9	13.8	13.0	12.4												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	500	60	1	466	6.5	6.2	6.1	5.7	8.0	6.9	3.8	2.4	2.3	3.5	7.8	4.8	5.1	4.9	4.8	4.5	6.2	5.0	2.4	1.1	1.1	1.8	4.1	2.6
	920, 921	4thSBoff2	500	60	1	492	6.4	6.2	6.1	5.7	7.9	6.3	2.9	1.4	1.4	2.3	5.2	3.3												
	921, 922	4thSBoff3	500	60	1	420	6.5	6.2	6.1	5.7	7.9	6.3	2.8	1.3	1.3	2.1	4.9	3.1												
	922, 923	4thSBoff4	500	60	1	393	6.5	6.2	6.1	5.7	7.9	6.3	2.8	1.3	1.3	2.1	4.9	3.2												
	923, 924	4thSBoff5	500	60	1	384	6.5	6.3	6.1	5.8	7.9	6.3	2.9	1.3	1.3	2.1	4.9	3.2												
	924, 925	4thSBoff6	500	60	1	354	6.5	6.3	6.1	5.8	7.9	6.3	2.9	1.3	1.3	2.2	4.9	3.2												
	925, 926	4thSBoff7	500	60	1	501	6.5	6.2	6.2	5.8	7.9	6.4	3.0	1.3	1.3	2.2	4.8	3.2												
	926, 927	4thSBoff8	500	60	1	416	6.3	6.0	6.0	5.5	7.7	6.1	2.9	1.3	1.2	2.1	4.7	3.1												
	927, 928	4thSBoff9	500	60	2	1,153	3.2	3.1	3.1	2.9	3.9	3.2	1.5	0.6	0.6	1.0	2.4	1.6												
	928, 929	4thSBoff10	500	60	2	1,242	3.2	3.1	3.1	2.8	3.8	3.1	1.6	0.6	0.6	1.0	2.3	1.6												

2020 Starter AM			Demand				Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	850	70	1	1,116	9.4	10.1	9.4	9.1	12.5	13.3	12.5	11.9	10.5	11.0	10.3	9.8	9.5	10.2	9.5	9.2	12.5	13.4	12.8	12.0	10.6	11.2	10.5	10.0
	5000, 5001	SULNB2	850	70	1	2,205	9.3	10.0	9.3	9.0	12.4	13.2	12.5	11.8	10.4	11.0	10.3	9.8												
	5001, 5002	SULNB3	850	70	1	528	9.4	10.2	9.5	9.1	12.6	13.4	12.8	12.0	10.5	11.2	10.4	10.0												
	5002, 5003	SULNB4	850	70	1	346	9.4	10.2	9.5	9.2	12.6	13.4	12.9	12.1	10.5	11.2	10.4	10.0												
	5003, 5004	SULNB5	850	70	1	235	9.4	10.2	9.5	9.2	12.6	13.4	12.9	12.1	10.6	11.2	10.5	10.0												
	5004, 5005	SULNB6	850	70	1	270	9.5	10.2	9.6	9.2	12.6	13.5	12.9	12.1	10.6	11.3	10.5	10.0												
	5005, 5006	SULNB7	850	70	1	238	9.5	10.2	9.6	9.2	12.6	13.5	13.0	12.1	10.6	11.3	10.5	10.0												
	5006, 5007	SULNB8	850	70	1	261	9.5	10.2	9.6	9.2	12.6	13.5	13.0	12.2	10.7	11.3	10.5	10.1												
	5007, 5008	SULNB9	850	70	1	451	9.6	10.2	9.7	9.2	12.7	13.5	13.1	12.2	10.7	11.3	10.6	10.1												
	5008, 5009	SULNB10	850	70	1	242	9.6	10.2	9.7	9.2	12.7	13.5	13.2	12.2	10.7	11.4	10.6	10.1												
	5009, 5010	SULNB11	850	70	1	158	9.7	10.2	9.7	9.2	12.7	13.5	13.2	12.2	10.7	11.3	10.6	10.1												
	5010, 5011	SULNB12	850	70	1	539	9.7	10.2	9.7	9.3	12.6	13.6	13.2	12.2	10.8	11.3	10.7	10.1												
	5011, 5012	SULNB13	850	70	1	564	9.7	10.3	9.7	9.3	12.6	13.6	13.2	12.2	10.8	11.4	10.7	10.2												
	5012, 5013	SULNB14	850	70	1	824	9.7	10.3	9.7	9.4	12.6	13.7	13.2	12.3	10.9	11.4	10.8	10.2												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,180	70	1	2,172	7.5	8.2	7.6	7.3	9.4	10.1	9.9	9.4	8.7	8.9	8.3	8.2	12.8	13.8	13.1	12.4	15.7	17.0	16.6	16.0	14.8	14.9	14.2	13.9
	5014, 5015	SULNB16	1,180	70	1	1,149	13.7	15.0	14.0	13.4	17.0	18.4	17.9	17.2	15.8	16.2	15.2	14.9												
	5015, 5016	SULNB17	1,180	70	1	2,057	13.9	15.0	14.2	13.5	17.0	18.6	18.0	17.3	16.0	16.2	15.3	15.0												
	5016, 5017	SULNB18	1,180	70	1	1,250	14.1	15.0	14.3	13.5	17.1	18.6	18.1	17.5	16.1	16.3	15.5	15.2												
	5017, 5018	SULNB19	1,180	70	1	1,385	14.1	15.2	14.3	13.6	17.2	18.6	18.2	17.6	16.3	16.2	15.6	15.2												
	5018, 5019	SULNB20	1,180	70	1	843	14.1	15.1	14.4	13.6	17.1	18.7	18.2	17.6	16.3	16.3	15.6	15.2												
	5019, 5020	SULNB21	1,180	70	1	687	14.2	15.1	14.5	13.6	17.2	18.7	18.2	17.7	16.3	16.3	15.7	15.2												
	5020, 5021	SULNB22	1,180	70	1	2,036	14.1	15.1	14.5	13.7	17.1	18.7	18.3	17.7	16.4	16.4	15.7	15.2												
	5021, 5022	SULNB23	1,180	70	1	171	14.1	15.3	14.6	13.9	17.0	19.0	18.4	17.9	16.4	16.5	15.9	15.3												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,510	70	1	1,752	15.8	16.9	16.3	15.6	19.2	22.0	21.6	20.5	19.1	18.7	18.2	17.5	17.7	18.7	18.4	17.5	21.2	23.8	23.6	22.7	21.0	20.7	20.1	19.6
	5023, 5024	SULNB25	1,510	70	1	1,039	18.4	19.4	19.1	18.2	21.9	24.6	24.3	23.5	21.7	21.5	20.7	20.4												
	5024, 5025	SULNB26	1,510	70	1	814	18.4	19.2	19.1	18.1	21.8	24.3	24.2	23.4	21.6	21.4	20.7	20.3												
	5025, 5026	SULNB27	1,510	70	1	2,530	18.6	19.5	19.3	18.3	22.0	24.6	24.6	23.8	22.0	21.6	21.0	20.6												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	4.0	4.5	4.1	3.9	4.5	4.5	4.6	4.5	4.8	4.7	4.1	4.8	3.8	4.4	3.9	3.8	4.3	4.3	4.4	4.3	4.6	4.5	3.9	4.5
	5100, 5101	SULNBRamp2	330	70	1	528	3.9	4.4	3.9	3.8	4.4	4.3	4.5	4.3	4.6	4.5	4.0	4.6												
	5101, 5102	SULNBRamp3	330	70	1	379	3.8	4.3	3.8	3.8	4.3	4.2	4.4	4.3	4.5	4.5	3.9	4.5												
	5102, 5103	SULNBRamp4	330	70	1	376	3.8	4.3	3.8	3.8	4.3	4.2	4.4	4.2	4.5	4.4	3.9	4.4												
	5103, 5104	SULNBRamp5	330	70	1	363	3.8	4.3	3.8	3.8	4.3	4.2	4.4	4.3	4.5	4.4	3.9	4.4												
	5104, 5105	SULNBRamp6	330	70	1	352	3.9	4.3	3.8	3.8	4.3	4.2	4.4	4.3	4.5	4.5	3.9	4.4												
	5105, 5106	SULNBRamp7	330	70	1	831	3.8	4.3	3.8	3.8	4.3	4.3	4.4	4.3	4.5	4.5	3.9	4.4												
	5106, 5107	SULNBRamp8	330	70	1	1,172	3.8	4.4	3.9	3.8	4.3	4.3	4.4	4.3	4.5	4.5	3.9	4.5												
	5107, 5108	SULNBRamp9	330	70	1	656	3.8	4.4	3.9	3.8	4.3	4.3	4.4	4.3	4.6	4.5	3.9	4.5												
	5108, 5109	SULNBRamp10	330	70	1	803	3.8	4.4	3.9	3.8	4.3	4.3	4.4	4.4	4.6	4.5	3.9	4.5												
	5109, 5110	SULNBRamp11	330	70	1	897	3.8	4.4	3.9	3.8	4.3	4.4	4.4	4.4	4.6	4.5	3.9	4.5												
	5110, 5111	SULNBRamp12	330	70	1	513	3.9	4.4	3.9	3.8	4.3	4.4	4.4	4.4	4.6	4.5	4.0	4.5												
	5111, 5013	SULNBRamp13	330	70	1	267	3.9	4.4	3.9	3.8	4.3	4.3	4.4	4.4	4.6	4.5	4.0	4.5												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	330	70	1	157	4.1	4.3	4.5	4.3	5.1	5.8	5.9	5.6	5.4	5.0	5.1	4.9	4.1	4.3	4.5	4.3	5.1	5.8	5.9	5.6	5.4	5.0	5.1	4.9
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	13.3	14.1	13.4	12.8	17.6	18.7	17.5	15.3	15.8	19.2	17.4	13.9	13.3	14.1	13.4	12.8	17.6	18.7	17.5	15.3	15.8	19.2	17.4	13.9
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,360	70	1	941	15.1	15.9	15.4	14.7	20.3	21.4	19.7	17.1	16.8	19.3	19.8	16.0	15.9	16.7	16.3	15.4	20.9	22.4	21.0	18.2	17.1	19.2	20.9	16.9
	5997, 5998	SULSB1	1,360	70	1	816	15.3	16.2	15.7	14.9	20.6	21.8	20.1	17.5	16.8	19.2	20.0	16.2												
	5998, 5999	SULSB1	1,360	70	1	1,054	15.5	16.3	15.9	15.0	20.7	21.9	20.3	17.6	16.7	19.2	20.1	16.4												
	5999, 6000	SULSB1	1,360	70	1	1,908	15.7	16.5	16.0	15.2	21.0	22.2	20.6	17.9	16.9	19.3	20.3	16.6												
	6000, 6001	SULSB2	1,360	70	1	2,064	15.9	16.6	16.2	15.4	21.0	22.3	20.9	18.1	17.0	19.3	20.6	16.8												
	6001, 6002	SULSB3	1,360	70	1	572	16.0	16.7	16.4	15.4	21.0	22.4	21.0	18.2	17.1	19.3	20.8	16.9												
	6002, 6003	SULSB4	1,360	70	1	407	15.9	16.7	16.4	15.4	21.0	22.4	21.0	18.3	17.0	19.3	20.8	16.9												
	6003, 6004	SULSB5	1,360	70	1	1,528	16.0	16.8	16.5	15.4	21.0	22.5	21.2	18.4	17.1	19.3	21.0	16.9												
	6004, 6005	SULSB6	1,360	70	1	1,420	16.0	16.9	16.5	15.5	21.0	22.6	21.3	18.4	17.2	19.3	21.1	17.1												
	6005, 6006	SULSB7	1,360	70	1	4,087	16.1	16.9	16.6	15.7	20.9	22.7	21.5	18.5	17.3	19.1	21.4	17.2												
	6006, 6007	SULSB8	1,360	70	1	1,611	16.1	17.1	16.5	15.9	20.7	22.8	21.6	18.7	17.4	18.9	21.7	17.3												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,010	70	1	767	11.6	12.6	12.1	11.4	15.1	16.3	15.6	13.3	12.6	13.9	15.5	12.5	11.6	12.6	12.1	11.4	14.9	16.2	15.6	13.4	12.6	13.7	15.6	12.6
	6008, 6009	SULSB10	1,010	70	1	614	11.4	12.4	12.0	11.1	14.8	16.0	15.4	13.1	12.5	13.6	15.3	12.3												
	6009, 6010	SULSB11	1,010	70	1	382	11.4	12.5	12.0	11.1	14.8	15.9	15.4	13.2	12.4	13.6	15.4	12.3												
	6010, 6011	SULSB12	1,010	70	1	135	11.4	12.5	12.0	11.2	14.8	16.0	15.5	13.2	12.5	13.6	15.4	12.4												
	6011, 6012	SULSB13	1,010	70	1	204	11.5	12.5	12.1	11.3	14.9	16.0	15.6	13.3	12.5	13.7	15.5	12.5												
	6012, 6013	SULSB14	1,010	70	1	613	11.6	12.6	12.1	11.4	14.9	16.2	15.7	13.4	12.6	13.8	15.6	12.6												
	6013, 6014	SULSB15	1,010	70	1	251	11.7	12.6	12.2	11.5	14.9	16.4	15.7	13.5	12.7	13.9	15.6	12.7												
	6014, 6015	SULSB16	1,010	70	1	233	11.7	12.5	12.2	11.5	14.9	16.4	15.7	13.5	12.7	13.9	15.7	12.7												
	6015, 6016	SULSB17	1,010	70	1	274	11.7	12.5	12.2	11.5	14.9	16.4	15.8	13.5	12.7	13.9	15.7	12.7												
	6016, 6017	SULSB18	1,010	70	1	238	11.7	12.6	12.2	11.5	14.9	16.3	15.8	13.5	12.7	13.9	15.7	12.7												
	6017, 6018	SULSB19	1,010	70	1	314	11.7	12.6	12.2	11.5	14.9	16.3	15.8	13.5	12.7	13.8	15.7	12.8												
	6018, 6019	SULSB20	1,010	70	1	879	11.7	12.6	12.2	11.5	14.8	16.4	15.8	13.6	12.8	13.7	15.8	12.8												
	6019, 6020	SULSB21	1,010	70	1	207	11.7	12.6	12.3	11.6	14.9	16.4	15.8	13.6	13.0	13.7	15.9	12.8												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	350	70	1	582	4.1	4.1	4.1	4.2	5.1	5.9	5.6	4.8	4.5	4.5	5.6	4.4	4.0	4.0	4.1	4.0	4.9	5.6	5.5	4.7	4.3	4.2	5.5	4.3
	6100, 6101	SULSBRamp2	350	70	1	621	4.0	4.0	3.9	4.0	4.8	5.6	5.3	4.6	4.3	4.3	5.4	4.2												
	6101, 6102	SULSBRamp3	350	70	1	317	3.9	3.9	3.8	4.0	4.8	5.5	5.3	4.6	4.2	4.3	5.3	4.2												
	6102, 6103	SULSBRamp4	350	70	1	915	3.9	3.9	3.9	4.0	4.8	5.6	5.3	4.6	4.2	4.2	5.4	4.2												
	6103, 6104	SULSBRamp5	350	70	1	1,093	4.0	3.9	3.9	4.0	4.8	5.6	5.3	4.6	4.2	4.3	5.4	4.2												
	6104, 6105	SULSBRamp6	350	70	1	1,068	4.0	3.9	4.0	4.0	4.8	5.7	5.4	4.7	4.3	4.2	5.5	4.3												
	6105, 6106	SULSBRamp7	350	70	1	788	4.0	3.9	4.0	4.0	4.9	5.7	5.4	4.7	4.3	4.2	5.5	4.3												
	6106, 6107	SULSBRamp8	350	70	1	367	4.0	3.9	4.0	4.1	4.9	5.7	5.4	4.7	4.4	4.2	5.5	4.3												
	6107, 6108	SULSBRamp9	350	70	1	373	4.0	3.9	4.0	4.0	4.8	5.7	5.4	4.7	4.3	4.2	5.5	4.3												
	6108, 6109	SULSBRamp10	350	70	1	445	4.0	3.9	4.1	4.0	4.9	5.7	5.4	4.7	4.3	4.2	5.5	4.3												
	6109, 6110	SULSBRamp11	350	70	1	8,866	3.9	4.0	4.1	4.0	4.9	5.6	5.6	4.8	4.4	4.2	5.6	4.4												
	6110, 1	SULSBRamp12	350	70	1	292	4.0	4.1	4.2	4.1	4.8	5.7	5.8	4.8	4.4	4.2	5.6	4.4												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	210	70	1	154	2.3	2.5	2.1	2.0	2.8	3.1	2.9	2.9	6.1	9.0	4.3	2.3	2.3	2.5	2.1	2.0	2.8	3.1	2.9	2.9	6.1	9.0	4.3	2.3

2020 Starter AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7,700	70	3	1,087	66.7	66.5	66.6	66.9	66.1	66.2	66.2	66.2	66.2	66.1	66.1	66.1	64.3	63.5	64.0	64.9	61.4	61.2	61.0	60.7	61.2	61.4	60.4	60.7
	300, 301	I275NB3	7,700	70	3	805	67.0	66.7	67.0	67.2	66.4	66.4	66.4	66.4	66.5	66.4	66.4	66.4												
	301, 302	I275NB4	7,700	70	3	478	65.8	65.4	65.7	66.0	65.0	65.0	65.1	65.0	65.1	65.0	65.0	64.9												
	302, 303	I275NB5	7,700	70	3	2,687	62.7	61.5	62.2	63.6	57.9	57.5	57.1	56.6	57.6	58.0	56.2	56.7												
	303, 304	I275NB6	7,700	70	4	382	61.3	59.7	60.5	62.1	57.5	56.7	56.6	56.6	56.1	56.8	55.8	56.0												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5,700	70	3	1,375	66.2	65.6	65.8	66.3	64.9	64.7	64.7	64.8	64.5	64.7	64.5	64.6	66.4	65.9	66.1	66.4	65.5	65.4	65.5	65.5	65.2	65.4	65.3	65.4
	305, 306	I275NB8	5,700	70	3	1,306	66.6	66.2	66.4	66.6	66.0	66.1	66.1	66.1	65.9	66.0	66.0	66.0												
	306, 307	I275NB9	5,700	70	3	591	66.4	66.0	66.1	66.3	65.6	65.8	65.8	65.8	65.6	65.7	65.7	65.6												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	6,570	70	5	1,065	65.3	64.9	65.0	65.2	64.5	64.5	64.5	64.7	64.6	64.7	64.7	64.7	66.2	65.9	66.0	66.1	65.5	65.6	65.5	65.6	65.5	65.6	65.6	65.5
	308, 309	I275NB11	6,570	70	5	3,035	66.6	66.2	66.3	66.5	65.9	65.9	65.8	65.9	65.8	65.9	65.9	65.8												
	309, 2	I275NB12	6,570	70	4	350	66.5	66.1	66.0	66.2	65.5	65.8	65.7	65.2	65.3	65.7	65.8	65.6												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	6,240	70	4	745	66.5	66.2	66.3	66.5	65.7	65.7	65.6	65.6	65.7	65.8	65.7	65.9	62.9	62.4	62.4	63.2	60.9	60.0	59.5	60.1	60.1	60.7	60.6	60.8
	310, 311	I275NB13	6,240	70	4	380	64.8	64.2	64.5	64.7	63.4	63.0	62.9	63.0	63.2	63.4	63.4	63.7												
	311, 312	I275NB14	6,240	70	4	399	62.7	62.1	62.3	62.9	60.9	60.3	59.6	59.9	60.1	60.5	60.7	60.5												
	312, 313	I275NB15	6,240	70	4	368	60.9	60.3	60.0	61.7	57.5	55.5	54.1	55.8	55.5	57.0	56.6	56.8												
	313, 314	I275NB16	6,240	70	4	460	57.4	56.7	56.5	57.8	53.8	51.8	51.0	52.6	52.1	53.1	53.0	53.5												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,210	70	3	879	67.1	66.7	66.6	67.0	66.1	65.6	65.6	65.9	65.9	65.7	65.9	66.1	68.3	68.0	68.0	68.2	67.8	67.6	67.6	67.7	67.7	67.6	67.7	67.8
	315, 316	I275NB18	2,210	70	3	1,293	68.7	68.4	68.5	68.6	68.4	68.3	68.4	68.3	68.4	68.3	68.3	68.4												
	316, 317	I275NB19	2,210	70	3	1,158	68.7	68.5	68.6	68.6	68.5	68.3	68.4	68.4	68.4	68.3	68.3	68.5												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,455	70	5	372	61.1	60.9	61.3	61.2	60.1	60.8	60.4	60.5	61.4	60.8	61.4	61.4	66.9	66.6	66.9	66.8	66.2	66.4	66.2	66.3	66.8	66.4	66.5	66.6
	318, 319	I275NB21	3,455	70	5	2,611	67.0	66.7	67.0	67.0	66.2	66.5	66.3	66.3	66.9	66.4	66.6	66.8												
	319, 320	I275NB22	3,455	70	3	1,802	67.7	67.4	67.7	67.6	67.1	67.1	67.1	67.2	67.5	67.2	67.2	67.3												
	320, 321	I275NB23	3,455	70	3	501	67.8	67.5	67.6	67.6	67.3	67.2	67.2	67.3	67.5	67.3	67.2	67.4												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,755	70	3	1,814	66.9	66.5	66.6	66.8	66.0	65.8	66.0	66.2	66.5	66.3	66.3	66.5	66.9	66.5	66.6	66.8	66.0	65.8	66.0	66.2	66.5	66.3	66.3	66.5
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,060	70	5	814	64.4	64.1	64.3	64.2	63.1	62.0	61.5	61.7	63.2	62.9	62.8	62.4	66.6	66.3	66.5	66.5	65.6	64.6	64.0	64.1	65.7	65.5	65.3	64.9
	323, 324	I275NB26	5,060	70	5	1,850	67.6	67.3	67.5	67.5	66.7	65.7	65.2	65.2	66.8	66.6	66.3	66.1												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	5,960	70	4	838	66.2	65.6	65.8	66.2	62.7	53.8	49.4	56.3	63.6	64.5	62.9	61.8	65.0	64.1	64.6	65.1	59.3	53.4	51.5	54.1	60.2	60.6	60.6	60.3
	325, 326	I275NB28	5,960	70	4	704	62.2	60.3	61.5	62.3	48.8	38.0	35.8	38.3	51.2	52.1	52.9	52.8												
	326, 327	I275NB29	5,960	70	3	1,988	65.5	64.8	65.3	65.5	61.7	58.7	58.0	58.7	62.1	61.9	62.4	62.4												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,630	70	3	1,906	66.7	66.3	66.6	66.7	65.8	65.1	64.7	65.2	65.8	65.8	65.8	65.8	66.6	66.3	66.5	66.6	65.7	65.0	64.7	65.0	65.7	65.7	65.7	65.7
	328, 329	I275NB31	5,630	70	3	1,046	66.6	66.3	66.5	66.6	65.7	65.0	64.7	65.0	65.7	65.6	65.7	65.7												
	329, 330	I275NB32	5,630	70	3	803	66.6	66.3	66.5	66.6	65.7	65.1	64.7	64.9	65.7	65.6	65.7	65.7												
	330, 331	I275NB33	5,630	70	3	2,542	66.5	66.2	66.4	66.6	65.6	65.0	64.7	64.9	65.6	65.6	65.6	65.6												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	4,630	70	3	1,731	68.3	68.2	68.3	68.4	67.6	66.2	52.4	25.9	9.7	8.5	16.0	21.4	68.3	68.2	68.3	68.4	67.6	66.2	52.4	25.9	9.7	8.5	16.0	21.4
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	4,840	70	4	787	66.8	66.5	66.7	66.9	60.3	53.9	41.0	26.6	25.2	22.1	24.7	26.3	66.0	65.5	66.0	66.2	61.7	51.5	29.1	13.7	12.9	13.9	19.1	21.3
	395, 396	I275SB1	4,840	70	4	818	61.6	60.2	61.7	62.3	45.3	39.3	31.1	17.8	14.0	18.1	24.4	26.4												
	396, 397	I275SB1	4,840	70	3	1,049	65.6	64.9	65.6	65.9	60.9	54.7	31.6	13.5	11.3	13.7	20.6	24.0												
	397, 398	I275SB1	4,840	70	3	1,916	67.1	66.8	67.2	67.2	65.8	56.0	28.7	11.4	9.6	12.1	17.1	20.1												
	398, 399	I275SB1	4,840	70	3	2,120	66.6	66.2	66.6	66.6	65.1	49.6	23.1	9.3	11.7	10.8	16.0	17.0												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	4,340	70	3	2,742	67.0	66.7	67.0	67.0	64.0	44.5	20.9	9.8	9.9	11.4	17.2	13.3	65.3	65.0	65.2	65.2	60.7	41.9	19.7	10.2	10.2	12.2	17.5	13.5
	400, 401	I275SB3	4,340	70	4	1,083	60.8	60.5	60.8	60.8	52.4	35.4	16.8	11.0	11.2	14.5	18.1	14.2												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	1,945	70	3	4,105	68.5	67.6	56.3	44.9	32.6	16.3	13.2	10.8	14.6	14.2	22.0	15.6	68.5	67.6	56.3	44.9	32.6	16.3	13.2	10.8	14.6	14.2	22.0	15.6
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	2,495	70	4	720	62.3	58.0	32.4	25.0	18.1	13.8	9.5	12.4	13.6	12.1	17.3	12.1	50.9	27.4	18.3	16.4	12.7	10.1	7.7	9.5	9.1	9.5	11.3	8.9
	403, 404	I275SB6	2,495	70	4	1,327	55.3	25.6	19.3	18.5	14.4	11.8	8.8	10.9	9.7	10.8	12.5	9.8												
	404, 405	I275SB7	2,495	70	4	461	41.8	7.5	7.6	8.5	7.5	5.8	5.4	6.3	5.6	6.9	6.1	6.0												
	405, 406	I275SB8	2,495	70	4	452	28.6	4.5	4.1	4.6	4.4	3.7	3.5	4.1	4.0	4.5	4.0	3.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,585	70	3	855	67.4	62.2	58.2	58.4	55.7	55.3	59.5	58.0	58.5	57.0	57.1	56.6	68.9	67.2	65.4	66.0	64.4	64.2	65.9	64.6	64.8	64.4	64.2	64.4
	407, 408	I275SB10	1,585	70	3	347	69.2	67.7	65.7	66.5	64.5	64.3	66.2	65.3	65.3	65.0	64.9	65.0												
	408, 409	I275SB11	1,585	70	3	1,585	69.5	69.2	68.2	68.9	67.7	67.6	68.3	67.1	67.1	67.2	66.7	67.4												
	409, 410	I275SB12	1,585	70	3	458	69.5	69.6	69.3	69.6	69.1	69.2	69.3	68.0	68.1	68.3	67.8	68.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,555	70	4	629	61.1	60.8	60.1	59.9	59.1	58.6	57.9	58.7	58.8	58.5	59.2	59.1	64.7	64.7	64.2	64.1	63.4	63.2	62.7	63.0	63.3	63.1	63.4	63.5
	411, 412	I275SB14	2,555	70	4	247	66.0	66.1	65.8	65.6	65.0	64.8	64.5	64.6	65.0	64.7	64.9	65.1												
	412, 413	I275SB15	2,555	70	4	608	67.9	68.1	67.9	67.8	67.3	67.2	67.1	66.9	67.3	67.1	67.2	67.3												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	3,690	70	4	492	60.9	60.8	60.6	60.7	59.4	58.2	58.3	59.2	59.4	59.2	59.8	59.7	66.6	66.8	66.7	66.7	66.1	65.4	65.8	65.9	66.1	66.0	66.1	66.2
	414, 415	I275SB17	3,690	70	4	3,870	67.6	67.9	67.8	67.8	67.2	66.7	67.0	67.0	67.3	67.2	67.2	67.3												
	415, 416	I275SB18	3,690	70	4	1,086	65.6	65.7	65.7	65.5	64.9	64.2	65.0	64.8	65.1	65.1	65.1	65.2												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	2,830	70	3	1,385	68.2	68.3	68.5	68.5	68.0	67.6	67.9	67.9	68.0	68.0	67.9	68.0	68.2	68.3	68.5	68.5	68.0	67.7	68.0	67.9	68.0	68.0	67.9	68.0
	417, 418	I275SB20	2,830	70	3	343	68.2	68.3	68.4	68.5	68.1	68.0	68.0	67.9	68.1	68.0	67.8	68.1												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	3,830	70	3	1,507	62.4	62.3	62.3	62.4	61.6	61.7	61.4	61.2	61.8	61.5	61.7	61.8	62.4	62.3	62.3	62.4	61.6	61.7	61.4	61.2	61.8	61.5	61.7	61.8
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	4,930	70	3	1,015	63.6	64.1	64.0	63.8	62.4	61.4	62.0	62.2	63.2	62.9	63.0	63.4	63.6	64.1	64.0	63.8	62.4	61.4	62.0	62.2	63.2	62.9	63.0	63.4
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	5,280	70	3	2,282	66.7	66.9	67.1	67.0	66.1	65.5	65.7	65.9	66.5	66.4	66.3	66.6	66.9	67.1	67.2	67.2	66.4	66.0	66.2	66.3	66.7	66.7	66.6	66.8
	420, 421	I275SB23	5,280	70	3	430	67.2	67.3	67.4	67.3	66.8	66.6	66.7	66.6	67.0	67.0	66.8	67.1												
	421, 422	I275SB24	5,280	70	3	403	67.2	67.3	67.4	67.3	66.8	66.6	66.7	66.5	67.0	67.0	66.8	67.0												
	422, 423	I275SB25	5,280	70	3	426	67.1	67.2	67.4	67.3	66.8	66.6	66.7	66.5	67.0	67.0	66.9	67.0												
	423, 424	I275SB26	5,280	70	3	412	67.1	67.2	67.4	67.3	66.8	66.5	66.6	66.5	67.0	67.0	66.8	67.0												
	424, 425	I275SB27	5,280	70	3	734	67.1	67.2	67.4	67.4	66.8	66.4	66.6	66.6	67.0	67.0	66.8	66.9												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,290	50	3	841	48.5	48.5	48.6	48.8	47.8	47.7	47.8	48.0	48.4	48.3	48.5	48.5	48.5	48.5	48.6	48.7	47.6	46.9	47.4	47.9	48.4	48.2	48.4	48.5
	500, 501	GandyEB3	3,290	50	4	954	48.7	48.7	48.8	48.8	48.1	47.6	48.0	48.3	48.6	48.5	48.7	48.7												
	501, 502	GandyEB4	3,290	50	5	174	47.3	47.2	47.0	47.8	43.8	39.7	42.4	44.9	46.8	45.7	46.7	46.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,320	50	3	178	49.0	49.0	49.0	49.3	48.2	47.6	48.1	48.1	48.9	48.7	48.8	48.9	49.0	49.0	49.0	49.3	48.2	47.6	48.1	48.1	48.9	48.7	48.8	48.9
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,320	50	3	99	41.9	42.9	42.3	42.4	42.1	41.7	41.7	42.4	41.9	42.2	42.4	41.9	43.8	44.6	44.2	44.3	43.9	43.3	43.4	44.0	43.7	43.9	44.2	43.7
	505, 506	GandyEB10	1,320	50	3	119	45.4	46.0	45.7	45.8	45.3	44.7	44.8	45.4	45.2	45.3	45.6	45.2												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,555	50	3	1,167	46.5	46.5	46.5	46.7	46.3	45.6	45.7	45.7	46.1	46.1	46.2	46.1	46.5	46.5	46.5	46.7	46.3	45.6	45.7	45.7	46.1	46.1	46.2	46.1
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,020	55	3	181	42.6	42.2	42.7	42.7	42.0	41.8	41.9	42.1	42.2	42.0	42.4	42.2	47.1	46.8	47.4	46.8	46.5	46.1	45.6	46.3	46.9	46.1	47.2	46.9
	520, 521	GandyWB5	3,020	55	3	291	49.8	49.4	49.8	49.8	49.3	49.1	49.2	49.3	49.5	49.3	49.7	49.6												

2020 Starter AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,020	55	4	590	47.2	46.9	47.7	46.6	46.5	45.9	44.9	46.0	47.0	45.8	47.5	47.0												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,020	55	3	1,768	53.4	53.4	53.6	53.4	53.1	53.0	52.9	53.2	53.4	53.2	53.3	53.3	53.4	53.4	53.6	53.4	53.1	53.0	52.9	53.2	53.4	53.2	53.3	53.3
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2,880	55	3	1,179	53.1	53.1	53.2	53.1	52.6	52.4	52.7	52.7	52.9	52.7	52.9	52.7	53.2	53.2	53.3	53.2	52.8	52.5	52.8	52.8	53.0	52.8	53.0	52.9
	524, 525	GandyWB9	2,880	55	3	455	53.5	53.5	53.5	53.5	53.1	52.8	53.1	53.1	53.2	53.1	53.2	53.2												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,000	50	1	525	48.6	48.3	48.5	49.3	47.3	46.9	46.9	46.9	44.7	46.7	46.3	46.8	46.8	46.9	46.3	47.2	45.5	45.5	45.5	45.6	43.7	45.6	45.1	45.2
	600, 601	GdyNBoff2	2,000	50	1	1,220	46.7	46.8	46.0	46.9	45.7	45.7	45.6	45.9	43.9	45.9	45.5	45.5												
	601, 7001	GdyNBoff3	2,000	50	2	135	41.6	42.7	40.0	42.1	37.1	38.8	38.2	37.5	38.4	39.5	37.1	36.4												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,235	50	1	84	37.2	37.6	36.8	37.0	36.9	36.5	36.5	36.2	37.3	36.1	36.7	35.8	41.6	41.9	41.4	41.5	41.4	41.1	41.0	40.6	41.6	40.7	41.4	40.5
	605, 606	GdyNBoff9	1,235	50	1	107	42.0	42.4	41.8	41.9	41.9	41.6	41.5	41.1	42.2	41.1	41.9	40.9												
	606, 506	GdyNBoff10	1,235	50	1	158	43.7	43.9	43.5	43.5	43.5	43.0	43.1	42.5	43.5	42.9	43.6	42.8												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,970	50	2	179	42.8	42.8	41.8	43.8	35.7	31.4	34.3	37.0	40.7	39.0	41.1	41.2	42.8	42.8	41.8	43.8	35.7	31.4	34.3	37.0	40.7	39.0	41.1	41.2
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	870	50	2	501	47.6	47.0	47.2	47.6	46.9	46.8	47.3	47.2	47.0	47.3	47.3	47.5	49.0	48.8	49.0	49.0	48.7	48.7	48.9	48.8	48.7	48.9	48.9	48.9
	623, 624	GdyNBon6	870	50	2	299	49.1	48.8	49.1	49.1	48.8	48.8	49.1	48.9	48.7	48.9	49.0	49.0												
	624, 625	GdyNBon7	870	50	2	253	49.2	48.9	49.3	49.1	48.9	48.9	49.2	49.0	48.8	49.0	49.1	49.1												
	625, 626	GdyNBon8	870	50	2	238	49.3	49.0	49.3	49.2	48.9	49.0	49.2	49.1	48.9	49.1	49.2	49.2												
	626, 627	GdyNBon9	870	50	2	242	49.3	49.1	49.4	49.3	49.0	49.1	49.2	49.1	49.0	49.2	49.2	49.2												
	627, 628	GdyNBon10	870	50	2	277	49.3	49.1	49.4	49.2	49.0	49.1	49.2	49.1	49.0	49.2	49.2	49.2												
	628, 629	GdyNBon11	870	50	2	337	49.3	49.1	49.4	49.2	49.0	49.1	49.2	49.1	49.0	49.2	49.2	49.1												
	629, 630	GdyNBon12	870	50	2	877	49.3	49.1	49.4	49.2	49.1	49.1	49.2	49.1	49.0	49.2	49.3	49.2												
	630, 307	GdyNBon13	870	50	2	344	49.3	49.1	49.3	49.3	49.1	49.1	49.2	49.1	49.0	49.1	49.3	49.2												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	860	50	2	481	49.4	49.8	49.4	49.5	49.4	49.2	49.4	49.2	49.3	49.3	49.4	49.2	48.9	49.4	49.2	49.0	48.9	48.7	49.0	48.7	48.9	48.8	49.0	48.8
	660, 661	GdySBoff2	860	50	2	394	49.4	49.9	49.6	49.5	49.6	49.5	49.6	49.3	49.5	49.4	49.6	49.3												
	661, 662	GdySBoff3	860	50	2	1,949	48.8	49.3	49.2	48.9	48.8	48.7	49.0	48.6	48.8	48.7	48.9	48.8												
	662, 523	GdySBoff4	860	50	1	424	48.2	48.7	48.5	48.4	48.1	47.8	48.2	47.9	48.2	48.2	48.3	48.2												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,100	50	1	286	44.3	45.7	45.3	44.5	44.0	43.9	44.2	43.9	44.6	44.1	44.5	44.5	46.3	47.6	47.1	46.4	46.0	45.7	46.1	46.0	46.5	46.2	46.4	46.4
	621, 622	GdySBon3	1,100	50	1	204	47.2	48.6	48.0	47.2	46.7	46.4	47.0	46.7	47.3	47.1	47.2	47.2												
	622, 419	GdySBon4	1,100	50	1	319	47.6	48.6	48.2	47.6	47.3	47.0	47.4	47.3	47.7	47.5	47.6	47.6												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,000	35	1	302	33.0	33.0	33.1	33.0	33.0	32.4	32.5	32.3	33.0	32.5	33.1	33.1	33.0	33.1	33.1	33.2	33.0	32.7	32.8	32.7	33.1	32.8	33.1	33.0
	640, 641	GdySBonLoop2	1,000	35	1	259	33.2	33.3	33.4	33.5	33.4	33.0	33.1	33.0	33.3	33.1	33.3	33.3												
	641, 642	GdySBonLoop3	1,000	35	1	227	33.2	33.3	33.3	33.4	33.3	32.9	33.0	33.0	33.3	33.1	33.3	33.3												
	642, 643	GdySBonLoop4	1,000	35	1	211	32.9	33.0	33.0	33.1	33.0	32.6	32.7	32.6	33.0	32.9	33.0	33.0												
	643, 644	GdySBonLoop5	1,000	35	1	211	32.9	33.0	32.9	33.1	32.9	32.6	32.7	32.6	33.0	32.8	33.0	32.9												
	644, 645	GdySBonLoop6	1,000	35	1	207	32.8	32.9	32.9	33.0	32.8	32.6	32.6	32.6	32.9	32.8	32.9	32.8												
	645, 418	GdySBonLoop7	1,000	35	1	252	32.9	32.9	32.9	33.0	32.9	32.6	32.7	32.7	32.9	32.8	32.9	32.9												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1,610	60	4	1,418	59.1	59.1	59.1	59.4	59.0	58.9	59.0	58.9	59.1	59.2	59.2	59.1	58.4	58.5	58.5	58.7	58.3	58.2	58.4	58.3	58.5	58.5	58.5	58.4
	541, 542	RvEB3	1,610	60	3	1,028	57.5	57.6	57.6	57.7	57.4	57.2	57.5	57.4	57.6	57.6	57.6	57.5												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,010	60	2	513	58.6	58.7	58.8	58.9	58.6	58.6	58.7	58.6	58.7	58.8	58.8	58.6	58.6	58.7	58.8	58.9	58.6	58.6	58.7	58.6	58.7	58.8	58.8	58.6
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,155	60	2	120	56.9	57.0	57.3	57.4	57.0	56.6	56.8	56.5	57.0	56.6	56.3	56.6	57.7	57.8	58.1	58.2	57.8	57.4	57.6	57.4	57.8	57.5	57.3	57.5
	546, 547	RvEB10	1,155	60	2	165	58.3	58.4	58.6	58.7	58.4	58.1	58.2	58.0	58.4	58.1	58.0	58.2												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,185	60	2	1,053	56.5	56.3	56.4	56.7	56.0	55.6	55.7	55.9	55.8	56.0	55.6	56.1	56.5	56.3	56.4	56.7	56.0	55.6	55.7	55.9	55.8	56.0	55.6	56.1
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,425	60	2	756	58.8	58.7	58.9	58.9	58.5	58.4	58.5	58.7	58.7	58.7	58.8	58.8	58.8	58.6	58.9	58.9	58.4	58.3	58.5	58.5	58.7	58.6	58.6	58.8
	558, 559	RvWB3	2,425	60	2	146	58.9	58.6	59.0	59.1	58.4	58.2	58.5	58.1	58.7	58.5	58.2	58.8												
	559, 560	RvWB4	2,425	60	3	151	58.7	58.4	58.9	59.0	58.2	58.1	58.3	57.7	58.5	58.5	58.1	58.7												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,360	60	2	125	58.7	58.5	58.8	58.8	58.1	57.9	58.2	58.1	58.4	58.5	58.4	58.6	58.7	58.5	58.8	58.8	58.1	57.9	58.2	58.1	58.4	58.5	58.4	58.6
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,000	60	2	133	55.9	55.4	56.0	56.2	54.4	54.4	54.8	55.0	55.2	55.4	55.6	55.8	57.8	57.5	57.8	57.9	56.9	56.8	57.1	57.3	57.3	57.5	57.6	57.7
	567, 568	RvWB14	2,000	60	2	750	58.0	57.8	58.1	58.2	57.2	57.2	57.4	57.6	57.7	57.8	57.9	58.0												
	568, 569	RvWB15	2,000	60	2	281	57.9	57.7	58.0	58.0	57.2	57.1	57.4	57.5	57.5	57.7	57.8	57.8												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,830	60	4	1,137	57.4	57.2	57.4	57.4	57.0	56.9	57.1	57.1	57.1	57.2	57.2	57.2	57.4	57.2	57.4	57.4	57.0	56.9	57.1	57.1	57.1	57.2	57.2	57.2
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,030	50	2	228	47.8	47.4	47.5	48.0	46.4	45.5	45.1	46.2	45.8	46.2	45.9	46.3	47.8	47.4	47.5	48.0	46.4	45.5	45.1	46.2	45.8	46.2	45.9	46.3
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,030	50	2	168	44.2	44.2	44.1	44.3	43.3	43.5	43.3	43.7	43.4	43.5	43.5	43.7	45.5	45.6	45.3	45.6	44.5	44.6	44.7	44.9	44.7	44.8	44.9	45.0
	701, 702	RvNBoff5	4,030	50	2	198	45.7	45.9	45.4	45.8	44.5	44.6	44.8	45.0	44.8	44.9	45.1	45.1												
	702, 703	RvNBoff6	4,030	50	3	130	46.9	47.0	46.7	47.0	46.1	46.1	46.4	46.3	46.2	46.2	46.5	46.5												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,030	50	1	336	47.9	48.1	47.8	48.1	47.4	47.5	47.8	47.8	47.5	47.4	47.7	47.8	48.2	48.4	48.1	48.3	47.8	47.8	48.0	48.1	47.9	47.8	48.0	48.1
	704, 705	RvNBoff8	1,030	50	1	200	48.1	48.4	48.0	48.4	47.6	47.7	47.8	48.0	47.8	47.7	47.9	48.1												
	705, 706	RvNBoff9	1,030	50	1	223	48.3	48.6	48.2	48.5	48.0	47.9	48.0	48.2	48.1	48.0	48.1	48.3												
	706, 707	RvNBoff10	1,030	50	1	262	48.5	48.7	48.3	48.5	48.1	48.0	48.1	48.3	48.2	48.1	48.2	48.3												
	707, 547	RvNBoff11	1,030	50	1	264	48.4	48.5	48.2	48.3	48.0	47.9	48.0	48.2	48.1	48.1	48.0	48.0												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,830	50	2	248	48.9	48.8	48.9	49.0	48.9	48.9	48.8	48.8	48.8	48.9	48.9	48.8	48.9	48.8	49.0	49.0	48.9	48.8	48.8	48.8	48.9	48.9	48.9	48.8
	715, 716	RvNBoff21	1,830	50	2	642	49.0	48.8	49.0	49.0	48.9	48.8	48.8	48.8	48.9	48.9	48.9	48.9												
	716, 569	RvNBoff22	1,830	50	2	670	48.9	48.8	48.9	49.0	48.9	48.7	48.7	48.7	48.8	48.9	48.9	48.8												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	65	50	1	296	54.3	54.1	54.3	54.3	54.0	53.9	53.8	54.2	54.2	53.4	54.4	53.7	53.1	52.7	53.0	52.8	52.6	52.6	52.4	52.8	52.9	52.1	53.1	52.4
	758, 7016	RvNBon4	65	50	1	127	50.2	49.4	49.9	49.5	49.5	49.5	49.2	49.8	49.8	49.2	49.9	49.3												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,245	50	2	97	45.6	45.4	45.7	45.7	45.0	45.5	44.9	45.2	45.5	45.2	45.2	45.6	46.6	46.4	46.6	46.6	46.1	46.4	46.0	46.2	46.5	46.3	46.3	46.6
	757, 317	RvNBon10	1,245	50	2	123	47.3	47.2	47.3	47.3	46.9	47.2	46.9	47.1	47.2	47.1	47.1	47.3												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	910	50	2	223	11.7	2.4	2.3	2.7	2.3	2.2	2.2	2.4	2.4	3.0	2.4	2.4	9.6	2.3	2.2	2.5	2.2	2.1	2.1	2.3	2.3	2.7	2.3	2.3
	770, 7032	RvSBoff2	910	50	2	150	6.4	2.1	2.1	2.3	2.0	2.0	1.9	2.1	2.1	2.4	2.2	2.1												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	970	50	3	102	45.6	46.0	45.9	45.7	45.4	44.9	45.3	45.5	45.8	46.0	46.0	45.8	47.0	47.2	47.3	47.1	46.4	46.2	46.5	46.7	47.1	47.2	46.9	47.1
	793, 410	RvSBon5	970	50	3	655	47.2	47.4	47.6	47.3	46.5	46.4	46.7	46.9	47.3	47.4	47.0	47.3												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	600	50	2	270	49.4	49.4	49.3	49.6	49.5	49.1	49.4	49.4	49.7	49.7	49.6	49.4	49.4	49.4	49.4	49.6	49.5	49.1	49.4	49.4	49.7	49.7	49.6	49.4
	790, 7011	RvSBon11	600	50	2	250	49.4	49.4	49.4	49.6	49.5	49.1	49.4	49.4	49.7	49.7	49.7	49.4												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,000	50	2	311	48.3	48.1	48.2	48.3	47.9	47.8	47.8	47.9	48.0	47.9	48.0	48.0	48.1	47.9	48.1	48.1	47.9	47.8	47.7	47.8	47.8	47.8	47.9	47.8
	708, 710	118NBoff2	3,000	50	2	567	47.7	47.3	47.6	47.7	47.3	47.1	46.9	47.1	47.3	47.1	47.3	47.1												
	710, 711	118NBoff3	3,000	50	2	460	47.5	47.1	47.4	47.5	47.1	47.0	46.9	47.0	47.0	47.1	47.2	47.0												
	711, 712	118NBoff4	3,000	50	3	472	48.5	48.3	48.5	48.5	48.4	48.3	48.3	48.3	48.3	48.3	48.4	48.3												
	712, 713	118NBoff5	3,000	50	3	395	48.6	48.6	48.6	48.6	48.5	48.5	48.5	48.5	48.5	48.5	48.5	48.5												
	713, 714	118NBoff6	3,000	50	3	188	48.7	48.6	48.6	48.6	48.5	48.6	48.6	48.5	48.5	48.5	48.6	48.5												
	714, 717	118NBoff7	1,170	50	2	212	48.6	48.6	48.4	48.4	48.4	48.5	48.5	48.3	48.4	48.4	48.5	48.3												
	717, 718	118NBoff8	1,170	50	2	389	48.9	48.9	48.7	48.7	48.7	48.8	48.9	48.7	48.7	48.7	48.8	48.6												

2020 Starter AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	718, 719	118NBoff9	1,170	50	2	373	49.0	49.0	48.9	48.9	48.8	48.9	49.0	48.8	48.8	48.8	48.9	48.8	48.9	48.9	48.8	48.8	48.9	48.8	48.7	48.7	48.9	48.7		
	719, 720	118NBoff10	1,170	50	2	589	49.0	49.0	48.9	48.9	48.8	48.9	49.0	48.8	48.9	48.8	48.9	48.8												
	720, 721	118NBoff11	1,170	50	2	311	49.0	48.9	48.9	48.9	48.8	48.9	48.9	48.8	48.9	48.8	48.9	48.7												
	721, 722	118NBoff12	1,170	50	2	327	49.0	49.0	48.9	48.9	48.9	48.9	49.0	48.8	48.9	48.8	49.0	48.7												
	722, 723	118NBoff13	1,170	50	2	626	49.0	49.0	48.9	48.9	48.9	48.9	48.9	48.8	48.8	48.7	48.9	48.7												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2,800	60	4	1,252	56.6	56.6	56.5	56.6	56.5	56.4	56.5	56.5	56.5	56.3	56.4	56.3	57.3	57.3	57.2	57.3	57.2	57.2	57.2	57.2	57.2	57.0	57.1	57.1
	724, 725	118NBoff15	2,800	60	4	575	58.9	58.8	58.7	58.8	58.8	58.7	58.8	58.8	58.7	58.6	58.6	58.6												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,180	60	2	611	58.9	58.9	58.9	58.9	58.8	58.6	58.5	58.8	58.9	58.7	58.8	58.7	57.5	57.4	57.5	57.6	57.2	56.7	56.9	57.2	57.4	57.2	57.3	57.2
	740, 741	118NBon3	2,180	60	2	1,571	56.9	56.8	56.9	57.0	56.5	56.0	56.2	56.5	56.8	56.6	56.7	56.6												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,045	50	1	268	55.0	54.9	55.1	55.3	54.5	54.8	54.4	54.8	55.1	54.7	54.8	55.0	47.8	47.7	47.9	48.0	47.3	47.6	47.2	47.5	47.8	47.5	47.6	47.9
	748, 749	118NBon5	1,045	50	1	541	47.8	47.7	47.9	48.0	47.2	47.6	47.2	47.5	47.9	47.5	47.6	47.8												
	749, 750	118NBon6	1,045	50	1	715	47.7	47.5	47.7	47.9	47.2	47.5	47.1	47.4	47.7	47.4	47.5	47.7												
	750, 751	118NBon7	1,045	50	1	245	47.4	47.3	47.4	47.6	46.9	47.2	46.8	47.1	47.4	47.0	47.2	47.5												
	751, 752	118NBon8	1,045	50	1	252	47.2	47.1	47.2	47.3	46.6	46.9	46.5	46.9	47.2	46.8	47.0	47.2												
	752, 753	118NBon9	1,045	50	1	352	47.1	47.0	47.2	47.2	46.5	46.9	46.5	46.8	47.2	46.8	46.9	47.1												
	753, 754	118NBon10	1,045	50	1	264	47.1	47.0	47.1	47.3	46.6	46.9	46.5	46.8	47.1	46.8	46.9	47.1												
	754, 755	118NBon11	1,045	50	1	415	47.0	46.8	47.0	47.1	46.5	46.8	46.4	46.7	46.9	46.6	46.8	47.0												
	755, 7009	118NBon12	1,045	50	1	733	46.8	46.6	46.9	46.9	46.3	46.5	46.2	46.4	46.7	46.4	46.6	46.8												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	620	50	1	147	33.4	33.5	32.8	32.9	33.1	33.2	26.0	29.8	30.8	30.3	33.8	33.8	46.5	46.6	46.1	46.1	46.5	46.1	36.8	41.5	42.1	41.2	46.2	46.3
	775, 776	118SBoff3	620	50	1	934	47.0	47.0	46.2	46.2	46.6	46.4	36.6	41.7	42.6	41.6	46.9	46.7												
	776, 777	118SBoff4	620	50	1	371	47.9	48.0	47.6	47.5	48.0	47.5	38.1	42.7	43.2	42.3	47.1	47.6												
	777, 778	118SBoff5	620	50	1	446	48.0	48.0	47.7	47.7	48.2	47.6	38.3	42.7	43.0	42.2	47.1	47.6												
	778, 6020	118SBoff6	620	50	1	340	47.8	48.0	47.8	47.8	48.4	47.7	38.4	42.8	43.0	42.0	47.2	47.6												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,630	50	2	990	51.1	51.1	51.1	51.1	51.2	51.1	51.2	50.9	51.1	50.7	50.8	50.9	51.1	51.1	51.1	51.1	51.2	51.1	51.2	50.9	51.1	50.7	50.8	50.9
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,135	50	1	197	47.5	47.6	47.5	47.6	47.0	46.1	46.5	47.0	47.3	47.1	47.2	47.2	47.4	47.5	47.5	47.5	47.1	46.4	46.7	47.1	47.3	47.2	47.3	47.3
	742, 743	118SBon2	1,135	50	1	119	47.4	47.5	47.4	47.5	46.9	45.8	46.3	46.8	47.2	47.0	47.1	47.2												
	743, 744	118SBon3	1,135	50	1	126	47.6	47.7	47.6	47.7	47.0	46.1	46.5	47.1	47.4	47.3	47.3	47.4												
	744, 745	118SBon4	1,135	50	1	162	47.8	47.9	47.8	47.9	47.3	46.5	46.9	47.3	47.6	47.5	47.6	47.6												
	745, 746	118SBon5	1,135	50	1	200	47.9	48.0	47.9	47.9	47.4	46.8	47.2	47.5	47.6	47.6	47.7	47.6												
	746, 747	118SBon6	1,135	50	1	166	47.7	47.8	47.9	47.8	47.4	46.9	47.2	47.4	47.6	47.6	47.7	47.5												
	747, 413	118SBon7	1,135	50	1	973	47.2	47.3	47.4	47.3	46.9	46.3	46.6	46.9	47.1	47.0	47.1	47.1												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,090	60	3	2,420	58.1	58.0	53.6	46.2	34.4	26.8	24.3	24.4	25.8	28.0	28.4	26.4	58.1	58.0	53.6	46.2	34.4	26.8	24.3	24.4	25.8	28.0	28.4	26.4
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,305	50	2	647	49.2	49.3	49.3	49.3	48.3	47.8	47.8	47.8	48.1	48.4	48.3	48.5	49.1	49.2	49.2	49.2	48.7	48.3	48.2	48.2	48.6	48.5	48.7	48.6
	811, 812	UlmNBon4	1,305	50	2	590	49.2	49.3	49.3	49.3	49.0	48.5	48.5	48.4	48.8	48.8	48.9	48.8												
	812, 813	UlmNBon5	1,305	50	2	323	49.1	49.2	49.2	49.3	48.8	48.5	48.4	48.3	48.7	48.6	48.7	48.7												
	813, 814	UlmNBon6	1,305	50	2	328	49.1	49.2	49.2	49.3	48.8	48.4	48.4	48.3	48.7	48.6	48.7	48.7												
	814, 815	UlmNBon7	1,305	50	2	288	49.1	49.2	49.2	49.2	48.8	48.3	48.3	48.2	48.7	48.5	48.7	48.7												
	815, 816	UlmNBon8	1,305	50	2	273	49.1	49.2	49.2	49.1	48.8	48.3	48.3	48.2	48.7	48.5	48.7	48.7												
	816, 322	UlmNBon9	1,305	50	2	888	49.0	49.2	49.2	49.1	48.7	48.2	48.2	48.1	48.7	48.4	48.7	48.6												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,395	50	2	318	47.9	47.5	47.8	47.5	45.2	40.9	31.1	32.7	26.5	35.1	36.1	33.4	48.4	48.1	48.3	48.2	47.2	45.3	39.1	39.6	33.8	43.6	43.4	39.3
	830, 831	UlmSBoff2	2,395	50	2	346	48.8	48.5	48.6	48.7	48.3	47.5	42.7	42.7	36.8	47.3	46.8	41.9												
	831, 7036	UlmSBoff3	2,395	50	2	283	48.5	48.3	48.5	48.5	48.1	47.6	43.8	43.6	38.3	48.5	47.3	42.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,945	50	2	398	48.3	48.5	48.4	48.6	48.0	47.9	43.4	43.2	38.7	48.5	47.8	43.1	56.6	56.7	56.6	56.8	56.1	56.0	50.8	50.8	45.2	56.8	56.0	50.4
	834, 835	UlmSBoff8	1,945	60	2	584	54.1	54.1	54.1	54.4	53.6	53.5	48.4	48.2	42.8	54.2	53.2	48.0												
	835, 836	UlmSBoff9	1,945	60	2	481	58.6	58.6	58.6	58.8	58.1	58.0	52.6	52.5	46.7	58.8	57.9	52.2												
	836, 837	UlmSBoff10	1,945	60	2	2,160	58.4	58.5	58.4	58.5	57.8	57.8	52.5	52.6	46.7	58.6	57.8	52.0												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	785	35	1	493	50.7	49.4	41.2	25.0	12.9	6.9	5.4	6.9	6.5	8.1	7.2	6.2	46.5	44.9	37.6	21.8	11.5	6.2	4.9	6.3	5.9	7.4	6.5	5.6
	802, 803	UlmSBon2	785	35	1	214	36.8	34.6	29.3	14.6	8.3	4.7	3.8	5.2	4.5	5.7	4.9	4.3												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	550	35	1	163	34.1	33.1	27.8	17.1	8.8	5.5	4.7	6.2	5.3	6.8	5.8	5.2	42.2	37.8	23.7	9.3	6.3	5.5	5.1	6.2	5.3	7.0	5.9	5.4
	808, 809	UlmSBon4	550	35	1	163	34.2	32.6	27.1	13.1	6.6	5.1	4.5	5.8	4.9	6.3	5.4	5.0												
	809, 810	UlmSBon5	550	35	1	228	34.2	32.2	25.8	11.1	5.8	5.0	4.6	5.9	5.0	6.4	5.4	5.0												
	810, 402	UlmSBon6	550	50	1	1,170	46.0	40.3	22.3	7.3	6.0	5.7	5.3	6.3	5.5	7.2	6.1	5.6												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	235	35	1	201	34.7	34.6	33.8	33.0	31.2	29.4	26.5	29.8	29.4	30.7	30.5	29.5	43.8	43.7	43.6	43.6	43.0	41.7	38.2	42.7	42.4	43.1	42.3	42.2
	804, 805	UlmSBMLK2	235	50	1	361	41.4	41.4	41.4	41.5	41.3	40.3	37.0	41.2	41.0	41.5	40.8	40.9												
	805, 806	UlmSBMLK3	235	50	1	499	49.1	49.1	49.1	49.4	49.1	47.6	43.9	48.9	48.6	49.2	48.2	48.2												
SB MLK	806, 807	UlmSBMLK4	685	50	2	1,171	49.3	49.1	49.1	49.1	49.0	48.7	49.0	49.1	49.3	49.2	49.0	48.9	49.3	49.1	49.1	49.1	49.0	48.7	49.0	49.1	49.3	49.2	49.0	48.9
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	300	50	1	1,080	49.6	49.8	49.8	49.9	49.5	49.5	49.6	49.6	50.1	49.7	49.8	49.7	49.5	49.7	49.6	49.8	49.3	49.3	49.5	49.3	49.9	49.5	49.6	49.5
	851, 852	MLKNBon3	300	50	1	350	49.5	49.7	49.6	49.8	49.3	49.3	49.4	49.3	49.9	49.5	49.6	49.4												
	852, 853	MLKNBon4	300	50	1	360	49.4	49.6	49.5	49.7	49.2	49.1	49.3	49.2	49.8	49.4	49.5	49.3												
	853, 321	MLKNBon5	300	50	1	548	49.3	49.5	49.3	49.5	49.1	48.9	49.2	49.0	49.7	49.3	49.4	49.2												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	450	50	1	294	48.8	48.3	48.1	48.1	48.0	48.1	43.6	39.0	33.2	44.6	48.5	43.0	49.1	48.7	48.7	48.5	48.5	48.5	43.8	39.4	33.9	44.8	48.8	43.8
	839, 840	MLKSBoff4	450	50	1	336	49.3	48.9	48.9	48.7	48.7	48.7	44.1	39.4	33.8	45.1	49.0	43.8												
	840, 841	MLKSBoff5	450	50	1	395	49.1	48.8	48.7	48.6	48.5	48.5	43.9	39.4	34.0	44.9	48.8	43.9												
	841, 806	MLKSBoff6	450	50	1	539	49.1	48.7	48.7	48.5	48.5	48.5	43.7	39.5	34.2	44.7	48.7	44.0												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	900	60	2	1,270	59.2	59.6	59.6	59.5	59.6	59.3	59.3	59.5	59.5	59.3	59.5	59.4	58.4	58.7	58.7	58.7	58.6	58.2	58.2	58.4	58.7	58.3	58.5	58.5
	901, 902	4thNBon3	900	60	2	634	59.1	59.5	59.5	59.4	59.5	59.2	59.2	59.3	59.4	59.3	59.4	59.4												
	902, 903	4thNBon4	900	60	2	322	58.4	58.7	58.8	58.8	58.7	58.2	58.3	58.4	58.7	58.6	58.6	58.5												
	903, 904	4thNBon5	900	60	2	279	57.6	57.8	58.0	58.0	57.7	57.2	57.1	57.4	58.0	57.6	57.7	57.6												
	904, 905	4thNBon6	900	60	2	388	57.5	57.7	57.9	57.8	57.5	57.0	56.9	57.1	57.8	57.1	57.6	57.4												
	905, 906	4thNBon7	900	60	1	313	57.6	57.8	57.9	57.9	57.5	57.1	57.1	57.3	57.9	57.2	57.7	57.6												
	906, 907	4thNBon8	900	60	1	305	57.7	58.0	58.0	58.0	57.7	57.3	57.3	57.4	58.0	57.4	57.8	57.7												
	907, 324	4thNBon9	900	60	1	666	57.6	57.9	57.9	57.9	57.6	57.1	57.1	57.3	57.7	57.4	57.6	57.6												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	500	60	1	466	58.5	58.6	58.9	58.5	58.3	50.7	33.9	21.9	22.1	26.6	29.2	28.9	58.6	58.6	58.7	58.6	58.5	57.6	48.2	39.2	44.2	44.5	44.9	44.5
	920, 921	4thSBoff2	500	60	1	492	58.8	58.8	59.0	58.8	58.8	57.1	44.9	38.3	38.4	42.9	43.8	42.7												
	921, 922	4thSBoff3	500	60	1	420	58.7	58.7	58.8	58.7	58.7	58.0	46.8	40.8	41.2	46.3	46.4	45.2												
	922, 923	4thSBoff4	500	60	1	393	58.5	58.5	58.6	58.5	58.4	57.9	46.9	41.0	47.8	46.4	46.6	45.1												
	923, 924	4thSBoff5	500	60	1	384	58.3	58.3	58.5	58.3	58.2	57.7	46.8	40.9	47.8	46.1	46.4	45.3												
	924, 925	4thSBoff6	500	60	1	354	58.3	58.2	58.4	58.3	58.1	57.7	46.7	40.6	47.7	45.8	46.3	45.5												
	925, 926	4thSBoff7	500	60	1	501	58.2	58.1	58.3	58.2	57.9	57.7	46.5	40.5	47.3	45.7	46.2	45.8												
	926, 927	4thSBoff8	500	60	1	416	58.0	58.0	58.1	58.1	57.7	57.7	46.3	40.5	47.0	45.6	46.0	45.8												
	927, 928	4thSBoff9	500	60	2	1,153	58.6	58.6	58.6	58.6	58.4	58.4	53.2	41.0	47.2	46.5	46.6	46.7												
	928, 929	4thSBoff10	500	60	2	1,242	59.2	59.1	59.2	59.1	59.1	59.3	53.5	41.3	47.5	47.2	47.1	47.2												

2020 Starter AM			Demand				Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	850	70	1	1,116	69.0	69.1	69.2	69.0	68.9	68.8	68.8	68.9	68.8	69.0	69.0	69.2	67.5	67.5	67.7	67.5	67.1	66.8	66.8	67.1	67.1	67.2	67.3	67.5
	5000, 5001	SULNB2	850	70	1	2,205	68.4	68.4	68.7	68.4	68.2	68.0	68.0	68.2	68.2	68.2	68.4	68.5												
	5001, 5002	SULNB3	850	70	1	528	67.6	67.5	67.7	67.5	67.1	66.8	66.8	67.1	67.2	67.2	67.4	67.6												
	5002, 5003	SULNB4	850	70	1	346	67.4	67.3	67.5	67.3	66.8	66.5	66.5	66.9	67.0	66.9	67.2	67.3												
	5003, 5004	SULNB5	850	70	1	235	67.3	67.1	67.4	67.2	66.7	66.3	66.3	66.7	66.8	66.8	66.9	67.2												
	5004, 5005	SULNB6	850	70	1	270	67.1	67.0	67.2	67.0	66.6	66.1	66.2	66.5	66.6	66.7	66.8	67.0												
	5005, 5006	SULNB7	850	70	1	238	67.0	66.9	67.1	66.9	66.4	66.0	66.0	66.3	66.5	66.6	66.7	66.9												
	5006, 5007	SULNB8	850	70	1	261	66.9	66.7	67.0	66.8	66.3	65.9	65.9	66.2	66.4	66.5	66.5	66.8												
	5007, 5008	SULNB9	850	70	1	451	66.7	66.6	66.9	66.6	66.2	65.8	65.8	66.1	66.2	66.3	66.4	66.7												
	5008, 5009	SULNB10	850	70	1	242	66.6	66.5	66.7	66.5	66.1	65.7	65.6	66.0	66.1	66.2	66.3	66.6												
	5009, 5010	SULNB11	850	70	1	158	66.5	66.4	66.7	66.4	66.0	65.6	65.5	66.0	66.0	66.2	66.2	66.6												
	5010, 5011	SULNB12	850	70	1	539	66.4	66.3	66.5	66.4	65.9	65.5	65.4	65.9	65.8	66.0	66.1	66.4												
	5011, 5012	SULNB13	850	70	1	564	66.2	66.1	66.4	66.2	65.7	65.3	65.2	65.7	65.6	65.9	65.8	66.2												
	5012, 5013	SULNB14	850	70	1	824	66.1	66.0	66.2	65.9	65.4	65.1	65.0	65.5	65.4	65.7	65.6	66.0												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,180	70	1	2,172	65.5	64.9	65.4	65.4	64.7	64.2	64.2	64.5	64.5	64.8	64.9	65.1	64.6	64.2	64.6	64.5	64.2	63.7	63.8	63.9	64.0	64.1	64.2	64.3
	5014, 5015	SULNB16	1,180	70	1	1,149	65.5	65.1	65.4	65.3	64.9	64.5	64.5	64.7	64.8	64.9	65.0	65.1												
	5015, 5016	SULNB17	1,180	70	1	2,057	64.9	64.5	64.9	64.8	64.5	64.0	64.1	64.2	64.3	64.3	64.5	64.6												
	5016, 5017	SULNB18	1,180	70	1	1,250	64.5	64.2	64.6	64.4	64.3	63.6	63.8	63.9	64.1	64.0	64.2	64.2												
	5017, 5018	SULNB19	1,180	70	1	1,385	64.2	63.9	64.3	64.2	63.9	63.4	63.6	63.5	63.8	63.7	63.9	63.9												
	5018, 5019	SULNB20	1,180	70	1	843	64.1	63.9	64.2	64.0	63.8	63.2	63.4	63.5	63.6	63.6	63.8	63.8												
	5019, 5020	SULNB21	1,180	70	1	687	63.9	63.6	64.0	63.9	63.6	63.1	63.4	63.3	63.5	63.4	63.6	63.8												
	5020, 5021	SULNB22	1,180	70	1	2,036	63.8	63.5	63.8	63.7	63.5	63.0	63.2	63.2	63.3	63.3	63.4	63.6												
	5021, 5022	SULNB23	1,180	70	1	171	63.6	63.1	63.5	63.5	63.0	62.3	62.7	62.7	62.9	62.9	62.9	63.3												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,510	70	1	1,752	60.9	60.6	61.1	61.1	59.8	58.3	58.4	59.6	59.5	59.7	59.7	60.6	63.1	63.0	63.2	63.2	62.7	61.9	62.2	62.5	62.6	62.6	62.6	62.9
	5023, 5024	SULNB25	1,510	70	1	1,039	64.4	64.1	64.4	64.3	64.1	63.5	63.8	63.8	64.1	64.0	64.2	64.1												
	5024, 5025	SULNB26	1,510	70	1	814	64.5	64.4	64.5	64.6	64.4	64.1	64.3	64.2	64.4	64.3	64.4	64.3												
	5025, 5026	SULNB27	1,510	70	1	2,530	63.7	63.7	63.7	63.8	63.6	63.1	63.4	63.3	63.4	63.6	63.5	63.6												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	66.0	65.4	65.0	65.9	64.9	65.1	65.0	64.6	64.8	64.9	65.1	64.9	68.4	67.9	68.0	68.3	68.0	68.4	68.0	68.0	68.0	68.0	68.1	67.7
	5100, 5101	SULNBRamp2	330	70	1	528	68.0	67.5	67.4	68.0	67.2	67.6	67.4	67.2	67.3	67.4	67.4	67.2												
	5101, 5102	SULNBRamp3	330	70	1	379	69.0	68.6	68.7	69.0	68.5	69.0	68.6	68.5	68.7	68.7	68.6	68.4												
	5102, 5103	SULNBRamp4	330	70	1	376	69.1	68.8	69.0	69.2	68.7	69.3	68.9	68.8	69.0	69.0	68.8	68.6												
	5103, 5104	SULNBRamp5	330	70	1	363	69.0	68.8	68.9	69.1	68.7	69.3	68.8	68.8	69.0	69.0	68.8	68.6												
	5104, 5105	SULNBRamp6	330	70	1	352	68.9	68.7	68.8	69.0	68.6	69.2	68.7	68.7	68.8	68.8	68.7	68.5												
	5105, 5106	SULNBRamp7	330	70	1	831	68.8	68.5	68.7	68.8	68.4	69.0	68.5	68.6	68.6	68.5	68.5	68.3												
	5106, 5107	SULNBRamp8	330	70	1	1,172	68.6	68.3	68.4	68.4	68.2	68.8	68.3	68.3	68.3	68.2	68.3	67.9												
	5107, 5108	SULNBRamp9	330	70	1	656	68.4	68.0	68.1	68.1	68.0	68.4	68.1	68.0	68.0	68.0	68.1	67.7												
	5108, 5109	SULNBRamp10	330	70	1	803	68.3	67.7	67.9	68.0	67.9	68.2	68.0	67.9	67.8	67.8	68.0	67.5												
	5109, 5110	SULNBRamp11	330	70	1	897	68.2	67.5	67.6	67.9	67.8	68.0	67.8	67.7	67.5	67.6	67.9	67.3												
	5110, 5111	SULNBRamp12	330	70	1	513	68.1	67.2	67.5	67.8	67.7	67.8	67.6	67.4	67.3	67.5	67.8	67.1												
	5111, 5013	SULNBRamp13	330	70	1	267	68.2	67.1	67.4	67.7	67.6	67.7	67.5	67.3	67.2	67.4	67.7	67.1												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	330	70	1	157	67.4	67.2	67.2	67.2	66.9	66.8	66.7	66.7	66.9	67.2	67.1	67.1	67.4	67.2	67.2	67.2	66.9	66.8	66.7	66.7	66.9	67.2	67.1	67.1
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	68.6	68.5	68.5	68.7	68.1	68.0	67.1	61.4	62.0	57.9	66.6	68.4	68.6	68.5	68.5	68.7	68.1	68.0	67.1	61.4	62.0	57.9	66.6	68.4
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,360	70	1	941	67.9	67.8	67.8	68.0	67.1	67.0	67.1	60.8	65.1	63.8	66.5	67.7	64.7	64.5	64.4	64.7	63.9	63.7	63.8	57.8	64.0	63.4	63.8	64.3
	5997, 5998	SULSB1	1,360	70	1	816	66.9	66.8	66.7	67.0	66.0	65.7	65.9	59.8	65.6	64.3	65.7	66.6												
	5998, 5999	SULSB1	1,360	70	1	1,054	66.3	66.2	66.1	66.3	65.5	65.1	65.4	59.2	65.5	64.5	65.2	66.0												
	5999, 6000	SULSB1	1,360	70	1	1,908	65.5	65.4	65.3	65.5	64.6	64.3	64.5	58.5	64.8	64.2	64.6	65.1												
	6000, 6001	SULSB2	1,360	70	1	2,064	64.8	64.7	64.6	64.9	64.0	63.8	63.9	57.9	64.3	63.7	64.0	64.5												
	6001, 6002	SULSB3	1,360	70	1	572	64.4	64.4	64.3	64.6	63.7	63.6	63.7	57.7	64.0	63.5	63.7	64.2												
	6002, 6003	SULSB4	1,360	70	1	407	64.4	64.2	64.1	64.5	63.6	63.4	63.6	57.5	63.9	63.5	63.6	64.1												
	6003, 6004	SULSB5	1,360	70	1	1,528	64.2	64.0	63.9	64.3	63.4	63.3	63.3	57.3	63.6	63.3	63.4	63.8												
	6004, 6005	SULSB6	1,360	70	1	1,420	64.0	63.7	63.7	64.1	63.3	63.1	63.2	57.2	63.4	63.1	63.2	63.6												
	6005, 6006	SULSB7	1,360	70	1	4,087	63.6	63.4	63.3	63.6	62.9	62.8	62.9	56.8	63.2	62.9	62.9	63.3												
	6006, 6007	SULSB8	1,360	70	1	1,611	63.4	63.1	63.1	63.3	62.8	62.6	62.7	56.5	63.0	62.7	62.7	63.0												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,010	70	1	767	64.7	64.4	64.3	64.5	64.2	64.1	64.1	58.0	64.3	64.2	64.2	64.4	64.8	64.5	64.4	64.6	64.3	64.2	64.2	58.0	64.3	64.1	64.2	64.5
	6008, 6009	SULSB10	1,010	70	1	614	65.6	65.4	65.3	65.6	65.3	65.3	65.2	59.1	65.4	65.3	65.3	65.5												
	6009, 6010	SULSB11	1,010	70	1	382	65.4	65.3	65.2	65.5	65.2	65.2	65.2	59.0	65.2	65.2	65.2	65.4												
	6010, 6011	SULSB12	1,010	70	1	135	65.2	65.0	64.9	65.2	65.0	65.0	64.9	58.7	64.9	64.9	64.9	65.1												
	6011, 6012	SULSB13	1,010	70	1	204	65.0	64.8	64.7	65.0	64.7	64.8	64.7	58.5	64.7	64.7	64.7	64.9												
	6012, 6013	SULSB14	1,010	70	1	613	64.7	64.4	64.4	64.5	64.2	64.3	64.2	58.0	64.2	64.1	64.2	64.5												
	6013, 6014	SULSB15	1,010	70	1	251	64.5	64.2	64.2	64.3	64.0	63.9	63.9	57.7	64.0	63.7	63.8	64.2												
	6014, 6015	SULSB16	1,010	70	1	233	64.5	64.2	64.2	64.3	63.9	63.9	63.9	57.6	64.0	63.6	63.8	64.2												
	6015, 6016	SULSB17	1,010	70	1	274	64.5	64.2	64.2	64.3	63.9	63.8	63.9	57.6	64.0	63.6	63.8	64.2												
	6016, 6017	SULSB18	1,010	70	1	238	64.5	64.2	64.2	64.3	63.9	63.8	63.9	57.6	64.0	63.6	63.8	64.1												
	6017, 6018	SULSB19	1,010	70	1	314	64.5	64.2	64.2	64.3	64.0	63.8	63.8	57.6	64.0	63.7	63.8	64.1												
	6018, 6019	SULSB20	1,010	70	1	879	64.4	64.0	64.0	64.1	63.9	63.7	63.6	57.5	63.8	63.5	63.7	63.9												
	6019, 6020	SULSB21	1,010	70	1	207	64.4	63.8	63.8	63.9	63.6	63.5	63.5	57.3	63.5	63.2	63.5	63.8												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	350	70	1	582	64.9	64.9	64.7	64.9	64.6	64.4	64.6	58.2	64.7	64.6	64.6	64.6	66.6	66.8	66.4	66.8	66.3	65.7	66.5	59.8	66.7	66.6	66.4	66.4
	6100, 6101	SULSBRamp2	350	70	1	621	67.6	67.7	67.6	67.9	67.6	67.3	67.9	61.0	67.8	67.6	67.7	67.4												
	6101, 6102	SULSBRamp3	350	70	1	317	68.3	68.3	68.2	68.6	68.3	67.9	68.6	61.6	68.6	68.3	68.4	68.1												
	6102, 6103	SULSBRamp4	350	70	1	915	68.0	68.0	67.9	68.3	68.0	67.5	68.4	61.4	68.4	68.0	68.1	67.8												
	6103, 6104	SULSBRamp5	350	70	1	1,093	67.4	67.5	67.4	67.8	67.5	66.8	67.8	60.9	68.0	67.6	67.6	67.3												
	6104, 6105	SULSBRamp6	350	70	1	1,068	67.2	67.2	67.1	67.6	67.1	66.4	67.4	60.5	67.7	67.4	67.2	67.0												
	6105, 6106	SULSBRamp7	350	70	1	788	66.9	67.1	66.8	67.3	66.8	66.1	67.1	60.2	67.3	67.0	66.9	66.9												
	6106, 6107	SULSBRamp8	350	70	1	367	66.8	67.1	66.6	67.2	66.6	66.0	67.0	60.1	67.2	66.9	66.7	66.7												
	6107, 6108	SULSBRamp9	350	70	1	373	66.8	67.0	66.6	67.2	66.6	65.9	66.9	60.0	67.2	66.8	66.7	66.7												
	6108, 6109	SULSBRamp10	350	70	1	445	66.7	67.0	66.5	67.1	66.5	65.8	66.8	59.9	67.1	66.7	66.6	66.6												
	6109, 6110	SULSBRamp11	350	70	1	8,866	66.3	66.5	66.0	66.4	65.8	65.2	65.9	59.4	66.2	66.1	65.8	66.0												
	6110, 1	SULSBRamp12	350	70	1	292	65.9	65.8	65.6	65.9	65.3	64.8	65.0	58.9	65.4	65.8	65.2	65.5												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	210	70	1	154	69.7	70.0	69.1	69.6	69.2	68.5	65.1	56.5	42.2	36.0	61.4	66.3	69.7	70.0	69.1	69.6	69.2	68.5	65.1	56.5	42.2	36.0	61.4	66.3

2020 Starter AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7,700	70	3	1,087	1,461	1,537	1,465	1,390	1,653	1,672	1,671	1,665	1,669	1,672	1,675	1,670	16	13	18	19	10	10	9	10	9	11	12	10
	300, 301	I275NB3	7,700	70	3	805	1,459	1,538	1,465	1,390	1,652	1,672	1,671	1,666	1,668	1,671	1,675	1,670	37	37	37	38	42	39	40	39	38	38	37	39
	301, 302	I275NB4	7,700	70	3	478	1,459	1,536	1,466	1,389	1,652	1,671	1,671	1,666	1,668	1,673	1,674	1,671	36	34	37	31	34	35	32	35	31	35	35	35
	302, 303	I275NB5	7,700	70	3	2,687	1,464	1,531	1,467	1,400	1,635	1,667	1,672	1,667	1,667	1,669	1,678	1,671	942	985	931	864	1115	1151	1146	1169	1106	1106	1168	1149
	303, 304	I275NB6	7,700	70	4	382	1,462	1,531	1,468	1,401	1,632	1,668	1,670	1,668	1,669	1,668	1,678	1,671	116	115	120	115	106	108	104	106	125	113	109	112
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5,700	70	3	1,375	1,077	1,130	1,089	1,034	1,208	1,236	1,231	1,230	1,244	1,238	1,241	1,231	85	88	86	78	89	95	96	96	97	97	98	94
	305, 306	I275NB8	5,700	70	3	1,306	1,077	1,129	1,089	1,033	1,206	1,236	1,232	1,232	1,242	1,238	1,240	1,230	82	76	78	77	82	76	74	81	82	80	81	75
	306, 307	I275NB9	5,700	70	3	591	1,076	1,130	1,089	1,034	1,203	1,236	1,232	1,233	1,243	1,236	1,239	1,230	35	40	34	35	40	39	38	39	43	39	40	39
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	6,570	70	5	1,065	1,247	1,313	1,270	1,195	1,419	1,465	1,456	1,452	1,437	1,431	1,430	1,405	201	215	205	186	228	236	238	231	217	228	223	209
	308, 309	I275NB11	6,570	70	5	3,035	1,248	1,313	1,271	1,200	1,405	1,465	1,459	1,454	1,433	1,434	1,428	1,403	339	373	340	331	368	390	391	386	384	390	358	386
	309, 2	I275NB12	6,570	70	4	350	1,248	1,313	1,271	1,199	1,405	1,464	1,458	1,455	1,435	1,432	1,428	1,404	136	142	139	139	147	147	143	142	143	149	143	147
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	6,240	70	4	745	1,181	1,240	1,203	1,136	1,328	1,391	1,383	1,381	1,357	1,357	1,363	1,327	439	451	439	417	465	494	499	506	501	505	503	490
	310, 311	I275NB13	6,240	70	4	380	1,180	1,240	1,203	1,137	1,326	1,391	1,382	1,380	1,358	1,358	1,364	1,326	157	169	157	148	184	183	182	185	179	181	188	178
	311, 312	I275NB14	6,240	70	4	399	1,180	1,238	1,203	1,138	1,325	1,391	1,383	1,381	1,358	1,357	1,365	1,325	171	183	173	166	194	214	203	213	195	202	199	202
	312, 313	I275NB15	6,240	70	4	368	1,179	1,239	1,202	1,138	1,324	1,390	1,383	1,383	1,357	1,355	1,367	1,325	77	85	79	66	94	108	108	111	109	105	109	98
	313, 314	I275NB16	6,240	70	4	460	1,181	1,236	1,204	1,138	1,321	1,392	1,384	1,381	1,356	1,353	1,370	1,326	38	42	47	40	64	80	84	78	78	65	75	73
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,210	70	3	879	399	425	413	385	449	480	471	478	461	462	482	458	18	20	20	17	26	29	26	27	26	27	29	26
	315, 316	I275NB18	2,210	70	3	1,293	397	425	414	385	448	481	472	477	462	462	481	458	21	23	22	20	25	25	27	25	24	25	26	24
	316, 317	I275NB19	2,210	70	3	1,158	398	423	416	386	444	482	474	476	463	461	482	458	22	26	22	20	24	28	26	26	27	28	29	23
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,455	70	5	372	631	669	648	606	746	761	771	771	714	725	729	699	128	137	128	122	167	160	167	163	142	145	140	133
	318, 319	I275NB21	3,455	70	5	2,611	632	665	650	607	740	765	769	769	717	726	727	701	306	325	307	285	398	377	400	395	339	365	347	319
	319, 320	I275NB22	3,455	70	3	1,802	633	662	652	608	734	766	769	769	722	724	728	701	69	75	67	68	91	92	99	95	78	88	83	81
	320, 321	I275NB23	3,455	70	3	501	633	661	653	610	731	766	770	768	721	724	727	702	20	19	22	19	25	26	26	26	23	24	26	21
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,755	70	3	1,814	690	718	714	662	805	844	844	842	783	787	790	766	152	149	152	140	190	197	192	187	161	169	172	158
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,060	70	5	814	935	975	972	914	1,141	1,237	1,278	1,256	1,125	1,148	1,145	1,142	223	234	237	232	297	345	375	355	303	316	306	330
	323, 324	I275NB26	5,060	70	5	1,850	934	977	974	915	1,129	1,242	1,277	1,259	1,126	1,147	1,143	1,145	111	123	120	113	152	187	211	190	149	155	150	163
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	5,960	70	4	838	1,109	1,155	1,144	1,077	1,346	1,469	1,509	1,470	1,322	1,344	1,325	1,323	536	566	554	528	636	627	613	603	587	619	588	586
	325, 326	I275NB28	5,960	70	4	704	1,109	1,152	1,148	1,078	1,337	1,458	1,512	1,469	1,337	1,344	1,323	1,322	239	262	259	237	401	540	607	531	375	372	375	371
	326, 327	I275NB29	5,960	70	3	1,988	1,106	1,155	1,149	1,076	1,329	1,453	1,512	1,472	1,344	1,340	1,324	1,322	269	294	293	277	404	482	491	482	389	395	385	379
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,630	70	3	1,906	1,031	1,079	1,078	1,008	1,233	1,359	1,410	1,377	1,257	1,260	1,239	1,240	111	120	125	115	124	123	128	125	133	122	130	132
	328, 329	I275NB31	5,630	70	3	1,046	1,032	1,079	1,075	1,010	1,227	1,357	1,411	1,378	1,257	1,257	1,242	1,240	64	65	64	68	70	69	66	70	66	76	73	71
	329, 330	I275NB32	5,630	70	3	803	1,029	1,081	1,076	1,009	1,227	1,356	1,411	1,380	1,258	1,256	1,240	1,240	51	47	51	53	54	49	53	57	55	53	54	53
	330, 331	I275NB33	5,630	70	3	2,542	1,024	1,079	1,076	1,013	1,212	1,358	1,406	1,386	1,262	1,255	1,241	1,243	153	156	164	159	160	174	173	175	166	172	173	169
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	4,630	70	3	1,731	878	918	884	835	1,152	1,152	733	306	185	227	563	559	197	203	197	189	211	185	106	24	5	12	44	43
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	4,840	70	4	787	918	961	921	870	1,197	1,180	746	313	228	294	632	574	179	188	183	169	222	219	198	123	95	107	281	278
	395, 396	I275SB1	4,840	70	4	818	917	961	921	873	1,185	1,153	714	287	229	310	658	546	172	202	176	155	434	494	260	47	29	53	156	170
	396, 397	I275SB1	4,840	70	3	1,049	917	961	921	875	1,179	1,115	670	262	232	319	692	511	100	103	100	81	170	162	99	12	2	15	37	39
	397, 398	I275SB1	4,840	70	3	1,916	920	961	921	874	1,175	1,039	565	235	235	330	740	464	128	145	128	122	160	130	66	6	4	10	32	29
	398, 399	I275SB1	4,840	70	3	2,120	923	959	918	882	1,156	961	435	234	234	343	781	439	179	193	174	172	220	198	81	39	40	53	125	83
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	4,340	70	3	2,742	829	869	829	803	976	733	295	206	237	345	723	382	571	615	580	551	718	542	228	148	175	261	577	320
	400, 401	I275SB3	4,340	70	4	1,083	827	868	832	799	941	676	300	210	244	345	730	380	163	162	159	148	221	201	148	81	126	171	334	162
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	1,945	70	3	4,105	386	378	305	264	284	243	145	216	188	180	287	200	76	105	148	161	167	57	41	33	52	39	92	44
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	2,495	70	4	720	487	441	319	306	328	279	192	292	257	252	325	269	140	94	35	24	13	4	7	12	21	19	21	19
	403, 404	I275SB6	2,495	70	4	1,327	453	357	305	303	302	265	229	278	266	263	307	283	198	163	112	132	127	117	133	156	117	136	117	132
	404, 405	I275SB7	2,495	70	4	461	438	343	300	306	292	266	237	276	266	264	305	283	48	82	69	78	85	85	80	72	72	74	86	89
	405, 406	I275SB8	2,495	70	4	452	419	333	300	304	294	265	240	279	262	266	299	280	33	99	147	140	119	84	60	79	89	69	118	88
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,585	70	3	855	160	143	115	111	121	103	79	108	95	85	113	99	6	9	4	2	5	4	2	4	3	2	3	3
	407, 408	I275SB10	1,585	70	3	347	160	142	116	111	121	104	79	107	94	85	113	99	1	1	0	0	0	0	0	0	0	0	0	0
	408, 409	I275SB11	1,585	70	3	1,585	159	144	116	111	119	106	78	108	94	84	114	99	7	10	17	16	19	16	12	18	15	13	21	13
	409, 410	I275SB12	1,585	70	3	458	159	144	116	111	119	106	78	107	94	84	114	98	2	2	3	4	4	4	2	3	4	3	3	3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,555	70	4	629	346	334	301	299	362	361	324	341	304	297	318	289	162	173	164	163	226	235	226	211	186	188	180	174
	411, 412	I275SB14	2,555	70	4	247	346	334	301	299	362	361	324	341	304	298	318	289	9	9	8	7	11	12	10	12	9	8	8	7
	412, 413	I275SB15	2,555	70	4	608	347	335	301	299	361	362	324	341	303	298	317	289	16	17	15	15	25	27	25	21	19	20	20	18
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	3,690	70	4	492	559	564	517	505	635	703	619	609	549	549	558	517	285	309	288	279	371	463	402	363	331	339	324	304
	414, 415	I275SB17	3,690	70	4	3,870	558	565	519	502	636	696	623	609	549	547	560	516	358	374	354	340	455	523	452	434	395	398	386	350
	415, 416	I275SB18	3,690	70	4	1,086	559	567	518	502	634	696	625	609	550	547	562	513	68	70	63	62	97	114	85	84	72	71	77	64
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	2,830	70	3	1,385	423	421	381	365	458	502	462	445	403	399	414	370	45	40	36	34	47	52	48	46	46	43	39	40
	417, 418	I275SB20	2,830	70	3	343	423	421	381	365	458	503	461	445	402	400	414	371	11	13	13	10	16	15	12	14	13	13	13	12
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	3,830	70	3	1,507	611	617	566	547	678	739	703	683	612	614	616	577	328	340	317	308	397	428	426	423	361	371	361	349
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	4,930	70	3	1,015	802	813	757	741	922	1,004	961	928	827	832	827	781	298	299	300	293	386	413	405	383	337	346	329	307
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	5,280	70	3	2,282	865	885	824	806	997	1,090	1,059	1,012	899	901	917	854	195	204	194	187	240	273	268	242	214	218	234	208
	420, 421	I275SB23	5,280	70	3	430	864	886	825	806	995	1,089	1,059	1,013	899	899	918	853	21	20	21	21	25	25	25	24	23	20	20	20
	421, 422	I275SB24	5,280	70	3	403	863	885	827	807	994	1,087	1,059	1,013	900	900	918	852	19	22	21	18	26	23	24	25	22	24	22	20
	422, 423	I275SB25	5,280	70	3	426	863	884	827	807	993	1,087	1,060	1,012	900	901	920	852	22	24	22	20	23	21	24	26	22	19	23	20
	423, 424	I275SB26	5,280	70	3	412	863	884	827	807	993	1,087	1,059	1,012	901	900	919	853	21	24	18	20	21	23	24	22	23	20	23	21
	424, 425	I275SB27	5,280	70	3	734	864	884	825	807	990	1,089	1,059	1,011	902	901	918	855	33	38	29	34	40	46	44	40	38	39	42	34
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,290	50	3	841	623	659	621	599	816	865	822	789	679	721	680	652	344	364	340	336	449	468	445	438	376	388	367	358
	500, 501	GandyEB3	3,290	50	4	954	623	657	625	595	814	865	825	787	682	721	679	652	457	482	456	441	619	680	632	603	503	540	497	474
	501, 502	GandyEB4	3,290	50	5	174	622	657	625	595	813	865	826	786	682	721	680	652	57	65	52	49	88	105	99	86	66	77	70	59
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,320	50	3	178	258	274	255	244	343	365	347	324	282	298	285	275	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,320	50	3	99	258	279	256	247	336	362	347	325	291	292	287	274	9	10	9	10	12	12	14	12	12	10	11	11
	505, 506	GandyEB10	1,320	50	3	119	258	278	257	246	336	362	346	325	292	292	287	273	12	11	11	9	13	15	14	14	14	12	14	11
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,555	50	3	1,167	483	519	484	470	578	625	610	585	544	556	551	534	306	329	311	305	347	375	373	369	350	365	356	366
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,020	55	3	181	580	607	592	559	727	758	733	718	645	664	637	623	28	26	27	25	28	33	33	29	31	30	28	32
	520, 521	GandyWB5	3,020	55	3	291	581	603	592	563	725	758	733	716	645	666	639	622	21	25	20	22	30	29	28	24	24	26	23	24

2020 Starter AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
~~Loop On Ramp~~	521, 522	GandyWB6	3,020	55	4	590	581	601	587	564	723	760	739	712	647	666	639	625	421	437	413	408	512	537	534	526	467	469	463	442
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,020	55	3	1,768	395	407	400	379	487	521	506	480	437	454	432	427	43	46	42	42	56	58	61	54	49	50	48	43
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2,880	55	3	1,179	535	549	543	518	656	708	672	646	588	605	579	568	199	200	196	195	248	275	240	241	208	216	211	205
	524, 525	GandyWB9	2,880	55	3	455	533	549	545	519	655	707	670	644	590	605	581	567	15	16	17	15	24	22	19	19	21	18	16	18
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,000	50	1	525	384	402	379	367	420	435	436	436	425	431	438	439	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	2,000	50	1	1,220	383	401	381	368	418	435	437	436	425	432	438	440	23	24	27	24	35	35	33	35	34	32	34	38
	601, 7001	GdyNBoff3	2,000	50	2	135	384	401	381	368	418	435	437	435	425	432	438	440	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,235	50	1	84	227	243	230	218	247	260	262	262	252	263	263	260	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	1,235	50	1	107	227	243	230	219	246	260	262	262	252	263	263	260	0	0	0	0	0	0	0	0	0	0	0	0
	606, 506	GdyNBoff10	1,235	50	1	158	227	243	230	218	246	261	262	261	253	263	263	260	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,970	50	2	179	363	384	369	351	468	500	479	463	400	423	395	376	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	870	50	2	501	171	189	176	160	218	233	225	219	191	198	189	175	9	12	10	8	14	17	14	13	10	12	10	10
	623, 624	GdyNBon6	870	50	2	299	172	189	176	160	218	233	225	219	192	198	189	175	3	3	3	2	4	4	5	4	4	5	3	3
	624, 625	GdyNBon7	870	50	2	253	172	188	176	160	218	233	225	219	192	198	189	174	3	3	2	2	3	3	2	4	3	3	3	2
	625, 626	GdyNBon8	870	50	2	238	172	188	176	161	217	232	225	218	192	197	190	174	2	2	2	2	3	3	3	3	3	3	3	2
	626, 627	GdyNBon9	870	50	2	242	173	188	176	161	217	232	226	218	192	197	191	174	2	1	2	2	4	3	3	3	2	3	2	2
	627, 628	GdyNBon10	870	50	2	277	172	188	176	161	217	233	225	218	192	197	190	174	2	3	2	2	3	4	3	2	3	2	2	2
	628, 629	GdyNBon11	870	50	2	337	172	187	177	160	217	232	225	218	192	198	190	174	3	3	3	3	5	3	5	4	2	4	4	3
	629, 630	GdyNBon12	870	50	2	877	172	187	177	161	216	232	226	217	194	197	189	175	7	10	7	8	10	12	12	12	9	9	9	8
	630, 307	GdyNBon13	870	50	2	344	171	187	178	160	216	231	226	217	194	197	189	175	3	3	3	2	4	5	5	4	4	3	4	2
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	860	50	2	481	137	145	137	139	174	191	165	163	147	149	149	141	4	4	5	3	7	7	7	7	5	5	5	4
	660, 661	GdySBoff2	860	50	2	394	138	144	138	139	175	191	165	163	148	149	149	142	2	2	2	3	3	5	2	3	3	3	2	3
	661, 662	GdySBoff3	860	50	2	1,949	139	142	139	139	173	191	166	163	148	148	148	143	75	74	74	73	93	102	91	91	78	82	78	77
	662, 523	GdySBoff4	860	50	1	424	139	141	139	140	173	190	166	164	148	149	148	144	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,100	50	1	286	192	194	194	191	248	265	255	242	216	222	210	199	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1,100	50	1	204	192	194	195	191	248	265	254	243	216	221	210	199	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1,100	50	1	319	192	194	194	192	248	264	255	243	216	220	210	200	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,000	35	1	302	190	195	184	182	227	239	239	237	208	209	207	201	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1,000	35	1	259	189	195	183	181	226	240	240	237	208	209	206	203	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1,000	35	1	227	189	196	183	180	226	240	240	237	208	209	206	203	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1,000	35	1	211	189	197	183	180	225	239	241	238	208	208	206	204	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1,000	35	1	211	189	198	184	180	224	239	241	238	209	209	205	204	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1,000	35	1	207	190	198	184	180	224	238	240	238	209	210	205	203	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1,000	35	1	252	189	199	185	180	224	238	239	238	209	211	205	203	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1,610	60	4	1,418	302	323	308	290	402	424	400	382	337	350	338	315	229	252	232	219	314	324	310	294	259	267	255	234
	541, 542	RvEB3	1,610	60	3	1,028	301	322	308	292	399	423	400	385	336	350	338	317	17	16	14	18	25	27	24	25	19	20	18	14
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,010	60	2	513	189	204	197	181	245	264	253	241	211	217	214	198	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,155	60	2	120	293	301	303	290	331	344	340	332	308	315	308	303	2	2	2	3	2	3	3	3	2	3	2	2
	546, 547	RvEB10	1,155	60	2	165	293	301	303	291	330	345	340	332	309	314	308	303	3	3	3	3	4	4	5	5	4	4	3	2
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,185	60	2	1,053	487	498	502	482	556	580	583	560	545	539	537	519	247	257	258	245	295	312	319	300	308	295	298	279
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,425	60	2	756	460	486	458	441	601	640	605	577	506	528	505	479	14	18	14	14	21	18	19	16	18	18	14	17
	558, 559	RvWB3	2,425	60	2	146	460	486	458	442	601	640	605	577	506	528	505	480	9	11	8	8	15	15	16	14	12	13	11	11
	559, 560	RvWB4	2,425	60	3	151	460	486	459	441	601	640	605	576	507	527	505	480	10	12	11	9	18	17	17	15	13	13	11	11
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,360	60	2	125	449	471	447	429	581	622	588	561	492	511	492	465	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,000	60	2	133	382	402	377	358	490	526	491	477	416	433	413	400	6	7	8	6	10	10	10	9	6	8	5	6
	567, 568	RvWB14	2,000	60	2	750	383	402	377	358	489	526	491	476	416	432	414	401	27	25	24	23	32	31	33	31	25	29	29	27
	568, 569	RvWB15	2,000	60	2	281	383	402	377	359	489	525	492	476	417	432	414	403	10	11	8	8	10	13	13	13	9	10	8	9
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,830	60	4	1,137	760	798	755	720	896	966	934	906	853	861	833	828	106	109	103	96	129	131	132	126	117	117	121	114
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,030	50	2	228	781	809	790	753	869	913	915	901	894	890	891	868	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,030	50	2	168	783	809	789	755	869	912	916	902	894	889	889	869	136	134	138	135	148	152	159	148	154	145	149	144
	701, 702	RvNBoff5	4,030	50	2	198	783	808	789	754	869	913	916	901	894	890	889	870	227	231	232	219	265	275	282	266	271	264	269	252
	702, 703	RvNBoff6	4,030	50	3	130	783	808	789	755	868	914	915	902	894	891	888	871	73	79	72	74	75	78	70	74	77	74	77	73
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,030	50	1	336	194	199	199	190	228	235	243	230	235	225	230	215	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	1,030	50	1	200	195	199	199	190	228	236	243	230	235	225	230	214	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	1,030	50	1	223	194	198	200	190	228	235	243	230	235	225	230	214	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	1,030	50	1	262	193	199	200	191	227	235	243	230	235	225	230	214	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	1,030	50	1	264	193	199	200	190	227	235	243	230	235	224	230	215	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,830	50	2	248	379	398	375	361	415	440	442	430	431	430	421	426	7	7	9	6	7	9	8	9	8	7	6	7
	715, 716	RvNBoff21	1,830	50	2	642	378	397	376	361	414	439	442	430	432	430	421	427	20	18	18	17	19	19	19	19	20	21	21	20
	716, 569	RvNBoff22	1,830	50	2	670	378	397	376	362	412	440	441	430	432	431	421	426	20	21	21	18	24	21	22	22	24	20	24	20
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	65	50	1	296	11	15	12	12	19	18	18	15	15	16	13	15	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	65	50	1	127	11	15	12	12	19	18	18	15	15	16	13	15	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,245	50	2	97	233	246	233	220	303	277	299	295	250	265	247	240	9	10	11	9	13	10	17	15	11	13	11	11
	757, 317	RvNBon10	1,245	50	2	123	233	246	233	220	303	277	299	295	250	265	247	240	20	18	18	18	28	23	23	25	22	20	21	18
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	910	50	2	223	248	191	183	193	172	163	161	172	167	180	186	181	3	0	0	2	1	0	0	3	3	8	2	2
	770, 7032	RvSBoff2	910	50	2	150	240	191	184	193	171	163	162	172	168	179	186	181	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	970	50	3	102	187	190	184	188	244	256	245	233	210	213	205	190	60	58	58	57	76	77	74	73	66	64	59	57
	793, 410	RvSBon5	970	50	3	655	187	190	185	188	244	255	245	233	211	213	204	191	18	21	17	19	37	37	32	29	23	22	25	20
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	600	50	2	270	112	119	111	111	153	159	147	144	126	133	124	118	1	1	2	2	2	3	3	3	1	2	2	1
	790, 7011	RvSBon11	600	50	2	250	112	119	111	112	153	159	147	144	126	133	124	118	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,000	50	2	311	589	608	590	566	638	680	671	672	660	665	659	657	56	60	57	52	59	65	68	60	63	62	60	64
	708, 710	118NBoff2	3,000	50	2	567	589	606	591	567	637	679	671	671	662	663	660	658	69	74	69	68	79	80	83	84	83	85	81	81
	710, 711	118NBoff3	3,000	50	2	460	589	606	590	568	637	678	672	671	662	664	661	657	118	122	119	109	137	148	146	142	142	138	139	138
	711, 712	118NBoff4	3,000	50	3	472	589	607	591	567	637	678	672	670	662	664	660	658	50	56	51	53	57	65	69	63	66	66	60	64
	712, 713	118NBoff5	3,000	50	3	395	588	608	590	567	635	678	674	669	663	665	659	659	28	28	24	25	26	31	28	27	26	30	30	29
	713, 714	118NBoff6	3,000	50	3	188	588	607	590	568	635	677	674	669	663	664	659	659	10	8	8	9	11	10	12	10	10	12	10	13
	714, 717	118NBoff7	1,170	50	2	212	210	210	214	206	219	239	231	240	231	234	237	233	7	6	8	7	7	9	8	8	8	7	8	8
	717, 718	118NBoff8	1,170	50	2	389	209	211	214	206	218	240	230	241	232	234	237	234	9	8	8	12	7	10	10	11	9	11	11	11

2020 Starter AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	718, 719	118NBoff9	1,170	50	2	373	210	211	214	207	217	240	231	240	231	235	238	234	7	5	7	4	6	7	5	7	6	7	8	7
	719, 720	118NBoff10	1,170	50	2	589	210	211	214	207	217	239	231	240	230	234	237	234	8	9	8	9	10	10	11	9	9	8	10	8
	720, 721	118NBoff11	1,170	50	2	311	209	211	215	206	218	239	231	241	230	233	238	235	4	4	4	5	5	5	5	5	5	4	5	6
	721, 722	118NBoff12	1,170	50	2	327	209	211	215	206	218	239	231	241	230	234	238	235	4	5	5	5	4	6	5	5	4	5	4	4
	722, 723	118NBoff13	1,170	50	2	626	210	209	217	206	218	238	232	241	229	233	239	234	9	7	8	8	9	10	8	10	10	9	10	11
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2,800	60	4	1,252	472	472	468	453	505	548	530	507	482	500	555	494	101	106	106	93	115	117	128	114	101	110	116	104
	724, 725	118NBoff15	2,800	60	4	575	472	472	468	454	502	548	532	504	484	498	558	493	17	17	18	18	18	21	17	17	17	19	23	17
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,180	60	2	611	414	434	416	391	544	573	546	518	454	474	453	430	163	166	154	157	196	200	191	186	173	176	170	164
	740, 741	118NBon3	2,180	60	2	1,571	414	435	417	390	540	572	547	520	455	474	451	433	48	54	47	41	76	88	83	73	58	55	53	53
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,045	50	1	268	201	206	200	186	264	225	258	252	211	223	213	204	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	1,045	50	1	541	201	207	201	185	263	226	259	251	210	224	212	205	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	1,045	50	1	715	201	206	200	187	261	226	258	251	212	224	212	205	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	1,045	50	1	245	202	207	199	188	261	226	258	251	212	224	212	204	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	1,045	50	1	252	202	207	199	188	261	226	257	251	212	224	211	205	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	1,045	50	1	352	202	206	200	188	260	228	256	251	212	225	211	205	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	1,045	50	1	264	201	206	200	188	259	228	256	251	213	224	212	204	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	1,045	50	1	415	202	207	200	188	259	227	256	251	214	225	211	204	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	1,045	50	1	733	201	206	201	187	260	228	256	250	213	224	211	204	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	620	50	1	147	70	63	54	63	52	52	44	51	44	52	61	56	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	620	50	1	934	71	64	53	63	52	51	45	50	46	52	60	57	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	620	50	1	371	71	64	53	63	52	50	45	50	46	52	61	56	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	620	50	1	446	72	64	53	63	52	50	45	49	47	52	61	57	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	620	50	1	340	72	64	53	63	53	50	45	50	47	52	60	57	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,630	50	2	990	261	263	251	246	289	311	298	267	251	269	313	260	56	59	55	55	66	76	72	63	60	67	76	60
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,135	50	1	197	214	229	217	205	276	346	290	268	244	251	238	230	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,135	50	1	119	214	229	217	205	276	346	290	268	244	250	239	230	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,135	50	1	126	214	229	216	205	276	346	290	267	245	251	239	230	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,135	50	1	162	213	229	216	206	276	346	291	268	244	251	239	230	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,135	50	1	200	213	229	216	206	276	345	291	268	244	252	239	229	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,135	50	1	166	213	229	216	206	276	344	291	268	244	252	239	229	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,135	50	1	973	212	229	216	206	274	342	293	269	244	252	240	228	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,090	60	3	2,420	397	415	391	355	436	473	489	495	416	450	436	441	256	266	257	231	293	259	260	245	209	208	249	223
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,305	50	2	647	243	260	256	250	345	398	431	414	341	362	357	375	9	12	11	12	21	25	31	31	23	22	23	21
	811, 812	UlmNBon4	1,305	50	2	590	243	260	257	251	344	397	430	415	342	361	356	376	8	10	10	9	13	14	19	15	13	12	14	13
	812, 813	UlmNBon5	1,305	50	2	323	242	260	256	252	343	396	431	414	342	361	357	376	4	5	5	4	8	7	9	11	8	9	6	8
	813, 814	UlmNBon6	1,305	50	2	328	242	260	256	251	344	395	432	414	342	362	356	375	5	4	6	4	8	8	8	8	9	7	9	9
	814, 815	UlmNBon7	1,305	50	2	288	243	260	256	251	343	394	432	414	341	362	356	377	4	4	6	4	6	7	9	9	7	8	6	9
	815, 816	UlmNBon8	1,305	50	2	273	243	260	257	250	343	393	433	414	341	362	354	378	4	5	4	4	6	7	7	7	8	7	7	8
	816, 322	UlmNBon9	1,305	50	2	888	244	259	257	250	343	391	433	416	341	362	354	378	13	13	14	13	20	22	29	30	20	23	24	25
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,395	50	2	318	439	472	454	430	499	359	166	92	131	179	399	205	36	41	36	38	51	46	26	16	24	26	50	24
	830, 831	UlmSBoff2	2,395	50	2	346	439	471	454	429	499	361	165	92	131	178	399	206	14	18	17	17	13	9	4	3	4	7	9	7
	831, 7036	UlmSBoff3	2,395	50	2	283	440	470	456	430	498	363	165	92	131	177	399	206	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,945	50	2	398	359	386	381	353	406	305	135	79	109	141	326	171	12	12	13	10	12	9	4	3	3	3	10	6
	834, 835	UlmSBoff8	1,945	60	2	584	359	385	382	355	402	309	135	79	109	140	325	172	37	37	40	34	39	29	12	8	11	14	27	14
	835, 836	UlmSBoff9	1,945	60	2	481	359	384	382	354	403	311	135	80	109	139	326	172	6	6	5	4	5	5	2	2	1	2	4	2
	836, 837	UlmSBoff10	1,945	60	2	2,160	360	383	383	356	402	316	136	81	106	136	322	175	36	40	41	39	39	35	14	8	9	14	31	18
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	785	35	1	493	154	151	132	97	88	70	58	82	73	90	78	67	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	785	35	1	214	154	149	131	93	88	70	57	83	73	91	78	67	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	550	35	1	163	109	105	89	63	61	50	42	66	53	67	58	48	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	550	35	1	163	108	104	87	60	61	50	42	66	53	68	57	49	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	550	35	1	228	108	103	86	56	60	50	42	65	53	68	57	49	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	550	50	1	1,170	109	90	66	48	55	47	46	62	53	69	56	51	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	235	35	1	201	45	43	41	27	26	19	15	17	19	24	20	18	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	235	50	1	361	45	43	41	27	26	19	15	17	19	24	20	18	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	235	50	1	499	45	44	41	27	26	19	15	17	19	24	20	18	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	685	50	2	1,171	124	126	120	104	115	87	45	34	38	55	93	53	14	17	14	13	19	14	7	4	5	9	16	8
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	300	50	1	1,080	56	60	58	54	75	79	75	72	61	66	63	59	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	300	50	1	350	56	61	58	54	75	79	75	72	61	66	63	59	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	300	50	1	360	56	60	58	54	75	79	75	71	62	66	63	59	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	300	50	1	548	56	59	58	54	74	80	75	72	62	65	63	59	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	450	50	1	294	79	83	79	76	89	66	29	17	19	31	73	36	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	450	50	1	336	78	83	79	77	89	66	28	17	19	31	73	36	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	450	50	1	395	78	83	79	77	89	67	29	17	19	30	73	36	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	450	50	1	539	78	83	78	77	88	67	29	16	19	31	73	36	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	900	60	2	1,270	171	180	168	163	225	236	224	216	186	198	186	179	4	6	4	4	6	7	7	8	5	6	5	6
	901, 902	4thNBon3	900	60	2	634	172	181	168	163	224	237	224	215	186	198	186	178	74	75	71	72	97	100	93	87	80	84	80	78
	902, 903	4thNBon4	900	60	2	322	171	180	169	163	224	236	225	215	187	198	187	178	7	9	9	8	12	15	12	13	9	9	8	8
	903, 904	4thNBon5	900	60	2	279	172	181	169	163	224	236	225	215	186	198	187	178	4	4	4	3	6	6	7	5	3	5	4	4
	904, 905	4thNBon6	900	60	2	388	171	180	170	163	223	235	226	215	186	198	186	178	0	0	1	0	0	1	1	1	0	1	1	0
	905, 906	4thNBon7	900	60	1	313	172	179	171	162	223	235	226	215	187	198	186	178	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	900	60	1	305	172	179	171	163	222	235	226	215	187	198	186	178	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	900	60	1	666	172	178	172	163	221	235	227	214	188	198	186	178	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	500	60	1	466	94	91	89	83	116	91	41	19	19	31	71	44	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	500	60	1	492	94	91	89	84	115	92	41	19	19	30	71	45	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	500	60	1	420	95	91	89	84	115	92	41	19	19	31	71	45	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	500	60	1	393	95	91	89	84	115	92	42	19	19	31	70	45	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	500	60	1	384	95	91	89	84	115	92	42	19	19	31	70	45	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	500	60	1	354	95	91	89	84	115	92	42	19	18	31	70	45	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	500	60	1	501	95	90	90	84	115	92	43	19	19	31	70	46	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	500	60	1	416	95	90	90	83	114	93	43	19	18	30	70	46	1	1	1	0	1	1	0	0	0	0	1	1
	927, 928	4thSBoff9	500	60	2	1,153	94	90	91	84	113	92	46	19	19	30	69	46	17	15	14	13	23	17	9	4	4	8	14	10
	928, 929	4thSBoff10	500	60	2	1,242	94	91	90	83	114	92	47	19	19	30	68	46	3	5	6	3	8	7	4	1	1	2	5	4

2020 Starter AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	850	70	1	1,116	159	171	161	154	211	224	212	201	177	187	176	167	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	850	70	1	2,205	159	172	161	154	210	223	214	201	176	189	175	168	0	0	0	0	0	0	0	0	0	0	0	0
	5001, 5002	SULNB3	850	70	1	528	159	172	161	154	210	223	214	202	176	188	175	168	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	850	70	1	346	159	172	161	154	210	222	214	202	176	188	175	168	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	850	70	1	235	159	171	161	154	210	223	214	202	177	188	176	168	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	850	70	1	270	159	171	161	154	210	223	214	202	177	188	176	168	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	850	70	1	238	160	171	161	154	210	223	214	201	177	188	175	168	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	850	70	1	261	159	170	162	154	209	222	214	201	177	188	176	168	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	850	70	1	451	160	170	161	153	210	221	216	201	177	188	175	168	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	850	70	1	242	161	170	161	153	209	221	216	201	177	188	176	168	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	850	70	1	158	161	170	162	153	209	222	216	201	177	188	176	168	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	850	70	1	539	161	169	161	154	208	222	216	201	178	187	176	169	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	850	70	1	564	160	170	162	154	207	222	215	202	177	188	177	168	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	850	70	1	824	160	170	161	155	206	223	214	202	178	187	178	168	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,180	70	1	2,172	225	244	229	220	275	297	288	277	257	263	246	243	66	74	66	64	74	73	75	74	78	76	68	75
	5014, 5015	SULNB16	1,180	70	1	1,149	226	243	230	219	275	297	289	278	257	261	247	242	0	0	0	0	0	0	0	0	0	0	0	0
	5015, 5016	SULNB17	1,180	70	1	2,057	227	242	230	218	274	297	289	278	258	261	247	243	0	0	0	0	0	0	0	0	0	0	0	0
	5016, 5017	SULNB18	1,180	70	1	1,250	227	241	230	218	275	295	287	279	259	258	249	244	0	0	0	0	0	0	0	0	0	0	0	0
	5017, 5018	SULNB19	1,180	70	1	1,385	226	242	230	219	273	294	290	280	260	258	249	244	0	0	0	0	0	0	0	0	0	0	0	0
	5018, 5019	SULNB20	1,180	70	1	843	227	240	231	218	273	295	289	280	259	259	250	243	0	0	0	0	0	0	0	0	0	0	0	0
	5019, 5020	SULNB21	1,180	70	1	687	227	240	232	218	274	294	289	280	259	260	250	243	0	0	0	0	0	0	0	0	0	0	0	0
	5020, 5021	SULNB22	1,180	70	1	2,036	224	241	232	220	269	296	289	280	259	260	250	242	0	0	0	0	0	0	0	0	0	0	0	0
	5021, 5022	SULNB23	1,180	70	1	171	224	241	232	220	269	296	289	280	259	259	250	242	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,510	70	1	1,752	295	313	306	292	351	393	389	375	349	344	332	326	69	72	75	72	86	96	98	94	90	83	85	82
	5023, 5024	SULNB25	1,510	70	1	1,039	296	310	309	293	351	390	389	376	347	345	332	327	0	0	0	0	0	0	0	0	0	0	0	0
	5024, 5025	SULNB26	1,510	70	1	814	297	310	307	293	351	389	389	377	347	345	332	327	0	0	0	0	0	0	0	0	0	0	0	0
	5025, 5026	SULNB27	1,510	70	1	2,530	293	311	307	293	348	390	390	376	350	343	334	328	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	66	74	66	65	74	73	75	73	78	76	67	78	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	330	70	1	528	66	74	65	66	74	73	76	73	77	76	67	77	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	330	70	1	379	66	74	66	65	74	73	76	73	77	77	67	77	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	330	70	1	376	66	74	66	65	73	73	76	73	77	77	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	330	70	1	363	66	74	66	65	73	73	75	73	77	77	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	330	70	1	352	66	74	66	65	74	74	75	74	77	77	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	330	70	1	831	65	75	66	65	73	74	75	73	77	77	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	330	70	1	1,172	65	75	66	64	73	74	74	74	78	76	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	330	70	1	656	65	74	66	65	73	74	74	74	78	76	67	76	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	330	70	1	803	65	74	67	64	74	74	74	74	78	77	67	75	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	330	70	1	897	66	74	66	64	73	74	74	73	78	76	67	75	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	330	70	1	513	66	74	66	64	73	74	75	74	78	76	67	75	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	330	70	1	267	66	74	66	64	73	73	75	74	78	76	68	75	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	330	70	1	157	69	72	75	72	86	97	98	94	90	84	85	82	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	298	314	298	285	390	412	378	335	320	355	375	310	41	44	37	35	49	53	50	45	45	46	49	39
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,360	70	1	941	257	270	262	249	340	359	330	290	274	308	326	271	0	0	0	0	0	0	0	0	0	0	0	0
	5997, 5998	SULSB1	1,360	70	1	816	257	270	263	249	340	357	332	290	273	308	327	270	0	0	0	0	0	0	0	0	0	0	0	0
	5998, 5999	SULSB1	1,360	70	1	1,054	258	269	263	248	340	356	332	290	272	308	326	272	0	0	0	0	0	0	0	0	0	0	0	0
	5999, 6000	SULSB1	1,360	70	1	1,908	256	269	262	249	337	357	334	291	272	308	328	271	0	0	0	0	0	0	0	0	0	0	0	0
	6000, 6001	SULSB2	1,360	70	1	2,064	258	269	263	249	335	356	334	292	274	305	330	271	0	0	0	0	0	0	0	0	0	0	0	0
	6001, 6002	SULSB3	1,360	70	1	572	257	268	264	249	334	356	334	293	272	306	330	272	0	0	0	0	0	0	0	0	0	0	0	0
	6002, 6003	SULSB4	1,360	70	1	407	256	269	264	248	334	356	335	293	271	307	331	270	0	0	0	0	0	0	0	0	0	0	0	0
	6003, 6004	SULSB5	1,360	70	1	1,528	256	270	263	248	333	355	337	292	272	304	333	271	0	0	0	0	0	0	0	0	0	0	0	0
	6004, 6005	SULSB6	1,360	70	1	1,420	257	269	262	249	331	356	336	293	273	302	335	271	0	0	0	0	0	0	0	0	0	0	0	0
	6005, 6006	SULSB7	1,360	70	1	4,087	255	270	260	252	326	356	339	292	274	296	339	273	0	0	0	0	0	0	0	0	0	0	0	0
	6006, 6007	SULSB8	1,360	70	1	1,611	253	269	262	251	324	356	340	293	274	295	341	272	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,010	70	1	767	186	203	195	183	242	261	250	215	203	222	249	201	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	1,010	70	1	614	187	203	196	183	241	260	251	215	203	221	249	201	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	1,010	70	1	382	187	203	195	183	241	260	252	215	203	221	250	202	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	1,010	70	1	135	187	203	195	183	241	259	252	216	203	221	250	202	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	1,010	70	1	204	187	203	195	184	240	259	252	216	203	221	250	203	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	1,010	70	1	613	188	202	195	185	239	261	251	216	202	221	250	204	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	1,010	70	1	251	188	201	195	185	239	261	251	216	203	221	250	204	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	1,010	70	1	233	188	201	195	185	238	261	251	216	203	221	250	204	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	1,010	70	1	274	189	201	196	185	238	261	252	216	203	221	250	204	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	1,010	70	1	238	189	202	195	185	238	261	252	217	203	221	250	204	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	1,010	70	1	314	188	202	196	185	238	261	251	217	203	220	250	205	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	1,010	70	1	879	188	201	196	185	237	261	251	217	206	216	252	204	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	1,010	70	1	207	188	202	196	185	237	261	251	217	206	216	252	204	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	350	70	1	582	67	67	65	68	82	95	90	78	72	73	91	71	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	350	70	1	621	67	67	66	68	82	94	91	78	72	73	91	71	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	350	70	1	317	67	67	66	68	82	94	91	78	72	73	91	71	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	350	70	1	915	67	67	66	68	81	94	91	78	72	72	91	72	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	350	70	1	1,093	67	66	67	68	81	95	90	79	72	72	91	71	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	350	70	1	1,068	67	65	67	68	80	94	91	78	73	70	92	71	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	350	70	1	788	67	66	67	68	81	93	90	79	73	70	92	71	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	350	70	1	367	66	66	67	68	81	94	91	78	73	71	92	71	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	350	70	1	373	66	66	68	68	80	93	91	78	73	71	92	72	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	350	70	1	445	66	66	68	68	81	93	91	79	73	71	92	72	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	350	70	1	8,866	65	67	68	67	79	92	95	78	73	69	92	73	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 1	SULSBRamp12	350	70	1	292	65	67	68	67	78	92	95	78	72	69	92	72	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	210	70	1	154	41	44	37	35	49	54	48	45	43	49	50	39	0	0	0	0	0	0	0	0	0	0	0	0

2020 Starter AM							Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	7,700	70	3	1,087	29.9	35.8	36.1	64.2	61.1	60.9	5,852	7,700	6,391	5,853	6,660	6,686
	300, 301	I275NB3	7,700	70	3	805										5,852	6,660	6,685
	301, 302	I275NB4	7,700	70	3	478										5,851	6,659	6,685
	302, 303	I275NB5	7,700	70	3	2,687										5,862	6,641	6,685
	303, 304	I275NB6	7,700	70	4	382										5,861	6,638	6,686
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	5,700	70	3	1,375	21.8	25.0	25.3	66.2	65.5	65.3	4,332	5,700	4,731	4,329	4,905	4,954
	305, 306	I275NB8	5,700	70	3	1,306										4,329	4,905	4,950
	306, 307	I275NB9	5,700	70	3	591										4,329	4,904	4,948
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	6,570	70	5	1,065	17.8	20.6	20.3	66.1	65.5	65.6	4,993	6,570	5,453	5,025	5,792	5,703
	308, 309	I275NB11	6,570	70	5	3,035										5,031	5,782	5,698
	309, 2	I275NB12	6,570	70	4	350										5,030	5,782	5,699
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	6,240	70	4	745	19.0	23.0	22.5	62.7	60.1	60.5	4,742	6,240	5,179	4,760	5,483	5,404
	310, 311	I275NB13	6,240	70	4	380										4,760	5,479	5,406
	311, 312	I275NB14	6,240	70	4	399										4,759	5,480	5,404
	312, 313	I275NB15	6,240	70	4	368										4,759	5,479	5,403
	313, 314	I275NB16	6,240	70	4	460										4,758	5,478	5,405
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,210	70	3	879	7.9	9.3	9.2	68.1	67.7	67.7	1,680	2,210	1,834	1,622	1,879	1,863
	315, 316	I275NB18	2,210	70	3	1,293										1,621	1,878	1,863
	316, 317	I275NB19	2,210	70	3	1,158										1,623	1,875	1,864
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,455	70	5	372	10.7	12.9	12.1	66.8	66.3	66.6	2,626	3,455	2,868	2,554	3,048	2,867
	318, 319	I275NB21	3,455	70	5	2,611										2,553	3,044	2,870
	319, 320	I275NB22	3,455	70	3	1,802										2,556	3,037	2,874
	320, 321	I275NB23	3,455	70	3	501										2,557	3,034	2,875
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,755	70	3	1,814	12.7	15.4	14.4	66.7	66.0	66.4	2,854	3,755	3,117	2,783	3,335	3,126
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,060	70	5	814	13.3	17.7	16.2	66.5	64.6	65.3	3,846	5,060	4,200	3,796	4,912	4,560
	323, 324	I275NB26	5,060	70	5	1,850										3,801	4,906	4,560
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	5,960	70	4	838	17.2	27.7	22.2	64.7	54.6	60.4	4,530	5,960	4,947	4,485	5,795	5,314
	325, 326	I275NB28	5,960	70	4	704										4,487	5,777	5,325
	326, 327	I275NB29	5,960	70	3	1,988										4,486	5,766	5,331
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,630	70	3	1,906	21.0	27.5	25.4	66.5	65.1	65.7	4,279	5,630	4,673	4,195	5,378	4,995
	328, 329	I275NB31	5,630	70	3	1,046										4,197	5,374	4,995
	329, 330	I275NB32	5,630	70	3	803										4,194	5,374	4,995
	330, 331	I275NB33	5,630	70	3	2,542										4,191	5,362	5,002
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	4,630	70	3	1,731	17.3	22.2	29.6	68.3	53.0	13.9	3,519	4,630	3,843	3,515	3,343	1,534
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	4,840	70	4	787	17.8	27.6	35.7	65.9	39.0	16.8	3,678	4,840	4,017	3,671	3,436	1,729
	395, 396	I275SB1	4,840	70	4	818										3,672	3,340	1,742
	396, 397	I275SB1	4,840	70	3	1,049										3,674	3,226	1,754
	397, 398	I275SB1	4,840	70	3	1,916										3,676	3,013	1,769
	398, 399	I275SB1	4,840	70	3	2,120										3,682	2,786	1,797
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	4,340	70	3	2,742	15.1	21.1	29.7	65.2	33.1	13.4	3,298	4,340	3,602	3,330	2,210	1,688
	400, 401	I275SB3	4,340	70	4	1,083										3,325	2,127	1,700
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	1,945	70	3	4,105	9.6	23.1	17.3	59.3	18.2	16.6	1,478	1,945	1,614	1,333	887	855
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	2,495	70	4	720	26.9	35.3	36.3	28.2	10.0	9.7	1,896	2,495	2,071	1,552	1,090	1,102
	403, 404	I275SB6	2,495	70	4	1,327										1,418	1,074	1,120
	404, 405	I275SB7	2,495	70	4	461										1,387	1,070	1,117
	405, 406	I275SB8	2,495	70	4	452										1,355	1,077	1,107
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,585	70	3	855	2.6	2.1	2.0	66.9	64.8	64.4	1,205	1,585	1,316	528	411	391
	407, 408	I275SB10	1,585	70	3	347										528	410	391
	408, 409	I275SB11	1,585	70	3	1,585										530	411	390
	409, 410	I275SB12	1,585	70	3	458										531	410	391

2020 Starter AM							Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,555	70	4	629	4.5	5.0	4.4	64.4	63.1	63.3	1,942	2,555	2,121	1,280	1,388	1,208
	411, 412	I275SB14	2,555	70	4	247										1,280	1,388	1,208
	412, 413	I275SB15	2,555	70	4	608										1,280	1,388	1,208
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	3,690	70	4	492	7.9	9.6	8.1	66.7	65.8	66.1	2,804	3,690	3,063	2,145	2,565	2,172
	414, 415	I275SB17	3,690	70	4	3,870										2,144	2,564	2,172
	415, 416	I275SB18	3,690	70	4	1,086										2,146	2,564	2,172
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	2,830	70	3	1,385	7.7	9.2	7.8	68.3	67.9	68.0	2,151	2,830	2,349	1,589	1,868	1,586
	417, 418	I275SB20	2,830	70	3	343										1,590	1,868	1,586
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	3,830	70	3	1,507	10.2	12.4	10.7	62.4	61.5	61.7	2,911	3,830	3,179	2,342	2,803	2,420
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	4,930	70	3	1,015	12.3	15.6	13.1	63.9	62.0	63.1	3,747	4,930	4,092	3,112	3,815	3,266
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	5,280	70	3	2,282	14.9	18.6	15.9	67.1	66.2	66.7	4,013	5,280	4,382	3,380	4,157	3,571
	420, 421	I275SB23	5,280	70	3	430										3,381	4,156	3,570
	421, 422	I275SB24	5,280	70	3	403										3,381	4,154	3,570
	422, 423	I275SB25	5,280	70	3	426										3,381	4,152	3,572
	423, 424	I275SB26	5,280	70	3	412										3,381	4,151	3,573
	424, 425	I275SB27	5,280	70	3	734										3,380	4,149	3,576
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,290	50	3	841	14.3	19.3	15.7	48.6	47.5	48.4	2,500	3,290	2,731	2,501	3,293	2,732
	500, 501	GandyEB3	3,290	50	4	954										2,499	3,291	2,735
	501, 502	GandyEB4	3,290	50	5	174										2,499	3,290	2,735
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,320	50	3	178	7.0	9.6	7.8	49.1	48.0	48.8	1,003	1,320	1,096	1,031	1,379	1,141
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,320	50	3	99	8.6	11.4	9.5	44.2	43.7	43.9	1,003	1,320	1,096	1,040	1,369	1,144
	505, 506	GandyEB10	1,320	50	3	119										1,039	1,369	1,144
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,555	50	3	1,167	13.3	16.5	14.9	46.5	45.8	46.1	1,942	2,555	2,121	1,955	2,398	2,185
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,020	55	3	181	14.4	18.4	15.9	47.0	46.1	46.8	2,295	3,020	2,507	2,338	2,935	2,569
	520, 521	GandyWB5	3,020	55	3	291										2,339	2,932	2,571
	521, 522	GandyWB6	3,020	55	4	590										2,333	2,933	2,577
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,020	55	3	1,768	9.9	12.5	11.0	53.5	53.1	53.3	1,535	2,020	1,677	1,582	1,995	1,750
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	2,880	55	3	1,179	11.0	14.0	12.1	53.2	52.7	52.9	2,189	2,880	2,390	2,145	2,681	2,340
	524, 525	GandyWB9	2,880	55	3	455										2,146	2,677	2,342
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,000	50	1	525	30.7	35.7	36.9	46.8	45.5	44.9	1,520	2,000	1,660	1,532	1,728	1,732
	600, 601	GdyNBoff2	2,000	50	1	1,220										1,533	1,726	1,734
	601, 7001	GdyNBoff3	2,000	50	2	135										1,533	1,725	1,735
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,235	50	1	84	23.5	26.8	26.9	41.6	41.0	41.1	939	1,235	1,025	918	1,031	1,038
	605, 606	GdyNBoff9	1,235	50	1	107										919	1,031	1,038
	606, 506	GdyNBoff10	1,235	50	1	158										918	1,030	1,039
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,970	50	2	179	17.2	28.2	19.8	42.8	34.6	40.5	1,497	1,970	1,635	1,467	1,910	1,594
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	870	50	2	501	7.2	9.2	7.8	48.9	48.8	48.8	661	870	722	696	894	753
	623, 624	GdyNBon6	870	50	2	299										696	894	753
	624, 625	GdyNBon7	870	50	2	253										696	894	753
	625, 626	GdyNBon8	870	50	2	238										696	893	753
	626, 627	GdyNBon9	870	50	2	242										697	893	753
	627, 628	GdyNBon10	870	50	2	277										697	893	753
	628, 629	GdyNBon11	870	50	2	337										696	892	754
	629, 630	GdyNBon12	870	50	2	877										697	891	754
	630, 307	GdyNBon13	870	50	2	344										696	891	754
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	860	50	2	481	6.5	8.1	6.8	49.1	48.8	48.9	654	860	714	558	694	586
	660, 661	GdySBoff2	860	50	2	394										559	693	587

2020 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	661, 662	GdySBoff3	860	50	2	1,949										559	693	588
	662, 523	GdySBoff4	860	50	1	424										558	693	588
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,100	50	1	286	16.9	22.6	18.7	46.9	45.9	46.4	836	1,100	913	771	1,010	847
	621, 622	GdySBon3	1,100	50	1	204										771	1,010	847
	622, 419	GdySBon4	1,100	50	1	319										771	1,010	847
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,000	35	1	302	22.7	28.7	25.0	33.1	32.8	33.0	760	1,000	830	750	942	825
	640, 641	GdySBonLoop2	1,000	35	1	259										749	942	826
	641, 642	GdySBonLoop3	1,000	35	1	227										749	943	826
	642, 643	GdySBonLoop4	1,000	35	1	211										750	943	826
	643, 644	GdySBonLoop5	1,000	35	1	211										751	942	827
	644, 645	GdySBonLoop6	1,000	35	1	207										752	941	827
	645, 418	GdySBonLoop7	1,000	35	1	252										752	939	828
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	1,610	60	4	1,418	6.1	8.0	6.7	58.5	58.3	58.5	1,224	1,610	1,336	1,223	1,608	1,340
	541, 542	RvEB3	1,610	60	3	1,028										1,223	1,607	1,340
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,010	60	2	513	6.6	8.6	7.2	58.8	58.6	58.7	768	1,010	838	770	1,003	840
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,155	60	2	120	10.9	12.5	11.4	57.9	57.6	57.5	878	1,155	959	1,187	1,347	1,234
	546, 547	RvEB10	1,155	60	2	165										1,187	1,347	1,234
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,185	60	2	1,053	14.6	17.2	16.1	56.5	55.8	55.9	1,661	2,185	1,814	1,969	2,280	2,140
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,425	60	2	756	14.9	19.7	16.4	58.8	58.4	58.7	1,843	2,425	2,013	1,845	2,424	2,018
	558, 559	RvWB3	2,425	60	2	146										1,845	2,423	2,019
	559, 560	RvWB4	2,425	60	3	151										1,845	2,422	2,020
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,360	60	2	125	15.3	20.3	16.8	58.7	58.1	58.5	1,794	2,360	1,959	1,796	2,353	1,960
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,000	60	2	133	13.4	17.7	14.7	57.7	57.0	57.5	1,520	2,000	1,660	1,519	1,984	1,663
	567, 568	RvWB14	2,000	60	2	750										1,521	1,982	1,664
	568, 569	RvWB15	2,000	60	2	281										1,520	1,982	1,665
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	3,830	60	4	1,137	13.2	16.2	14.8	57.3	57.0	57.2	2,911	3,830	3,179	3,033	3,703	3,375
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,030	50	2	228	32.9	39.3	38.5	47.7	45.8	46.0	3,063	4,030	3,345	3,135	3,599	3,543
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,030	50	2	168	28.7	33.6	33.0	45.5	44.7	44.8	3,063	4,030	3,345	3,135	3,599	3,542
	701, 702	RvNBoff5	4,030	50	2	198										3,134	3,599	3,543
	702, 703	RvNBoff6	4,030	50	3	130										3,134	3,598	3,543
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,030	50	1	336	16.2	19.5	18.9	48.3	47.9	47.9	783	1,030	855	782	936	903
	704, 705	RvNBoff8	1,030	50	1	200										783	936	903
	705, 706	RvNBoff9	1,030	50	1	223										782	936	904
	706, 707	RvNBoff10	1,030	50	1	262										782	935	904
	707, 547	RvNBoff11	1,030	50	1	264										782	935	904
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,830	50	2	248	15.5	17.7	17.5	48.9	48.8	48.9	1,391	1,830	1,519	1,512	1,727	1,708
	715, 716	RvNBoff21	1,830	50	2	642										1,513	1,725	1,710
	716, 569	RvNBoff22	1,830	50	2	670										1,514	1,724	1,710
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	65	50	1	296	0.9	1.3	1.1	52.9	52.6	52.6	49	65	54	50	70	59
	758, 7016	RvNBon4	65	50	1	127										50	70	59
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,245	50	2	97	10.9	13.8	11.7	46.6	46.2	46.4	946	1,245	1,033	932	1,175	1,002
	757, 317	RvNBon10	1,245	50	2	123										932	1,174	1,002
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	910	50	2	223	145.8	154.6	156.1	4.2	2.2	2.4	692	910	755	815	668	714
	770, 7032	RvSBoff2	910	50	2	150										808	668	713
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	970	50	3	102	7.5	9.9	8.2	47.1	46.4	47.1	737	970	805	749	978	818
	793, 410	RvSBon5	970	50	3	655										749	978	819
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	600	50	2	270	4.6	6.1	5.0	49.5	49.4	49.6	456	600	498	453	603	500
	790, 7011	RvSBon11	600	50	2	250										453	603	500
	703, 708	118NBoff1	3,000	50	2	311										2,352	2,661	2,641
	708, 710	118NBoff2	3,000	50	2	567										2,353	2,658	2,643

2020 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	710, 711	118NBoff3	3,000	50	2	460	19.7	22.4	22.3	48.0	47.8	47.8	2,280	3,000	2,490	2,353	2,657	2,643
	711, 712	118NBoff4	3,000	50	3	472										2,353	2,656	2,644
	712, 713	118NBoff5	3,000	50	3	395										2,353	2,655	2,645
	713, 714	118NBoff6	3,000	50	3	188										2,353	2,655	2,645
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,170	50	2	212	8.6	9.5	9.6	48.9	48.8	48.8	889	1,170	971	841	929	936
	717, 718	118NBoff8	1,170	50	2	389										841	928	936
	718, 719	118NBoff9	1,170	50	2	373										842	927	937
	719, 720	118NBoff10	1,170	50	2	589										842	928	936
	720, 721	118NBoff11	1,170	50	2	311										842	928	935
	721, 722	118NBoff12	1,170	50	2	327										841	929	936
	722, 723	118NBoff13	1,170	50	2	626										841	929	935
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	2,800	60	4	1,252	8.1	9.1	8.9	57.3	57.2	57.1	2,128	2,800	2,324	1,865	2,089	2,030
	724, 725	118NBoff15	2,800	60	4	575										1,866	2,085	2,033
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,180	60	2	611	14.5	19.3	16.0	57.5	57.0	57.3	1,657	2,180	1,809	1,655	2,181	1,811
	740, 741	118NBon3	2,180	60	2	1,571										1,656	2,180	1,813
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,045	50	1	268	16.6	21.0	17.9	47.8	47.4	47.7	794	1,045	867	793	999	851
	748, 749	118NBon5	1,045	50	1	541										793	998	851
	749, 750	118NBon6	1,045	50	1	715										794	996	852
	750, 751	118NBon7	1,045	50	1	245										795	995	853
	751, 752	118NBon8	1,045	50	1	252										796	995	852
	752, 753	118NBon9	1,045	50	1	352										796	994	853
	753, 754	118NBon10	1,045	50	1	264										795	994	853
	754, 755	118NBon11	1,045	50	1	415										796	993	854
	755, 7009	118NBon12	1,045	50	1	733										796	994	853
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	620	50	1	147	5.5	4.4	4.7	46.3	42.7	43.9	471	620	515	250	199	214
	775, 776	118SBoff3	620	50	1	934										251	198	215
	776, 777	118SBoff4	620	50	1	371										251	198	215
	777, 778	118SBoff5	620	50	1	446										252	197	216
	778, 6020	118SBoff6	620	50	1	340										252	197	216
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,630	50	2	990	10.0	11.4	10.7	51.1	51.1	50.9	1,239	1,630	1,353	1,022	1,164	1,093
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,135	50	1	197	18.2	25.2	20.4	47.5	46.8	47.3	863	1,135	942	864	1,180	963
	742, 743	118SBon2	1,135	50	1	119										864	1,180	963
	743, 744	118SBon3	1,135	50	1	126										864	1,180	964
	744, 745	118SBon4	1,135	50	1	162										864	1,180	963
	745, 746	118SBon5	1,135	50	1	200										864	1,180	964
	746, 747	118SBon6	1,135	50	1	166										864	1,179	964
	747, 413	118SBon7	1,135	50	1	973										864	1,178	964
EB Ulmerton from West of I-275 to I-275 On	800, 801	UlmNBon2	2,090	60	3	2,420	10.1	24.9	22.8	54.0	27.5	27.1	1,588	2,090	1,735	1,557	1,892	1,743
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,305	50	2	647	10.3	16.4	14.8	49.2	48.3	48.6	992	1,305	1,083	1,009	1,588	1,435
	811, 812	UlmNBon4	1,305	50	2	590										1,010	1,586	1,435
	812, 813	UlmNBon5	1,305	50	2	323										1,010	1,584	1,435
	813, 814	UlmNBon6	1,305	50	2	328										1,009	1,584	1,435
	814, 815	UlmNBon7	1,305	50	2	288										1,010	1,584	1,435
	815, 816	UlmNBon8	1,305	50	2	273										1,009	1,584	1,435
	816, 322	UlmNBon9	1,305	50	2	888										1,009	1,583	1,434
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,395	50	2	318	18.6	12.2	10.7	48.3	42.8	40.0	1,820	2,395	1,988	1,794	1,115	914
	830, 831	UlmSBoff2	2,395	50	2	346										1,794	1,117	913
	831, 7036	UlmSBoff3	2,395	50	2	283										1,795	1,118	912
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,945	50	2	398	13.2	8.4	6.8	56.7	53.5	52.1	1,478	1,945	1,614	1,479	925	747
	834, 835	UlmSBoff8	1,945	60	2	584										1,481	926	746
	835, 836	UlmSBoff9	1,945	60	2	481										1,480	928	745
	836, 837	UlmSBoff10	1,945	60	2	2,160										1,482	935	739
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	785	35	1	493	19.2	47.1	51.4	37.7	7.3	6.4	597	785	652	534	299	308

2020 Starter AM							Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	802, 803	UlmSBon2	785	35	1	214	15.2	47.1	51.4	37.7	7.3	6.4	597	785	692	527	297	308
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	550	35	1	163	16.8	38.2	41.7	28.3	5.8	5.9	418	550	457	366	219	226
	808, 809	UlmSBon4	550	35	1	163										360	218	227
	809, 810	UlmSBon5	550	35	1	228										352	217	227
	810, 402	UlmSBon6	550	50	1	1,170										312	210	230
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	235	35	1	201	3.6	1.9	2.0	43.7	41.4	42.5	179	235	195	156	78	82
	804, 805	UlmSBMLK2	235	50	1	361										156	78	81
	805, 806	UlmSBMLK3	235	50	1	499										156	78	81
SB MLK	806, 807	UlmSBMLK4	685	50	2	1,171	4.8	2.9	2.4	49.2	48.9	49.1	521	685	569	474	281	238
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	300	50	1	1,080	4.6	6.1	5.0	49.6	49.4	49.6	228	300	249	228	300	248
	851, 852	MLKNBon3	300	50	1	350										228	300	249
	852, 853	MLKNBon4	300	50	1	360										229	300	249
	853, 321	MLKNBon5	300	50	1	548										228	300	249
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	450	50	1	294	6.6	4.2	3.3	48.7	45.0	42.8	342	450	374	317	200	158
	839, 840	MLKSBoff4	450	50	1	336										317	200	158
	840, 841	MLKSBoff5	450	50	1	395										317	200	158
	841, 806	MLKSBoff6	450	50	1	539										317	201	158
NB I-275 On Ramp from 4th	900, 901	4thNBon2	900	60	2	1,270	7.7	10.2	8.5	58.6	58.3	58.5	684	900	747	683	901	748
	901, 902	4thNBon3	900	60	2	634										684	900	748
	902, 903	4thNBon4	900	60	2	322										684	900	749
	903, 904	4thNBon5	900	60	2	279										684	900	749
	904, 905	4thNBon6	900	60	2	388										684	899	748
	905, 906	4thNBon7	900	60	1	313										685	899	749
	906, 907	4thNBon8	900	60	1	305										685	899	749
	907, 324	4thNBon9	900	60	1	666										685	897	750
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	500	60	1	466	4.8	3.7	2.4	58.6	50.9	44.5	380	500	415	358	267	165
	920, 921	4thSBoff2	500	60	1	492										358	267	165
	921, 922	4thSBoff3	500	60	1	420										359	268	165
	922, 923	4thSBoff4	500	60	1	393										359	268	165
	923, 924	4thSBoff5	500	60	1	384										359	268	164
	924, 925	4thSBoff6	500	60	1	354										359	268	164
	925, 926	4thSBoff7	500	60	1	501										359	269	164
	926, 927	4thSBoff8	500	60	1	416										359	269	164
	927, 928	4thSBoff9	500	60	2	1,153										359	270	163
	928, 929	4thSBoff10	500	60	2	1,242										358	271	163
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	850	70	1	1,116	9.6	12.7	10.6	67.5	67.0	67.3	646	850	706	646	849	707
	5000, 5001	SULNB2	850	70	1	2,205										646	848	708
	5001, 5002	SULNB3	850	70	1	528										645	848	707
	5002, 5003	SULNB4	850	70	1	346										645	848	707
	5003, 5004	SULNB5	850	70	1	235										645	848	708
	5004, 5005	SULNB6	850	70	1	270										645	848	708
	5005, 5006	SULNB7	850	70	1	238										645	847	708
	5006, 5007	SULNB8	850	70	1	261										645	847	709
	5007, 5008	SULNB9	850	70	1	451										645	847	709
	5008, 5009	SULNB10	850	70	1	242										645	848	709
	5009, 5010	SULNB11	850	70	1	158										645	848	709
	5010, 5011	SULNB12	850	70	1	539										645	846	710
	5011, 5012	SULNB13	850	70	1	564										645	846	710
	5012, 5013	SULNB14	850	70	1	824										646	845	711
	5013, 5014	SULNB15	1,180	70	1	2,172										917	1,138	1,009
	5014, 5015	SULNB16	1,180	70	1	1,149										918	1,138	1,008
	5015, 5016	SULNB17	1,180	70	1	2,057										917	1,138	1,009

2020 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5016, 5017	SULNB18	1,180	70	1	1,250	13.0	16.3	14.4	64.5	63.9	64.1	897	1,180	979	917	1,137	1,011
	5017, 5018	SULNB19	1,180	70	1	1,385										917	1,137	1,010
	5018, 5019	SULNB20	1,180	70	1	843										916	1,137	1,010
	5019, 5020	SULNB21	1,180	70	1	687										916	1,137	1,011
	5020, 5021	SULNB22	1,180	70	1	2,036										917	1,134	1,010
	5021, 5022	SULNB23	1,180	70	1	171										917	1,134	1,010
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,510	70	1	1,752	18.1	22.8	20.4	63.1	62.3	62.7	1,148	1,510	1,253	1,207	1,507	1,351
	5023, 5024	SULNB25	1,510	70	1	1,039										1,207	1,506	1,351
	5024, 5025	SULNB26	1,510	70	1	814										1,207	1,506	1,351
	5025, 5026	SULNB27	1,510	70	1	2,530										1,204	1,504	1,354
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	4.0	4.3	4.4	68.2	68.1	67.9	251	330	274	271	295	298
	5100, 5101	SULNBRamp2	330	70	1	528										271	295	298
	5101, 5102	SULNBRamp3	330	70	1	379										271	296	297
	5102, 5103	SULNBRamp4	330	70	1	376										271	295	296
	5103, 5104	SULNBRamp5	330	70	1	363										271	295	296
	5104, 5105	SULNBRamp6	330	70	1	352										271	296	296
	5105, 5106	SULNBRamp7	330	70	1	831										271	295	297
	5106, 5107	SULNBRamp8	330	70	1	1,172										270	295	296
	5107, 5108	SULNBRamp9	330	70	1	656										270	295	296
	5108, 5109	SULNBRamp10	330	70	1	803										270	296	296
	5109, 5110	SULNBRamp11	330	70	1	897										270	295	297
	5110, 5111	SULNBRamp12	330	70	1	513										270	295	297
	5111, 5013	SULNBRamp13	330	70	1	267										270	295	297
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	330	70	1	157	4.3	5.6	5.1	67.3	66.7	67.1	251	330	274	288	374	340
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	13.4	17.3	16.6	68.6	66.1	63.7	1,193	1,570	1,303	1,195	1,515	1,358
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,360	70	1	941	16.1	20.6	18.5	64.6	62.3	63.9	1,034	1,360	1,129	1,038	1,319	1,179
	5997, 5998	SULSB1	1,360	70	1	816										1,038	1,319	1,178
	5998, 5999	SULSB1	1,360	70	1	1,054										1,038	1,319	1,179
	5999, 6000	SULSB1	1,360	70	1	1,908										1,037	1,319	1,179
	6000, 6001	SULSB2	1,360	70	1	2,064										1,038	1,316	1,180
	6001, 6002	SULSB3	1,360	70	1	572										1,037	1,317	1,180
	6002, 6003	SULSB4	1,360	70	1	407										1,037	1,317	1,179
	6003, 6004	SULSB5	1,360	70	1	1,528										1,036	1,317	1,180
	6004, 6005	SULSB6	1,360	70	1	1,420										1,037	1,315	1,181
	6005, 6006	SULSB7	1,360	70	1	4,087										1,037	1,313	1,182
	6006, 6007	SULSB8	1,360	70	1	1,611										1,035	1,313	1,181
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,010	70	1	767	11.9	15.0	13.6	64.6	62.7	64.3	768	1,010	838	768	968	876
	6008, 6009	SULSB10	1,010	70	1	614										769	968	875
	6009, 6010	SULSB11	1,010	70	1	382										768	968	876
	6010, 6011	SULSB12	1,010	70	1	135										769	968	876
	6011, 6012	SULSB13	1,010	70	1	204										769	967	876
	6012, 6013	SULSB14	1,010	70	1	613										769	967	877
	6013, 6014	SULSB15	1,010	70	1	251										769	967	877
	6014, 6015	SULSB16	1,010	70	1	233										770	967	877
	6015, 6016	SULSB17	1,010	70	1	274										770	967	877
	6016, 6017	SULSB18	1,010	70	1	238										771	967	878
	6017, 6018	SULSB19	1,010	70	1	314										771	967	878
	6018, 6019	SULSB20	1,010	70	1	879										770	966	878
	6019, 6020	SULSB21	1,010	70	1	207										770	966	877
	6007, 6100	SULSBRamp1	350	70	1	582										267	344	307
	6100, 6101	SULSBRamp2	350	70	1	621										268	344	307

2020 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB SUL Slip Ramp to SB I-275	6101, 6102	SULSBRamp3	350	70	1	317	4.0	5.2	4.6	66.7	64.6	66.5	266	350	291	267	344	306
	6102, 6103	SULSBRamp4	350	70	1	915										267	344	307
	6103, 6104	SULSBRamp5	350	70	1	1,093										268	344	306
	6104, 6105	SULSBRamp6	350	70	1	1,068										268	343	306
	6105, 6106	SULSBRamp7	350	70	1	788										267	344	306
	6106, 6107	SULSBRamp8	350	70	1	367										268	343	307
	6107, 6108	SULSBRamp9	350	70	1	373										267	343	307
	6108, 6109	SULSBRamp10	350	70	1	445										267	343	307
	6109, 6110	SULSBRamp11	350	70	1	8,866										267	343	307
	6110, 1	SULSBRamp12	350	70	1	292										267	343	306
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	210	70	1	154	2.3	3.0	5.4	69.6	64.8	51.5	160	210	174	157	195	181

2020 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5,340	70	3	1,087	24.0	25.2	23.9	22.7	27.0	28.7	27.0	25.6	22.0	23.3	21.9	20.9	23.6	25.0	23.8	22.4	27.1	28.9	27.2	25.6	21.8	23.0	21.7	20.6
	300, 301	I275NB3	5,340	70	3	805	23.4	24.6	23.4	22.3	26.4	28.0	26.4	25.1	21.6	22.8	21.4	20.5												
	301, 302	I275NB4	5,340	70	3	478	23.8	25.0	23.8	22.6	26.8	28.5	26.9	25.5	21.9	23.1	21.7	20.7												
	302, 303	I275NB5	5,340	70	3	2,687	24.3	25.8	24.4	23.0	28.1	30.1	28.3	26.5	22.4	23.5	22.3	21.1												
	303, 304	I275NB6	5,340	70	4	382	18.7	20.0	19.0	17.7	21.7	23.5	22.0	20.7	17.4	18.1	17.2	16.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3,600	70	3	1,375	15.7	16.7	16.1	15.2	17.4	19.1	18.3	16.9	14.7	15.4	14.5	13.9	15.7	16.7	16.0	15.2	17.4	19.0	18.3	16.9	14.7	15.3	14.5	13.9
	305, 306	I275NB8	3,600	70	3	1,306	15.6	16.6	16.0	15.2	17.3	18.9	18.2	16.9	14.7	15.3	14.5	13.9												
	306, 307	I275NB9	3,600	70	3	591	15.7	16.7	16.0	15.3	17.3	19.0	18.3	16.9	14.7	15.3	14.6	13.9												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	4,460	70	5	1,065	12.1	12.8	12.2	11.7	13.3	14.4	13.9	13.0	11.3	11.7	11.2	10.7	13.8	14.6	13.9	13.4	15.2	16.5	16.0	14.9	13.0	13.4	12.8	12.2
	308, 309	I275NB11	4,460	70	5	3,035	14.3	15.2	14.4	13.9	15.8	17.1	16.6	15.5	13.5	13.9	13.3	12.7												
	309, 2	I275NB12	4,460	70	4	350	14.7	15.6	14.9	14.2	16.2	17.5	17.1	16.0	13.8	14.3	13.7	13.0												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	4,140	70	4	745	13.6	14.4	13.8	13.2	15.0	16.2	15.8	14.8	12.8	13.2	12.6	12.0	14.1	14.9	14.3	13.7	15.5	17.0	16.5	15.3	13.2	13.6	13.1	12.4
	310, 311	I275NB13	4,140	70	4	380	13.8	14.6	14.0	13.5	15.2	16.6	16.1	15.0	13.0	13.4	12.9	12.2												
	311, 312	I275NB14	4,140	70	4	399	14.1	14.9	14.3	13.8	15.5	17.0	16.5	15.3	13.2	13.6	13.1	12.4												
	312, 313	I275NB15	4,140	70	4	368	14.2	15.0	14.4	13.9	15.6	17.3	16.7	15.5	13.3	13.7	13.1	12.4												
	313, 314	I275NB16	4,140	70	4	460	15.0	15.9	15.2	14.7	16.5	18.4	17.9	16.4	14.1	14.5	13.9	13.1												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	1,530	70	3	879	6.4	6.8	6.5	6.3	7.2	7.7	7.5	6.9	6.0	6.2	5.9	5.8	6.3	6.7	6.4	6.2	7.1	7.6	7.4	6.8	5.9	6.1	5.9	5.8
	315, 316	I275NB18	1,530	70	3	1,293	6.3	6.7	6.4	6.2	7.0	7.6	7.3	6.8	5.9	6.1	5.9	5.7												
	316, 317	I275NB19	1,530	70	3	1,158	6.3	6.7	6.3	6.3	7.0	7.6	7.3	6.8	5.9	6.0	5.9	5.8												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	2,730	70	5	372	7.9	8.4	7.9	7.8	8.8	9.3	9.2	8.7	7.5	7.7	7.4	7.1	10.0	10.5	10.0	9.9	11.1	11.7	11.6	10.9	9.5	9.7	9.3	9.0
	318, 319	I275NB21	2,730	70	5	2,611	8.8	9.3	8.8	8.7	9.8	10.4	10.2	9.7	8.4	8.5	8.2	7.9												
	319, 320	I275NB22	2,730	70	3	1,802	11.6	12.2	11.7	11.5	12.9	13.7	13.6	12.7	11.2	11.3	10.9	10.5												
	320, 321	I275NB23	2,730	70	3	501	11.6	12.2	11.6	11.5	12.8	13.6	13.5	12.7	11.2	11.3	10.8	10.6												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,080	70	3	1,814	12.2	12.9	12.3	12.2	13.6	14.5	14.3	13.4	11.8	11.9	11.5	11.0	12.2	12.9	12.3	12.2	13.6	14.5	14.3	13.4	11.8	11.9	11.5	11.0
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	4,360	70	5	814	12.0	12.8	12.0	11.7	13.3	14.2	13.8	13.1	11.5	11.6	11.2	10.7	13.4	14.3	13.3	13.1	14.8	15.8	15.4	14.6	12.8	12.9	12.5	12.0
	323, 324	I275NB26	4,360	70	5	1,850	14.1	14.9	13.9	13.7	15.5	16.5	16.2	15.3	13.4	13.5	13.0	12.5												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	4,990	70	4	838	14.5	15.4	14.4	14.1	16.0	17.1	16.6	15.7	13.8	14.0	13.3	12.8	17.0	17.9	16.8	16.4	18.7	20.6	19.7	18.5	16.0	16.1	15.5	14.8
	325, 326	I275NB28	4,990	70	4	704	18.5	19.8	18.3	17.7	20.7	23.4	22.1	20.2	17.2	17.3	16.6	15.7												
	326, 327	I275NB29	4,990	70	3	1,988	17.6	18.4	17.3	17.0	19.1	21.1	20.2	19.0	16.6	16.5	16.0	15.3												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	4,690	70	3	1,906	20.8	21.5	20.6	20.0	22.1	24.3	23.6	22.3	19.5	19.5	19.0	18.2	20.7	21.5	20.6	20.1	22.1	24.3	23.6	22.4	19.6	19.5	19.0	18.2
	328, 329	I275NB31	4,690	70	3	1,046	20.7	21.4	20.7	20.1	22.1	24.3	23.6	22.3	19.6	19.5	19.0	18.2												
	329, 330	I275NB32	4,690	70	3	803	20.7	21.5	20.7	20.1	22.1	24.3	23.7	22.3	19.6	19.5	19.0	18.3												
	330, 331	I275NB33	4,690	70	3	2,542	20.6	21.6	20.6	20.1	22.0	24.3	23.7	22.4	19.8	19.5	19.0	18.3												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,800	70	3	1,731	26.0	29.0	27.1	24.7	40.1	76.8	82.9	45.7	24.3	25.1	23.8	22.4	26.0	29.0	27.1	24.7	40.1	76.8	82.9	45.7	24.3	25.1	23.8	22.4
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,060	70	4	787	32.5	43.2	36.9	24.6	57.8	69.3	69.9	63.6	27.3	25.6	21.4	19.5	31.1	33.6	32.2	28.0	36.2	39.5	40.0	37.7	28.3	28.7	26.3	24.7
	395, 396	I275SB1	6,060	70	4	818	46.2	48.9	45.7	38.2	48.2	47.8	48.9	47.7	38.1	40.4	33.2	30.2												
	396, 397	I275SB1	6,060	70	3	1,049	30.9	32.2	31.6	28.7	33.4	35.6	36.3	34.1	28.7	29.4	27.5	25.9												
	397, 398	I275SB1	6,060	70	3	1,916	27.6	28.6	28.3	26.0	30.0	32.3	32.7	31.0	26.1	26.5	25.3	24.0												
	398, 399	I275SB1	6,060	70	3	2,120	28.1	29.2	28.9	26.8	30.4	33.6	33.9	32.2	26.8	27.0	25.8	24.4												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,030	70	3	2,742	21.3	22.4	22.3	20.6	23.1	25.0	25.2	24.5	20.4	20.8	19.9	18.9	20.3	21.4	21.2	19.6	22.0	23.9	24.1	23.4	19.5	19.8	19.0	18.1
	400, 401	I275SB3	5,030	70	4	1,083	17.9	18.7	18.6	17.3	19.3	21.1	21.1	20.6	17.2	17.4	16.7	15.9												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	3,470	70	3	4,105	15.5	16.4	16.3	15.1	16.8	18.0	18.1	17.9	14.9	15.1	14.6	13.7	15.5	16.4	16.3	15.1	16.8	18.0	18.1	17.9	14.9	15.1	14.6	13.7
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	4,160	70	4	720	14.3	15.1	15.1	14.0	15.6	16.6	16.8	16.3	13.8	13.9	13.5	12.7	14.1	14.9	14.9	13.8	15.4	16.4	16.7	16.3	13.6	13.7	13.3	12.6
	403, 404	I275SB6	4,160	70	4	1,327	13.9	14.7	14.7	13.6	15.2	16.2	16.5	16.0	13.4	13.5	13.2	12.4												
	404, 405	I275SB7	4,160	70	4	461	14.1	14.8	14.8	13.7	15.3	16.4	16.6	16.3	13.6	13.6	13.2	12.5												
	405, 406	I275SB8	4,160	70	4	452	14.5	15.3	15.4	14.2	15.8	16.9	17.3	17.0	14.1	14.0	13.7	12.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,530	70	3	855	10.8	11.3	11.2	10.6	11.7	12.6	12.6	12.6	10.4	10.4	10.2	9.7	10.8	11.2	11.2	10.6	11.6	12.4	12.5	12.4	10.4	10.4	10.1	9.7
	407, 408	I275SB10	2,530	70	3	347	10.8	11.2	11.2	10.5	11.6	12.4	12.4	12.4	10.4	10.4	10.1	9.7												
	408, 409	I275SB11	2,530	70	3	1,585	10.7	11.2	11.1	10.5	11.6	12.4	12.4	12.3	10.4	10.4	10.1	9.7												
	409, 410	I275SB12	2,530	70	3	458	10.7	11.2	11.2	10.6	11.6	12.4	12.5	12.4	10.4	10.4	10.1	9.7												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	4,260	70	4	629	12.4	12.8	12.6	12.0	13.3	14.2	14.2	13.8	11.8	11.8	11.6	10.9	13.5	14.0	13.7	13.1	14.4	15.4	15.5	15.1	12.9	12.8	12.6	11.8
	411, 412	I275SB14	4,260	70	4	247	14.5	15.1	14.8	14.1	15.5	16.6	16.6	16.3	13.9	13.8	13.6	12.7												
	412, 413	I275SB15	4,260	70	4	608	14.2	14.7	14.5	13.8	15.2	16.3	16.3	15.9	13.6	13.5	13.3	12.5												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,680	70	4	492	17.2	17.6	17.1	16.1	18.9	20.7	20.4	19.0	15.9	16.1	15.7	14.5	19.3	20.1	19.7	18.4	20.9	22.9	22.5	21.5	18.3	18.3	18.0	16.7
	414, 415	I275SB17	5,680	70	4	3,870	19.3	20.1	19.6	18.4	20.8	22.8	22.4	21.4	18.3	18.3	18.0	16.8												
	415, 416	I275SB18	5,680	70	4	1,086	20.2	21.4	20.9	19.4	22.1	24.5	24.1	22.9	19.4	19.3	19.1	17.6												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	4,500	70	3	1,385	19.7	20.6	20.2	18.9	21.3	23.3	23.0	22.0	19.1	18.7	18.7	17.2	19.7	20.5	20.2	18.9	21.2	23.2	22.9	21.9	19.0	18.7	18.7	17.1
	417, 418	I275SB20	4,500	70	3	343	19.4	20.2	19.9	18.6	20.8	22.7	22.5	21.5	18.9	18.4	18.4	16.9												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,390	70	3	1,507	20.5	21.2	21.1	19.5	22.1	24.4	23.7	22.8	19.9	19.4	19.3	17.6	20.5	21.2	21.1	19.5	22.1	24.4	23.7	22.8	19.9	19.4	19.3	17.6
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	6,190	70	3	1,015	21.5	22.6	22.1	20.7	23.8	26.2	25.7	24.0	20.8	20.6	20.5	18.6	21.5	22.6	22.1	20.7	23.8	26.2	25.7	24.0	20.8	20.6	20.5	18.6
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,630	70	3	2,282	22.9	24.1	23.8	22.2	24.9	27.7	27.5	25.6	22.4	21.9	21.8	20.0	26.1	27.5	27.1	25.4	28.3	31.3	31.1	29.2	25.6	25.0	24.9	22.9
	420, 421	I275SB23	6,630	70	3	430	29.2	30.8	30.4	28.4	31.6	35.1	34.9	32.6	28.7	28.0	27.9	25.7												
	421, 422	I275SB24	6,630	70	3	403	29.2	30.7	30.3	28.4	31.5	34.9	34.7	32.5	28.7	28.0	27.9	25.6												
	422, 423	I275SB25	6,630	70	3	426	29.1	30.6	30.3	28.4	31.4	34.7	34.6	32.5	28.7	28.0	27.9	25.6												
	423, 424	I275SB26	6,630	70	3	412	29.1	30.6	30.3	28.4	31.4	34.6	34.6	32.5	28.8	28.0	27.8	25.6												
	424, 425	I275SB27	6,630	70	3	734	29.1	30.6	30.3	28.4	31.3	34.4	34.5	32.4	28.8	28.0	27.8	25.7												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,735	50	3	841	16.6	17.8	16.7	15.9	18.9	20.0	18.9	17.9	15.3	16.3	15.5	14.5	13.8	14.7	13.9	13.2	15.6	16.6	15.7	14.9	12.8	13.5	12.9	12.1
	500, 501	GandyEB3	2,735	50	4	954	12.0	12.8	12.0	11.5	13.5	14.4	13.6	12.9	11.1	11.7	11.2	10.5												
	501, 502	GandyEB4	2,735	50	5	174	10.2	10.8	10.2	9.9	11.6	12.4	11.8	11.0	9.6	9.9	9.7	8.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,075	50	3	178	6.9	7.0	6.8	6.3	7.5	8.2	7.6	7.3	6.3	6.3	6.2	5.7	6.9	7.0	6.8	6.3	7.5	8.2	7.6	7.3	6.3	6.3	6.2	5.7
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,075	50	3	99	9.6	9.5	9.3	8.5	10.3	11.2	10.6	10.0	8.8	8.6	8.5	7.8	8.5	8.4	8.2	7.5	9.1	9.8	9.4	8.8	7.7	7.6	7.5	6.9
	505, 506	GandyEB10	1,075	50	3	119	7.5	7.4	7.3	6.6	8.0	8.7	8.3	7.8	6.8	6.7	6.6	6.1												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,145	50	3	1,167	13.2	13.5	13.3	12.1	14.5	15.4	14.8	14.2	12.5	12.4	12.2	11.3	13.2	13.5	13.3	12.1	14.5	15.4	14.8	14.2	12.5	12.4	12.2	11.3
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,150	55	3	181	25.0	26.1	24.7	23.6	27.7	29.5	28.2	26.9	23.0	23.7	22.8	21.4	17.7	18.5	17.5	16.8	19.5	20.8	20.0	18.8	16.4	16.8	16.2	15.2
	520, 521	GandyWB5	3,150	55	3	291	18.0	18.9	17.9	17.1	19.9	21.1	20.3	19.3	16.8	17.1	16.6	15.6												

2020 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,150	55	4	590	15.3	16.0	15.1	14.5	16.9	18.0	17.4	16.1	14.1	14.5	13.9	13.1												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,260	55	3	1,768	12.8	13.6	12.7	12.3	14.3	15.2	14.7	13.8	12.2	12.2	12.0	11.4	12.8	13.6	12.7	12.3	14.3	15.2	14.7	13.8	12.2	12.2	12.0	11.4
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,440	55	3	1,179	15.2	16.3	15.5	14.8	16.8	18.3	17.6	16.9	14.9	14.7	14.3	13.7	16.5	17.7	16.8	16.1	18.2	19.8	19.1	18.3	16.2	16.0	15.5	14.8
	524, 525	GandyWB9	3,440	55	3	455	19.9	21.2	20.2	19.3	21.8	23.7	23.0	22.0	19.5	19.1	18.7	17.9												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,740	50	1	525	31.6	33.5	31.4	29.1	36.7	38.2	35.7	35.0	29.9	30.3	29.2	27.2	31.5	32.9	31.1	28.9	37.3	37.8	35.3	34.0	29.8	29.9	29.0	27.0
	600, 601	GdyNBoff2	1,740	50	1	1,220	32.8	34.1	32.4	30.1	38.7	38.9	36.6	35.0	31.0	31.0	30.2	28.1												
	601, 7001	GdyNBoff3	1,740	50	2	135	19.7	20.4	18.9	17.9	26.9	26.3	23.0	20.4	18.4	17.6	17.4	15.8												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,070	50	1	84	30.8	32.3	31.1	28.4	35.7	36.9	34.8	34.0	28.9	29.1	29.4	26.2	23.8	25.0	24.1	22.1	27.4	28.4	26.9	26.4	22.6	22.7	22.9	20.6
	605, 606	GdyNBoff9	1,070	50	1	107	22.1	23.3	22.4	20.6	25.5	26.4	25.0	24.5	21.0	21.1	21.3	19.1												
	606, 506	GdyNBoff10	1,070	50	1	158	21.2	22.3	21.5	19.8	24.3	25.2	23.9	23.6	20.3	20.4	20.4	18.6												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,660	50	2	179	16.3	17.9	16.5	16.3	19.5	20.9	19.8	18.1	15.5	16.1	15.7	14.5	16.3	17.9	16.5	16.3	19.5	20.9	19.8	18.1	15.5	16.1	15.7	14.5
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	860	50	2	501	8.5	8.8	8.2	8.1	9.6	9.9	9.3	8.9	7.9	8.1	7.8	7.6	8.1	8.3	7.7	7.7	9.1	9.3	8.8	8.4	7.5	7.7	7.3	7.2
	623, 624	GdyNBon6	860	50	2	299	8.0	8.2	7.7	7.6	9.0	9.2	8.7	8.4	7.4	7.6	7.3	7.1												
	624, 625	GdyNBon7	860	50	2	253	8.0	8.2	7.7	7.6	9.0	9.3	8.7	8.4	7.4	7.6	7.3	7.1												
	625, 626	GdyNBon8	860	50	2	238	8.0	8.2	7.7	7.6	9.0	9.3	8.6	8.4	7.4	7.6	7.3	7.1												
	626, 627	GdyNBon9	860	50	2	242	8.0	8.2	7.6	7.6	9.0	9.3	8.7	8.3	7.4	7.6	7.2	7.1												
	627, 628	GdyNBon10	860	50	2	277	8.0	8.2	7.7	7.6	9.0	9.2	8.7	8.3	7.4	7.6	7.2	7.1												
	628, 629	GdyNBon11	860	50	2	337	8.0	8.2	7.7	7.6	8.9	9.2	8.7	8.3	7.4	7.7	7.2	7.1												
	629, 630	GdyNBon12	860	50	2	877	8.0	8.2	7.6	7.6	8.9	9.2	8.7	8.3	7.4	7.7	7.2	7.1												
	630, 307	GdyNBon13	860	50	2	344	8.0	8.2	7.6	7.6	8.9	9.2	8.7	8.3	7.4	7.6	7.2	7.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,180	50	2	481	11.2	12.2	11.9	11.2	12.1	13.2	13.0	12.7	11.1	11.1	10.6	10.2	13.0	14.1	13.9	12.9	14.1	15.4	15.1	14.8	13.0	13.0	12.3	11.7
	660, 661	GdySBoff2	1,180	50	2	394	11.1	12.1	11.8	11.1	12.1	13.1	12.9	12.7	11.1	11.1	10.5	10.1												
	661, 662	GdySBoff3	1,180	50	2	1,949	11.6	12.6	12.4	11.4	12.6	13.7	13.4	13.2	11.6	11.6	10.9	10.5												
	662, 523	GdySBoff4	1,180	50	1	424	23.3	25.3	25.0	23.0	25.4	27.7	27.1	26.6	23.6	23.2	22.0	21.0												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	800	50	1	286	15.0	16.9	16.0	15.7	17.5	18.5	18.4	16.7	14.4	15.8	15.1	14.0	13.9	15.5	14.8	14.5	16.1	17.1	16.9	15.5	13.3	14.6	13.9	12.9
	621, 622	GdySBon3	800	50	1	204	13.3	14.9	14.1	13.9	15.4	16.4	16.2	14.8	12.8	14.0	13.3	12.3												
	622, 419	GdySBon4	800	50	1	319	13.2	14.7	14.1	13.8	15.2	16.2	16.1	14.7	12.7	13.9	13.2	12.2												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	890	35	1	302	23.9	24.5	24.5	22.5	26.1	27.8	26.3	25.4	22.2	23.1	22.0	19.8	23.9	24.5	24.4	22.4	26.1	27.7	26.3	25.4	22.2	23.0	22.0	20.1
	640, 641	GdySBonLoop2	890	35	1	259	23.6	24.3	24.3	22.4	25.9	27.5	26.0	25.1	22.0	22.8	21.9	19.8												
	641, 642	GdySBonLoop3	890	35	1	227	23.7	24.3	24.2	22.4	26.0	27.5	26.1	25.2	22.1	22.9	21.9	20.0												
	642, 643	GdySBonLoop4	890	35	1	211	24.0	24.5	24.4	22.4	26.2	27.8	26.3	25.4	22.2	23.0	22.0	20.2												
	643, 644	GdySBonLoop5	890	35	1	211	24.0	24.5	24.4	22.4	26.2	27.8	26.4	25.5	22.3	23.0	22.1	20.3												
	644, 645	GdySBonLoop6	890	35	1	207	24.2	24.6	24.5	22.4	26.3	27.8	26.5	25.6	22.3	23.1	22.1	20.4												
	645, 418	GdySBonLoop7	890	35	1	252	24.2	24.7	24.5	22.4	26.3	27.9	26.5	25.6	22.4	23.0	22.2	20.4												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	12.7	13.4	12.8	12.1	14.2	15.3	14.4	13.6	11.8	12.3	11.6	11.0	14.4	15.3	14.5	13.7	16.2	17.4	16.4	15.5	13.4	14.0	13.3	12.5
	541, 542	RvEB3	3,215	60	3	1,028	16.9	17.8	16.9	16.1	18.8	20.2	19.1	18.1	15.7	16.3	15.5	14.7												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,855	60	2	513	14.1	15.0	14.1	13.4	16.1	17.2	16.0	15.1	13.2	13.8	12.8	12.5	14.1	15.0	14.1	13.4	16.1	17.2	16.0	15.1	13.2	13.8	12.8	12.5
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,790	60	2	120	16.2	17.3	16.6	15.5	18.8	19.9	18.6	17.8	15.5	15.9	14.8	14.5	14.7	15.7	15.0	14.0	17.1	18.0	16.9	16.1	14.0	14.4	13.5	13.2
	546, 547	RvEB10	1,790	60	2	165	13.6	14.5	13.9	13.0	15.8	16.6	15.6	14.9	13.0	13.4	12.5	12.2												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,075	60	2	1,053	13.5	14.2	13.7	12.8	15.4	16.5	15.4	14.8	13.0	13.2	12.3	12.1	13.5	14.2	13.7	12.8	15.4	16.5	15.4	14.8	13.0	13.2	12.3	12.1
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,060	60	2	756	15.9	16.8	16.0	15.4	18.1	18.9	18.1	17.3	14.7	15.5	14.7	14.0	14.8	15.7	14.9	14.3	16.8	17.6	16.8	16.1	13.7	14.4	13.7	13.0
	558, 559	RvWB3	2,060	60	2	146	13.5	14.3	13.5	13.0	15.4	16.2	15.4	14.7	12.4	13.1	12.4	11.8												
	559, 560	RvWB4	2,060	60	3	151	10.4	11.1	10.4	10.0	11.9	12.5	11.9	11.3	9.6	10.1	9.6	9.1												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1,825	60	2	125	13.8	14.6	13.9	13.2	15.5	16.4	15.6	14.8	12.6	13.3	12.6	12.2	13.8	14.6	13.9	13.2	15.5	16.4	15.6	14.8	12.6	13.3	12.6	12.2
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,515	60	2	133	13.4	14.4	13.6	12.6	15.3	16.1	15.6	14.5	12.2	12.8	12.6	12.0	11.6	12.4	11.7	10.9	13.1	13.8	13.4	12.5	10.6	11.1	10.8	10.4
	567, 568	RvWB14	1,515	60	2	750	11.4	12.1	11.5	10.7	12.9	13.5	13.1	12.2	10.4	10.9	10.6	10.1												
	568, 569	RvWB15	1,515	60	2	281	11.4	12.1	11.5	10.7	12.9	13.5	13.2	12.3	10.4	10.9	10.6	10.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,515	60	4	1,137	10.1	10.8	10.3	9.8	11.2	12.0	11.8	11.1	9.4	9.8	9.4	9.0	10.1	10.8	10.3	9.8	11.2	12.0	11.8	11.1	9.4	9.8	9.4	9.0
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,610	50	2	228	23.7	25.1	24.2	23.2	25.5	28.2	27.9	25.8	22.5	23.1	22.0	20.4	23.7	25.1	24.2	23.2	25.5	28.2	27.9	25.8	22.5	23.1	22.0	20.4
	7008, 701	RvNBoff4	2,610	50	2	168	28.8	30.3	29.3	27.9	30.8	33.9	33.5	31.3	27.4	27.9	26.5	24.9	21.1	22.0	21.3	20.3	22.5	24.6	24.4	22.7	19.9	20.3	19.3	18.2
	701, 702	RvNBoff5	2,610	50	2	198	17.5	18.2	17.6	16.8	18.7	20.4	20.2	18.8	16.5	16.8	16.0	15.0												
	702, 703	RvNBoff6	2,610	50	3	130	16.5	17.2	16.6	15.9	17.6	19.1	19.0	17.7	15.6	15.9	15.1	14.2												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	285	50	1	336	5.5	5.3	5.2	5.1	5.7	6.6	6.0	6.0	5.5	5.3	4.8	4.7	5.4	5.3	5.2	5.0	5.7	6.6	5.9	6.0	5.6	5.2	4.8	4.7
	704, 705	RvNBoff8	285	50	1	200	5.4	5.3	5.2	5.0	5.7	6.5	6.0	6.0	5.5	5.3	4.8	4.7												
	705, 706	RvNBoff9	285	50	1	223	5.4	5.3	5.2	5.0	5.6	6.5	5.9	6.0	5.5	5.2	4.7	4.6												
	706, 707	RvNBoff10	285	50	1	262	5.4	5.3	5.2	5.0	5.7	6.6	5.9	5.9	5.6	5.2	4.7	4.7												
	707, 547	RvNBoff11	285	50	1	264	5.3	5.3	5.2	5.0	5.7	6.6	5.9	5.9	5.6	5.2	4.8	4.7												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,000	50	2	248	10.3	10.9	10.5	10.2	11.2	12.2	12.1	11.5	9.9	9.9	9.4	9.1	10.3	10.9	10.5	10.2	11.2	12.2	12.1	11.4	9.9	9.9	9.4	9.1
	715, 716	RvNBoff21	1,000	50	2	642	10.3	10.9	10.5	10.2	11.2	12.2	12.1	11.4	9.9	9.9	9.4	9.0												
	716, 569	RvNBoff22	1,000	50	2	670	10.3	10.9	10.5	10.2	11.2	12.2	12.1	11.5	9.9	9.9	9.4	9.0												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	235	50	1	296	3.8	3.9	3.6	3.8	4.6	4.6	4.7	4.5	3.8	3.8	3.8	3.1	3.9	4.0	3.7	3.9	4.7	4.7	4.8	4.6	4.0	4.0	3.9	3.2
	758, 7016	RvNBon4	235	50	1	127	4.2	4.3	3.9	4.1	5.0	5.0	5.2	4.9	4.2	4.2	4.2	3.4												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,200	50	2	97	13.8	14.5	13.6	13.5	15.4	15.9	15.8	15.2	13.2	13.6	12.9	12.2	12.4	12.9	12.2	12.1	13.7	14.2	14.2	13.6	11.8	12.2	11.5	10.9
	757, 317	RvNBon10	1,200	50	2	123	11.2	11.7	11.0	11.0	12.4	12.8	12.9	12.4	10.7	11.0	10.4	9.9												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,630	50	2	223	14.7	15.6	16.0	14.4	16.1	17.1	17.8	17.0	14.6	14.3	14.1	13.0	15.1	16.0	16.4	14.8	16.5	17.5	18.2	17.3	14.9	14.6	14.5	13.3
	770, 7032	RvSBoff2	1,630	50	2	150	15.6	16.6	17.0	15.3	17.0	18.1	18.8	17.9	15.5	15.1	15.0	13.8												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,730	50	3	102	14.8	15.3	14.9	13.8	16.1	17.0	16.8	16.0	13.5	13.9	13.6	12.2	16.9	17.5	17.1	16.0	18.4	19.5	19.3	18.4	15.7	16.0	15.7	14.2
	793, 410	RvSBon5	1,730	50	3	655	17.3	17.8	17.5	16.4	18.8	19.9	19.7	18.8	16.0	16.3	16.0	14.5												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,360	50	2	270	12.5	12.9	12.5	11.9	13.5	14.5	14.1	13.3	11.5	11.9	11.7	10.6	12.4	12.9	12.5	11.9	13.5	14.5	14.0	13.3	11.5	11.9	11.7	10.6
	790, 7011	RvSBon11	1,360	50	2	250	12.4	12.9	12.5	11.8	13.5	14.5	14.0	13.3	11.5	11.9	11.7	10.6												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,325	50	2	311	21.7	22.9	22.1	21.2	23.2	25.2	25.3	23.4	20.4	21.1	20.2	18.9	17.5	18.5	17.8	17.2	18.7	20.5	20.4	18.9	16.6	17.0	16.3	15.3
	708, 710	118NBoff2	2,325	50	2	567	22.0	23.2	22.4	21.5	23.5	25.7	25.5	23.7	20.7	21.3	20.4	19.1												
	710, 711	118NBoff3	2,325	50	2	460	16.4	17.3	16.7	16.1	17.5	19.3	19.1	17.7	15.6	15.9	15.3	14.3												
	711, 712	118NBoff4	2,325	50	3	472	14.4	15.2	14.6	14.2	15.3	16.8	16.7	15.6	13.7	13.9	13.4	12.6												
	712, 713	118NBoff5	2,325	50	3	395	14.4	15.1	14.6	14.2	15.3	16.8	16.7	15.5	13.6	13.9	13.4	12.6												
	713, 714	118NBoff6	2,325	50	3	188	14.4	15.1	14.5	14.2	15.3	16.8	16.7	15.6	13.6	14.0	13.4	12.6												
	714, 717	118NBoff7	1,325	50	2	212	11.2	11.7	11.2	11.0	11.6	12.9	12.8	11.8	10.5	10.9	10.6	9.8												

2020 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,325	50	2	389	11.2	11.7	11.1	10.9	11.5	12.7	12.7	11.7	10.5	10.9	10.6	9.8	11.2	11.6	11.1	10.9	11.5	12.8	12.7	11.8	10.4	10.9	10.6	9.8
	718, 719	118NBoff9	1,325	50	2	373	11.2	11.7	11.0	10.9	11.5	12.7	12.7	11.7	10.4	10.9	10.6	9.8												
	719, 720	118NBoff10	1,325	50	2	589	11.2	11.6	11.1	10.9	11.5	12.7	12.7	11.8	10.4	10.9	10.5	9.8												
	720, 721	118NBoff11	1,325	50	2	311	11.2	11.6	11.1	10.9	11.5	12.7	12.7	11.8	10.4	10.9	10.5	9.8												
	721, 722	118NBoff12	1,325	50	2	327	11.1	11.6	11.1	10.9	11.4	12.8	12.7	11.8	10.4	10.9	10.5	9.8												
	722, 723	118NBoff13	1,325	50	2	626	11.1	11.6	11.1	10.9	11.4	12.8	12.7	11.8	10.4	10.8	10.6	9.8												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,495	60	4	1,252	13.7	14.4	14.2	13.5	14.4	15.8	15.8	15.1	13.4	13.1	13.1	12.3	13.5	14.2	14.0	13.3	14.3	15.6	15.6	14.9	13.3	13.0	12.9	12.1
	724, 725	118NBoff15	3,495	60	4	575	13.2	13.8	13.6	13.0	13.9	15.2	15.1	14.5	12.9	12.6	12.6	11.8												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,240	60	2	611	17.5	18.3	17.7	16.4	19.9	20.6	19.8	18.6	16.1	17.0	16.1	15.2	17.7	18.5	17.8	16.6	20.1	21.0	20.1	18.8	16.3	17.2	16.3	15.3
	740, 741	118NBon3	2,240	60	2	1,571	17.8	18.6	17.9	16.7	20.2	21.1	20.2	18.9	16.3	17.3	16.4	15.4												
NB I-275 On Ramp from 118th	741, 748	118NBon4	820	50	1	268	12.9	13.8	13.4	12.9	14.5	15.1	14.7	14.4	12.3	12.7	12.3	11.8	14.9	15.9	15.4	14.9	16.6	17.3	17.0	16.7	14.2	14.6	13.9	13.8
	748, 749	118NBon5	820	50	1	541	14.9	15.9	15.3	14.8	16.7	17.3	16.9	16.6	14.1	14.6	14.0	13.7												
	749, 750	118NBon6	820	50	1	715	15.0	15.9	15.4	14.9	16.7	17.3	17.0	16.7	14.2	14.7	14.0	13.8												
	750, 751	118NBon7	820	50	1	245	15.1	16.1	15.5	15.0	16.8	17.4	17.1	16.8	14.3	14.8	14.1	13.9												
	751, 752	118NBon8	820	50	1	252	15.1	16.1	15.6	15.1	16.9	17.5	17.2	16.9	14.4	14.8	14.1	14.1												
	752, 753	118NBon9	820	50	1	352	15.2	16.1	15.6	15.1	16.9	17.6	17.2	17.0	14.4	14.9	14.0	14.1												
	753, 754	118NBon10	820	50	1	264	15.2	16.1	15.6	15.1	16.8	17.6	17.2	17.0	14.4	14.9	14.1	14.0												
	754, 755	118NBon11	820	50	1	415	15.2	16.2	15.7	15.2	16.8	17.6	17.3	17.0	14.5	14.9	14.1	14.1												
	755, 7009	118NBon12	820	50	1	733	15.3	16.2	15.7	15.3	16.8	17.7	17.3	17.0	14.5	15.0	14.2	14.1												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,490	50	1	147	45.8	48.9	49.4	45.6	50.0	52.8	56.2	52.9	45.4	44.2	44.2	41.3	30.9	33.1	33.4	30.8	33.6	35.9	37.6	35.7	30.8	29.7	29.9	28.1
	775, 776	118SBoff3	1,490	50	1	934	29.9	32.2	32.4	29.9	32.7	34.9	36.9	34.7	29.9	28.9	29.0	27.3												
	776, 777	118SBoff4	1,490	50	1	371	29.6	31.8	32.1	29.6	32.2	34.4	36.0	34.2	29.6	28.4	28.7	27.0												
	777, 778	118SBoff5	1,490	50	1	446	29.8	31.9	32.1	29.7	32.2	34.5	35.8	34.3	29.7	28.4	28.8	27.1												
	778, 6020	118SBoff6	1,490	50	1	340	29.9	31.9	32.3	29.8	32.3	34.6	35.9	34.4	29.8	28.6	28.7	27.2												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,170	50	2	990	20.4	21.6	21.5	20.1	21.9	23.7	23.8	22.9	20.3	19.5	19.5	18.4	20.4	21.6	21.5	20.1	21.9	23.7	23.8	22.9	20.3	19.5	19.5	18.4
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,420	50	1	197	27.7	28.6	27.3	25.3	31.4	33.2	31.2	28.9	24.8	26.6	25.0	23.2	27.6	28.4	27.2	25.3	31.0	33.0	31.0	28.8	24.8	26.5	24.9	23.2
	742, 743	118SBon2	1,420	50	1	119	27.8	28.8	27.4	25.5	31.6	33.5	31.5	29.1	24.9	26.8	25.1	23.3												
	743, 744	118SBon3	1,420	50	1	126	27.7	28.6	27.3	25.3	31.3	33.2	31.4	28.9	24.8	26.6	24.9	23.2												
	744, 745	118SBon4	1,420	50	1	162	27.5	28.4	27.1	25.2	31.0	32.9	31.2	28.6	24.6	26.5	24.7	23.1												
	745, 746	118SBon5	1,420	50	1	200	27.3	28.2	26.9	25.1	30.7	32.6	30.9	28.4	24.5	26.3	24.5	23.0												
	746, 747	118SBon6	1,420	50	1	166	27.3	28.1	26.9	25.1	30.6	32.5	30.7	28.4	24.5	26.3	24.5	23.0												
	747, 413	118SBon7	1,420	50	1	973	27.6	28.4	27.2	25.4	31.0	33.1	31.0	28.9	24.9	26.5	24.9	23.2												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,200	60	3	2,420	11.3	12.0	11.4	10.8	12.8	13.5	12.9	12.1	10.5	10.9	10.5	9.9	11.3	12.0	11.4	10.8	12.8	13.5	12.9	12.1	10.5	10.9	10.5	9.9
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,280	50	2	647	12.0	12.8	11.6	11.3	13.1	14.2	13.0	12.7	11.0	11.4	10.9	10.1	12.1	12.8	11.6	11.4	13.1	14.1	13.1	12.7	11.1	11.4	10.8	10.2
	811, 812	UlmNBon4	1,280	50	2	590	12.0	12.8	11.6	11.4	13.1	14.1	13.0	12.7	11.0	11.4	10.8	10.2												
	812, 813	UlmNBon5	1,280	50	2	323	12.1	12.9	11.6	11.4	13.1	14.1	13.1	12.7	11.1	11.4	10.8	10.2												
	813, 814	UlmNBon6	1,280	50	2	328	12.1	12.9	11.5	11.4	13.2	14.1	13.1	12.7	11.1	11.4	10.8	10.2												
	814, 815	UlmNBon7	1,280	50	2	288	12.1	12.9	11.5	11.4	13.1	14.2	13.1	12.7	11.1	11.4	10.8	10.3												
	815, 816	UlmNBon8	1,280	50	2	273	12.1	12.9	11.6	11.4	13.1	14.2	13.1	12.7	11.1	11.4	10.8	10.2												
	816, 322	UlmNBon9	1,280	50	2	888	12.1	12.9	11.6	11.4	13.1	14.1	13.2	12.8	11.1	11.3	10.9	10.3												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,560	50	2	318	14.0	14.3	14.4	13.5	14.7	16.3	16.5	15.7	13.8	13.7	13.1	12.7	13.9	14.2	14.2	13.4	14.5	16.1	16.3	15.6	13.7	13.6	13.0	12.7
	830, 831	UlmSBoff2	1,560	50	2	346	13.8	14.1	14.2	13.3	14.5	16.0	16.2	15.5	13.6	13.5	13.0	12.6												
	831, 7036	UlmSBoff3	1,560	50	2	283	13.8	14.2	14.2	13.3	14.5	16.0	16.3	15.6	13.8	13.5	13.0	12.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,300	50	2	398	12.1	12.5	12.5	11.7	12.7	14.1	14.3	13.6	12.0	11.7	11.6	11.0	10.0	10.3	10.4	9.6	10.4	11.6	11.8	11.2	10.0	9.6	9.6	9.1
	834, 835	UlmSBoff8	1,300	60	2	584	10.4	10.6	10.7	9.9	10.8	12.0	12.2	11.6	10.3	10.0	9.9	9.4												
	835, 836	UlmSBoff9	1,300	60	2	481	9.6	9.8	9.9	9.2	10.0	11.1	11.3	10.7	9.6	9.2	9.2	8.7												
	836, 837	UlmSBoff10	1,300	60	2	2,160	9.6	9.8	10.0	9.2	10.0	11.1	11.4	10.8	9.6	9.2	9.2	8.7												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	920	35	1	493	15.4	16.3	16.5	15.2	18.3	18.6	19.3	17.1	14.8	15.3	15.1	14.2	17.3	18.2	18.5	17.1	20.5	20.8	21.6	19.1	16.5	17.1	16.8	15.8
	802, 803	UlmSBon2	920	35	1	214	21.5	22.7	23.0	21.3	25.5	25.9	27.0	23.7	20.5	21.3	20.9	19.6												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	690	35	1	163	17.7	18.5	18.8	17.6	20.7	20.9	22.2	19.1	16.8	17.4	17.1	15.8	14.6	15.2	15.4	14.5	16.9	17.1	18.1	15.7	13.8	14.4	14.0	13.0
	808, 809	UlmSBon4	690	35	1	163	17.6	18.4	18.6	17.5	20.5	20.7	21.9	19.0	16.6	17.4	17.0	15.8												
	809, 810	UlmSBon5	690	35	1	228	17.7	18.5	18.7	17.6	20.5	20.7	22.0	19.0	16.7	17.5	17.0	15.8												
	810, 402	UlmSBon6	690	50	1	1,170	13.1	13.7	13.8	13.0	15.1	15.4	16.3	14.1	12.4	12.9	12.5	11.7												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	230	35	1	201	5.1	5.5	5.4	5.0	6.1	6.4	6.2	5.7	5.2	5.3	5.0	5.1	4.1	4.4	4.3	4.0	4.9	5.1	5.0	4.6	4.2	4.3	4.1	4.1
	804, 805	UlmSBMLK2	230	50	1	361	4.2	4.6	4.5	4.2	5.1	5.3	5.2	4.8	4.3	4.4	4.2	4.2												
	805, 806	UlmSBMLK3	230	50	1	499	3.5	3.9	3.8	3.5	4.3	4.4	4.4	4.0	3.7	3.7	3.5	3.6												
SB MLK	806, 807	UlmSBMLK4	490	50	2	1,171	4.0	4.2	4.1	4.0	4.5	4.8	4.8	4.7	4.3	4.1	3.8	3.8	4.0	4.2	4.1	4.0	4.5	4.8	4.8	4.7	4.3	4.1	3.8	3.8
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	350	50	1	1,080	6.4	6.6	6.3	6.2	7.1	7.6	7.3	6.7	5.8	6.2	5.9	5.5	6.3	6.6	6.2	6.2	7.1	7.6	7.2	6.7	5.8	6.2	5.9	5.5
	851, 852	MLKNBon3	350	50	1	350	6.3	6.6	6.2	6.1	7.0	7.5	7.2	6.6	5.8	6.1	5.9	5.5												
	852, 853	MLKNBon4	350	50	1	360	6.3	6.6	6.2	6.2	7.0	7.5	7.2	6.7	5.8	6.1	5.9	5.5												
	853, 321	MLKNBon5	350	50	1	548	6.2	6.7	6.2	6.2	7.0	7.6	7.2	6.8	5.8	6.2	5.9	5.5												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	260	50	1	294	4.8	4.9	4.9	4.8	5.0	5.6	5.6	5.6	5.2	4.8	4.5	4.4	4.6	4.6	4.6	4.5	4.7	5.3	5.3	5.4	4.9	4.6	4.2	4.2
	839, 840	MLKSBoff4	260	50	1	336	4.5	4.5	4.5	4.4	4.7	5.2	5.2	5.3	4.8	4.5	4.2	4.1												
	840, 841	MLKSBoff5	260	50	1	395	4.5	4.5	4.5	4.5	4.7	5.2	5.2	5.3	4.8	4.5	4.2	4.1												
	841, 806	MLKSBoff6	260	50	1	539	4.5	4.6	4.5	4.5	4.7	5.2	5.2	5.4	4.8	4.5	4.2	4.1												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	630	60	2	1,270	4.8	4.9	4.8	4.5	5.4	5.6	5.4	5.1	4.4	4.6	4.4	4.2	6.3	6.6	6.4	6.0	7.1	7.4	7.1	6.7	5.9	6.1	5.8	5.5
	901, 902	4thNBon3	630	60	2	634	4.7	4.9	4.8	4.5	5.3	5.5	5.4	5.0	4.4	4.6	4.3	4.1												
	902, 903	4thNBon4	630	60	2	322	4.8	4.9	4.8	4.5	5.4	5.6	5.4	5.0	4.4	4.6	4.4	4.1												
	903, 904	4thNBon5	630	60	2	279	4.8	5.0	4.9	4.5	5.4	5.6	5.5	5.1	4.5	4.6	4.4	4.2												
	904, 905	4thNBon6	630	60	2	388	5.2	5.5	5.3	5.0	5.9	6.2	5.9	5.5	4.9	5.1	4.8	4.5												
	905, 906	4thNBon7	630	60	1	313	9.6	10.1	9.7	9.1	10.9	11.3	10.9	10.2	9.0	9.3	8.8	8.3												
	906, 907	4thNBon8	630	60	1	305	9.6	10.1	9.7	9.1	10.9	11.3	10.9	10.2	9.0	9.3	8.8	8.3												
	907, 324	4thNBon9	630	60	1	666	9.6	10.2	9.7	9.2	10.9	11.3	10.9	10.2	9.1	9.4	8.8	8.4												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,030	60	1	466	15.6	15.4	15.2	14.8	15.4	17.3	18.1	16.6	15.0	14.7	13.8	13.2	12.3	12.0	12.1	11.7	12.1	13.4	14.1	12.9	11.9	11.5	11.1	10.5
	920, 921	4thSBoff2	1,030	60	1	492	15.3	15.1	15.1	14.6	15.2	16.8	17.5	16.2	14.8	14.5	13.8	13.1												
	921, 922	4thSBoff3	1,030	60	1	420	15.4	15.1	15.1	14.7	15.2	16.8	17.6	16.2	14.9	14.5	13.9	13.2												
	922, 923	4thSBoff4	1,030	60	1	393	15.5	15.2	15.2	14.8	15.3	16.9	17.7	16.2	15.0	14.6	14.0	13.3												
	923, 924	4thSBoff5	1,030	60	1	384	15.6	15.3	15.2	14.9	15.4	17.0	17.9	16.3	15.1	14.7	14.1	13.3												
	924, 925	4thSBoff6	1,030	60	1	354	15.6	15.4	15.3	14.9	15.4	17.0	18.0	16.4	15.2	14.7	14.1	13.4												
	925, 926	4thSBoff7	1,030	60	1	501	15.7	15.4	15.5	14.9	15.5	17.0	18.0	16.5	15.2	14.7	14.1	13.5												
	926, 927	4thSBoff8	1,030	60	1	416	15.1	14.9	15.0	14.4	15.0	16.5	17.4	15.9	14.8	14.2	13.7	13.0												
	927, 928	4thSBoff9	1,030	60	2	1,153	7.7	7.5	7.6	7.4	7.6	8.4	8.8	8.1	7.5	7.2	7.0	6.6												

2020 Starter PM			Demand				Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,030	60	2	1,242	7.6	7.4	7.5	7.3	7.4	8.3	8.7	8.0	7.5	7.1	7.0	6.5												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	700	70	1	1,116	9.1	9.6	9.1	8.8	10.2	10.8	10.3	9.8	8.5	8.8	8.5	8.1	9.2	9.7	9.3	8.9	10.3	11.0	10.5	9.8	8.7	8.9	8.5	8.2
	5000, 5001	SULNB2	700	70	1	2,205	9.1	9.6	9.1	8.7	10.1	10.8	10.3	9.7	8.5	8.7	8.4	8.0												
	5001, 5002	SULNB3	700	70	1	528	9.2	9.6	9.2	8.9	10.2	10.9	10.5	9.8	8.6	8.9	8.5	8.1												
	5002, 5003	SULNB4	700	70	1	346	9.2	9.6	9.3	8.9	10.3	11.0	10.5	9.8	8.7	8.9	8.5	8.1												
	5003, 5004	SULNB5	700	70	1	235	9.3	9.6	9.3	8.9	10.3	11.0	10.5	9.8	8.7	9.0	8.5	8.2												
	5004, 5005	SULNB6	700	70	1	270	9.3	9.7	9.3	8.9	10.4	11.0	10.5	9.8	8.7	9.0	8.6	8.2												
	5005, 5006	SULNB7	700	70	1	238	9.3	9.7	9.3	8.9	10.4	11.1	10.5	9.8	8.8	9.0	8.6	8.2												
	5006, 5007	SULNB8	700	70	1	261	9.3	9.7	9.4	8.9	10.5	11.1	10.5	9.9	8.8	9.0	8.6	8.2												
	5007, 5008	SULNB9	700	70	1	451	9.3	9.7	9.4	8.9	10.4	11.2	10.6	9.9	8.8	9.0	8.6	8.3												
	5008, 5009	SULNB10	700	70	1	242	9.3	9.8	9.4	9.0	10.4	11.2	10.6	9.9	8.8	9.0	8.6	8.2												
	5009, 5010	SULNB11	700	70	1	158	9.3	9.7	9.4	8.9	10.4	11.2	10.6	9.9	8.8	9.0	8.6	8.2												
	5010, 5011	SULNB12	700	70	1	539	9.4	9.8	9.5	9.0	10.4	11.3	10.6	9.9	8.9	9.0	8.6	8.3												
	5011, 5012	SULNB13	700	70	1	564	9.3	9.8	9.5	9.0	10.4	11.3	10.7	9.9	8.9	9.1	8.6	8.3												
	5012, 5013	SULNB14	700	70	1	824	9.4	9.8	9.5	9.1	10.4	11.3	10.7	10.0	8.9	9.1	8.7	8.3												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,020	70	1	2,172	7.6	7.9	7.7	7.3	8.4	9.2	8.6	8.2	7.3	7.4	7.0	6.7	12.8	13.4	13.2	12.3	14.2	15.2	14.8	14.0	12.4	12.5	12.1	11.4
	5014, 5015	SULNB16	1,020	70	1	1,149	13.8	14.4	14.1	13.3	15.2	16.6	15.9	14.9	13.3	13.5	12.8	12.4												
	5015, 5016	SULNB17	1,020	70	1	2,057	14.0	14.5	14.3	13.4	15.4	16.6	16.1	15.1	13.4	13.6	12.9	12.5												
	5016, 5017	SULNB18	1,020	70	1	1,250	14.0	14.6	14.4	13.4	15.4	16.6	16.1	15.3	13.5	13.7	13.1	12.4												
	5017, 5018	SULNB19	1,020	70	1	1,385	14.1	14.7	14.5	13.5	15.5	16.6	16.2	15.4	13.6	13.7	13.2	12.5												
	5018, 5019	SULNB20	1,020	70	1	843	14.1	14.8	14.5	13.5	15.5	16.5	16.2	15.6	13.6	13.6	13.4	12.5												
	5019, 5020	SULNB21	1,020	70	1	687	14.1	14.8	14.5	13.5	15.6	16.5	16.3	15.5	13.6	13.7	13.5	12.5												
	5020, 5021	SULNB22	1,020	70	1	2,036	14.2	14.8	14.6	13.4	15.7	16.5	16.4	15.6	13.6	13.8	13.5	12.6												
	5021, 5022	SULNB23	1,020	70	1	171	14.2	14.9	14.7	13.4	15.9	16.6	16.5	15.9	13.7	13.8	13.6	12.5												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,320	70	1	1,752	16.2	16.8	16.2	15.2	17.8	19.2	18.8	18.2	16.0	15.6	15.4	14.1	18.2	18.7	18.2	17.1	19.9	21.3	21.0	20.0	18.0	17.6	17.3	16.0
	5023, 5024	SULNB25	1,320	70	1	1,039	18.8	19.6	18.8	17.9	20.6	22.0	21.8	20.8	18.6	18.2	18.0	16.5												
	5024, 5025	SULNB26	1,320	70	1	814	18.9	19.4	18.9	17.8	20.7	21.8	21.7	20.7	18.6	18.2	18.0	16.5												
	5025, 5026	SULNB27	1,320	70	1	2,530	19.1	19.5	19.2	18.0	20.8	22.2	22.0	20.8	19.0	18.5	18.1	16.8												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	320	70	1	266	4.3	4.5	4.3	4.2	4.7	5.2	4.9	4.7	4.2	4.2	4.1	3.9	4.2	4.4	4.2	4.1	4.5	5.0	4.8	4.6	4.1	4.1	4.0	3.8
	5100, 5101	SULNBRamp2	320	70	1	528	4.2	4.4	4.2	4.1	4.5	5.0	4.8	4.6	4.1	4.1	4.0	3.8												
	5101, 5102	SULNBRamp3	320	70	1	379	4.2	4.3	4.2	4.0	4.5	5.0	4.7	4.5	4.1	4.1	4.0	3.7												
	5102, 5103	SULNBRamp4	320	70	1	376	4.2	4.3	4.1	4.0	4.5	4.9	4.7	4.5	4.1	4.0	4.0	3.7												
	5103, 5104	SULNBRamp5	320	70	1	363	4.2	4.3	4.2	4.0	4.5	4.9	4.7	4.5	4.1	4.0	4.0	3.7												
	5104, 5105	SULNBRamp6	320	70	1	352	4.1	4.3	4.2	4.0	4.5	5.0	4.7	4.6	4.1	4.1	4.0	3.8												
	5105, 5106	SULNBRamp7	320	70	1	831	4.2	4.3	4.2	4.1	4.5	5.0	4.7	4.6	4.1	4.1	4.0	3.8												
	5106, 5107	SULNBRamp8	320	70	1	1,172	4.2	4.3	4.2	4.1	4.5	5.0	4.8	4.6	4.1	4.1	4.0	3.8												
	5107, 5108	SULNBRamp9	320	70	1	656	4.3	4.3	4.3	4.1	4.5	5.0	4.7	4.6	4.1	4.1	4.0	3.8												
	5108, 5109	SULNBRamp10	320	70	1	803	4.3	4.3	4.3	4.1	4.5	5.1	4.7	4.6	4.1	4.1	4.0	3.8												
	5109, 5110	SULNBRamp11	320	70	1	897	4.3	4.4	4.3	4.1	4.6	5.1	4.8	4.6	4.2	4.1	4.0	3.8												
	5110, 5111	SULNBRamp12	320	70	1	513	4.3	4.4	4.3	4.1	4.6	5.1	4.8	4.6	4.1	4.2	4.0	3.9												
	5111, 5113	SULNBRamp13	320	70	1	267	4.3	4.4	4.3	4.1	4.6	5.1	4.8	4.6	4.2	4.2	4.0	3.9												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	300	70	1	157	4.5	4.8	4.2	4.3	5.0	5.4	5.2	5.1	4.9	4.4	4.5	4.1	4.5	4.8	4.2	4.3	5.0	5.4	5.2	5.1	4.9	4.4	4.5	4.1
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,380	70	1	1,586	13.7	14.4	13.9	13.0	15.5	16.3	15.6	14.7	12.7	13.3	12.6	12.0	13.7	14.4	13.9	13.0	15.5	16.3	15.6	14.7	12.7	13.3	12.6	12.0
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,120	70	1	941	14.6	15.5	14.6	14.2	16.5	17.4	16.1	15.7	13.7	14.3	13.6	12.7	15.4	16.2	15.4	14.9	17.1	18.3	17.0	16.5	14.6	15.0	14.3	13.4
	5997, 5998	SULSB1	1,120	70	1	816	14.9	15.7	14.8	14.3	16.7	17.7	16.4	15.9	13.9	14.5	13.7	12.9												
	5998, 5999	SULSB1	1,120	70	1	1,054	15.0	15.9	15.0	14.4	16.8	17.9	16.5	16.1	14.0	14.6	13.9	13.0												
	5999, 6000	SULSB1	1,120	70	1	1,908	15.2	16.1	15.2	14.6	17.0	18.1	16.8	16.2	14.3	14.8	14.1	13.2												
	6000, 6001	SULSB2	1,120	70	1	2,064	15.4	16.2	15.4	14.8	17.1	18.3	16.9	16.5	14.5	14.9	14.2	13.3												
	6001, 6002	SULSB3	1,120	70	1	572	15.5	16.2	15.5	14.8	17.2	18.3	17.0	16.6	14.6	15.0	14.4	13.3												
	6002, 6003	SULSB4	1,120	70	1	407	15.5	16.2	15.5	14.8	17.2	18.4	17.0	16.5	14.6	15.1	14.4	13.4												
	6003, 6004	SULSB5	1,120	70	1	1,528	15.5	16.3	15.5	14.9	17.3	18.4	17.1	16.6	14.7	15.1	14.4	13.4												
	6004, 6005	SULSB6	1,120	70	1	1,420	15.6	16.4	15.5	15.0	17.2	18.5	17.3	16.6	14.8	15.2	14.5	13.4												
	6005, 6006	SULSB7	1,120	70	1	4,087	15.6	16.5	15.7	15.1	17.2	18.6	17.4	16.8	14.9	15.3	14.4	13.6												
	6006, 6007	SULSB8	1,120	70	1	1,611	15.7	16.5	15.7	15.4	17.1	18.7	17.5	16.8	15.0	15.4	14.5	13.7												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	680	70	1	767	9.3	9.5	9.2	8.8	10.2	10.8	10.3	9.9	8.9	9.0	8.7	8.1	9.3	9.5	9.2	8.8	10.1	10.9	10.3	9.8	8.9	8.9	8.7	8.1
	6008, 6009	SULSB10	680	70	1	614	9.1	9.3	9.0	8.6	10.0	10.6	10.1	9.6	8.7	8.8	8.6	8.0												
	6009, 6010	SULSB11	680	70	1	382	9.2	9.4	9.1	8.7	10.0	10.7	10.2	9.7	8.8	8.8	8.6	8.0												
	6010, 6011	SULSB12	680	70	1	135	9.2	9.4	9.1	8.7	10.0	10.7	10.2	9.7	8.8	8.9	8.6	8.1												
	6011, 6012	SULSB13	680	70	1	204	9.2	9.5	9.1	8.8	10.0	10.8	10.2	9.8	8.8	8.9	8.6	8.1												
	6012, 6013	SULSB14	680	70	1	613	9.3	9.5	9.2	8.9	10.0	10.9	10.3	9.8	8.9	8.9	8.7	8.1												
	6013, 6014	SULSB15	680	70	1	251	9.3	9.5	9.2	8.9	10.1	11.0	10.3	9.8	8.9	8.9	8.8	8.1												
	6014, 6015	SULSB16	680	70	1	233	9.3	9.5	9.2	8.9	10.1	11.0	10.3	9.8	9.0	8.9	8.8	8.1												
	6015, 6016	SULSB17	680	70	1	274	9.3	9.5	9.2	8.9	10.1	11.0	10.3	9.8	9.0	8.9	8.8	8.1												
	6016, 6017	SULSB18	680	70	1	238	9.4	9.5	9.2	8.8	10.1	11.0	10.4	9.8	9.0	8.9	8.8	8.1												
	6017, 6018	SULSB19	680	70	1	314	9.4	9.6	9.2	8.8	10.1	11.0	10.4	9.8	9.0	8.9	8.8	8.1												
	6018, 6019	SULSB20	680	70	1	879	9.4	9.7	9.2	8.9	10.1	11.0	10.3	9.8	9.1	9.0	8.8	8.2												
	6019, 6020	SULSB21	680	70	1	207	9.4	9.7	9.1	9.0	10.1	11.1	10.3	9.9	9.2	9.0	8.7	8.3												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	582	6.1	6.5	6.1	6.2	6.5	7.2	6.9	6.4	5.8	6.0	5.5	5.3	5.9	6.4	6.1	6.0	6.3	7.0	6.8	6.5	5.7	5.9	5.5	5.2
	6100, 6101	SULSBRamp2	440	70	1	621	5.9	6.2	5.9	6.0	6.3	6.9	6.6	6.2	5.6	5.8	5.3	5.1												
	6101, 6102	SULSBRamp3	440	70	1	317	5.8	6.2	5.8	5.9	6.2	6.8	6.6	6.2	5.5	5.8	5.3	5.1												
	6102, 6103	SULSBRamp4	440	70	1	915	5.9	6.2	5.9	5.9	6.3	6.9	6.6	6.3	5.5	5.8	5.3	5.1												
	6103, 6104	SULSBRamp5	440	70	1	1,093	5.9	6.3	6.0	6.0	6.3	7.0	6.6	6.4	5.6	5.9	5.4	5.2												
	6104, 6105	SULSBRamp6	440	70	1	1,068	5.9	6.3	6.0	5.9	6.4	6.9	6.7	6.4	5.6	5.8	5.5	5.2												
	6105, 6106	SULSBRamp7	440	70	1	788	5.9	6.4	6.0	6.0	6.4	6.9	6.8	6.5	5.7	5.9	5.5	5.2												
	6106, 6107	SULSBRamp8	440	70	1	367	5.9	6.4	6.0	6.0	6.4	7.0	6.8	6.5	5.7	5.8	5.5	5.2												
	6107, 6108	SULSBRamp9	440	70	1	373	5.9	6.4	6.1	6.0	6.3	7.0	6.8	6.5	5.7	5.8	5.5	5.3												
	6108, 6109	SULSBRamp10	440	70	1	445	5.9	6.4	6.1	6.0	6.3	7.0	6.8	6.5	5.7	5.9	5.5	5.3												
	6109, 6110	SULSBRamp11	440	70	1	8,866	5.8	6.5	6.2	6.1	6.3	7.1	6.9	6.6	5.7	5.9	5.6	5.3												
	6110, 1	SULSBRamp12	440	70	1	292	5.8	6.6	6.3	6.1	6.3	7.0	7.1	6.7	5.7	5.8	5.8	5.2												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	260	70	1	154	3.3	3.5	3.5	3.0	3.7	4.0	4.3	3.7	2.9	3.1	2.9	3.1	3.3	3.5	3.5	3.0	3.7	4.0	4.3	3.7	2.9	3.1	2.9	3.1

2020 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5,340	70	3	1,087	67.3	67.2	67.3	67.6	67.0	66.8	67.0	67.1	67.6	67.3	67.6	67.7	65.7	65.1	65.5	66.1	64.3	63.7	64.4	64.8	66.0	65.8	66.0	66.3
	300, 301	I275NB3	5,340	70	3	805	67.6	67.5	67.6	67.8	67.3	67.2	67.3	67.4	67.9	67.6	67.9	68.0												
	301, 302	I275NB4	5,340	70	3	478	66.6	66.5	66.6	66.9	66.2	65.9	66.2	66.3	67.0	66.7	67.0	67.1												
	302, 303	I275NB5	5,340	70	3	2,687	64.6	63.8	64.4	65.1	62.5	61.7	62.7	63.4	65.0	64.8	65.0	65.4												
	303, 304	I275NB6	5,340	70	4	382	63.3	62.3	62.8	63.8	60.6	59.7	61.0	61.5	63.8	63.5	63.7	64.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3,600	70	3	1,375	67.3	67.0	67.0	67.4	66.7	66.3	66.6	66.8	67.5	67.2	67.4	67.5	67.4	67.1	67.1	67.4	66.9	66.6	66.8	66.9	67.5	67.3	67.5	67.5
	305, 306	I275NB8	3,600	70	3	1,306	67.4	67.3	67.3	67.5	67.1	66.9	67.1	67.1	67.6	67.3	67.6	67.6												
	306, 307	I275NB9	3,600	70	3	591	67.2	67.0	67.1	67.3	66.9	66.7	66.9	66.9	67.4	67.2	67.4	67.5												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	4,460	70	5	1,065	65.4	65.3	65.4	65.5	65.2	65.0	65.2	65.1	65.5	65.4	65.5	65.7	66.9	66.6	66.7	66.9	66.6	66.3	66.4	66.5	66.9	66.7	66.9	67.1
	308, 309	I275NB11	4,460	70	5	3,035	67.3	67.0	67.1	67.3	67.0	66.7	66.9	66.9	67.4	67.1	67.4	67.6												
	309, 2	I275NB12	4,460	70	4	350	67.2	66.8	67.0	67.4	66.7	66.4	66.6	66.7	67.3	67.0	67.1	67.6												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	4,140	70	4	745	67.4	67.0	67.2	67.5	67.0	66.7	66.9	66.9	67.5	67.3	67.4	67.6	65.0	64.7	64.9	65.2	64.6	63.7	64.2	64.4	65.4	65.2	65.4	65.7
	310, 311	I275NB13	4,140	70	4	380	66.1	65.7	66.1	66.4	65.8	65.2	65.5	65.7	66.4	66.3	66.4	66.7												
	311, 312	I275NB14	4,140	70	4	399	64.9	64.5	64.8	65.1	64.5	63.5	64.1	64.2	65.4	65.1	65.4	65.7												
	312, 313	I275NB15	4,140	70	4	368	64.5	64.3	64.4	64.7	63.9	62.5	63.4	63.6	65.0	64.8	65.2	65.3												
	313, 314	I275NB16	4,140	70	4	460	60.8	60.5	60.8	61.0	60.3	58.8	59.3	60.1	61.4	61.2	61.7	61.8												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	1,530	70	3	879	67.7	67.6	68.0	67.8	67.6	67.1	67.3	67.5	68.1	68.0	68.0	68.1	68.5	68.4	68.7	68.6	68.5	68.2	68.3	68.3	68.8	68.6	68.7	68.7
	315, 316	I275NB18	1,530	70	3	1,293	68.8	68.7	68.9	68.8	68.8	68.5	68.7	68.6	69.1	68.8	68.9	68.9												
	316, 317	I275NB19	1,530	70	3	1,158	68.8	68.7	68.9	68.9	68.7	68.5	68.7	68.6	69.1	68.8	68.9	68.9												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	2,730	70	5	372	59.6	59.6	59.8	59.8	59.6	59.6	59.5	59.4	59.8	59.7	59.8	59.9	66.7	66.5	66.7	66.6	66.4	66.2	66.2	66.4	66.8	66.7	66.8	66.9
	318, 319	I275NB21	2,730	70	5	2,611	66.7	66.5	66.7	66.6	66.4	66.3	66.1	66.3	66.7	66.7	66.8	66.9												
	319, 320	I275NB22	2,730	70	3	1,802	67.8	67.6	67.8	67.7	67.6	67.3	67.3	67.5	67.9	67.7	67.8	68.0												
	320, 321	I275NB23	2,730	70	3	501	67.8	67.7	67.9	67.9	67.6	67.4	67.5	67.7	68.0	67.8	67.9	68.1												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,080	70	3	1,814	66.6	66.5	66.6	66.7	66.1	65.8	66.2	66.4	66.8	66.5	66.7	67.0	66.6	66.5	66.6	66.7	66.1	65.8	66.2	66.4	66.8	66.5	66.7	67.0
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	4,360	70	5	814	63.8	63.5	63.9	64.1	63.4	63.2	63.5	63.6	64.0	63.9	64.0	64.2	66.3	66.0	66.4	66.5	66.0	65.7	65.9	66.1	66.5	66.4	66.5	66.7
	323, 324	I275NB26	4,360	70	5	1,850	67.4	67.2	67.5	67.6	67.1	66.8	67.0	67.2	67.6	67.5	67.6	67.8												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	4,990	70	4	838	66.1	65.8	66.3	66.4	65.8	65.3	65.6	65.9	66.4	66.2	66.5	66.8	64.6	64.1	64.7	65.0	63.7	62.3	63.2	64.1	65.3	65.3	65.4	66.1
	325, 326	I275NB28	4,990	70	4	704	61.3	59.9	61.1	61.9	59.2	56.0	58.0	60.3	62.5	62.6	62.6	64.0												
	326, 327	I275NB29	4,990	70	3	1,988	65.2	64.8	65.4	65.4	64.4	63.3	64.0	64.8	65.8	65.8	66.0	66.5												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	4,690	70	3	1,906	66.5	66.6	66.7	66.8	66.5	66.1	66.2	66.6	67.0	66.8	66.9	67.2	66.6	66.5	66.7	66.7	66.4	66.0	66.1	66.5	66.9	66.8	66.9	67.1
	328, 329	I275NB31	4,690	70	3	1,046	66.6	66.5	66.7	66.7	66.5	66.0	66.1	66.5	66.9	66.8	66.9	67.2												
	329, 330	I275NB32	4,690	70	3	803	66.6	66.5	66.7	66.7	66.4	65.9	66.1	66.5	66.9	66.7	66.9	67.1												
	330, 331	I275NB33	4,690	70	3	2,542	66.6	66.3	66.6	66.7	66.4	65.9	66.0	66.4	66.7	66.7	66.8	67.1												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,800	70	3	1,731	66.7	63.2	64.4	67.3	49.3	26.8	24.0	42.6	66.1	67.4	67.5	67.7	66.7	63.2	64.4	67.3	49.3	26.8	24.0	42.6	66.1	67.4	67.5	67.7
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,060	70	4	787	41.7	33.2	38.3	52.8	25.5	22.3	22.2	23.8	46.8	51.6	58.5	60.8	57.0	55.8	56.8	59.6	54.6	53.9	53.6	54.7	58.7	59.1	61.2	61.9
	395, 396	I275SB1	6,060	70	4	818	33.9	33.3	35.3	39.4	35.2	37.6	37.0	36.6	39.4	38.0	44.3	46.1												
	396, 397	I275SB1	6,060	70	3	1,049	58.0	57.8	58.3	59.7	57.7	57.7	57.1	58.5	59.5	59.2	60.7	61.3												
	397, 398	I275SB1	6,060	70	3	1,916	65.0	64.9	65.0	65.9	64.1	63.6	63.3	64.4	65.4	65.5	65.9	66.1												
	398, 399	I275SB1	6,060	70	3	2,120	63.8	63.6	63.7	64.2	62.7	61.2	61.1	62.4	64.0	64.3	64.7	64.9												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,030	70	3	2,742	66.1	65.8	65.9	66.2	65.6	64.9	64.8	65.4	66.2	66.2	66.5	66.5	65.1	64.9	64.9	65.2	64.6	63.9	63.9	64.4	65.2	65.2	65.5	65.5
	400, 401	I275SB3	5,030	70	4	1,083	62.7	62.6	62.5	62.8	62.3	61.3	61.6	61.9	62.8	62.6	63.0	62.9												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	3,470	70	3	4,105	67.0	66.9	67.0	67.2	66.8	66.5	66.6	66.7	67.2	67.2	67.4	67.3	67.0	66.9	67.0	67.2	66.8	66.5	66.6	66.7	67.2	67.2	67.4	67.3
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	4,160	70	4	720	65.0	64.9	64.8	65.0	64.6	64.6	64.4	64.9	65.1	65.0	65.2	65.2	65.7	65.6	65.6	65.8	65.4	65.1	65.0	65.2	65.8	65.8	66.1	66.0
	403, 404	I275SB6	4,160	70	4	1,327	66.7	66.5	66.5	66.7	66.4	66.0	65.9	66.3	66.8	66.7	67.0	66.9												
	404, 405	I275SB7	4,160	70	4	461	66.1	66.0	66.0	66.2	65.7	65.2	65.1	65.3	66.2	66.2	66.5	66.5												
	405, 406	I275SB8	4,160	70	4	452	64.0	63.9	63.8	63.9	63.6	63.2	62.8	62.7	63.8	64.2	64.5	64.3												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,530	70	3	855	67.5	67.6	67.6	67.5	67.4	67.1	67.0	66.9	67.6	67.7	67.8	67.8	67.9	68.0	68.0	67.9	67.8	67.6	67.6	67.6	68.1	68.0	68.1	68.1
	407, 408	I275SB10	2,530	70	3	347	68.0	68.2	68.1	68.0	67.9	67.8	67.8	67.8	68.2	68.2	68.2	68.2												
	408, 409	I275SB11	2,530	70	3	1,585	68.1	68.1	68.1	68.0	68.0	67.8	67.9	67.9	68.3	68.2	68.2	68.3												
	409, 410	I275SB12	2,530	70	3	458	68.0	68.0	68.0	67.9	67.9	67.6	67.7	67.8	68.2	68.1	68.1	68.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	4,260	70	4	629	61.5	61.4	61.6	61.7	61.3	61.2	61.2	61.4	61.9	61.7	61.6	62.1	64.1	64.0	64.2	64.3	63.9	63.8	63.7	63.8	64.5	64.3	64.2	64.7
	411, 412	I275SB14	4,260	70	4	247	65.0	64.9	65.1	65.2	64.7	64.6	64.5	64.6	65.3	65.2	65.1	65.7												
	412, 413	I275SB15	4,260	70	4	608	66.4	66.4	66.6	66.7	66.2	66.0	65.9	66.0	66.8	66.7	66.6	67.0												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,680	70	4	492	58.9	59.4	59.8	60.6	57.5	56.2	56.4	58.4	60.5	59.8	60.0	61.0	64.0	63.9	64.1	64.6	63.4	62.3	62.6	63.3	64.6	64.5	64.5	65.0
	414, 415	I275SB17	5,680	70	4	3,870	65.2	65.2	65.4	65.8	64.8	63.9	64.2	64.7	65.8	65.6	65.8	66.1												
	415, 416	I275SB18	5,680	70	4	1,086	61.9	61.3	61.6	62.4	61.0	59.3	59.8	60.5	62.4	62.4	62.3	62.8												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	4,500	70	3	1,385	65.8	65.7	65.6	66.1	65.4	64.8	64.9	65.1	66.1	66.1	66.0	66.5	66.1	66.0	65.9	66.3	65.7	65.1	65.2	65.4	66.3	66.4	66.2	66.7
	417, 418	I275SB20	4,500	70	3	343	67.0	67.0	66.9	67.1	66.9	66.4	66.4	66.7	67.1	67.2	67.0	67.4												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,390	70	3	1,507	62.3	62.3	61.8	62.7	61.9	60.5	61.4	61.4	62.3	62.7	62.5	63.3	62.3	62.3	61.8	62.7	61.9	60.5	61.4	61.4	62.3	62.7	62.5	63.3
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	6,190	70	3	1,015	62.6	62.4	62.8	62.9	61.2	59.8	60.3	61.7	63.0	62.8	62.8	63.8	62.6	62.4	62.8	62.9	61.2	59.8	60.3	61.7	63.0	62.8	62.8	63.8
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,630	70	3	2,282	64.2	63.8	64.1	64.6	63.3	61.7	61.9	63.3	64.4	64.6	64.6	65.1	64.7	64.4	64.6	65.0	64.0	62.6	62.9	63.9	64.7	64.9	65.0	65.4
	420, 421	I275SB23	6,630	70	3	430	65.1	64.6	64.8	65.2	64.4	63.0	63.1	64.3	65.0	65.2	65.2	65.6												
	421, 422	I275SB24	6,630	70	3	403	65.2	64.8	65.0	65.3	64.6	63.3	63.5	64.5	65.1	65.3	65.3	65.7												
	422, 423	I275SB25	6,630	70	3	426	65.2	64.9	65.0	65.4	64.7	63.5	63.8	64.6	65.1	65.3	65.3	65.8												
	423, 424	I275SB26	6,630	70	3	412	65.2	64.9	65.0	65.3	64.7	63.6	63.9	64.6	65.1	65.2	65.3	65.8												
	424, 425	I275SB27	6,630	70	3	734	65.1	65.0	65.1	65.3	64.8	63.9	64.1	64.6	65.1	65.2	65.3	65.7												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,735	50	3	841	48.7	48.5	48.6	48.7	48.6	48.4	48.5	48.5	48.9	48.6	48.7	48.9	48.6	48.5	48.6	48.6	48.5	48.3	48.4	48.5	48.7	48.6	48.5	48.8
	500, 501	GandyEB3	2,735	50	4	954	48.8	48.7	48.8	48.8	48.7	48.6	48.6	48.7	48.9	48.8	48.6	49.0												
	501, 502	GandyEB4	2,735	50	5	174	47.6	47.3	47.4	47.3	46.9	46.4	46.6	47.1	47.0	47.6	46.9	47.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,075	50	3	178	49.0	49.0	49.2	49.0	49.0	48.7	48.9	49.0	49.1	49.1	48.9	49.4	49.0	49.0	49.2	49.0	49.0	48.7	48.9	49.0	49.1	49.1	48.9	49.4
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,075	50	3	99	42.4	42.6	43.0	43.0	42.1	41.9	42.1	42.6	42.2	42.8	42.8	43.1	44.2	44.4	44.7	44.7	44.0	43.7	44.0	44.3	44.1	44.5	44.6	44.9
	505, 506	GandyEB10	1,075	50	3	119	45.7	45.9	46.1	46.2	45.5	45.2	45.6	45.7	45.6	45.9	46.1	46.4												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,145	50	3	1,167	46.6	46.4	46.4	46.8	46.2	46.1	46.2	46.4	46.5	46.5	46.6	46.9	46.6	46.4	46.4	46.8	46.2	46.1	46.2	46.4	46.5	46.5	46.6	46.9
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,150	55	3	181	41.9	41.9	42.0	42.0	41.8	41.2	41.7	41.7	42.4	42.1	42.2	42.7	46.5	46.7	46.8	46.6	46.5	46.0	46.1	46.7	47.1	46.8	47.0	47.2
	520, 521	GandyWB5	3,150	55	3	291	49.2	49.3	49.3	49.2	49.2	48.8	49.0	49.1	49.5	49.4	49.4	49.7												

2020 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,150	55	4	590	46.5	46.8	46.9	46.7	46.6	46.1	46.0	47.1	47.4	46.9	47.2	47.4												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,260	55	3	1,768	53.0	53.0	53.1	53.2	53.0	52.9	52.9	53.0	53.2	53.0	53.1	53.2	53.0	53.0	53.1	53.2	53.0	52.9	52.9	53.0	53.2	53.0	53.1	53.2
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,440	55	3	1,179	51.9	51.6	51.7	51.8	51.4	51.2	51.4	51.3	51.8	51.8	52.0	52.1	52.2	51.8	51.9	52.1	51.7	51.4	51.6	51.5	52.1	52.1	52.2	52.3
	524, 525	GandyWB9	3,440	55	3	455	52.7	52.4	52.6	52.6	52.2	52.2	52.3	52.2	52.7	52.8	52.8	52.7												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,740	50	1	525	49.4	48.9	49.1	49.9	48.1	47.3	48.1	48.2	49.6	49.6	49.8	50.2	46.6	46.7	46.4	47.1	44.4	44.7	45.7	46.6	46.9	47.1	47.2	47.4
	600, 601	GdyNBoff2	1,740	50	1	1,220	46.0	46.4	45.9	46.6	44.0	44.7	45.5	46.4	46.4	46.5	46.6	46.7												
	601, 7001	GdyNBoff3	1,740	50	2	135	40.4	40.6	40.9	40.9	33.3	34.8	38.0	41.6	40.9	42.6	42.0	43.4												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,070	50	1	84	36.8	36.7	36.8	37.7	35.7	35.6	36.0	37.0	37.6	37.6	36.9	38.2	41.5	41.2	41.4	42.1	40.5	40.4	40.6	41.5	41.9	41.9	41.3	42.4
	605, 606	GdyNBoff9	1,070	50	1	107	41.9	41.6	41.9	42.5	40.9	40.8	41.0	42.0	42.4	42.4	41.6	43.0												
	606, 506	GdyNBoff10	1,070	50	1	158	43.7	43.3	43.5	44.1	42.9	42.7	42.9	43.6	43.9	43.9	43.3	44.3												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,660	50	2	179	43.4	42.8	43.3	43.0	41.6	40.3	41.2	42.4	43.2	43.9	43.2	44.5	43.4	42.8	43.3	43.0	41.6	40.3	41.2	42.4	43.2	43.9	43.2	44.5
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	860	50	2	501	47.9	47.4	47.6	47.7	47.8	47.4	47.7	47.4	47.7	48.1	47.6	47.7	49.1	48.8	49.0	49.0	48.9	48.8	49.0	48.9	49.0	49.2	49.0	49.0
	623, 624	GdyNBon6	860	50	2	299	49.1	49.0	49.0	49.0	49.1	49.0	49.1	49.0	49.1	49.3	49.1	49.1												
	624, 625	GdyNBon7	860	50	2	253	49.2	49.0	49.1	49.1	49.1	49.0	49.1	49.1	49.1	49.3	49.2	49.1												
	625, 626	GdyNBon8	860	50	2	238	49.2	49.1	49.2	49.2	49.1	49.1	49.2	49.2	49.2	49.4	49.2	49.2												
	626, 627	GdyNBon9	860	50	2	242	49.3	49.1	49.2	49.2	49.1	49.1	49.2	49.2	49.2	49.4	49.2	49.3												
	627, 628	GdyNBon10	860	50	2	277	49.3	49.1	49.2	49.2	49.1	49.1	49.1	49.2	49.2	49.3	49.2	49.3												
	628, 629	GdyNBon11	860	50	2	337	49.3	49.2	49.2	49.3	49.1	49.1	49.2	49.2	49.2	49.3	49.2	49.3												
	629, 630	GdyNBon12	860	50	2	877	49.3	49.2	49.3	49.3	49.1	49.2	49.2	49.2	49.2	49.4	49.3	49.2												
	630, 307	GdyNBon13	860	50	2	344	49.2	49.1	49.3	49.3	49.1	49.1	49.2	49.2	49.2	49.4	49.3	49.2												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,180	50	2	481	49.1	48.9	48.9	48.9	49.0	48.8	48.8	48.9	49.0	49.0	49.1	49.1	48.3	48.0	48.0	48.2	48.2	47.9	47.9	48.1	48.2	48.2	48.4	48.5
	660, 661	GdySBoff2	1,180	50	2	394	49.3	49.1	49.1	49.1	49.2	49.2	49.2	49.2	49.3	49.1	49.4	49.4												
	661, 662	GdySBoff3	1,180	50	2	1,949	48.1	47.8	47.7	48.1	48.0	47.8	47.7	47.9	48.1	48.0	48.3	48.4												
	662, 523	GdySBoff4	1,180	50	1	424	47.1	46.8	46.8	47.2	46.9	46.6	46.7	46.8	47.0	47.2	47.2	47.6												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	800	50	1	286	45.3	44.7	45.0	45.2	44.3	44.4	44.9	45.1	45.8	44.8	44.6	45.3	47.2	46.7	46.9	47.0	46.3	46.3	46.9	47.0	47.7	46.7	46.6	47.2
	621, 622	GdySBon3	800	50	1	204	48.0	47.5	47.9	47.9	47.1	47.2	47.7	47.8	48.6	47.6	47.5	48.1												
	622, 419	GdySBon4	800	50	1	319	48.2	47.9	48.1	48.1	47.7	47.6	48.0	48.1	48.7	47.8	47.9	48.4												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	890	35	1	302	33.0	33.1	32.9	33.3	33.0	32.6	33.0	33.1	33.0	33.0	33.3	33.4	33.1	33.0	33.0	33.2	33.0	32.8	33.1	33.1	33.0	33.0	33.2	33.2
	640, 641	GdySBonLoop2	890	35	1	259	33.4	33.3	33.2	33.5	33.3	33.1	33.4	33.4	33.2	33.3	33.4	33.5												
	641, 642	GdySBonLoop3	890	35	1	227	33.3	33.3	33.2	33.5	33.2	33.1	33.3	33.3	33.2	33.2	33.4	33.3												
	642, 643	GdySBonLoop4	890	35	1	211	33.0	33.0	32.9	33.2	33.0	32.8	33.1	33.0	33.0	33.0	33.2	33.2												
	643, 644	GdySBonLoop5	890	35	1	211	33.0	32.9	32.9	33.1	32.9	32.8	33.0	33.0	32.9	33.0	33.1	33.1												
	644, 645	GdySBonLoop6	890	35	1	207	32.8	32.8	32.8	33.0	32.8	32.7	32.9	32.9	32.8	32.9	33.0	33.0												
	645, 418	GdySBonLoop7	890	35	1	252	32.9	32.8	32.9	33.0	32.8	32.7	33.0	32.9	32.8	32.8	33.0	32.9												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	58.2	58.0	58.0	58.4	58.0	57.7	57.8	57.9	58.3	58.2	58.4	58.6	57.5	57.3	57.3	57.7	57.2	57.0	57.1	57.2	57.6	57.5	57.7	57.9
	541, 542	RvEB3	3,215	60	3	1,028	56.5	56.3	56.3	56.7	56.2	56.0	56.2	56.2	56.6	56.5	56.6	56.9												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,855	60	2	513	58.1	58.0	58.1	58.3	57.9	57.7	57.9	58.0	58.1	58.2	58.3	58.5	58.1	58.0	58.1	58.3	57.9	57.7	57.9	58.0	58.1	58.2	58.3	58.5
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,790	60	2	120	56.1	55.9	55.8	56.2	55.6	55.3	55.6	55.4	55.8	56.1	56.5	56.6	57.1	56.9	56.8	57.1	56.6	56.4	56.6	56.6	56.8	57.1	57.4	57.5
	546, 547	RvEB10	1,790	60	2	165	57.8	57.7	57.5	57.8	57.4	57.2	57.4	57.4	57.6	57.8	58.1	58.1												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,075	60	2	1,053	57.4	57.4	57.0	57.5	57.1	56.7	57.0	56.9	57.3	57.3	57.6	57.7	57.4	57.4	57.0	57.5	57.1	56.7	57.0	56.9	57.3	57.3	57.6	57.7
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,060	60	2	756	58.7	58.5	58.6	58.6	58.2	58.3	58.3	58.4	58.8	58.8	58.6	58.7	58.6	58.4	58.6	58.5	58.0	58.1	58.1	58.2	58.8	58.7	58.6	58.7
	558, 559	RvWB3	2,060	60	2	146	58.5	58.2	58.4	58.4	57.6	57.6	57.7	57.9	58.7	58.5	58.6	58.8												
	559, 560	RvWB4	2,060	60	3	151	58.3	57.9	58.5	58.4	57.5	57.6	57.6	57.9	58.7	58.5	58.7	58.9												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1,825	60	2	125	58.7	58.5	58.7	58.8	58.1	58.3	58.1	58.4	59.0	58.8	58.8	58.9	58.7	58.5	58.7	58.8	58.1	58.3	58.1	58.4	59.0	58.8	58.8	58.9
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,515	60	2	133	56.2	56.0	56.0	56.5	55.8	55.7	55.5	56.0	56.8	56.7	55.8	56.3	58.0	57.9	57.9	58.2	57.7	57.7	57.6	57.9	58.3	58.2	57.8	58.0
	567, 568	RvWB14	1,515	60	2	750	58.2	58.1	58.2	58.4	58.0	58.0	57.9	58.2	58.5	58.5	58.1	58.2												
	568, 569	RvWB15	1,515	60	2	281	58.2	58.1	58.1	58.4	58.0	57.9	57.9	58.1	58.5	58.4	58.1	58.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,515	60	4	1,137	57.9	57.7	57.8	57.9	57.7	57.6	57.6	57.7	58.0	57.9	57.9	57.9	57.9	57.7	57.8	57.9	57.7	57.6	57.6	57.7	58.0	57.9	57.9	57.9
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,610	50	2	228	49.7	49.4	49.4	49.8	49.4	48.9	48.9	49.2	49.9	49.7	50.1	50.4	49.7	49.4	49.4	49.8	49.4	48.9	48.9	49.2	49.9	49.7	50.1	50.4
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,610	50	2	168	45.6	45.4	45.4	45.8	45.5	45.1	45.1	45.2	45.7	45.7	46.0	46.2	46.7	46.9	46.8	47.1	46.8	46.6	46.5	46.7	47.1	47.1	47.4	47.5
	701, 702	RvNBoff5	2,610	50	2	198	46.9	47.4	47.2	47.6	47.1	47.0	46.9	47.2	47.6	47.6	47.8	47.9												
	702, 703	RvNBoff6	2,610	50	3	130	47.7	48.0	47.9	48.2	47.8	47.9	47.6	47.9	48.1	48.2	48.4	48.5												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	285	50	1	336	49.0	49.1	48.6	49.1	49.2	49.3	48.8	48.7	49.0	49.0	49.0	49.4	49.3	49.3	49.0	49.3	49.4	49.5	49.1	48.9	49.3	49.1	49.3	49.6
	704, 705	RvNBoff8	285	50	1	200	49.4	49.4	49.0	49.3	49.4	49.6	49.2	49.0	49.3	49.1	49.3	49.6												
	705, 706	RvNBoff9	285	50	1	223	49.5	49.4	49.1	49.3	49.5	49.6	49.3	49.0	49.4	49.2	49.4	49.7												
	706, 707	RvNBoff10	285	50	1	262	49.5	49.4	49.1	49.3	49.5	49.6	49.3	49.1	49.4	49.1	49.4	49.7												
	707, 547	RvNBoff11	285	50	1	264	49.4	49.4	49.1	49.3	49.3	49.5	49.3	49.0	49.4	49.0	49.4	49.6												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,000	50	2	248	49.5	49.3	49.4	49.5	49.5	49.4	49.4	49.4	49.4	49.5	49.5	49.5	49.5	49.3	49.5	49.5	49.5	49.4	49.4	49.4	49.5	49.5	49.5	49.6
	715, 716	RvNBoff21	1,000	50	2	642	49.6	49.4	49.5	49.5	49.5	49.4	49.5	49.4	49.5	49.5	49.6	49.6												
	716, 569	RvNBoff22	1,000	50	2	670	49.5	49.3	49.5	49.5	49.4	49.4	49.4	49.4	49.5	49.4	49.5	49.6												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	235	50	1	296	54.1	53.9	53.9	53.8	53.7	53.5	53.9	53.8	54.3	54.3	53.9	54.5	52.6	52.5	52.5	52.4	52.3	52.1	52.4	52.4	52.7	52.9	52.5	53.1
	758, 7016	RvNBon4	235	50	1	127	49.2	49.3	49.1	49.3	49.1	49.1	48.9	49.0	49.1	49.5	49.1	49.7												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,200	50	2	97	46.2	45.9	45.9	46.1	45.9	45.9	45.9	45.9	46.3	46.2	46.1	46.3	47.0	46.7	46.8	46.9	46.8	46.8	46.8	46.8	47.1	47.0	47.0	47.1
	757, 317	RvNBon10	1,200	50	2	123	47.7	47.4	47.5	47.6	47.5	47.5	47.5	47.5	47.7	47.7	47.6	47.7												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,630	50	2	223	51.3	51.3	51.2	51.5	51.2	50.9	50.8	51.1	51.4	51.6	51.8	51.5	50.1	50.2	50.0	50.3	50.0	49.8	49.7	50.0	50.2	50.4	50.6	50.3
	770, 7032	RvSBoff2	1,630	50	2	150	48.4	48.4	48.2	48.5	48.3	48.1	48.1	48.4	48.5	48.7	48.8	48.5												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,730	50	3	102	42.1	41.7	41.9	43.0	41.1	41.2	41.1	41.6	43.0	42.5	42.7	43.6	43.7	43.5	43.3	44.3	42.8	42.8	42.8	43.0	44.2	43.9	44.1	44.7
	793, 410	RvSBon5	1,730	50	3	655	44.0	43.7	43.5	44.5	43.1	43.0	43.1	43.3	44.4	44.1	44.3	44.9												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,360	50	2	270	49.0	48.8	48.8	49.1	48.8	48.7	48.7	48.7	49.1	48.9	48.9	49.1	49.0	48.9	48.9	49.1	48.8	48.8	48.7	48.8	49.1	49.0	49.0	49.2
	790, 7011	RvSBon11	1,360	50	2	250	49.1	49.0	48.9	49.2	48.9	48.9	48.8	48.9	49.2	49.1	49.0	49.2												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,325	50	2	311	48.3	48.3	48.3	48.4	48.2	48.2	48.1	48.2	48.5	48.4	48.5	48.6	48.3	48.1	48.2	48.2	48.2	47.9	48.0	48.1	48.3	48.3	48.3	48.5
	708, 710	118NBoff2	2,325	50	2	567	47.8	47.7	47.7	47.8	47.7	47.4	47.5	47.5	47.9	47.9	48.0	48.1												
	710, 711	118NBoff3	2,325	50	2	460	47.9	47.7	47.7	47.8	47.6	47.3	47.5	47.6	47.8	47.8	47.9	48.1												
	711, 712	118NBoff4	2,325	50	3	472	48.6	48.4	48.5	48.5	48.5	48.3	48.4	48.4	48.6	48.6	48.6	48.7												
	712, 713	118NBoff5	2,325	50	3	395	48.7	48.5	48.6	48.6	48.7	48.5	48.5	48.5	48.7	48.7	48.7	48.8												
	713, 714	118NBoff6	2,325	50	3	188	48.7	48.5	48.6	48.6	48.7	48.5	48.5	48.5	48.6	48.7	48.7	48.8												
	714, 717	118NBoff7	1,325	50	2	212	48.3	48.2	48.1	48.2	48.3	48.0	48.0	48.1	48.2	48.3	48.3	48.4												

2020 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,325	50	2	389	48.6	48.5	48.5	48.4	48.6	48.4	48.4	48.4	48.4	48.5	48.6	48.7	48.6	48.6	48.5	48.5	48.6	48.4	48.5	48.4	48.5	48.6	48.6	48.8
	718, 719	118NBoff9	1,325	50	2	373	48.7	48.6	48.6	48.6	48.6	48.5	48.5	48.5	48.6	48.7	48.6	48.8												
	719, 720	118NBoff10	1,325	50	2	589	48.7	48.6	48.5	48.6	48.6	48.4	48.5	48.5	48.6	48.7	48.7	48.8												
	720, 721	118NBoff11	1,325	50	2	311	48.7	48.6	48.5	48.5	48.6	48.4	48.5	48.4	48.5	48.6	48.7	48.8												
	721, 722	118NBoff12	1,325	50	2	327	48.7	48.7	48.5	48.6	48.6	48.4	48.5	48.5	48.5	48.6	48.7	48.8												
	722, 723	118NBoff13	1,325	50	2	626	48.6	48.6	48.5	48.6	48.6	48.4	48.5	48.4	48.6	48.7	48.7	48.8												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,495	60	4	1,252	56.1	56.0	56.0	56.1	56.1	55.9	55.9	56.0	56.0	56.2	56.2	56.2	56.8	56.7	56.7	56.8	56.8	56.6	56.6	56.7	56.7	56.9	56.9	56.9
	724, 725	118NBoff15	3,495	60	4	575	58.4	58.3	58.3	58.4	58.4	58.2	58.2	58.3	58.3	58.5	58.5	58.5												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,240	60	2	611	58.6	58.7	58.7	58.9	58.6	58.4	58.5	58.7	58.9	58.7	58.8	58.9	56.7	56.9	56.8	57.0	56.6	56.3	56.5	56.8	57.1	56.8	56.9	57.2
	740, 741	118NBon3	2,240	60	2	1,571	56.0	56.1	56.1	56.3	55.8	55.4	55.7	56.0	56.4	56.1	56.2	56.5												
NB I-275 On Ramp from 118th	741, 748	118NBon4	820	50	1	268	55.3	55.1	55.2	55.4	55.0	55.1	55.0	55.2	55.6	55.4	55.2	55.4	48.1	47.9	48.0	48.1	47.8	47.8	47.9	47.9	48.2	48.1	48.1	48.2
	748, 749	118NBon5	820	50	1	541	48.1	47.9	48.0	48.2	47.7	47.9	47.9	48.0	48.3	48.1	48.0	48.2												
	749, 750	118NBon6	820	50	1	715	47.9	47.7	47.9	48.0	47.6	47.7	47.7	47.8	48.0	48.0	47.9	48.0												
	750, 751	118NBon7	820	50	1	245	47.7	47.4	47.5	47.7	47.4	47.4	47.4	47.5	47.7	47.7	47.6	47.7												
	751, 752	118NBon8	820	50	1	252	47.5	47.2	47.3	47.5	47.2	47.2	47.2	47.3	47.6	47.5	47.4	47.5												
	752, 753	118NBon9	820	50	1	352	47.3	47.2	47.3	47.4	47.1	47.1	47.2	47.2	47.5	47.4	47.4	47.5												
	753, 754	118NBon10	820	50	1	264	47.3	47.2	47.3	47.4	47.1	47.1	47.2	47.2	47.4	47.4	47.4	47.5												
	754, 755	118NBon11	820	50	1	415	47.3	47.0	47.1	47.3	47.0	46.9	47.0	47.1	47.3	47.3	47.3	47.3												
	755, 7009	118NBon12	820	50	1	733	47.0	46.8	46.9	47.1	46.8	46.7	46.8	46.9	47.1	47.1	47.0	47.1												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,490	50	1	147	34.0	33.8	34.0	34.1	33.7	33.9	33.1	33.8	34.2	33.8	34.0	34.1	45.5	45.2	45.5	45.5	45.2	45.1	44.6	45.3	45.6	45.4	45.6	45.5
	775, 776	118SBoff3	1,490	50	1	934	46.2	45.7	46.1	46.1	45.7	45.5	44.8	45.7	46.2	45.9	46.1	46.0												
	776, 777	118SBoff4	1,490	50	1	371	46.6	46.4	46.6	46.6	46.3	46.2	45.9	46.5	46.7	46.6	46.7	46.7												
	777, 778	118SBoff5	1,490	50	1	446	46.5	46.3	46.5	46.5	46.3	46.1	46.0	46.4	46.6	46.5	46.6	46.6												
	778, 6020	118SBoff6	1,490	50	1	340	46.3	46.1	46.3	46.3	46.1	46.0	45.9	46.2	46.4	46.4	46.5	46.4												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,170	50	2	990	48.8	48.7	48.6	48.9	48.7	48.6	48.5	48.8	48.7	49.0	49.1	48.9	48.8	48.7	48.6	48.9	48.7	48.6	48.5	48.8	48.7	49.0	49.1	48.9
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,420	50	1	197	46.2	46.3	46.3	46.6	46.1	45.6	46.0	46.2	46.7	46.4	46.5	46.9	46.5	46.5	46.6	46.7	46.4	46.0	46.2	46.5	46.9	46.6	46.8	47.0
	742, 743	118SBon2	1,420	50	1	119	46.0	46.0	46.1	46.4	45.8	45.2	45.6	46.0	46.5	46.2	46.3	46.7												
	743, 744	118SBon3	1,420	50	1	126	46.2	46.3	46.4	46.6	46.1	45.5	45.8	46.2	46.7	46.4	46.6	47.0												
	744, 745	118SBon4	1,420	50	1	162	46.6	46.7	46.8	46.9	46.5	46.0	46.2	46.6	47.1	46.8	47.0	47.3												
	745, 746	118SBon5	1,420	50	1	200	46.9	47.0	47.0	47.2	46.9	46.5	46.6	46.9	47.4	47.0	47.3	47.5												
	746, 747	118SBon6	1,420	50	1	166	47.0	47.1	47.1	47.2	47.0	46.7	46.8	47.0	47.4	47.1	47.3	47.5												
	747, 413	118SBon7	1,420	50	1	973	46.4	46.4	46.5	46.6	46.3	46.0	46.3	46.4	46.8	46.5	46.7	46.9												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,200	60	3	2,420	57.9	57.8	57.7	58.0	57.9	57.6	57.7	57.7	57.9	58.0	58.1	57.9	57.9	57.8	57.7	58.0	57.9	57.6	57.7	57.7	57.9	58.0	58.1	57.9
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,280	50	2	647	49.2	48.9	49.0	49.2	49.0	48.8	48.8	49.0	49.2	49.1	49.2	49.3	49.1	48.8	49.0	49.1	48.9	48.7	48.7	48.9	49.1	49.0	49.2	49.2
	811, 812	UlmNBon4	1,280	50	2	590	49.2	48.9	49.1	49.2	49.0	48.8	48.8	49.0	49.2	49.1	49.2	49.2												
	812, 813	UlmNBon5	1,280	50	2	323	49.1	48.8	49.0	49.1	48.9	48.7	48.7	48.9	49.1	49.1	49.1	49.2												
	813, 814	UlmNBon6	1,280	50	2	328	49.1	48.8	49.0	49.1	48.9	48.6	48.7	48.9	49.1	49.1	49.1	49.2												
	814, 815	UlmNBon7	1,280	50	2	288	49.1	48.7	49.0	49.1	48.9	48.6	48.7	48.9	49.1	49.0	49.2	49.2												
	815, 816	UlmNBon8	1,280	50	2	273	49.1	48.7	49.0	49.1	48.8	48.5	48.7	48.9	49.1	49.0	49.1	49.2												
	816, 322	UlmNBon9	1,280	50	2	888	49.0	48.7	48.9	49.1	48.9	48.5	48.6	48.8	49.0	49.0	49.1	49.1												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,560	50	2	318	48.4	48.4	48.4	48.4	48.3	48.2	48.2	48.5	48.4	48.3	48.5	48.5	48.7	48.8	48.7	48.8	48.7	48.7	48.7	48.9	48.8	48.7	48.9	48.8
	830, 831	UlmSBoff2	1,560	50	2	346	49.0	49.1	49.0	49.1	49.0	49.1	49.0	49.2	49.1	49.0	49.1	49.1												
	831, 7036	UlmSBoff3	1,560	50	2	283	48.8	48.9	48.7	48.9	48.8	48.9	48.8	48.9	48.9	48.9	49.0	48.9												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,300	50	2	398	48.9	48.8	48.7	48.9	48.8	48.7	48.8	48.9	48.8	48.9	48.9	48.9	57.1	56.9	56.9	57.1	56.9	56.9	56.9	57.1	57.0	57.1	57.1	57.2
	834, 835	UlmSBoff8	1,300	60	2	584	54.7	54.6	54.5	54.7	54.5	54.5	54.4	54.6	54.6	54.6	54.6	54.7												
	835, 836	UlmSBoff9	1,300	60	2	481	59.0	58.8	58.8	59.0	58.9	58.8	58.8	59.0	59.0	59.0	59.0	59.1												
	836, 837	UlmSBoff10	1,300	60	2	2,160	58.8	58.6	58.6	58.9	58.7	58.6	58.6	58.9	58.8	58.8	58.8	58.9												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	920	35	1	493	49.9	49.7	49.3	49.9	49.6	49.3	49.1	49.3	50.2	50.2	50.3	49.9	45.7	45.4	45.1	45.7	45.3	45.0	44.8	45.1	45.9	46.0	46.0	45.7
	802, 803	UlmSBon2	920	35	1	214	36.0	35.7	35.4	35.9	35.4	35.3	35.0	35.5	36.0	36.2	36.3	36.0												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	690	35	1	163	33.6	33.5	33.3	33.5	33.3	33.3	33.1	33.5	33.5	33.6	33.8	33.6	41.6	41.7	41.4	41.6	41.6	41.5	41.3	41.7	41.8	41.8	41.9	41.6
	808, 809	UlmSBon4	690	35	1	163	33.7	33.8	33.6	33.7	33.7	33.7	33.5	33.8	33.8	33.9	33.9	33.7												
	809, 810	UlmSBon5	690	35	1	228	33.6	33.7	33.4	33.6	33.6	33.6	33.4	33.7	33.7	33.8	33.9	33.6												
	810, 402	UlmSBon6	690	50	1	1,170	45.4	45.5	45.2	45.4	45.4	45.3	45.0	45.5	45.6	45.6	45.7	45.4												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	230	35	1	201	34.9	34.3	34.7	34.7	34.5	34.4	34.6	34.5	34.6	34.8	34.7	34.5	44.1	43.5	43.8	43.9	43.7	43.6	43.8	43.7	43.8	44.0	44.0	43.8
	804, 805	UlmSBMLK2	230	50	1	361	41.7	41.3	41.5	41.6	41.4	41.4	41.5	41.4	41.5	41.6	41.6	41.5												
	805, 806	UlmSBMLK3	230	50	1	499	49.6	48.9	49.2	49.3	49.1	49.0	49.1	49.0	49.1	49.4	49.4	49.2												
SB MLK	806, 807	UlmSBMLK4	490	50	2	1,171	49.4	49.1	49.2	49.3	49.2	49.2	49.2	49.2	49.1	49.2	49.5	49.5	49.4	49.1	49.2	49.3	49.2	49.2	49.2	49.2	49.1	49.2	49.5	49.5
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	350	50	1	1,080	49.6	49.7	49.8	49.4	49.5	49.5	49.7	49.5	49.6	49.5	49.7	50.0	49.4	49.5	49.6	49.2	49.2	49.3	49.4	49.2	49.5	49.3	49.4	49.9
	851, 852	MLKNBon3	350	50	1	350	49.4	49.5	49.6	49.2	49.2	49.3	49.4	49.2	49.5	49.3	49.4	49.9												
	852, 853	MLKNBon4	350	50	1	360	49.3	49.3	49.4	49.0	49.0	49.1	49.3	49.0	49.4	49.1	49.2	49.8												
	853, 321	MLKNBon5	350	50	1	548	49.1	49.1	49.2	48.9	48.9	49.0	49.1	48.8	49.2	49.1	49.1	49.6												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	260	50	1	294	48.5	48.5	48.4	48.5	48.7	48.5	48.5	48.8	48.3	48.4	48.4	48.8	48.9	48.9	48.8	48.9	49.0	49.0	48.9	49.0	48.7	48.8	48.9	49.3
	839, 840	MLKSBoff4	260	50	1	336	49.1	49.1	48.9	49.1	49.2	49.1	49.1	49.3	48.9	49.0	49.1	49.5												
	840, 841	MLKSBoff5	260	50	1	395	49.0	48.9	48.9	49.1	49.1	49.1	49.1	49.1	48.7	48.8	49.0	49.4												
	841, 806	MLKSBoff6	260	50	1	539	48.9	48.9	48.9	49.0	49.0	49.1	49.0	48.9	48.6	48.8	49.0	49.4												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	630	60	2	1,270	59.5	59.6	59.7	59.7	59.5	59.3	59.5	59.7	59.2	59.5	59.5	59.6	58.8	58.9	59.0	59.1	58.7	58.5	58.7	59.1	58.6	58.9	58.9	59.1
	901, 902	4thNBon3	630	60	2	634	59.5	59.5	59.7	59.6	59.4	59.3	59.3	59.7	59.2	59.4	59.4	59.7												
	902, 903	4thNBon4	630	60	2	322	58.9	58.9	59.2	59.2	58.7	58.6	58.7	59.2	58.6	58.9	59.0	59.2												
	903, 904	4thNBon5	630	60	2	279	58.3	58.3	58.5	58.7	58.0	57.9	58.0	58.6	58.1	58.4	58.5	58.8												
	904, 905	4thNBon6	630	60	2	388	58.1	58.2	58.2	58.6	57.9	57.7	57.9	58.5	58.1	58.3	58.4	58.7												
	905, 906	4thNBon7	630	60	1	313	58.1	58.2	58.4	58.6	58.0	57.8	57.9	58.5	58.2	58.4	58.4	58.7												
	906, 907	4thNBon8	630	60	1	305	58.2	58.2	58.4	58.5	57.9	57.8	57.9	58.5	58.2	58.4	58.4	58.6												
	907, 324	4thNBon9	630	60	1	666	58.0	58.1	58.2	58.3	57.7	57.7	57.8	58.3	58.0	58.2	58.3	58.4												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,030	60	1	466	57.4	57.2	57.6	57.4	57.2	56.4	56.1	56.8	57.5	57.6	57.8	57.7	57.9	57.7	57.9	57.6	57.8	57.6	57.6	57.7	57.8	58.0	57.7	57.7
	920, 921	4thSBoff2	1,030	60	1	492	58.3	58.2	58.4	58.0	58.2	58.2	58.1	58.1	58.3	58.4	58.2	58.1												
	921, 922	4thSBoff3	1,030	60	1	420	58.1	58.0	58.1	57.8	58.0	58.0	58.0	58.0	58.1	58.2	57.9	57.8												
	922, 923	4thSBoff4	1,030	60	1	393	57.7	57.5	57.7	57.4	57.6	57.6	57.6	57.6	57.7	57.9	57.5	57.5												
	923, 924	4thSBoff5	1,030	60	1	384	57.4	57.1	57.4	57.1	57.3	57.2	57.2	57.3	57.3	57.5	57.2	57.2												
	924, 925	4thSBoff6	1,030	60	1	354	57.2	57.0	57.2	56.9	57.2	57.0	57.0	57.1	57.1	57.3	57.1	57.0												
	925, 926	4thSBoff7	1,030	60	1	501	57.0	56.8	57.0	56.8	57.0	56.8	56.8	56.9	57.0	57.2	57.0	56.9												
	926, 927	4thSBoff8	1,030	60	1	416	56.8	56.6	56.7	56.6	56.7	56.6	56.6	56.6	56.7	57.0	56.8	56.7												
	927, 928	4thSBoff9	1,030	60	2	1,153	58.0	57.9	58.1	57.7	57.9	57.9	57.9	57.9	57.9	58.1	57.8	57.8												

2020 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,030	60	2	1,242	58.8	58.6	58.7	58.5	58.7	58.6	58.7	58.6	58.6	58.9	58.5	58.6												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	700	70	1	1,116	69.0	69.1	68.7	69.3	69.0	68.9	68.9	69.2	69.1	69.0	69.1	69.2	67.5	67.5	67.2	67.7	67.3	67.0	67.2	67.6	67.7	67.4	67.6	67.8
	5000, 5001	SULNB2	700	70	1	2,205	68.5	68.4	68.1	68.7	68.4	68.2	68.3	68.6	68.6	68.5	68.5	68.7												
	5001, 5002	SULNB3	700	70	1	528	67.6	67.4	67.2	67.8	67.4	67.1	67.3	67.6	67.8	67.5	67.6	67.9												
	5002, 5003	SULNB4	700	70	1	346	67.4	67.2	67.0	67.6	67.1	66.8	67.0	67.3	67.6	67.2	67.4	67.7												
	5003, 5004	SULNB5	700	70	1	235	67.2	67.0	66.9	67.4	66.9	66.7	66.8	67.2	67.4	67.1	67.3	67.5												
	5004, 5005	SULNB6	700	70	1	270	67.1	66.9	66.7	67.3	66.8	66.6	66.6	67.0	67.3	67.0	67.2	67.4												
	5005, 5006	SULNB7	700	70	1	238	67.0	66.8	66.6	67.2	66.6	66.4	66.5	66.9	67.1	66.8	67.1	67.3												
	5006, 5007	SULNB8	700	70	1	261	66.9	66.7	66.5	67.1	66.5	66.3	66.4	66.8	67.0	66.7	67.0	67.2												
	5007, 5008	SULNB9	700	70	1	451	66.7	66.7	66.4	67.0	66.4	66.1	66.3	66.7	66.9	66.6	66.9	67.1												
	5008, 5009	SULNB10	700	70	1	242	66.6	66.6	66.3	66.9	66.3	65.9	66.2	66.5	66.8	66.4	66.8	67.0												
	5009, 5010	SULNB11	700	70	1	158	66.5	66.5	66.2	66.8	66.2	65.9	66.2	66.4	66.8	66.3	66.8	67.0												
	5010, 5011	SULNB12	700	70	1	539	66.4	66.4	66.1	66.7	66.1	65.7	66.0	66.3	66.6	66.2	66.7	66.8												
	5011, 5012	SULNB13	700	70	1	564	66.2	66.2	65.9	66.4	66.0	65.5	65.8	66.1	66.4	66.0	66.5	66.6												
	5012, 5013	SULNB14	700	70	1	824	66.0	65.9	65.7	66.2	65.8	65.3	65.5	66.0	66.2	65.8	66.3	66.5												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,020	70	1	2,172	65.3	65.3	65.0	65.4	64.9	64.4	64.8	65.0	65.4	65.1	65.5	65.8	64.5	64.5	64.3	64.7	64.2	64.0	64.2	64.4	64.7	64.5	64.7	65.0
	5014, 5015	SULNB16	1,020	70	1	1,149	65.4	65.3	65.0	65.5	65.1	64.7	65.0	65.3	65.5	65.3	65.6	65.8												
	5015, 5016	SULNB17	1,020	70	1	2,057	64.8	64.8	64.6	65.0	64.5	64.4	64.4	64.7	65.0	64.7	65.0	65.2												
	5016, 5017	SULNB18	1,020	70	1	1,250	64.4	64.5	64.3	64.7	64.3	64.0	64.2	64.3	64.6	64.5	64.6	64.9												
	5017, 5018	SULNB19	1,020	70	1	1,385	64.1	64.2	63.9	64.4	63.9	63.7	63.9	64.1	64.4	64.2	64.4	64.6												
	5018, 5019	SULNB20	1,020	70	1	843	64.1	64.0	63.9	64.3	63.8	63.7	63.8	63.8	64.2	64.2	64.2	64.5												
	5019, 5020	SULNB21	1,020	70	1	687	64.0	64.0	63.7	64.1	63.7	63.6	63.7	63.7	64.1	63.9	64.0	64.3												
	5020, 5021	SULNB22	1,020	70	1	2,036	63.8	63.8	63.6	64.0	63.5	63.4	63.4	63.6	64.0	63.8	63.9	64.1												
	5021, 5022	SULNB23	1,020	70	1	171	63.4	63.5	63.2	63.8	63.2	62.9	63.1	63.1	63.6	63.4	63.5	63.9												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,320	70	1	1,752	60.8	61.4	61.0	61.7	60.7	59.6	60.1	59.8	61.2	61.3	61.5	61.8	63.2	63.3	63.1	63.5	62.9	62.5	62.7	62.8	63.3	63.3	63.4	63.6
	5023, 5024	SULNB25	1,320	70	1	1,039	64.4	64.4	64.2	64.6	64.2	63.9	63.8	64.2	64.6	64.4	64.7	64.8												
	5024, 5025	SULNB26	1,320	70	1	814	64.5	64.5	64.4	64.6	64.2	64.2	64.2	64.6	64.6	64.5	64.6	64.8												
	5025, 5026	SULNB27	1,320	70	1	2,530	63.8	63.7	63.6	64.0	63.4	63.4	63.5	63.7	63.8	63.8	63.8	64.0												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	320	70	1	266	66.6	66.2	66.4	66.7	65.8	65.8	66.1	66.2	67.0	66.6	66.2	67.2	68.2	68.3	67.9	68.3	67.6	68.0	68.0	68.0	68.1	68.1	67.7	68.2
	5100, 5101	SULNBRamp2	320	70	1	528	68.1	68.0	68.0	68.1	67.5	67.8	67.9	68.0	68.3	68.1	67.7	68.4												
	5101, 5102	SULNBRamp3	320	70	1	379	68.9	68.9	68.8	68.9	68.3	68.7	68.8	68.8	68.9	68.8	68.4	68.9												
	5102, 5103	SULNBRamp4	320	70	1	376	69.1	69.1	68.9	69.0	68.4	68.9	68.8	68.9	68.9	68.9	68.4	68.9												
	5103, 5104	SULNBRamp5	320	70	1	363	69.0	69.0	68.7	68.9	68.3	68.8	68.8	68.9	68.9	68.8	68.3	68.8												
	5104, 5105	SULNBRamp6	320	70	1	352	68.9	68.9	68.6	68.8	68.2	68.7	68.6	68.8	68.7	68.6	68.1	68.7												
	5105, 5106	SULNBRamp7	320	70	1	831	68.7	68.7	68.3	68.6	68.0	68.5	68.4	68.5	68.5	68.4	68.0	68.5												
	5106, 5107	SULNBRamp8	320	70	1	1,172	68.3	68.5	68.0	68.4	67.8	68.2	68.2	68.2	68.2	68.3	67.8	68.4												
	5107, 5108	SULNBRamp9	320	70	1	656	68.0	68.3	67.7	68.2	67.5	67.9	68.0	67.9	67.9	68.1	67.4	68.1												
	5108, 5109	SULNBRamp10	320	70	1	803	67.9	68.1	67.6	68.1	67.3	67.7	67.9	67.7	67.7	67.9	67.4	67.9												
	5109, 5110	SULNBRamp11	320	70	1	897	67.7	67.8	67.5	67.9	67.0	67.5	67.6	67.6	67.5	67.7	67.4	67.8												
	5110, 5111	SULNBRamp12	320	70	1	513	67.6	67.7	67.4	67.8	66.8	67.3	67.4	67.5	67.4	67.5	67.2	67.7												
	5111, 5013	SULNBRamp13	320	70	1	267	67.5	67.6	67.3	67.7	66.7	67.2	67.4	67.4	67.3	67.4	67.2	67.6												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	300	70	1	157	67.3	67.3	67.2	67.3	67.2	67.0	66.7	67.1	67.2	67.4	67.5	67.5	67.3	67.3	67.2	67.3	67.2	67.0	66.7	67.1	67.2	67.4	67.5	67.5
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,380	70	1	1,586	68.6	68.5	68.4	68.6	68.4	68.3	68.4	68.3	68.6	68.7	68.9	68.7	68.6	68.5	68.4	68.6	68.4	68.3	68.4	68.3	68.6	68.7	68.9	68.7
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,120	70	1	941	68.1	67.8	67.9	67.9	67.8	67.6	67.7	67.6	68.0	68.1	68.4	68.2	64.7	64.6	64.7	64.9	64.5	64.4	64.4	64.4	64.8	64.8	65.1	65.0
	5997, 5998	SULSB1	1,120	70	1	816	67.1	66.7	66.9	67.0	66.8	66.6	66.6	66.6	67.1	67.1	67.5	67.2												
	5998, 5999	SULSB1	1,120	70	1	1,054	66.4	66.1	66.3	66.4	66.2	66.0	66.0	66.0	66.5	66.5	66.9	66.6												
	5999, 6000	SULSB1	1,120	70	1	1,908	65.6	65.4	65.5	65.7	65.3	65.2	65.2	65.2	65.7	65.7	66.0	65.9												
	6000, 6001	SULSB2	1,120	70	1	2,064	64.9	64.7	64.8	65.0	64.6	64.6	64.6	64.5	65.0	65.0	65.2	65.3												
	6001, 6002	SULSB3	1,120	70	1	572	64.5	64.4	64.5	64.6	64.4	64.2	64.3	64.2	64.7	64.7	64.7	65.0												
	6002, 6003	SULSB4	1,120	70	1	407	64.4	64.3	64.4	64.5	64.2	64.0	64.2	64.1	64.5	64.5	64.7	64.8												
	6003, 6004	SULSB5	1,120	70	1	1,528	64.1	64.1	64.2	64.4	63.9	63.8	64.0	63.8	64.3	64.4	64.5	64.6												
	6004, 6005	SULSB6	1,120	70	1	1,420	63.9	63.9	64.0	64.2	63.8	63.6	63.7	63.6	64.0	64.1	64.3	64.4												
	6005, 6006	SULSB7	1,120	70	1	4,087	63.6	63.6	63.6	63.9	63.5	63.3	63.3	63.3	63.6	63.7	64.0	64.0												
	6006, 6007	SULSB8	1,120	70	1	1,611	63.3	63.3	63.3	63.6	63.2	63.0	63.1	63.1	63.3	63.5	63.7	63.7												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	680	70	1	767	65.3	65.2	65.3	65.4	65.0	65.0	65.1	64.9	65.1	65.4	65.5	65.3	65.5	65.5	65.4	65.6	65.3	65.1	65.2	65.3	65.2	65.6	65.8	65.5
	6008, 6009	SULSB10	680	70	1	614	66.7	66.6	66.5	66.7	66.3	66.4	66.4	66.2	66.4	66.6	66.7	66.4												
	6009, 6010	SULSB11	680	70	1	382	66.4	66.4	66.3	66.5	66.2	66.2	66.2	66.2	66.2	66.5	66.6	66.2												
	6010, 6011	SULSB12	680	70	1	135	66.1	66.1	65.9	66.3	66.0	65.8	65.9	66.0	65.9	66.2	66.3	66.0												
	6011, 6012	SULSB13	680	70	1	204	65.8	65.9	65.7	66.0	65.8	65.6	65.7	65.8	65.6	66.0	66.2	65.8												
	6012, 6013	SULSB14	680	70	1	613	65.4	65.5	65.4	65.6	65.4	65.1	65.2	65.3	65.2	65.6	65.8	65.4												
	6013, 6014	SULSB15	680	70	1	251	65.2	65.3	65.2	65.4	65.2	64.8	64.9	65.1	64.9	65.3	65.6	65.2												
	6014, 6015	SULSB16	680	70	1	233	65.1	65.3	65.1	65.3	65.1	64.8	64.9	65.0	64.9	65.3	65.5	65.2												
	6015, 6016	SULSB17	680	70	1	274	65.1	65.3	65.0	65.3	65.1	64.8	64.8	65.0	64.9	65.3	65.5	65.2												
	6016, 6017	SULSB18	680	70	1	238	65.1	65.2	65.0	65.3	65.1	64.7	64.8	65.0	64.9	65.3	65.5	65.2												
	6017, 6018	SULSB19	680	70	1	314	65.1	65.1	64.9	65.3	65.0	64.7	64.8	65.0	64.9	65.3	65.5	65.2												
	6018, 6019	SULSB20	680	70	1	879	64.9	64.9	64.8	65.1	64.9	64.5	64.6	64.8	64.7	65.1	65.3	65.1												
	6019, 6020	SULSB21	680	70	1	207	64.7	64.7	64.8	64.8	64.7	64.3	64.5	64.6	64.5	65.0	65.2	64.9												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	582	64.7	64.7	64.7	64.8	64.8	64.5	64.6	64.4	64.6	64.9	64.9	65.0	65.7	65.5	65.5	65.8	65.7	65.6	65.6	65.3	65.6	65.7	65.8	66.2
	6100, 6101	SULSBRamp2	440	70	1	621	67.2	67.1	67.0	67.1	67.3	67.2	67.2	66.8	67.1	67.3	67.2	67.3												
	6101, 6102	SULSBRamp3	440	70	1	317	67.7	67.6	67.5	67.6	67.9	67.8	67.8	67.3	67.6	67.8	67.7	67.7												
	6102, 6103	SULSBRamp4	440	70	1	915	67.2	67.2	67.0	67.3	67.5	67.5	67.4	66.9	67.2	67.2	67.4	67.4												
	6103, 6104	SULSBRamp5	440	70	1	1,093	66.3	66.5	66.4	66.6	66.6	66.6	66.6	66.1	66.5	66.4	66.6	66.9												
	6104, 6105	SULSBRamp6	440	70	1	1,068	66.2	66.1	66.3	66.4	66.2	66.4	66.2	65.8	66.3	66.3	66.3	66.7												
	6105, 6106	SULSBRamp7	440	70	1	788	65.8	65.8	65.9	66.2	65.9	66.1	65.8	65.5	66.0	65.9	66.0	66.6												
	6106, 6107	SULSBRamp8	440	70	1	367	65.8	65.7	65.8	66.0	65.8	65.9	65.7	65.4	65.9	65.8	65.9	66.5												
	6107, 6108	SULSBRamp9	440	70	1	373	65.8	65.6	65.8	66.0	65.8	66.0	65.7	65.5	65.9	65.8	65.8	66.5												
	6108, 6109	SULSBRamp10	440	70	1	445	65.8	65.5	65.7	65.9	65.8	66.0	65.7	65.4	65.9	65.8	65.9	66.3												
	6109, 6110	SULSBRamp11	440	70	1	8,866	65.3	64.9	65.0	65.3	65.3	65.1	65.1	64.8	65.2	65.2	65.3	65.8												
	6110, 1	SULSBRamp12	440	70	1	292	64.9	64.4	64.6	64.8	65.0	64.4	64.5	64.3	64.5	64.9	64.8	65.4												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	260	70	1	154	69.1	69.2	69.2	69.5	68.6	68.5	68.5	68.8	69.4	69.3	69.5	69.4	69.1	69.2	69.2	69.5	68.6	68.5	68.5	68.8	69.4	69.3	69.5	69.4

2020 Starter PM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5,340	70	3	1,087	1,189	1,244	1,186	1,132	1,335	1,410	1,333	1,267	1,098	1,156	1,091	1,044	26	24	29	26	23	22	20	22	25	25	27	27
	300, 301	I275NB3	5,340	70	3	805	1,188	1,244	1,187	1,132	1,333	1,408	1,335	1,268	1,099	1,152	1,092	1,044	33	34	34	30	34	34	35	37	30	31	30	25
	301, 302	I275NB4	5,340	70	3	478	1,187	1,244	1,187	1,133	1,331	1,407	1,337	1,268	1,101	1,153	1,092	1,044	31	32	31	31	34	34	33	32	27	30	26	27
	302, 303	I275NB5	5,340	70	3	2,687	1,183	1,247	1,195	1,132	1,317	1,403	1,343	1,272	1,106	1,152	1,097	1,046	883	945	867	814	1032	1065	1000	972	825	846	804	749
	303, 304	I275NB6	5,340	70	4	382	1,183	1,247	1,194	1,133	1,315	1,403	1,344	1,271	1,109	1,151	1,097	1,045	112	115	120	116	114	116	119	122	113	116	117	113
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3,600	70	3	1,375	792	837	808	771	872	950	917	849	743	775	732	706	65	64	64	62	68	76	77	65	53	62	63	60
	305, 306	I275NB8	3,600	70	3	1,306	791	839	808	770	871	950	917	848	746	771	736	705	60	62	60	57	64	64	67	62	56	57	54	55
	306, 307	I275NB9	3,600	70	3	591	791	841	808	771	869	948	918	850	744	772	738	705	31	25	29	27	31	32	32	30	23	24	28	26
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	4,460	70	5	1,065	989	1,041	995	960	1,084	1,174	1,131	1,059	929	958	914	881	190	200	185	186	211	223	211	199	183	182	176	165
	308, 309	I275NB11	4,460	70	5	3,035	986	1,041	998	958	1,081	1,165	1,138	1,064	932	956	920	875	283	310	299	291	308	339	340	316	279	285	273	260
	309, 2	I275NB12	4,460	70	4	350	986	1,040	997	959	1,080	1,166	1,139	1,065	932	956	919	876	129	125	131	121	126	130	133	132	123	127	122	117
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	4,140	70	4	745	915	962	926	895	1,000	1,083	1,054	989	861	888	853	811	312	338	323	306	346	370	370	350	311	312	305	279
	310, 311	I275NB13	4,140	70	4	380	914	963	925	896	999	1,082	1,055	986	863	886	854	812	113	126	124	110	125	133	136	127	116	112	111	97
	311, 312	I275NB14	4,140	70	4	399	914	964	925	896	999	1,081	1,056	985	865	886	854	813	107	114	111	107	127	146	135	125	98	104	99	92
	312, 313	I275NB15	4,140	70	4	368	913	965	926	896	997	1,080	1,057	984	866	886	855	811	43	43	39	36	44	58	52	49	35	37	35	26
	313, 314	I275NB16	4,140	70	4	460	912	964	927	897	995	1,077	1,060	983	867	888	855	809	22	21	22	23	28	38	31	26	18	19	18	17
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	1,530	70	3	879	323	345	330	319	365	389	378	350	305	313	304	297	14	13	11	11	16	17	20	15	11	12	11	9
	315, 316	I275NB18	1,530	70	3	1,293	324	346	328	323	362	390	379	352	305	312	303	298	13	16	16	14	17	19	19	17	15	14	14	13
	316, 317	I275NB19	1,530	70	3	1,158	323	346	327	323	361	389	377	353	306	311	304	298	17	16	17	14	18	20	20	16	12	14	14	14
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	2,730	70	5	372	592	624	588	585	655	695	684	646	562	575	552	535	176	177	167	163	192	193	199	182	166	169	157	147
	318, 319	I275NB21	2,730	70	5	2,611	589	622	593	584	655	691	684	643	569	574	553	537	341	355	334	337	380	401	403	379	326	332	318	295
	319, 320	I275NB22	2,730	70	3	1,802	590	620	593	587	652	690	686	645	570	572	553	539	68	76	68	70	78	85	85	78	68	71	62	59
	320, 321	I275NB23	2,730	70	3	501	591	620	593	587	651	691	687	644	569	574	552	539	20	20	20	18	22	20	23	21	18	21	18	16
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,080	70	3	1,814	663	705	670	662	735	781	776	728	646	646	628	604	175	186	172	171	196	213	199	187	161	171	163	150
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	4,360	70	5	814	961	1,015	955	941	1,054	1,122	1,096	1,042	919	926	891	859	256	267	257	248	278	297	281	271	244	244	238	220
	323, 324	I275NB26	4,360	70	5	1,850	963	1,014	954	941	1,052	1,122	1,096	1,043	920	926	894	860	117	133	112	113	132	140	138	131	111	107	100	102
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	4,990	70	4	838	1,107	1,160	1,096	1,075	1,207	1,286	1,255	1,192	1,054	1,062	1,018	986	514	532	506	482	549	559	545	538	478	499	470	459
	325, 326	I275NB28	4,990	70	4	704	1,111	1,157	1,096	1,078	1,198	1,292	1,255	1,193	1,055	1,059	1,020	988	262	278	258	244	301	350	317	298	241	245	234	202
	326, 327	I275NB29	4,990	70	3	1,988	1,113	1,154	1,098	1,077	1,190	1,296	1,256	1,199	1,059	1,052	1,027	984	294	320	283	276	334	375	344	326	278	275	263	252
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	4,690	70	3	1,906	1,036	1,070	1,032	1,004	1,101	1,206	1,171	1,113	984	979	952	915	123	118	125	117	118	120	125	123	116	111	114	106
	328, 329	I275NB31	4,690	70	3	1,046	1,035	1,070	1,034	1,003	1,101	1,201	1,173	1,114	984	979	951	921	64	63	64	65	67	67	72	68	64	61	61	54
	329, 330	I275NB32	4,690	70	3	803	1,032	1,072	1,032	1,005	1,099	1,201	1,174	1,116	984	979	952	920	47	50	48	48	50	51	52	49	43	48	43	45
	330, 331	I275NB33	4,690	70	3	2,542	1,030	1,075	1,032	1,008	1,091	1,201	1,170	1,118	994	977	954	920	149	153	146	144	164	161	161	157	141	145	141	136
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,800	70	3	1,731	1,287	1,351	1,294	1,233	1,414	1,478	1,475	1,425	1,197	1,252	1,194	1,129	163	125	151	201	111	149	165	130	182	197	213	210
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,060	70	4	787	1,342	1,396	1,376	1,283	1,451	1,544	1,551	1,494	1,270	1,305	1,247	1,184	259	343	316	231	511	657	668	591	276	226	233	226
	395, 396	I275SB1	6,060	70	4	818	1,341	1,396	1,380	1,282	1,449	1,541	1,552	1,494	1,279	1,304	1,249	1,190	726	741	719	579	692	611	602	688	576	627	477	425
	396, 397	I275SB1	6,060	70	3	1,049	1,342	1,394	1,382	1,283	1,446	1,540	1,553	1,497	1,280	1,303	1,250	1,191	195	200	176	181	178	153	159	159	179	198	173	163
	397, 398	I275SB1	6,060	70	3	1,916	1,343	1,393	1,381	1,287	1,437	1,540	1,555	1,501	1,286	1,302	1,249	1,190	194	192	192	172	214	221	240	221	193	178	171	175
	398, 399	I275SB1	6,060	70	3	2,120	1,342	1,393	1,385	1,291	1,424	1,540	1,553	1,506	1,291	1,303	1,248	1,190	354	369	353	312	376	412	421	397	329	335	295	284
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,030	70	3	2,742	1,120	1,171	1,164	1,084	1,200	1,290	1,300	1,274	1,079	1,092	1,050	1,002	599	624	606	558	651	726	735	709	559	565	532	506
	400, 401	I275SB3	5,030	70	4	1,083	1,118	1,170	1,164	1,084	1,199	1,290	1,299	1,274	1,082	1,090	1,053	1,001	196	198	208	181	224	252	258	243	182	185	173	173
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	3,470	70	3	4,105	779	822	821	759	837	898	901	898	752	758	737	695	206	233	233	197	255	275	286	281	202	191	178	172
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	4,160	70	4	720	927	977	977	908	1,009	1,068	1,084	1,061	896	903	880	828	182	189	201	190	192	212	210	194	191	181	175	167
	403, 404	I275SB6	4,160	70	4	1,327	929	973	980	910	1,007	1,068	1,084	1,061	898	900	881	832	365	395	399	368	404	431	435	435	349	369	354	318
	404, 405	I275SB7	4,160	70	4	461	927	974	980	909	1,005	1,068	1,082	1,064	899	900	881	831	65	71	65	63	72	84	91	91	64	64	62	55
	405, 406	I275SB8	4,160	70	4	452	928	975	980	909	1,003	1,067	1,084	1,063	903	898	883	830	24	29	24	23	27	32	30	34	25	22	18	18
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,530	70	3	855	550	573	570	535	592	631	632	630	531	530	517	495	27	28	27	25	32	34	34	37	25	25	23	22
	407, 408	I275SB10	2,530	70	3	347	549	574	570	536	591	630	632	630	531	530	517	495	10	10	11	9	13	11	11	13	8	9	6	8
	408, 409	I275SB11	2,530	70	3	1,585	548	573	569	539	589	630	632	630	535	530	515	497	42	45	49	45	49	54	52	52	46	43	42	42
	409, 410	I275SB12	2,530	70	3	458	548	572	569	539	589	629	632	630	535	530	514	497	12	15	16	14	15	18	17	16	13	14	14	12
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	4,260	70	4	629	942	978	963	919	1,005	1,076	1,073	1,050	906	901	883	836	398	403	399	378	420	458	443	422	369	374	370	339
	411, 412	I275SB14	4,260	70	4	247	942	978	963	918	1,004	1,075	1,073	1,050	906	901	884	835	30	30	31	28	32	35	35	33	26	25	26	24
	412, 413	I275SB15	4,260	70	4	608	944	979	962	919	1,004	1,073	1,076	1,048	909	900	885	835	58	58	54	48	68	75	72	63	48	51	49	42
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,680	70	4	492	1,261	1,311	1,278	1,215	1,357	1,458	1,435	1,383	1,200	1,205	1,178	1,109	433	448	425	405	482	514	484	455	391	414	400	365
	414, 415	I275SB17	5,680	70	4	3,870	1,253	1,311	1,286	1,208	1,351	1,451	1,439	1,387	1,209	1,200	1,189	1,107	827	854	831	763	883	952	929	882	777	781	757	715
	415, 416	I275SB18	5,680	70	4	1,086	1,248	1,312	1,288	1,209	1,347	1,453	1,436	1,387	1,214	1,203	1,188	1,107	250	274	257	234	287	331	318	293	237	225	233	203
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	4,500	70	3	1,385	973	1,016	997	937	1,044	1,132	1,121	1,074	949	928	926	855	94	100	107	98	111	114	109	113	96	94	89	87
	417, 418	I275SB20	4,500	70	3	343	973	1,014	999	936	1,045	1,130	1,121	1,074	950	928	927	854	20	19	22	17	19	21	21	17	18	17	17	16
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,390	70	3	1,507	1,171	1,216	1,202	1,121	1,257	1,353	1,339	1,286	1,139	1,118	1,109	1,024	378	385	382	361	413	443	413	401	353	359	356	319
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	6,190	70	3	1,015	1,331	1,387	1,374	1,289	1,432	1,545	1,534	1,464	1,298	1,281	1,272	1,171	272	301	287	277	300	323	319	294	265	278	266	255
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,630	70	3	2,282	1,426	1,492	1,476	1,392	1,525	1,657	1,650	1,574	1,398	1,369	1,366	1,263	273	291	287	281	296	310	303	301	271	275	273	253
	420, 421	I275SB23	6,630	70	3	430	1,427	1,491	1,477	1,391	1,526	1,655	1,651	1,573	1,400	1,370	1,364	1,263	25	27	27	29	26	27	26	26	25	27	24	26
	421, 422	I275SB24	6,630	70	3	403	1,426	1,490	1,478	1,391	1,524	1,654	1,653	1,573	1,402	1,371	1,364	1,263	25	28	26	24	27	23	24	25	26	25	22	26
	422, 423	I275SB25	6,630	70	3	426	1,425	1,491	1,478	1,392	1,522	1,652	1,655	1,573	1,403	1,370	1,364	1,263	26	29	25	28	29	23	24	27	27	29	30	25
	423, 424	I275SB26	6,630	70	3	412	1,423	1,490	1,479	1,393	1,522	1,649	1,657	1,572	1,405	1,371	1,362	1,263	25	26	27	27	25	24	23	28	25	30	25	29
	424, 425	I275SB27	6,630	70	3	734	1,422	1,489	1,481	1,392	1,521	1,650	1,658	1,569	1,408	1,371	1,362	1,265	55	51	57	53	56	49	53	52	55	53	55	54
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,735	50	3	841	605	643	606	578	683	720	686	651	560	591	565	532	334	359	338	339	376	394	369	362	309	345	317	310
	500, 501	GandyEB3	2,735	50	4	954	605	640	607	582	680	721	685	650	565	588	565	533	446	479	445	436	510	533	515	480	410	444	419	393
	501, 502	GandyEB4	2,735	50	5	174	605	639	606	582	679	720	685	650	566	587	566	533	54	57	54	51	66	70	74	64	46	52	50	45
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,075	50	3	178	254	257	250	233	275	299	279	268	232	233	229	212	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,075	50	3	99	257	256	252	229	274	295	283	268	234	232	229	213	10	9	9	7	11	14	12	11	8	9	7	8
	505, 506	GandyEB10	1,075	50	3	119	257	256	253	230	274	295	283	269	234	232	228	213	11	10	12	9	12	14	12	10	9	10	9	9
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,145	50	3	1,167	487	498	490	448	530	565	541	523	459	457	451	418	318	326	320	294	356	371	351	358	305	304	297	276
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,150	55	3	181	713	747	706	674	786	827	799	761	666	678	657	622	30	32	28	27	32	33	31	33	27	27	27	25
	520, 521	GandyWB5	3,150	55	3	291	712	747	707	677	786	826	798	760	668	679	656	621	28	26	29	24	29	31	32	30	23	23	27	20

2020 Starter PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,150	55	4	590	708	747	708	677	786	827	798	759	671	677	659	620	452	461	454	421	487	516	490	473	409	433	412	381
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,260	55	3	1,768	511	540	503	491	565	606	584	548	489	486	480	458	61	65	55	57	65	76	63	64	57	58	56	51
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,440	55	3	1,179	788	834	797	763	856	928	901	863	769	758	739	708	388	416	409	386	419	465	452	443	389	387	367	350
	524, 525	GandyWB9	3,440	55	3	455	788	834	798	763	853	928	902	862	773	757	739	706	26	34	30	26	30	33	31	37	26	26	25	24
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,740	50	1	525	391	410	385	363	442	452	429	421	372	374	364	341	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	1,740	50	1	1,220	391	411	383	363	441	448	433	421	373	374	366	340	29	32	23	24	43	42	39	30	26	24	23	22
	601, 7001	GdyNBoff3	1,740	50	2	135	391	411	383	365	439	448	433	421	373	373	366	341	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,070	50	1	84	231	242	234	219	261	269	256	257	222	223	222	205	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	1,070	50	1	107	232	242	234	219	261	269	256	257	223	223	222	205	0	0	0	0	0	0	0	0	0	0	0	0
	606, 506	GdyNBoff10	1,070	50	1	158	232	241	234	219	260	269	257	257	223	224	221	206	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,660	50	2	179	352	381	357	350	405	421	407	382	335	353	337	322	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	860	50	2	501	196	201	188	186	222	226	213	205	182	187	179	175	10	12	10	9	11	13	12	12	11	8	9	8
	623, 624	GdyNBon6	860	50	2	299	196	201	188	186	222	227	213	205	181	188	179	175	4	4	4	3	4	5	3	3	3	4	3	3
	624, 625	GdyNBon7	860	50	2	253	196	201	189	186	221	227	213	205	182	188	179	175	3	2	3	4	4	3	3	4	2	2	2	3
	625, 626	GdyNBon8	860	50	2	238	197	201	189	187	220	227	213	205	182	188	179	175	3	2	3	2	2	3	3	3	3	2	2	3
	626, 627	GdyNBon9	860	50	2	242	197	201	188	187	220	227	213	205	182	188	178	174	3	3	2	2	3	4	3	3	2	1	2	3
	627, 628	GdyNBon10	860	50	2	277	197	200	189	186	220	227	214	204	182	189	177	175	3	3	3	2	3	4	3	3	2	2	2	2
	628, 629	GdyNBon11	860	50	2	337	197	200	188	187	220	227	214	204	183	189	177	175	3	3	3	3	4	4	5	3	3	3	3	2
	629, 630	GdyNBon12	860	50	2	877	196	202	187	188	220	226	215	206	183	189	178	174	8	7	9	8	12	11	10	9	7	9	8	7
	630, 307	GdyNBon13	860	50	2	344	197	201	187	188	219	226	215	205	183	189	178	175	4	3	3	4	5	5	4	4	3	4	4	2
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,180	50	2	481	275	297	291	273	297	323	318	311	274	272	261	250	11	12	13	12	14	16	16	13	14	11	12	10
	660, 661	GdySBoff2	1,180	50	2	394	274	297	291	273	297	322	318	311	274	274	260	250	6	6	4	6	6	7	5	7	6	4	7	5
	661, 662	GdySBoff3	1,180	50	2	1,949	274	296	292	272	298	323	316	312	277	273	259	250	143	155	151	146	156	164	166	162	144	146	133	134
	662, 523	GdySBoff4	1,180	50	1	424	274	296	292	271	298	323	316	312	277	273	260	250	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	800	50	1	286	159	177	169	166	181	193	194	177	155	166	158	149	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	800	50	1	204	159	177	169	166	181	193	193	177	155	166	158	149	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	800	50	1	319	160	176	169	166	181	193	193	177	155	166	158	148	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	890	35	1	302	197	203	202	187	215	227	217	210	183	190	183	166	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	890	35	1	259	197	202	201	187	216	227	217	209	183	190	183	166	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	890	35	1	227	197	202	201	187	216	228	218	210	183	190	182	167	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	890	35	1	211	198	202	201	186	216	228	217	210	183	190	182	168	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	890	35	1	211	199	202	201	185	216	228	218	210	183	190	182	168	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	890	35	1	207	199	202	201	185	215	228	218	210	183	189	183	168	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	890	35	1	252	199	203	201	185	215	228	218	210	184	189	183	168	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	715	753	715	683	795	851	803	762	665	693	659	624	541	581	560	518	616	670	627	590	524	527	507	481
	541, 542	RvEB3	3,215	60	3	1,028	716	751	715	683	795	849	805	763	667	692	660	625	54	59	56	52	65	68	67	61	49	53	49	44
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,855	60	2	513	410	437	408	391	466	496	462	439	383	400	374	365	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,790	60	2	120	394	419	400	376	453	476	448	427	373	386	363	355	4	4	6	3	6	5	5	5	4	4	4	4
	546, 547	RvEB10	1,790	60	2	165	395	418	401	376	453	476	448	428	373	386	362	356	5	7	7	6	6	7	6	7	5	7	5	5
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,075	60	2	1,053	459	485	464	439	521	556	521	501	442	451	419	416	105	107	102	96	114	129	121	119	107	105	94	90
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,060	60	2	756	456	481	458	440	513	540	515	492	423	444	421	401	35	37	33	36	45	41	42	40	36	36	35	30
	558, 559	RvWB3	2,060	60	2	146	456	481	457	440	513	540	515	492	423	443	422	401	32	34	31	33	40	37	39	36	30	34	33	28
	559, 560	RvWB4	2,060	60	3	151	457	481	457	440	513	539	515	492	423	443	422	402	27	25	26	27	30	34	34	32	28	25	24	21
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1,825	60	2	125	405	429	409	389	452	478	452	432	371	391	372	359	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,515	60	2	133	329	353	334	313	373	392	380	355	304	318	308	295	5	5	6	6	7	7	8	7	6	4	6	5
	567, 568	RvWB14	1,515	60	2	750	331	353	334	312	372	392	381	356	304	318	307	296	22	26	21	21	25	24	27	26	20	20	20	19
	568, 569	RvWB15	1,515	60	2	281	330	353	335	312	373	391	381	356	303	320	307	295	8	8	8	7	8	10	8	8	7	8	7	7
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,515	60	4	1,137	584	620	598	566	646	690	681	639	549	564	542	521	75	83	82	80	87	96	92	84	71	77	71	70
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,610	50	2	228	590	620	598	576	631	688	681	635	562	575	552	515	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,610	50	2	168	591	619	597	576	632	688	680	636	563	574	550	517	61	58	58	55	60	73	66	64	63	58	55	53
	701, 702	RvNBoff5	2,610	50	2	198	591	620	597	575	631	688	680	637	563	574	549	518	94	92	90	88	97	111	103	103	90	88	80	79
	702, 703	RvNBoff6	2,610	50	3	130	591	619	598	575	631	688	680	638	563	573	550	518	58	59	57	58	58	59	64	63	52	51	52	56
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	285	50	1	336	67	65	64	62	70	81	73	73	68	65	59	58	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	285	50	1	200	67	65	64	62	70	81	73	73	68	65	59	58	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	285	50	1	223	67	65	64	62	70	81	73	73	68	64	59	58	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	285	50	1	262	66	66	64	62	70	81	73	73	69	64	59	58	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	285	50	1	264	66	66	64	61	70	81	73	73	69	64	59	58	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,000	50	2	248	254	269	260	253	277	302	299	283	244	245	233	225	5	4	4	4	3	4	5	5	4	3	3	3
	715, 716	RvNBoff21	1,000	50	2	642	255	268	260	254	276	302	298	283	246	246	233	224	9	10	10	9	10	12	12	10	9	8	8	8
	716, 569	RvNBoff22	1,000	50	2	670	254	268	260	253	277	301	300	283	244	245	234	224	11	11	11	11	13	14	11	12	11	12	9	9
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	235	50	1	296	52	53	48	51	62	61	63	60	52	52	51	43	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	235	50	1	127	52	53	48	51	62	61	63	61	52	52	51	43	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,200	50	2	97	268	278	263	261	295	305	305	294	256	264	249	237	9	9	9	8	10	11	10	9	8	10	7	8
	757, 317	RvNBon10	1,200	50	2	123	268	278	262	262	294	305	305	294	256	263	249	237	14	17	17	16	18	19	17	15	16	13	13	11
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,630	50	2	223	378	401	410	373	411	436	453	433	374	368	366	335	7	7	7	5	8	7	7	7	6	5	8	4
	770, 7032	RvSBoff2	1,630	50	2	150	378	402	409	373	411	436	453	433	375	367	366	336	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,730	50	3	102	394	404	395	377	421	444	439	422	368	375	368	338	137	141	130	127	141	151	147	142	128	128	128	117
	793, 410	RvSBon5	1,730	50	3	655	393	404	394	379	420	443	440	421	370	374	368	337	103	106	108	94	124	133	123	118	95	101	92	77
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,360	50	2	270	305	316	305	291	329	354	342	324	283	292	287	260	9	10	9	7	10	10	10	8	6	9	7	7
	790, 7011	RvSBon11	1,360	50	2	250	305	317	305	291	329	353	342	325	284	292	287	260	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,325	50	2	311	525	553	535	513	560	608	607	565	496	510	490	460	40	40	38	35	41	45	43	41	34	37	38	32
	708, 710	118NBoff2	2,325	50	2	567	526	552	534	514	558	609	607	565	498	509	489	460	50	54	52	50	60	63	59	58	50	43	44	43
	710, 711	118NBoff3	2,325	50	2	460	525	552	533	516	556	610	607	565	499	508	489	461	76	71	81	73	85	100	95	86	73	75	67	60
	711, 712	118NBoff4	2,325	50	3	472	526	551	532	516	557	611	608	565	497	508	488	462	40	45	37	39	46	48	48	44	39	39	34	34
	712, 713	118NBoff5	2,325	50	3	395	526	551	530	518	557	610	608	566	496	509	489	462	24	25	21	23	22	26	26	26	18	21	21	16
	713, 714	118NBoff6	2,325	50	3	188	526	551	529	518	558	610	607	567	497	510	489	463	7	8	9	7	9	9	8	8	8	8	7	8
	714, 717	118NBoff7	1,325	50	2	212	272	283	269	265	280	308	308	284	253	264	257	238	7	9	8	8	7	11	11	9	8	7	8	6

2020 Starter PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,325	50	2	389	272	284	268	265	279	309	308	284	254	264	257	238	11	11	11	12	10	13	12	11	10	11	11	11
	718, 719	118NBoff9	1,325	50	2	373	272	283	268	265	280	308	307	285	253	264	256	239	9	10	9	7	7	8	10	9	7	7	6	6
	719, 720	118NBoff10	1,325	50	2	589	272	282	269	265	278	308	307	286	252	265	257	239	13	13	11	9	12	12	14	11	10	12	13	10
	720, 721	118NBoff11	1,325	50	2	311	271	283	269	265	277	309	308	285	253	264	257	240	5	7	6	6	6	9	7	7	6	6	5	5
	721, 722	118NBoff12	1,325	50	2	327	271	282	269	265	278	310	308	285	253	264	257	240	6	5	5	5	5	7	8	6	5	6	5	5
	722, 723	118NBoff13	1,325	50	2	626	271	282	269	265	277	310	307	286	254	263	257	240	13	11	13	10	12	15	15	13	11	13	12	10
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,495	60	4	1,252	771	804	792	758	809	884	883	845	752	738	736	689	153	157	155	151	156	178	176	174	152	147	146	141
	724, 725	118NBoff15	3,495	60	4	575	770	805	792	758	809	885	882	843	755	738	736	691	30	33	33	31	37	38	40	37	34	29	31	28
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,240	60	2	611	496	524	503	468	566	584	563	529	460	484	461	435	182	183	180	172	191	200	189	181	173	170	170	164
	740, 741	118NBon3	2,240	60	2	1,571	498	521	501	473	561	586	561	532	461	484	460	436	70	78	64	62	92	94	94	77	58	70	69	52
NB I-275 On Ramp from 118th	741, 748	118NBon4	820	50	1	268	179	190	184	179	200	207	203	199	171	175	169	164	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	820	50	1	541	179	190	184	179	199	207	203	200	171	175	168	165	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	820	50	1	715	179	190	184	179	199	207	203	199	171	176	167	166	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	820	50	1	245	179	190	184	179	199	207	203	200	171	176	167	166	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	820	50	1	252	180	190	184	178	199	206	203	200	171	176	166	167	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	820	50	1	352	180	190	184	179	198	207	203	200	171	176	166	167	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	820	50	1	264	180	190	184	179	198	207	203	201	171	176	167	166	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	820	50	1	415	179	190	184	180	197	207	203	200	171	176	167	167	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	820	50	1	733	180	190	184	180	197	207	203	200	171	176	168	166	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,490	50	1	147	345	367	373	345	374	397	412	397	345	332	334	313	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	1,490	50	1	934	345	369	374	345	374	397	413	397	345	330	335	314	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	1,490	50	1	371	346	369	373	345	373	397	413	397	345	331	335	315	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	1,490	50	1	446	346	369	373	345	372	398	411	397	346	331	334	315	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	1,490	50	1	340	347	368	375	344	371	397	411	397	346	332	334	315	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,170	50	2	990	498	525	524	491	532	575	577	559	496	475	480	450	105	109	111	105	111	123	120	122	102	95	102	94
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,420	50	1	197	320	332	316	295	361	378	359	334	290	309	291	272	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,420	50	1	119	320	331	316	295	361	378	359	334	290	309	290	272	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,420	50	1	126	320	331	316	295	361	378	360	333	290	309	290	272	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,420	50	1	162	320	331	317	296	360	378	360	333	290	309	290	273	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,420	50	1	200	320	331	316	296	360	379	359	334	290	309	290	273	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,420	50	1	166	321	331	316	296	360	380	359	334	290	309	290	273	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,420	50	1	973	321	330	314	297	357	381	358	337	290	308	292	272	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,200	60	3	2,420	487	516	489	467	549	575	555	522	454	472	456	427	319	337	330	315	352	378	368	340	307	306	306	277
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,280	50	2	647	295	313	284	279	322	345	318	310	271	279	267	251	13	13	12	11	16	17	16	14	11	12	12	9
	811, 812	UlmNBon4	1,280	50	2	590	296	314	284	279	322	344	319	311	272	279	267	251	10	12	11	10	11	13	10	12	9	10	9	9
	812, 813	UlmNBon5	1,280	50	2	323	296	314	283	279	322	344	319	310	272	280	266	251	7	6	5	7	7	6	6	6	7	6	6	5
	813, 814	UlmNBon6	1,280	50	2	328	297	314	283	280	321	344	320	311	272	279	266	252	6	5	5	6	6	5	7	6	5	6	7	5
	814, 815	UlmNBon7	1,280	50	2	288	296	314	283	280	320	344	320	311	272	278	266	252	5	6	6	6	6	7	7	6	5	5	5	5
	815, 816	UlmNBon8	1,280	50	2	273	296	313	284	280	320	344	320	311	272	278	267	252	6	5	4	4	7	6	7	5	4	5	4	4
	816, 322	UlmNBon9	1,280	50	2	888	296	313	285	279	320	343	321	312	272	278	266	252	18	19	16	14	17	20	19	18	16	16	14	13
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,560	50	2	318	338	345	347	327	354	392	397	381	335	331	318	310	22	24	23	21	25	30	28	25	23	20	19	21
	830, 831	UlmSBoff2	1,560	50	2	346	337	346	346	326	354	392	397	381	336	330	319	310	9	8	10	9	9	8	10	10	11	10	9	10
	831, 7036	UlmSBoff3	1,560	50	2	283	337	347	346	326	353	392	398	380	337	330	319	309	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,300	50	2	398	283	290	291	272	294	328	333	317	280	273	270	257	7	8	8	10	10	10	10	11	10	9	9	8
	834, 835	UlmSBoff8	1,300	60	2	584	283	290	292	271	295	328	333	317	281	272	270	257	29	30	27	27	32	33	31	33	26	28	26	27
	835, 836	UlmSBoff9	1,300	60	2	481	283	290	291	272	295	327	334	317	282	271	271	257	4	3	3	3	3	4	4	4	4	3	3	3
	836, 837	UlmSBoff10	1,300	60	2	2,160	283	288	295	271	294	326	332	319	283	270	272	258	23	25	26	26	25	31	33	32	24	24	23	20
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	920	35	1	493	193	202	203	191	226	229	237	210	185	192	189	177	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	920	35	1	214	192	203	203	192	226	229	237	210	185	193	189	177	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	690	35	1	163	149	155	156	148	173	174	183	160	140	147	144	132	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	690	35	1	163	149	155	156	148	172	174	183	160	141	147	144	133	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	690	35	1	228	149	156	156	148	172	174	183	160	141	148	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	690	50	1	1,170	149	156	155	148	171	175	182	161	142	147	143	133	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	230	35	1	201	44	47	47	44	53	55	54	49	45	46	44	44	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	230	50	1	361	44	47	46	44	53	54	54	49	45	46	44	44	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	230	50	1	499	44	47	47	44	53	54	54	49	46	46	44	44	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	490	50	2	1,171	100	103	102	99	110	118	118	114	105	101	95	95	9	10	9	9	11	12	11	12	11	9	9	8
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	350	50	1	1,080	78	81	77	76	87	92	89	82	72	75	72	68	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	350	50	1	350	77	81	77	76	87	93	89	82	72	75	72	68	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	350	50	1	360	77	82	77	76	86	93	88	83	72	75	72	68	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	350	50	1	548	76	82	77	76	85	93	88	83	72	76	72	68	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	260	50	1	294	55	56	55	55	57	64	64	65	59	55	51	51	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	260	50	1	336	55	56	55	55	57	64	64	65	59	55	51	51	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	260	50	1	395	55	56	55	55	57	63	64	66	59	55	51	51	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	260	50	1	539	55	56	55	55	57	64	64	66	58	55	51	51	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	630	60	2	1,270	142	144	142	133	158	164	159	149	130	136	129	123	4	3	2	2	4	5	4	3	3	3	3	3
	901, 902	4thNBon3	630	60	2	634	141	145	143	133	158	163	159	149	130	136	129	122	63	63	66	61	70	68	69	65	61	61	56	55
	902, 903	4thNBon4	630	60	2	322	141	146	142	133	158	163	159	148	131	136	130	122	5	6	6	5	6	7	7	5	5	6	5	4
	903, 904	4thNBon5	630	60	2	279	141	146	143	133	158	164	158	149	131	136	129	123	3	3	3	2	2	3	4	3	1	1	2	2
	904, 905	4thNBon6	630	60	2	388	140	147	142	134	158	164	158	149	131	136	129	122	0	0	0	0	0	1	0	0	0	0	0	0
	905, 906	4thNBon7	630	60	1	313	140	147	141	134	158	163	158	149	131	137	128	122	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	630	60	1	305	140	148	141	134	158	163	158	149	131	137	128	122	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	630	60	1	666	140	148	141	134	157	164	158	149	132	137	128	122	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,030	60	1	466	223	219	219	212	221	244	254	235	217	211	201	190	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	1,030	60	1	492	223	219	220	212	221	243	254	235	216	211	201	190	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	1,030	60	1	420	224	219	219	212	221	243	255	234	216	211	201	191	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	1,030	60	1	393	224	219	219	213	220	243	255	234	216	211	202	190	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	1,030	60	1	384	224	219	219	213	220	242	256	234	217	211	201	191	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	1,030	60	1	354	224	218	220	212	220	242	256	234	217	210	201	192	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	1,030	60	1	501	223	219	221	211	220	243	255	234	218	210	201	192	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	1,030	60	1	416	223	219	221	212	220	243	255	234	218	210	202	191	3	2	3	3	3	4	3	3	2	2	2	2
	927, 928	4thSBoff9	1,030	60	2	1,153	224	217	221	212	220	243	255	234	219	208	204	191	59	56	60	54	59	63	69	61	55	53	51	47

2020 Starter PM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,030	60	2	1,242	224	217	221	213	218	245	253	235	220	208	204	191	19	22	18	21	19	26	22	21	22	20	20	15
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	700	70	1	1,116	156	164	155	150	172	184	175	167	145	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	700	70	1	2,205	156	163	155	151	172	183	176	166	146	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5001, 5002	SULNB3	700	70	1	528	156	162	155	151	172	183	176	165	147	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	700	70	1	346	156	162	156	151	172	183	176	165	147	150	144	137	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	700	70	1	235	156	162	156	150	172	184	175	165	147	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	700	70	1	270	156	162	155	150	173	184	175	165	147	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	700	70	1	238	155	163	155	149	174	184	175	165	147	150	144	139	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	700	70	1	261	155	162	156	149	173	185	175	165	147	150	144	139	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	700	70	1	451	155	162	155	150	172	185	175	164	147	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	700	70	1	242	155	162	156	150	172	185	175	165	147	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	700	70	1	158	156	162	156	149	172	185	175	165	148	150	144	138	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	700	70	1	539	155	162	156	150	172	185	175	164	148	150	143	139	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	700	70	1	564	155	162	156	150	172	185	176	165	148	150	144	139	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	700	70	1	824	154	162	157	150	172	185	176	165	148	149	144	138	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,020	70	1	2,172	226	236	229	219	248	269	257	243	218	220	210	203	72	75	72	69	77	86	81	77	70	71	67	65
	5014, 5015	SULNB16	1,020	70	1	1,149	226	236	230	218	247	269	259	243	217	220	210	204	0	0	0	0	0	0	0	0	0	0	0	0
	5015, 5016	SULNB17	1,020	70	1	2,057	226	235	231	217	248	265	260	244	219	220	211	203	0	0	0	0	0	0	0	0	0	0	0	0
	5016, 5017	SULNB18	1,020	70	1	1,250	227	235	232	217	247	266	257	247	218	221	211	202	0	0	0	0	0	0	0	0	0	0	0	0
	5017, 5018	SULNB19	1,020	70	1	1,385	226	237	232	217	247	264	258	248	218	218	215	202	0	0	0	0	0	0	0	0	0	0	0	0
	5018, 5019	SULNB20	1,020	70	1	843	225	237	231	216	249	263	259	248	218	219	216	201	0	0	0	0	0	0	0	0	0	0	0	0
	5019, 5020	SULNB21	1,020	70	1	687	226	236	232	216	250	262	260	247	218	218	216	202	0	0	0	0	0	0	0	0	0	0	0	0
	5020, 5021	SULNB22	1,020	70	1	2,036	225	236	233	214	251	260	260	250	217	219	216	201	0	0	0	0	0	0	0	0	0	0	0	0
	5021, 5022	SULNB23	1,020	70	1	171	225	236	233	214	251	260	260	250	218	219	216	200	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,320	70	1	1,752	302	316	302	289	330	352	348	334	301	294	290	267	76	80	71	73	84	90	87	85	82	73	75	69
	5023, 5024	SULNB25	1,320	70	1	1,039	304	314	304	289	330	351	349	335	300	294	291	267	0	0	0	0	0	0	0	0	0	0	0	0
	5024, 5025	SULNB26	1,320	70	1	814	304	312	304	287	332	351	349	332	302	294	291	268	0	0	0	0	0	0	0	0	0	0	0	0
	5025, 5026	SULNB27	1,320	70	1	2,530	304	313	307	288	327	352	351	329	306	293	289	271	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	320	70	1	266	72	75	71	70	77	85	81	78	70	70	68	65	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	320	70	1	528	72	74	71	70	77	85	81	78	70	70	68	64	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	320	70	1	379	72	75	71	70	77	85	81	78	70	70	69	64	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	320	70	1	376	72	74	71	70	77	85	81	78	70	69	69	64	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	320	70	1	363	71	75	71	70	77	85	81	78	70	70	69	65	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	320	70	1	352	72	75	72	70	77	85	81	78	70	70	68	65	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	320	70	1	831	71	75	72	69	77	85	81	78	70	69	69	64	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	320	70	1	1,172	73	74	73	69	76	85	81	78	70	69	68	65	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	320	70	1	656	73	74	72	70	76	85	81	78	70	69	68	65	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	320	70	1	803	73	74	72	69	77	86	81	78	70	70	68	65	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	320	70	1	897	72	74	72	69	76	86	81	78	70	70	68	66	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	320	70	1	513	72	74	72	69	76	86	81	78	70	71	67	65	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	320	70	1	267	72	74	72	69	77	86	81	78	70	71	67	65	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	300	70	1	157	76	80	71	73	83	90	87	85	82	73	75	69	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,380	70	1	1,586	306	322	308	291	345	363	346	328	283	298	283	268	57	60	61	51	65	68	73	64	51	55	51	54
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,120	70	1	941	249	262	248	240	280	294	273	265	233	243	232	216	0	0	0	0	0	0	0	0	0	0	0	0
	5997, 5998	SULSB1	1,120	70	1	816	249	263	248	240	278	295	273	265	234	243	231	217	0	0	0	0	0	0	0	0	0	0	0	0
	5998, 5999	SULSB1	1,120	70	1	1,054	250	263	248	240	278	296	273	265	233	243	232	217	0	0	0	0	0	0	0	0	0	0	0	0
	5999, 6000	SULSB1	1,120	70	1	1,908	248	263	249	240	277	295	273	265	235	243	232	218	0	0	0	0	0	0	0	0	0	0	0	0
	6000, 6001	SULSB2	1,120	70	1	2,064	249	262	249	239	278	294	274	266	235	243	233	217	0	0	0	0	0	0	0	0	0	0	0	0
	6001, 6002	SULSB3	1,120	70	1	572	250	261	250	240	277	295	274	265	236	243	233	217	0	0	0	0	0	0	0	0	0	0	0	0
	6002, 6003	SULSB4	1,120	70	1	407	249	262	249	240	276	295	273	264	237	243	233	218	0	0	0	0	0	0	0	0	0	0	0	0
	6003, 6004	SULSB5	1,120	70	1	1,528	250	262	248	241	276	295	275	265	237	243	233	217	0	0	0	0	0	0	0	0	0	0	0	0
	6004, 6005	SULSB6	1,120	70	1	1,420	250	261	249	241	275	294	276	264	238	243	232	217	0	0	0	0	0	0	0	0	0	0	0	0
	6005, 6006	SULSB7	1,120	70	1	4,087	248	262	248	243	272	295	274	267	237	245	231	219	0	0	0	0	0	0	0	0	0	0	0	0
	6006, 6007	SULSB8	1,120	70	1	1,611	250	260	249	244	271	293	279	264	238	244	231	219	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	680	70	1	767	152	155	151	144	165	177	168	160	145	146	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	680	70	1	614	152	156	150	144	165	176	169	160	145	146	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	680	70	1	382	152	156	150	144	165	176	168	160	144	146	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	680	70	1	135	152	156	149	144	165	177	168	160	144	147	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	680	70	1	204	152	156	149	145	164	177	167	161	144	147	143	132	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	680	70	1	613	152	155	150	145	164	178	167	160	145	146	144	132	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	680	70	1	251	152	155	150	145	164	178	166	160	145	146	144	132	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	680	70	1	233	152	155	150	145	164	178	167	160	146	146	144	132	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	680	70	1	274	152	155	150	145	164	178	168	159	146	146	144	133	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	680	70	1	238	153	155	150	144	164	177	168	159	146	146	144	132	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	680	70	1	314	152	157	149	144	165	177	168	159	147	146	143	133	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	680	70	1	879	152	157	148	145	164	178	166	159	147	146	142	134	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	680	70	1	207	152	157	148	145	164	178	166	159	148	146	142	134	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	440	70	1	582	99	105	99	100	105	115	112	104	94	98	89	87	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	440	70	1	621	98	105	99	100	105	115	111	104	94	98	89	86	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	440	70	1	317	98	105	99	100	106	115	112	104	94	98	90	87	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	440	70	1	915	98	105	99	100	106	116	110	105	93	98	89	86	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	440	70	1	1,093	98	105	99	100	105	116	111	106	93	97	90	87	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	440	70	1	1,068	98	105	99	99	106	115	111	106	93	97	91	87	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	440	70	1	788	97	106	99	99	105	115	112	106	94	96	91	87	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	440	70	1	367	97	106	99	99	104	115	112	106	94	96	91	87	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	440	70	1	373	97	105	100	100	104	115	112	106	94	96	90	88	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	440	70	1	445	97	105	100	99	104	115	112	106	94	97	90	87	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	440	70	1	8,866	94	106	102	98	102	114	114	107	93	95	93	85	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 1	SULSBRamp12	440	70	1	292	94	106	102	99	102	113	115	108	93	95	94	85	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	260	70	1	154	57	60	60	52	64	68	73	64	51	54	51	53	0	0	0	0	0	0	0	0	0	0	0	0

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	5,340	70	3	1,087	23.7	27.2	21.8	65.6	64.3	66.0	4,058	5,340	4,432	4,751	5,344	4,388
	300, 301	I275NB3	5,340	70	3	805										4,752	5,344	4,388
	301, 302	I275NB4	5,340	70	3	478										4,751	5,343	4,389
	302, 303	I275NB5	5,340	70	3	2,687										4,756	5,334	4,402
	303, 304	I275NB6	5,340	70	4	382										4,757	5,333	4,402
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	3,600	70	3	1,375	15.9	17.9	14.6	67.3	66.8	67.5	2,736	3,600	2,988	3,208	3,587	2,956
	305, 306	I275NB8	3,600	70	3	1,306										3,207	3,586	2,958
	306, 307	I275NB9	3,600	70	3	591										3,210	3,585	2,958
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	4,460	70	5	1,065	13.9	15.6	12.9	66.8	66.4	66.9	3,390	4,460	3,702	3,985	4,449	3,683
	308, 309	I275NB11	4,460	70	5	3,035										3,983	4,448	3,684
	309, 2	I275NB12	4,460	70	4	350										3,983	4,449	3,683
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	4,140	70	4	745	14.3	16.1	13.1	65.0	64.2	65.4	3,146	4,140	3,436	3,698	4,125	3,412
	310, 311	I275NB13	4,140	70	4	380										3,698	4,122	3,415
	311, 312	I275NB14	4,140	70	4	399										3,699	4,121	3,417
	312, 313	I275NB15	4,140	70	4	368										3,699	4,119	3,418
	313, 314	I275NB16	4,140	70	4	460										3,700	4,116	3,420
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	1,530	70	3	879	6.4	7.2	5.9	68.5	68.3	68.7	1,163	1,530	1,270	1,318	1,481	1,218
	315, 316	I275NB18	1,530	70	3	1,293										1,319	1,482	1,218
	316, 317	I275NB19	1,530	70	3	1,158										1,319	1,480	1,220
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	2,730	70	5	372	10.1	11.3	9.4	66.6	66.3	66.8	2,075	2,730	2,266	2,389	2,679	2,224
	318, 319	I275NB21	2,730	70	5	2,611										2,388	2,673	2,232
	319, 320	I275NB22	2,730	70	3	1,802										2,389	2,672	2,233
	320, 321	I275NB23	2,730	70	3	501										2,390	2,672	2,234
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,080	70	3	1,814	12.4	13.9	11.5	66.6	66.2	66.8	2,341	3,080	2,556	2,699	3,020	2,524
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	4,360	70	5	814	13.5	15.2	12.5	66.3	65.9	66.5	3,314	4,360	3,619	3,872	4,314	3,594
	323, 324	I275NB26	4,360	70	5	1,850										3,872	4,313	3,601
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	4,990	70	4	838	17.1	19.4	15.6	64.6	63.3	65.5	3,792	4,990	4,142	4,438	4,939	4,120
	325, 326	I275NB28	4,990	70	4	704										4,442	4,938	4,122
	326, 327	I275NB29	4,990	70	3	1,988										4,443	4,940	4,122
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	4,690	70	3	1,906	20.7	23.1	19.1	66.6	66.2	66.9	3,564	4,690	3,893	4,141	4,590	3,830
	328, 329	I275NB31	4,690	70	3	1,046										4,142	4,590	3,834
	329, 330	I275NB32	4,690	70	3	803										4,141	4,590	3,836
	330, 331	I275NB33	4,690	70	3	2,542										4,146	4,580	3,845
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,800	70	3	1,731	26.7	61.4	23.9	65.4	35.7	67.2	4,408	5,800	4,814	5,164	5,791	4,771
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	6,060	70	4	787	31.2	38.3	27.0	57.3	54.2	60.2	4,606	6,060	5,030	5,397	6,041	5,006
	395, 396	I275SB1	6,060	70	4	818										5,399	6,036	5,021
	396, 397	I275SB1	6,060	70	3	1,049										5,400	6,035	5,024
	397, 398	I275SB1	6,060	70	3	1,916										5,404	6,032	5,026
	398, 399	I275SB1	6,060	70	3	2,120										5,411	6,023	5,032
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,030	70	3	2,742	20.6	23.3	19.1	65.0	64.2	65.3	3,823	5,030	4,175	4,539	5,063	4,222
	400, 401	I275SB3	5,030	70	4	1,083										4,537	5,062	4,226
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	3,470	70	3	4,105	15.8	17.7	14.6	67.0	66.6	67.3	2,637	3,470	2,880	3,180	3,534	2,942
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	4,160	70	4	720	14.4	16.2	13.3	65.7	65.2	65.9	3,162	4,160	3,453	3,789	4,222	3,506
	403, 404	I275SB6	4,160	70	4	1,327										3,791	4,220	3,511
	404, 405	I275SB7	4,160	70	4	461										3,790	4,220	3,512
	405, 406	I275SB8	4,160	70	4	452										3,791	4,218	3,514
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	2,530	70	3	855	10.9	12.2	10.2	67.9	67.7	68.1	1,923	2,530	2,100	2,229	2,485	2,073
	407, 408	I275SB10	2,530	70	3	347										2,229	2,484	2,073
	408, 409	I275SB11	2,530	70	3	1,585										2,229	2,480	2,076
	409, 410	I275SB12	2,530	70	3	458										2,229	2,481	2,076

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	4,260	70	4	629	13.6	15.1	12.5	64.2	63.8	64.4	3,238	4,260	3,536	3,802	4,203	3,526
	411, 412	I275SB14	4,260	70	4	247										3,802	4,203	3,526
	412, 413	I275SB15	4,260	70	4	608										3,803	4,201	3,528
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	5,680	70	4	492	19.4	22.0	17.8	64.2	62.9	64.7	4,317	5,680	4,714	5,066	5,633	4,692
	414, 415	I275SB17	5,680	70	4	3,870										5,058	5,628	4,705
	415, 416	I275SB18	5,680	70	4	1,086										5,057	5,623	4,712
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	4,500	70	3	1,385	19.8	22.3	18.4	66.1	65.4	66.4	3,420	4,500	3,735	3,923	4,369	3,658
	417, 418	I275SB20	4,500	70	3	343										3,922	4,370	3,658
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	5,390	70	3	1,507	20.6	23.2	19.0	62.3	61.3	62.7	4,096	5,390	4,474	4,710	5,234	4,390
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	6,190	70	3	1,015	21.7	24.9	20.1	62.7	60.8	63.1	4,704	6,190	5,138	5,382	5,975	5,021
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,630	70	3	2,282	26.5	30.0	24.6	64.6	63.4	65.0	5,039	6,630	5,503	5,786	6,407	5,396
	420, 421	I275SB23	6,630	70	3	430										5,786	6,405	5,397
	421, 422	I275SB24	6,630	70	3	403										5,786	6,403	5,400
	422, 423	I275SB25	6,630	70	3	426										5,786	6,402	5,399
	423, 424	I275SB26	6,630	70	3	412										5,785	6,400	5,400
	424, 425	I275SB27	6,630	70	3	734										5,784	6,397	5,406
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	2,735	50	3	841	13.9	15.7	12.8	48.6	48.4	48.7	2,079	2,735	2,270	2,432	2,739	2,248
	500, 501	GandyEB3	2,735	50	4	954										2,433	2,735	2,251
	501, 502	GandyEB4	2,735	50	5	174										2,433	2,734	2,252
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,075	50	3	178	6.8	7.6	6.1	49.1	48.9	49.1	817	1,075	892	994	1,120	906
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,075	50	3	99	8.1	9.3	7.4	44.5	44.0	44.5	817	1,075	892	995	1,121	907
	505, 506	GandyEB10	1,075	50	3	119										995	1,121	907
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,145	50	3	1,167	13.0	14.7	12.1	46.6	46.2	46.6	1,630	2,145	1,780	1,923	2,160	1,785
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,150	55	3	181	17.6	19.8	16.1	46.6	46.3	47.0	2,394	3,150	2,615	2,841	3,173	2,622
	520, 521	GandyWB5	3,150	55	3	291										2,843	3,171	2,624
	521, 522	GandyWB6	3,150	55	4	590										2,841	3,170	2,628
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,260	55	3	1,768	12.9	14.5	12.0	53.1	52.9	53.1	1,718	2,260	1,876	2,046	2,303	1,913
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,440	55	3	1,179	16.8	18.9	15.6	52.0	51.6	52.2	2,614	3,440	2,855	3,181	3,548	2,974
	524, 525	GandyWB9	3,440	55	3	455										3,182	3,544	2,976
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	1,740	50	1	525	31.1	36.1	28.9	46.7	45.4	47.1	1,322	1,740	1,444	1,548	1,743	1,451
	600, 601	GdyNBoff2	1,740	50	1	1,220										1,548	1,742	1,452
	601, 7001	GdyNBoff3	1,740	50	2	135										1,549	1,741	1,453
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,070	50	1	84	23.7	27.3	22.2	41.5	40.8	41.9	813	1,070	888	926	1,043	872
	605, 606	GdyNBoff9	1,070	50	1	107										926	1,042	873
	606, 506	GdyNBoff10	1,070	50	1	158										926	1,042	873
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,660	50	2	179	16.7	19.6	15.5	43.1	41.3	43.7	1,262	1,660	1,378	1,440	1,614	1,347
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	860	50	2	501	7.9	8.9	7.4	49.0	48.9	49.0	654	860	714	771	866	723
	623, 624	GdyNBon6	860	50	2	299										772	866	723
	624, 625	GdyNBon7	860	50	2	253										772	866	723
	625, 626	GdyNBon8	860	50	2	238										773	866	723
	626, 627	GdyNBon9	860	50	2	242										773	865	723
	627, 628	GdyNBon10	860	50	2	277										773	866	723
	628, 629	GdyNBon11	860	50	2	337										772	865	724
	629, 630	GdyNBon12	860	50	2	877										772	865	723
	630, 307	GdyNBon13	860	50	2	344										773	864	724
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,180	50	2	481	13.5	14.8	12.5	48.1	48.0	48.3	897	1,180	979	1,135	1,249	1,057
	660, 661	GdySBoff2	1,180	50	2	394										1,136	1,248	1,057

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	661, 662	GdySBoff3	1,180	50	2	1,949										1,134	1,248	1,059
	662, 523	GdySBoff4	1,180	50	1	424										1,133	1,248	1,060
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	800	50	1	286	14.7	16.4	13.7	46.9	46.6	47.1	608	800	664	671	744	628
	621, 622	GdySBon3	800	50	1	204										671	744	628
	622, 419	GdySBon4	800	50	1	319										671	745	627
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	890	35	1	302	23.8	26.4	21.8	33.1	33.0	33.1	676	890	739	788	869	721
	640, 641	GdySBonLoop2	890	35	1	259										788	870	722
	641, 642	GdySBonLoop3	890	35	1	227										787	870	722
	642, 643	GdySBonLoop4	890	35	1	211										787	871	723
	643, 644	GdySBonLoop5	890	35	1	211										787	871	723
	644, 645	GdySBonLoop6	890	35	1	207										787	871	723
	645, 418	GdySBonLoop7	890	35	1	252										787	871	723
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	14.5	16.3	13.3	57.4	57.1	57.6	2,443	3,215	2,668	2,865	3,211	2,641
	541, 542	RvEB3	3,215	60	3	1,028										2,865	3,211	2,643
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,855	60	2	513	14.2	16.1	13.1	58.1	57.9	58.3	1,410	1,855	1,540	1,646	1,863	1,522
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,790	60	2	120	14.9	17.0	13.8	57.0	56.6	57.2	1,360	1,790	1,486	1,590	1,804	1,477
	546, 547	RvEB10	1,790	60	2	165										1,590	1,804	1,477
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,075	60	2	1,053	13.5	15.5	12.6	57.3	56.9	57.5	1,577	2,075	1,722	1,847	2,099	1,728
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,060	60	2	756	14.9	16.8	13.7	58.5	58.1	58.7	1,566	2,060	1,710	1,835	2,060	1,689
	558, 559	RvWB3	2,060	60	2	146										1,835	2,060	1,690
	559, 560	RvWB4	2,060	60	3	151										1,835	2,060	1,690
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	1,825	60	2	125	13.9	15.6	12.7	58.7	58.2	58.9	1,387	1,825	1,515	1,631	1,813	1,493
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,515	60	2	133	11.7	13.2	10.7	58.0	57.7	58.1	1,151	1,515	1,257	1,329	1,499	1,225
	567, 568	RvWB14	1,515	60	2	750										1,330	1,500	1,225
	568, 569	RvWB15	1,515	60	2	281										1,330	1,501	1,225
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,515	60	4	1,137	10.2	11.5	9.4	57.8	57.7	57.9	1,911	2,515	2,087	2,368	2,657	2,176
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,610	50	2	228	24.0	26.9	22.0	49.6	49.1	50.0	1,984	2,610	2,166	2,384	2,635	2,203
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,610	50	2	168	21.2	23.6	19.4	46.9	46.6	47.3	1,984	2,610	2,166	2,383	2,636	2,204
	701, 702	RvNBoff5	2,610	50	2	198										2,383	2,637	2,204
	702, 703	RvNBoff6	2,610	50	3	130										2,383	2,637	2,204
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	285	50	1	336	5.2	6.0	5.1	49.2	49.2	49.3	217	285	237	258	297	249
	704, 705	RvNBoff8	285	50	1	200										258	297	249
	705, 706	RvNBoff9	285	50	1	223										258	297	249
	706, 707	RvNBoff10	285	50	1	262										257	297	249
	707, 547	RvNBoff11	285	50	1	264										257	297	249
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,000	50	2	248	10.5	11.7	9.6	49.5	49.4	49.5	760	1,000	830	1,036	1,161	947
	715, 716	RvNBoff21	1,000	50	2	642										1,037	1,159	948
	716, 569	RvNBoff22	1,000	50	2	670										1,035	1,160	948
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	235	50	1	296	3.9	4.7	3.8	52.5	52.3	52.8	179	235	195	204	246	198
	758, 7016	RvNBon4	235	50	1	127										204	247	198
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,200	50	2	97	12.4	13.9	11.6	46.9	46.8	47.0	912	1,200	996	1,069	1,199	1,004
	757, 317	RvNBon10	1,200	50	2	123										1,070	1,198	1,004
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,630	50	2	223	15.6	17.4	14.3	50.1	49.9	50.4	1,239	1,630	1,353	1,561	1,733	1,443
	770, 7032	RvSBoff2	1,630	50	2	150										1,561	1,733	1,443
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,730	50	3	102	16.9	18.9	15.4	43.7	42.9	44.2	1,315	1,730	1,436	1,571	1,725	1,449
	793, 410	RvSBon5	1,730	50	3	655										1,570	1,725	1,449
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,360	50	2	270	12.4	13.8	11.4	49.0	48.8	49.1	1,034	1,360	1,129	1,218	1,349	1,122
	790, 7011	RvSBon11	1,360	50	2	250										1,218	1,349	1,123
	703, 708	118NBoff1	2,325	50	2	311										2,126	2,339	1,955

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	708, 710	118NBoff2	2,325	50	2	567	17.8	19.6	16.3	48.2	48.0	48.3	1,767	2,325	1,930	2,126	2,339	1,956
	710, 711	118NBoff3	2,325	50	2	460										2,126	2,338	1,956
	711, 712	118NBoff4	2,325	50	3	472										2,124	2,341	1,956
	712, 713	118NBoff5	2,325	50	3	395										2,125	2,342	1,957
	713, 714	118NBoff6	2,325	50	3	188										2,124	2,341	1,958
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,325	50	2	212	11.2	12.2	10.4	48.6	48.5	48.6	1,007	1,325	1,100	1,088	1,180	1,012
	717, 718	118NBoff8	1,325	50	2	389										1,089	1,180	1,012
	718, 719	118NBoff9	1,325	50	2	373										1,088	1,180	1,012
	719, 720	118NBoff10	1,325	50	2	589										1,088	1,180	1,012
	720, 721	118NBoff11	1,325	50	2	311										1,087	1,179	1,013
	721, 722	118NBoff12	1,325	50	2	327										1,087	1,180	1,014
	722, 723	118NBoff13	1,325	50	2	626										1,086	1,180	1,014
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,495	60	4	1,252	13.8	15.1	12.8	56.8	56.7	56.9	2,656	3,495	2,901	3,125	3,421	2,915
	724, 725	118NBoff15	3,495	60	4	575										3,124	3,419	2,920
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,240	60	2	611	17.7	20.0	16.3	56.9	56.5	57.0	1,702	2,240	1,859	1,991	2,242	1,840
	740, 741	118NBon3	2,240	60	2	1,571										1,993	2,241	1,841
NB I-275 On Ramp from 118th	741, 748	118NBon4	820	50	1	268	15.3	16.9	14.2	48.0	47.9	48.1	623	820	681	731	808	679
	748, 749	118NBon5	820	50	1	541										732	808	679
	749, 750	118NBon6	820	50	1	715										732	808	681
	750, 751	118NBon7	820	50	1	245										732	808	681
	751, 752	118NBon8	820	50	1	252										732	809	680
	752, 753	118NBon9	820	50	1	352										732	808	680
	753, 754	118NBon10	820	50	1	264										733	808	680
	754, 755	118NBon11	820	50	1	415										733	807	680
	755, 7009	118NBon12	820	50	1	733										734	807	681
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,490	50	1	147	32.1	35.7	29.6	45.4	45.0	45.5	1,132	1,490	1,237	1,431	1,580	1,323
	775, 776	118SBoff3	1,490	50	1	934										1,432	1,580	1,325
	776, 777	118SBoff4	1,490	50	1	371										1,433	1,579	1,325
	777, 778	118SBoff5	1,490	50	1	446										1,433	1,578	1,326
	778, 6020	118SBoff6	1,490	50	1	340										1,434	1,577	1,327
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,170	50	2	990	20.9	23.1	19.4	48.8	48.6	48.9	1,649	2,170	1,801	2,038	2,242	1,900
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,420	50	1	197	27.1	31.0	24.8	46.6	46.3	46.8	1,079	1,420	1,179	1,263	1,432	1,161
	742, 743	118SBon2	1,420	50	1	119										1,263	1,432	1,162
	743, 744	118SBon3	1,420	50	1	126										1,263	1,432	1,161
	744, 745	118SBon4	1,420	50	1	162										1,263	1,432	1,162
	745, 746	118SBon5	1,420	50	1	200										1,263	1,432	1,162
	746, 747	118SBon6	1,420	50	1	166										1,263	1,431	1,162
	747, 413	118SBon7	1,420	50	1	973										1,262	1,433	1,161
EB Ulmerton from West of I-275 to I-275 On	800, 801	UlmNBon2	2,200	60	3	2,420	11.4	12.8	10.5	57.9	57.7	58.0	1,672	2,200	1,826	1,959	2,200	1,809
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,280	50	2	647	12.0	13.3	10.9	49.0	48.8	49.1	973	1,280	1,062	1,172	1,296	1,068
	811, 812	UlmNBon4	1,280	50	2	590										1,172	1,296	1,068
	812, 813	UlmNBon5	1,280	50	2	323										1,172	1,296	1,068
	813, 814	UlmNBon6	1,280	50	2	328										1,173	1,295	1,069
	814, 815	UlmNBon7	1,280	50	2	288										1,173	1,295	1,068
	815, 816	UlmNBon8	1,280	50	2	273										1,173	1,295	1,068
	816, 322	UlmNBon9	1,280	50	2	888										1,172	1,295	1,068
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,560	50	2	318	13.9	15.6	13.2	48.8	48.7	48.8	1,186	1,560	1,295	1,357	1,525	1,293
	830, 831	UlmSBoff2	1,560	50	2	346										1,356	1,524	1,294
	831, 7036	UlmSBoff3	1,560	50	2	283										1,356	1,524	1,294
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,300	50	2	398	10.1	11.3	9.6	57.0	56.9	57.1	988	1,300	1,079	1,136	1,273	1,080
	834, 835	UlmSBoff8	1,300	60	2	584										1,136	1,273	1,080
	835, 836	UlmSBoff9	1,300	60	2	481										1,136	1,273	1,081
	836, 837	UlmSBoff10	1,300	60	2	2,160										1,137	1,271	1,082

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	920	35	1	493	17.8	20.5	16.6	45.5	45.1	45.9	699	920	764	789	902	743
	802, 803	UlmSBon2	920	35	1	214										789	901	744
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	690	35	1	163	14.9	16.9	13.8	41.6	41.5	41.8	524	690	573	608	690	564
	808, 809	UlmSBon4	690	35	1	163										608	690	565
	809, 810	UlmSBon5	690	35	1	228										608	689	565
	810, 402	UlmSBon6	690	50	1	1,170										608	690	565
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	230	35	1	201	4.2	4.9	4.2	43.8	43.7	43.9	175	230	191	182	211	179
	804, 805	UlmSBMLK2	230	50	1	361										181	211	179
	805, 806	UlmSBMLK3	230	50	1	499										181	210	180
SB MLK	806, 807	UlmSBMLK4	490	50	2	1,171	4.1	4.7	4.0	49.2	49.2	49.3	372	490	407	403	460	395
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	350	50	1	1,080	6.3	7.2	5.8	49.4	49.3	49.5	266	350	291	311	350	288
	851, 852	MLKNBon3	350	50	1	350										311	350	288
	852, 853	MLKNBon4	350	50	1	360										311	350	287
	853, 321	MLKNBon5	350	50	1	548										312	350	287
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	260	50	1	294	4.6	5.2	4.5	48.9	49.0	48.9	198	260	216	221	250	216
	839, 840	MLKSBoff4	260	50	1	336										221	250	216
	840, 841	MLKSBoff5	260	50	1	395										221	250	216
	841, 806	MLKSBoff6	260	50	1	539										221	250	216
NB I-275 On Ramp from 4th	900, 901	4thNBon2	630	60	2	1,270	6.3	7.1	5.8	58.9	58.7	58.9	479	630	523	562	629	518
	901, 902	4thNBon3	630	60	2	634										562	629	518
	902, 903	4thNBon4	630	60	2	322										562	628	518
	903, 904	4thNBon5	630	60	2	279										562	628	518
	904, 905	4thNBon6	630	60	2	388										562	628	518
	905, 906	4thNBon7	630	60	1	313										562	628	518
	906, 907	4thNBon8	630	60	1	305										562	628	518
	907, 324	4thNBon9	630	60	1	666										562	627	518
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,030	60	1	466	12.0	13.1	11.3	57.8	57.7	57.8	783	1,030	855	874	953	818
	920, 921	4thSBoff2	1,030	60	1	492										874	953	818
	921, 922	4thSBoff3	1,030	60	1	420										874	953	819
	922, 923	4thSBoff4	1,030	60	1	393										875	952	819
	923, 924	4thSBoff5	1,030	60	1	384										875	951	820
	924, 925	4thSBoff6	1,030	60	1	354										874	952	820
	925, 926	4thSBoff7	1,030	60	1	501										874	952	821
	926, 927	4thSBoff8	1,030	60	1	416										874	952	821
	927, 928	4thSBoff9	1,030	60	2	1,153										873	952	822
	928, 929	4thSBoff10	1,030	60	2	1,242										874	950	823
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	700	70	1	1,116	9.3	10.4	8.6	67.5	67.3	67.6	532	700	581	625	698	577
	5000, 5001	SULNB2	700	70	1	2,205										625	697	578
	5001, 5002	SULNB3	700	70	1	528										624	697	578
	5002, 5003	SULNB4	700	70	1	346										624	696	578
	5003, 5004	SULNB5	700	70	1	235										624	696	579
	5004, 5005	SULNB6	700	70	1	270										623	697	579
	5005, 5006	SULNB7	700	70	1	238										622	698	579
	5006, 5007	SULNB8	700	70	1	261										622	697	580
	5007, 5008	SULNB9	700	70	1	451										622	697	579
	5008, 5009	SULNB10	700	70	1	242										622	697	579
	5009, 5010	SULNB11	700	70	1	158										623	697	579
	5010, 5011	SULNB12	700	70	1	539										623	696	580
	5011, 5012	SULNB13	700	70	1	564										623	697	580
	5012, 5013	SULNB14	700	70	1	824										622	697	578
	5013, 5014	SULNB15	1,020	70	1	2,172										909	1,018	852
	5014, 5015	SULNB16	1,020	70	1	1,149										910	1,018	851

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5015, 5016	SULNB17	1,020	70	1	2,057	12.9	14.5	12.1	64.5	64.2	64.7	775	1,020	847	908	1,018	853
	5016, 5017	SULNB18	1,020	70	1	1,250										911	1,017	852
	5017, 5018	SULNB19	1,020	70	1	1,385										912	1,017	854
	5018, 5019	SULNB20	1,020	70	1	843										909	1,019	853
	5019, 5020	SULNB21	1,020	70	1	687										909	1,019	854
	5020, 5021	SULNB22	1,020	70	1	2,036										908	1,021	853
	5021, 5022	SULNB23	1,020	70	1	171										908	1,021	853
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,320	70	1	1,752	18.1	20.6	17.2	63.3	62.7	63.4	1,003	1,320	1,096	1,209	1,363	1,153
	5023, 5024	SULNB25	1,320	70	1	1,039										1,209	1,364	1,151
	5024, 5025	SULNB26	1,320	70	1	814										1,207	1,364	1,155
	5025, 5026	SULNB27	1,320	70	1	2,530										1,211	1,359	1,159
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	320	70	1	266	4.2	4.7	4.0	68.2	67.9	68.0	243	320	266	287	321	273
	5100, 5101	SULNBRamp2	320	70	1	528										287	321	273
	5101, 5102	SULNBRamp3	320	70	1	379										288	321	272
	5102, 5103	SULNBRamp4	320	70	1	376										287	321	273
	5103, 5104	SULNBRamp5	320	70	1	363										287	321	272
	5104, 5105	SULNBRamp6	320	70	1	352										287	321	272
	5105, 5106	SULNBRamp7	320	70	1	831										287	321	273
	5106, 5107	SULNBRamp8	320	70	1	1,172										288	321	273
	5107, 5108	SULNBRamp9	320	70	1	656										288	321	272
	5108, 5109	SULNBRamp10	320	70	1	803										288	321	273
	5109, 5110	SULNBRamp11	320	70	1	897										287	321	273
	5110, 5111	SULNBRamp12	320	70	1	513										287	321	273
	5111, 5013	SULNBRamp13	320	70	1	267										287	320	273
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	300	70	1	157	4.5	5.2	4.4	67.3	67.0	67.4	228	300	249	300	345	299
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,380	70	1	1,586	13.8	15.5	12.7	68.5	68.4	68.7	1,049	1,380	1,145	1,227	1,382	1,132
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,120	70	1	941	15.5	17.2	14.3	64.7	64.4	64.9	851	1,120	930	999	1,111	923
	5997, 5998	SULSB1	1,120	70	1	816										1,000	1,111	924
	5998, 5999	SULSB1	1,120	70	1	1,054										1,001	1,111	926
	5999, 6000	SULSB1	1,120	70	1	1,908										1,000	1,110	928
	6000, 6001	SULSB2	1,120	70	1	2,064										1,000	1,111	928
	6001, 6002	SULSB3	1,120	70	1	572										1,000	1,110	929
	6002, 6003	SULSB4	1,120	70	1	407										1,000	1,109	930
	6003, 6004	SULSB5	1,120	70	1	1,528										1,000	1,110	928
	6004, 6005	SULSB6	1,120	70	1	1,420										1,000	1,109	930
	6005, 6006	SULSB7	1,120	70	1	4,087										1,001	1,108	931
	6006, 6007	SULSB8	1,120	70	1	1,611										1,003	1,107	932
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	680	70	1	767	9.2	10.3	8.7	65.5	65.2	65.5	517	680	564	601	670	567
	6008, 6009	SULSB10	680	70	1	614										601	670	567
	6009, 6010	SULSB11	680	70	1	382										602	670	567
	6010, 6011	SULSB12	680	70	1	135										602	670	567
	6011, 6012	SULSB13	680	70	1	204										602	669	566
	6012, 6013	SULSB14	680	70	1	613										602	668	567
	6013, 6014	SULSB15	680	70	1	251										602	668	567
	6014, 6015	SULSB16	680	70	1	233										602	668	568
	6015, 6016	SULSB17	680	70	1	274										602	668	568
	6016, 6017	SULSB18	680	70	1	238										602	668	568
	6017, 6018	SULSB19	680	70	1	314										602	668	569
	6018, 6019	SULSB20	680	70	1	879										603	667	570
	6019, 6020	SULSB21	680	70	1	207										603	667	570
	6007, 6100	SULSBRamp1	440	70	1	582										402	436	367

2020 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB SUL Slip Ramp to SB I-275	6100, 6101	SULSBRamp2	440	70	1	621	6.1	6.7	5.6	65.6	65.6	65.8	334	440	365	402	436	367
	6101, 6102	SULSBRamp3	440	70	1	317										402	436	367
	6102, 6103	SULSBRamp4	440	70	1	915										401	437	367
	6103, 6104	SULSBRamp5	440	70	1	1,093										402	437	368
	6104, 6105	SULSBRamp6	440	70	1	1,068										401	438	367
	6105, 6106	SULSBRamp7	440	70	1	788										401	438	368
	6106, 6107	SULSBRamp8	440	70	1	367										401	437	368
	6107, 6108	SULSBRamp9	440	70	1	373										401	437	368
	6108, 6109	SULSBRamp10	440	70	1	445										401	438	368
	6109, 6110	SULSBRamp11	440	70	1	8,866										401	438	366
	6110, 1	SULSBRamp12	440	70	1	292										401	438	366
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	260	70	1	154	3.3	3.9	3.0	69.3	68.6	69.4	198	260	216	229	270	210

Appendix M.
Interim Year (2030) Traffic Operational Analysis Output

Appendix M.
Interim Year (2030) Traffic Operational Analysis Output

Interim Year (2030) HCS 2010 Output
I-275 Mainline

BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2040*	pc/h/ln
S	*61.8*	mph
D = v_p / S	*33.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4860*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1757*	pc/h/ln
S	*66.4*	mph
D = v_p / S	*26.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6060*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2191*	pc/h/ln
S	*58.6*	mph
D = v_p / S	*37.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*8/10/2015 12:17:48 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1996*	pc/h/ln
S	*62.7*	mph
D = v_p / S	*31.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1725*	pc/h/ln
S	*66.8*	mph
D = v_p / S	*25.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6960*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1510*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6540*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2365*	pc/h/ln
S	*54.3*	mph
D = v_p / S	*43.6*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7160*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2589*	pc/h/ln
S	*47.6*	mph
D = v_p / S	*54.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5780*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3135*	pc/h/ln
S	*26.6*	mph
D = v_p / S	*118.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6980*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1893*	pc/h/ln
S	*64.4*	mph
D = v_p / S	*29.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2199*	pc/h/ln
S	*58.4*	mph
D = v_p / S	*37.6*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6980*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1893*	pc/h/ln
S	*64.4*	mph
D = v_p / S	*29.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*5thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8540*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2316*	pc/h/ln
S	*55.6*	mph
D = v_p / S	*41.7*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2828*	pc/h/ln
S	*39.3*	mph
D = v_p / S	*72.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*22ndAveN On to 38thAveN Off*
Date Performed	*8/10/2015 12:17:48 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9200*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2495*	pc/h/ln
S	*50.5*	mph
D = v_p / S	*49.4*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8420*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3045*	pc/h/ln
S	*30.5*	mph
D = v_p / S	*99.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*38thAveN On to 54thAveN Off EB*
Date Performed	*8/10/2015 12:17:48 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9620*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2609*	pc/h/ln
S	*47.0*	mph
D = v_p / S	*55.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9000*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2441*	pc/h/ln
S	*52.1*	mph
D = v_p / S	*46.8*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8280*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2994*	pc/h/ln
S	*32.7*	mph
D = v_p / S	*91.7*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3341*	pc/h/ln
S	*16.8*	mph
D = v_p / S	*198.6*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5320*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1924*	pc/h/ln
S	*63.9*	mph
D = v_p / S	*30.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6160*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1671*	pc/h/ln
S	*67.4*	mph
D = v_p / S	*24.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1964*	pc/h/ln
S	*63.2*	mph
D = v_p / S	*31.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2358*	pc/h/ln
S	*54.4*	mph
D = v_p / S	*43.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2784*	pc/h/ln
S	*40.9*	mph
D = v_p / S	*68.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6880*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2488*	pc/h/ln
S	*50.8*	mph
D = v_p / S	*49.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2121*	pc/h/ln
S	*60.2*	mph
D = v_p / S	*35.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6380*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2307*	pc/h/ln
S	*55.8*	mph
D = v_p / S	*41.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1721*	pc/h/ln
S	*66.9*	mph
D = v_p / S	*25.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1421*	pc/h/ln
S	*69.4*	mph
D = v_p / S	*20.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1266*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3980*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1439*	pc/h/ln
S	*69.3*	mph
D = v_p / S	*20.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3510*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1269*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4110*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1115*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveS Off to 26thAveS On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1096*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3460*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*938*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:17:48 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275 SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1101*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*South of 54thAveS On EB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2110*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1145*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On EB to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2880*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1041*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveS On to 26thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3530*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1277*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*26thAveS Off to 22ndAveS On EB*
Date Performed	*8/10/2015 12:54:03 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2930*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1060*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*15.1*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*22ndAveS On EB to On WB*
Date Performed	*8/10/2015 12:54:03 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3720*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1009*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*14.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveS On WB to 31stStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4300*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*5*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*933*	pc/h/ln
S	*70.0*	mph
D = v_p / S	*13.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*31stStS Off to 28thStS On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3540*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1280*	pc/h/ln
S	*69.9*	mph
D = v_p / S	*18.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*28thStS On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1475*	pc/h/ln
S	*69.1*	mph
D = v_p / S	*21.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3240*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1757*	pc/h/ln
S	*66.4*	mph
D = v_p / S	*26.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-175 On to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4940*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1340*	pc/h/ln
S	*69.8*	mph
D = v_p / S	*19.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4480*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1620*	pc/h/ln
S	*68.0*	mph
D = v_p / S	*23.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*I-375 On to 5thAveN On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6080*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1649*	pc/h/ln
S	*67.7*	mph
D = v_p / S	*24.4*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_NB*
Agency or Company	*HDR*	From/To	*5thAveN On to 22ndAveN Off*
Date Performed	*8/10/2015 12:54:03 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2040*	pc/h/ln
S	*61.8*	mph
D = v_p / S	*33.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6560*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2372*	pc/h/ln
S	*54.1*	mph
D = v_p / S	*43.9*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndAveN On to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7520*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2040*	pc/h/ln
S	*61.8*	mph
D = v_p / S	*33.0*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2351*	pc/h/ln
S	*54.6*	mph
D = v_p / S	*43.0*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*38thAveN On to 54thAveN Off EB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7290*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1977*	pc/h/ln
S	*63.0*	mph
D = v_p / S	*31.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off EB to Off WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6530*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1771*	pc/h/ln
S	*66.2*	mph
D = v_p / S	*26.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*54thAveN Off WB to 22ndStN On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.67*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.9*	mph
FFS	*70.5*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2083*	pc/h/ln
S	*61.0*	mph
D = v_p / S	*34.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_NB*
From/To	*22ndStN On to Gandy Blvd Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6400*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2314*	pc/h/ln
S	*55.6*	mph
D = v_p / S	*41.6*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN Off to On WB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7050*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2549*	pc/h/ln
S	*48.9*	mph
D = v_p / S	*52.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On WB to On EB*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7600*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2061*	pc/h/ln
S	*61.4*	mph
D = v_p / S	*33.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*54thAveN On EB to 38thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2243*	pc/h/ln
S	*57.4*	mph
D = v_p / S	*39.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7050*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2549*	pc/h/ln
S	*48.9*	mph
D = v_p / S	*52.1*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*38thAveN On to 22ndAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8030*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2904*	pc/h/ln
S	*36.3*	mph
D = v_p / S	*80.0*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN Off to On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6790*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2455*	pc/h/ln
S	*51.7*	mph
D = v_p / S	*47.5*	pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h/ln
S		mph
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*22ndAveN On to 5thAveN Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7700*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*7.0*	mph
FFS	*68.4*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2088*	pc/h/ln
S	*60.9*	mph
D = v_p / S	*34.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*5th AveN Off to I-375 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6010*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.33*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.6*	mph
FFS	*68.8*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2173*	pc/h/ln
S	*59.0*	mph
D = v_p / S	*36.8*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 Off to I-375 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4920*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*6.2*	mph
FFS	*69.2*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1779*	pc/h/ln
S	*66.1*	mph
D = v_p / S	*26.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-375 On to I-175 Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5570*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1511*	pc/h/ln
S	*68.9*	mph
D = v_p / S	*21.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 Off to I-175 On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4350*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*2.00*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.8*	mph
FFS	*69.6*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1573*	pc/h/ln
S	*68.4*	mph
D = v_p / S	*23.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*I-175 On to 28thStS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5680*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2054*	pc/h/ln
S	*61.5*	mph
D = v_p / S	*33.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*28thStS Off to 31stStS On*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5260*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1902*	pc/h/ln
S	*64.3*	mph
D = v_p / S	*29.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*31stStS On to 22ndAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5940*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1611*	pc/h/ln
S	*68.0*	mph
D = v_p / S	*23.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information		Site Information	
Analyst	*BSG*	Highway/Direction of Travel	*I-275_SB*
Agency or Company	*HDR*	From/To	*22ndAveS Off to 26thAveS On*
Date Performed	*8/10/2015 12:54:03 PM*	Jurisdiction	*FDOT*
Analysis Time Period	*AM*	Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*3*	
Total Ramp Density, TRD	*1.83*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*5.4*	mph
FFS	*70.0*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1721*	pc/h/ln
S	*66.9*	mph
D = v_p / S	*25.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275_SB*
From/To	*26thAveS On to 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5360*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*4*	
Total Ramp Density, TRD	*1.50*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*4.5*	mph
FFS	*70.9*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1454*	pc/h/ln
S	*69.3*	mph
D = v_p / S	*21.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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BASIC FREEWAY SEGMENTS WORKSHEET

General Information

Analyst	*BSG*
Agency or Company	*HDR*
Date Performed	*8/10/2015 12:54:03 PM*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-275 SB*
From/To	*South of 54thAveS Off*
Jurisdiction	*FDOT*
Analysis Year	*2030 LC Starter*

Project Description *I-275 Managed Lanes*

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2910*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*2*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length Up/Down %	*mi*

Calculate Flow Adjustments

f_p	*0.98*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.990*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Side Lat. Clearance	*6.0*	ft
Number of Lanes, N	*2*	
Total Ramp Density, TRD	*1.17*	ramps/mi
FFS (measured)		mph
Base free-flow Speed, BFFS	*75.4*	mph

Calc Speed Adj and FFS

f_{LW}	*0.0*	mph
f_{LC}	*0.0*	mph
TRD Adjustment	*3.7*	mph
FFS	*71.7*	mph

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1578*	pc/h/ln
S	*68.3*	mph
D = v_p / S	*23.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h/ln
S	mph
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits 11-10, 11-12	f_{LW} - Exhibit 11-8
E_T - Exhibits 11-10, 11-11, 11-13	f_{LC} - Exhibit 11-9
f_p - Page 11-18	TRD - Page 11-11
LOS, S, FFS, v_p - Exhibits 11-2, 11-3	

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Interim Year (2030) HCS 2010 Output
I-275 Ramps

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3760	
	Ramp Volume, V_R: 1100	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3760	0.95	Level	2	0	0.990	0.98	4079
Ramp	1100	0.95	Level	2	0	0.990	0.98	1193
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 4079 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5272	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5761	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 27.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.260 (Exibit 13-11)

S_R = 34.7 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 34.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4860	
	Ramp Volume, V_R: 1200	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4860	0.95	Level	2	0	0.990	0.98	5272
Ramp	1200	0.95	Level	2	0	0.990	0.98	1302
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 3102 pc/h

V_3 or V_{av34} = 2170 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3102 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6574	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4404	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.601 (Exibit 13-11)

S_R = 53.2 mph (Exhibit 13-11)

S_0 = 64.0 mph (Exhibit 13-11)

S = 56.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 5385 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1200 veh/h	Deceleration Lane Length L_D: 200	V_D = veh/h
	Freeway Volume, V_F: 6060	
	Ramp Volume, V_R: 540	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6060	0.95	Level	2	0	0.990	0.98	6574
Ramp	540	0.95	Level	2	0	0.990	0.98	586
UpStream	1200	0.95	Level	2	0	0.990	0.98	1302
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7328.36 (Equation 13-12 or 13-13)

P_{FD} = 0.569 using Equation (Exhibit 13-7)

V_{12} = 3991 pc/h

V_3 or V_{av34} 2583 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6574	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5988	Exhibit 13-8	7200	No
V_R	586	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3991	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 36.8 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.286 (Exhibit 13-12)

S_R= 62.0 mph (Exhibit 13-12)

S_0= 70.6 mph (Exhibit 13-12)

S = 65.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 540 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5520	
	Ramp Volume, V_R: 840	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5520	0.95	Level	2	0	0.990	0.98	5988
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	540	0.95	Level	2	0	0.990	0.98	586
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1270.89 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 3596 pc/h

V_3 or V_{av34} 2392 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 3596 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6899	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4507	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.0 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.617 (Exibit 13-11)

S_R = 52.7 mph (Exhibit 13-11)

S_0 = 62.9 mph (Exhibit 13-11)

S = 55.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6360	
	Ramp Volume, V_R: 600	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6360	0.95	Level	2	0	0.990	0.98	6900
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.136 using Equation (Exhibit 13-6)

V_{12} = 941 pc/h

V_3 or V_{av34} = 2979 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2760 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7551	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3411	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 22.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.289 (Exibit 13-11)

S_R = 61.9 mph (Exhibit 13-11)

S_0 = 64.3 mph (Exhibit 13-11)

S = 63.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	600 veh/h	Freeway Volume, V_F	6960	V_D =	veh/h
		Ramp Volume, V_R	420		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6960	0.95	Level	2	0	0.990	0.98	7551
Ramp	420	0.95	Level	2	0	0.990	0.98	456
UpStream	600	0.95	Level	2	0	0.990	0.98	651
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3649 pc/h

V_3 or V_{av34} 3902 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4851 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7551	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7095	Exhibit 13-8	7200	No
V_R	456	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3649	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 22.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.274 (Exhibit 13-12)

S_R= 62.3 mph (Exhibit 13-12)

S_0= 71.1 mph (Exhibit 13-12)

S = 64.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 545	L_{down} = 2065 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1380 veh/h
	Freeway Volume, V_F: 6540	
	Ramp Volume, V_R: 620	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6540	0.95	Level	2	0	0.990	0.98	7095
Ramp	620	0.95	Level	2	0	0.990	0.98	673
UpStream								
DownStream	1380	0.95	Level	2	0	0.990	0.98	1497

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8915.22 (Equation 13-6 or 13-7)

P_{FM} = 0.739 using Equation (Exhibit 13-6)

V_{12} = 5245 pc/h

V_3 or V_{av34} 1850 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5245 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7768	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5918	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 47.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.716 (Exibit 13-11)

S_R = 22.0 mph (Exhibit 13-11)

S_0 = 65.1 mph (Exhibit 13-11)

S = 26.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7160
Ramp Volume, V_R	1380
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7160	0.95	Level	2	0	0.990	0.98	7768
Ramp	1380	0.95	Level	2	0	0.990	0.98	1497
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R = mph (Exhibit 13-11)
S_0 = mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 7768 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7768	Exhibit 13-8	4800	Yes
$V_{FO} = V_F - V_R$	6271	Exhibit 13-8	4800	Yes
V_R	1497	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	7768	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 44.1 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.368 (Exhibit 13-12)
S_R = 59.7 mph (Exhibit 13-12)
S_0 = N/A mph (Exhibit 13-12)
S = 59.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 5780	
	Ramp Volume, V_R: 1200	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5780	0.95	Level	2	0	0.990	0.98	6270
Ramp	1200	0.95	Level	2	0	0.990	0.98	1302
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 6270 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7572	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	8324	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 54.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 16.245 (Exibit 13-11)

S_R = -384.9 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = -384.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 650 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1200 veh/h	Deceleration Lane Length L_D: 675	V_D = veh/h
	Freeway Volume, V_F: 6980	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6980	0.95	Level	2	0	0.990	0.98	7572
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream	1200	0.95	Level	2	0	0.990	0.98	1302
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7614.93 (Equation 13-12 or 13-13)

P_{FD} = 0.526 using Equation (Exhibit 13-7)

V_{12} = 4444 pc/h

V_3 or V_{av34} 3128 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4872 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7572	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6596	Exhibit 13-8	7200	No
V_R	976	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4444	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 40.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.321 (Exhibit 13-12)

S_R= 61.0 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 2395 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 900 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6080	
	Ramp Volume, V_R: 900	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6080	0.95	Level	2	0	0.990	0.98	6596
Ramp	900	0.95	Level	2	0	0.990	0.98	976
UpStream	900	0.95	Level	2	0	0.990	0.98	976
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 3661 pc/h

V_3 or V_{av34} = 2935 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3896 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7572	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4872	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 14.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.380 (Exibit 13-11)

S_R = 59.4 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 60.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6980	
	Ramp Volume, V_R: 1560	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6980	0.95	Level	2	0	0.990	0.98	7572
Ramp	1560	0.95	Level	2	0	0.990	0.98	1692
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.006 using Equation (Exhibit 13-6)

V_{12} = 48 pc/h

V_3 or V_{av34} = 3762 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3028 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9264	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4720	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 36.6 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.680 (Exibit 13-11)

S_R = 50.9 mph (Exhibit 13-11)

S_0 = 63.6 mph (Exhibit 13-11)

S = 56.5 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1560 veh/h	Freeway Volume, V_F	8540	V_D =	veh/h
		Ramp Volume, V_R	720		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8540	0.95	Level	2	0	0.990	0.98	9265
Ramp	720	0.95	Level	2	0	0.990	0.98	781
UpStream	1560	0.95	Level	2	0	0.990	0.98	1692
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7528.73 (Equation 13-12 or 13-13)

P_{FD} = 0.492 using Equation (Exhibit 13-7)

V_{12} = 4959 pc/h

V_3 or V_{av34} 4306 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6565 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9265	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8484	Exhibit 13-8	7200	Yes
V_R	781	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4959	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 47.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.303 (Exhibit 13-12)

S_R= 61.5 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2920 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 720 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7820	
	Ramp Volume, V_R: 1380	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7820	0.95	Level	2	0	0.990	0.98	8484
Ramp	1380	0.95	Level	2	0	0.990	0.98	1497
UpStream	720	0.95	Level	2	0	0.990	0.98	781
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3014.93 (Equation 13-6 or 13-7)

P_{FM} = 0.613 using Equation (Exhibit 13-6)

V_{12} = 5203 pc/h

V_3 or V_{av34} 3281 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 5784 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	9981	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7281	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 52.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 5.836 (Exibit 13-11)

S_R= -93.4 mph (Exhibit 13-11)

S_0= 61.1 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1380 veh/h	Freeway Volume, V_F	9200	V_D =	veh/h
		Ramp Volume, V_R	780		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9200	0.95	Level	2	0	0.990	0.98	9981
Ramp	780	0.95	Level	2	0	0.990	0.98	846
UpStream	1380	0.95	Level	2	0	0.990	0.98	1497
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4957 pc/h

V_3 or V_{av34} 5024 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7281 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9981	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9135	Exhibit 13-8	7200	Yes
V_R	846	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4957	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 39.9 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.309 (Exhibit 13-12)

S_R= 61.3 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 3130 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 780 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 8420	
	Ramp Volume, V_R: 1200	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8420	0.95	Level	2	0	0.990	0.98	9134
Ramp	1200	0.95	Level	2	0	0.990	0.98	1302
UpStream	780	0.95	Level	2	0	0.990	0.98	846
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3112.30 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 5659 pc/h

V_3 or V_{av34} 3475 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 6434 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10436	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7736	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 55.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 9.099 (Exibit 13-11)

S_R = -184.8 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 4449.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2470 ft	Deceleration Lane Length L_D	810	L_{down} =	ft
V_u =	1200 veh/h	Freeway Volume, V_F	9620	V_D =	veh/h
		Ramp Volume, V_R	620		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9620	0.95	Level	2	0	0.990	0.98	10436
Ramp	620	0.95	Level	2	0	0.990	0.98	673
UpStream	1200	0.95	Level	2	0	0.990	0.98	1302
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5010.00 (Equation 13-12 or 13-13)

P_{FD} = 0.468 using Equation (Exhibit 13-7)

V_{12} = 5243 pc/h

V_3 or V_{av34} 5193 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 7736 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	10436	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	9763	Exhibit 13-8	7200	Yes
V_R	673	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5243	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 63.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.294 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	9000
Ramp Volume, V_R	720
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	35.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9000	0.95	Level	2	0	0.990	0.98	9764
Ramp	720	0.95	Level	2	0	0.990	0.98	781
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.480 using Equation (Exhibit 13-7)
V_{12} = 5093 pc/h
V_3 or V_{av34} 4671 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 7064 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	9764	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	8983	Exhibit 13-8	7200	Yes
V_R	781	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5093	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 51.5 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.498 (Exhibit 13-12)
S_R= 56.0 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 59.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2070 ft
V_u = 720 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	575
Deceleration Lane Length L_D	
Freeway Volume, V_F	8280
Ramp Volume, V_R	960
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8280	0.95	Level	2	0	0.990	0.98	8983
Ramp	960	0.95	Level	2	0	0.990	0.98	1041
UpStream	720	0.95	Level	2	0	0.990	0.98	781
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2613.44 (Equation 13-6 or 13-7)
P_{FM} = 0.559 using Equation (Exhibit 13-6)
V_{12} = 5023 pc/h
V_3 or V_{av34} 3960 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6283 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	10024	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	7324	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 58.5 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

M_S = 6.177 (Exibit 13-11)
S_R = -103.0 mph (Exhibit 13-11)
S_0 = 61.1 mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1561 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 1320 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6240	
	Ramp Volume, V_R: 920	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6240	0.95	Level	2	0	0.990	0.98	6769
Ramp	920	0.95	Level	2	0	0.990	0.98	998
UpStream	1320	0.95	Level	2	0	0.990	0.98	1432
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 9493.57 (Equation 13-12 or 13-13)

P_{FD} = 0.545 using Equation (Exhibit 13-7)

V_{12} = 4142 pc/h

V_3 or V_{av34} 2627 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6769	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5771	Exhibit 13-8	7200	No
V_R	998	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4142	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 26.4 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.323 (Exhibit 13-12)

S_R= 61.0 mph (Exhibit 13-12)

S_0= 70.4 mph (Exhibit 13-12)

S = 64.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp
☑ Yes	☐ On	Ramp Number of Lanes, N	1	☐ Yes ☐ On
☐ No	☑ Off	Acceleration Lane Length, L_A	1500	☑ No ☐ Off
L_{up} =	1685 ft	Deceleration Lane Length L_D		L_{down} = ft
V_u =	920 veh/h	Freeway Volume, V_F	5320	V_D = veh/h
		Ramp Volume, V_R	840	
		Freeway Free-Flow Speed, S_{FF}	70.0	
		Ramp Free-Flow Speed, S_{FR}	35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5320	0.95	Level	2	0	0.990	0.98	5771
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream	920	0.95	Level	2	0	0.990	0.98	998
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1524.15 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 3575 pc/h

V_3 or V_{av34} 2196 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3575 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6682	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4486	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.562 (Exibit 13-11)

S_R = 54.3 mph (Exhibit 13-11)

S_0 = 63.9 mph (Exhibit 13-11)

S = 57.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6160	
	Ramp Volume, V_R: 1080	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6160	0.95	Level	2	0	0.990	0.98	6683
Ramp	1080	0.95	Level	2	0	0.990	0.98	1172
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.071 using Equation (Exhibit 13-6)

V_{12} = 476 pc/h

V_3 or V_{av34} = 3103 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2673 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7855	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3845	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.433 (Exibit 13-11)

S_R = 57.9 mph (Exhibit 13-11)

S_0 = 64.6 mph (Exhibit 13-11)

S = 61.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2360 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1080 veh/h	Freeway Volume, V_F	7240	V_D =	veh/h
		Ramp Volume, V_R	720		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7240	0.95	Level	2	0	0.990	0.98	7854
Ramp	720	0.95	Level	2	0	0.990	0.98	781
UpStream	1080	0.95	Level	2	0	0.990	0.98	1172
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6095.09 (Equation 13-12 or 13-13)

P_{FD} = 0.528 using Equation (Exhibit 13-7)

V_{12} = 4514 pc/h

V_3 or V_{av34} 3340 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5154 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7854	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7073	Exhibit 13-8	7200	No
V_R	781	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4514	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 35.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.303 (Exhibit 13-12)

S_R= 61.5 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 820 veh/h
	Freeway Volume, V_F: 6520	
	Ramp Volume, V_R: 1180	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6520	0.95	Level	2	0	0.990	0.98	7073
Ramp	1180	0.95	Level	2	0	0.990	0.98	1280
UpStream								
DownStream	820	0.95	Level	2	0	0.990	0.98	890

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5860.47 (Equation 13-6 or 13-7)

P_{FM} = 0.631 using Equation (Exhibit 13-6)

V_{12} = 4466 pc/h

V_3 or V_{av34} 2607 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4466 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8353	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5746	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 47.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.502 (Exibit 13-11)

S_R = 27.9 mph (Exhibit 13-11)

S_0 = 61.6 mph (Exhibit 13-11)

S = 33.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2830 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1180 veh/h	Freeway Volume, V_F	7700	V_D =	veh/h
		Ramp Volume, V_R	820		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7700	0.95	Level	2	0	0.990	0.98	8353
Ramp	820	0.95	Level	2	0	0.990	0.98	890
UpStream	1180	0.95	Level	2	0	0.990	0.98	1280
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6548.02 (Equation 13-12 or 13-13)

P_{FD} = 0.510 using Equation (Exhibit 13-7)

V_{12} = 4698 pc/h

V_3 or V_{av34} 3655 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5653 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8353	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7463	Exhibit 13-8	7200	Yes
V_R	890	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4698	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 39.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.313 (Exhibit 13-12)

S_R= 61.2 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1440 veh/h
	Freeway Volume, V_F: 6880	
	Ramp Volume, V_R: 940	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6880	0.95	Level	2	0	0.990	0.98	7464
Ramp	940	0.95	Level	2	0	0.990	0.98	1020
UpStream								
DownStream	1440	0.95	Level	2	0	0.990	0.98	1562

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5783.04 (Equation 13-6 or 13-7)

P_{FM} = 0.720 using Equation (Exhibit 13-6)

V_{12} = 5372 pc/h

V_3 or V_{av34} 2092 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5372 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8484	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6392	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 45.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 2.499 (Exibit 13-11)

S_R = 0.0 mph (Exhibit 13-11)

S_0 = 64.3 mph (Exhibit 13-11)

S = 0.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = 750 ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = 1620 veh/h
	Freeway Volume, V_F: 7820	
	Ramp Volume, V_R: 1440	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7820	0.95	Level	2	0	0.990	0.98	8484
Ramp	1440	0.95	Level	2	0	0.990	0.98	1562
UpStream								
DownStream	1620	0.95	Level	2	0	0.990	0.98	1757

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5833.32 (Equation 13-12 or 13-13)

P_{FD} = 0.728 using Equation (Exhibit 13-7)

V_{12} = 6603 pc/h

V_3 or V_{av34} 1881 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8484	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6922	Exhibit 13-8	7200	No
V_R	1562	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	6603	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 47.5 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.374 (Exhibit 13-12)

S_R = 59.5 mph (Exhibit 13-12)

S_0 = 73.4 mph (Exhibit 13-12)

S = 62.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6380	
	Ramp Volume, V_R: 1620	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6380	0.95	Level	2	0	0.990	0.98	6921
Ramp	1620	0.95	Level	2	0	0.990	0.98	1757
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4081 pc/h

V_3 or V_{av34} 2840 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4221 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6921	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5164	Exhibit 13-8	7200	No
V_R	1757	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4081	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 15.4 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.391 (Exhibit 13-12)

S_R= 59.0 mph (Exhibit 13-12)

S_0= 71.0 mph (Exhibit 13-12)

S = 62.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1740 veh/h
	Freeway Volume, V_F: 4760	
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4760	0.95	Level	2	0	0.990	0.98	5164
Ramp	480	0.95	Level	2	0	0.990	0.98	521
UpStream								
DownStream	1740	0.95	Level	2	0	0.990	0.98	1888

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 10763.66 (Equation 13-6 or 13-7)

P_{FM} = 0.850 using Equation (Exhibit 13-6)

V_{12} = 4391 pc/h

V_3 or V_{av34} 773 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4391 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5685	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4912	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 39.7 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.790 (Exibit 13-11)

S_R = 47.9 mph (Exhibit 13-11)

S_0 = 69.0 mph (Exhibit 13-11)

S = 50.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = 1645 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 480 veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5240	
	Ramp Volume, V_R: 1740	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5240	0.95	Level	2	0	0.990	0.98	5685
Ramp	1740	0.95	Level	2	0	0.990	0.98	1888
UpStream	480	0.95	Level	2	0	0.990	0.98	521
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3597 pc/h

V_3 or V_{av34} 2088 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5685	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3797	Exhibit 13-8	7200	No
V_R	1888	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3597	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 9.7 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.403 (Exhibit 13-12)

S_R= 58.7 mph (Exhibit 13-12)

S_0= 73.2 mph (Exhibit 13-12)

S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 1605 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 470 veh/h
	Freeway Volume, V_F: 3500	
	Ramp Volume, V_R: 480	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3500	0.95	Level	2	0	0.990	0.98	3797
Ramp	480	0.95	Level	2	0	0.990	0.98	521
UpStream								
DownStream	470	0.95	Level	2	0	0.990	0.98	510

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1888.19 (Equation 13-6 or 13-7)

P_{FM} = 0.632 using Equation (Exhibit 13-6)

V_{12} = 2400 pc/h

V_3 or V_{av34} 1397 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2400 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4318	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3209	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 20.9 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.268 (Exibit 13-11)

S_R = 62.5 mph (Exhibit 13-11)

S_0 = 67.8 mph (Exhibit 13-11)

S = 63.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1605 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 480 veh/h	Deceleration Lane Length L_D: 195	V_D = veh/h
	Freeway Volume, V_F: 3980	
	Ramp Volume, V_R: 470	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3980	0.95	Level	2	0	0.990	0.98	4318
Ramp	470	0.95	Level	2	0	0.990	0.98	510
UpStream	480	0.95	Level	2	0	0.990	0.98	521
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 3960.35 (Equation 13-12 or 13-13)

P_{FD} = 0.629 using Equation (Exhibit 13-7)

V_{12} = 2904 pc/h

V_3 or V_{av34} 1414 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4318	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3808	Exhibit 13-8	7200	No
V_R	510	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2904	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 27.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.279 (Exhibit 13-12)

S_R= 62.2 mph (Exhibit 13-12)

S_0= 75.2 mph (Exhibit 13-12)

S = 65.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1000	L_{down} = 50 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1080 veh/h
	Freeway Volume, V_F: 3510	
	Ramp Volume, V_R: 600	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3510	0.95	Level	2	0	0.990	0.98	3808
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream								
DownStream	1080	0.95	Level	2	0	0.990	0.98	1172

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5410.90 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3808 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4459	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4459	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 33.7 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.558 (Exibit 13-11)

S_R = 54.4 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = 54.4 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	50 ft	Deceleration Lane Length L_D	1000	L_{down} =	ft
V_u =	600 veh/h	Freeway Volume, V_F	4110	V_D =	veh/h
		Ramp Volume, V_R	1080		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4110	0.95	Level	2	0	0.990	0.98	4459
Ramp	1080	0.95	Level	2	0	0.990	0.98	1172
UpStream	600	0.95	Level	2	0	0.990	0.98	651
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 7705.51 (Equation 13-12 or 13-13)

P_{FD} = 0.595 using Equation (Exhibit 13-7)

V_{12} = 3126 pc/h

V_3 or V_{av34} 1333 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4459	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3287	Exhibit 13-8	7200	No
V_R	1172	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3126	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 22.1 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.338 (Exhibit 13-12)

S_R= 60.5 mph (Exhibit 13-12)

S_0= 75.5 mph (Exhibit 13-12)

S = 64.3 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1430 veh/h
	Freeway Volume, V_F: 3030	
	Ramp Volume, V_R: 430	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3030	0.95	Level	2	0	0.990	0.98	3287
Ramp	430	0.95	Level	2	0	0.990	0.98	466
UpStream								
DownStream	1430	0.95	Level	2	0	0.990	0.98	1551

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5742.32 (Equation 13-6 or 13-7)

P_{FM} = 0.634 using Equation (Exhibit 13-6)

V_{12} = 2084 pc/h

V_3 or V_{av34} 1203 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 2084 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3753	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2550	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 15.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.221 (Exibit 13-11)

S_R= 63.8 mph (Exhibit 13-11)

S_0= 67.5 mph (Exhibit 13-11)

S = 64.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/12/2015 9:29:19 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4770 ft
V_u = 430 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	3460
Ramp Volume, V_R	1430
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3460	0.95	Level	2	0	0.990	0.98	3754
Ramp	1430	0.95	Level	2	0	0.990	0.98	1551
UpStream	430	0.95	Level	2	0	0.990	0.98	466
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.450 using Equation (Exhibit 13-7)
V_{12} = 2542 pc/h
V_3 or V_{av34} 1212 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3754	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	2203	Exhibit 13-8	7200	No
V_R	1551	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2542	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = -14.4 (pc/mi/ln)
LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.373 (Exhibit 13-12)
S_R= 59.6 mph (Exhibit 13-12)
S_0= 76.0 mph (Exhibit 13-12)
S = 64.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp EB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2110	
	Ramp Volume, V_R: 770	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2110	0.95	Level	2	0	0.990	0.98	2289
Ramp	770	0.95	Level	2	0	0.990	0.98	835
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 2289 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3124	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3398	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 10.6 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.138 (Exibit 13-11)

S_R = 66.1 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 66.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveS On Ramp WB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 390	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2880	
	Ramp Volume, V_R: 650	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2880	0.95	Level	2	0	0.990	0.98	3124
Ramp	650	0.95	Level	2	0	0.990	0.98	705
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.588 using Equation (Exhibit 13-6)

V_{12} = 1838 pc/h

V_3 or V_{av34} = 1286 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1838 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	3829	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2543	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 22.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.332 (Exibit 13-11)

S_R = 60.7 mph (Exhibit 13-11)

S_0 = 67.2 mph (Exhibit 13-11)

S = 62.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	26thAveS Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	5385 ft	Deceleration Lane Length L_D	200	L_{down} =	ft
V_u =	650 veh/h	Freeway Volume, V_F	3530	V_D =	veh/h
		Ramp Volume, V_R	600		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3530	0.95	Level	2	0	0.990	0.98	3830
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream	650	0.95	Level	2	0	0.990	0.98	705
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6431.66 (Equation 13-12 or 13-13)

P_{FD} = 0.647 using Equation (Exhibit 13-7)

V_{12} = 2707 pc/h

V_3 or V_{av34} 1123 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	3830	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3179	Exhibit 13-8	7200	No
V_R	651	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2707	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 25.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.292 (Exhibit 13-12)

S_R= 61.8 mph (Exhibit 13-12)

S_0= 76.3 mph (Exhibit 13-12)

S = 65.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp EB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2150 ft	Acceleration Lane Length, L_A: 825	L_{down} = ft
V_u = 600 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 2930	
	Ramp Volume, V_R: 790	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	2930	0.95	Level	2	0	0.990	0.98	3179
Ramp	790	0.95	Level	2	0	0.990	0.98	857
UpStream	600	0.95	Level	2	0	0.990	0.98	651
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 658.20 (Equation 13-6 or 13-7)

P_{FM} = 0.601 using Equation (Exhibit 13-6)

V_{12} = 1909 pc/h

V_3 or V_{av34} 1270 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 1909 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4036	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2766	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 21.5 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.325 (Exibit 13-11)

S_R = 60.9 mph (Exhibit 13-11)

S_0 = 67.2 mph (Exhibit 13-11)

S = 62.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveS On Ramp WB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3720	
	Ramp Volume, V_R: 580	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3720	0.95	Level	2	0	0.990	0.98	4036
Ramp	580	0.95	Level	2	0	0.990	0.98	629
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.139 using Equation (Exhibit 13-6)

V_{12} = 562 pc/h

V_3 or V_{av34} 1737 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes,V_{12a} = 1614 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4665	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	2243	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 13.3 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

M_S = 0.208 (Exibit 13-11)

S_R= 64.2 mph (Exhibit 13-11)

S_0= 67.4 mph (Exhibit 13-11)

S = 65.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R= mph (Exhibit 13-12)

S_0= mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	31stStS Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1825 ft	Deceleration Lane Length L_D	700	L_{down} =	ft
V_u =	580 veh/h	Freeway Volume, V_F	4300	V_D =	veh/h
		Ramp Volume, V_R	760		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4300	0.95	Level	2	0	0.990	0.98	4665
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream	580	0.95	Level	2	0	0.990	0.98	629
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 2552 pc/h

V_3 or V_{av34} 2113 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2665 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4665	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3841	Exhibit 13-8	7200	No
V_R	824	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	2552	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 2.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.307 (Exhibit 13-12)

S_R= 61.4 mph (Exhibit 13-12)

S_0= 73.4 mph (Exhibit 13-12)

S = 65.7 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	28thStS On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	545
Deceleration Lane Length L_D	
Freeway Volume, V_F	3540
Ramp Volume, V_R	540
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2065 ft
V_D = 840 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	3540	0.95	Level	2	0	0.990	0.98	3840
Ramp	540	0.95	Level	2	0	0.990	0.98	586
UpStream								
DownStream	840	0.95	Level	2	0	0.990	0.98	911

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5425.36 (Equation 13-6 or 13-7)
P_{FM} = 0.665 using Equation (Exhibit 13-6)
V_{12} = 2552 pc/h
V_3 or V_{av34} 1288 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 2552 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	4426	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	3138	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 26.3 (pc/mi/ln)
LOS = C (Exhibit 13-2)

Speed Determination

M_S = 0.356 (Exibit 13-11)
S_R = 60.0 mph (Exhibit 13-11)
S_0 = 67.2 mph (Exhibit 13-11)
S = 61.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = using Equation (Exhibit 13-7)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)
S_R = mph (Exhibit 13-12)
S_0 = mph (Exhibit 13-12)
S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	2
Ramp Number of Lanes, N	2
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	4080
Ramp Volume, V_R	840
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4080	0.95	Level	2	0	0.990	0.98	4426
Ramp	840	0.95	Level	2	0	0.990	0.98	911
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 1.000 using Equation (Exhibit 13-7)
V_{12} = 4426 pc/h
V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	4426	Exhibit 13-8	4800	No
$V_{FO} = V_F - V_R$	3515	Exhibit 13-8	4800	No
V_R	911	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4426	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 15.3 (pc/mi/ln)
LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.315 (Exhibit 13-12)
S_R= 61.2 mph (Exhibit 13-12)
S_0= N/A mph (Exhibit 13-12)
S = 61.2 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 2	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 3240	
	Ramp Volume, V_R: 1700	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3240	0.95	Level	2	0	0.990	0.98	3515
Ramp	1700	0.95	Level	2	0	0.990	0.98	1844
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 3515 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5359	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5780	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 37.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.434 (Exibit 13-11)

S_R = 29.9 mph (Exhibit 13-11)

S_0 = N/A mph (Exhibit 13-11)

S = 29.9 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 650 ft

V_u = 1700 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	675
Freeway Volume, V_F	4940
Ramp Volume, V_R	460
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4940	0.95	Level	2	0	0.990	0.98	5359
Ramp	460	0.95	Level	2	0	0.990	0.98	499
UpStream	1700	0.95	Level	2	0	0.990	0.98	1844
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 11795.33 (Equation 13-12 or 13-13)

P_{FD} = 0.603 using Equation (Exhibit 13-7)

V_{12} = 3430 pc/h

V_3 or V_{av34} 1929 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5359	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4860	Exhibit 13-8	7200	No
V_R	499	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3430	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 27.7 (pc/mi/ln)

LOS = C (Exhibit 13-2)

Speed Determination

D_s = 0.278 (Exhibit 13-12)

S_R= 62.2 mph (Exhibit 13-12)

S_0= 73.2 mph (Exhibit 13-12)

S = 65.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☑ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☐ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 950 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1440 veh/h
	Freeway Volume, V_F: 4480	
	Ramp Volume, V_R: 1600	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4480	0.95	Level	2	0	0.990	0.98	4860
Ramp	1600	0.95	Level	2	0	0.990	0.98	1736
UpStream								
DownStream	1440	0.95	Level	2	0	0.990	0.98	1562

Merge Areas | **Diverge Areas**

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.555 using Equation (Exhibit 13-6)

V_{12} = 2697 pc/h

V_3 or V_{av34} 2163 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2777 pc/h (Equation 13-16, 13-18, or 13-19)

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6596	Exhibit 13-8		No

	Actual	Capacity		
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4513	Exhibit 13-8	4600:All	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 11.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = 0.227 (Exibit 13-11)

S_R = 63.7 mph (Exhibit 13-11)

S_0 = 64.3 mph (Exhibit 13-11)

S = 63.9 mph (Exhibit 13-13)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	5thAveN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 780	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 6080	
	Ramp Volume, V_R: 1440	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6080	0.95	Level	2	0	0.990	0.98	6596
Ramp	1440	0.95	Level	2	0	0.990	0.98	1562
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.023 using Equation (Exhibit 13-6)

V_{12} = 149 pc/h

V_3 or V_{av34} = 3223 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2638 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8158	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4200	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.6 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.503 (Exibit 13-11)

S_R = 55.9 mph (Exhibit 13-11)

S_0 = 64.7 mph (Exhibit 13-11)

S = 59.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} = pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2785 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	1440 veh/h	Freeway Volume, V_F	7520	V_D =	veh/h
		Ramp Volume, V_R	960		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7520	0.95	Level	2	0	0.990	0.98	8158
Ramp	960	0.95	Level	2	0	0.990	0.98	1041
UpStream	1440	0.95	Level	2	0	0.990	0.98	1562
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8701.08 (Equation 13-12 or 13-13)

P_{FD} = 0.508 using Equation (Exhibit 13-7)

V_{12} = 4658 pc/h

V_3 or V_{av34} 3500 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5458 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8158	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7117	Exhibit 13-8	7200	No
V_R	1041	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4658	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 37.7 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.327 (Exhibit 13-12)

S_R= 60.9 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2325 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1020 veh/h
	Freeway Volume, V_F: 6560	
	Ramp Volume, V_R: 960	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6560	0.95	Level	2	0	0.990	0.98	7117
Ramp	960	0.95	Level	2	0	0.990	0.98	1041
UpStream								
DownStream	1020	0.95	Level	2	0	0.990	0.98	1107

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 4098.48 (Equation 13-6 or 13-7)

P_{FM} = 0.674 using Equation (Exhibit 13-6)

V_{12} = 4796 pc/h

V_3 or V_{av34} 2321 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4796 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8158	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5837	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 41.1 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.508 (Exibit 13-11)

S_R = 27.8 mph (Exhibit 13-11)

S_0 = 63.3 mph (Exhibit 13-11)

S = 33.1 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	2325 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	960 veh/h	Freeway Volume, V_F	7520	V_D =	veh/h
		Ramp Volume, V_R	1020		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7520	0.95	Level	2	0	0.990	0.98	8158
Ramp	1020	0.95	Level	2	0	0.990	0.98	1107
UpStream	960	0.95	Level	2	0	0.990	0.98	1041
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4280 pc/h

V_3 or V_{av34} 3878 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5458 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8158	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7051	Exhibit 13-8	7200	No
V_R	1107	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4280	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 24.2 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.333 (Exhibit 13-12)

S_R= 60.7 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	1500
Deceleration Lane Length L_D	
Freeway Volume, V_F	6500
Ramp Volume, V_R	790
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 2470 ft

V_D = 760 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6500	0.95	Level	2	0	0.990	0.98	7052
Ramp	790	0.95	Level	2	0	0.990	0.98	857
UpStream								
DownStream	760	0.95	Level	2	0	0.990	0.98	824

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3050.72 (Equation 13-6 or 13-7)

P_{FM} = 0.636 using Equation (Exhibit 13-6)

V_{12} = 4488 pc/h

V_3 or V_{av34} 2564 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4488 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	7909	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5345	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 37.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 0.988 (Exibit 13-11)

S_R = 42.3 mph (Exhibit 13-11)

S_0 = 61.9 mph (Exhibit 13-11)

S = 47.2 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp EB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☑ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2470 ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = 790 veh/h	Deceleration Lane Length L_D: 810	V_D = veh/h
	Freeway Volume, V_F: 7290	
	Ramp Volume, V_R: 760	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7290	0.95	Level	2	0	0.990	0.98	7909
Ramp	760	0.95	Level	2	0	0.990	0.98	824
UpStream	790	0.95	Level	2	0	0.990	0.98	857
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4503.82 (Equation 13-12 or 13-13)

P_{FD} = 0.524 using Equation (Exhibit 13-7)

V_{12} = 4539 pc/h

V_3 or V_{av34} 3370 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 5209 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7909	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7085	Exhibit 13-8	7200	No
V_R	824	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4539	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 41.8 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.307 (Exhibit 13-12)

S_R= 61.4 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	54thAveN Off Ramp WB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6530	
	Ramp Volume, V_R: 770	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6530	0.95	Level	2	0	0.990	0.98	7084
Ramp	770	0.95	Level	2	0	0.990	0.98	835
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.544 using Equation (Exhibit 13-7)

V_{12} = 4238 pc/h

V_3 or V_{av34} 2846 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = 4384 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	7084	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	6249	Exhibit 13-8	7200	No
V_R	835	Exhibit 13-10	2000	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4238	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 28.5 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.503 (Exhibit 13-12)

S_R= 55.9 mph (Exhibit 13-12)

S_0= 70.2 mph (Exhibit 13-12)

S = 60.6 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_NB
Agency or Company	HDR	Junction	22ndStN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 575	L_{down} = 8185 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2090 veh/h
	Freeway Volume, V_F: 5760	
	Ramp Volume, V_R: 640	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5760	0.95	Level	2	0	0.990	0.98	6249
Ramp	640	0.95	Level	2	0	0.990	0.98	694
UpStream								
DownStream	2090	0.95	Level	2	0	0.990	0.98	2267

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 13247.63 (Equation 13-6 or 13-7)

P_{FM} = 0.621 using Equation (Exhibit 13-6)

V_{12} = 3884 pc/h

V_3 or V_{av34} 2365 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3884 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6943	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4578	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 37.3 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.643 (Exibit 13-11)

S_R = 52.0 mph (Exhibit 13-11)

S_0 = 63.1 mph (Exhibit 13-11)

S = 55.3 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7990
Ramp Volume, V_R	940
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7990	0.95	Level	2	0	0.990	0.98	8668
Ramp	940	0.95	Level	2	0	0.990	0.98	1020
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)
P_{FD} = 0.496 using Equation (Exhibit 13-7)
V_{12} = 4816 pc/h
V_3 or V_{av34} 3852 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes,V_{12a} = 5968 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8668	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7648	Exhibit 13-8	7200	Yes
V_R	1020	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4816	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 42.1 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.325 (Exhibit 13-12)
S_R= 60.9 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 63.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp WB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 1685 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 940 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7050	
	Ramp Volume, V_R: 550	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 35.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7050	0.95	Level	2	0	0.990	0.98	7648
Ramp	550	0.95	Level	2	0	0.990	0.98	597
UpStream	940	0.95	Level	2	0	0.990	0.98	1020
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1858.63 (Equation 13-6 or 13-7)

P_{FM} = 0.608 using Equation (Exhibit 13-6)

V_{12} = 4653 pc/h

V_3 or V_{av34} 2995 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4948 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8245	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	5545	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 39.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 1.214 (Exibit 13-11)

S_R = 36.0 mph (Exhibit 13-11)

S_0 = 61.1 mph (Exhibit 13-11)

S = 41.6 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveN On Ramp EB
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 4	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A: 700	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 7600	
	Ramp Volume, V_R: 670	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7600	0.95	Level	2	0	0.990	0.98	8245
Ramp	670	0.95	Level	2	0	0.990	0.98	727
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = 0.127 using Equation (Exhibit 13-6)

V_{12} = 1046 pc/h

V_3 or V_{av34} = 3599 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3298 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8972	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4025	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.1 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.469 (Exibit 13-11)

S_R = 56.9 mph (Exhibit 13-11)

S_0 = 62.4 mph (Exhibit 13-11)

S = 59.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2360 ft
V_u = 670 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8270
Ramp Volume, V_R	1220
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8270	0.95	Level	2	0	0.990	0.98	8972
Ramp	1220	0.95	Level	2	0	0.990	0.98	1324
UpStream	670	0.95	Level	2	0	0.990	0.98	727
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4113.57 (Equation 13-12 or 13-13)
P_{FD} = 0.475 using Equation (Exhibit 13-7)
V_{12} = 4955 pc/h
V_3 or V_{av34} 4017 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6272 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8972	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7648	Exhibit 13-8	7200	Yes
V_R	1324	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4955	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 44.7 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.352 (Exhibit 13-12)
S_R= 60.1 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.8 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	38thAveN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 395	L_{down} = 2830 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1240 veh/h
	Freeway Volume, V_F: 7050	
	Ramp Volume, V_R: 980	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	7050	0.95	Level	2	0	0.990	0.98	7648
Ramp	980	0.95	Level	2	0	0.990	0.98	1063
UpStream								
DownStream	1240	0.95	Level	2	0	0.990	0.98	1345

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 8856.55 (Equation 13-6 or 13-7)

P_{FM} = 0.674 using Equation (Exhibit 13-6)

V_{12} = 5152 pc/h

V_3 or V_{av34} 2496 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5152 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8711	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6215	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 51.0 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 2.232 (Exibit 13-11)

S_R = 7.5 mph (Exhibit 13-11)

S_0 = 62.3 mph (Exhibit 13-11)

S = 10.0 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2830 ft
V_u = 980 veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	8030
Ramp Volume, V_R	1240
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	8030	0.95	Level	2	0	0.990	0.98	8711
Ramp	1240	0.95	Level	2	0	0.990	0.98	1345
UpStream	980	0.95	Level	2	0	0.990	0.98	1063
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6284.99 (Equation 13-12 or 13-13)
P_{FD} = 0.480 using Equation (Exhibit 13-7)
V_{12} = 4883 pc/h
V_3 or V_{av34} 3828 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No
If Yes, V_{12a} = 6011 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8711	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	7366	Exhibit 13-8	7200	Yes
V_R	1345	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4883	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 42.4 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.354 (Exhibit 13-12)
S_R= 60.1 mph (Exhibit 13-12)
S_0= 70.2 mph (Exhibit 13-12)
S = 62.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveN On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 2400 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1690 veh/h
	Freeway Volume, V_F: 6790	
	Ramp Volume, V_R: 910	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	6790	0.95	Level	2	0	0.990	0.98	7366
Ramp	910	0.95	Level	2	0	0.990	0.98	987
UpStream								
DownStream	1690	0.95	Level	2	0	0.990	0.98	1833

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 6786.38 (Equation 13-6 or 13-7)

P_{FM} = 0.749 using Equation (Exhibit 13-6)

V_{12} = 5520 pc/h

V_3 or V_{av34} 1846 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 5520 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	8353	Exhibit 13-8		Yes

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6507	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 46.4 (pc/mi/ln)

LOS = F (Exhibit 13-2)

Speed Determination

M_S = 2.783 (Exibit 13-11)

S_R = -7.9 mph (Exhibit 13-11)

S_0 = 65.2 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	5thAveN Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Freeway Number of Lanes, N	3
Ramp Number of Lanes, N	1
Acceleration Lane Length, L_A	
Deceleration Lane Length L_D	1500
Freeway Volume, V_F	7700
Ramp Volume, V_R	1690
Freeway Free-Flow Speed, S_{FF}	70.0
Ramp Free-Flow Speed, S_{FR}	50.0

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 750 ft
V_D = 1090 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7700	0.95	Level	2	0	0.990	0.98	8353
Ramp	1690	0.95	Level	2	0	0.990	0.98	1833
UpStream								
DownStream	1090	0.95	Level	2	0	0.990	0.98	1182

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)
P_{FM} = using Equation (Exhibit 13-6)
V_{12} = pc/h
V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)
LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)
S_R= mph (Exhibit 13-11)
S_0= mph (Exhibit 13-11)
S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 5754.40 (Equation 13-12 or 13-13)
P_{FD} = 0.636 using Equation (Exhibit 13-7)
V_{12} = 5980 pc/h
V_3 or V_{av34} 2373 pc/h (Equation 13-14 or 13-17)
Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No
Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No
If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	8353	Exhibit 13-8	7200	Yes
$V_{FO} = V_F - V_R$	6520	Exhibit 13-8	7200	No
V_R	1833	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	5980	Exhibit 13-8	4400:All	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 42.2 (pc/mi/ln)
LOS = F (Exhibit 13-2)

Speed Determination

D_s = 0.398 (Exhibit 13-12)
S_R= 58.9 mph (Exhibit 13-12)
S_0= 71.4 mph (Exhibit 13-12)
S = 62.0 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 6010	
	Ramp Volume, V_R: 1090	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6010	0.95	Level	2	0	0.990	0.98	6520
Ramp	1090	0.95	Level	2	0	0.990	0.98	1182
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3584 pc/h

V_3 or V_{av34} 2936 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☑ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3820 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6520	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5338	Exhibit 13-8	7200	No
V_R	1182	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3584	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 11.7 (pc/mi/ln)

LOS = B (Exhibit 13-2)

Speed Determination

D_s = 0.339 (Exhibit 13-12)

S_R= 60.5 mph (Exhibit 13-12)

S_0= 70.9 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-375 On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 615	L_{down} = 1645 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 1220 veh/h
	Freeway Volume, V_F: 4920	
	Ramp Volume, V_R: 650	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4920	0.95	Level	2	0	0.990	0.98	5337
Ramp	650	0.95	Level	2	0	0.990	0.98	705
UpStream								
DownStream	1220	0.95	Level	2	0	0.990	0.98	1324

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 7548.25 (Equation 13-6 or 13-7)

P_{FM} = 0.760 using Equation (Exhibit 13-6)

V_{12} = 4057 pc/h

V_3 or V_{av34} 1280 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 4057 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6042	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4762	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 38.4 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 0.716 (Exibit 13-11)

S_R = 50.0 mph (Exhibit 13-11)

S_0 = 67.2 mph (Exhibit 13-11)

S = 52.8 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	2	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1645 ft	Deceleration Lane Length L_D	1500	L_{down} =	ft
V_u =	650 veh/h	Freeway Volume, V_F	5570	V_D =	veh/h
		Ramp Volume, V_R	1220		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5570	0.95	Level	2	0	0.990	0.98	6043
Ramp	1220	0.95	Level	2	0	0.990	0.98	1324
UpStream	650	0.95	Level	2	0	0.990	0.98	705
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 3448 pc/h

V_3 or V_{av34} 2595 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3453 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6043	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	4719	Exhibit 13-8	7200	No
V_R	1324	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3448	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = 8.4 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.352 (Exhibit 13-12)

S_R= 60.1 mph (Exhibit 13-12)

S_0= 71.3 mph (Exhibit 13-12)

S = 64.1 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	I-175 On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☑ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☐ No ☑ Off	Ramp Number of Lanes, N: 1	☑ No ☐ Off
L_{up} = 2625 ft	Acceleration Lane Length, L_A: 1500	L_{down} = ft
V_u = 1220 veh/h	Deceleration Lane Length L_D:	V_D = veh/h
	Freeway Volume, V_F: 4350	
	Ramp Volume, V_R: 1330	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4350	0.95	Level	2	0	0.990	0.98	4719
Ramp	1330	0.95	Level	2	0	0.990	0.98	1443
UpStream	1220	0.95	Level	2	0	0.990	0.98	1324
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2197.67 (Equation 13-6 or 13-7)

P_{FM} = 0.619 using Equation (Exhibit 13-6)

V_{12} = 2923 pc/h

V_3 or V_{av34} 1796 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 2923 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6162	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4716	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.607 (Exibit 13-11)

S_R = 53.0 mph (Exhibit 13-11)

S_0 = 66.6 mph (Exhibit 13-11)

S = 55.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	28thStS Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	1605 ft	Deceleration Lane Length L_D	195	L_{down} =	ft
V_u =	1330 veh/h	Freeway Volume, V_F	5680	V_D =	veh/h
		Ramp Volume, V_R	420		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5680	0.95	Level	2	0	0.990	0.98	6162
Ramp	420	0.95	Level	2	0	0.990	0.98	456
UpStream	1330	0.95	Level	2	0	0.990	0.98	1443
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8103.55 (Equation 13-12 or 13-13)

P_{FD} = 0.585 using Equation (Exhibit 13-7)

V_{12} = 3794 pc/h

V_3 or V_{av34} 2368 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6162	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5706	Exhibit 13-8	7200	No
V_R	456	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	3794	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 35.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

D_s = 0.274 (Exhibit 13-12)

S_R= 62.3 mph (Exhibit 13-12)

S_0= 71.5 mph (Exhibit 13-12)

S = 65.5 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	31stStS On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☐ Yes	☐ On	Ramp Number of Lanes, N	1	☑ Yes	☐ On
☑ No	☐ Off	Acceleration Lane Length, L_A	1000	☐ No	☑ Off
L_{up} =	ft	Deceleration Lane Length L_D		L_{down} =	50 ft
		Freeway Volume, V_F	5260		
V_u =	veh/h	Ramp Volume, V_R	680	V_D =	1180 veh/h
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5260	0.95	Level	2	0	0.990	0.98	5706
Ramp	680	0.95	Level	2	0	0.990	0.98	738
UpStream								
DownStream	1180	0.95	Level	2	0	0.990	0.98	1280

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5909.51 (Equation 13-6 or 13-7)

P_{FM} = 1.000 using Equation (Exhibit 13-6)

V_{12} = 5706 pc/h

V_3 or V_{av34} 0 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	6444	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	6444	Exhibit 13-8	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 49.1 (pc/mi/ln)

LOS = E (Exhibit 13-2)

Speed Determination

M_S = 2.674 (Exibit 13-11)

S_R = -4.9 mph (Exhibit 13-11)

S_0 = 70.0 mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	22ndAveS Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Freeway Number of Lanes, N	3	Downstream Adj Ramp	
☑ Yes	☑ On	Ramp Number of Lanes, N	1	☐ Yes	☐ On
☐ No	☐ Off	Acceleration Lane Length, L_A		☑ No	☐ Off
L_{up} =	50 ft	Deceleration Lane Length L_D	1000	L_{down} =	ft
V_u =	680 veh/h	Freeway Volume, V_F	5940	V_D =	veh/h
		Ramp Volume, V_R	1180		
		Freeway Free-Flow Speed, S_{FF}	70.0		
		Ramp Free-Flow Speed, S_{FR}	50.0		

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5940	0.95	Level	2	0	0.990	0.98	6444
Ramp	1180	0.95	Level	2	0	0.990	0.98	1280
UpStream	680	0.95	Level	2	0	0.990	0.98	738
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R= mph (Exhibit 13-11)

S_0= mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6052.55 (Equation 13-12 or 13-13)

P_{FD} = 0.540 using Equation (Exhibit 13-7)

V_{12} = 4069 pc/h

V_3 or V_{av34} 2375 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes,V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	6444	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	5164	Exhibit 13-8	7200	No
V_R	1280	Exhibit 13-10	2100	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4069	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = 30.2 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

D_s = 0.348 (Exhibit 13-12)

S_R= 60.3 mph (Exhibit 13-12)

S_0= 71.4 mph (Exhibit 13-12)

S = 63.9 mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	26thAveS On Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☑ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 1	☐ No ☑ Off
L_{up} = ft	Acceleration Lane Length, L_A: 1500	L_{down} = 4770 ft
V_u = veh/h	Deceleration Lane Length L_D:	V_D = 2450 veh/h
	Freeway Volume, V_F: 4760	
	Ramp Volume, V_R: 600	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	4760	0.95	Level	2	0	0.990	0.98	5164
Ramp	600	0.95	Level	2	0	0.990	0.98	651
UpStream								
DownStream	2450	0.95	Level	2	0	0.990	0.98	2658

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 9840.80 (Equation 13-6 or 13-7)

P_{FM} = 0.695 using Equation (Exhibit 13-6)

V_{12} = 3590 pc/h

V_3 or V_{av34} 1574 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☑ Yes ☐ No

If Yes, V_{12a} = 3590 pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}	5815	Exhibit 13-8		No

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}	4241	Exhibit 13-8	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.9 (pc/mi/ln)

LOS = D (Exhibit 13-2)

Speed Determination

M_S = 0.442 (Exibit 13-11)

S_R = 57.6 mph (Exhibit 13-11)

S_0 = 66.1 mph (Exhibit 13-11)

S = 59.7 mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = using Equation (Exhibit 13-7)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F		Exhibit 13-8		
$V_{FO} = V_F - V_R$		Exhibit 13-8		
V_R		Exhibit 13-10		

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

D_s = (Exhibit 13-12)

S_R = mph (Exhibit 13-12)

S_0 = mph (Exhibit 13-12)

S = mph (Exhibit 13-13)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	BSG	Freeway/Dir of Travel	I-275_SB
Agency or Company	HDR	Junction	54thAveS Off Ramp
Date Performed	8/12/2015 10:49:41 AM	Jurisdiction	FDOT
Analysis Time Period	AM	Analysis Year	2030 LC Starter

Project Description I-275 Managed Lanes

Inputs

Upstream Adj Ramp		Downstream Adj Ramp
☐ Yes ☐ On	Freeway Number of Lanes, N: 3	☐ Yes ☐ On
☑ No ☐ Off	Ramp Number of Lanes, N: 2	☑ No ☐ Off
L_{up} = ft	Acceleration Lane Length, L_A:	L_{down} = ft
V_u = veh/h	Deceleration Lane Length L_D: 1500	V_D = veh/h
	Freeway Volume, V_F: 5360	
	Ramp Volume, V_R: 2450	
	Freeway Free-Flow Speed, S_{FF}: 70.0	
	Ramp Free-Flow Speed, S_{FR}: 50.0	

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	$v = V/PHF \times f_{HV} \times f_p$
Freeway	5360	0.95	Level	2	0	0.990	0.98	5815
Ramp	2450	0.95	Level	2	0	0.990	0.98	2658
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 13-6 or 13-7)

P_{FM} = using Equation (Exhibit 13-6)

V_{12} = pc/h

V_3 or V_{av34} pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☐ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☐ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_{FO}		Exhibit 13-8		

Flow Entering Merge Influence Area

	Actual	Max Desirable		Violation?
V_{R12}		Exhibit 13-8		

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 13-2)

Speed Determination

M_S = (Exibit 13-11)

S_R = mph (Exhibit 13-11)

S_0 = mph (Exhibit 13-11)

S = mph (Exhibit 13-13)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 13-12 or 13-13)

P_{FD} = 0.450 using Equation (Exhibit 13-7)

V_{12} = 4079 pc/h

V_3 or V_{av34} 1736 pc/h (Equation 13-14 or 13-17)

Is V_3 or V_{av34} > 2,700 pc/h? ☐ Yes ☑ No

Is V_3 or V_{av34} > 1.5 * V_{12}/2 ☐ Yes ☑ No

If Yes, V_{12a} = pc/h (Equation 13-16, 13-18, or 13-19)

Capacity Checks

	Actual	Capacity		LOS F?
V_F	5815	Exhibit 13-8	7200	No
$V_{FO} = V_F - V_R$	3157	Exhibit 13-8	7200	No
V_R	2658	Exhibit 13-10	4200	No

Flow Entering Diverge Influence Area

	Actual	Max Desirable		Violation?
V_{12}	4079	Exhibit 13-8	4400:All	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.009\ L_D$

D_R = -1.2 (pc/mi/ln)

LOS = A (Exhibit 13-2)

Speed Determination

D_s = 0.472 (Exhibit 13-12)

S_R = 56.8 mph (Exhibit 13-12)

S_0 = 73.9 mph (Exhibit 13-12)

S = 61.0 mph (Exhibit 13-13)

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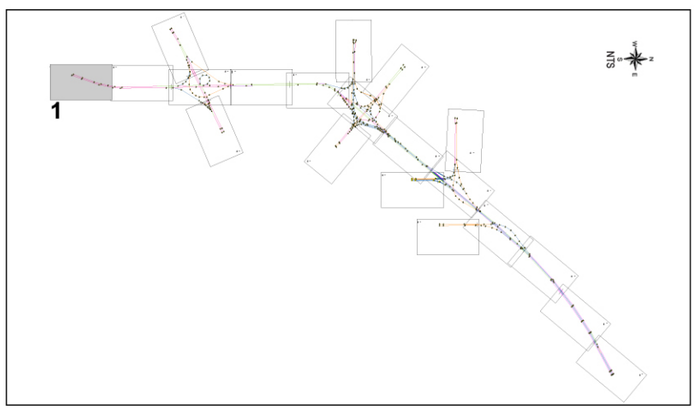
Interim Year (2030) CORSIM Output

NTS

8111
8100
425
299
424
300
423
422

Match Line Sheet 2



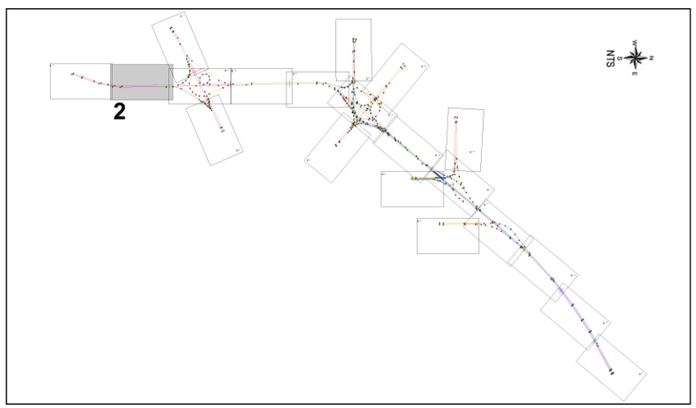
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 1

Match Line Sheet 3



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 2

Match Line Sheet 4

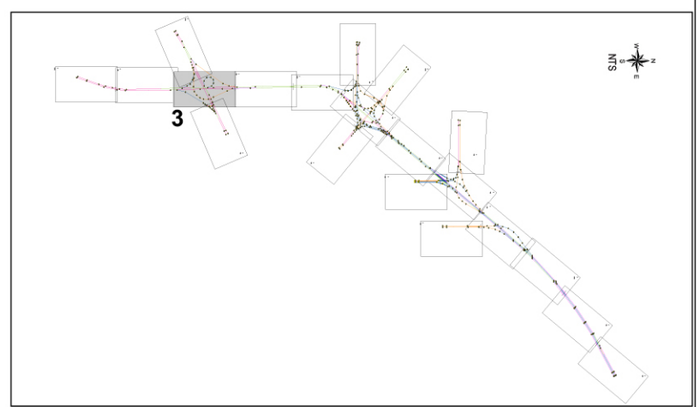
Match Line Sheet 5

Match Line Sheet 6

620 7004 7005 621 622 623 624 625 626 627 628 629 630 640 641 642 643 644 645 660 661 522 521 520 7003 519 503 418 417 419 304 305 306 307 600 601 7001 602 603

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



N
W
E
S
NTS

Match Line Sheet 3

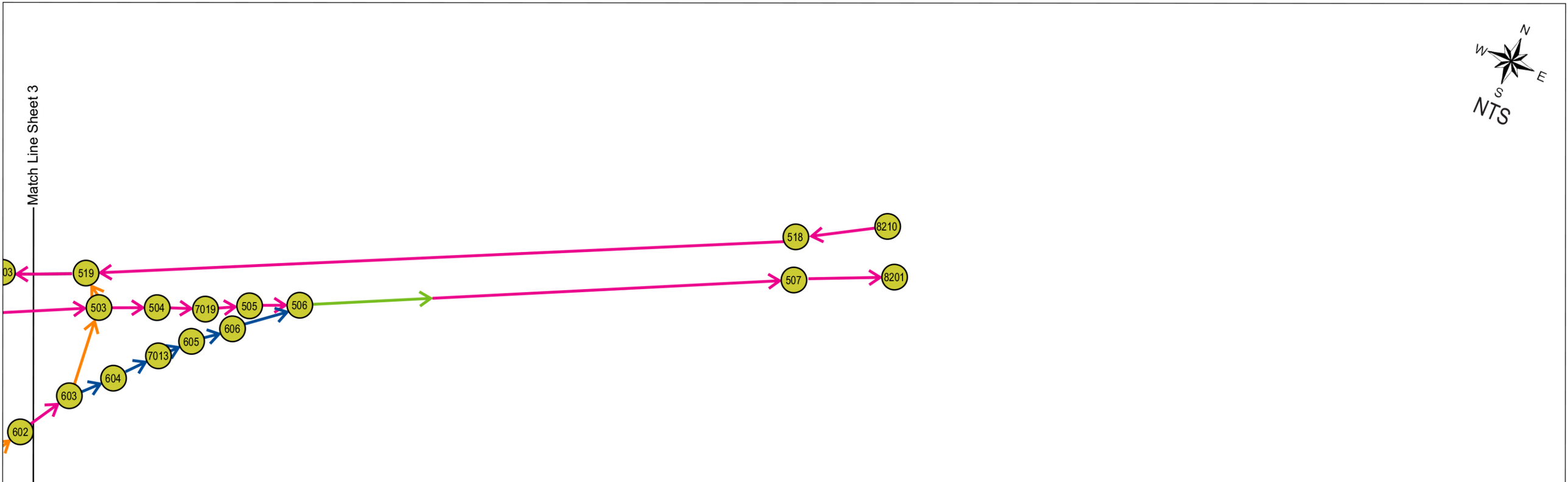
662
523
524
525
8211
500
501
502
7012
7002
619
620
499
8200
7004
7005

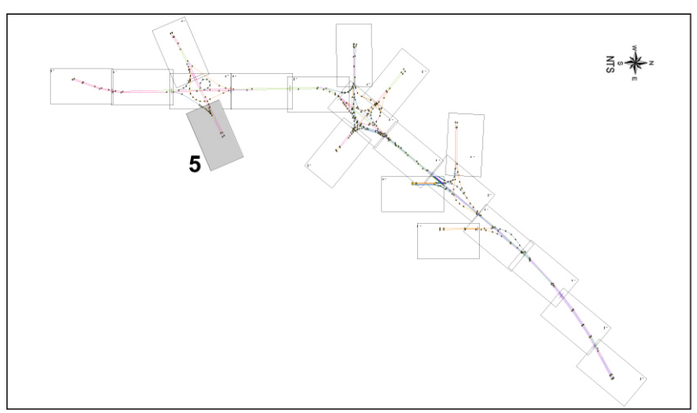
4

NTS

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

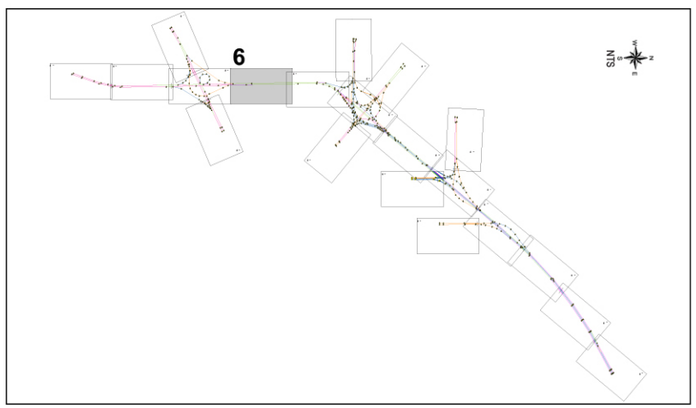
Match Line Sheet 3

Match Line Sheet 7

416

415

307



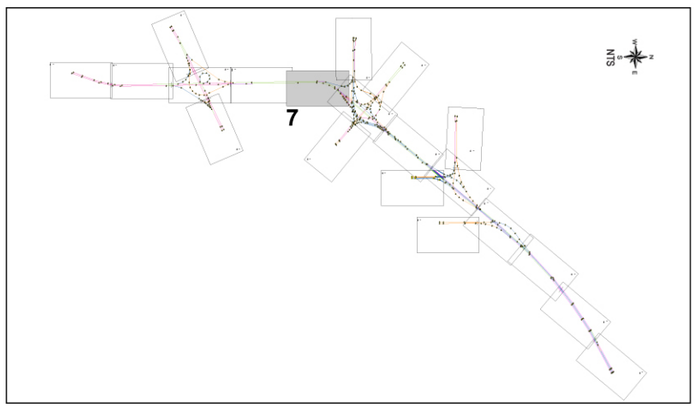
Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

Match Line Sheet 6

Match Line Sheet 8



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 10

Match Line Sheet 11

Match Line Sheet 7

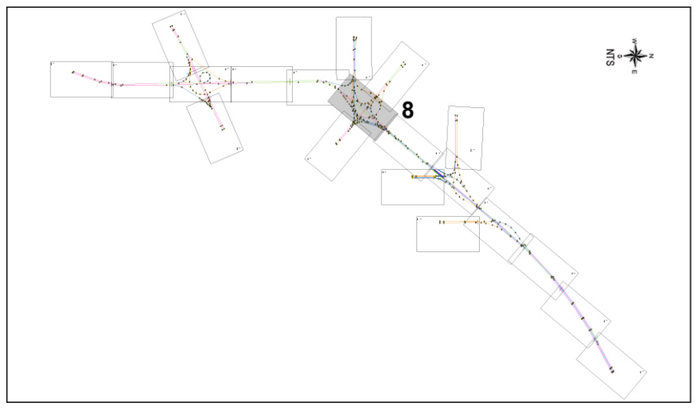
Match Line Sheet 12

Match Line Sheet 9

NTS

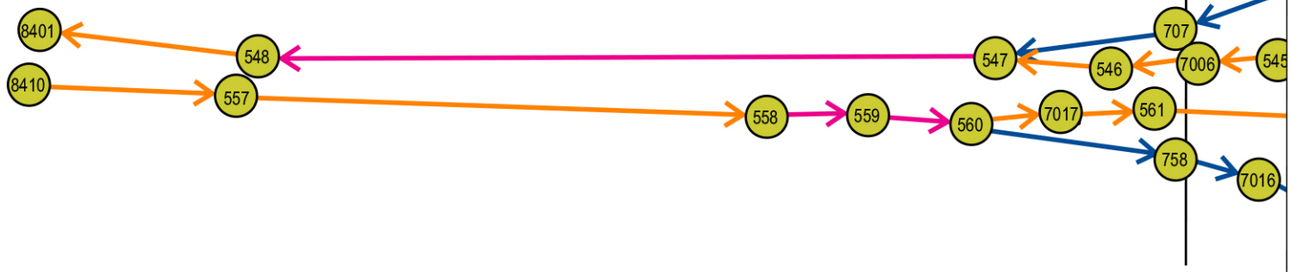
Legend

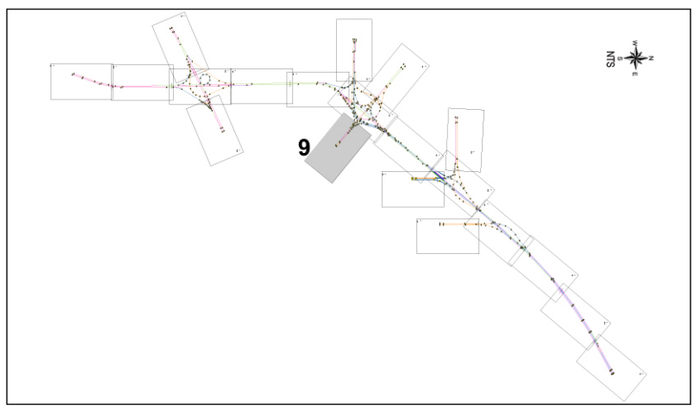
- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes



NTS

Match Line Sheet 8





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

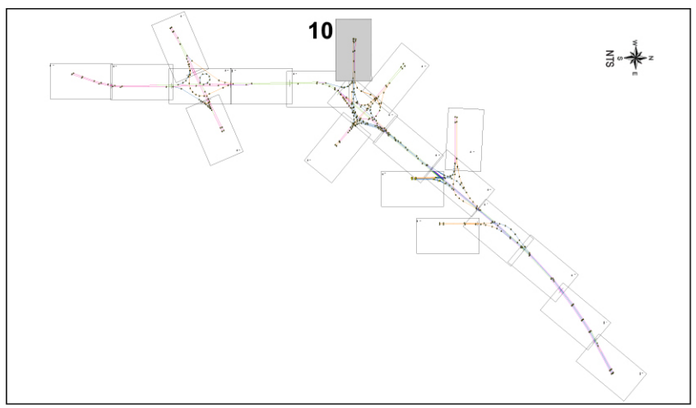
N
W E
S
NTS

8310 725 724 723

8004 4999 5000 741

8300 739 740

Match Line Sheet 8



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

NTS

719

Match Line Sheet 8

542

718

566

7018

567

541

568

569

540

8400

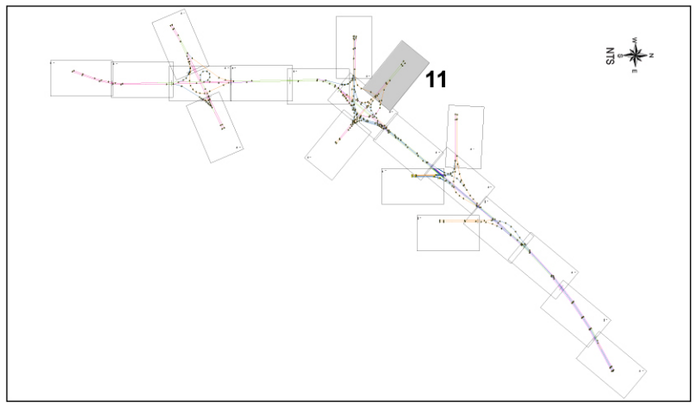
570

8411

716

717

715



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

Match Line Sheet 8

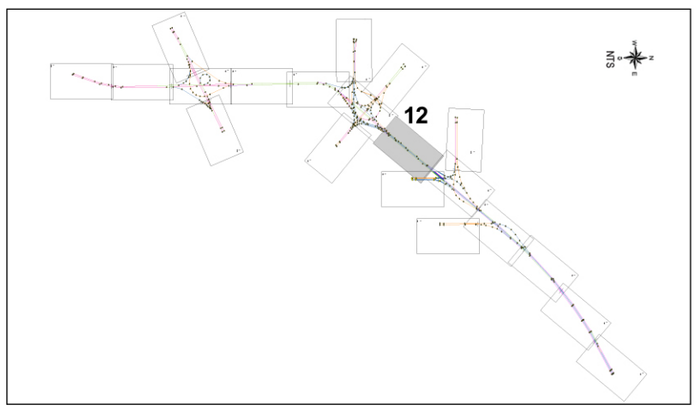
Match Line Sheet 13

770 406 405 404 403 402

6102 6101 6100 6007 6006

6009 5011 6008 5012 5013 5014

317 318 319



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

807

Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

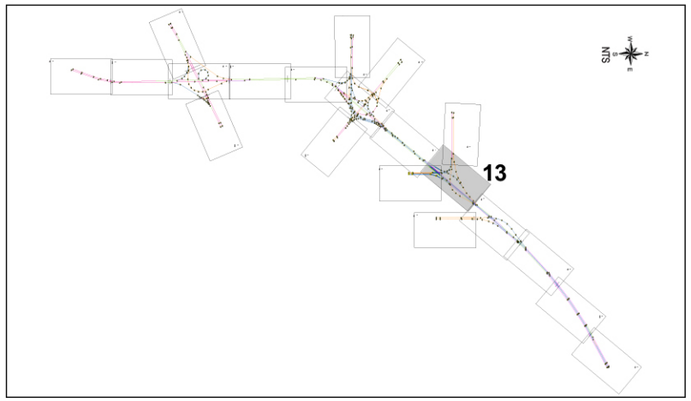
836 801 835 802 811 803 808 804 809 810 805 841 840 839 7015 838 833 834 7014 812 832 7036 831 830 5015 5016 320 321 813 322 853 852 806 851 814 815 816

Match Line Sheet 15

Match Line Sheet 12

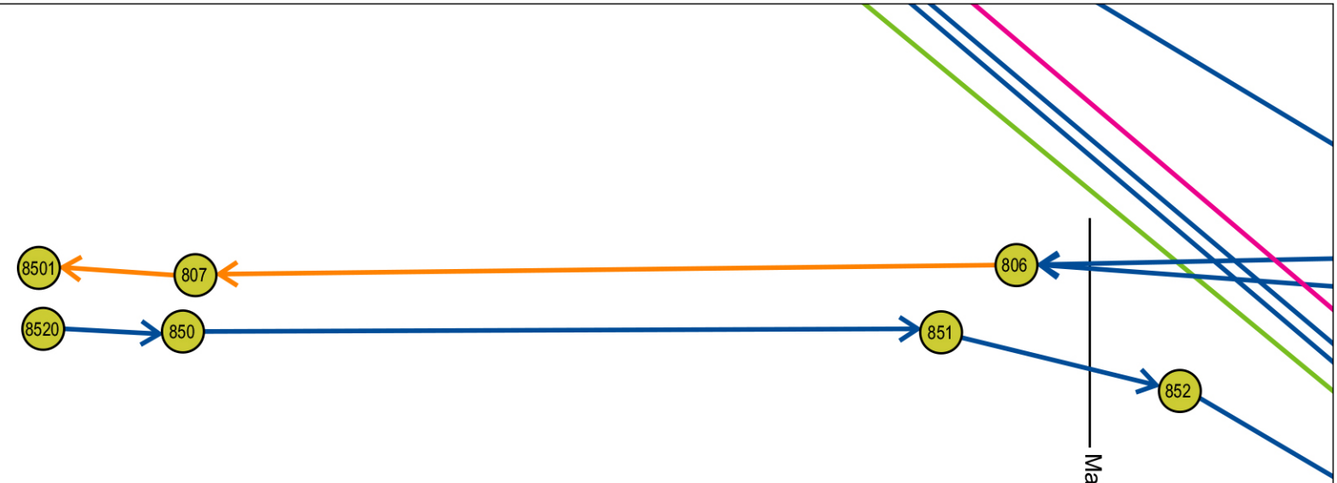
Match Line Sheet 14

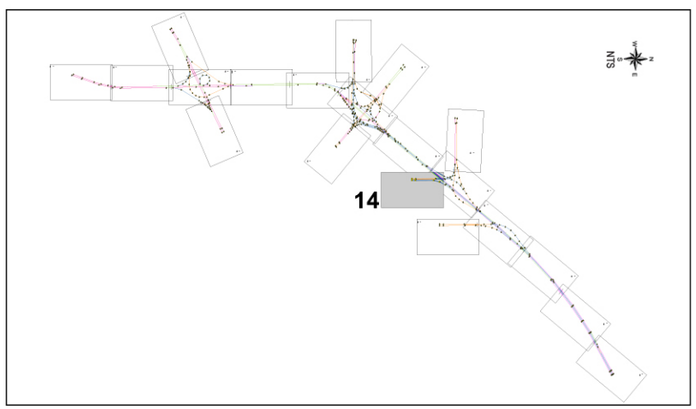
Match Line Sheet 16



N E S W NTS

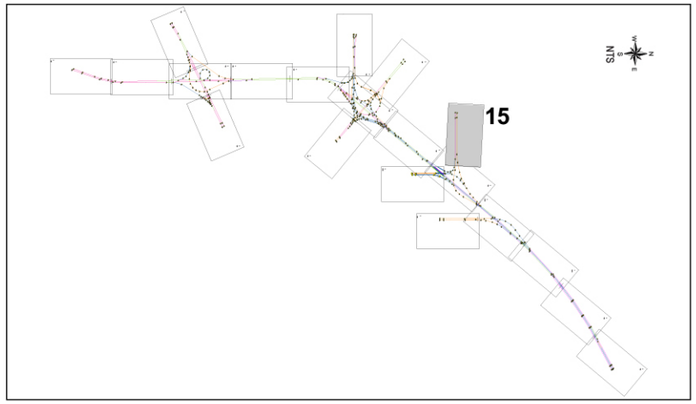
NTS





Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

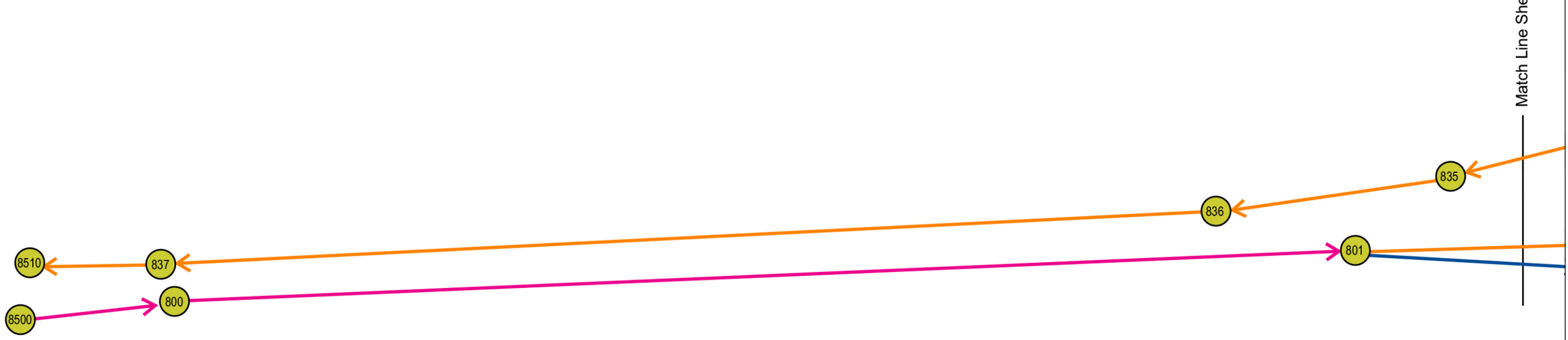


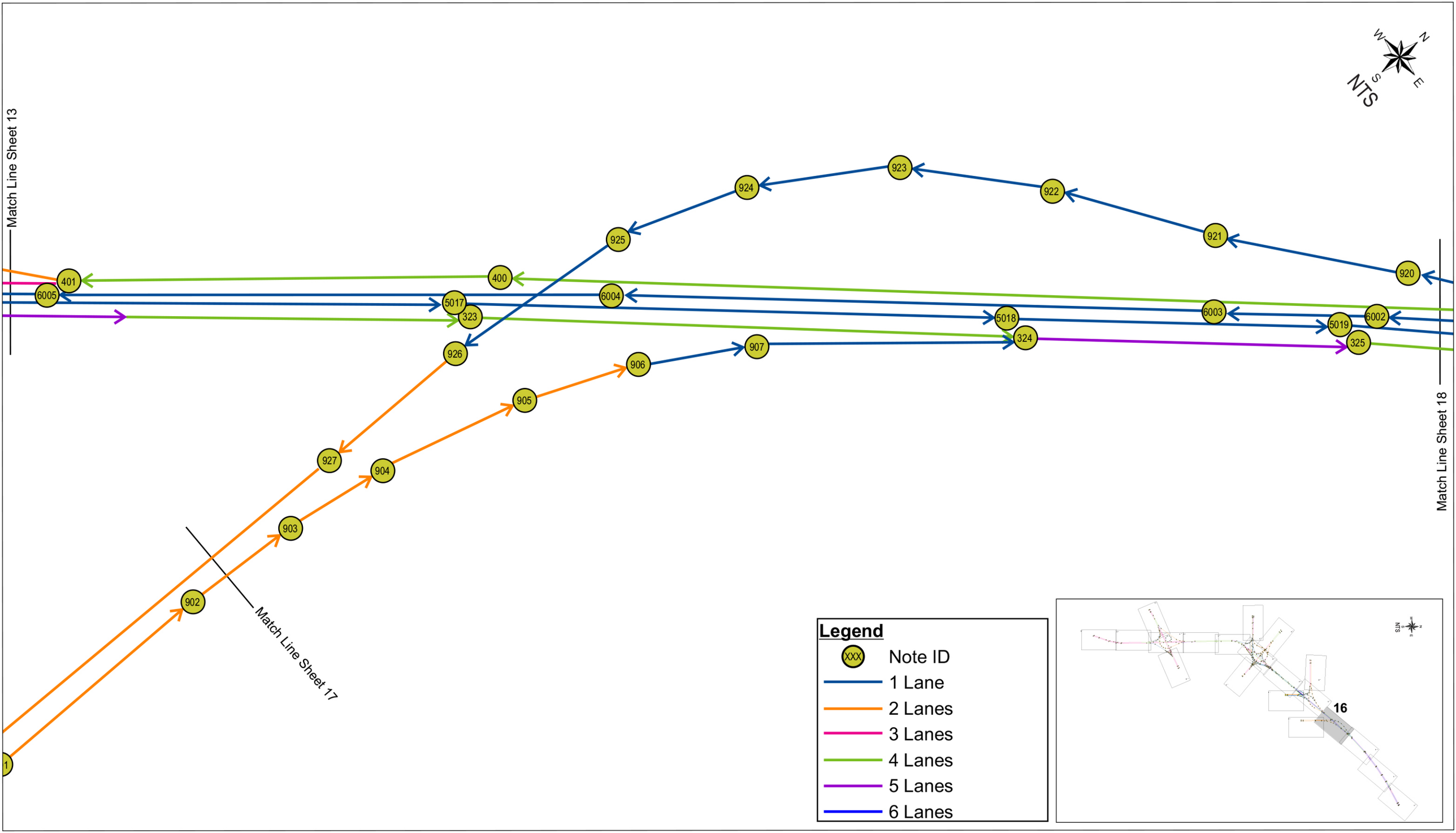
Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

N
W E
S
NTS

Match Line Sheet 13




NTS
Match Line Sheet 13
Match Line Sheet 18
Match Line Sheet 17
401
400
6005
5017
6004
323
5018
6003
6002
5019
324
325
920
921
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924
925
926
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907
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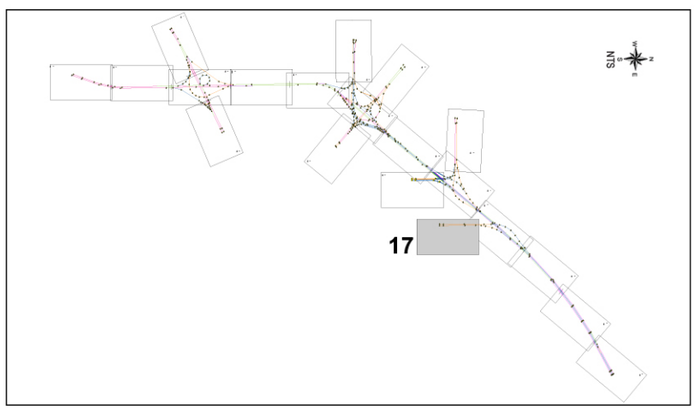
902
1
Legend
XXX
Note ID
1 Lane
2 Lanes
3 Lanes
4 Lanes
5 Lanes
6 Lanes
16

NTS



Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

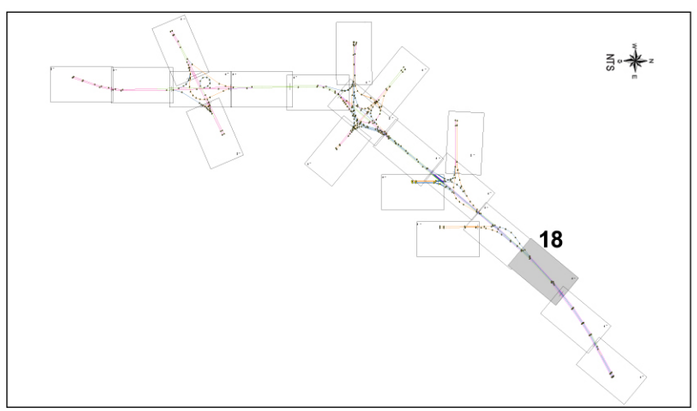
NTS

Match Line Sheet 16

920
399
6002
6001
325
5020
326

Match Line Sheet 19

398
5021
6000
327
5022



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

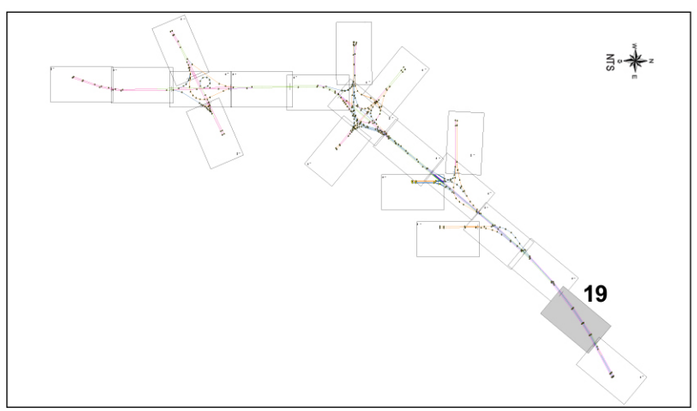
Match Line Sheet 18

397
5999
5023
328

396
5998
5024
329

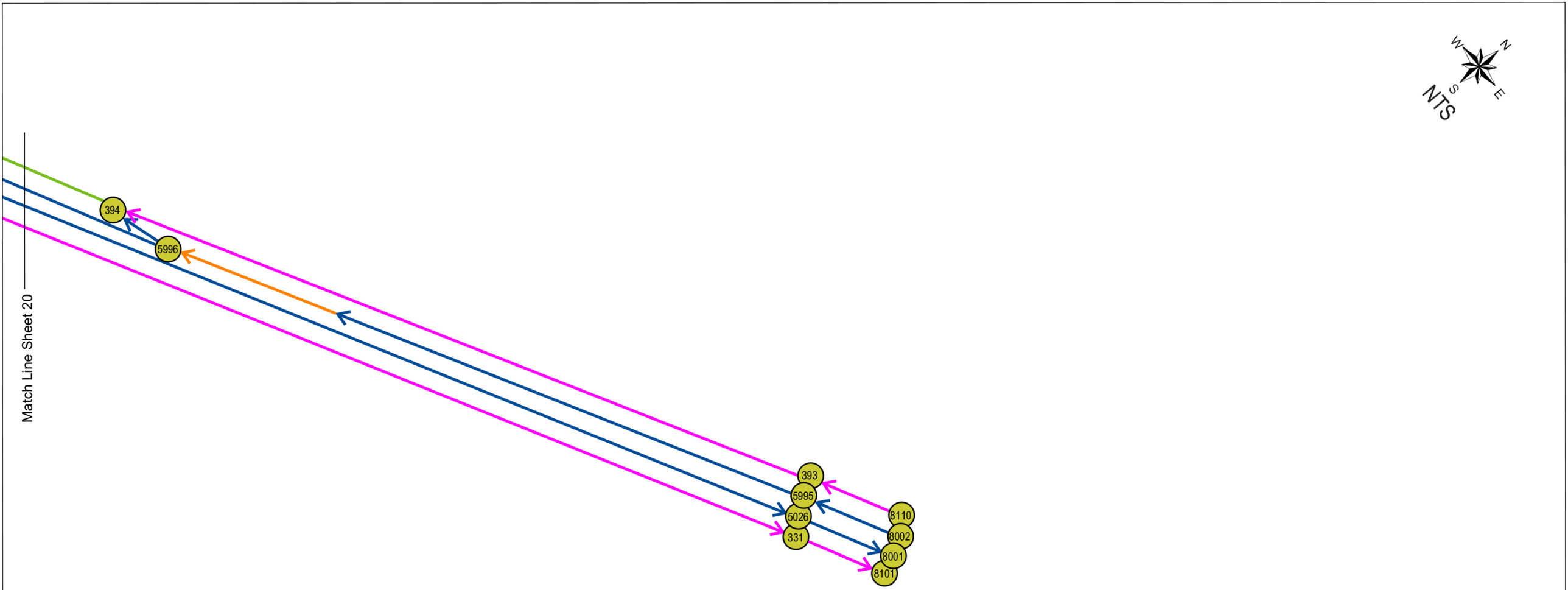
395
5997
5025
330

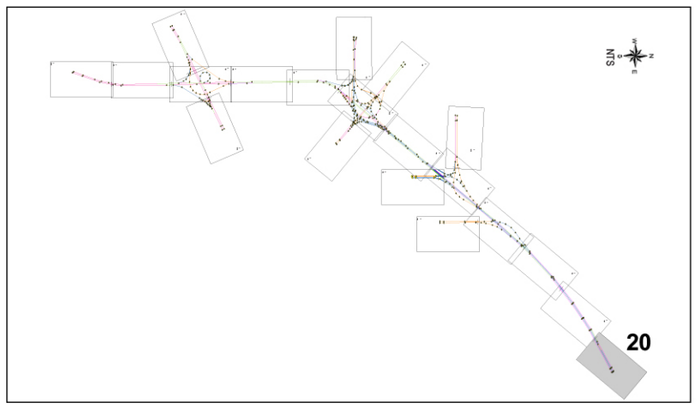
Match Line Sheet 20



Legend

- XXX Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes





Legend

- XXX — Note ID
- 1 Lane
- 2 Lanes
- 3 Lanes
- 4 Lanes
- 5 Lanes
- 6 Lanes

2030 Starter AM			Demand				Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	9,240	70	3	1,087	34.2	34.3	34.1	34.3	34.4	34.2	34.3	34.4	34.3	34.4	34.4	34.3	36.0	35.9	35.5	36.3	36.0	35.8	36.0	36.5	36.2	36.0	36.0	35.9
	300, 301	I275NB3	9,240	70	3	805	33.4	33.5	33.4	33.5	33.6	33.5	33.5	33.6	33.5	33.6	33.6	33.6												
	301, 302	I275NB4	9,240	70	3	478	34.2	34.2	34.1	34.2	34.3	34.2	34.2	34.3	34.2	34.4	34.3	34.3												
	302, 303	I275NB5	9,240	70	3	2,687	38.7	38.5	37.8	39.3	38.6	38.4	38.7	39.6	39.1	38.6	38.7	38.5												
	303, 304	I275NB6	9,240	70	4	382	29.7	29.6	29.3	29.8	29.2	29.2	29.6	29.6	29.7	29.7	29.4	29.6												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	6,840	70	3	1,375	25.5	25.5	25.4	25.4	25.5	25.6	25.3	25.6	25.4	25.7	25.5	25.7	25.2	25.2	25.2	25.0	25.2	25.4	25.0	25.3	25.1	25.4	25.2	25.5
	305, 306	I275NB8	6,840	70	3	1,306	24.9	25.0	25.0	24.8	25.0	25.1	24.8	25.0	24.8	25.1	25.0	25.2												
	306, 307	I275NB9	6,840	70	3	591	25.0	25.2	25.1	24.9	25.1	25.2	24.9	25.1	25.0	25.3	25.0	25.4												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	7,880	70	5	1,065	17.8	18.1	17.7	17.6	18.6	18.9	18.7	18.5	18.1	18.4	18.0	18.1	20.6	20.8	20.5	20.3	21.4	21.7	21.5	21.3	20.8	21.1	20.8	20.8
	308, 309	I275NB11	7,880	70	5	3,035	21.4	21.5	21.3	21.0	22.2	22.5	22.3	22.1	21.6	21.9	21.6	21.6												
	309, 2	I275NB12	7,880	70	4	350	22.0	22.2	21.9	21.5	22.8	23.4	22.9	22.9	22.2	22.5	22.1	22.3												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	7,540	70	4	745	20.9	21.2	20.9	20.6	21.8	22.2	22.1	21.9	21.3	21.6	21.2	21.2	23.0	23.5	23.2	22.5	24.3	25.2	24.6	24.7	23.6	24.0	23.5	23.1
	310, 311	I275NB13	7,540	70	4	380	21.7	22.1	21.7	21.4	22.9	23.2	23.1	22.9	22.2	22.5	22.1	22.0												
	311, 312	I275NB14	7,540	70	4	399	22.8	23.4	22.8	22.3	24.4	24.9	24.5	24.5	23.4	23.8	23.3	23.1												
	312, 313	I275NB15	7,540	70	4	368	24.8	25.6	25.0	23.7	26.6	28.4	26.9	27.5	25.8	26.3	25.5	24.7												
	313, 314	I275NB16	7,540	70	4	460	26.3	27.0	26.8	25.4	27.9	29.5	28.4	28.6	27.1	27.6	26.9	26.0												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,700	70	3	879	9.8	9.8	9.7	9.8	10.0	10.1	10.4	10.0	9.7	9.9	9.8	9.7	9.5	9.5	9.4	9.6	9.7	9.8	10.1	9.7	9.4	9.6	9.5	9.5
	315, 316	I275NB18	2,700	70	3	1,293	9.4	9.4	9.3	9.5	9.6	9.7	10.0	9.6	9.3	9.5	9.4	9.4												
	316, 317	I275NB19	2,700	70	3	1,158	9.5	9.3	9.2	9.5	9.6	9.7	9.9	9.6	9.3	9.5	9.4	9.4												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	4,155	70	5	372	10.4	10.5	10.2	10.3	11.3	11.6	11.5	11.1	10.2	10.8	10.7	10.3	13.4	13.4	13.0	13.2	14.3	14.8	14.6	14.2	13.2	13.7	13.7	13.3
	318, 319	I275NB21	4,155	70	5	2,611	11.8	11.8	11.5	11.7	12.7	13.0	12.9	12.5	11.6	12.1	12.1	11.7												
	319, 320	I275NB22	4,155	70	3	1,802	15.7	15.7	15.2	15.5	16.7	17.3	17.1	16.7	15.4	16.0	16.1	15.6												
	320, 321	I275NB23	4,155	70	3	501	15.6	15.6	15.3	15.5	16.6	17.3	17.0	16.6	15.5	16.0	16.1	15.6												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,670	70	3	1,814	16.4	16.6	16.1	16.4	18.1	19.0	18.4	18.0	16.6	17.1	17.1	16.6	16.4	16.6	16.1	16.4	18.1	19.0	18.4	18.0	16.6	17.1	17.1	16.6
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,120	70	5	814	14.5	14.8	14.3	14.4	16.6	17.8	17.3	16.7	15.0	15.6	15.3	14.7	16.3	16.7	16.1	16.2	18.6	20.1	19.4	18.8	16.9	17.5	17.2	16.6
	323, 324	I275NB26	6,120	70	5	1,850	17.2	17.5	16.9	17.0	19.5	21.2	20.4	19.7	17.7	18.3	18.0	17.4												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,200	70	4	838	18.4	18.9	18.1	18.0	27.4	41.8	34.1	27.7	20.1	20.4	19.9	18.9	22.4	23.3	21.9	21.6	31.3	38.8	36.2	32.7	24.9	25.8	25.4	23.4
	325, 326	I275NB28	7,200	70	4	704	26.2	28.4	25.4	24.7	46.9	57.9	55.7	49.5	31.5	33.6	33.0	28.3												
	326, 327	I275NB29	7,200	70	3	1,988	22.8	23.4	22.3	22.1	27.5	30.7	30.1	28.9	24.6	25.3	25.0	23.5												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	6,800	70	3	1,906	26.2	26.7	25.7	25.6	29.5	32.9	32.2	31.0	27.5	27.9	27.8	26.7	26.2	26.8	25.8	25.7	29.3	32.7	32.1	31.0	27.6	28.0	27.8	26.7
	328, 329	I275NB31	6,800	70	3	1,046	26.2	26.8	25.7	25.6	29.4	32.9	32.1	31.0	27.6	28.0	27.8	26.7												
	329, 330	I275NB32	6,800	70	3	803	26.1	26.8	25.7	25.7	29.3	32.8	31.9	31.0	27.7	27.9	27.8	26.6												
	330, 331	I275NB33	6,800	70	3	2,542	26.2	26.8	25.8	25.7	29.2	32.6	32.0	31.0	27.8	28.0	27.9	26.7												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,500	70	3	1,731	20.7	21.7	20.8	19.7	29.4	46.9	40.3	28.0	22.7	23.9	22.9	22.4	20.7	21.7	20.8	19.7	29.4	46.9	40.3	28.0	22.7	23.9	22.9	22.4
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	5,750	70	4	787	16.8	17.7	17.1	15.8	44.3	62.7	60.4	42.3	21.4	21.5	19.9	19.0	21.8	23.0	22.1	20.5	32.9	37.1	37.0	33.1	25.9	26.2	24.9	24.1
	395, 396	I275SB1	5,750	70	4	818	24.0	26.1	24.5	21.2	47.5	47.5	48.8	47.2	33.1	34.1	30.5	28.7												
	396, 397	I275SB1	5,750	70	3	1,049	23.1	24.4	23.3	21.7	31.5	33.9	33.9	31.9	26.9	27.5	26.1	25.5												
	397, 398	I275SB1	5,750	70	3	1,916	21.9	22.9	22.1	20.8	28.1	30.6	30.6	28.6	24.9	25.1	24.3	23.7												
	398, 399	I275SB1	5,750	70	3	2,120	22.0	23.2	22.3	21.1	28.2	31.0	31.0	29.0	25.3	25.4	24.5	24.0												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,150	70	3	2,742	18.8	19.6	18.7	17.8	23.4	25.9	26.1	24.2	21.5	21.4	20.7	20.3	18.1	18.9	18.0	17.2	22.6	25.3	25.4	23.6	20.8	20.7	20.0	19.7
	400, 401	I275SB3	5,150	70	4	1,083	16.5	17.1	16.4	15.6	20.7	23.6	23.7	21.9	19.0	19.0	18.3	18.0												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,385	70	3	4,105	9.2	9.5	9.2	8.8	11.1	12.3	12.5	11.6	10.7	10.3	10.1	9.9	9.2	9.5	9.2	8.8	11.1	12.3	12.5	11.6	10.7	10.3	10.1	9.9
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,045	70	4	720	9.1	9.3	9.2	8.7	11.2	12.3	12.3	11.5	10.5	10.2	10.1	9.9	8.9	9.1	9.0	8.5	10.9	12.0	12.0	11.2	10.3	10.0	9.9	9.6
	403, 404	I275SB6	3,045	70	4	1,327	8.7	9.0	8.9	8.4	10.7	11.8	11.8	11.0	10.2	9.8	9.7	9.5												
	404, 405	I275SB7	3,045	70	4	461	8.7	9.0	8.9	8.4	10.7	11.8	11.9	11.1	10.2	9.9	9.7	9.5												
	405, 406	I275SB8	3,045	70	4	452	9.0	9.3	9.1	8.7	11.1	12.2	12.3	11.4	10.6	10.2	10.1	9.8												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,920	70	3	855	6.8	7.0	6.7	6.5	8.1	8.9	9.0	8.5	7.9	7.5	7.4	7.2	6.8	6.9	6.7	6.5	8.1	8.9	9.0	8.4	7.9	7.4	7.4	7.2
	407, 408	I275SB10	1,920	70	3	347	6.7	7.0	6.7	6.5	8.1	8.9	9.0	8.4	7.8	7.4	7.4	7.2												
	408, 409	I275SB11	1,920	70	3	1,585	6.8	6.9	6.7	6.5	8.0	8.9	9.0	8.4	7.8	7.4	7.4	7.2												
	409, 410	I275SB12	1,920	70	3	458	6.8	6.9	6.7	6.5	8.0	8.9	9.0	8.4	7.9	7.4	7.3	7.2												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,990	70	4	629	9.1	9.6	9.2	8.6	10.5	11.2	11.1	10.5	10.1	9.7	9.4	9.1	9.8	10.3	9.9	9.3	11.4	12.1	12.1	11.4	10.9	10.5	10.2	9.8
	411, 412	I275SB14	2,990	70	4	247	10.5	11.1	10.6	10.0	12.2	13.1	12.9	12.3	11.7	11.2	10.9	10.6												
	412, 413	I275SB15	2,990	70	4	608	10.2	10.7	10.4	9.7	11.9	12.7	12.7	12.0	11.4	11.0	10.6	10.3												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	4,370	70	4	492	12.3	13.0	12.5	11.7	15.3	16.6	16.3	15.2	14.2	13.8	13.1	12.7	14.1	14.9	14.4	13.4	17.0	18.5	18.3	17.2	16.1	15.7	15.0	14.5
	414, 415	I275SB17	4,370	70	4	3,870	14.1	14.9	14.4	13.4	17.1	18.5	18.3	17.1	16.1	15.7	15.0	14.6												
	415, 416	I275SB18	4,370	70	4	1,086	14.8	15.6	15.2	14.0	17.8	19.5	19.3	18.1	16.9	16.4	15.8	15.2												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,340	70	3	1,385	13.9	14.7	14.1	13.3	16.4	18.1	18.0	17.0	15.9	15.4	14.9	14.6	13.9	14.7	14.1	13.3	16.4	18.1	18.0	17.0	15.8	15.4	14.9	14.5
	417, 418	I275SB20	3,340	70	3	343	13.8	14.6	14.0	13.2	16.2	17.8	17.8	16.8	15.7	15.2	14.8	14.4												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	4,540	70	3	1,507	16.1	17.1	16.3	15.5	19.0	21.0	20.9	20.0	18.3	18.0	17.5	17.0	16.1	17.1	16.3	15.5	19.0	21.0	20.9	20.0	18.3	18.0	17.5	17.0
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	5,860	70	3	1,015	18.7	19.7	18.9	18.0	23.2	28.4	26.4	24.4	21.8	21.0	21.0	19.8	18.7	19.7	18.9	18.0	23.2	28.4	26.4	24.4	21.8	21.0	21.0	19.8
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,240	70	3	2,282	19.2	20.3	19.6	18.6	23.3	26.9	26.0	24.6	22.2	21.8	21.5	20.4	22.0	23.1	22.5	21.2	26.3	30.0	29.3	27.8	25.3	24.8	24.5	23.2
	420, 421	I275SB23	6,240	70	3	430	24.6	25.7	25.1	23.7	29.3	33.2	32.6	30.8	28.1	27.6	27.2	25.8												
	421, 422	I275SB24	6,240	70	3	403	24.6	25.8	25.2	23.7	29.2	33.0	32.5	30.9	28.1	27.6	27.2	25.8												
	422, 423	I275SB25	6,240	70	3	426	24.6	25.8	25.2	23.7	29.1	32.9	32.5	30.9	28.1	27.6	27.3	25.9												
	423, 424	I275SB26	6,240	70	3	412	24.7	25.8	25.2	23.8	29.1	32.9	32.5	30.9	28.2	27.6	27.3	25.8												
	424, 425	I275SB27	6,240	70	3	734	24.6	25.8	25.2	23.7	29.1	32.8	32.4	30.8	28.2	27.6	27.4	25.8												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,870	50	3	841	20.4	21.5	20.4	19.4	27.3	29.0	27.6	25.9	22.6	23.6	22.4	21.3	16.9	17.9	16.9	16.1	23.8	27.6	24.5	22.2	18.9	19.8	18.7	17.8
	500, 501	GandyEB3	3,870	50	4	954	14.7	15.4	14.7	14.0	20.5	24.9	21.3	19.1	16.3	17.0	16.1	15.4												
	501, 502	GandyEB4	3,870	50	5	174	12.9	13.6	12.9	12.2	24.6	36.1	27.7	21.5	15.2	16.0	15.3	13.9												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,510	50	3	178	8.3	8.7	8.3	7.9	11.3	12.1	11.6	11.0	9.2	9.9	9.1	8.8	8.3	8.7	8.3	7.9	11.3	12.1	11.6	11.0	9.2	9.9	9.1	8.8
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,510	50	3	99	11.2	11.9	11.5	10.8	15.1	15.8	15.3	14.7	12.6	13.3	12.5	12.2	9.9	10.5	10.1	9.5	13.3	14.0	13.5	13.0	11.1	11.7	11.0	10.7
	505, 506	GandyEB10	1,510	50	3	119	8.8	9.3	9.0	8.5	11.8	12.5	12.0	11.5	9.8	10.4	9.8	9.6												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,985	50	3	1,167	15.2	15.7	15.3	15.1	18.0	18.6	18.4	17.9	16.5	16.8	16.1	16.3	15.2	15.7	15.3	15.1	18.0	18.6	18.4	17.9	16.5	16.8	16.1	16.3
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,430	55	3	181	22.4	23.8	22.6	22.0	27.5	29.5	28.4	27.5	24.5	24.9	24.3	23.4												
	520, 521	GandyWB5	3,430	55	3	291	16.2	17.2	16.4	15.9	19.8	21.2	20.4	19.7	17.7	18.0	17.6	16.8	16.0	16.8	16.1	15.7	19.7	21.5	20.5	19.7	17.6	17.9	17.4	16.6

2030 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,430	55	4	590	13.9	14.5	14.0	13.6	17.3	19.2	18.2	17.3	15.5	15.7	15.2	14.5												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,230	55	3	1,768	10.6	11.2	10.7	10.4	13.1	13.8	13.5	12.8	11.5	11.6	11.4	10.8	10.6	11.2	10.7	10.4	13.1	13.8	13.5	12.8	11.5	11.6	11.4	10.8
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,260	55	3	1,179	12.7	13.5	13.2	12.3	15.5	16.7	16.3	15.5	14.1	14.0	13.6	12.9	13.8	14.6	14.3	13.4	16.8	18.1	17.7	16.8	15.3	15.2	14.8	14.0
	524, 525	GandyWB9	3,260	55	3	455	16.6	17.7	17.3	16.1	20.2	21.7	21.2	20.3	18.4	18.3	17.8	16.8												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,400	50	1	525	37.1	37.5	36.7	37.9	36.6	36.4	37.7	37.0	37.5	36.9	37.0	38.0	35.5	36.5	35.3	36.2	35.6	35.8	36.5	35.3	36.2	35.3	36.7	36.3
	600, 601	GdyNBoff2	2,400	50	1	1,220	36.1	37.5	36.2	37.0	36.5	36.9	37.5	36.1	37.0	36.0	37.7	37.2												
	601, 7001	GdyNBoff3	2,400	50	2	135	23.1	24.5	22.6	22.7	23.6	23.2	23.4	22.1	24.0	22.8	25.8	22.0												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,475	50	1	84	34.1	34.9	34.6	35.6	34.7	35.0	35.5	35.0	36.2	34.7	34.7	36.0	26.3	27.0	26.7	27.5	27.0	27.1	27.8	27.0	27.9	27.0	26.9	28.0
	605, 606	GdyNBoff9	1,475	50	1	107	24.4	25.1	24.7	25.5	25.0	25.2	25.9	25.1	26.0	25.1	25.0	26.1												
	606, 506	GdyNBoff10	1,475	50	1	158	23.4	24.1	23.9	24.5	24.3	24.2	25.1	24.1	24.9	24.3	24.1	25.1												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,360	50	2	179	22.7	24.3	22.4	20.8	49.2	69.2	53.9	44.0	28.7	29.9	29.0	25.6	22.7	24.3	22.4	20.8	49.2	69.2	53.9	44.0	28.7	29.9	29.0	25.6
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,040	50	2	501	9.1	9.6	8.7	8.5	11.7	12.5	12.2	11.2	10.0	10.3	9.8	9.4	8.5	9.0	8.1	7.9	10.8	11.6	11.3	10.4	9.4	9.7	9.2	8.7
	623, 624	GdyNBon6	1,040	50	2	299	8.5	8.9	8.0	7.9	10.8	11.5	11.2	10.3	9.3	9.6	9.1	8.7												
	624, 625	GdyNBon7	1,040	50	2	253	8.5	8.9	8.0	7.8	10.8	11.4	11.1	10.3	9.3	9.5	9.1	8.7												
	625, 626	GdyNBon8	1,040	50	2	238	8.4	8.9	8.1	7.8	10.8	11.4	11.1	10.3	9.3	9.5	9.1	8.6												
	626, 627	GdyNBon9	1,040	50	2	242	8.4	8.9	8.0	7.8	10.7	11.4	11.1	10.3	9.3	9.5	9.1	8.6												
	627, 628	GdyNBon10	1,040	50	2	277	8.4	8.9	8.0	7.8	10.7	11.4	11.2	10.3	9.3	9.5	9.1	8.6												
	628, 629	GdyNBon11	1,040	50	2	337	8.4	8.9	8.0	7.8	10.7	11.4	11.2	10.3	9.3	9.6	9.1	8.6												
	629, 630	GdyNBon12	1,040	50	2	877	8.4	8.9	8.0	7.8	10.6	11.4	11.2	10.3	9.3	9.6	9.1	8.5												
	630, 307	GdyNBon13	1,040	50	2	344	8.4	8.9	8.0	7.8	10.6	11.3	11.2	10.3	9.3	9.6	9.1	8.5												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,030	50	2	481	9.9	10.2	10.4	9.3	11.6	12.6	12.3	11.8	11.0	10.8	10.3	9.7	11.4	11.8	12.0	10.8	13.4	14.6	14.4	13.7	12.7	12.5	11.9	11.3
	660, 661	GdySBoff2	1,030	50	2	394	9.9	10.1	10.4	9.3	11.6	12.5	12.3	11.7	10.9	10.8	10.2	9.7												
	661, 662	GdySBoff3	1,030	50	2	1,949	10.2	10.5	10.7	9.6	12.0	13.0	12.8	12.2	11.3	11.2	10.6	10.0												
	662, 523	GdySBoff4	1,030	50	1	424	20.3	21.1	21.6	19.3	24.1	26.2	25.9	24.5	22.9	22.4	21.3	20.3												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,320	50	1	286	21.8	22.3	22.4	20.8	28.0	31.5	28.7	28.0	25.0	24.1	24.6	23.0	20.1	20.6	20.7	19.3	25.7	29.0	26.5	25.8	23.1	22.2	22.6	21.2
	621, 622	GdySBon3	1,320	50	1	204	19.3	19.7	19.8	18.5	24.7	27.8	25.4	24.7	22.2	21.3	21.7	20.4												
	622, 419	GdySBon4	1,320	50	1	319	19.2	19.6	19.7	18.5	24.2	27.5	25.3	24.4	22.0	21.2	21.4	20.2												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,200	35	1	302	27.1	28.3	27.2	26.3	31.9	35.8	33.8	32.9	30.3	30.8	30.1	28.3	27.0	28.0	27.1	26.1	31.4	35.1	33.5	32.5	29.8	30.4	29.9	28.1
	640, 641	GdySBonLoop2	1,200	35	1	259	26.7	27.7	26.9	25.9	31.0	34.7	33.0	32.1	29.6	30.1	29.5	27.7												
	641, 642	GdySBonLoop3	1,200	35	1	227	26.8	27.7	26.9	25.9	31.1	34.8	33.1	32.2	29.6	30.2	29.6	27.7												
	642, 643	GdySBonLoop4	1,200	35	1	211	27.1	28.1	27.1	26.1	31.4	35.1	33.5	32.5	29.8	30.6	29.8	28.0												
	643, 644	GdySBonLoop5	1,200	35	1	211	27.1	28.1	27.1	26.1	31.4	35.0	33.6	32.6	29.8	30.4	30.0	28.1												
	644, 645	GdySBonLoop6	1,200	35	1	207	27.1	28.2	27.2	26.1	31.6	35.0	33.7	32.7	29.9	30.4	30.1	28.3												
	645, 418	GdySBonLoop7	1,200	35	1	252	27.1	28.2	27.2	26.0	31.4	34.9	33.7	32.5	29.9	30.2	30.0	28.3												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	12.7	13.5	12.6	12.1	14.4	15.1	14.4	13.6	11.8	12.3	11.7	11.1	14.4	15.3	14.4	13.7	16.3	17.2	16.4	15.5	13.4	14.0	13.3	12.6
	541, 542	RvEB3	3,215	60	3	1,028	16.8	17.8	16.8	16.0	19.0	20.0	19.0	18.1	15.6	16.3	15.5	14.7												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,180	60	2	513	15.8	16.4	15.6	14.9	17.7	18.8	17.8	21.3	14.5	15.3	14.6	13.5	15.8	16.4	15.6	14.9	17.7	18.8	17.8	21.3	14.5	15.3	14.6	13.5
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,400	60	2	120	17.3	18.1	17.3	16.4	19.9	22.8	24.2	24.4	19.9	18.2	16.4	15.0	15.7	16.4	15.6	14.9	17.9	20.4	21.3	21.5	17.7	16.4	14.9	13.6
	546, 547	RvEB10	1,400	60	2	165	14.5	15.2	14.5	13.8	16.6	18.6	19.3	19.4	16.1	15.1	13.8	12.6												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,640	60	2	1,053	19.5	20.6	19.9	19.3	21.6	23.6	23.8	24.2	20.7	20.0	19.4	18.4	19.5	20.6	19.9	19.3	21.6	23.6	23.8	24.2	20.7	20.0	19.4	18.4
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,575	60	2	756	17.0	17.9	17.0	16.2	22.7	23.9	22.8	21.8	18.6	19.6	18.6	17.8	15.8	16.6	15.7	15.0	21.0	22.5	23.5	21.7	17.4	18.2	17.3	16.5
	558, 559	RvWB3	2,575	60	2	146	14.4	15.1	14.3	13.6	19.1	20.8	23.6	21.1	16.0	16.6	15.9	15.0												
	559, 560	RvWB4	2,575	60	3	151	11.2	11.7	11.0	10.5	14.8	17.2	26.5	22.0	12.8	12.8	12.3	11.6												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,500	60	2	125	16.3	17.0	16.1	15.4	21.7	28.4	58.4	50.2	20.6	18.8	18.0	17.0	16.3	17.0	16.1	15.4	21.7	28.4	58.4	50.2	20.6	18.8	18.0	17.0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,110	60	2	133	16.5	17.2	16.5	15.8	21.9	22.3	21.9	21.7	19.8	19.3	18.5	17.3	14.2	14.9	14.2	13.6	18.6	19.0	18.4	18.2	16.7	16.6	15.8	14.9
	567, 568	RvWB14	2,110	60	2	750	13.9	14.5	13.9	13.3	18.2	18.6	18.0	17.8	16.3	16.2	15.5	14.6												
	568, 569	RvWB15	2,110	60	2	281	14.0	14.6	13.9	13.3	18.2	18.6	18.0	17.7	16.2	16.2	15.5	14.6												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,310	60	4	1,137	14.7	14.9	14.7	14.0	16.9	17.5	17.0	16.8	15.9	16.1	15.6	15.0	14.7	14.9	14.7	14.0	16.9	17.5	17.0	16.8	15.9	16.1	15.6	15.0
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,840	50	2	228	38.7	39.9	39.4	37.5	40.7	42.6	41.4	42.1	40.2	40.5	40.0	39.3	38.7	39.9	39.4	37.5	40.7	42.6	41.4	42.1	40.2	40.5	40.0	39.3
	7008, 701	RvNBoff4	4,840	50	2	168	45.6	46.5	45.9	44.2	47.5	49.0	48.5	48.4	47.1	47.3	47.4	46.3	33.2	33.8	33.5	32.3	34.6	35.9	35.5	35.3	34.5	34.5	34.7	33.8
	701, 702	RvNBoff5	4,840	50	2	198	27.7	28.1	28.0	27.0	28.8	30.1	29.6	29.4	28.9	28.9	29.1	28.2												
	702, 703	RvNBoff6	4,840	50	3	130	25.7	26.0	26.0	25.1	26.8	28.0	27.5	27.2	26.7	26.7	26.8	26.1												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,240	50	1	336	18.9	19.8	19.6	19.5	19.6	20.9	20.6	20.2	19.7	19.3	19.9	19.8	18.7	19.6	19.4	19.4	19.4	20.5	20.4	20.1	19.5	19.2	19.7	19.6
	704, 705	RvNBoff8	1,240	50	1	200	18.8	19.7	19.5	19.4	19.5	20.6	20.5	20.1	19.5	19.3	19.8	19.7												
	705, 706	RvNBoff9	1,240	50	1	223	18.7	19.5	19.3	19.3	19.4	20.4	20.3	20.0	19.4	19.2	19.7	19.5												
	706, 707	RvNBoff10	1,240	50	1	262	18.6	19.5	19.3	19.3	19.3	20.3	20.3	19.9	19.3	19.2	19.6	19.5												
	707, 547	RvNBoff11	1,240	50	1	264	18.6	19.5	19.4	19.3	19.3	20.3	20.4	20.0	19.4	19.2	19.6	19.6												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,200	50	2	248	17.8	17.6	17.9	17.0	18.3	18.9	18.6	18.6	18.3	18.6	18.2	17.9	17.8	17.6	17.9	17.0	18.2	19.0	18.6	18.6	18.3	18.6	18.3	17.9
	715, 716	RvNBoff21	2,200	50	2	642	17.8	17.6	17.9	16.9	18.3	19.0	18.6	18.6	18.3	18.6	18.3	17.8												
	716, 569	RvNBoff22	2,200	50	2	670	17.8	17.6	17.9	17.0	18.2	19.1	18.6	18.6	18.3	18.6	18.3	17.8												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	240	50	1	296	0.9	1.1	1.0	1.0	1.2	1.8	2.5	2.1	1.0	1.1	1.1	1.0	0.9	1.1	1.0	1.1	1.2	1.8	2.5	2.1	1.1	1.1	1.2	1.0
	758, 7016	RvNBon4	240	50	1	127	1.0	1.2	1.1	1.1	1.3	1.9	2.4	2.0	1.1	1.2	1.3	1.1												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,455	50	2	97	15.8	16.2	15.5	15.2	18.9	19.4	18.8	17.9	15.6	17.0	17.1	15.8	14.1	14.5	13.8	13.6	16.8	17.3	16.7	15.9	13.9	15.1	15.2	14.1
	757, 317	RvNBon10	1,455	50	2	123	12.8	13.1	12.5	12.3	15.2	15.6	15.0	14.4	12.6	13.7	13.8	12.7												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,125	50	2	223	9.3	9.5	9.6	9.2	11.6	12.8	12.9	11.8	11.0	10.8	10.6	10.4	9.6	9.8	9.9	9.4	11.9	13.1	13.2	12.1	11.3	11.1	10.9	10.6
	770, 7032	RvSBoff2	1,125	50	2	150	10.0	10.2	10.2	9.8	12.3	13.6	13.7	12.6	11.7	11.5	11.3	11.0												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,070	50	3	102	12.2	13.4	12.7	11.6	14.1	14.8	14.1	13.5	13.0	12.7	12.3	11.5	14.2	15.5	14.6	13.4	16.4	17.0	16.1	15.6	15.1	14.6	14.2	13.4
	793, 410	RvSBon5	1,070	50	3	655	14.5	15.8	14.9	13.7	16.8	17.3	16.5	15.9	15.5	14.9	14.5	13.7												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	665	50	2	270	10.4	11.3	10.7	10.0	11.8	12.4	11.9	11.2	9.9	10.1	9.6	9.4	10.4	11.3	10.7	10.0	11.7	12.4	11.9	11.2	9.9	10.1	9.6	9.4
	790, 7011	RvSBon11	665	50	2	250	10.4	11.2	10.7	10.0	11.7	12.4	11.9	11.1	9.9	10.1	9.6	9.4												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,600	50	2	311	27.9	28.2	28.0	26.6	29.1	29.7	29.5	29.3	28.7	29.0	28.6	28.0	22.6	22.8	22.6	21.5	23.5	23.9	23.8	23.6	23.2	23.4	23.1	22.6
	708, 710	118NBoff2	3,600	50	2	567	28.3	28.8	28.5	27.0	29.6	30.2	30.0	29.8	29.2	29.5	29.0	28.4												
	710, 711	118NBoff3	3,600	50	2	460	21.2	21.5	21.3	20.3	22.2	22.6	22.5	22.3	21.9	22.1	21.7	21.3												
	711, 712	118NBoff4	3,600	50	3	472	18.5	18.6	18.5	17.6	19.2	19.5	19.4	19.3	19.0	19.2	18.8	18.5												
	712, 713	118NBoff5	3,600	50	3	395	18.4	18.5	18.4	17.6	19.1	19.4	19.3	19.2	18.9	19.1	18.8	18.4												
	713, 714	118NBoff6	3,600	50	3	188	18.4	18.5	18.4	17.6	19.1	19.4	19.3	19.2	18.9	19.0	18.8	18.4												
	714, 717	118NBoff7	1,400	50	2	212	9.7	10.1	9.7	9.3	10.2	10.0	10.3	10.1	9.9	9.8	9.8	9.6												

2030 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,400	50	2	389	9.7	10.0	9.6	9.2	10.2	10.0	10.2	10.0	9.9	9.7	9.7	9.6	9.6	10.0	9.6	9.2	10.1	10.0	10.2	10.0	9.9	9.7	9.7	9.6
	718, 719	118NBoff9	1,400	50	2	373	9.6	10.0	9.6	9.2	10.1	10.0	10.2	10.0	9.8	9.7	9.7	9.6												
	719, 720	118NBoff10	1,400	50	2	589	9.6	10.0	9.6	9.2	10.2	10.0	10.2	10.0	9.8	9.7	9.7	9.6												
	720, 721	118NBoff11	1,400	50	2	311	9.6	9.9	9.6	9.2	10.1	10.0	10.2	10.0	9.9	9.7	9.7	9.6												
	721, 722	118NBoff12	1,400	50	2	327	9.6	10.0	9.6	9.2	10.1	10.0	10.2	10.0	9.8	9.7	9.7	9.6												
	722, 723	118NBoff13	1,400	50	2	626	9.6	10.0	9.6	9.2	10.1	10.1	10.2	10.0	9.9	9.7	9.7	9.6												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,185	60	4	1,252	11.7	12.1	12.0	11.4	13.4	14.8	14.8	14.0	13.2	12.7	12.8	12.4	11.5	12.0	11.9	11.3	13.3	14.6	14.6	13.8	13.0	12.6	12.6	12.3
	724, 725	118NBoff15	3,185	60	4	575	11.2	11.7	11.6	11.0	12.8	14.2	14.1	13.4	12.7	12.2	12.3	12.0												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,595	60	2	611	17.2	18.3	17.4	16.3	23.0	24.2	22.9	21.9	18.9	19.8	18.9	18.1	17.3	18.4	17.5	16.4	23.2	24.5	23.3	22.1	19.1	20.0	19.0	18.2
	740, 741	118NBon3	2,595	60	2	1,571	17.4	18.5	17.5	16.4	23.2	24.6	23.4	22.1	19.2	20.0	19.1	18.3												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,215	50	1	268	16.9	17.7	16.9	16.7	22.8	23.6	22.7	21.8	18.2	19.1	18.7	17.7	19.6	20.4	19.6	19.2	25.8	27.1	26.1	25.0	21.2	22.0	21.7	20.3
	748, 749	118NBon5	1,215	50	1	541	19.5	20.4	19.5	19.3	26.1	27.1	26.1	25.0	21.1	22.0	21.5	20.4												
	749, 750	118NBon6	1,215	50	1	715	19.6	20.3	19.6	19.3	25.9	27.1	26.1	25.1	21.1	22.0	21.6	20.4												
	750, 751	118NBon7	1,215	50	1	245	19.8	20.5	19.8	19.3	25.9	27.2	26.1	25.3	21.3	22.1	21.8	20.4												
	751, 752	118NBon8	1,215	50	1	252	19.9	20.6	19.9	19.5	26.1	27.4	26.3	25.4	21.4	22.3	22.0	20.5												
	752, 753	118NBon9	1,215	50	1	352	19.9	20.6	19.9	19.5	26.0	27.5	26.4	25.4	21.5	22.3	22.0	20.5												
	753, 754	118NBon10	1,215	50	1	264	19.9	20.6	19.9	19.5	26.0	27.4	26.4	25.4	21.5	22.2	21.9	20.5												
	754, 755	118NBon11	1,215	50	1	415	20.0	20.7	19.9	19.6	26.0	27.5	26.4	25.4	21.5	22.3	22.0	20.5												
	755, 7009	118NBon12	1,215	50	1	733	20.1	20.9	20.0	19.7	26.0	27.7	26.6	25.5	21.7	22.4	22.2	20.6												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,585	50	1	147	29.8	30.2	30.3	29.2	36.2	40.5	40.5	37.0	34.5	33.8	33.6	33.1	19.9	20.3	20.3	19.5	24.2	27.3	27.5	25.0	23.3	22.8	22.6	22.0
	775, 776	118SBoff3	1,585	50	1	934	19.3	19.7	19.7	19.0	23.6	26.6	26.7	24.2	22.7	22.1	21.9	21.4												
	776, 777	118SBoff4	1,585	50	1	371	19.0	19.4	19.5	18.7	23.1	26.1	26.4	24.0	22.4	21.9	21.7	21.0												
	777, 778	118SBoff5	1,585	50	1	446	19.1	19.5	19.6	18.7	23.1	26.2	26.5	24.1	22.4	21.9	21.7	21.1												
	778, 6020	118SBoff6	1,585	50	1	340	19.2	19.5	19.7	18.8	23.0	26.4	26.7	24.2	22.4	22.0	21.8	21.1												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,785	50	2	990	17.2	17.7	17.8	16.9	20.6	23.6	23.7	21.9	20.1	19.4	19.5	18.8	17.2	17.7	17.8	16.9	20.6	23.6	23.7	21.9	20.1	19.4	19.5	18.8
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,380	50	1	197	22.2	23.5	22.5	20.1	29.3	31.9	30.2	28.0	25.2	26.1	24.3	23.5	22.1	23.5	22.5	20.2	29.0	31.6	30.2	27.9	25.2	26.0	24.2	23.5
	742, 743	118SBon2	1,380	50	1	119	22.2	23.6	22.6	20.1	29.5	32.1	30.5	28.2	25.3	26.2	24.4	23.6												
	743, 744	118SBon3	1,380	50	1	126	22.1	23.5	22.5	20.1	29.3	31.9	30.3	28.1	25.2	26.1	24.3	23.5												
	744, 745	118SBon4	1,380	50	1	162	22.0	23.3	22.4	20.0	29.0	31.6	30.1	27.9	25.0	25.9	24.1	23.3												
	745, 746	118SBon5	1,380	50	1	200	21.9	23.3	22.3	20.0	28.8	31.2	29.8	27.6	24.9	25.7	24.1	23.2												
	746, 747	118SBon6	1,380	50	1	166	21.9	23.3	22.3	20.0	28.7	31.1	29.7	27.5	24.9	25.7	24.1	23.2												
	747, 413	118SBon7	1,380	50	1	973	22.1	23.5	22.6	20.3	29.0	31.5	30.2	27.9	25.2	26.2	24.3	23.6												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,395	60	3	2,420	10.5	11.0	10.6	10.1	13.8	14.7	14.0	13.3	11.5	12.1	11.6	11.0	10.5	11.0	10.6	10.1	13.8	14.7	14.0	13.3	11.5	12.1	11.6	11.0
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,450	50	2	647	11.4	12.1	11.4	11.0	14.8	16.1	15.3	14.6	12.5	13.1	12.4	11.5	11.5	12.0	11.4	11.0	14.7	16.1	15.3	14.7	12.6	13.2	12.4	11.6
	811, 812	UlmNBon4	1,450	50	2	590	11.4	12.0	11.4	11.0	14.7	16.1	15.3	14.6	12.5	13.2	12.4	11.5												
	812, 813	UlmNBon5	1,450	50	2	323	11.5	12.0	11.4	11.0	14.7	16.1	15.3	14.7	12.5	13.2	12.4	11.6												
	813, 814	UlmNBon6	1,450	50	2	328	11.5	12.0	11.4	11.0	14.7	16.1	15.3	14.7	12.6	13.2	12.4	11.6												
	814, 815	UlmNBon7	1,450	50	2	288	11.5	12.0	11.4	11.0	14.6	16.2	15.3	14.7	12.6	13.2	12.4	11.6												
	815, 816	UlmNBon8	1,450	50	2	273	11.5	12.0	11.4	11.0	14.6	16.2	15.3	14.8	12.6	13.2	12.4	11.6												
	816, 322	UlmNBon9	1,450	50	2	888	11.5	12.0	11.5	11.0	14.6	16.2	15.4	14.7	12.6	13.2	12.4	11.7												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,765	50	2	318	21.8	22.9	21.9	20.8	27.0	30.5	30.2	28.6	24.7	25.6	24.1	23.9	21.6	22.6	21.6	20.6	26.5	29.8	29.6	28.1	24.4	25.1	23.8	23.6
	830, 831	UlmSBoff2	2,765	50	2	346	21.4	22.4	21.4	20.4	26.1	29.4	29.2	27.7	24.2	24.8	23.5	23.3												
	831, 7036	UlmSBoff3	2,765	50	2	283	21.5	22.5	21.5	20.5	26.4	29.6	29.5	28.0	24.3	25.0	23.7	23.4												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,225	50	2	398	17.9	19.2	18.3	17.1	22.3	25.3	25.2	24.0	20.3	21.2	20.1	19.7	14.8	15.8	15.1	14.1	18.2	20.9	20.7	19.8	16.8	17.5	16.7	16.2
	834, 835	UlmSBoff8	2,225	60	2	584	15.3	16.4	15.6	14.6	19.0	21.7	21.5	20.5	17.4	18.1	17.2	16.8												
	835, 836	UlmSBoff9	2,225	60	2	481	14.1	15.1	14.5	13.4	17.5	19.9	19.8	18.9	16.0	16.8	15.9	15.5												
	836, 837	UlmSBoff10	2,225	60	2	2,160	14.2	15.1	14.6	13.5	17.4	20.1	19.9	19.0	16.2	16.8	16.1	15.5												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	945	35	1	493	13.8	14.5	14.0	13.3	18.4	19.4	18.4	17.1	15.1	16.3	15.6	15.1	15.3	16.2	15.6	14.9	20.5	21.7	20.6	19.1	17.0	18.2	17.5	16.9
	802, 803	UlmSBon2	945	35	1	214	18.9	20.1	19.3	18.5	25.4	27.0	25.7	23.8	21.1	22.5	21.8	21.0												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	660	35	1	163	14.5	15.0	15.1	14.3	19.3	20.7	19.5	18.4	16.3	17.0	16.7	16.3	11.9	12.3	12.4	11.7	15.8	16.9	16.0	15.1	13.5	13.9	13.8	13.4
	808, 809	UlmSBon4	660	35	1	163	14.4	14.9	15.0	14.2	19.1	20.5	19.3	18.2	16.3	16.8	16.6	16.2												
	809, 810	UlmSBon5	660	35	1	228	14.5	14.9	15.1	14.2	19.2	20.6	19.4	18.3	16.4	16.8	16.7	16.2												
	810, 402	UlmSBon6	660	50	1	1,170	10.7	11.1	11.1	10.6	14.2	15.2	14.4	13.5	12.1	12.5	12.4	12.0												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	285	35	1	201	5.7	6.4	5.5	5.4	7.5	7.5	7.5	6.8	6.2	6.7	6.4	5.9	4.6	5.1	4.4	4.4	6.0	6.1	6.0	5.5	4.9	5.4	5.1	4.8
	804, 805	UlmSBMLK2	285	50	1	361	4.8	5.3	4.6	4.5	6.2	6.3	6.3	5.7	5.1	5.6	5.3	4.9												
	805, 806	UlmSBMLK3	285	50	1	499	4.1	4.5	3.9	3.8	5.2	5.3	5.3	4.8	4.3	4.7	4.5	4.2												
SB MLK	806, 807	UlmSBMLK4	825	50	2	1,171	6.3	6.4	6.1	5.9	7.3	8.0	8.2	7.5	7.0	7.0	6.7	6.6	6.3	6.4	6.1	5.9	7.3	8.0	8.2	7.5	7.0	7.0	6.7	6.6
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	515	50	1	1,080	7.9	8.4	8.1	7.6	10.5	11.2	10.5	10.0	8.7	9.2	8.8	8.3	7.9	8.4	8.1	7.6	10.4	11.2	10.5	10.0	8.7	9.2	8.8	8.3
	851, 852	MLKNBon3	515	50	1	350	7.8	8.4	8.0	7.6	10.3	11.1	10.4	10.0	8.7	9.1	8.8	8.2												
	852, 853	MLKNBon4	515	50	1	360	7.8	8.4	8.1	7.6	10.3	11.1	10.4	10.0	8.7	9.1	8.8	8.3												
	853, 321	MLKNBon5	515	50	1	548	7.9	8.5	8.1	7.7	10.4	11.2	10.5	10.1	8.8	9.2	8.8	8.3												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	515	50	1	294	9.1	9.0	8.9	8.6	10.5	11.6	11.9	10.9	10.6	10.0	9.7	9.7	8.6	8.5	8.4	8.2	9.8	10.9	11.3	10.3	10.0	9.5	9.2	9.2
	839, 840	MLKSBoff4	515	50	1	336	8.4	8.4	8.2	8.0	9.7	10.7	11.1	10.1	9.8	9.3	9.0	9.0												
	840, 841	MLKSBoff5	515	50	1	395	8.5	8.4	8.3	8.0	9.6	10.8	11.2	10.2	9.9	9.3	9.1	9.1												
	841, 806	MLKSBoff6	515	50	1	539	8.6	8.4	8.3	8.1	9.6	10.8	11.2	10.2	9.9	9.3	9.1	9.0												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,080	60	2	1,270	7.0	7.5	6.9	6.6	9.3	9.7	9.2	8.9	7.7	8.0	7.7	7.2	9.3	9.8	9.2	8.8	12.3	13.2	12.4	11.9	10.2	10.7	10.3	9.6
	901, 902	4thNBon3	1,080	60	2	634	6.9	7.3	6.8	6.6	9.1	9.6	9.1	8.8	7.6	7.9	7.6	7.2												
	902, 903	4thNBon4	1,080	60	2	322	7.0	7.4	7.0	6.6	9.3	9.8	9.3	9.0	7.7	8.1	7.7	7.3												
	903, 904	4thNBon5	1,080	60	2	279	7.1	7.5	7.1	6.8	9.5	10.1	9.5	9.2	7.9	8.2	7.9	7.4												
	904, 905	4thNBon6	1,080	60	2	388	7.8	8.2	7.7	7.4	10.3	11.1	10.5	10.0	8.6	9.1	8.6	8.1												
	905, 906	4thNBon7	1,080	60	1	313	14.3	15.1	14.1	13.6	18.8	20.3	19.1	18.3	15.7	16.6	15.8	14.8												
	906, 907	4thNBon8	1,080	60	1	305	14.3	15.0	14.1	13.6	18.7	20.2	19.0	18.2	15.6	16.5	15.8	14.8												
	907, 324	4thNBon9	1,080	60	1	666	14.4	15.0	14.2	13.6	18.7	20.6	19.1	18.2	15.7	16.5	15.8	14.8												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	600	60	1	466	7.0	7.7	7.7	7.1	9.3	9.9	9.9	9.5	8.2	8.2	8.0	8.0	5.6	6.0	6.2	5.7	7.3	7.8	7.8	7.5	6.5	6.5	6.4	6.3
	920, 921	4thSBoff2	600	60	1	492	6.9	7.6	7.6	7.1	9.2	9.8	9.8	9.4	8.2	8.2	7.9	7.9												
	921, 922	4thSBoff3	600	60	1	420	7.0	7.6	7.7	7.1	9.2	9.9	9.8	9.4	8.2	8.2	8.0	8.0												
	922, 923	4thSBoff4	600	60	1	393	7.0	7.6	7.8	7.1	9.3	9.9	9.8	9.4	8.2	8.2	8.0	8.0												
	923, 924	4thSBoff5	600	60	1	384	7.0	7.6	7.8	7.1	9.3	9.9	9.9	9.5	8.3	8.3	8.1	8.0												
	924, 925	4thSBoff6	600	60	1	354	7.1	7.6	7.8	7.2	9.3	9.9	9.9	9.5	8.3	8.3	8.1	8.1												
	925, 926	4thSBoff7	600	60	1	501	7.1	7.6	7.9	7.2	9.3	9.9	9.9	9.5	8.3	8.4	8.1	8.0												
	926, 927	4thSBoff8	600	60	1	416	6.8	7.4	7.6	6.9	9.0	9.6	9.6	9.1	8.1	8.1	7.8	7.8												
	927, 928	4thSBoff9	600	60	2	1,153	3.5	3.8	3.9	3.6	4.6	4.9	4.9	4.7	4.1	4.1	4.0	3.9												

2030 Starter AM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	600	60	2	1,242	3.5	3.7	3.9	3.5	4.5	4.8	4.9	4.7	4.1	4.1	4.0	3.9												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,020	70	1	1,116	11.3	12.0	11.4	10.7	15.2	15.9	15.2	14.3	12.5	13.1	12.5	11.8	11.5	12.2	11.6	11.0	15.2	16.2	15.5	14.6	12.8	13.3	12.8	12.0
	5000, 5001	SULNB2	1,020	70	1	2,205	11.2	11.9	11.4	10.7	15.0	16.0	15.1	14.3	12.5	13.0	12.5	11.8												
	5001, 5002	SULNB3	1,020	70	1	528	11.5	12.1	11.6	11.0	15.2	16.2	15.4	14.5	12.8	13.2	12.8	12.0												
	5002, 5003	SULNB4	1,020	70	1	346	11.5	12.2	11.6	11.0	15.2	16.3	15.5	14.6	12.8	13.3	12.9	12.0												
	5003, 5004	SULNB5	1,020	70	1	235	11.5	12.2	11.6	11.1	15.2	16.3	15.5	14.7	12.8	13.3	13.0	12.0												
	5004, 5005	SULNB6	1,020	70	1	270	11.5	12.3	11.6	11.1	15.2	16.4	15.6	14.7	12.9	13.3	13.0	12.0												
	5005, 5006	SULNB7	1,020	70	1	238	11.6	12.3	11.6	11.1	15.2	16.4	15.6	14.7	13.0	13.3	13.0	12.0												
	5006, 5007	SULNB8	1,020	70	1	261	11.5	12.3	11.7	11.1	15.3	16.5	15.6	14.7	13.0	13.4	13.1	12.0												
	5007, 5008	SULNB9	1,020	70	1	451	11.6	12.3	11.7	11.1	15.3	16.5	15.6	14.8	13.0	13.4	13.1	12.1												
	5008, 5009	SULNB10	1,020	70	1	242	11.7	12.3	11.7	11.2	15.3	16.5	15.7	14.8	13.0	13.4	13.1	12.1												
	5009, 5010	SULNB11	1,020	70	1	158	11.7	12.3	11.8	11.2	15.3	16.4	15.7	14.8	13.1	13.4	13.1	12.1												
	5010, 5011	SULNB12	1,020	70	1	539	11.7	12.4	11.8	11.2	15.3	16.5	15.8	14.8	13.1	13.5	13.1	12.2												
	5011, 5012	SULNB13	1,020	70	1	564	11.7	12.4	11.8	11.2	15.3	16.5	15.9	14.9	13.1	13.6	13.1	12.2												
	5012, 5013	SULNB14	1,020	70	1	824	11.8	12.5	11.8	11.3	15.3	16.6	15.9	15.0	13.2	13.6	13.1	12.3												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,360	70	1	2,172	8.8	9.0	8.6	8.3	10.8	11.4	11.0	10.4	9.5	9.7	9.4	9.1	15.0	15.2	14.6	14.1	18.0	19.2	18.6	17.6	16.2	16.3	15.9	15.4
	5014, 5015	SULNB16	1,360	70	1	1,149	16.2	16.4	15.7	15.2	19.6	20.8	20.0	19.0	17.3	17.6	17.2	16.6												
	5015, 5016	SULNB17	1,360	70	1	2,057	16.2	16.5	15.8	15.3	19.8	20.8	20.2	19.1	17.6	17.6	17.3	16.7												
	5016, 5017	SULNB18	1,360	70	1	1,250	16.3	16.5	15.9	15.4	19.7	20.9	20.2	19.3	17.7	17.7	17.4	16.8												
	5017, 5018	SULNB19	1,360	70	1	1,385	16.5	16.6	16.0	15.6	19.6	21.0	20.4	19.3	17.8	17.8	17.4	16.9												
	5018, 5019	SULNB20	1,360	70	1	843	16.6	16.6	16.1	15.6	19.5	21.0	20.5	19.2	17.8	17.8	17.4	17.0												
	5019, 5020	SULNB21	1,360	70	1	687	16.6	16.6	16.1	15.6	19.5	21.1	20.5	19.3	17.8	17.9	17.3	17.1												
	5020, 5021	SULNB22	1,360	70	1	2,036	16.7	16.7	16.2	15.5	19.5	21.1	20.6	19.5	17.8	17.9	17.5	17.1												
	5021, 5022	SULNB23	1,360	70	1	171	16.8	16.8	16.3	15.7	19.7	21.3	20.7	19.7	18.0	18.1	17.6	17.2												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,760	70	1	1,752	18.8	18.6	18.8	18.0	22.5	24.5	24.0	22.8	20.9	21.4	20.3	19.5	20.6	20.7	20.7	20.0	24.2	26.5	25.9	25.0	22.9	23.3	22.3	21.6
	5023, 5024	SULNB25	1,760	70	1	1,039	21.3	21.5	21.4	20.8	25.0	27.4	26.8	25.6	23.6	24.0	23.0	22.4												
	5024, 5025	SULNB26	1,760	70	1	814	21.2	21.4	21.2	20.6	24.7	27.0	26.4	25.5	23.5	23.8	22.8	22.3												
	5025, 5026	SULNB27	1,760	70	1	2,530	21.4	21.7	21.6	21.0	24.9	27.4	26.8	26.1	23.8	24.1	23.2	22.6												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	340	70	1	266	4.1	3.8	3.9	3.7	4.3	4.0	3.9	3.7	3.9	3.7	4.0	4.0	4.0	3.6	3.7	3.5	4.1	3.8	3.8	3.6	3.7	3.6	3.8	3.8
	5100, 5101	SULNBRamp2	340	70	1	528	4.0	3.6	3.8	3.6	4.1	3.9	3.8	3.6	3.8	3.6	3.8	3.8												
	5101, 5102	SULNBRamp3	340	70	1	379	3.9	3.6	3.7	3.5	4.0	3.8	3.7	3.5	3.7	3.5	3.8	3.8												
	5102, 5103	SULNBRamp4	340	70	1	376	3.9	3.5	3.7	3.5	4.0	3.8	3.7	3.5	3.7	3.6	3.7	3.8												
	5103, 5104	SULNBRamp5	340	70	1	363	3.9	3.5	3.7	3.5	4.0	3.8	3.7	3.5	3.7	3.6	3.7	3.8												
	5104, 5105	SULNBRamp6	340	70	1	352	3.9	3.6	3.7	3.5	4.0	3.8	3.7	3.5	3.7	3.5	3.8	3.8												
	5105, 5106	SULNBRamp7	340	70	1	831	3.9	3.6	3.7	3.5	4.1	3.8	3.8	3.5	3.6	3.6	3.8	3.8												
	5106, 5107	SULNBRamp8	340	70	1	1,172	4.0	3.6	3.7	3.5	4.1	3.8	3.8	3.5	3.7	3.6	3.8	3.8												
	5107, 5108	SULNBRamp9	340	70	1	656	4.0	3.6	3.7	3.5	4.1	3.8	3.8	3.5	3.7	3.6	3.7	3.9												
	5108, 5109	SULNBRamp10	340	70	1	803	4.0	3.6	3.7	3.5	4.1	3.8	3.8	3.5	3.7	3.6	3.7	3.9												
	5109, 5110	SULNBRamp11	340	70	1	897	4.0	3.6	3.7	3.5	4.1	3.8	3.8	3.6	3.7	3.7	3.7	3.9												
	5110, 5111	SULNBRamp12	340	70	1	513	4.1	3.6	3.7	3.6	4.1	3.8	3.8	3.6	3.7	3.7	3.7	3.9												
	5111, 5113	SULNBRamp13	340	70	1	267	4.1	3.6	3.7	3.6	4.1	3.8	3.8	3.6	3.7	3.7	3.7	3.9												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	400	70	1	157	4.8	4.8	5.2	5.0	5.8	6.1	6.0	6.1	5.8	6.0	5.4	5.1	4.8	4.8	5.2	5.0	5.8	6.1	6.0	6.1	5.8	6.0	5.4	5.1
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,690	70	1	1,586	14.3	15.1	14.5	13.7	19.0	20.1	19.1	18.2	15.7	16.7	15.8	15.0	14.3	15.1	14.5	13.7	19.0	20.1	19.1	18.2	15.7	16.7	15.8	15.0
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,440	70	1	941	16.1	17.1	16.2	15.2	21.3	22.7	21.4	20.4	17.6	18.8	17.7	16.9	16.8	17.9	17.2	16.1	21.7	23.7	22.6	21.6	18.9	19.6	18.8	17.9
	5997, 5998	SULSB1	1,440	70	1	816	16.3	17.3	16.5	15.4	21.7	23.1	21.8	20.8	17.9	19.1	18.0	17.2												
	5998, 5999	SULSB1	1,440	70	1	1,054	16.5	17.4	16.7	15.5	21.7	23.2	22.0	21.0	18.1	19.2	18.2	17.4												
	5999, 6000	SULSB1	1,440	70	1	1,908	16.6	17.7	16.9	15.7	21.9	23.6	22.4	21.2	18.5	19.5	18.4	17.6												
	6000, 6001	SULSB2	1,440	70	1	2,064	16.7	17.9	17.2	15.9	22.0	23.7	22.5	21.5	18.8	19.7	18.7	17.8												
	6001, 6002	SULSB3	1,440	70	1	572	16.7	18.0	17.3	16.1	21.9	23.8	22.7	21.6	18.9	19.8	18.9	17.9												
	6002, 6003	SULSB4	1,440	70	1	407	16.8	18.0	17.3	16.1	21.8	23.8	22.8	21.7	18.9	19.8	18.9	17.9												
	6003, 6004	SULSB5	1,440	70	1	1,528	16.9	18.1	17.3	16.2	21.8	23.8	22.8	21.8	19.0	19.8	19.0	17.9												
	6004, 6005	SULSB6	1,440	70	1	1,420	16.9	18.2	17.3	16.4	21.6	24.0	22.8	21.8	19.2	19.8	19.0	18.1												
	6005, 6006	SULSB7	1,440	70	1	4,087	17.1	18.1	17.5	16.5	21.6	24.0	23.1	21.9	19.4	19.8	19.2	18.2												
	6006, 6007	SULSB8	1,440	70	1	1,611	17.2	18.1	17.6	16.6	21.5	24.0	23.2	22.0	19.6	19.8	19.2	18.3												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,060	70	1	767	12.4	13.0	12.8	12.3	15.3	16.9	16.7	16.0	14.3	13.7	14.0	13.3	12.4	12.9	12.8	12.2	15.1	17.0	16.6	16.0	14.4	13.6	14.0	13.3
	6008, 6009	SULSB10	1,060	70	1	614	12.3	12.8	12.6	12.1	15.0	16.6	16.4	15.7	14.1	13.4	13.8	13.1												
	6009, 6010	SULSB11	1,060	70	1	382	12.3	12.8	12.6	12.1	15.0	16.7	16.3	15.7	14.2	13.4	13.8	13.2												
	6010, 6011	SULSB12	1,060	70	1	135	12.3	12.9	12.7	12.1	15.0	16.7	16.4	15.8	14.3	13.5	13.8	13.3												
	6011, 6012	SULSB13	1,060	70	1	204	12.4	12.9	12.7	12.2	15.0	16.8	16.5	15.8	14.3	13.5	13.8	13.3												
	6012, 6013	SULSB14	1,060	70	1	613	12.4	13.0	12.8	12.3	15.1	17.0	16.6	15.9	14.5	13.6	14.0	13.4												
	6013, 6014	SULSB15	1,060	70	1	251	12.5	13.0	12.9	12.4	15.1	17.1	16.7	16.0	14.5	13.7	14.1	13.5												
	6014, 6015	SULSB16	1,060	70	1	233	12.5	13.0	12.9	12.4	15.1	17.2	16.7	16.1	14.5	13.7	14.1	13.5												
	6015, 6016	SULSB17	1,060	70	1	274	12.5	13.0	12.8	12.3	15.1	17.2	16.6	16.1	14.5	13.7	14.1	13.5												
	6016, 6017	SULSB18	1,060	70	1	238	12.5	13.0	12.9	12.3	15.1	17.1	16.7	16.1	14.5	13.7	14.1	13.5												
	6017, 6018	SULSB19	1,060	70	1	314	12.5	12.9	12.9	12.3	15.1	17.1	16.7	16.1	14.5	13.7	14.1	13.5												
	6018, 6019	SULSB20	1,060	70	1	879	12.5	13.0	12.9	12.3	15.1	17.1	16.8	16.1	14.6	13.7	14.1	13.5												
	6019, 6020	SULSB21	1,060	70	1	207	12.5	13.1	12.9	12.4	15.1	17.2	16.9	16.1	14.7	13.8	14.1	13.4												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	380	70	1	582	4.3	4.7	4.5	4.0	5.6	6.5	5.9	5.6	4.9	5.6	4.8	4.6	4.2	4.6	4.4	4.0	5.2	6.2	5.8	5.5	4.7	5.4	4.9	4.4
	6100, 6101	SULSBRamp2	380	70	1	621	4.1	4.5	4.3	3.9	5.3	6.2	5.6	5.3	4.6	5.3	4.6	4.4												
	6101, 6102	SULSBRamp3	380	70	1	317	4.1	4.5	4.2	3.8	5.2	6.1	5.6	5.3	4.6	5.3	4.6	4.4												
	6102, 6103	SULSBRamp4	380	70	1	915	4.2	4.5	4.2	3.9	5.3	6.1	5.6	5.3	4.6	5.3	4.6	4.4												
	6103, 6104	SULSBRamp5	380	70	1	1,093	4.2	4.5	4.3	3.9	5.3	6.2	5.7	5.4	4.6	5.3	4.7	4.4												
	6104, 6105	SULSBRamp6	380	70	1	1,068	4.2	4.5	4.3	3.9	5.3	6.2	5.7	5.4	4.6	5.4	4.7	4.4												
	6105, 6106	SULSBRamp7	380	70	1	788	4.2	4.6	4.3	4.0	5.3	6.2	5.8	5.4	4.6	5.4	4.8	4.4												
	6106, 6107	SULSBRamp8	380	70	1	367	4.2	4.6	4.4	3.9	5.3	6.2	5.8	5.4	4.6	5.4	4.8	4.4												
	6107, 6108	SULSBRamp9	380	70	1	373	4.2	4.6	4.4	3.9	5.3	6.2	5.8	5.4	4.6	5.4	4.8	4.4												
	6108, 6109	SULSBRamp10	380	70	1	445	4.2	4.6	4.3	4.0	5.3	6.2	5.8	5.5	4.6	5.4	4.8	4.5												
	6109, 6110	SULSBRamp11	380	70	1	8,866	4.3	4.6	4.4	4.1	5.2	6.2	5.9	5.6	4.8	5.4	5.0	4.5												
	6110, 1	SULSBRamp12	380	70	1	292	4.4	4.5	4.5	4.1	5.1	6.3	5.9	5.7	4.9	5.4	5.0	4.4												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	250	70	1	154	2.7	2.8	2.7	2.7	3.6	3.8	3.7	3.5	3.2	3.0	3.0	2.8	2.7	2.8	2.7	2.7	3.6	3.8	3.7	3.5	3.2	3.0	3.0	2.8

2030 Starter AM			Demand				Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	9,240	70	3	1,087	66.1	66.1	66.2	66.1	66.2	66.2	66.1	66.1	66.2	66.2	66.1	66.2	60.8	61.1	61.5	60.4	61.1	61.3	60.9	60.4	60.7	61.1	61.1	61.2
	300, 301	I275NB3	9,240	70	3	805	66.4	66.4	66.5	66.4	66.4	66.5	66.4	66.4	66.5	66.4	66.4	66.5												
	301, 302	I275NB4	9,240	70	3	478	65.0	65.0	65.0	64.9	65.0	65.1	65.0	65.0	65.1	65.0	64.9	65.0												
	302, 303	I275NB5	9,240	70	3	2,687	56.8	57.4	58.2	56.2	57.4	57.6	57.1	56.1	56.6	57.4	57.3	57.6												
	303, 304	I275NB6	9,240	70	4	382	56.1	56.4	56.9	56.0	57.3	57.2	56.6	56.4	56.3	56.3	57.0	56.7												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	6,840	70	3	1,375	64.4	64.6	64.8	64.5	64.8	64.7	64.7	64.5	64.7	64.4	64.6	64.6	65.2	65.3	65.4	65.3	65.4	65.4	65.5	65.2	65.5	65.3	65.3	65.3
	305, 306	I275NB8	6,840	70	3	1,306	65.9	65.9	65.9	66.0	66.0	66.0	66.1	65.8	66.2	65.9	65.9	65.9												
	306, 307	I275NB9	6,840	70	3	591	65.6	65.5	65.6	65.6	65.7	65.7	65.8	65.6	65.8	65.7	65.7	65.6												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	7,880	70	5	1,065	64.6	64.4	64.6	64.7	64.3	64.2	64.2	64.3	64.6	64.4	64.5	64.5	65.4	65.4	65.5	65.6	65.4	65.4	65.4	65.3	65.7	65.5	65.6	65.4
	308, 309	I275NB11	7,880	70	5	3,035	65.8	65.8	65.8	65.9	65.7	65.8	65.8	65.7	66.0	65.8	65.9	65.8												
	309, 2	I275NB12	7,880	70	4	350	65.5	65.5	65.4	65.9	65.7	65.0	65.8	65.2	65.8	65.8	65.8	65.3												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	7,540	70	4	745	65.6	65.6	65.6	65.8	65.5	65.4	65.4	65.2	65.6	65.7	65.8	65.5	60.0	59.7	59.9	60.9	59.2	58.5	59.3	58.7	59.7	59.5	60.0	60.4
	310, 311	I275NB13	7,540	70	4	380	63.2	63.0	63.2	63.4	62.4	62.5	62.4	62.4	63.0	62.9	63.2	63.1												
	311, 312	I275NB14	7,540	70	4	399	60.1	59.5	60.1	60.9	58.6	58.3	59.1	58.6	59.8	59.5	59.9	60.1												
	312, 313	I275NB15	7,540	70	4	368	55.2	54.7	55.1	57.4	53.8	51.7	53.9	52.2	54.3	54.0	55.2	56.2												
	313, 314	I275NB16	7,540	70	4	460	52.2	51.8	51.3	53.6	51.0	49.5	51.3	50.2	51.7	51.3	52.2	53.4												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,700	70	3	879	65.6	65.6	65.4	66.0	65.5	65.2	65.4	65.2	65.8	65.4	65.6	65.9	67.6	67.6	67.4	67.6	67.5	67.5	67.5	67.3	67.7	67.5	67.7	67.7
	315, 316	I275NB18	2,700	70	3	1,293	68.2	68.2	68.1	68.2	68.2	68.3	68.2	68.0	68.3	68.2	68.3	68.4												
	316, 317	I275NB19	2,700	70	3	1,158	68.3	68.3	68.2	68.2	68.3	68.4	68.2	68.0	68.4	68.2	68.4	68.4												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	4,155	70	5	372	60.5	60.2	60.5	60.6	59.7	59.7	59.8	59.9	60.5	60.1	60.0	60.5	66.2	66.0	66.2	66.2	65.8	65.8	65.7	65.8	66.2	66.1	65.9	66.2
	318, 319	I275NB21	4,155	70	5	2,611	66.3	66.0	66.2	66.3	65.8	65.8	65.6	65.8	66.2	66.1	65.9	66.3												
	319, 320	I275NB22	4,155	70	3	1,802	67.0	66.8	67.1	67.1	66.7	66.8	66.6	66.6	67.0	67.0	66.8	67.1												
	320, 321	I275NB23	4,155	70	3	501	67.1	66.9	67.2	67.2	67.0	66.9	66.8	66.8	67.1	67.1	67.0	67.2												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,670	70	3	1,814	65.7	65.2	65.6	65.6	64.8	64.4	64.9	64.7	65.3	65.4	65.4	65.6	65.7	65.2	65.6	65.6	64.8	64.4	64.9	64.7	65.3	65.4	65.4	65.6
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,120	70	5	814	64.1	63.8	64.0	64.0	63.1	62.7	62.8	62.9	63.7	63.6	63.7	64.0	66.0	65.8	66.0	66.0	65.3	64.2	64.8	65.0	65.8	65.7	65.7	66.0
	323, 324	I275NB26	6,120	70	5	1,850	66.9	66.7	66.9	66.8	66.3	64.9	65.7	65.9	66.7	66.7	66.6	66.9												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,200	70	4	838	64.8	64.4	64.8	65.1	50.5	35.4	42.6	50.6	61.9	63.0	63.1	64.3	61.0	59.9	61.5	61.8	51.3	45.8	47.7	50.5	58.1	57.7	57.6	60.0
	325, 326	I275NB28	7,200	70	4	704	53.5	50.5	54.6	55.5	33.9	29.4	30.0	32.8	47.0	45.0	45.3	50.9												
	326, 327	I275NB29	7,200	70	3	1,988	62.1	61.3	62.6	62.6	57.8	56.0	56.0	56.7	60.4	59.9	59.7	61.5												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	6,800	70	3	1,906	65.7	65.4	65.6	65.7	64.6	63.7	63.7	64.1	65.3	65.4	65.1	65.5	65.6	65.3	65.5	65.6	64.7	63.8	63.9	64.1	65.2	65.2	65.1	65.5
	328, 329	I275NB31	6,800	70	3	1,046	65.6	65.4	65.5	65.6	64.6	63.7	63.8	64.1	65.2	65.2	65.1	65.5												
	329, 330	I275NB32	6,800	70	3	803	65.6	65.3	65.5	65.6	64.8	63.8	64.1	64.2	65.2	65.2	65.2	65.5												
	330, 331	I275NB33	6,800	70	3	2,542	65.5	65.3	65.4	65.5	64.8	64.0	64.1	64.2	65.1	65.2	65.1	65.4												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,500	70	3	1,731	67.9	67.9	67.9	68.0	62.9	42.5	47.1	63.2	67.6	67.6	67.7	67.6	67.9	67.9	67.9	68.0	62.9	42.5	47.1	63.2	67.6	67.6	67.7	67.6
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	5,750	70	4	787	64.9	64.5	64.2	65.8	32.1	23.7	24.4	33.5	56.5	58.3	60.5	61.8	64.0	63.5	63.6	64.8	56.1	54.9	54.7	56.1	60.9	61.1	62.1	62.5
	395, 396	I275SB1	5,750	70	4	818	53.3	51.4	52.5	57.5	34.0	36.4	35.2	34.4	43.1	42.9	46.1	48.0												
	396, 397	I275SB1	5,750	70	3	1,049	63.2	62.4	63.0	64.1	58.4	58.1	57.9	58.1	60.6	60.4	61.4	61.8												
	397, 398	I275SB1	5,750	70	3	1,916	66.6	66.4	66.3	66.6	64.9	64.3	64.2	64.9	65.9	66.0	66.1	66.2												
	398, 399	I275SB1	5,750	70	3	2,120	66.0	65.7	65.6	66.0	64.3	63.6	63.4	63.9	65.1	65.2	65.4	65.4												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,150	70	3	2,742	66.2	66.3	66.4	66.5	65.2	64.7	64.3	65.0	65.6	65.8	66.0	66.0	64.4	64.5	64.6	64.8	63.2	62.4	61.9	62.8	63.8	63.9	64.1	64.0
	400, 401	I275SB3	5,150	70	4	1,083	59.9	59.9	60.2	60.4	58.2	56.5	56.1	57.3	59.1	59.0	59.2	59.1												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,385	70	3	4,105	68.0	68.2	68.2	68.2	67.9	67.3	67.3	67.7	67.8	68.1	68.0	67.9	68.0	68.2	68.2	68.2	67.9	67.3	67.3	67.7	67.8	68.1	68.0	67.9
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,045	70	4	720	65.2	65.4	65.3	65.2	64.9	64.5	64.8	64.9	65.1	65.0	65.0	65.0	66.8	66.9	66.9	66.9	66.5	66.0	66.2	66.4	66.5	66.7	66.6	66.6
	403, 404	I275SB6	3,045	70	4	1,327	67.8	67.8	67.9	67.9	67.5	67.0	67.1	67.5	67.5	67.7	67.7	67.6												
	404, 405	I275SB7	3,045	70	4	461	67.7	67.6	67.8	67.8	67.4	66.7	66.9	67.2	67.3	67.5	67.5	67.5												
	405, 406	I275SB8	3,045	70	4	452	65.6	65.6	65.6	65.7	65.2	64.6	64.8	65.0	65.1	65.4	65.4	65.3												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,920	70	3	855	68.3	68.4	68.5	68.6	68.4	67.9	68.0	68.2	68.2	68.4	68.3	68.4	68.6	68.6	68.7	68.7	68.6	68.2	68.4	68.5	68.4	68.7	68.6	68.6
	407, 408	I275SB10	1,920	70	3	347	68.6	68.7	68.8	68.8	68.7	68.3	68.5	68.6	68.5	68.8	68.6	68.7												
	408, 409	I275SB11	1,920	70	3	1,585	68.7	68.7	68.8	68.8	68.7	68.3	68.5	68.7	68.5	68.8	68.7	68.7												
	409, 410	I275SB12	1,920	70	3	458	68.6	68.7	68.8	68.7	68.7	68.3	68.4	68.6	68.5	68.7	68.7	68.7												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,990	70	4	629	61.1	60.7	61.0	61.3	61.0	60.9	61.3	61.2	61.0	61.3	61.3	61.5	64.2	64.0	64.3	64.4	64.1	63.8	64.2	64.2	64.0	64.4	64.3	64.5
	411, 412	I275SB14	2,990	70	4	247	65.3	65.0	65.4	65.6	65.1	64.7	65.2	65.2	65.0	65.4	65.4	65.5												
	412, 413	I275SB15	2,990	70	4	608	67.0	66.9	67.2	67.3	66.8	66.4	66.8	66.8	66.7	67.1	67.1	67.1												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	4,370	70	4	492	61.3	60.9	61.3	61.4	59.0	58.0	58.8	59.2	59.8	60.3	60.9	61.1	65.5	65.2	65.6	65.7	64.5	63.9	64.1	64.5	64.7	65.2	65.3	65.4
	414, 415	I275SB17	4,370	70	4	3,870	66.6	66.3	66.6	66.8	65.7	65.3	65.4	65.7	66.0	66.3	66.3	66.5												
	415, 416	I275SB18	4,370	70	4	1,086	63.5	63.3	63.6	63.9	62.5	61.7	62.0	62.5	62.7	63.3	63.4	63.5												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,340	70	3	1,385	66.8	66.9	67.2	67.2	66.6	66.0	66.1	66.4	66.5	66.9	66.9	66.9	67.0	67.0	67.3	67.3	66.8	66.2	66.3	66.5	66.6	67.1	67.1	67.0
	417, 418	I275SB20	3,340	70	3	343	67.5	67.5	67.8	67.7	67.5	67.2	67.2	67.2	67.3	67.7	67.5	67.5												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	4,540	70	3	1,507	62.0	61.7	62.2	62.4	61.5	60.9	61.0	60.7	61.5	61.7	61.7	61.7	62.0	61.7	62.2	62.4	61.5	60.9	61.0	60.7	61.5	61.7	61.7	61.7
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	5,860	70	3	1,015	61.9	62.2	62.3	62.7	59.2	53.7	56.3	58.2	60.2	61.2	60.3	61.3	61.9	62.2	62.3	62.7	59.2	53.7	56.3	58.2	60.2	61.2	60.3	61.3
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,240	70	3	2,282	65.2	65.1	65.3	65.5	63.4	61.1	62.3	62.9	63.9	64.4	64.3	64.6	65.6	65.5	65.6	65.8	64.3	62.7	63.4	63.9	64.6	65.0	64.9	65.2
	420, 421	I275SB23	6,240	70	3	430	66.0	66.0	66.0	66.3	65.1	63.8	64.2	64.8	65.3	65.5	65.6	65.8												
	421, 422	I275SB24	6,240	70	3	403	66.0	65.9	66.0	66.2	65.2	64.1	64.4	64.8	65.3	65.6	65.6	65.7												
	422, 423	I275SB25	6,240	70	3	426	65.9	65.8	65.9	66.2	65.3	64.2	64.5	64.7	65.3	65.6	65.6	65.7												
	423, 424	I275SB26	6,240	70	3	412	65.9	65.8	65.9	66.1	65.3	64.3	64.5	64.8	65.3	65.5	65.5	65.7												
	424, 425	I275SB27	6,240	70	3	734	65.9	65.8	65.9	66.1	65.3	64.4	64.5	64.9	65.3	65.5	65.5	65.7												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,870	50	3	841	48.3	48.3	48.3	48.5	47.1	47.0	47.2	47.5	47.9	47.9	47.9	48.1	48.2	48.1	48.2	48.3	44.9	41.5	44.1	46.0	47.5	47.5	47.4	47.8
	500, 501	GandyEB3	3,870	50	4	954	48.5	48.5	48.5	48.6	45.4	40.0	44.1	46.6	48.1	48.0	48.0	48.2												
	501, 502	GandyEB4	3,870	50	5	174	45.6	45.4	45.7	46.4	31.4	23.1	29.0	34.9	42.7	42.3	42.3	44.4												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,510	50	3	178	48.4	48.7	48.5	48.8	46.6	45.5	46.1	47.0	48.1	47.7	48.1	48.4	48.4	48.7	48.5	48.8	46.6	45.5	46.1	47.0	48.1	47.7	48.1	48.4
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,510	50	3	99	42.4	42.2	41.7	42.1	40.9	41.4	41.7	41.6	42.0	41.9	42.1	42.2	44.0	43.8	43.7	43.9	42.6	42.8	43.2	43.3	43.8	43.6	43.7	43.8
	505, 506	GandyEB10	1,510	50	3	119	45.3	45.2	45.2	45.5	43.9	44.0	44.5	44.7	45.3	45.0	45.1	45.1												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,985	50	3	1,167	45.9	46.0	46.2	46.2	45.3	45.5	45.5	45.5	46.0	45.9	45.9	45.8	45.9	46.0	46.2	46.2	45.3	45.5	45.5	45.5	46.0	45.9	45.9	45.8
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,430	55	3	181	42.3	42.2	42.4	42.1	41.8	41.5	41.4	41.3	41.7	42.0	42.0	41.9	46.6	46.7	46.6	46.5	45.7	44.6	45.1	45.3	45.7	45.9	46.0	46.0
	520, 521	GandyWB5	3,430	55	3	291	49.5	49.5	49.5	49.4	49.2	49.0	49.0	48.9	49.1	49.3	49.3	49.2												

2030 Starter AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,430	55	4	590	46.5	46.8	46.5	46.3	45.2	43.3	44.3	44.8	45.2	45.4	45.7	45.7												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,230	55	3	1,768	53.3	53.4	53.3	53.3	53.0	52.9	52.8	53.0	53.2	53.1	53.2	53.3	53.3	53.4	53.3	53.3	53.0	52.9	52.8	53.0	53.2	53.1	53.2	53.3
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,260	55	3	1,179	52.5	52.3	52.1	52.4	51.9	51.6	51.6	51.9	52.2	52.2	52.2	52.5	52.7	52.5	52.3	52.6	52.1	51.9	51.8	52.1	52.4	52.4	52.4	52.6
	524, 525	GandyWB9	3,260	55	3	455	53.2	52.9	52.9	53.1	52.7	52.5	52.4	52.6	52.9	52.9	53.0	53.1												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,400	50	1	525	46.6	46.7	46.9	46.6	47.1	47.1	46.9	46.8	46.8	46.7	46.8	45.9	45.5	45.0	45.7	45.8	45.4	45.1	45.5	45.9	45.5	45.6	44.5	45.1
	600, 601	GdyNBoff2	2,400	50	1	1,220	45.9	45.2	45.9	46.2	45.6	45.0	45.7	46.3	45.8	46.0	44.5	45.3												
	601, 7001	GdyNBoff3	2,400	50	2	135	37.9	36.8	38.6	39.5	37.7	37.7	38.7	39.5	37.5	38.1	35.0	40.0												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,475	50	1	84	36.5	36.4	36.3	36.3	36.5	35.9	36.4	36.2	36.2	36.4	36.4	36.4	41.2	41.0	40.9	41.0	40.8	40.5	40.4	40.8	40.8	40.8	41.0	40.9
	605, 606	GdyNBoff9	1,475	50	1	107	41.7	41.5	41.5	41.5	41.5	40.9	40.9	41.3	41.1	41.3	41.5	41.2												
	606, 506	GdyNBoff10	1,475	50	1	158	43.5	43.2	43.0	43.2	42.6	42.6	42.1	43.0	43.0	42.8	43.0	43.0												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,360	50	2	179	38.6	37.6	39.0	40.2	22.9	17.7	22.2	24.9	33.5	33.0	33.3	35.2	38.6	37.6	39.0	40.2	22.9	17.7	22.2	24.9	33.5	33.0	33.3	35.2
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,040	50	2	501	47.2	47.3	47.1	47.2	46.6	46.4	46.2	46.6	47.1	47.1	46.9	46.9	49.0	48.8	48.9	48.9	48.6	48.5	48.5	48.6	48.7	48.8	48.7	48.6
	623, 624	GdyNBon6	1,040	50	2	299	49.1	49.0	49.0	49.0	48.7	48.7	48.6	48.8	48.8	48.9	48.9	48.6												
	624, 625	GdyNBon7	1,040	50	2	253	49.2	49.1	49.1	49.1	48.8	48.8	48.8	48.9	48.9	49.0	48.9	48.7												
	625, 626	GdyNBon8	1,040	50	2	238	49.2	49.1	49.1	49.2	48.9	48.8	48.8	48.9	49.0	49.1	49.0	48.8												
	626, 627	GdyNBon9	1,040	50	2	242	49.3	49.2	49.2	49.2	49.0	48.9	48.9	49.0	49.0	49.2	49.0	48.9												
	627, 628	GdyNBon10	1,040	50	2	277	49.3	49.1	49.2	49.2	49.0	48.9	48.9	49.0	49.0	49.2	49.0	48.9												
	628, 629	GdyNBon11	1,040	50	2	337	49.3	49.1	49.3	49.3	49.0	48.9	49.0	49.0	49.0	49.2	49.0	48.9												
	629, 630	GdyNBon12	1,040	50	2	877	49.3	49.1	49.3	49.3	49.0	49.0	49.0	49.1	49.1	49.2	49.0	49.0												
	630, 307	GdyNBon13	1,040	50	2	344	49.3	49.1	49.2	49.3	49.0	49.0	48.9	49.1	49.0	49.1	49.0	48.9												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,030	50	2	481	49.2	49.0	48.9	49.0	49.0	48.8	48.9	48.9	49.0	49.1	49.0	49.3	48.5	48.3	48.1	48.4	48.2	47.9	48.0	48.1	48.3	48.3	48.4	48.7
	660, 661	GdySBoff2	1,030	50	2	394	49.4	49.2	49.0	49.3	49.3	49.1	49.1	49.1	49.3	49.3	49.2	49.5												
	661, 662	GdySBoff3	1,030	50	2	1,949	48.4	48.2	48.0	48.3	48.1	47.6	47.8	47.9	48.1	48.2	48.3	48.6												
	662, 523	GdySBoff4	1,030	50	1	424	47.6	47.4	47.1	47.3	47.0	46.8	46.8	47.0	47.2	47.2	47.4	47.6												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,320	50	1	286	44.7	45.2	44.9	45.3	43.5	43.0	44.3	43.9	43.7	44.5	43.8	43.9	46.6	47.0	46.8	47.1	45.6	45.0	46.2	45.9	45.7	46.4	45.8	45.9
	621, 622	GdySBon3	1,320	50	1	204	47.5	47.9	47.6	48.0	46.3	45.8	46.9	46.7	46.4	47.2	46.6	46.6												
	622, 419	GdySBon4	1,320	50	1	319	47.7	48.1	47.9	48.1	47.0	46.4	47.3	47.2	47.0	47.6	47.2	47.1												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,200	35	1	302	32.4	32.5	32.6	32.9	32.3	31.8	32.1	32.2	32.2	32.2	32.4	32.5	32.7	32.8	32.7	33.0	32.7	32.4	32.6	32.5	32.6	32.6	32.7	32.8
	640, 641	GdySBonLoop2	1,200	35	1	259	33.0	33.1	33.0	33.3	33.1	32.8	32.9	32.9	32.9	33.0	33.1	33.1												
	641, 642	GdySBonLoop3	1,200	35	1	227	33.0	33.1	33.0	33.3	32.9	32.8	32.9	32.8	32.9	33.0	33.0	33.1												
	642, 643	GdySBonLoop4	1,200	35	1	211	32.7	32.7	32.7	33.0	32.6	32.4	32.5	32.5	32.6	32.6	32.7	32.8												
	643, 644	GdySBonLoop5	1,200	35	1	211	32.7	32.8	32.6	33.0	32.6	32.4	32.6	32.5	32.6	32.6	32.6	32.8												
	644, 645	GdySBonLoop6	1,200	35	1	207	32.6	32.7	32.6	32.8	32.5	32.4	32.5	32.4	32.5	32.5	32.6	32.7												
	645, 418	GdySBonLoop7	1,200	35	1	252	32.7	32.7	32.6	32.8	32.6	32.5	32.6	32.5	32.6	32.6	32.6	32.7												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	58.1	58.0	58.1	58.4	57.9	57.7	57.8	57.9	58.1	58.2	58.4	58.5	57.5	57.4	57.5	57.7	57.3	57.1	57.2	57.2	57.5	57.6	57.8	57.8
	541, 542	RvEB3	3,215	60	3	1,028	56.6	56.5	56.6	56.8	56.4	56.3	56.4	56.2	56.7	56.7	56.9	56.9												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,180	60	2	513	57.9	58.0	57.9	58.1	57.9	57.7	57.5	51.8	57.9	58.0	58.3	58.3	57.9	58.0	57.9	58.1	57.9	57.7	57.5	51.8	57.9	58.0	58.3	58.3
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,400	60	2	120	55.5	55.8	55.8	55.8	54.6	51.3	47.9	47.5	50.1	53.3	55.5	55.9	56.5	56.7	56.7	56.7	55.7	53.0	50.2	49.8	52.0	54.8	56.5	56.8
	546, 547	RvEB10	1,400	60	2	165	57.2	57.4	57.4	57.4	56.5	54.3	51.9	51.4	53.4	55.8	57.2	57.5												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,640	60	2	1,053	55.0	54.7	54.7	54.7	54.4	53.3	52.6	51.5	53.8	54.6	54.6	54.8	55.0	54.7	54.7	54.7	54.4	53.3	52.6	51.5	53.8	54.6	54.6	54.8
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,575	60	2	756	58.9	58.8	58.8	58.9	58.3	58.1	57.6	57.9	58.6	58.9	58.5	58.7	58.9	58.7	58.8	58.9	58.3	57.2	53.6	54.5	58.1	58.7	58.4	58.7
	558, 559	RvWB3	2,575	60	2	146	58.9	58.7	58.9	59.0	58.4	56.4	48.8	51.1	57.6	58.4	58.1	58.8												
	559, 560	RvWB4	2,575	60	3	151	58.8	58.5	58.8	58.9	58.2	53.6	38.4	40.7	55.8	58.4	57.8	58.7												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,500	60	2	125	58.7	58.5	58.6	58.7	58.0	50.0	30.3	29.4	51.3	58.0	57.8	58.4	58.7	58.5	58.6	58.7	58.0	50.0	30.3	29.4	51.3	58.0	57.8	58.4
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,110	60	2	133	55.9	55.6	55.6	55.7	54.0	54.3	53.8	53.6	54.0	55.2	54.9	55.4	57.8	57.6	57.6	57.7	56.6	56.9	56.9	56.9	56.9	57.4	57.2	57.5
	567, 568	RvWB14	2,110	60	2	750	58.1	57.9	57.9	58.0	57.0	57.2	57.2	57.2	57.2	57.7	57.5	57.8												
	568, 569	RvWB15	2,110	60	2	281	58.0	57.7	57.8	57.9	57.0	57.2	57.5	57.6	57.5	57.7	57.5	57.8												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,310	60	4	1,137	57.3	57.3	57.2	57.3	56.9	56.9	57.2	57.3	57.2	57.2	57.1	57.2	57.3	57.3	57.2	57.3	56.9	56.9	57.2	57.3	57.2	57.2	57.1	57.2
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,840	50	2	228	46.2	45.6	45.7	46.6	45.7	44.8	45.5	44.9	45.7	45.7	45.9	46.1	46.2	45.6	45.7	46.6	45.7	44.8	45.5	44.9	45.7	45.7	45.9	46.1
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,840	50	2	168	43.6	43.5	43.6	43.9	43.4	43.2	43.2	43.2	43.4	43.5	43.0	43.4	44.9	45.0	44.8	44.9	44.6	44.1	44.3	44.5	44.5	44.7	44.0	44.7
	701, 702	RvNBoff5	4,840	50	2	198	45.0	45.2	44.8	44.9	44.7	44.1	44.3	44.5	44.4	44.7	43.8	44.7												
	702, 703	RvNBoff6	4,840	50	3	130	46.4	46.6	46.3	46.3	46.1	45.4	45.7	46.2	46.0	46.3	45.6	46.2												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,240	50	1	336	47.8	47.5	47.7	47.6	47.4	46.8	47.2	47.5	47.6	47.9	47.3	47.5	48.1	47.7	48.0	47.9	47.8	47.5	47.7	47.9	48.0	48.1	47.8	47.8
	704, 705	RvNBoff8	1,240	50	1	200	47.9	47.5	48.0	47.8	47.6	47.3	47.6	47.7	47.9	48.1	47.7	47.7												
	705, 706	RvNBoff9	1,240	50	1	223	48.2	47.8	48.2	48.0	47.9	47.7	47.9	48.0	48.2	48.2	48.0	48.0												
	706, 707	RvNBoff10	1,240	50	1	262	48.3	47.9	48.3	48.1	48.1	48.0	48.0	48.2	48.4	48.3	48.1	48.1												
	707, 547	RvNBoff11	1,240	50	1	264	48.2	47.8	48.1	48.0	48.0	47.9	47.8	48.0	48.2	48.2	48.0	48.0												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,200	50	2	248	48.9	48.9	48.9	48.9	48.8	48.8	48.8	48.8	48.8	48.9	48.7	48.8	48.9	48.9	48.9	48.9	48.8	48.7	48.8	48.8	48.8	48.9	48.7	48.9
	715, 716	RvNBoff21	2,200	50	2	642	48.9	48.9	48.9	48.9	48.8	48.8	48.8	48.9	48.8	48.9	48.8	48.9												
	716, 569	RvNBoff22	2,200	50	2	670	48.9	48.9	48.9	48.8	48.8	48.7	48.7	48.8	48.8	48.8	48.7	48.9												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	240	50	1	296	54.7	54.3	54.5	54.7	53.8	52.0	48.4	49.7	54.2	54.2	53.5	54.3	53.4	52.9	53.1	53.4	52.6	51.2	48.5	49.8	53.0	52.9	52.3	53.0
	758, 7016	RvNBon4	240	50	1	127	50.3	49.6	49.8	50.3	49.8	49.4	49.0	49.9	50.0	49.8	49.3	49.8												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,455	50	2	97	45.5	45.4	45.4	45.4	44.7	44.7	44.4	44.8	45.1	45.2	45.1	45.3	46.5	46.4	46.4	46.4	45.9	45.9	45.6	45.9	46.2	46.3	46.2	46.3
	757, 317	RvNBon10	1,455	50	2	123	47.3	47.1	47.2	47.2	46.8	46.8	46.6	46.8	47.0	47.1	47.1	47.2												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,125	50	2	223	52.8	52.7	52.6	52.5	52.2	51.8	52.0	52.2	52.2	52.4	52.5	52.4	51.4	51.4	51.2	51.2	50.9	50.5	50.8	50.9	50.9	51.1	51.2	51.1
	770, 7032	RvSBoff2	1,125	50	2	150	49.4	49.4	49.3	49.2	48.9	48.7	48.9	48.9	49.0	49.1	49.2	49.1												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,070	50	3	102	43.2	42.9	43.4	43.7	42.9	41.7	42.7	42.8	43.4	43.8	43.3	43.8	44.4	44.2	44.9	44.9	43.8	43.3	44.3	44.0	44.5	45.2	44.6	44.9
	793, 410	RvSBon5	1,070	50	3	655	44.6	44.4	45.2	45.1	44.0	43.6	44.6	44.2	44.7	45.4	44.8	45.1												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	665	50	2	270	49.0	49.0	49.2	49.2	49.1	48.9	48.9	48.7	49.1	49.2	49.2	49.2	49.1	49.0	49.3	49.3	49.2	49.0	49.0	48.9	49.2	49.3	49.2	49.3
	790, 7011	RvSBon11	665	50	2	250	49.2	49.1	49.3	49.3	49.3	49.1	49.1	49.2	49.2	49.3	49.3	49.3												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,600	50	2	311	47.9	47.8	47.9	48.0	47.7	47.7	47.6	47.8	47.7	47.9	47.7	47.8	47.8	47.7	47.8	47.9	47.6	47.7	47.6	47.7	47.7	47.7	47.7	47.7
	708, 710	118NBoff2	3,600	50	2	567	47.1	47.0	47.0	47.4	46.9	47.0	46.8	46.9	47.1	47.1	47.0	47.1												
	710, 711	118NBoff3	3,600	50	2	460	47.1	47.0	47.0	47.2	46.8	46.8	46.7	46.8	47.0	46.9	46.8	47.0												
	711, 712	118NBoff4	3,600	50	3	472	48.3	48.3	48.4	48.4	48.2	48.3	48.3	48.3	48.3	48.2	48.2	48.2												
	712, 713	118NBoff5	3,600	50	3	395	48.5	48.5	48.5	48.6	48.4	48.5	48.5	48.5	48.6	48.4	48.5	48.4												
	713, 714	118NBoff6	3,600	50	3	188	48.5	48.5	48.5	48.6	48.5	48.6	48.4	48.5	48.6	48.5	48.5	48.5												
	714, 717	118NBoff7	1,400	50	2	212	48.3	48.3	48.4	48.6	48.3	48.6	48.3	48.4	48.5	48.3	48.4	48.3												

2030 Starter AM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,400	50	2	389	48.7	48.5	48.7	48.9	48.7	48.9	48.6	48.8	48.8	48.7	48.7	48.7												
	718, 719	118NBoff9	1,400	50	2	373	48.8	48.7	48.8	49.1	48.9	49.0	48.8	48.9	48.9	48.8	48.9	48.8												
	719, 720	118NBoff10	1,400	50	2	589	48.8	48.7	48.8	49.1	48.8	49.0	48.8	48.9	48.9	48.9	48.9	48.8	48.7	48.6	48.8	49.0	48.8	48.9	48.8	48.8	48.8	48.8	48.8	48.8
	720, 721	118NBoff11	1,400	50	2	311	48.8	48.7	48.8	49.0	48.8	48.9	48.9	48.8	48.8	48.9	48.9	48.8												
	721, 722	118NBoff12	1,400	50	2	327	48.8	48.7	48.8	49.0	48.8	49.0	48.8	48.9	48.8	48.9	48.9	48.8												
	722, 723	118NBoff13	1,400	50	2	626	48.8	48.7	48.8	49.0	48.8	48.9	48.8	48.8	48.8	48.9	48.9	48.8												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,185	60	4	1,252	56.2	56.1	56.2	56.3	56.0	55.8	55.8	55.9	56.0	56.1	56.1	56.1	56.9	56.8	56.9	57.0	56.7	56.5	56.5	56.7	56.7	56.8	56.8	56.9
	724, 725	118NBoff15	3,185	60	4	575	58.5	58.4	58.5	58.6	58.4	58.2	58.2	58.4	58.4	58.4	58.4	58.5												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,595	60	2	611	58.7	58.5	58.6	58.8	58.3	58.1	58.3	58.4	58.6	58.6	58.6	58.5	57.2	57.0	57.0	57.3	56.4	56.1	56.4	56.6	56.9	56.9	56.9	56.9
	740, 741	118NBon3	2,595	60	2	1,571	56.6	56.4	56.4	56.7	55.6	55.3	55.7	55.9	56.3	56.3	56.3	56.2												
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,215	50	1	268	54.9	54.7	54.8	54.8	53.6	53.5	53.6	54.0	54.6	54.5	54.6	54.4	47.6	47.5	47.6	47.5	46.8	46.9	46.7	47.0	47.4	47.3	47.3	47.3
	748, 749	118NBon5	1,215	50	1	541	47.6	47.5	47.5	47.5	46.6	46.6	46.6	46.8	47.4	47.2	47.3	47.2												
	749, 750	118NBon6	1,215	50	1	715	47.5	47.4	47.4	47.4	46.7	46.8	46.6	46.9	47.3	47.2	47.2	47.2												
	750, 751	118NBon7	1,215	50	1	245	47.2	47.1	47.2	47.1	46.6	46.6	46.5	46.6	47.0	46.9	47.0	47.0												
	751, 752	118NBon8	1,215	50	1	252	46.9	46.8	46.9	46.9	46.3	46.2	46.1	46.3	46.7	46.6	46.6	46.7												
	752, 753	118NBon9	1,215	50	1	352	46.9	46.8	46.8	46.8	46.2	46.2	46.0	46.2	46.6	46.6	46.6	46.6												
	753, 754	118NBon10	1,215	50	1	264	46.9	46.8	46.9	46.9	46.3	46.3	46.0	46.3	46.7	46.6	46.7	46.7												
	754, 755	118NBon11	1,215	50	1	415	46.7	46.7	46.8	46.7	46.1	46.2	46.0	46.2	46.5	46.5	46.5	46.6												
	755, 7009	118NBon12	1,215	50	1	733	46.5	46.4	46.5	46.5	45.9	45.9	45.7	46.0	46.3	46.3	46.3	46.3												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,585	50	1	147	34.5	34.3	34.3	34.3	34.0	34.0	34.1	34.3	34.2	34.4	34.3	34.1	46.4	46.3	46.3	46.1	45.7	45.5	45.7	46.0	45.8	46.2	46.0	46.1
	775, 776	118SBoff3	1,585	50	1	934	47.0	46.7	46.9	46.6	46.2	45.9	46.3	46.6	46.2	46.9	46.7	46.6												
	776, 777	118SBoff4	1,585	50	1	371	47.7	47.5	47.5	47.3	47.0	46.7	46.8	47.1	46.9	47.3	47.1	47.4												
	777, 778	118SBoff5	1,585	50	1	446	47.5	47.4	47.3	47.2	46.9	46.6	46.6	47.0	46.9	47.1	47.0	47.3												
	778, 6020	118SBoff6	1,585	50	1	340	47.3	47.2	47.1	47.1	46.7	46.4	46.4	46.7	46.8	47.1	46.9	47.1												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,785	50	2	990	49.6	49.6	49.5	49.5	49.3	48.9	48.9	49.1	49.1	49.4	49.3	49.3	49.6	49.6	49.5	49.5	49.3	48.9	48.9	49.1	49.1	49.4	49.3	49.3
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,380	50	1	197	46.9	46.9	46.8	47.4	46.1	45.6	46.1	46.2	46.7	46.7	46.6	46.7	47.1	46.9	46.8	47.3	46.4	46.0	46.4	46.5	46.8	46.8	46.8	46.9
	742, 743	118SBon2	1,380	50	1	119	46.8	46.7	46.6	47.3	45.9	45.3	45.8	45.9	46.5	46.5	46.5	46.6												
	743, 744	118SBon3	1,380	50	1	126	47.1	46.9	46.8	47.4	46.2	45.5	46.0	46.2	46.7	46.7	46.8	46.9												
	744, 745	118SBon4	1,380	50	1	162	47.4	47.2	47.0	47.6	46.5	46.0	46.5	46.6	47.0	47.1	47.1	47.2												
	745, 746	118SBon5	1,380	50	1	200	47.5	47.4	47.2	47.7	46.9	46.4	46.9	46.9	47.2	47.3	47.2	47.4												
	746, 747	118SBon6	1,380	50	1	166	47.5	47.4	47.1	47.6	47.0	46.6	47.0	47.0	47.2	47.3	47.2	47.4												
	747, 413	118SBon7	1,380	50	1	973	46.9	46.8	46.7	47.2	46.4	46.0	46.3	46.4	46.7	46.7	46.6	46.7												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,395	60	3	2,420	58.0	57.9	58.0	57.9	57.7	57.6	57.8	57.7	57.9	57.8	57.9	58.0	58.0	57.9	58.0	57.9	57.7	57.6	57.8	57.7	57.9	57.8	57.9	58.0
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,450	50	2	647	49.1	49.1	49.0	49.2	48.7	48.7	48.9	48.7	49.1	49.0	49.0	49.2	49.0	49.0	49.0	49.1	48.7	48.6	48.8	48.6	49.1	48.9	48.9	49.1
	811, 812	UlmNBon4	1,450	50	2	590	49.1	49.1	49.0	49.2	48.8	48.8	49.0	48.8	49.2	49.0	49.0	49.2												
	812, 813	UlmNBon5	1,450	50	2	323	49.0	49.0	49.0	49.2	48.7	48.7	48.9	48.6	49.1	48.9	48.9	49.1												
	813, 814	UlmNBon6	1,450	50	2	328	49.0	49.0	48.9	49.1	48.7	48.6	48.8	48.6	49.1	48.9	48.9	49.1												
	814, 815	UlmNBon7	1,450	50	2	288	49.0	49.0	49.0	49.1	48.7	48.6	48.8	48.6	49.0	48.9	48.9	49.1												
	815, 816	UlmNBon8	1,450	50	2	273	49.0	49.0	49.0	49.1	48.7	48.6	48.8	48.6	49.0	48.8	48.8	49.1												
	816, 322	UlmNBon9	1,450	50	2	888	49.0	48.9	49.0	49.0	48.6	48.5	48.6	48.5	48.9	48.8	48.7	49.0												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,765	50	2	318	47.3	47.3	47.3	47.6	46.8	46.5	46.5	46.7	47.3	46.9	47.1	47.1	47.9	48.0	48.0	48.1	47.6	47.5	47.4	47.5	47.9	47.7	47.8	47.8
	830, 831	UlmSBoff2	2,765	50	2	346	48.3	48.5	48.4	48.5	48.3	48.2	48.2	48.1	48.4	48.2	48.4	48.3												
	831, 7036	UlmSBoff3	2,765	50	2	283	48.0	48.2	48.2	48.2	47.8	47.8	47.6	47.7	48.0	47.9	48.0	47.9												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,225	50	2	398	48.1	48.1	48.2	48.2	47.7	47.8	47.4	47.5	48.0	48.0	48.1	48.0	56.3	56.3	56.3	56.4	55.8	55.8	55.6	55.6	56.1	56.1	56.2	56.1
	834, 835	UlmSBoff8	2,225	60	2	584	53.8	53.8	53.9	53.8	53.2	53.3	53.0	53.0	53.6	53.6	53.7	53.6												
	835, 836	UlmSBoff9	2,225	60	2	481	58.3	58.2	58.4	58.3	57.8	57.9	57.6	57.7	58.2	58.1	58.3	58.1												
	836, 837	UlmSBoff10	2,225	60	2	2,160	58.0	58.0	58.0	58.1	57.5	57.4	57.3	57.4	57.8	57.8	57.9	57.8												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	945	35	1	493	50.4	50.0	50.4	50.0	49.6	49.1	49.7	49.9	49.9	49.5	50.2	50.0	46.3	45.8	46.1	45.8	45.4	44.9	45.4	45.6	45.6	45.3	45.9	45.7
	802, 803	UlmSBon2	945	35	1	214	36.6	36.1	36.4	36.1	35.7	35.3	35.6	35.9	35.9	35.7	36.1	35.9												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	660	35	1	163	33.9	33.7	33.8	33.6	33.6	33.4	33.5	33.6	33.6	33.6	33.7	33.7	41.9	41.8	42.0	41.8	41.8	41.6	41.7	41.9	41.7	41.8	41.9	41.9
	808, 809	UlmSBon4	660	35	1	163	34.0	33.9	34.0	33.8	33.9	33.7	33.8	33.9	33.8	33.9	34.0	33.9												
	809, 810	UlmSBon5	660	35	1	228	33.9	33.8	33.9	33.7	33.8	33.6	33.7	33.8	33.7	33.8	33.9	33.8												
	810, 402	UlmSBon6	660	50	1	1,170	45.8	45.6	45.8	45.6	45.6	45.3	45.5	45.7	45.5	45.6	45.6	45.7												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	285	35	1	201	34.8	34.6	34.6	34.7	34.6	34.7	34.5	34.5	34.4	34.5	34.7	34.5	44.0	43.8	43.9	43.9	43.8	43.8	43.7	43.7	43.6	43.6	43.8	43.7
	804, 805	UlmSBMLK2	285	50	1	361	41.6	41.4	41.5	41.5	41.4	41.5	41.4	41.4	41.3	41.4	41.4	41.4												
	805, 806	UlmSBMLK3	285	50	1	499	49.3	49.1	49.3	49.2	49.1	49.1	49.0	49.1	48.9	49.0	49.2	49.1												
SB MLK	806, 807	UlmSBMLK4	825	50	2	1,171	48.9	49.0	49.1	49.1	49.1	49.0	48.8	48.9	48.8	48.8	49.0	49.0	48.9	49.0	49.1	49.1	49.1	49.0	48.8	48.9	48.8	48.8	49.0	49.0
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	515	50	1	1,080	49.5	49.4	49.5	49.7	49.7	49.7	49.5	49.4	49.6	49.6	49.6	49.6	49.3	49.1	49.2	49.4	49.3	49.3	49.2	49.0	49.2	49.3	49.3	49.3
	851, 852	MLKNBon3	515	50	1	350	49.3	49.1	49.2	49.4	49.3	49.3	49.2	49.0	49.2	49.3	49.3	49.3												
	852, 853	MLKNBon4	515	50	1	360	49.1	48.9	49.0	49.2	49.1	49.0	48.9	48.8	49.0	49.1	49.1	49.1												
	853, 321	MLKNBon5	515	50	1	548	48.9	48.7	48.8	48.9	48.8	48.8	48.7	48.5	48.7	48.8	48.9	48.8												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	515	50	1	294	47.8	48.3	48.1	48.6	47.9	48.0	47.9	48.0	47.8	47.8	48.2	48.1	48.2	48.7	48.6	48.8	48.4	48.4	48.3	48.4	48.3	48.3	48.5	48.5
	839, 840	MLKSBoff4	515	50	1	336	48.4	49.0	48.8	49.1	48.6	48.7	48.6	48.6	48.5	48.5	48.8	48.7												
	840, 841	MLKSBoff5	515	50	1	395	48.2	48.8	48.8	48.9	48.5	48.6	48.3	48.5	48.3	48.4	48.5	48.6												
	841, 806	MLKSBoff6	515	50	1	539	48.2	48.6	48.7	48.8	48.4	48.4	48.2	48.4	48.4	48.4	48.4	48.6												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,080	60	2	1,270	59.4	59.5	59.5	59.5	59.4	59.1	59.3	59.1	59.4	59.3	59.4	59.5	58.4	58.3	58.6	58.6	58.0	57.4	57.9	57.8	58.3	58.1	58.2	58.5
	901, 902	4thNBon3	1,080	60	2	634	59.3	59.3	59.4	59.3	59.2	58.9	59.2	58.9	59.3	59.1	59.3	59.4												
	902, 903	4thNBon4	1,080	60	2	322	58.4	58.3	58.7	58.6	58.1	57.7	58.1	57.8	58.4	58.1	58.4	58.6												
	903, 904	4thNBon5	1,080	60	2	279	57.5	57.3	57.8	57.7	56.7	56.2	56.6	56.3	57.4	57.0	57.1	57.5												
	904, 905	4thNBon6	1,080	60	2	388	57.2	57.1	57.5	57.6	56.4	55.6	56.1	56.0	57.2	56.7	56.7	57.3												
	905, 906	4thNBon7	1,080	60	1	313	57.4	57.2	57.7	57.8	56.7	55.8	56.4	56.3	57.3	56.9	56.9	57.5												
	906, 907	4thNBon8	1,080	60	1	305	57.5	57.4	57.8	57.8	57.0	56.3	56.8	56.8	57.4	57.2	57.2	57.7												
	907, 324	4thNBon9	1,080	60	1	666	57.3	57.3	57.6	57.6	56.9	55.3	56.5	56.8	57.2	57.1	57.3	57.6												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	600	60	1	466	58.8	58.4	58.4	58.8	58.5	57.9	57.9	57.9	58.4	58.6	58.4	58.3	58.9	58.6	58.4	58.9	58.5	58.2	58.4	58.5	58.5	58.7	58.5	58.4
	920, 921	4thSBoff2	600	60	1	492	59.1	58.9	58.8	59.2	58.9	58.6	58.8	58.8	58.8	59.0	58.8	58.7												
	921, 922	4thSBoff3	600	60	1	420	58.9	58.8	58.7	59.1	58.7	58.4	58.7	58.7	58.6	58.8	58.6	58.5												
	922, 923	4thSBoff4	600	60	1	393	58.7	58.5	58.4	58.8	58.4	58.2	58.4	58.5	58.3	58.6	58.4	58.2												
	923, 924	4thSBoff5	600	60	1	384	58.5	58.4	58.2	58.6	58.1	58.0	58.1	58.2	58.1	58.5	58.1	58.0												
	924, 925	4thSBoff6	600	60	1	354	58.5	58.3	58.1	58.6	58.0	57.8	58.0	58.1	58.0	58.3	58.0	57.8												
	925, 926	4thSBoff7	600	60	1	501	58.4	58.2	57.9	58.5	57.8	57.6	57.8	57.9	57.8	58.2	58.0	57.7												
	926, 927	4thSBoff8	600	60	1	416	58.2	57.9	57.7	58.3	57.6	57.4	57.6	57.7	57.6	58.0	57.8	57.6												
	927, 928	4thSBoff9	600	60	2	1,153	58.9	58.5	58.4	59.0	58.4	58.2	58.4	58.5	58.4	58.7	58.6	58.4												

2030 Starter AM			Demand				Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	600	60	2	1,242	59.5	59.1	59.0	59.4	59.1	58.8	59.0	59.1	59.2	59.2	59.2	59.1												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,020	70	1	1,116	69.1	68.9	68.9	69.0	68.4	68.5	68.7	68.6	68.9	68.9	68.8	68.9	67.4	67.1	67.3	67.2	66.4	66.3	66.6	66.6	66.9	67.0	66.8	67.1
	5000, 5001	SULNB2	1,020	70	1	2,205	68.5	68.2	68.4	68.3	67.6	67.5	67.9	67.8	68.1	68.1	68.0	68.2												
	5001, 5002	SULNB3	1,020	70	1	528	67.4	67.1	67.3	67.2	66.4	66.2	66.5	66.5	66.9	67.0	66.8	67.1												
	5002, 5003	SULNB4	1,020	70	1	346	67.1	66.9	67.2	66.9	66.1	65.9	66.3	66.2	66.6	66.7	66.5	66.8												
	5003, 5004	SULNB5	1,020	70	1	235	67.0	66.7	67.0	66.8	65.9	65.7	66.0	66.0	66.4	66.6	66.3	66.7												
	5004, 5005	SULNB6	1,020	70	1	270	66.9	66.5	66.9	66.7	65.7	65.5	65.9	65.9	66.2	66.4	66.2	66.5												
	5005, 5006	SULNB7	1,020	70	1	238	66.8	66.4	66.8	66.6	65.5	65.4	65.7	65.7	66.0	66.3	66.0	66.4												
	5006, 5007	SULNB8	1,020	70	1	261	66.7	66.2	66.6	66.5	65.4	65.3	65.5	65.6	65.9	66.1	65.9	66.3												
	5007, 5008	SULNB9	1,020	70	1	451	66.5	66.1	66.5	66.4	65.3	65.2	65.4	65.5	65.8	66.0	65.8	66.1												
	5008, 5009	SULNB10	1,020	70	1	242	66.3	66.0	66.4	66.2	65.2	65.1	65.3	65.4	65.7	65.9	65.7	66.0												
	5009, 5010	SULNB11	1,020	70	1	158	66.2	65.9	66.3	66.1	65.1	65.0	65.3	65.4	65.6	65.9	65.7	66.0												
	5010, 5011	SULNB12	1,020	70	1	539	66.1	65.8	66.1	65.9	65.0	64.9	65.1	65.3	65.5	65.7	65.5	65.8												
	5011, 5012	SULNB13	1,020	70	1	564	65.9	65.6	65.9	65.8	64.9	64.7	64.8	65.0	65.2	65.5	65.3	65.6												
	5012, 5013	SULNB14	1,020	70	1	824	65.7	65.4	65.8	65.6	64.6	64.5	64.6	64.8	64.9	65.3	65.1	65.3												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,360	70	1	2,172	64.8	64.7	65.1	64.8	63.8	63.8	63.7	64.0	64.1	64.2	64.4	64.4	64.2	64.1	64.3	64.0	63.5	63.4	63.4	63.6	63.7	63.8	63.9	63.9
	5014, 5015	SULNB16	1,360	70	1	1,149	64.9	64.8	65.1	64.6	64.0	64.0	64.1	64.3	64.4	64.5	64.6	64.5												
	5015, 5016	SULNB17	1,360	70	1	2,057	64.5	64.4	64.6	64.2	63.7	63.6	63.6	63.8	63.9	64.1	64.1	64.1												
	5016, 5017	SULNB18	1,360	70	1	1,250	64.1	64.1	64.3	63.9	63.5	63.4	63.4	63.6	63.7	63.8	63.8	63.9												
	5017, 5018	SULNB19	1,360	70	1	1,385	63.9	63.8	64.0	63.6	63.3	63.2	63.1	63.3	63.4	63.6	63.6	63.6												
	5018, 5019	SULNB20	1,360	70	1	843	63.7	63.7	63.8	63.5	63.2	63.1	63.0	63.3	63.3	63.5	63.5	63.5												
	5019, 5020	SULNB21	1,360	70	1	687	63.8	63.6	63.7	63.4	63.2	63.0	63.0	63.2	63.2	63.4	63.4	63.4												
	5020, 5021	SULNB22	1,360	70	1	2,036	63.5	63.3	63.5	63.3	63.0	62.8	62.9	63.0	63.1	63.2	63.2	63.2												
	5021, 5022	SULNB23	1,360	70	1	171	63.1	62.9	62.9	62.9	62.2	62.3	62.4	62.2	62.6	62.6	62.8	62.9												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,760	70	1	1,752	59.4	60.0	59.5	60.0	58.0	57.5	57.7	58.2	58.9	58.3	58.9	59.7	62.7	62.7	62.8	62.6	62.1	61.8	61.8	62.0	62.3	62.2	62.3	62.5
	5023, 5024	SULNB25	1,760	70	1	1,039	64.2	64.0	64.2	63.9	63.8	63.2	63.4	63.8	63.8	63.8	63.9	63.8												
	5024, 5025	SULNB26	1,760	70	1	814	64.6	64.3	64.7	64.2	64.3	64.2	64.2	64.3	64.2	64.6	64.4	64.2												
	5025, 5026	SULNB27	1,760	70	1	2,530	63.8	63.4	63.8	63.3	63.4	63.3	63.3	63.2	63.4	63.5	63.4	63.3												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	340	70	1	266	65.0	64.8	64.6	65.1	64.9	64.6	65.2	64.7	65.2	65.0	65.1	64.7	68.4	68.4	68.0	67.9	68.3	67.9	67.8	68.1	68.2	67.9	68.0	67.9
	5100, 5101	SULNBRamp2	340	70	1	528	67.6	67.5	67.2	67.4	67.4	67.1	67.4	67.2	67.6	67.2	67.5	67.2												
	5101, 5102	SULNBRamp3	340	70	1	379	69.0	68.9	68.5	68.5	68.8	68.5	68.6	68.5	68.8	68.4	68.7	68.5												
	5102, 5103	SULNBRamp4	340	70	1	376	69.2	69.2	68.8	68.8	69.1	68.8	68.7	68.8	69.0	68.6	68.9	68.8												
	5103, 5104	SULNBRamp5	340	70	1	363	69.2	69.1	68.8	68.7	69.1	68.8	68.6	68.7	69.0	68.7	68.9	68.7												
	5104, 5105	SULNBRamp6	340	70	1	352	69.1	69.0	68.7	68.6	69.0	68.7	68.5	68.7	68.9	68.6	68.7	68.6												
	5105, 5106	SULNBRamp7	340	70	1	831	68.9	68.9	68.5	68.4	68.9	68.5	68.2	68.6	68.7	68.5	68.5	68.5												
	5106, 5107	SULNBRamp8	340	70	1	1,172	68.7	68.7	68.3	68.1	68.7	68.2	68.0	68.5	68.5	68.2	68.2	68.2												
	5107, 5108	SULNBRamp9	340	70	1	656	68.5	68.6	68.0	67.8	68.5	67.9	67.8	68.3	68.2	68.0	68.0	68.0												
	5108, 5109	SULNBRamp10	340	70	1	803	68.3	68.5	67.9	67.6	68.3	67.8	67.6	68.1	68.1	67.8	67.8	67.8												
	5109, 5110	SULNBRamp11	340	70	1	897	68.1	68.3	67.7	67.4	68.1	67.6	67.5	67.9	67.9	67.5	67.7	67.6												
	5110, 5111	SULNBRamp12	340	70	1	513	67.9	68.1	67.5	67.4	67.9	67.4	67.4	67.7	67.8	67.4	67.6	67.4												
	5111, 5113	SULNBRamp13	340	70	1	267	67.9	68.0	67.4	67.3	67.8	67.3	67.3	67.6	67.8	67.3	67.5	67.4												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	400	70	1	157	67.2	67.3	67.2	66.9	66.9	66.7	67.0	66.9	66.6	66.8	66.9	67.5	67.2	67.3	67.2	66.9	66.9	66.7	67.0	66.9	66.6	66.8	66.9	67.5
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,690	70	1	1,586	68.4	68.5	68.5	68.5	67.9	67.9	67.9	68.0	68.4	68.2	68.3	68.2	68.4	68.5	68.5	68.5	67.9	67.9	67.9	68.0	68.4	68.2	68.3	68.2
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,440	70	1	941	67.8	67.8	67.9	67.9	67.0	66.8	67.0	67.1	67.7	67.4	67.6	67.5	64.5	64.3	64.4	64.7	64.0	63.7	63.8	63.8	64.2	64.1	64.2	64.3
	5997, 5998	SULSB1	1,440	70	1	816	66.8	66.7	66.8	66.9	65.8	65.7	65.8	65.9	66.6	66.3	66.5	66.4												
	5998, 5999	SULSB1	1,440	70	1	1,054	66.2	66.0	66.1	66.4	65.3	65.2	65.3	65.3	65.9	65.7	65.9	65.8												
	5999, 6000	SULSB1	1,440	70	1	1,908	65.3	65.1	65.2	65.6	64.5	64.3	64.4	64.4	65.0	64.8	65.0	65.0												
	6000, 6001	SULSB2	1,440	70	1	2,064	64.7	64.5	64.5	65.0	64.1	63.7	63.8	63.9	64.2	64.1	64.3	64.3												
	6001, 6002	SULSB3	1,440	70	1	572	64.4	64.1	64.2	64.6	63.7	63.5	63.6	63.6	63.9	63.8	64.0	64.1												
	6002, 6003	SULSB4	1,440	70	1	407	64.3	64.0	64.1	64.5	63.6	63.5	63.5	63.5	63.9	63.7	63.8	64.0												
	6003, 6004	SULSB5	1,440	70	1	1,528	64.1	63.8	63.8	64.3	63.5	63.3	63.3	63.3	63.6	63.5	63.7	63.8												
	6004, 6005	SULSB6	1,440	70	1	1,420	63.9	63.5	63.7	64.0	63.4	63.1	63.2	63.2	63.4	63.4	63.4	63.6												
	6005, 6006	SULSB7	1,440	70	1	4,087	63.5	63.3	63.3	63.6	63.1	62.8	62.9	62.9	63.1	63.0	63.1	63.3												
	6006, 6007	SULSB8	1,440	70	1	1,611	63.2	63.0	63.1	63.3	63.0	62.7	62.7	62.7	62.9	62.8	62.9	63.1												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,060	70	1	767	64.4	64.4	64.3	64.4	64.4	64.2	64.1	64.1	64.2	64.4	64.3	64.3	64.5	64.4	64.5	64.5	64.5	64.3	64.3	64.2	64.2	64.4	64.4	64.3
	6008, 6009	SULSB10	1,060	70	1	614	65.4	65.5	65.4	65.3	65.5	65.5	65.4	65.2	65.3	65.6	65.4	65.3												
	6009, 6010	SULSB11	1,060	70	1	382	65.3	65.4	65.3	65.2	65.4	65.4	65.4	65.1	65.2	65.4	65.3	65.2												
	6010, 6011	SULSB12	1,060	70	1	135	65.1	65.1	65.1	65.0	65.1	65.1	65.1	64.9	64.9	65.1	65.1	64.9												
	6011, 6012	SULSB13	1,060	70	1	204	64.9	64.9	64.9	64.8	64.9	64.9	64.9	64.7	64.7	64.9	64.9	64.7												
	6012, 6013	SULSB14	1,060	70	1	613	64.5	64.4	64.4	64.5	64.5	64.4	64.4	64.3	64.1	64.4	64.4	64.2												
	6013, 6014	SULSB15	1,060	70	1	251	64.3	64.0	64.1	64.2	64.2	64.0	64.0	64.0	63.8	64.1	64.1	63.9												
	6014, 6015	SULSB16	1,060	70	1	233	64.2	64.0	64.1	64.2	64.2	63.9	63.9	63.9	63.7	64.0	64.0	63.8												
	6015, 6016	SULSB17	1,060	70	1	274	64.2	64.0	64.1	64.2	64.2	63.9	63.9	63.9	63.7	64.0	64.0	63.8												
	6016, 6017	SULSB18	1,060	70	1	238	64.2	64.0	64.2	64.2	64.1	63.8	63.9	63.8	63.8	64.0	63.9	63.8												
	6017, 6018	SULSB19	1,060	70	1	314	64.2	64.1	64.2	64.2	64.1	63.7	64.0	63.8	63.8	64.0	64.0	63.8												
	6018, 6019	SULSB20	1,060	70	1	879	64.0	64.0	64.1	64.1	64.0	63.6	63.8	63.7	63.7	63.9	63.9	63.8												
	6019, 6020	SULSB21	1,060	70	1	207	63.8	63.8	64.0	63.9	63.9	63.4	63.6	63.6	63.5	63.7	63.7	63.6												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	380	70	1	582	64.8	64.8	64.7	64.9	64.8	64.5	64.5	64.5	64.7	64.5	64.8	64.9	66.3	66.7	66.4	66.3	66.6	66.2	66.1	66.4	66.6	66.0	66.7	66.9
	6100, 6101	SULSBRamp2	380	70	1	621	67.7	67.7	67.5	67.6	67.8	67.5	67.5	67.7	67.8	67.4	68.0	67.9												
	6101, 6102	SULSBRamp3	380	70	1	317	68.3	68.4	68.2	68.1	68.5	68.2	68.2	68.5	68.5	68.1	68.7	68.7												
	6102, 6103	SULSBRamp4	380	70	1	915	67.9	68.2	67.9	67.6	68.2	68.1	68.0	68.2	68.3	67.8	68.3	68.3												
	6103, 6104	SULSBRamp5	380	70	1	1,093	67.2	67.7	67.3	67.0	67.5	67.5	67.3	67.7	67.7	67.0	67.7	67.7												
	6104, 6105	SULSBRamp6	380	70	1	1,068	67.0	67.4	67.0	66.8	67.3	67.0	66.9	67.3	67.4	66.7	67.4	67.4												
	6105, 6106	SULSBRamp7	380	70	1	788	66.7	67.1	66.7	66.5	67.1	66.7	66.7	67.1	67.1	66.4	67.1	67.2												
	6106, 6107	SULSBRamp8	380	70	1	367	66.6	67.0	66.6	66.5	66.9	66.6	66.6	67.0	66.9	66.4	67.1	67.2												
	6107, 6108	SULSBRamp9	380	70	1	373	66.5	67.0	66.6	66.5	66.8	66.5	66.5	66.9	66.9	66.3	67.0	67.2												
	6108, 6109	SULSBRamp10	380	70	1	445	66.4	66.9	66.6	66.4	66.8	66.5	66.4	66.8	66.8	66.2	66.9	67.1												
	6109, 6110	SULSBRamp11	380	70	1	8,866	65.9	66.3	66.0	65.9	66.1	65.7	65.6	65.8	66.1	65.5	66.3	66.5												
	6110, 1	SULSBRamp12	380	70	1	292	65.4	65.8	65.4	65.4	65.6	65.1	65.0	65.1	65.5	65.1	65.8	66.0												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	250	70	1	154	69.1	69.5	69.1	69.4	68.8	68.9	68.5	68.9	69.6	69.6	69.3	68.9	69.1	69.5	69.1	69.4	68.8	68.9	68.5	68.9	69.6	69.6	69.3	68.9

2030 Starter AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	9,240	70	3	1,087	1,663	1,670	1,664	1,667	1,675	1,670	1,670	1,672	1,669	1,674	1,673	1,673	11	9	9	10	10	9	8	11	11	9	9	10
	300, 301	I275NB3	9,240	70	3	805	1,664	1,669	1,663	1,667	1,674	1,669	1,669	1,674	1,670	1,674	1,672	1,673	39	39	40	37	40	38	39	36	37	40	37	36
	301, 302	I275NB4	9,240	70	3	478	1,663	1,668	1,664	1,668	1,674	1,669	1,669	1,673	1,670	1,675	1,671	1,673	31	35	34	37	31	32	36	33	35	37	39	36
	302, 303	I275NB5	9,240	70	3	2,687	1,661	1,673	1,666	1,666	1,670	1,673	1,672	1,669	1,673	1,671	1,672	1,676	1143	1150	1121	1172	1115	1133	1160	1166	1176	1151	1136	1132
	303, 304	I275NB6	9,240	70	4	382	1,663	1,673	1,666	1,666	1,670	1,673	1,671	1,669	1,673	1,670	1,673	1,675	109	110	108	110	104	105	107	106	102	118	112	104
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	6,840	70	3	1,375	1,230	1,236	1,235	1,226	1,238	1,245	1,229	1,235	1,233	1,243	1,237	1,248	99	101	94	96	99	96	99	101	100	94	95	93
	305, 306	I275NB8	6,840	70	3	1,306	1,228	1,236	1,235	1,226	1,240	1,241	1,230	1,233	1,235	1,244	1,233	1,249	78	72	78	79	79	84	81	82	77	84	80	82
	306, 307	I275NB9	6,840	70	3	591	1,230	1,236	1,233	1,228	1,237	1,243	1,230	1,236	1,231	1,248	1,232	1,249	41	41	39	40	38	40	35	39	42	40	43	40
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	7,880	70	5	1,065	1,438	1,454	1,433	1,419	1,496	1,519	1,506	1,488	1,459	1,481	1,456	1,456	216	233	223	217	250	276	266	255	241	245	234	231
	308, 309	I275NB11	7,880	70	5	3,035	1,437	1,454	1,435	1,419	1,494	1,518	1,507	1,489	1,460	1,478	1,458	1,455	376	363	376	356	384	376	390	379	371	367	378	374
	309, 2	I275NB12	7,880	70	4	350	1,439	1,455	1,433	1,420	1,494	1,519	1,507	1,490	1,460	1,478	1,458	1,454	143	150	141	146	136	148	139	143	145	142	144	143
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	7,540	70	4	745	1,372	1,393	1,370	1,358	1,426	1,450	1,445	1,430	1,396	1,417	1,395	1,386	501	503	489	497	508	509	499	509	508	492	497	504
	310, 311	I275NB13	7,540	70	4	380	1,371	1,394	1,370	1,357	1,428	1,450	1,445	1,432	1,395	1,416	1,397	1,386	182	185	181	185	178	188	190	185	191	191	188	188
	311, 312	I275NB14	7,540	70	4	399	1,369	1,394	1,373	1,355	1,427	1,448	1,448	1,431	1,396	1,415	1,397	1,385	212	210	211	201	216	217	216	209	208	207	208	210
	312, 313	I275NB15	7,540	70	4	368	1,370	1,394	1,373	1,356	1,424	1,446	1,449	1,433	1,395	1,414	1,400	1,384	117	111	113	98	127	127	127	126	117	122	107	105
	313, 314	I275NB16	7,540	70	4	460	1,373	1,392	1,374	1,357	1,420	1,447	1,450	1,433	1,397	1,414	1,399	1,385	81	81	84	67	90	111	90	99	85	88	85	69
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,700	70	3	879	482	479	473	486	492	496	509	490	479	488	481	482	30	34	30	26	28	35	28	29	23	30	27	29
	315, 316	I275NB18	2,700	70	3	1,293	483	479	473	488	490	497	509	491	478	488	480	484	28	27	24	27	27	27	26	27	27	27	28	28
	316, 317	I275NB19	2,700	70	3	1,158	486	479	472	489	490	498	508	491	479	487	480	483	29	26	28	26	26	30	28	28	27	28	27	27
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	4,155	70	5	372	786	786	767	778	845	863	856	830	773	809	806	781	172	179	173	171	205	201	194	188	166	185	188	176
	318, 319	I275NB21	4,155	70	5	2,611	787	785	766	781	837	869	853	832	774	807	805	784	402	410	392	395	452	475	458	442	395	425	433	400
	319, 320	I275NB22	4,155	70	3	1,802	787	785	768	781	836	868	850	834	778	805	807	785	92	94	94	90	102	112	107	108	89	97	98	98
	320, 321	I275NB23	4,155	70	3	501	786	784	769	782	835	868	850	832	780	802	808	785	24	26	24	25	26	26	26	29	24	24	24	25
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,670	70	3	1,814	878	888	866	880	958	1,000	982	955	886	917	913	892	225	240	231	216	274	301	284	271	240	249	244	229
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,120	70	5	814	1,162	1,183	1,148	1,149	1,312	1,390	1,358	1,314	1,196	1,239	1,218	1,177	258	262	252	254	304	331	322	307	274	284	266	260
	323, 324	I275NB26	6,120	70	5	1,850	1,162	1,183	1,146	1,149	1,308	1,392	1,354	1,316	1,200	1,235	1,218	1,182	141	142	140	142	169	225	210	180	153	143	153	144
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,200	70	4	838	1,370	1,397	1,351	1,341	1,562	1,669	1,633	1,584	1,429	1,472	1,441	1,396	619	636	618	592	644	656	625	634	643	659	625	625
	325, 326	I275NB28	7,200	70	4	704	1,371	1,394	1,353	1,340	1,548	1,668	1,638	1,584	1,437	1,469	1,446	1,398	341	372	341	323	614	749	732	638	429	448	435	368
	326, 327	I275NB29	7,200	70	3	1,988	1,372	1,391	1,354	1,344	1,533	1,668	1,637	1,589	1,443	1,471	1,446	1,402	392	409	376	368	480	492	499	519	454	476	459	411
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	6,800	70	3	1,906	1,289	1,313	1,262	1,263	1,428	1,569	1,538	1,488	1,350	1,369	1,357	1,313	124	129	129	133	131	127	123	120	129	123	123	133
	328, 329	I275NB31	6,800	70	3	1,046	1,285	1,314	1,265	1,261	1,423	1,570	1,536	1,491	1,352	1,366	1,360	1,308	74	69	67	73	69	69	69	70	72	73	71	71
	329, 330	I275NB32	6,800	70	3	803	1,283	1,315	1,264	1,262	1,421	1,571	1,533	1,494	1,353	1,368	1,359	1,307	54	51	51	53	56	51	50	51	56	57	50	57
	330, 331	I275NB33	6,800	70	3	2,542	1,287	1,306	1,269	1,263	1,414	1,561	1,543	1,490	1,361	1,366	1,361	1,314	177	169	169	165	175	175	168	172	180	177	175	171
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,500	70	3	1,731	1,046	1,095	1,049	995	1,357	1,419	1,402	1,315	1,144	1,198	1,150	1,123	210	205	212	196	114	117	113	131	198	205	198	207
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	5,750	70	4	787	1,094	1,143	1,097	1,042	1,394	1,478	1,470	1,390	1,211	1,248	1,199	1,175	216	228	218	209	370	567	553	367	223	234	227	228
	395, 396	I275SB1	5,750	70	4	818	1,096	1,143	1,098	1,041	1,379	1,480	1,471	1,390	1,219	1,246	1,202	1,180	307	346	321	248	718	683	704	732	483	508	439	398
	396, 397	I275SB1	5,750	70	3	1,049	1,095	1,142	1,099	1,041	1,374	1,477	1,475	1,390	1,223	1,244	1,202	1,180	129	150	138	124	183	163	168	186	173	179	162	156
	397, 398	I275SB1	5,750	70	3	1,916	1,091	1,141	1,101	1,042	1,365	1,476	1,475	1,390	1,232	1,240	1,205	1,177	139	151	152	145	174	186	183	178	156	153	154	156
	398, 399	I275SB1	5,750	70	3	2,120	1,091	1,144	1,097	1,044	1,356	1,476	1,477	1,390	1,237	1,240	1,201	1,181	210	226	227	210	281	307	306	291	244	244	238	231
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,150	70	3	2,742	989	1,027	987	944	1,205	1,333	1,332	1,252	1,125	1,122	1,083	1,065	688	735	701	665	915	1034	1034	958	823	842	781	756
	400, 401	I275SB3	5,150	70	4	1,083	988	1,027	990	942	1,200	1,333	1,331	1,256	1,126	1,122	1,083	1,065	202	222	197	184	276	344	355	314	252	239	234	234
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,385	70	3	4,105	469	484	474	449	564	620	630	590	545	524	513	505	100	102	94	88	179	210	228	179	131	123	121	113
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,045	70	4	720	592	609	601	570	723	791	795	743	686	665	656	642	143	149	148	146	179	194	189	172	167	163	167	157
	403, 404	I275SB6	3,045	70	4	1,327	591	610	600	572	722	788	794	744	687	666	657	642	194	211	217	186	257	281	297	274	246	236	235	233
	404, 405	I275SB7	3,045	70	4	461	591	610	600	573	722	787	794	743	687	667	657	642	31	31	29	29	40	49	49	44	37	37	39	36
	405, 406	I275SB8	3,045	70	4	452	591	610	600	574	720	786	796	741	689	666	658	640	11	10	10	9	17	17	19	15	12	12	11	12
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,920	70	3	855	347	359	345	333	416	456	462	434	403	384	379	369	13	11	15	10	20	19	22	22	17	16	15	15
	407, 408	I275SB10	1,920	70	3	347	348	359	345	334	415	456	462	435	403	384	378	369	4	4	5	5	6	8	5	7	4	6	7	4
	408, 409	I275SB11	1,920	70	3	1,585	349	356	345	335	414	456	463	434	404	383	378	371	24	23	22	21	32	34	36	33	27	29	28	24
	409, 410	I275SB12	1,920	70	3	458	350	356	345	334	413	455	464	434	404	384	377	371	8	7	7	8	10	11	12	9	8	10	7	8
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,990	70	4	629	685	719	695	655	794	846	845	800	763	735	713	692	325	353	346	313	382	396	376	359	345	345	320	309
	411, 412	I275SB14	2,990	70	4	247	684	719	695	656	793	845	845	800	764	735	713	692	19	20	21	18	26	31	23	25	26	23	19	21
	412, 413	I275SB15	2,990	70	4	608	683	719	696	655	794	843	847	799	765	735	714	691	39	43	44	35	51	56	54	50	45	42	41	41
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	4,370	70	4	492	941	992	960	895	1,127	1,207	1,194	1,124	1,061	1,041	998	967	348	370	357	322	449	492	468	433	403	409	380	368
	414, 415	I275SB17	4,370	70	4	3,870	941	990	965	898	1,113	1,204	1,196	1,128	1,063	1,039	1,001	969	624	654	642	578	775	823	816	759	717	697	666	639
	415, 416	I275SB18	4,370	70	4	1,086	941	990	964	899	1,108	1,205	1,197	1,133	1,061	1,040	999	969	159	169	169	147	212	251	236	206	197	196	186	173
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,340	70	3	1,385	698	739	713	671	820	896	896	848	791	773	749	731	71	75	74	65	89	90	98	89	82	82	74	69
	417, 418	I275SB20	3,340	70	3	343	698	739	712	672	820	895	896	848	791	773	749	731	18	14	15	16	16	17	23	20	18	16	19	17
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	4,540	70	3	1,507	917	972	928	893	1,071	1,175	1,171	1,115	1,035	1,021	996	964	408	424	402	390	485	554	526	509	460	453	457	430
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	5,860	70	3	1,015	1,143	1,207	1,166	1,113	1,353	1,489	1,472	1,403	1,295	1,271	1,251	1,200	364	377	378	348	450	510	479	463	413	408	397	382
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,240	70	3	2,282	1,218	1,274	1,245	1,177	1,430	1,588	1,571	1,498	1,377	1,359	1,339	1,274	246	256	244	236	294	351	316	304	283	291	285	271
	420, 421	I275SB23	6,240	70	3	430	1,217	1,274	1,246	1,177	1,429	1,585	1,571	1,499	1,379	1,359	1,339	1,273	27	26	28	23	26	24	29	29	26	25	25	27
	421, 422	I275SB24	6,240	70	3	403	1,217	1,273	1,246	1,177	1,427	1,586	1,570	1,500	1,378	1,359	1,341	1,273	24	25	25	23	25	25	24	22	25	25	25	23
	422, 423	I275SB25	6,240	70	3	426	1,219	1,273	1,245	1,178	1,425	1,585	1,571	1,500	1,381	1,357	1,341	1,273	27	27	26	24	29	26	27	28	24	23	25	30
	423, 424	I275SB26	6,240	70	3	412	1,219	1,275	1,245	1,177	1,425	1,584	1,570	1,501	1,380	1,357	1,343	1,273	25	25	25	26	28	24	23	27	24	27	27	26
	424, 425	I275SB27	6,240	70	3	734	1,215	1,276	1,245	1,177	1,422	1,583	1,570	1,501	1,385	1,354	1,346	1,272	52	51	52	52	57	59	57	55	54	56	56	53
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,870	50	3	841	735	774	735	702	958	1,018	969	919	809	845	799	767	407	421	408	381	526	541	518	498	447	455	450	424
	500, 501	GandyEB3	3,870	50	4	954	734	773	734	704	955	1,016	967	923	810	843	801	767	565	586	549	532	826	1043	864	768	626	653	614	584
	501, 502	GandyEB4	3,870	50	5	174	735	772	735	704	953	1,014	968	924	811	842	803	767	75	85	77	70	133	160	144	114	95	101	89	82
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,510	50	3	178	300	317	302	289	396	414	401	386	333	354	327	321	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,510	50	3	99	299	317	304	288	390	412	402	386	333	351	330	324	11	11	12	11	13	15	15	14	14	15	12	13
	505, 506	GandyEB10	1,510	50	3	119	300	316	304	289	390	412	402	386	333	351	330	323	11	14	12	13	16	14	15	16	14	16	13	14
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,985	50	3	1,167	554	572	561	555	645	674	666	644	602	611	587	591	356	363	360	363	382	374	382	376	373	369	363	380
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,430	55	3	181	644	682	651	630	783	833	800	773	696	712	695	664	28	30	30	27	32	33	31	34	32	31	28	28
	520, 521	GandyWB5	3,430	55	3	291	644	681	651	631	782	830	803	773	698	712	695	662	23	26	25	24	26	28	29	26	27	26	26	26

2030 Starter AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
Loop On Ramp	521, 522	GandyWB6	3,430	55	4	590	642	681	649	632	780	831	803	774	700	711	697	661	489	516	492	482	575	649	613	589	545	558	544	511
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,230	55	3	1,768	424	448	429	414	519	549	534	507	459	465	454	432	47	48	45	45	61	69	64	62	53	52	53	47
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,260	55	3	1,179	662	701	686	640	799	855	833	801	731	728	707	671	332	350	353	316	401	435	430	403	375	367	353	336
	524, 525	GandyWB9	3,260	55	3	455	659	703	686	642	798	854	832	801	732	727	706	671	21	24	24	20	28	32	31	26	26	23	22	23
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,400	50	1	525	431	437	430	442	430	429	442	433	439	431	433	433	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	2,400	50	1	1,220	429	438	430	442	429	431	442	432	440	428	432	434	34	38	34	35	34	37	35	34	38	35	39	35
	601, 7001	GdyNBoff3	2,400	50	2	135	430	438	430	441	431	430	442	432	441	428	433	434	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,475	50	1	84	255	260	256	265	259	257	264	259	267	259	259	269	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	1,475	50	1	107	255	260	256	265	259	257	264	259	267	259	259	269	0	0	0	0	0	0	0	0	0	0	0	0
	606, 506	GdyNBoff10	1,475	50	1	158	254	260	257	265	259	258	264	259	266	259	259	270	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,360	50	2	179	435	455	433	415	554	599	568	539	479	488	476	447	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,040	50	2	501	207	219	197	193	263	280	271	252	227	234	222	212	12	13	11	10	21	21	22	19	16	15	13	12
	623, 624	GdyNBon6	1,040	50	2	299	208	219	197	193	263	279	271	252	228	234	223	211	4	4	3	3	6	6	6	5	4	5	4	5
	624, 625	GdyNBon7	1,040	50	2	253	208	218	198	192	263	279	271	251	228	234	223	211	3	4	4	3	5	4	5	4	4	3	3	2
	625, 626	GdyNBon8	1,040	50	2	238	208	218	198	193	263	279	272	251	227	235	223	211	3	4	2	2	5	4	5	5	4	4	3	2
	626, 627	GdyNBon9	1,040	50	2	242	207	219	198	193	262	278	273	251	227	235	223	210	2	3	2	2	3	5	4	3	2	3	3	2
	627, 628	GdyNBon10	1,040	50	2	277	207	219	198	193	261	278	273	252	227	235	223	210	3	3	4	3	5	7	4	4	4	4	4	3
	628, 629	GdyNBon11	1,040	50	2	337	206	219	198	193	261	279	273	252	227	236	223	209	4	4	3	4	6	6	6	6	4	4	4	4
	629, 630	GdyNBon12	1,040	50	2	877	206	219	198	192	260	278	274	252	228	235	224	208	10	11	7	7	15	16	15	12	13	11	12	8
	630, 307	GdyNBon13	1,040	50	2	344	205	220	198	192	260	278	275	252	227	235	223	209	4	5	4	4	6	6	7	6	4	5	5	4
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,030	50	2	481	243	249	254	228	285	307	302	287	269	266	253	240	11	11	10	10	13	15	15	13	13	12	11	10
	660, 661	GdySBoff2	1,030	50	2	394	243	249	254	229	285	307	302	288	268	267	252	241	6	4	7	4	6	6	9	6	6	5	5	5
	661, 662	GdySBoff3	1,030	50	2	1,949	242	250	254	229	283	307	303	288	270	265	253	241	127	135	134	120	149	159	160	150	141	140	133	126
	662, 523	GdySBoff4	1,030	50	1	424	242	250	255	228	283	306	303	288	271	264	253	242	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,320	50	1	286	228	236	237	221	286	318	298	289	257	251	253	237	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	1,320	50	1	204	229	236	236	222	285	318	299	288	258	251	252	237	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	1,320	50	1	319	229	236	235	222	285	318	299	287	258	252	251	237	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,200	35	1	302	220	230	222	216	257	285	271	264	244	248	244	230	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1,200	35	1	259	221	229	222	216	256	285	272	264	244	248	244	229	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1,200	35	1	227	222	229	222	215	256	285	272	264	243	249	244	229	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1,200	35	1	211	221	230	221	215	256	284	272	264	243	249	244	230	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1,200	35	1	211	221	231	221	214	257	283	274	264	243	248	245	231	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1,200	35	1	207	221	230	222	214	257	283	274	264	244	247	245	232	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1,200	35	1	252	222	231	222	214	256	283	274	264	244	246	245	231	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	714	754	711	681	803	845	805	761	662	692	660	628	573	598	569	541	639	670	639	612	529	550	517	500
	541, 542	RvEB3	3,215	60	3	1,028	712	753	715	681	800	846	803	764	663	693	661	626	55	64	55	54	64	68	66	61	51	50	49	48
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,180	60	2	513	458	476	451	433	511	542	512	491	422	443	423	395	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,400	60	2	120	415	437	416	396	468	505	498	497	429	420	395	363	5	6	3	6	9	23	40	37	21	11	7	5
	546, 547	RvEB10	1,400	60	2	165	415	437	416	396	468	505	498	497	429	420	395	363	7	8	8	8	10	21	35	32	23	12	7	6
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,640	60	2	1,053	638	670	648	629	697	748	743	737	663	652	631	600	308	325	319	320	330	364	389	379	346	332	330	326
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,575	60	2	756	491	513	486	465	645	677	642	616	533	563	533	509	17	17	16	17	20	20	22	19	17	19	15	18
	558, 559	RvWB3	2,575	60	2	146	491	513	486	465	644	677	642	616	533	562	534	510	9	12	11	11	16	21	31	28	13	14	13	12
	559, 560	RvWB4	2,575	60	3	151	492	513	486	465	644	676	642	617	534	561	534	510	11	12	10	8	13	20	24	25	14	13	14	11
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,500	60	2	125	479	498	472	451	628	652	612	592	522	546	520	496	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,110	60	2	133	404	421	403	387	519	531	516	509	468	467	446	421	8	8	7	6	9	10	14	15	11	8	9	8
	567, 568	RvWB14	2,110	60	2	750	404	421	403	386	518	531	516	510	466	468	445	422	26	29	31	24	35	35	38	40	39	35	31	30
	568, 569	RvWB15	2,110	60	2	281	405	420	404	386	518	531	517	509	466	468	445	422	10	9	9	8	13	11	12	13	13	11	10	9
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,310	60	4	1,137	840	852	844	800	961	992	971	963	912	924	892	856	115	125	115	107	136	130	129	124	123	127	126	118
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,840	50	2	228	894	911	899	872	929	952	941	942	919	926	918	903	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,840	50	2	168	894	910	900	872	927	952	943	941	921	926	917	904	150	154	150	152	148	158	151	156	152	146	155	150
	701, 702	RvNBoff5	4,840	50	2	198	894	909	901	872	926	953	943	940	920	926	917	904	263	272	271	268	271	288	284	282	275	275	277	278
	702, 703	RvNBoff6	4,840	50	3	130	894	909	902	871	926	953	943	941	920	925	918	903	77	70	75	80	76	74	78	73	78	78	81	75
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,240	50	1	336	225	234	233	232	232	244	244	240	234	231	235	235	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	1,240	50	1	200	225	233	233	232	232	244	244	240	234	231	236	235	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	1,240	50	1	223	225	234	233	232	232	244	243	240	234	231	236	234	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	1,240	50	1	262	225	233	233	233	232	243	243	240	234	231	236	235	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	1,240	50	1	264	225	233	233	232	232	244	244	240	234	231	235	235	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,200	50	2	248	436	430	436	415	445	463	454	453	447	455	444	437	8	9	9	9	9	9	10	9	8	9	7	9
	715, 716	RvNBoff21	2,200	50	2	642	436	430	437	414	445	464	453	455	446	453	445	436	20	18	20	17	20	20	20	22	22	20	21	20
	716, 569	RvNBoff22	2,200	50	2	670	435	430	438	415	443	463	454	454	447	454	446	435	24	23	25	21	20	26	22	23	22	21	23	21
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	240	50	1	296	13	15	14	14	16	23	30	25	14	15	15	14	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	240	50	1	127	13	15	14	14	16	23	30	25	14	14	16	14	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,455	50	2	97	302	308	295	290	355	365	350	336	296	322	324	300	12	12	13	13	18	17	19	19	13	14	13	13
	757, 317	RvNBon10	1,455	50	2	123	301	309	296	290	355	366	349	337	295	322	324	299	21	21	20	20	29	33	31	30	23	23	24	20
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,125	50	2	223	246	251	252	241	302	330	335	308	287	283	278	272	3	3	4	3	4	5	5	5	4	4	4	3
	770, 7032	RvSBoff2	1,125	50	2	150	246	251	252	242	302	330	334	308	287	282	279	271	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,070	50	3	102	336	364	350	321	382	392	381	365	358	352	337	320	117	128	127	121	132	137	141	121	114	121	113	106
	793, 410	RvSBon5	1,070	50	3	655	335	364	349	320	383	392	381	366	359	351	336	321	81	87	75	69	101	104	85	92	72	67	74	65
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	665	50	2	270	255	276	264	248	289	304	292	273	243	248	237	233	8	8	5	6	9	8	8	8	7	6	6	5
	790, 7011	RvSBon11	665	50	2	250	255	276	264	247	288	305	292	274	242	249	237	232	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	3,600	50	2	311	668	674	670	639	694	709	701	700	685	695	682	668	62	67	59	64	69	65	62	63	64	64	66	62
	708, 710	118NBoff2	3,600	50	2	567	668	676	669	640	694	708	702	699	687	694	681	669	77	85	82	77	85	90	86	88	85	87	81	83
	710, 711	118NBoff3	3,600	50	2	460	668	676	669	640	695	708	701	698	687	694	681	669	142	141	146	131	149	162	162	161	149	154	147	143
	711, 712	118NBoff4	3,600	50	3	472	670	673	671	640	693	708	702	699	687	693	682	668	64	66	64	61	71	73	66	70	67	67	66	67
	712, 713	118NBoff5	3,600	50	3	395	671	673	670	640	694	707	702	698	688	691	684	667	33	29	32	29	32	30	28	31	30	32	30	31
	713, 714	118NBoff6	3,600	50	3	188	672	672	670	641	693	706	703	698	688	691	683	668	12	10	13	11	11	12	10	10	10	12	9	11
	714, 717	118NBoff7	1,400	50	2	212	235	243	234	226	248	244	249	245	241	237	238	233	9	8	9	6	8	8	8	9	8	10	8	9

2030 Starter AM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,400	50	2	389	235	242	234	225	248	245	249	245	240	237	238	233	10	12	9	9	12	10	12	10	9	12	9	9
	718, 719	118NBoff9	1,400	50	2	373	234	242	234	224	248	244	249	244	241	237	238	234	7	6	6	5	6	7	7	6	7	7	7	6
	719, 720	118NBoff10	1,400	50	2	589	234	242	235	225	248	245	248	245	240	238	237	235	8	11	10	8	9	11	11	11	9	9	10	11
	720, 721	118NBoff11	1,400	50	2	311	234	242	235	226	247	245	249	244	240	238	237	235	5	4	4	4	5	6	4	5	6	4	5	4
	721, 722	118NBoff12	1,400	50	2	327	235	243	235	225	246	245	249	244	240	237	237	235	5	6	6	5	5	4	5	5	6	5	5	6
	722, 723	118NBoff13	1,400	50	2	626	235	244	235	225	246	247	248	243	241	238	237	235	10	12	10	8	11	11	13	10	11	9	10	9
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,185	60	4	1,252	657	679	677	645	751	826	823	783	741	713	718	699	131	142	142	130	159	175	180	168	157	145	149	144
	724, 725	118NBoff15	3,185	60	4	575	654	683	676	645	750	825	824	783	741	713	717	701	28	32	32	28	35	40	39	39	36	34	33	31
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,595	60	2	611	491	521	494	465	649	680	650	620	539	564	538	514	177	183	182	176	219	229	219	209	197	195	186	183
	740, 741	118NBon3	2,595	60	2	1,571	492	518	495	465	644	679	652	618	543	564	538	515	67	72	67	61	107	118	110	98	79	88	80	70
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,215	50	1	268	233	242	232	228	305	315	304	293	249	260	255	240	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	1,215	50	1	541	233	241	232	228	303	316	304	293	250	260	254	241	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	1,215	50	1	715	233	241	233	228	302	317	304	294	249	259	256	240	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	1,215	50	1	245	233	241	233	228	302	317	304	294	250	260	256	239	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	1,215	50	1	252	234	241	233	228	301	317	304	294	250	259	256	239	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	1,215	50	1	352	234	241	233	228	300	317	304	294	251	259	256	239	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	1,215	50	1	264	234	241	233	229	300	317	304	294	251	259	256	239	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	1,215	50	1	415	234	242	233	228	299	318	304	293	251	259	257	238	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	1,215	50	1	733	235	242	234	228	297	318	305	293	252	259	256	239	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,585	50	1	147	227	230	231	222	272	305	307	283	262	258	255	250	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	1,585	50	1	934	226	231	231	221	271	305	310	282	262	259	255	250	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	1,585	50	1	371	227	231	232	220	271	305	309	283	262	259	255	249	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	1,585	50	1	446	227	231	231	221	270	305	310	283	262	258	255	249	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	1,585	50	1	340	228	230	232	221	268	306	309	284	262	258	255	249	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,785	50	2	990	424	439	442	417	507	578	579	538	495	478	481	463	82	81	86	81	90	103	99	98	92	89	92	87
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,380	50	1	197	260	276	264	238	338	364	349	324	294	304	283	275	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,380	50	1	119	260	275	263	238	338	363	349	324	294	304	284	275	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,380	50	1	126	260	276	263	238	338	363	349	324	294	304	284	275	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,380	50	1	162	260	276	264	238	338	362	349	325	294	304	284	275	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,380	50	1	200	260	276	263	238	337	363	349	324	294	304	284	275	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,380	50	1	166	261	275	263	238	337	363	350	324	294	304	284	275	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,380	50	1	973	258	275	264	239	335	363	351	323	296	306	282	276	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,395	60	3	2,420	454	477	456	435	590	630	603	569	496	523	498	473	296	313	297	276	404	403	388	367	321	346	330	309
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,450	50	2	647	280	296	279	270	360	392	374	356	308	322	304	284	12	15	13	12	18	19	18	14	14	15	14	12
	811, 812	UlmNBon4	1,450	50	2	590	282	295	280	271	358	392	374	357	308	322	303	285	9	10	10	11	15	14	13	14	11	13	10	10
	812, 813	UlmNBon5	1,450	50	2	323	282	294	280	271	357	392	374	357	308	322	303	285	7	5	6	5	9	8	7	8	6	6	6	6
	813, 814	UlmNBon6	1,450	50	2	328	282	295	280	271	357	393	374	358	308	323	303	286	5	6	7	6	8	8	10	8	7	7	6	7
	814, 815	UlmNBon7	1,450	50	2	288	282	294	280	271	356	393	374	358	308	323	302	286	5	4	6	4	7	8	7	5	6	6	5	6
	815, 816	UlmNBon8	1,450	50	2	273	282	294	280	271	355	392	375	358	309	323	302	286	6	5	5	5	8	6	6	7	5	4	5	5
	816, 322	UlmNBon9	1,450	50	2	888	281	294	281	271	353	393	375	358	308	324	302	287	16	19	16	14	22	26	23	22	16	21	17	14
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,765	50	2	318	517	541	519	494	630	709	701	668	584	599	568	563	44	48	48	41	57	59	62	57	49	55	53	52
	830, 831	UlmSBoff2	2,765	50	2	346	516	542	519	495	630	707	702	668	585	598	569	563	17	18	17	16	18	19	18	17	19	20	18	16
	831, 7036	UlmSBoff3	2,765	50	2	283	516	542	519	493	630	707	702	668	584	599	570	561	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,225	50	2	398	410	441	421	393	508	577	569	545	467	485	463	450	13	16	13	12	16	17	16	14	15	13	13	15
	834, 835	UlmSBoff8	2,225	60	2	584	411	440	422	392	506	577	570	545	466	487	463	450	38	44	39	38	47	46	52	49	44	43	47	45
	835, 836	UlmSBoff9	2,225	60	2	481	411	440	423	391	504	578	570	545	465	487	464	449	5	6	6	6	8	9	8	8	7	7	6	6
	836, 837	UlmSBoff10	2,225	60	2	2,160	413	438	422	394	500	574	573	545	471	483	466	450	44	49	44	39	56	63	61	63	46	51	53	50
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	945	35	1	493	173	182	175	167	227	238	228	214	189	201	196	189	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	945	35	1	214	173	182	175	166	227	238	228	214	190	200	196	188	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	660	35	1	163	123	127	128	120	162	173	163	155	138	143	141	137	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	660	35	1	163	123	126	128	119	162	173	163	154	138	142	141	138	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	660	35	1	228	123	126	128	120	162	173	163	154	138	142	141	137	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	660	50	1	1,170	123	126	127	121	162	172	163	155	138	142	143	137	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	285	35	1	201	50	56	48	47	65	65	65	59	53	57	55	51	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	285	50	1	361	50	55	48	47	65	65	65	59	53	58	55	51	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	285	50	1	499	50	55	48	47	64	66	65	58	53	57	55	51	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	825	50	2	1,171	153	156	151	146	179	196	199	183	172	170	166	161	20	22	17	20	23	27	29	26	24	21	23	20
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	515	50	1	1,080	97	103	99	93	127	137	128	122	107	112	108	101	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	515	50	1	350	96	103	98	94	127	137	128	122	107	112	108	101	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	515	50	1	360	96	103	99	94	127	137	128	122	107	112	108	102	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	515	50	1	548	97	103	98	94	127	136	128	123	107	112	108	102	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	515	50	1	294	102	103	101	98	118	130	134	123	119	113	109	110	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	515	50	1	336	102	103	101	98	118	130	134	123	119	113	110	110	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	515	50	1	395	103	102	101	99	116	131	135	123	119	113	110	110	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	515	50	1	539	103	101	101	99	116	131	135	124	119	113	110	110	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,080	60	2	1,270	204	218	203	195	270	283	270	259	225	234	226	212	6	6	5	5	9	9	8	10	7	9	6	7
	901, 902	4thNBon3	1,080	60	2	634	204	217	204	195	269	284	269	260	225	235	225	214	87	93	89	85	112	113	109	108	95	98	94	85
	902, 903	4thNBon4	1,080	60	2	322	204	217	204	195	269	284	269	259	225	235	225	213	11	10	10	10	17	20	16	15	12	14	12	13
	903, 904	4thNBon5	1,080	60	2	279	205	216	204	195	268	284	270	258	225	236	225	213	4	5	5	4	8	8	9	10	6	5	6	7
	904, 905	4thNBon6	1,080	60	2	388	206	216	204	196	268	284	270	258	225	236	225	213	1	1	1	0	2	2	1	1	0	1	1	1
	905, 906	4thNBon7	1,080	60	1	313	206	215	204	196	267	284	269	258	224	236	225	213	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	1,080	60	1	305	206	215	204	197	266	284	270	258	224	236	226	213	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	1,080	60	1	666	206	215	204	196	266	284	271	258	224	236	225	214	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	600	60	1	466	103	112	112	105	135	144	144	138	120	120	117	116	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	600	60	1	492	103	112	112	105	135	144	144	138	120	120	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	600	60	1	420	102	112	113	105	135	144	144	137	120	120	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	600	60	1	393	103	111	114	105	135	143	144	138	120	121	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	600	60	1	384	103	111	114	105	135	143	143	138	120	121	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	600	60	1	354	104	110	114	106	135	143	144	137	120	122	117	117	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	600	60	1	501	104	110	114	105	135	143	144	137	120	122	117	116	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	600	60	1	416	103	111	114	105	135	143	143	137	121	121	118	116	1	1	1	0	1	1	1	1	1	1	1	1
	927, 928	4thSBoff9	600	60	2	1,153	104	110	113	105	134	143	143	138	120	121	119	115	18	20	22	17	26	29	30	27	26	22	23	23

2030 Starter AM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	600	60	2	1,242	104	110	114	105	133	143	144	138	120	121	119	115	6	7	8	7	11	13	11	11	7	10	7	8
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,020	70	1	1,116	192	204	194	183	254	269	257	242	212	222	213	200	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	1,020	70	1	2,205	193	203	195	184	252	269	257	241	213	221	214	201	0	0	0	0	0	0	0	0	0	0	0	0
	5001, 5002	SULNB3	1,020	70	1	528	194	203	194	184	252	268	256	241	214	221	214	201	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	1,020	70	1	346	193	204	194	185	251	268	256	242	213	221	215	200	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	1,020	70	1	235	193	204	195	185	251	268	257	242	213	221	215	200	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	1,020	70	1	270	193	204	194	185	250	268	257	242	214	221	216	200	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	1,020	70	1	238	192	204	194	185	249	269	256	242	214	221	215	200	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	1,020	70	1	261	192	204	194	185	249	269	256	242	214	221	216	200	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	1,020	70	1	451	194	203	195	185	249	268	256	242	214	221	216	201	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	1,020	70	1	242	194	203	195	185	249	267	256	242	215	221	216	200	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	1,020	70	1	158	194	203	195	185	249	267	257	242	215	221	216	200	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	1,020	70	1	539	194	204	195	186	247	267	257	242	214	222	215	200	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	1,020	70	1	564	193	204	194	185	248	268	257	243	214	223	214	201	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	1,020	70	1	824	194	204	193	185	247	268	256	244	215	222	214	201	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,360	70	1	2,172	261	266	256	245	315	334	320	305	278	284	278	267	69	62	62	60	69	65	64	62	62	62	63	66
	5014, 5015	SULNB16	1,360	70	1	1,149	262	266	255	247	314	332	321	305	281	282	278	267	0	0	0	0	0	0	0	0	0	0	0	0
	5015, 5016	SULNB17	1,360	70	1	2,057	260	265	256	246	314	331	321	306	281	282	277	269	0	0	0	0	0	0	0	0	0	0	0	0
	5016, 5017	SULNB18	1,360	70	1	1,250	262	265	255	248	311	333	320	307	281	283	277	268	0	0	0	0	0	0	0	0	0	0	0	0
	5017, 5018	SULNB19	1,360	70	1	1,385	264	264	257	247	310	331	323	303	282	283	277	269	0	0	0	0	0	0	0	0	0	0	0	0
	5018, 5019	SULNB20	1,360	70	1	843	264	264	256	248	308	331	323	305	281	284	275	271	0	0	0	0	0	0	0	0	0	0	0	0
	5019, 5020	SULNB21	1,360	70	1	687	264	264	256	246	308	332	324	306	281	284	275	270	0	0	0	0	0	0	0	0	0	0	0	0
	5020, 5021	SULNB22	1,360	70	1	2,036	265	265	256	246	306	332	323	307	281	283	277	271	0	0	0	0	0	0	0	0	0	0	0	0
	5021, 5022	SULNB23	1,360	70	1	171	264	265	256	247	306	331	323	306	282	283	276	271	0	0	0	0	0	0	0	0	0	0	0	0
	5022, 5023	SULNB24	1,760	70	1	1,752	342	343	344	332	399	433	424	407	378	383	368	358	80	80	87	83	97	101	100	102	97	100	91	86
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5023, 5024	SULNB25	1,760	70	1	1,039	343	344	343	331	398	434	424	410	376	384	367	357	0	0	0	0	0	0	0	0	0	0	0	0
	5024, 5025	SULNB26	1,760	70	1	814	343	344	343	331	397	433	425	411	376	384	366	358	0	0	0	0	0	0	0	0	0	0	0	0
	5025, 5026	SULNB27	1,760	70	1	2,530	341	343	345	333	393	433	423	414	378	381	370	357	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	340	70	1	266	67	61	64	60	70	65	64	60	64	61	65	65	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	340	70	1	528	67	61	63	61	69	65	64	60	64	61	65	64	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	340	70	1	379	67	61	63	60	70	65	64	60	63	61	64	65	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	340	70	1	376	68	61	63	60	69	65	64	60	63	61	64	64	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	340	70	1	363	67	61	63	60	70	65	64	61	63	61	65	64	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	340	70	1	352	68	62	63	60	70	65	64	61	63	61	64	65	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	340	70	1	831	68	62	63	59	70	65	65	61	62	61	65	65	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	340	70	1	1,172	68	62	63	59	70	64	65	60	63	61	64	66	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	340	70	1	656	68	62	62	60	70	64	65	60	63	62	63	66	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	340	70	1	803	68	62	62	60	70	64	65	61	63	62	63	66	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	340	70	1	897	69	62	63	60	69	64	64	61	63	62	63	66	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	340	70	1	513	69	62	62	61	69	64	64	61	63	62	63	66	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	340	70	1	267	69	62	62	61	69	64	65	61	63	62	63	66	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	400	70	1	157	80	80	87	83	97	102	100	102	97	100	91	86	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,690	70	1	1,586	319	337	322	305	420	444	423	402	351	370	351	334	47	49	46	47	62	66	63	60	55	52	51	48
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,440	70	1	941	273	289	276	257	357	380	359	342	297	317	300	287	0	0	0	0	0	0	0	0	0	0	0	0
	5997, 5998	SULSB1	1,440	70	1	816	273	288	276	258	356	379	360	343	298	316	300	286	0	0	0	0	0	0	0	0	0	0	0	0
	5998, 5999	SULSB1	1,440	70	1	1,054	273	288	276	258	355	379	360	342	299	316	300	286	0	0	0	0	0	0	0	0	0	0	0	0
	5999, 6000	SULSB1	1,440	70	1	1,908	271	288	277	257	352	379	360	342	301	316	301	286	0	0	0	0	0	0	0	0	0	0	0	0
	6000, 6001	SULSB2	1,440	70	1	2,064	270	288	277	259	349	378	360	343	301	317	301	287	0	0	0	0	0	0	0	0	0	0	0	0
	6001, 6002	SULSB3	1,440	70	1	572	270	289	277	260	348	377	361	344	302	315	301	286	0	0	0	0	0	0	0	0	0	0	0	0
	6002, 6003	SULSB4	1,440	70	1	407	270	289	277	260	347	377	362	345	301	315	301	286	0	0	0	0	0	0	0	0	0	0	0	0
	6003, 6004	SULSB5	1,440	70	1	1,528	271	289	276	262	345	377	361	344	304	314	302	286	0	0	0	0	0	0	0	0	0	0	0	0
	6004, 6005	SULSB6	1,440	70	1	1,420	270	288	275	263	341	378	360	345	304	314	301	288	0	0	0	0	0	0	0	0	0	0	0	0
	6005, 6006	SULSB7	1,440	70	1	4,087	272	286	277	263	339	375	364	344	308	311	302	288	0	0	0	0	0	0	0	0	0	0	0	0
	6006, 6007	SULSB8	1,440	70	1	1,611	271	285	278	262	337	376	363	345	308	311	303	289	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,060	70	1	767	200	209	207	197	247	271	268	255	230	220	226	213	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	1,060	70	1	614	201	209	206	197	245	272	267	256	230	220	226	214	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	1,060	70	1	382	201	210	206	197	244	273	267	256	231	219	225	215	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	1,060	70	1	135	201	209	206	197	244	273	267	256	232	220	225	215	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	1,060	70	1	204	201	209	206	198	243	273	267	256	232	219	225	215	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	1,060	70	1	613	201	209	206	198	243	273	267	256	232	219	225	215	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	1,060	70	1	251	200	208	206	199	242	274	266	257	231	219	226	215	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	1,060	70	1	233	200	208	206	198	243	274	266	257	231	219	226	215	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	1,060	70	1	274	201	208	206	198	242	274	266	257	232	219	226	215	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	1,060	70	1	238	201	207	207	198	242	273	267	258	231	219	226	216	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	1,060	70	1	314	201	207	207	198	242	272	267	257	231	219	225	216	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	1,060	70	1	879	200	209	207	197	241	272	268	256	232	219	225	214	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	1,060	70	1	207	199	209	207	197	241	272	269	255	233	219	225	214	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	380	70	1	582	70	77	72	65	90	105	95	90	79	90	78	75	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	380	70	1	621	71	77	72	65	90	104	95	90	79	90	79	75	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	380	70	1	317	71	77	71	65	90	104	95	90	79	90	79	75	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	380	70	1	915	71	77	71	66	90	103	96	91	79	89	79	74	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	380	70	1	1,093	71	77	72	66	89	104	95	92	78	89	79	74	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	380	70	1	1,068	70	77	72	66	89	103	97	91	77	89	80	74	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	380	70	1	788	71	77	73	66	89	103	97	91	77	89	80	74	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	380	70	1	367	70	77	73	66	88	103	97	91	77	90	80	74	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	380	70	1	373	70	77	73	66	88	103	97	91	76	90	80	75	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	380	70	1	445	70	77	72	66	88	103	96	92	77	90	81	75	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	380	70	1	8,866	71	75	74	68	83	103	96	93	80	88	83	73	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 1	SULSBRamp12	380	70	1	292	71	74	74	68	84	103	96	93	80	88	83	73	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	250	70	1	154	47	48	46	48	63	65	64	60	55	52	51	49	0	0	0	0	0	0	0	0	0	0	0	0

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	9,240	70	3	1,087	35.9	36.1	36.0	60.9	60.9	61.0	7,022	9,240	7,669	6,663	6,686	6,688
	300, 301	I275NB3	9,240	70	3	805										6,664	6,686	6,689
	301, 302	I275NB4	9,240	70	3	478										6,663	6,685	6,689
	302, 303	I275NB5	9,240	70	3	2,687										6,666	6,684	6,691
	303, 304	I275NB6	9,240	70	4	382										6,668	6,683	6,691
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	6,840	70	3	1,375	25.2	25.2	25.3	65.3	65.4	65.4	5,198	6,840	5,677	4,927	4,946	4,961
	305, 306	I275NB8	6,840	70	3	1,306										4,925	4,945	4,962
	306, 307	I275NB9	6,840	70	3	591										4,926	4,946	4,960
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	7,880	70	5	1,065	20.5	21.5	20.9	65.5	65.4	65.5	5,989	7,880	6,540	5,744	6,009	5,852
	308, 309	I275NB11	7,880	70	5	3,035										5,746	6,008	5,852
	309, 2	I275NB12	7,880	70	4	350										5,746	6,010	5,850
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	7,540	70	4	745	23.0	24.7	23.6	60.1	58.9	59.9	5,730	7,540	6,258	5,492	5,752	5,594
	310, 311	I275NB13	7,540	70	4	380										5,491	5,753	5,594
	311, 312	I275NB14	7,540	70	4	399										5,491	5,753	5,594
	312, 313	I275NB15	7,540	70	4	368										5,493	5,753	5,594
	313, 314	I275NB16	7,540	70	4	460										5,495	5,751	5,595
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,700	70	3	879	9.5	9.8	9.5	67.5	67.4	67.6	2,052	2,700	2,241	1,920	1,987	1,930
	315, 316	I275NB18	2,700	70	3	1,293										1,923	1,987	1,929
	316, 317	I275NB19	2,700	70	3	1,158										1,925	1,986	1,929
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	4,155	70	5	372	13.3	14.5	13.5	66.1	65.8	66.1	3,158	4,155	3,449	3,117	3,395	3,169
	318, 319	I275NB21	4,155	70	5	2,611										3,118	3,391	3,170
	319, 320	I275NB22	4,155	70	3	1,802										3,121	3,387	3,174
	320, 321	I275NB23	4,155	70	3	501										3,121	3,385	3,175
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	4,670	70	3	1,814	16.4	18.4	16.8	65.5	64.7	65.4	3,549	4,670	3,876	3,513	3,895	3,608
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	6,120	70	5	814	16.3	19.2	17.0	66.0	64.8	65.8	4,651	6,120	5,080	4,642	5,373	4,830
	323, 324	I275NB26	6,120	70	5	1,850										4,640	5,371	4,835
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	7,200	70	4	838	22.3	34.7	24.9	61.0	48.8	58.4	5,472	7,200	5,976	5,458	6,448	5,737
	325, 326	I275NB28	7,200	70	4	704										5,457	6,438	5,750
	326, 327	I275NB29	7,200	70	3	1,988										5,461	6,426	5,760
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	6,800	70	3	1,906	26.1	31.3	27.5	65.5	64.2	65.3	5,168	6,800	5,644	5,128	6,023	5,388
	328, 329	I275NB31	6,800	70	3	1,046										5,125	6,021	5,386
	329, 330	I275NB32	6,800	70	3	803										5,124	6,019	5,387
	330, 331	I275NB33	6,800	70	3	2,542										5,125	6,008	5,402
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	5,500	70	3	1,731	20.8	36.2	23.0	67.9	53.9	67.6	4,180	5,500	4,565	4,185	5,494	4,614
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	5,750	70	4	787	21.8	35.0	25.3	64.0	55.4	61.7	4,370	5,750	4,773	4,376	5,732	4,833
	395, 396	I275SB1	5,750	70	4	818										4,379	5,720	4,846
	396, 397	I275SB1	5,750	70	3	1,049										4,377	5,716	4,848
	397, 398	I275SB1	5,750	70	3	1,916										4,376	5,705	4,854
	398, 399	I275SB1	5,750	70	3	2,120										4,376	5,698	4,859
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	5,150	70	3	2,742	18.1	24.2	20.3	64.6	62.6	63.9	3,914	5,150	4,275	3,947	5,122	4,395
	400, 401	I275SB3	5,150	70	4	1,083										3,947	5,119	4,395
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	2,385	70	3	4,105	9.2	11.9	10.2	68.2	67.5	67.9	1,813	2,385	1,980	1,875	2,404	2,087
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	3,045	70	4	720	8.9	11.5	10.0	66.8	66.3	66.6	2,314	3,045	2,527	2,372	3,052	2,649
	403, 404	I275SB6	3,045	70	4	1,327										2,373	3,048	2,652
	404, 405	I275SB7	3,045	70	4	461										2,374	3,046	2,653
	405, 406	I275SB8	3,045	70	4	452										2,374	3,043	2,653
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	1,920	70	3	855	6.7	8.6	7.5	68.7	68.4	68.6	1,459	1,920	1,594	1,385	1,768	1,534
	407, 408	I275SB10	1,920	70	3	347										1,386	1,767	1,534
	408, 409	I275SB11	1,920	70	3	1,585										1,385	1,766	1,535
	409, 410	I275SB12	1,920	70	3	458										1,385	1,766	1,536

2030 Starter AM							Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	2,990	70	4	629	9.8	11.7	10.3	64.2	64.1	64.3	2,272	2,990	2,482	2,754	3,284	2,903
	411, 412	I275SB14	2,990	70	4	247										2,754	3,283	2,904
	412, 413	I275SB15	2,990	70	4	608										2,753	3,283	2,904
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	4,370	70	4	492	14.2	17.8	15.3	65.5	64.2	65.2	3,321	4,370	3,627	3,789	4,652	4,066
	414, 415	I275SB17	4,370	70	4	3,870										3,793	4,642	4,072
	415, 416	I275SB18	4,370	70	4	1,086										3,795	4,643	4,069
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	3,340	70	3	1,385	14.0	17.4	15.2	67.1	66.5	67.0	2,538	3,340	2,772	2,820	3,460	3,045
	417, 418	I275SB20	3,340	70	3	343										2,821	3,459	3,045
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	4,540	70	3	1,507	16.3	20.2	17.7	62.1	61.0	61.7	3,450	4,540	3,768	3,710	4,531	4,016
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	5,860	70	3	1,015	18.8	25.6	20.9	62.3	56.8	60.8	4,454	5,860	4,864	4,629	5,716	5,017
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	6,240	70	3	2,282	22.2	28.4	24.4	65.6	63.6	64.9	4,742	6,240	5,179	4,913	6,087	5,349
	420, 421	I275SB23	6,240	70	3	430										4,913	6,084	5,349
	421, 422	I275SB24	6,240	70	3	403										4,913	6,083	5,351
	422, 423	I275SB25	6,240	70	3	426										4,914	6,080	5,351
	423, 424	I275SB26	6,240	70	3	412										4,915	6,080	5,353
	424, 425	I275SB27	6,240	70	3	734										4,913	6,076	5,356
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,870	50	3	841	17.0	24.5	18.8	48.2	44.1	47.6	2,941	3,870	3,212	2,945	3,863	3,220
	500, 501	GandyEB3	3,870	50	4	954										2,945	3,860	3,222
	501, 502	GandyEB4	3,870	50	5	174										2,945	3,859	3,223
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,510	50	3	178	8.3	11.5	9.3	48.6	46.3	48.1	1,148	1,510	1,253	1,208	1,597	1,335
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,510	50	3	99	10.0	13.4	11.1	43.8	43.0	43.7	1,148	1,510	1,253	1,208	1,589	1,337
	505, 506	GandyEB10	1,510	50	3	119										1,209	1,590	1,337
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,985	50	3	1,167	15.4	18.2	16.4	46.1	45.4	45.9	2,269	2,985	2,478	2,242	2,629	2,390
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,430	55	3	181	16.1	20.4	17.4	46.6	45.2	45.9	2,607	3,430	2,847	2,606	3,189	2,768
	520, 521	GandyWB5	3,430	55	3	291										2,607	3,188	2,767
	521, 522	GandyWB6	3,430	55	4	590										2,604	3,188	2,768
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,230	55	3	1,768	10.7	13.3	11.3	53.3	52.9	53.2	1,695	2,230	1,851	1,715	2,109	1,809
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	3,260	55	3	1,179	14.0	17.3	14.8	52.5	52.0	52.5	2,478	3,260	2,706	2,689	3,288	2,836
	524, 525	GandyWB9	3,260	55	3	455										2,690	3,286	2,836
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,400	50	1	525	35.9	35.8	36.1	45.5	45.5	45.2	1,824	2,400	1,992	1,740	1,734	1,735
	600, 601	GdyNBoff2	2,400	50	1	1,220										1,739	1,734	1,735
	601, 7001	GdyNBoff3	2,400	50	2	135										1,738	1,735	1,736
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,475	50	1	84	26.9	27.2	27.5	41.1	40.6	40.8	1,121	1,475	1,224	1,036	1,039	1,054
	605, 606	GdyNBoff9	1,475	50	1	107										1,036	1,039	1,054
	606, 506	GdyNBoff10	1,475	50	1	158										1,036	1,039	1,054
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	2,360	50	2	179	22.5	54.1	28.3	38.9	21.9	33.7	1,794	2,360	1,959	1,738	2,261	1,889
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,040	50	2	501	8.4	11.0	9.2	48.9	48.6	48.7	790	1,040	863	816	1,065	895
	623, 624	GdyNBon6	1,040	50	2	299										816	1,065	895
	624, 625	GdyNBon7	1,040	50	2	253										816	1,065	895
	625, 626	GdyNBon8	1,040	50	2	238										816	1,065	895
	626, 627	GdyNBon9	1,040	50	2	242										817	1,064	895
	627, 628	GdyNBon10	1,040	50	2	277										817	1,065	895
	628, 629	GdyNBon11	1,040	50	2	337										816	1,064	894
	629, 630	GdyNBon12	1,040	50	2	877										815	1,065	894
	630, 307	GdyNBon13	1,040	50	2	344										815	1,064	894
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,030	50	2	481	11.5	14.0	12.1	48.3	48.1	48.4	783	1,030	855	974	1,182	1,027
	660, 661	GdySBoff2	1,030	50	2	394										975	1,181	1,028

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	661, 662	GdySBoff3	1,030	50	2	1,949										975	1,180	1,029
	662, 523	GdySBoff4	1,030	50	1	424										974	1,179	1,029
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	1,320	50	1	286	20.2	26.7	22.3	46.9	45.7	46.0	1,003	1,320	1,096	922	1,190	998
	621, 622	GdySBon3	1,320	50	1	204										922	1,190	998
	622, 419	GdySBon4	1,320	50	1	319										922	1,189	999
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,200	35	1	302	27.1	33.1	29.5	32.8	32.5	32.7	912	1,200	996	888	1,076	965
	640, 641	GdySBonLoop2	1,200	35	1	259										887	1,076	965
	641, 642	GdySBonLoop3	1,200	35	1	227										888	1,077	965
	642, 643	GdySBonLoop4	1,200	35	1	211										887	1,077	966
	643, 644	GdySBonLoop5	1,200	35	1	211										887	1,078	966
	644, 645	GdySBonLoop6	1,200	35	1	207										887	1,078	967
	645, 418	GdySBonLoop7	1,200	35	1	252										888	1,077	967
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,215	60	4	1,418	14.4	16.3	13.3	57.5	57.2	57.7	2,443	3,215	2,668	2,861	3,215	2,642
	541, 542	RvEB3	3,215	60	3	1,028										2,860	3,214	2,642
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	1,180	60	2	513	15.7	18.9	14.5	58.0	56.2	58.1	897	1,180	979	1,818	2,056	1,683
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,400	60	2	120	15.7	20.3	15.6	56.7	52.2	55.0	1,064	1,400	1,162	1,664	1,969	1,606
	546, 547	RvEB10	1,400	60	2	165										1,664	1,969	1,606
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,640	60	2	1,053	19.8	23.3	19.6	54.8	53.0	54.4	2,006	2,640	2,191	2,585	2,926	2,545
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,575	60	2	756	15.8	22.2	17.4	58.8	55.9	58.5	1,957	2,575	2,137	1,955	2,580	2,138
	558, 559	RvWB3	2,575	60	2	146										1,955	2,579	2,138
	559, 560	RvWB4	2,575	60	3	151										1,955	2,580	2,139
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,500	60	2	125	16.2	39.6	18.6	58.6	41.9	56.4	1,900	2,500	2,075	1,901	2,483	2,083
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	2,110	60	2	133	14.2	18.6	16.0	57.7	56.8	57.3	1,604	2,110	1,751	1,614	2,075	1,801
	567, 568	RvWB14	2,110	60	2	750										1,614	2,075	1,802
	568, 569	RvWB15	2,110	60	2	281										1,615	2,075	1,802
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	4,310	60	4	1,137	14.6	17.0	15.7	57.3	57.1	57.2	3,276	4,310	3,577	3,336	3,887	3,585
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	4,840	50	2	228	38.9	41.7	40.0	46.0	45.2	45.8	3,678	4,840	4,017	3,575	3,764	3,666
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	4,840	50	2	168	33.2	35.3	34.4	44.9	44.4	44.5	3,678	4,840	4,017	3,576	3,762	3,667
	701, 702	RvNBoff5	4,840	50	2	198										3,576	3,762	3,667
	702, 703	RvNBoff6	4,840	50	3	130										3,576	3,763	3,666
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	1,240	50	1	336	19.3	20.1	19.5	47.9	47.7	47.9	942	1,240	1,029	924	959	936
	704, 705	RvNBoff8	1,240	50	1	200										923	959	935
	705, 706	RvNBoff9	1,240	50	1	223										923	959	935
	706, 707	RvNBoff10	1,240	50	1	262										923	959	936
	707, 547	RvNBoff11	1,240	50	1	264										923	959	936
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	2,200	50	2	248	17.6	18.6	18.3	48.9	48.8	48.8	1,672	2,200	1,826	1,717	1,815	1,782
	715, 716	RvNBoff21	2,200	50	2	642										1,717	1,817	1,781
	716, 569	RvNBoff22	2,200	50	2	670										1,719	1,814	1,782
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	240	50	1	296	1.0	1.9	1.1	53.2	50.5	52.8	182	240	199	55	94	58
	758, 7016	RvNBon4	240	50	1	127										55	94	58
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,455	50	2	97	14.0	16.7	14.6	46.4	45.8	46.2	1,106	1,455	1,208	1,196	1,406	1,242
	757, 317	RvNBon10	1,455	50	2	123										1,195	1,406	1,241
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,125	50	2	223	9.7	12.6	11.0	51.3	50.8	51.1	855	1,125	934	991	1,274	1,120
	770, 7032	RvSBoff2	1,125	50	2	150										991	1,274	1,119
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	1,070	50	3	102	14.4	16.3	14.3	44.6	43.9	44.8	813	1,070	888	1,370	1,520	1,366
	793, 410	RvSBon5	1,070	50	3	655										1,368	1,520	1,367
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	665	50	2	270	10.6	11.8	9.8	49.2	49.0	49.2	505	665	552	1,042	1,158	961
	790, 7011	RvSBon11	665	50	2	250										1,042	1,158	960
	703, 708	118NBoff1	3,600	50	2	311										2,651	2,803	2,730

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	708, 710	118NBoff2	3,600	50	2	567	22.4	23.7	23.1	47.8	47.6	47.7	2,736	3,600	2,988	2,653	2,802	2,731
	710, 711	118NBoff3	3,600	50	2	460										2,653	2,802	2,730
	711, 712	118NBoff4	3,600	50	3	472										2,654	2,801	2,730
	712, 713	118NBoff5	3,600	50	3	395										2,653	2,801	2,730
	713, 714	118NBoff6	3,600	50	3	188										2,655	2,800	2,730
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,400	50	2	212	9.6	10.1	9.7	48.8	48.8	48.8	1,064	1,400	1,162	938	985	949
	717, 718	118NBoff8	1,400	50	2	389										936	985	948
	718, 719	118NBoff9	1,400	50	2	373										935	986	949
	719, 720	118NBoff10	1,400	50	2	589										937	985	950
	720, 721	118NBoff11	1,400	50	2	311										937	984	950
	721, 722	118NBoff12	1,400	50	2	327										938	985	950
	722, 723	118NBoff13	1,400	50	2	626										938	984	951
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,185	60	4	1,252	11.7	14.1	12.6	56.9	56.6	56.8	2,421	3,185	2,644	2,657	3,184	2,871
	724, 725	118NBoff15	3,185	60	4	575										2,659	3,182	2,872
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,595	60	2	611	17.4	23.2	19.1	57.1	56.4	56.9	1,972	2,595	2,154	1,971	2,599	2,154
	740, 741	118NBon3	2,595	60	2	1,571										1,971	2,593	2,160
NB I-275 On Ramp from 118th	741, 748	118NBon4	1,215	50	1	268	19.7	26.0	21.3	47.6	46.8	47.3	923	1,215	1,008	935	1,218	1,004
	748, 749	118NBon5	1,215	50	1	541										935	1,217	1,005
	749, 750	118NBon6	1,215	50	1	715										935	1,217	1,005
	750, 751	118NBon7	1,215	50	1	245										935	1,216	1,005
	751, 752	118NBon8	1,215	50	1	252										936	1,216	1,005
	752, 753	118NBon9	1,215	50	1	352										936	1,215	1,005
	753, 754	118NBon10	1,215	50	1	264										937	1,215	1,004
	754, 755	118NBon11	1,215	50	1	415										937	1,214	1,004
	755, 7009	118NBon12	1,215	50	1	733										938	1,213	1,005
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,585	50	1	147	20.0	26.0	22.7	46.3	45.7	46.0	1,205	1,585	1,316	910	1,167	1,026
	775, 776	118SBoff3	1,585	50	1	934										909	1,167	1,026
	776, 777	118SBoff4	1,585	50	1	371										909	1,168	1,025
	777, 778	118SBoff5	1,585	50	1	446										910	1,167	1,024
	778, 6020	118SBoff6	1,585	50	1	340										911	1,167	1,024
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	1,785	50	2	990	17.4	22.5	19.4	49.5	49.1	49.3	1,357	1,785	1,482	1,722	2,202	1,917
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,380	50	1	197	22.0	29.7	24.7	47.0	46.3	46.8	1,049	1,380	1,145	1,037	1,374	1,156
	742, 743	118SBon2	1,380	50	1	119										1,037	1,374	1,157
	743, 744	118SBon3	1,380	50	1	126										1,037	1,374	1,157
	744, 745	118SBon4	1,380	50	1	162										1,038	1,374	1,157
	745, 746	118SBon5	1,380	50	1	200										1,038	1,373	1,158
	746, 747	118SBon6	1,380	50	1	166										1,037	1,374	1,158
	747, 413	118SBon7	1,380	50	1	973										1,036	1,371	1,160
EB Ulmerton from West of I-275 to I-275 On	800, 801	UlmNBon2	2,395	60	3	2,420	10.6	13.9	11.5	57.9	57.7	57.9	1,820	2,395	1,988	1,822	2,392	1,991
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,450	50	2	647	11.5	15.2	12.4	49.0	48.7	49.0	1,102	1,450	1,204	1,125	1,482	1,217
	811, 812	UlmNBon4	1,450	50	2	590										1,127	1,481	1,218
	812, 813	UlmNBon5	1,450	50	2	323										1,127	1,481	1,218
	813, 814	UlmNBon6	1,450	50	2	328										1,127	1,481	1,219
	814, 815	UlmNBon7	1,450	50	2	288										1,127	1,481	1,219
	815, 816	UlmNBon8	1,450	50	2	273										1,127	1,480	1,220
	816, 322	UlmNBon9	1,450	50	2	888										1,127	1,479	1,221
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	2,765	50	2	318	21.6	28.5	24.2	48.0	47.5	47.8	2,101	2,765	2,295	2,071	2,708	2,314
	830, 831	UlmSBoff2	2,765	50	2	346										2,072	2,707	2,315
	831, 7036	UlmSBoff3	2,765	50	2	283										2,071	2,707	2,314
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	2,225	50	2	398	14.9	19.9	16.8	56.3	55.7	56.1	1,691	2,225	1,847	1,664	2,198	1,865
	834, 835	UlmSBoff8	2,225	60	2	584										1,665	2,198	1,866
	835, 836	UlmSBoff9	2,225	60	2	481										1,664	2,197	1,865
	836, 837	UlmSBoff10	2,225	60	2	2,160										1,668	2,191	1,869

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	945	35	1	493	15.5	20.5	17.4	46.0	45.3	45.6	718	945	784	697	907	775
	802, 803	UlmSBon2	945	35	1	214										696	907	774
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	660	35	1	163	12.1	15.9	13.6	41.9	41.7	41.8	502	660	548	496	652	558
	808, 809	UlmSBon4	660	35	1	163										496	652	559
	809, 810	UlmSBon5	660	35	1	228										497	652	559
	810, 402	UlmSBon6	660	50	1	1,170										496	651	560
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	285	35	1	201	4.6	5.9	5.0	43.9	43.7	43.7	217	285	237	200	254	217
	804, 805	UlmSBMLK2	285	50	1	361										200	253	217
	805, 806	UlmSBMLK3	285	50	1	499										200	253	217
SB MLK	806, 807	UlmSBMLK4	825	50	2	1,171	6.2	7.7	6.8	49.1	48.9	48.9	627	825	685	605	756	669
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	515	50	1	1,080	8.0	10.5	8.7	49.2	49.2	49.3	391	515	427	391	514	428
	851, 852	MLKNBon3	515	50	1	350										391	513	428
	852, 853	MLKNBon4	515	50	1	360										391	513	429
	853, 321	MLKNBon5	515	50	1	548										392	513	429
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	515	50	1	294	8.4	10.6	9.5	48.6	48.4	48.4	391	515	427	404	506	452
	839, 840	MLKSBoff4	515	50	1	336										404	506	452
	840, 841	MLKSBoff5	515	50	1	395										405	505	452
	841, 806	MLKSBoff6	515	50	1	539										405	505	452
NB I-275 On Ramp from 4th	900, 901	4thNBon2	1,080	60	2	1,270	9.3	12.4	10.2	58.5	57.8	58.3	821	1,080	896	820	1,082	897
	901, 902	4thNBon3	1,080	60	2	634										820	1,082	898
	902, 903	4thNBon4	1,080	60	2	322										820	1,081	898
	903, 904	4thNBon5	1,080	60	2	279										820	1,080	898
	904, 905	4thNBon6	1,080	60	2	388										821	1,079	899
	905, 906	4thNBon7	1,080	60	1	313										821	1,079	899
	906, 907	4thNBon8	1,080	60	1	305										822	1,078	899
	907, 324	4thNBon9	1,080	60	1	666										822	1,078	899
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	600	60	1	466	5.8	7.6	6.4	58.7	58.4	58.5	456	600	498	432	561	474
	920, 921	4thSBoff2	600	60	1	492										433	560	474
	921, 922	4thSBoff3	600	60	1	420										432	560	475
	922, 923	4thSBoff4	600	60	1	393										433	560	475
	923, 924	4thSBoff5	600	60	1	384										433	559	475
	924, 925	4thSBoff6	600	60	1	354										433	558	475
	925, 926	4thSBoff7	600	60	1	501										433	558	475
	926, 927	4thSBoff8	600	60	1	416										433	558	475
	927, 928	4thSBoff9	600	60	2	1,153										433	558	475
	928, 929	4thSBoff10	600	60	2	1,242										433	558	475
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	1,020	70	1	1,116	11.6	15.4	12.7	67.3	66.5	66.9	775	1,020	847	773	1,022	847
	5000, 5001	SULNB2	1,020	70	1	2,205										774	1,019	849
	5001, 5002	SULNB3	1,020	70	1	528										775	1,018	850
	5002, 5003	SULNB4	1,020	70	1	346										776	1,017	849
	5003, 5004	SULNB5	1,020	70	1	235										776	1,017	850
	5004, 5005	SULNB6	1,020	70	1	270										776	1,017	849
	5005, 5006	SULNB7	1,020	70	1	238										776	1,016	850
	5006, 5007	SULNB8	1,020	70	1	261										776	1,016	850
	5007, 5008	SULNB9	1,020	70	1	451										776	1,015	851
	5008, 5009	SULNB10	1,020	70	1	242										777	1,015	851
	5009, 5010	SULNB11	1,020	70	1	158										777	1,014	851
	5010, 5011	SULNB12	1,020	70	1	539										777	1,014	851
	5011, 5012	SULNB13	1,020	70	1	564										776	1,015	851
	5012, 5013	SULNB14	1,020	70	1	824										776	1,015	851
	5013, 5014	SULNB15	1,360	70	1	2,172										1,029	1,274	1,107
	5014, 5015	SULNB16	1,360	70	1	1,149										1,029	1,272	1,109

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5015, 5016	SULNB17	1,360	70	1	2,057	14.7	18.4	15.9	64.1	63.4	63.8	1,034	1,360	1,129	1,028	1,272	1,109
	5016, 5017	SULNB18	1,360	70	1	1,250										1,030	1,270	1,109
	5017, 5018	SULNB19	1,360	70	1	1,385										1,031	1,267	1,111
	5018, 5019	SULNB20	1,360	70	1	843										1,031	1,267	1,111
	5019, 5020	SULNB21	1,360	70	1	687										1,031	1,269	1,110
	5020, 5021	SULNB22	1,360	70	1	2,036										1,032	1,268	1,112
	5021, 5022	SULNB23	1,360	70	1	171										1,032	1,267	1,112
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,760	70	1	1,752	20.5	25.4	22.5	62.7	61.9	62.3	1,338	1,760	1,461	1,361	1,664	1,487
	5023, 5024	SULNB25	1,760	70	1	1,039										1,361	1,665	1,484
	5024, 5025	SULNB26	1,760	70	1	814										1,361	1,665	1,484
	5025, 5026	SULNB27	1,760	70	1	2,530										1,362	1,663	1,486
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	340	70	1	266	3.7	3.8	3.7	68.2	68.0	68.0	258	340	282	252	259	254
	5100, 5101	SULNBRamp2	340	70	1	528										252	259	253
	5101, 5102	SULNBRamp3	340	70	1	379										252	259	253
	5102, 5103	SULNBRamp4	340	70	1	376										252	259	253
	5103, 5104	SULNBRamp5	340	70	1	363										252	259	253
	5104, 5105	SULNBRamp6	340	70	1	352										252	260	253
	5105, 5106	SULNBRamp7	340	70	1	831										252	260	253
	5106, 5107	SULNBRamp8	340	70	1	1,172										252	260	253
	5107, 5108	SULNBRamp9	340	70	1	656										253	259	254
	5108, 5109	SULNBRamp10	340	70	1	803										252	259	254
	5109, 5110	SULNBRamp11	340	70	1	897										253	259	254
	5110, 5111	SULNBRamp12	340	70	1	513										253	259	254
	5111, 5013	SULNBRamp13	340	70	1	267										253	259	254
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	400	70	1	157	4.9	6.0	5.6	67.2	66.9	67.0	304	400	332	330	400	374
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,690	70	1	1,586	14.4	19.1	15.8	68.5	67.9	68.3	1,284	1,690	1,403	1,284	1,689	1,406
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,440	70	1	941	17.0	22.4	18.8	64.5	63.8	64.2	1,094	1,440	1,195	1,094	1,438	1,200
	5997, 5998	SULSB1	1,440	70	1	816										1,094	1,437	1,201
	5998, 5999	SULSB1	1,440	70	1	1,054										1,094	1,436	1,201
	5999, 6000	SULSB1	1,440	70	1	1,908										1,093	1,433	1,203
	6000, 6001	SULSB2	1,440	70	1	2,064										1,094	1,430	1,205
	6001, 6002	SULSB3	1,440	70	1	572										1,095	1,429	1,205
	6002, 6003	SULSB4	1,440	70	1	407										1,096	1,430	1,203
	6003, 6004	SULSB5	1,440	70	1	1,528										1,096	1,426	1,206
	6004, 6005	SULSB6	1,440	70	1	1,420										1,096	1,424	1,207
	6005, 6006	SULSB7	1,440	70	1	4,087										1,097	1,422	1,210
	6006, 6007	SULSB8	1,440	70	1	1,611										1,097	1,421	1,211
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	1,060	70	1	767	12.6	16.2	13.8	64.5	64.3	64.3	806	1,060	880	813	1,041	890
	6008, 6009	SULSB10	1,060	70	1	614										813	1,040	890
	6009, 6010	SULSB11	1,060	70	1	382										814	1,040	891
	6010, 6011	SULSB12	1,060	70	1	135										813	1,039	891
	6011, 6012	SULSB13	1,060	70	1	204										814	1,039	891
	6012, 6013	SULSB14	1,060	70	1	613										814	1,039	891
	6013, 6014	SULSB15	1,060	70	1	251										813	1,039	891
	6014, 6015	SULSB16	1,060	70	1	233										812	1,040	891
	6015, 6016	SULSB17	1,060	70	1	274										812	1,039	891
	6016, 6017	SULSB18	1,060	70	1	238										812	1,039	891
	6017, 6018	SULSB19	1,060	70	1	314										812	1,039	891
	6018, 6019	SULSB20	1,060	70	1	879										812	1,038	891
	6019, 6020	SULSB21	1,060	70	1	207										812	1,037	891
	6007, 6100	SULSBRamp1	380	70	1	582										284	379	322

2030 Starter AM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB SUL Slip Ramp to SB I-275	6100, 6101	SULSBRamp2	380	70	1	621	4.3	5.7	4.8	66.4	66.3	66.5	289	380	315	284	379	322
	6101, 6102	SULSBRamp3	380	70	1	317										285	379	322
	6102, 6103	SULSBRamp4	380	70	1	915										285	379	321
	6103, 6104	SULSBRamp5	380	70	1	1,093										285	380	321
	6104, 6105	SULSBRamp6	380	70	1	1,068										285	380	320
	6105, 6106	SULSBRamp7	380	70	1	788										285	379	321
	6106, 6107	SULSBRamp8	380	70	1	367										285	379	321
	6107, 6108	SULSBRamp9	380	70	1	373										285	379	322
	6108, 6109	SULSBRamp10	380	70	1	445										286	379	322
	6109, 6110	SULSBRamp11	380	70	1	8,866										287	375	324
	6110, 1	SULSBRamp12	380	70	1	292										287	375	324
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	250	70	1	154	2.7	3.7	3.0	69.3	68.8	69.3	190	250	208	189	251	207

2030 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6,400	70	3	1,087	28.9	30.5	28.9	27.6	32.5	37.8	45.0	47.1	34.1	28.0	26.5	25.2	29.2	31.3	29.6	27.7	35.2	45.0	60.0	57.2	41.0	28.2	26.5	25.1
	300, 301	I275NB3	6,400	70	3	805	28.2	29.8	28.3	27.0	31.7	38.6	52.6	54.5	36.8	27.4	25.9	24.7												
	301, 302	I275NB4	6,400	70	3	478	28.7	30.3	28.8	27.4	32.4	40.7	61.5	61.4	40.2	27.9	26.4	25.1												
	302, 303	I275NB5	6,400	70	3	2,687	30.5	33.0	31.0	28.7	38.7	51.2	69.1	62.9	45.8	29.3	27.5	25.8												
	303, 304	I275NB6	6,400	70	4	382	24.0	25.8	24.4	22.5	29.8	40.9	51.5	46.0	36.7	23.1	21.3	20.1												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4,310	70	3	1,375	19.2	20.6	19.5	18.3	21.7	22.5	22.5	22.5	19.8	18.6	17.9	16.8	19.1	20.4	19.4	18.2	21.4	21.9	21.8	21.9	19.4	18.5	17.9	16.8
	305, 306	I275NB8	4,310	70	3	1,306	19.0	20.3	19.3	18.1	21.2	21.5	21.3	21.4	19.2	18.4	17.8	16.7												
	306, 307	I275NB9	4,310	70	3	591	19.1	20.4	19.3	18.2	21.2	21.7	21.3	21.4	19.2	18.5	17.9	16.8												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	5,340	70	5	1,065	14.7	15.5	14.8	14.0	16.1	16.8	16.4	16.3	14.5	14.1	13.7	12.9	16.8	17.7	17.0	16.0	18.5	19.2	18.7	18.8	16.7	16.2	15.7	14.8
	308, 309	I275NB11	5,340	70	5	3,035	17.4	18.4	17.6	16.6	19.1	20.0	19.4	19.5	17.3	16.8	16.3	15.3												
	309, 2	I275NB12	5,340	70	4	350	17.9	18.8	18.1	17.0	19.6	20.5	19.8	20.3	17.7	17.3	16.7	15.7												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	5,010	70	4	745	16.7	17.6	16.9	15.9	18.3	19.1	18.6	18.7	16.6	16.1	15.5	14.7	17.4	18.4	17.6	16.6	19.3	20.2	19.5	19.6	17.3	16.7	16.1	15.3
	310, 311	I275NB13	5,010	70	4	380	17.0	18.0	17.2	16.2	18.7	19.7	19.0	19.2	17.0	16.4	15.8	15.0												
	311, 312	I275NB14	5,010	70	4	399	17.4	18.5	17.7	16.6	19.3	20.2	19.5	19.7	17.4	16.7	16.2	15.3												
	312, 313	I275NB15	5,010	70	4	368	17.7	18.8	17.9	16.8	19.7	20.6	19.9	20.0	17.6	16.9	16.3	15.5												
	313, 314	I275NB16	5,010	70	4	460	18.6	19.8	18.9	17.8	20.9	22.0	21.0	21.0	18.4	17.9	17.2	16.4												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,110	70	3	879	9.2	9.5	9.1	8.7	10.0	10.4	10.0	10.2	8.9	8.9	8.4	7.9	9.0	9.4	9.0	8.6	9.8	10.2	9.8	10.0	8.8	8.7	8.3	7.8
	315, 316	I275NB18	2,110	70	3	1,293	9.0	9.3	8.9	8.5	9.7	10.1	9.7	9.9	8.8	8.7	8.3	7.8												
	316, 317	I275NB19	2,110	70	3	1,158	9.0	9.3	8.9	8.5	9.7	10.1	9.8	9.9	8.8	8.7	8.3	7.8												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,530	70	5	372	10.4	10.8	10.2	9.9	11.2	11.7	11.1	11.1	10.1	10.2	9.6	9.0	13.2	13.8	13.0	12.6	14.2	15.0	14.3	14.2	13.0	13.0	12.2	11.5
	318, 319	I275NB21	3,530	70	5	2,611	11.7	12.1	11.5	11.1	12.5	13.2	12.6	12.5	11.5	11.5	10.8	10.1												
	319, 320	I275NB22	3,530	70	3	1,802	15.5	16.1	15.2	14.8	16.5	17.5	16.7	16.6	15.2	15.2	14.3	13.5												
	320, 321	I275NB23	3,530	70	3	501	15.4	16.1	15.2	14.8	16.5	17.4	16.7	16.6	15.2	15.1	14.3	13.5												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,950	70	3	1,814	16.2	16.9	16.0	15.5	17.5	18.5	17.7	17.5	15.9	15.8	15.1	14.1	16.2	16.9	16.0	15.5	17.5	18.5	17.7	17.5	15.9	15.8	15.1	14.1
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,270	70	5	814	14.7	15.2	14.7	14.1	15.9	17.0	16.1	15.9	14.1	14.2	13.7	12.8	16.5	17.1	16.5	15.9	17.8	19.1	18.1	17.8	15.8	16.0	15.4	14.4
	323, 324	I275NB26	5,270	70	5	1,850	17.3	17.9	17.3	16.6	18.7	20.0	19.0	18.7	16.6	16.7	16.1	15.1												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	6,030	70	4	838	17.9	18.6	17.9	17.2	19.6	21.9	21.2	19.8	17.1	17.3	16.6	15.6	21.6	22.7	21.8	20.5	24.3	28.3	26.8	24.9	20.5	20.6	19.7	18.2
	325, 326	I275NB28	6,030	70	4	704	24.7	26.8	25.1	23.1	30.2	39.4	36.1	31.7	23.1	23.0	22.0	19.8												
	326, 327	I275NB29	6,030	70	3	1,988	22.0	23.0	22.2	21.0	24.1	27.1	25.9	24.7	21.0	21.1	20.2	18.8												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,670	70	3	1,906	25.3	26.2	25.5	24.3	26.8	29.3	28.4	27.6	24.4	24.4	23.5	22.1	25.3	26.2	25.6	24.4	26.8	29.3	28.4	27.7	24.6	24.5	23.6	22.1
	328, 329	I275NB31	5,670	70	3	1,046	25.4	26.2	25.6	24.4	26.8	29.3	28.5	27.7	24.5	24.5	23.5	22.1												
	329, 330	I275NB32	5,670	70	3	803	25.4	26.2	25.6	24.3	26.8	29.3	28.4	27.7	24.6	24.5	23.6	22.1												
	330, 331	I275NB33	5,670	70	3	2,542	25.3	26.2	25.6	24.4	26.8	29.3	28.5	27.7	24.7	24.5	23.6	22.2												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	7,000	70	3	1,731	94.0	97.2	100.5	101.0	98.4	97.9	98.0	97.6	97.7	98.6	100.1	98.8	94.0	97.2	100.5	101.0	98.4	97.9	98.0	97.6	97.7	98.6	100.1	98.8
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	7,310	70	4	787	69.6	71.5	72.5	72.1	72.4	70.8	71.2	70.9	70.5	71.5	70.7	72.1	40.1	41.3	41.1	40.9	41.3	41.3	41.4	41.2	40.7	41.2	40.8	41.1
	395, 396	I275SB1	7,310	70	4	818	49.0	50.0	49.1	49.1	49.3	49.7	50.3	49.8	49.1	49.3	49.1	49.5												
	396, 397	I275SB1	7,310	70	3	1,049	36.3	37.4	37.1	36.8	37.5	37.6	37.6	37.5	36.8	37.3	36.9	37.1												
	397, 398	I275SB1	7,310	70	3	1,916	32.9	33.9	33.8	33.5	33.9	34.1	34.2	33.9	33.4	34.0	33.6	33.6												
	398, 399	I275SB1	7,310	70	3	2,120	34.1	35.5	35.0	35.0	35.3	35.6	35.3	35.3	34.9	35.4	34.9	35.0												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,070	70	3	2,742	25.6	26.4	26.1	25.9	25.9	26.1	26.1	26.0	25.9	26.0	25.8	26.0	24.4	25.2	24.9	24.8	24.7	24.9	24.9	24.9	24.7	24.8	24.6	24.8
	400, 401	I275SB3	6,070	70	4	1,083	21.4	22.1	21.8	21.8	21.8	21.8	21.9	22.0	21.7	21.8	21.6	21.8												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,200	70	3	4,105	18.2	19.0	19.2	18.5	18.8	18.9	18.9	19.0	18.8	18.9	18.5	19.1	18.2	19.0	19.2	18.5	18.8	18.9	18.9	19.0	18.8	18.9	18.5	19.1
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,030	70	4	720	16.9	17.7	17.7	17.0	17.7	18.0	17.9	17.8	17.2	17.4	16.9	17.1	16.8	17.6	17.6	16.9	17.6	17.8	17.8	17.6	17.1	17.4	16.8	17.0
	403, 404	I275SB6	5,030	70	4	1,327	16.6	17.3	17.4	16.6	17.3	17.5	17.5	17.4	16.8	17.1	16.6	16.8												
	404, 405	I275SB7	5,030	70	4	461	16.8	17.5	17.5	16.8	17.5	17.8	17.7	17.6	17.1	17.4	16.8	16.9												
	405, 406	I275SB8	5,030	70	4	452	17.3	18.2	18.1	17.5	18.2	18.4	18.3	18.1	17.8	18.0	17.4	17.5												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,070	70	3	855	12.8	13.3	13.4	13.0	13.4	13.4	13.6	13.3	12.9	13.2	13.0	13.0	12.7	13.2	13.2	12.9	13.3	13.2	13.5	13.2	12.8	13.0	12.8	12.9
	407, 408	I275SB10	3,070	70	3	347	12.7	13.2	13.2	12.8	13.3	13.2	13.5	13.2	12.8	13.0	12.8	12.9												
	408, 409	I275SB11	3,070	70	3	1,585	12.6	13.1	13.2	12.8	13.2	13.2	13.5	13.2	12.8	13.0	12.8	12.8												
	409, 410	I275SB12	3,070	70	3	458	12.6	13.2	13.2	12.9	13.2	13.2	13.5	13.3	12.8	13.0	12.8	12.9												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	5,150	70	4	629	14.6	15.2	14.9	14.6	15.5	15.8	15.7	15.4	14.4	14.8	14.4	14.2	16.0	16.6	16.3	15.9	16.9	17.3	17.1	16.8	15.8	16.1	15.7	15.5
	411, 412	I275SB14	5,150	70	4	247	17.2	17.9	17.6	17.2	18.2	18.6	18.4	18.1	17.0	17.4	16.9	16.7												
	412, 413	I275SB15	5,150	70	4	608	16.8	17.5	17.2	16.8	17.8	18.2	18.1	17.7	16.7	17.0	16.5	16.4												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	6,850	70	4	492	21.3	23.6	22.1	21.0	24.8	27.0	26.1	24.1	20.6	21.2	20.2	19.2	23.5	24.9	24.2	23.2	25.6	27.0	26.4	25.2	23.2	23.4	22.6	21.9
	414, 415	I275SB17	6,850	70	4	3,870	23.3	24.5	23.9	23.0	25.1	26.3	25.8	24.8	23.0	23.2	22.4	21.8												
	415, 416	I275SB18	6,850	70	4	1,086	25.1	26.8	26.2	24.9	27.7	29.7	28.6	27.2	25.0	25.1	24.3	23.4												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	5,430	70	3	1,385	23.8	24.7	24.5	23.7	25.3	26.7	26.0	25.2	23.5	23.8	23.3	22.5	23.6	24.6	24.4	23.6	25.1	26.5	25.8	25.0	23.4	23.7	23.2	22.4
	417, 418	I275SB20	5,430	70	3	343	23.1	24.0	23.9	23.0	24.4	25.7	25.2	24.4	22.9	23.1	22.8	22.0												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	6,500	70	3	1,507	24.6	25.8	25.9	24.7	26.4	28.5	27.6	26.7	24.5	24.8	24.1	23.2	24.6	25.8	25.9	24.7	26.4	28.5	27.6	26.7	24.5	24.8	24.1	23.2
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	7,460	70	3	1,015	26.6	28.3	29.0	26.6	30.3	33.3	32.9	29.0	26.8	26.7	26.1	24.6	26.6	28.3	29.0	26.6	30.3	33.3	32.9	29.0	26.8	26.7	26.1	24.6
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	7,990	70	3	2,282	28.3	30.0	30.4	28.2	31.6	36.5	34.7	31.7	28.8	28.3	27.7	26.4	32.0	33.7	34.2	32.1	35.4	40.2	39.0	35.8	32.5	31.9	31.4	29.9
	420, 421	I275SB23	7,990	70	3	430	35.9	37.9	38.2	36.0	39.7	45.2	44.2	40.3	36.4	35.7	35.2	33.4												
	421, 422	I275SB24	7,990	70	3	403	35.7	37.5	38.1	35.8	39.4	44.2	43.5	40.0	36.2	35.5	35.1	33.2												
	422, 423	I275SB25	7,990	70	3	426	35.6	37.2	37.9	35.7	39.0	43.7	43.1	39.6	36.1	35.3	35.0	33.2												
	423, 424	I275SB26	7,990	70	3	412	35.5	37.1	37.7	35.6	38.8	43.6	43.1	39.6	36.1	35.2	35.0	33.1												
	424, 425	I275SB27	7,990	70	3	734	35.4	36.8	37.4	35.5	38.3	43.0	42.2	39.2	35.9	35.1	34.9	33.1												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,100	50	3	841	19.1	20.2	19.0	18.1	21.8	22.6	21.8	20.5	17.5	18.6	17.6	16.5	15.9	16.8	15.9	15.1	18.1	18.9	18.2	17.2	14.6	15.5	14.6	13.7
	500, 501	GandyEB3	3,100	50	4	954	13.7	14.5	13.8	13.1	15.5	16.4	15.6	14.8	12.7	13.4	12.7	11.9												
	501, 502	GandyEB4	3,100	50	5	174	12.0	12.7	12.2	11.5	14.2	15.6	14.6	13.6	10.9	11.6	10.9	10.2												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,110	50	3	178	7.3	7.6	7.1	6.5	8.1	8.5	8.1	7.8	6.3	6.8	6.5	6.1	7.3	7.6	7.1	6.5	8.1	8.5	8.1	7.8	6.3	6.8	6.5	6.1
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,110	50	3	99	10.1	10.4	9.7	8.9	10.7	11.4	10.9	10.7	8.6	9.2	8.8	8.3	8.9	9.1	8.6	7.8	9.5	10.1	9.7	9.5	7.6	8.1	7.8	7.4
	505, 506	GandyEB10	1,110	50	3	119	7.9	8.1	7.7	6.9	8.4	9.0	8.7	8.4	6.8	7.2	6.9	6.6												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,395	50	3	1,167	14.9	15.1	15.1	13.9	15.7	16.7	17.1	16.1	14.8	14.1	13.7	12.8	14.9	15.1	15.1	13.9	15.7	16.7	17.1	16.1	14.8	14.1	13.7	12.8
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,685	55	3	181	29.3	30.8	29.8	28.0	32.3	35.0	33.6	31.8	28.3	28.4	26.8	25.3	20.6	21.9	21.2	19.9	23.1	24.7	24.0	22.7	20.0	20.1	19.0	17.9
	520, 521	GandyWB5	3,685	55	3	291	21.1	22.0	21.4	20.2	23.1	24.7	23.9	22.7	20.3	20.4	19.3	18.2												

2030 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
~~Loop On Ramp~~	521, 522	GandyWB6	3,685	55	4	590	17.7	19.1	18.5	17.2	20.3	21.5	21.1	19.8	17.2	17.4	16.5	15.4												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,615	55	3	1,768	15.2	15.5	14.8	14.2	16.3	17.5	17.0	16.0	14.3	14.5	13.7	12.8	15.2	15.5	14.8	14.2	16.3	17.5	17.0	16.0	14.3	14.5	13.7	12.8
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,035	55	3	1,179	18.2	19.1	18.3	17.4	19.6	21.0	20.6	19.6	17.9	17.4	16.9	16.1	19.7	20.7	19.8	18.9	21.2	22.8	22.3	21.3	19.4	18.9	18.4	17.5
	524, 525	GandyWB9	4,035	55	3	455	23.6	24.8	23.8	22.6	25.4	27.2	26.6	25.5	23.4	22.7	22.0	21.0												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,090	50	1	525	39.2	41.1	40.7	37.3	51.2	82.4	90.8	83.3	70.1	38.8	34.8	33.5	39.8	40.9	42.0	37.5	50.8	82.6	83.7	77.5	68.2	39.0	34.2	32.8
	600, 601	GdyNBoff2	2,090	50	1	1,220	41.1	42.0	43.8	38.9	52.3	85.7	84.1	78.2	70.2	40.5	35.3	34.0												
	601, 7001	GdyNBoff3	2,090	50	2	135	30.5	30.0	31.0	25.9	35.9	54.5	52.5	49.1	43.7	27.0	21.5	19.7												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,285	50	1	84	37.5	38.2	39.8	37.0	39.6	41.7	45.0	41.8	42.5	36.9	34.9	32.7	29.0	29.3	30.7	28.4	30.3	32.1	34.5	32.0	32.6	28.4	27.1	25.3
	605, 606	GdyNBoff9	1,285	50	1	107	26.9	27.2	28.5	26.3	28.2	29.7	32.0	29.7	30.3	26.4	25.1	23.5												
	606, 506	GdyNBoff10	1,285	50	1	158	25.8	25.9	27.3	25.2	26.8	28.5	30.6	28.3	28.8	25.3	24.2	22.7												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,990	50	2	179	21.1	23.8	22.8	21.2	27.6	31.3	29.3	25.5	19.5	21.1	19.2	18.0	21.1	23.8	22.8	21.2	27.6	31.3	29.3	25.5	19.5	21.1	19.2	18.0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,030	50	2	501	10.2	10.6	10.2	9.6	11.2	12.2	11.4	11.0	9.5	9.9	9.3	8.9	9.6	9.9	9.6	9.1	10.5	11.5	10.7	10.3	8.9	9.3	8.8	8.4
	623, 624	GdyNBon6	1,030	50	2	299	9.5	9.9	9.5	9.0	10.4	11.4	10.7	10.2	8.8	9.3	8.7	8.4												
	624, 625	GdyNBon7	1,030	50	2	253	9.5	9.9	9.5	8.9	10.4	11.4	10.6	10.2	8.8	9.2	8.7	8.3												
	625, 626	GdyNBon8	1,030	50	2	238	9.5	9.8	9.5	8.9	10.4	11.4	10.6	10.2	8.8	9.2	8.7	8.3												
	626, 627	GdyNBon9	1,030	50	2	242	9.5	9.8	9.5	8.9	10.4	11.3	10.6	10.2	8.8	9.2	8.7	8.3												
	627, 628	GdyNBon10	1,030	50	2	277	9.5	9.8	9.5	8.9	10.4	11.3	10.6	10.2	8.8	9.2	8.7	8.3												
	628, 629	GdyNBon11	1,030	50	2	337	9.5	9.8	9.5	8.9	10.4	11.3	10.6	10.2	8.8	9.2	8.7	8.3												
	629, 630	GdyNBon12	1,030	50	2	877	9.5	9.7	9.5	9.0	10.4	11.4	10.6	10.2	8.9	9.2	8.7	8.3												
	630, 307	GdyNBon13	1,030	50	2	344	9.6	9.7	9.5	9.0	10.3	11.3	10.6	10.2	8.9	9.1	8.8	8.3												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,420	50	2	481	13.5	14.4	14.0	13.3	14.4	15.1	15.2	14.6	13.8	13.1	13.1	12.9	15.6	16.8	16.3	15.5	16.7	17.6	17.6	17.0	16.1	15.2	15.3	14.9
	660, 661	GdySBoff2	1,420	50	2	394	13.4	14.3	13.9	13.2	14.3	14.9	15.0	14.5	13.7	13.0	13.0	12.8												
	661, 662	GdySBoff3	1,420	50	2	1,949	13.9	15.0	14.5	13.8	14.9	15.6	15.7	15.2	14.3	13.6	13.6	13.3												
	662, 523	GdySBoff4	1,420	50	1	424	28.2	30.2	29.6	27.9	30.1	31.8	31.7	31.0	29.1	27.3	27.7	26.8												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	960	50	1	286	18.0	19.6	19.8	18.6	20.9	21.3	21.4	19.8	18.9	18.1	17.6	16.7	16.6	18.1	18.3	17.2	19.3	19.7	19.8	18.3	17.3	16.7	16.3	15.5
	621, 622	GdySBon3	960	50	1	204	15.9	17.3	17.6	16.4	18.5	18.9	19.0	17.5	16.6	16.0	15.6	14.9												
	622, 419	GdySBon4	960	50	1	319	15.8	17.2	17.4	16.4	18.4	18.9	18.8	17.5	16.4	16.0	15.5	14.8												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,070	35	1	302	27.1	29.8	30.0	28.4	31.1	33.7	31.5	31.8	28.1	27.4	27.2	25.5	27.4	29.5	29.7	28.3	30.7	33.4	31.4	31.5	28.2	27.4	27.1	25.4
	640, 641	GdySBonLoop2	1,070	35	1	259	27.1	29.2	29.4	28.1	30.5	33.2	30.9	31.3	27.8	27.1	26.9	25.2												
	641, 642	GdySBonLoop3	1,070	35	1	227	27.3	29.2	29.4	28.1	30.5	33.2	31.0	31.3	28.0	27.2	27.0	25.2												
	642, 643	GdySBonLoop4	1,070	35	1	211	27.4	29.5	29.6	28.3	30.8	33.5	31.4	31.5	28.2	27.4	27.2	25.4												
	643, 644	GdySBonLoop5	1,070	35	1	211	27.5	29.6	29.7	28.4	30.8	33.5	31.6	31.6	28.3	27.5	27.2	25.6												
	644, 645	GdySBonLoop6	1,070	35	1	207	27.6	29.6	29.8	28.4	30.8	33.5	31.6	31.7	28.4	27.6	27.3	25.5												
	645, 418	GdySBonLoop7	1,070	35	1	252	27.7	29.5	30.0	28.3	30.7	33.5	31.6	31.6	28.5	27.5	27.2	25.4												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,680	60	4	1,418	14.6	15.4	14.6	14.0	16.5	17.5	16.5	15.8	13.3	14.2	13.5	12.8	16.6	17.6	16.6	15.9	18.8	19.9	18.8	18.0	15.2	16.2	15.4	14.6
	541, 542	RvEB3	3,680	60	3	1,028	19.4	20.5	19.4	18.5	21.9	23.2	22.0	21.0	17.8	18.9	17.9	17.1												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,045	60	2	513	15.7	16.5	15.7	15.0	17.6	18.5	17.8	16.9	14.5	15.3	14.5	13.6	15.7	16.5	15.7	15.0	17.6	18.5	17.8	16.9	14.5	15.3	14.5	13.6
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,965	60	2	120	18.3	18.8	18.6	17.2	20.5	21.8	23.5	22.4	17.9	17.5	16.9	15.9	16.6	17.0	16.8	15.6	18.5	19.7	21.0	19.9	16.2	15.8	15.3	14.4
	546, 547	RvEB10	1,965	60	2	165	15.3	15.7	15.5	14.4	17.1	18.1	19.1	18.1	14.9	14.6	14.2	13.3												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,300	60	2	1,053	15.4	15.7	15.4	14.4	16.9	17.7	18.1	17.5	14.7	14.6	14.0	13.5	15.4	15.7	15.4	14.4	16.9	17.7	18.1	17.5	14.7	14.6	14.0	13.5
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,350	60	2	756	18.4	19.2	18.2	17.5	20.8	21.8	20.7	19.6	16.8	17.9	16.9	16.1	17.1	17.9	16.9	16.3	19.4	20.4	19.3	18.2	15.6	16.6	15.8	15.0
	558, 559	RvWB3	2,350	60	2	146	15.7	16.5	15.5	15.0	17.9	19.0	17.6	16.8	14.3	15.3	14.4	13.6												
	559, 560	RvWB4	2,350	60	3	151	12.1	12.8	11.9	11.6	13.9	14.9	13.8	13.1	11.1	11.8	11.2	10.6												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,065	60	2	125	15.8	16.6	15.8	15.0	18.4	20.1	18.8	17.7	14.7	15.3	14.6	13.8	15.8	16.6	15.8	15.0	18.4	20.1	18.8	17.7	14.7	15.3	14.6	13.8
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,695	60	2	133	15.3	16.2	15.5	14.5	17.3	18.8	18.9	18.1	14.7	15.1	14.3	13.6	13.2	14.0	13.3	12.5	14.7	15.9	15.9	15.1	12.6	13.0	12.3	11.7
	567, 568	RvWB14	1,695	60	2	750	12.9	13.7	13.0	12.3	14.4	15.5	15.6	14.8	12.3	12.7	12.1	11.5												
	568, 569	RvWB15	1,695	60	2	281	12.9	13.7	13.1	12.3	14.3	15.5	15.5	14.5	12.3	12.6	12.1	11.5												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,895	60	4	1,137	11.8	12.3	12.0	11.2	12.8	13.8	13.8	13.1	11.5	11.3	10.9	10.5	11.8	12.3	12.0	11.2	12.8	13.8	13.8	13.1	11.5	11.3	10.9	10.5
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,900	50	2	228	26.7	28.4	27.3	25.6	29.2	30.9	30.4	29.7	26.8	25.7	24.6	24.1	26.7	28.4	27.3	25.6	29.2	30.9	30.4	29.7	26.8	25.7	24.6	24.1
	7008, 701	RvNBoff4	2,900	50	2	168	32.1	33.9	32.6	30.9	34.7	36.8	36.4	35.6	32.3	30.9	29.7	29.1	23.3	24.7	23.7	22.5	25.3	26.8	26.4	25.9	23.5	22.5	21.6	21.2
	701, 702	RvNBoff5	2,900	50	2	198	19.2	20.4	19.6	18.7	20.9	22.2	21.9	21.5	19.4	18.6	17.9	17.5												
	702, 703	RvNBoff6	2,900	50	3	130	18.2	19.2	18.5	17.6	19.7	21.0	20.6	20.2	18.4	17.6	16.9	16.5												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	335	50	1	336	6.4	6.5	6.3	6.2	6.7	7.0	6.9	7.4	6.2	6.1	5.4	6.0	6.4	6.5	6.3	6.1	6.7	7.0	6.8	7.3	6.1	6.1	5.4	6.0
	704, 705	RvNBoff8	335	50	1	200	6.4	6.5	6.3	6.1	6.7	6.9	6.8	7.3	6.1	6.1	5.4	6.0												
	705, 706	RvNBoff9	335	50	1	223	6.4	6.5	6.3	6.1	6.7	6.9	6.8	7.3	6.1	6.1	5.4	5.9												
	706, 707	RvNBoff10	335	50	1	262	6.4	6.5	6.3	6.1	6.7	6.9	6.8	7.3	6.1	6.1	5.4	5.9												
	707, 547	RvNBoff11	335	50	1	264	6.4	6.5	6.4	6.1	6.7	6.9	6.8	7.3	6.1	6.1	5.5	5.9												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,200	50	2	248	12.4	12.8	12.7	11.7	13.0	14.1	14.3	13.5	12.4	11.6	11.3	10.9	12.4	12.8	12.6	11.7	13.0	14.1	14.3	13.5	12.4	11.6	11.3	10.9
	715, 716	RvNBoff21	1,200	50	2	642	12.3	12.8	12.6	11.7	13.0	14.1	14.3	13.5	12.4	11.6	11.3	10.9												
	716, 569	RvNBoff22	1,200	50	2	670	12.4	12.8	12.6	11.7	13.0	14.1	14.2	13.6	12.4	11.6	11.3	10.9												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	285	50	1	296	4.7	4.9	4.5	4.7	5.0	5.7	5.4	5.1	4.3	4.9	4.2	4.2	4.9	5.1	4.6	4.9	5.1	5.8	5.5	5.3	4.4	5.1	4.3	4.3
	758, 7016	RvNBon4	285	50	1	127	5.2	5.4	4.9	5.2	5.5	6.1	5.9	5.6	4.7	5.4	4.6	4.6												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,420	50	2	97	16.6	17.3	16.0	15.8	18.0	18.8	17.6	17.0	15.9	16.6	15.1	14.4	14.8	15.5	14.3	14.1	16.0	16.8	15.7	15.1	14.2	14.8	13.5	12.9
	757, 317	RvNBon10	1,420	50	2	123	13.4	14.0	13.0	12.8	14.5	15.2	14.2	13.7	12.9	13.4	12.2	11.7												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,960	50	2	223	17.7	18.7	18.3	17.7	18.4	19.0	18.6	18.5	18.3	18.4	17.4	17.7	18.1	19.2	18.7	18.1	18.8	19.4	19.0	18.9	18.7	18.8	17.8	18.1
	770, 7032	RvSBoff2	1,960	50	2	150	18.7	20.0	19.4	18.8	19.5	20.2	19.7	19.5	19.4	19.5	18.5	18.7												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,080	50	3	102	18.2	19.0	17.9	17.4	20.5	21.3	20.2	19.3	17.0	17.8	17.0	16.2	20.6	21.4	20.5	19.8	22.8	23.7	22.6	21.8	19.4	20.4	19.5	18.3
	793, 410	RvSBon5	2,080	50	3	655	21.0	21.8	20.9	20.2	23.1	24.1	22.9	22.2	19.8	20.8	19.8	18.7												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,635	50	2	270	14.9	15.8	14.9	14.2	16.8	17.9	16.8	16.0	13.6	14.5	13.7	13.4	14.9	15.7	14.8	14.2	16.7	17.9	16.8	16.0	13.6	14.4	13.6	13.4
	790, 7011	RvSBon11	1,635	50	2	250	14.8	15.7	14.8	14.1	16.7	17.8	16.7	15.9	13.6	14.4	13.6	13.4												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,565	50	2	311	24.0	25.4	24.4	23.1	25.9	27.5	27.2	26.3	24.3	23.1	22.6	21.6	19.4	20.5	19.8	18.6	20.8	22.2	22.1	21.3	19.6	18.7	18.3	17.4
	708, 710	118NBoff2	2,565	50	2	567	24.3	25.8	24.9	23.3	26.2	28.0	27.7	26.7	24.6	23.4	22.9	21.8												
	710, 711	118NBoff3	2,565	50	2	460	18.2	19.3	18.6	17.5	19.5	20.8	20.7	20.0	18.3	17.5	17.2	16.3												
	711, 712	118NBoff4	2,565	50	3	472	16.0	16.9	16.3	15.3	17.1	18.2	18.1	17.5	16.1	15.4	15.1	14.3												
	712, 713	118NBoff5	2,565	50	3	395	16.0	16.8	16.2	15.3	17.0	18.1	18.1	17.4	16.1	15.3	15.1	14.2												
	713, 714	118NBoff6	2,565	50	3	188	15.9	16.8	16.2	15.3	17.0	18.2	18.1	17.4	16.1	15.3	15.1	14.2												
	714, 717	118NBoff7	1,365	50	2	212	11.5	12.3	11.5	11.1	12.4	13.0	12.7	12.5	11.7	11.3	11.2	10.4												

2030 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,365	50	2	389	11.4	12.3	11.4	11.1	12.2	12.9	12.6	12.4	11.6	11.2	11.2	10.3	11.4	12.3	11.4	11.1	12.2	12.9	12.6	12.5	11.6	11.2	11.2	10.3
	718, 719	118NBoff9	1,365	50	2	373	11.4	12.3	11.4	11.0	12.2	12.9	12.6	12.4	11.6	11.2	11.2	10.3												
	719, 720	118NBoff10	1,365	50	2	589	11.4	12.3	11.4	11.1	12.2	12.9	12.6	12.4	11.6	11.2	11.2	10.3												
	720, 721	118NBoff11	1,365	50	2	311	11.4	12.3	11.4	11.1	12.2	12.9	12.5	12.4	11.6	11.2	11.2	10.3												
	721, 722	118NBoff12	1,365	50	2	327	11.4	12.3	11.4	11.1	12.2	12.9	12.6	12.5	11.6	11.2	11.2	10.3												
	722, 723	118NBoff13	1,365	50	2	626	11.4	12.3	11.4	11.1	12.2	12.9	12.5	12.5	11.7	11.1	11.1	10.3												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,885	60	4	1,252	15.0	16.0	15.5	14.9	16.1	16.8	16.5	16.0	15.5	15.1	14.8	14.1	14.8	15.8	15.4	14.7	15.9	16.6	16.3	15.7	15.4	14.9	14.6	14.0
	724, 725	118NBoff15	3,885	60	4	575	14.4	15.3	14.9	14.3	15.4	16.1	15.9	15.3	15.0	14.5	14.2	13.6												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,660	60	2	611	20.8	22.1	20.7	19.8	23.5	24.8	23.5	22.3	19.3	20.2	19.1	18.3	21.2	22.5	21.1	20.1	23.9	25.2	23.9	22.8	19.6	20.5	19.3	18.6
	740, 741	118NBon3	2,660	60	2	1,571	21.4	22.7	21.3	20.2	24.0	25.4	24.0	23.0	19.7	20.6	19.4	18.6												
NB I-275 On Ramp from 118th	741, 748	118NBon4	960	50	1	268	15.9	16.0	15.3	14.5	17.8	18.8	17.4	16.4	14.2	15.0	14.4	13.4	18.3	18.5	17.6	16.7	20.4	21.6	20.1	18.9	16.4	17.2	16.5	15.5
	748, 749	118NBon5	960	50	1	541	18.3	18.4	17.7	16.6	20.5	21.6	20.1	18.9	16.4	17.2	16.5	15.5												
	749, 750	118NBon6	960	50	1	715	18.4	18.6	17.7	16.7	20.5	21.7	20.1	18.9	16.3	17.3	16.6	15.6												
	750, 751	118NBon7	960	50	1	245	18.4	18.6	17.7	16.9	20.5	21.8	20.2	19.1	16.5	17.4	16.7	15.6												
	751, 752	118NBon8	960	50	1	252	18.5	18.7	17.8	16.9	20.6	22.0	20.3	19.2	16.6	17.5	16.7	15.7												
	752, 753	118NBon9	960	50	1	352	18.6	18.8	17.8	17.0	20.6	21.9	20.4	19.2	16.6	17.4	16.8	15.7												
	753, 754	118NBon10	960	50	1	264	18.5	18.8	17.8	17.0	20.6	21.9	20.4	19.2	16.7	17.3	16.8	15.7												
	754, 755	118NBon11	960	50	1	415	18.6	18.8	17.9	17.0	20.7	22.0	20.5	19.3	16.7	17.4	16.8	15.7												
	755, 7009	118NBon12	960	50	1	733	18.6	18.9	18.0	17.1	20.8	22.0	20.7	19.3	16.8	17.5	16.8	15.9												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,790	50	1	147	54.0	58.0	56.6	55.3	57.1	59.0	57.4	56.3	57.0	56.7	54.7	54.5	36.6	39.0	38.4	37.3	38.5	39.5	38.9	37.9	38.5	38.2	36.7	36.8
	775, 776	118SBoff3	1,790	50	1	934	35.6	38.2	37.4	36.6	37.5	38.7	37.9	37.1	37.5	37.3	35.9	36.0												
	776, 777	118SBoff4	1,790	50	1	371	35.1	37.2	36.9	35.7	36.9	37.7	37.2	36.2	36.8	36.6	35.1	35.3												
	777, 778	118SBoff5	1,790	50	1	446	35.1	37.3	36.8	35.6	36.9	37.6	37.3	36.1	36.9	36.6	34.9	35.2												
	778, 6020	118SBoff6	1,790	50	1	340	35.3	37.3	36.8	35.7	37.0	37.7	37.5	36.2	37.1	36.7	35.0	35.3												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,520	50	2	990	23.1	24.5	24.4	23.3	24.9	25.6	25.5	24.3	24.1	23.8	22.7	22.4	23.1	24.5	24.4	23.3	24.9	25.6	25.5	24.3	24.1	23.8	22.7	22.4
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,700	50	1	197	33.0	35.8	33.4	31.7	37.4	39.5	37.8	36.5	31.0	32.1	29.9	29.1	32.8	35.4	33.2	31.3	36.8	39.0	37.4	36.0	30.8	31.6	30.0	28.9
	742, 743	118SBon2	1,700	50	1	119	33.4	36.2	33.7	31.9	37.8	40.0	38.3	36.8	31.3	32.3	30.1	29.2												
	743, 744	118SBon3	1,700	50	1	126	33.2	36.0	33.5	31.7	37.6	39.8	38.1	36.5	31.1	32.0	30.1	29.0												
	744, 745	118SBon4	1,700	50	1	162	32.9	35.6	33.2	31.4	37.0	39.2	37.6	36.1	30.8	31.7	29.9	28.8												
	745, 746	118SBon5	1,700	50	1	200	32.6	35.1	32.9	31.1	36.5	38.6	37.1	35.7	30.5	31.3	29.7	28.6												
	746, 747	118SBon6	1,700	50	1	166	32.5	34.9	32.8	30.9	36.2	38.3	36.8	35.4	30.4	31.2	29.6	28.6												
	747, 413	118SBon7	1,700	50	1	973	32.8	35.3	33.3	31.3	36.5	38.8	37.2	35.9	30.8	31.5	30.1	29.0												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,425	60	3	2,420	12.6	13.1	12.7	11.9	14.1	14.9	14.1	13.4	11.6	12.1	11.6	11.0	12.6	13.1	12.7	11.9	14.1	14.9	14.1	13.4	11.6	12.1	11.6	11.0
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,320	50	2	647	12.4	12.6	12.6	11.7	13.7	14.7	13.6	13.2	11.0	11.7	11.3	10.6	12.4	12.6	12.7	11.8	13.7	14.7	13.7	13.3	11.1	11.6	11.3	10.6
	811, 812	UlmNBon4	1,320	50	2	590	12.4	12.7	12.6	11.7	13.7	14.7	13.6	13.2	11.0	11.6	11.3	10.6												
	812, 813	UlmNBon5	1,320	50	2	323	12.4	12.7	12.7	11.8	13.7	14.7	13.7	13.2	11.1	11.6	11.4	10.6												
	813, 814	UlmNBon6	1,320	50	2	328	12.4	12.6	12.7	11.8	13.7	14.7	13.7	13.3	11.1	11.6	11.3	10.6												
	814, 815	UlmNBon7	1,320	50	2	288	12.3	12.6	12.7	11.8	13.7	14.7	13.8	13.3	11.1	11.6	11.4	10.6												
	815, 816	UlmNBon8	1,320	50	2	273	12.4	12.6	12.7	11.8	13.7	14.7	13.7	13.4	11.1	11.6	11.4	10.6												
	816, 322	UlmNBon9	1,320	50	2	888	12.4	12.6	12.7	11.8	13.7	14.7	13.8	13.4	11.1	11.6	11.4	10.7												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,870	50	2	318	16.9	17.0	16.2	17.0	16.6	16.5	16.8	16.7	16.3	16.6	16.8	16.3	16.7	16.8	16.0	16.8	16.4	16.3	16.7	16.5	16.2	16.4	16.6	16.1
	830, 831	UlmSBoff2	1,870	50	2	346	16.6	16.7	15.9	16.7	16.3	16.2	16.6	16.4	16.1	16.3	16.5	16.0												
	831, 7036	UlmSBoff3	1,870	50	2	283	16.7	16.8	16.0	16.8	16.3	16.3	16.7	16.4	16.2	16.4	16.6	16.1												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,560	50	2	398	14.4	14.5	14.1	14.8	14.3	14.3	14.6	14.3	14.0	14.3	14.6	14.1	11.9	11.9	11.7	12.2	11.7	11.8	12.1	11.8	11.6	11.9	12.0	11.6
	834, 835	UlmSBoff8	1,560	60	2	584	12.3	12.3	12.1	12.7	12.1	12.3	12.5	12.2	12.0	12.3	12.4	12.0												
	835, 836	UlmSBoff9	1,560	60	2	481	11.4	11.4	11.2	11.7	11.2	11.3	11.6	11.3	11.1	11.3	11.5	11.1												
	836, 837	UlmSBoff10	1,560	60	2	2,160	11.5	11.4	11.3	11.8	11.3	11.4	11.6	11.3	11.1	11.4	11.6	11.2												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,105	35	1	493	19.4	20.5	19.2	18.1	21.8	23.0	22.4	20.7	18.8	18.8	18.3	17.0	21.7	23.0	21.5	20.3	24.4	25.8	25.2	23.3	21.0	21.0	20.5	19.0
	802, 803	UlmSBon2	1,105	35	1	214	27.0	28.6	26.8	25.2	30.4	32.2	31.7	29.1	26.0	26.2	25.6	23.7												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	830	35	1	163	21.8	23.4	21.9	20.7	24.5	25.5	25.4	23.6	21.4	21.5	20.3	19.3	17.8	19.2	17.9	16.9	20.0	20.9	20.7	19.3	17.6	17.6	16.5	15.8
	808, 809	UlmSBon4	830	35	1	163	21.5	23.2	21.6	20.5	24.2	25.2	25.0	23.3	21.3	21.3	20.0	19.2												
	809, 810	UlmSBon5	830	35	1	228	21.6	23.3	21.7	20.5	24.3	25.3	25.1	23.3	21.4	21.4	20.1	19.3												
	810, 402	UlmSBon6	830	50	1	1,170	16.0	17.2	16.1	15.2	17.9	18.8	18.6	17.3	15.8	15.9	14.8	14.2												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	275	35	1	201	6.4	6.6	6.3	6.0	7.2	7.7	7.4	6.9	6.1	6.0	6.6	5.7	5.2	5.3	5.0	4.8	5.8	6.2	6.0	5.6	4.9	4.9	5.3	4.6
	804, 805	UlmSBMLK2	275	50	1	361	5.4	5.5	5.2	5.0	6.0	6.4	6.2	5.8	5.1	5.0	5.5	4.8												
	805, 806	UlmSBMLK3	275	50	1	499	4.6	4.6	4.4	4.2	5.0	5.4	5.2	4.9	4.3	4.2	4.6	4.0												
SB MLK	806, 807	UlmSBMLK4	585	50	2	1,171	5.2	5.2	4.8	4.7	5.2	5.4	5.3	5.3	4.9	4.9	5.0	4.6	5.2	5.2	4.8	4.7	5.2	5.4	5.3	5.3	4.9	4.9	5.0	4.6
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1,080	7.7	7.9	7.7	7.3	8.5	9.2	8.5	8.1	7.0	7.4	7.0	6.7	7.7	7.9	7.6	7.3	8.5	9.2	8.5	8.1	7.0	7.4	7.0	6.7
	851, 852	MLKNBon3	420	50	1	350	7.6	7.8	7.6	7.2	8.5	9.1	8.4	8.1	6.9	7.4	7.0	6.6												
	852, 853	MLKNBon4	420	50	1	360	7.7	7.9	7.6	7.2	8.5	9.1	8.5	8.1	6.9	7.4	7.0	6.7												
	853, 321	MLKNBon5	420	50	1	548	7.7	8.0	7.7	7.3	8.5	9.1	8.5	8.2	6.9	7.4	7.1	6.7												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	310	50	1	294	6.3	6.3	5.6	5.7	5.8	5.8	5.9	6.1	6.0	5.9	5.8	5.6	5.9	6.0	5.3	5.3	5.5	5.4	5.6	5.8	5.6	5.6	5.5	5.3
	839, 840	MLKSBoff4	310	50	1	336	5.8	5.9	5.2	5.3	5.4	5.3	5.5	5.7	5.6	5.5	5.4	5.2												
	840, 841	MLKSBoff5	310	50	1	395	5.8	5.9	5.2	5.3	5.4	5.4	5.5	5.7	5.6	5.5	5.4	5.2												
	841, 806	MLKSBoff6	310	50	1	539	5.8	5.9	5.2	5.3	5.5	5.4	5.4	5.8	5.5	5.5	5.3	5.3												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	760	60	2	1,270	5.7	6.1	5.7	5.4	6.6	6.8	6.5	6.2	5.3	5.6	5.3	5.0	7.6	8.1	7.6	7.2	8.8	9.0	8.6	8.2	7.0	7.4	7.1	6.7
	901, 902	4thNBon3	760	60	2	634	5.6	6.0	5.6	5.4	6.5	6.7	6.4	6.1	5.2	5.5	5.3	5.0												
	902, 903	4thNBon4	760	60	2	322	5.7	6.1	5.7	5.5	6.6	6.8	6.5	6.2	5.3	5.5	5.3	5.0												
	903, 904	4thNBon5	760	60	2	279	5.8	6.2	5.8	5.5	6.7	6.9	6.6	6.2	5.4	5.6	5.4	5.1												
	904, 905	4thNBon6	760	60	2	388	6.4	6.7	6.3	6.0	7.4	7.5	7.2	6.8	5.9	6.1	5.9	5.5												
	905, 906	4thNBon7	760	60	1	313	11.7	12.3	11.6	11.1	13.5	13.7	13.2	12.5	10.8	11.2	10.8	10.2												
	906, 907	4thNBon8	760	60	1	305	11.7	12.3	11.6	11.1	13.4	13.7	13.2	12.5	10.8	11.2	10.8	10.2												
	907, 324	4thNBon9	760	60	1	666	11.7	12.3	11.6	11.1	13.4	13.7	13.3	12.6	10.8	11.2	10.8	10.2												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,240	60	1	466	17.0	18.2	17.8	18.3	19.4	18.3	18.8	18.6	18.5	18.7	18.7	18.0	13.2	14.0	13.9	14.1	14.9	14.1	14.4	14.3	14.2	14.5	14.4	13.8
	920, 921	4thSBoff2	1,240	60	1	492	16.6	17.5	17.3	17.7	18.7	17.6	18.1	17.8	17.8	18.1	17.9	17.3												
	921, 922	4thSBoff3	1,240	60	1	420	16.6	17.5	17.4	17.7	18.7	17.6	18.1	17.9	17.9	18.1	18.0	17.3												
	922, 923	4thSBoff4	1,240	60	1	393	16.6	17.6	17.5	17.9	18.9	17.7	18.2	18.0	18.0	18.2	18.2	17.4												
	923, 924	4thSBoff5	1,240	60	1	384	16.7	17.7	17.6	18.0	19.0	17.9	18.3	18.2	18.1	18.3	18.3	17.5												
	924, 925	4thSBoff6	1,240	60	1	354	16.8	17.8	17.7	18.0	19.0	17.9	18.3	18.3	18.1	18.4	18.3	17.6												
	925, 926	4thSBoff7	1,240	60	1	501	16.9	17.9	17.7	18.0	19.1	18.0	18.4	18.3	18.2	18.6	18.4	17.6												
	926, 927	4thSBoff8	1,240	60	1	416	16.3	17.3	17.2	17.4	18.5	17.4	17.8	17.7	17.5	18.0	17.8	17.0												
	927, 928	4thSBoff9	1,240	60	2	1,153	8.3	8.8	8.7	8.8	9.4	8.8	9.1	9.0	8.9	9.1	9.1	8.6												

2030 Starter PM							Density (veh/mi/lane)												Weighted Density (veh/mi/lane)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,240	60	2	1,242	8.2	8.7	8.6	8.7	9.2	8.8	8.9	8.9	8.8	9.0	8.9	8.6												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	840	70	1	1,116	10.9	11.7	11.0	10.4	12.5	13.0	12.4	11.7	10.1	10.8	10.1	9.6	11.1	11.8	11.2	10.6	12.5	13.2	12.6	11.9	10.4	10.8	10.3	9.7
	5000, 5001	SULNB2	840	70	1	2,205	10.8	11.6	11.0	10.4	12.3	13.0	12.3	11.6	10.1	10.7	10.1	9.6												
	5001, 5002	SULNB3	840	70	1	528	11.0	11.8	11.2	10.6	12.5	13.2	12.6	11.9	10.4	10.8	10.3	9.7												
	5002, 5003	SULNB4	840	70	1	346	11.1	11.8	11.2	10.6	12.5	13.3	12.6	11.9	10.4	10.8	10.3	9.7												
	5003, 5004	SULNB5	840	70	1	235	11.1	11.8	11.2	10.7	12.5	13.3	12.7	12.0	10.4	10.8	10.4	9.7												
	5004, 5005	SULNB6	840	70	1	270	11.2	11.8	11.3	10.7	12.5	13.3	12.7	12.0	10.5	10.8	10.4	9.7												
	5005, 5006	SULNB7	840	70	1	238	11.2	11.9	11.3	10.7	12.5	13.3	12.7	12.0	10.5	10.8	10.5	9.7												
	5006, 5007	SULNB8	840	70	1	261	11.2	11.9	11.3	10.8	12.5	13.4	12.8	12.0	10.5	10.8	10.5	9.7												
	5007, 5008	SULNB9	840	70	1	451	11.2	11.9	11.3	10.8	12.5	13.4	12.8	12.0	10.5	10.8	10.5	9.8												
	5008, 5009	SULNB10	840	70	1	242	11.2	11.9	11.4	10.8	12.6	13.4	12.9	12.1	10.6	10.9	10.6	9.8												
	5009, 5010	SULNB11	840	70	1	158	11.2	11.9	11.4	10.8	12.6	13.4	12.9	12.1	10.6	10.9	10.6	9.8												
	5010, 5011	SULNB12	840	70	1	539	11.3	11.9	11.4	10.8	12.6	13.4	12.9	12.1	10.6	10.9	10.6	9.8												
	5011, 5012	SULNB13	840	70	1	564	11.3	12.0	11.4	10.9	12.6	13.5	12.9	12.2	10.7	10.9	10.7	9.8												
	5012, 5013	SULNB14	840	70	1	824	11.4	12.0	11.5	10.9	12.6	13.5	12.9	12.3	10.7	10.9	10.7	9.8												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,170	70	1	2,172	8.8	9.4	9.0	8.6	9.8	10.5	10.0	9.9	8.6	8.6	8.4	7.8	14.9	15.8	15.2	14.6	16.5	17.5	16.9	16.8	14.7	14.5	14.3	13.3
	5014, 5015	SULNB16	1,170	70	1	1,149	16.2	17.0	16.2	15.8	17.8	19.1	18.1	18.1	15.7	15.7	15.4	14.2												
	5015, 5016	SULNB17	1,170	70	1	2,057	16.2	17.1	16.5	15.9	18.0	19.0	18.4	18.2	15.9	15.8	15.5	14.4												
	5016, 5017	SULNB18	1,170	70	1	1,250	16.2	17.2	16.6	15.9	18.0	19.1	18.5	18.3	16.0	15.8	15.5	14.5												
	5017, 5018	SULNB19	1,170	70	1	1,385	16.2	17.3	16.7	16.0	18.0	19.2	18.5	18.4	16.2	15.7	15.7	14.6												
	5018, 5019	SULNB20	1,170	70	1	843	16.2	17.4	16.6	16.0	18.1	19.2	18.5	18.5	16.3	15.8	15.7	14.7												
	5019, 5020	SULNB21	1,170	70	1	687	16.2	17.3	16.8	16.0	18.1	19.2	18.6	18.5	16.3	15.8	15.7	14.8												
	5020, 5021	SULNB22	1,170	70	1	2,036	16.4	17.4	16.8	16.0	18.1	19.2	18.7	18.5	16.4	15.9	15.7	14.8												
	5021, 5022	SULNB23	1,170	70	1	171	16.6	17.5	17.1	16.2	18.2	19.4	18.9	18.6	16.5	16.0	16.0	14.9												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,530	70	1	1,752	19.3	20.0	20.1	18.9	21.2	23.2	22.2	21.3	19.1	18.7	18.5	17.1	21.3	21.8	22.1	20.8	23.0	24.9	24.4	23.4	21.2	20.6	20.5	19.0
	5023, 5024	SULNB25	1,530	70	1	1,039	22.1	22.4	22.8	21.4	23.8	25.6	25.2	24.1	21.8	21.4	21.2	19.7												
	5024, 5025	SULNB26	1,530	70	1	814	21.9	22.4	22.7	21.3	23.5	25.3	25.0	23.9	21.7	21.2	21.1	19.6												
	5025, 5026	SULNB27	1,530	70	1	2,530	22.2	22.6	23.1	21.6	23.8	25.8	25.4	24.3	22.1	21.4	21.3	19.9												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	4.6	4.9	4.7	4.5	5.1	5.3	5.1	5.6	4.7	4.5	4.5	4.2	4.4	4.7	4.6	4.4	4.9	5.1	4.8	5.3	4.6	4.4	4.3	4.1
	5100, 5101	SULNBRamp2	330	70	1	528	4.4	4.8	4.6	4.4	5.0	5.1	4.9	5.4	4.5	4.4	4.3	4.1												
	5101, 5102	SULNBRamp3	330	70	1	379	4.4	4.7	4.6	4.4	4.9	5.0	4.8	5.3	4.5	4.4	4.3	4.0												
	5102, 5103	SULNBRamp4	330	70	1	376	4.4	4.7	4.6	4.3	4.9	5.0	4.8	5.3	4.5	4.4	4.3	4.0												
	5103, 5104	SULNBRamp5	330	70	1	363	4.4	4.7	4.6	4.3	4.9	5.0	4.8	5.2	4.5	4.4	4.3	4.0												
	5104, 5105	SULNBRamp6	330	70	1	352	4.3	4.7	4.6	4.3	4.9	5.0	4.8	5.2	4.5	4.4	4.3	4.0												
	5105, 5106	SULNBRamp7	330	70	1	831	4.4	4.7	4.6	4.4	4.9	5.0	4.8	5.3	4.6	4.4	4.3	4.0												
	5106, 5107	SULNBRamp8	330	70	1	1,172	4.3	4.7	4.6	4.4	4.9	5.1	4.8	5.3	4.6	4.4	4.3	4.1												
	5107, 5108	SULNBRamp9	330	70	1	656	4.4	4.7	4.6	4.4	4.9	5.1	4.8	5.3	4.6	4.4	4.3	4.1												
	5108, 5109	SULNBRamp10	330	70	1	803	4.4	4.7	4.6	4.4	4.9	5.2	4.8	5.3	4.6	4.4	4.3	4.1												
	5109, 5110	SULNBRamp11	330	70	1	897	4.4	4.7	4.6	4.5	4.9	5.2	4.8	5.3	4.7	4.5	4.4	4.1												
	5110, 5111	SULNBRamp12	330	70	1	513	4.4	4.8	4.6	4.5	5.0	5.2	4.9	5.3	4.7	4.5	4.3	4.1												
	5111, 5013	SULNBRamp13	330	70	1	267	4.4	4.8	4.6	4.4	5.0	5.2	4.9	5.3	4.7	4.5	4.3	4.1												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	360	70	1	157	5.5	5.4	5.7	5.2	5.8	6.3	6.2	5.6	5.3	5.5	5.2	4.8	5.5	5.4	5.7	5.2	5.8	6.3	6.2	5.6	5.3	5.5	5.2	4.8
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	15.6	16.6	15.7	15.0	17.7	18.7	17.7	16.9	14.5	15.1	14.5	13.7	15.6	16.6	15.7	15.0	17.7	18.7	17.7	16.9	14.5	15.1	14.5	13.7
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,260	70	1	941	16.4	17.6	16.2	15.9	18.7	19.7	18.8	17.9	15.5	16.1	15.2	14.5	17.3	18.4	17.1	16.7	19.4	20.7	19.8	19.0	16.5	16.8	15.9	15.4
	5997, 5998	SULSB1	1,260	70	1	816	16.6	17.9	16.4	16.1	18.9	20.1	19.1	18.2	15.8	16.3	15.4	14.7												
	5998, 5999	SULSB1	1,260	70	1	1,054	16.8	18.1	16.5	16.3	19.1	20.3	19.3	18.3	15.9	16.6	15.5	14.8												
	5999, 6000	SULSB1	1,260	70	1	1,908	17.0	18.3	16.8	16.4	19.3	20.6	19.5	18.7	16.1	16.8	15.7	15.0												
	6000, 6001	SULSB2	1,260	70	1	2,064	17.3	18.4	17.0	16.6	19.5	20.6	19.8	18.9	16.3	16.9	15.9	15.2												
	6001, 6002	SULSB3	1,260	70	1	572	17.3	18.4	17.2	16.7	19.6	20.7	19.9	19.1	16.4	16.9	16.0	15.3												
	6002, 6003	SULSB4	1,260	70	1	407	17.4	18.5	17.2	16.7	19.6	20.7	19.9	19.2	16.5	16.9	16.0	15.4												
	6003, 6004	SULSB5	1,260	70	1	1,528	17.5	18.5	17.3	16.7	19.6	20.8	19.9	19.2	16.6	16.9	16.1	15.5												
	6004, 6005	SULSB6	1,260	70	1	1,420	17.5	18.5	17.5	16.8	19.5	20.9	20.1	19.3	16.8	16.9	16.1	15.6												
	6005, 6006	SULSB7	1,260	70	1	4,087	17.6	18.6	17.5	17.0	19.5	21.0	20.1	19.5	16.9	16.9	16.2	15.8												
	6006, 6007	SULSB8	1,260	70	1	1,611	17.7	18.7	17.6	17.1	19.3	21.1	20.2	19.5	17.1	17.0	16.3	15.9												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	730	70	1	767	9.7	10.3	10.2	9.6	11.1	11.8	11.4	10.8	9.6	9.5	9.1	8.6	9.7	10.2	10.2	9.6	11.1	11.7	11.3	10.8	9.7	9.5	9.1	8.6
	6008, 6009	SULSB10	730	70	1	614	9.5	10.1	10.0	9.4	10.9	11.5	11.1	10.6	9.4	9.4	8.9	8.5												
	6009, 6010	SULSB11	730	70	1	382	9.6	10.1	10.1	9.4	10.9	11.5	11.1	10.6	9.4	9.4	8.9	8.5												
	6010, 6011	SULSB12	730	70	1	135	9.7	10.1	10.1	9.4	11.0	11.6	11.2	10.7	9.5	9.4	9.0	8.6												
	6011, 6012	SULSB13	730	70	1	204	9.7	10.1	10.1	9.5	11.0	11.6	11.2	10.7	9.6	9.4	9.0	8.6												
	6012, 6013	SULSB14	730	70	1	613	9.7	10.2	10.2	9.6	11.1	11.7	11.3	10.8	9.7	9.5	9.0	8.7												
	6013, 6014	SULSB15	730	70	1	251	9.8	10.2	10.3	9.6	11.2	11.7	11.3	10.8	9.7	9.5	9.1	8.7												
	6014, 6015	SULSB16	730	70	1	233	9.8	10.2	10.3	9.6	11.2	11.7	11.3	10.8	9.8	9.5	9.1	8.7												
	6015, 6016	SULSB17	730	70	1	274	9.8	10.2	10.3	9.6	11.3	11.7	11.3	10.9	9.8	9.5	9.1	8.7												
	6016, 6017	SULSB18	730	70	1	238	9.8	10.2	10.3	9.6	11.3	11.7	11.3	10.8	9.8	9.5	9.1	8.7												
	6017, 6018	SULSB19	730	70	1	314	9.7	10.3	10.3	9.6	11.2	11.8	11.3	10.8	9.9	9.5	9.1	8.7												
	6018, 6019	SULSB20	730	70	1	879	9.7	10.3	10.3	9.6	11.2	11.8	11.4	10.8	9.9	9.6	9.2	8.7												
	6019, 6020	SULSB21	730	70	1	207	9.7	10.3	10.4	9.6	11.3	11.8	11.5	10.8	9.9	9.6	9.2	8.7												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	530	70	1	582	7.4	7.8	7.0	6.9	7.7	8.6	8.3	8.1	7.1	6.9	6.8	6.9	7.2	7.6	7.1	6.8	7.6	8.4	8.2	8.0	7.0	6.8	6.8	6.8
	6100, 6101	SULSBRamp2	530	70	1	621	7.2	7.5	6.8	6.7	7.4	8.3	8.0	7.8	6.7	6.7	6.6	6.6												
	6101, 6102	SULSBRamp3	530	70	1	317	7.1	7.4	6.7	6.6	7.3	8.2	7.9	7.7	6.7	6.6	6.6	6.6												
	6102, 6103	SULSBRamp4	530	70	1	915	7.1	7.5	6.8	6.6	7.4	8.2	8.0	7.7	6.8	6.7	6.6	6.6												
	6103, 6104	SULSBRamp5	530	70	1	1,093	7.2	7.5	6.9	6.7	7.5	8.3	8.1	7.9	6.9	6.7	6.7	6.7												
	6104, 6105	SULSBRamp6	530	70	1	1,068	7.2	7.6	7.0	6.7	7.5	8.4	8.1	7.9	6.9	6.7	6.7	6.7												
	6105, 6106	SULSBRamp7	530	70	1	788	7.2	7.6	7.1	6.7	7.5	8.4	8.1	7.9	6.9	6.8	6.8	6.7												
	6106, 6107	SULSBRamp8	530	70	1	367	7.3	7.6	7.1	6.7	7.6	8.3	8.2	7.9	6.8	6.9	6.8	6.8												
	6107, 6108	SULSBRamp9	530	70	1	373	7.3	7.6	7.1	6.7	7.7	8.3	8.2	8.0	6.9	6.8	6.8	6.8												
	6108, 6109	SULSBRamp10	530	70	1	445	7.2	7.6	7.0	6.7	7.7	8.3	8.2	8.0	6.9	6.8	6.7	6.8												
	6109, 6110	SULSBRamp11	530	70	1	8,866	7.2	7.7	7.1	6.8	7.6	8.4	8.3	8.1	7.1	6.8	6.9	6.9												
	6110, 1	SULSBRamp12	530	70	1	292	7.3	7.6	7.3	6.9	7.6	8.4	8.4	8.2	7.2	6.8	7.0	6.9												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	310	70	1	154	4.1	4.1	4.4	3.8	4.4	4.8	4.5	4.2	3.6	3.8	3.8	3.5	4.1	4.1	4.4	3.8	4.4	4.8	4.5	4.2	3.6	3.8	3.8	3.5

2030 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6,400	70	3	1,087	66.7	66.5	66.8	66.9	66.4	62.2	53.9	52.6	60.0	66.8	67.1	67.2	63.5	62.6	63.3	64.2	59.5	51.6	41.4	43.6	51.3	64.1	64.9	65.3
	300, 301	I275NB3	6,400	70	3	805	67.1	66.9	67.2	67.2	66.7	61.9	49.1	48.9	58.1	67.1	67.4	67.6												
	301, 302	I275NB4	6,400	70	3	478	65.8	65.6	66.0	66.0	65.4	59.5	44.1	44.7	55.2	66.0	66.2	66.5												
	302, 303	I275NB5	6,400	70	3	2,687	61.4	59.9	60.9	62.4	54.5	44.3	34.5	39.0	46.3	62.3	63.4	64.0												
	303, 304	I275NB6	6,400	70	4	382	59.2	57.7	58.8	60.3	53.2	41.8	35.2	38.4	42.9	59.9	61.8	62.3												
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4,310	70	3	1,375	66.3	65.8	66.2	66.6	65.1	64.0	62.6	63.4	64.6	66.6	66.8	67.1	66.6	66.2	66.6	66.9	65.9	65.5	64.7	65.2	65.8	66.8	66.9	67.2
	305, 306	I275NB8	4,310	70	3	1,306	66.9	66.6	66.9	67.2	66.5	66.7	66.4	66.5	66.7	67.1	67.0	67.4												
	306, 307	I275NB9	4,310	70	3	591	66.7	66.4	66.7	66.9	66.3	66.3	66.1	66.4	66.5	66.8	66.8	67.1												
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	5,340	70	5	1,065	64.9	64.7	64.9	65.0	64.7	64.5	64.5	64.7	64.9	65.1	65.1	65.3	66.3	65.9	66.2	66.4	65.9	65.8	65.8	65.9	66.2	66.4	66.4	66.7
	308, 309	I275NB11	5,340	70	5	3,035	66.7	66.3	66.7	66.8	66.3	66.2	66.2	66.4	66.6	66.8	66.8	67.2												
	309, 2	I275NB12	5,340	70	4	350	66.6	66.3	66.6	66.7	66.1	66.0	66.2	65.5	66.6	66.7	66.8	67.1												
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	5,010	70	4	745	66.7	66.4	66.7	66.9	66.4	66.2	66.2	66.4	66.7	66.8	67.0	67.2	64.1	63.5	64.0	64.4	63.1	62.8	63.2	63.3	64.1	64.5	64.5	64.8
	310, 311	I275NB13	5,010	70	4	380	65.2	64.8	65.3	65.6	64.7	64.3	64.6	64.5	65.2	65.6	65.7	65.9												
	311, 312	I275NB14	5,010	70	4	399	63.8	63.3	63.8	64.2	62.9	62.6	63.0	62.9	63.7	64.3	64.4	64.6												
	312, 313	I275NB15	5,010	70	4	368	63.1	62.3	62.9	63.6	61.4	61.3	61.8	62.0	63.2	63.7	63.8	64.0												
	313, 314	I275NB16	5,010	70	4	460	60.0	59.0	59.6	60.3	58.0	57.6	58.5	58.9	60.3	60.4	60.3	60.6												
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,110	70	3	879	67.1	66.7	67.1	67.2	66.5	66.3	66.5	66.7	67.3	67.3	67.1	67.5	68.1	67.8	68.1	68.2	67.8	67.8	67.8	67.8	68.1	68.2	68.1	68.4
	315, 316	I275NB18	2,110	70	3	1,293	68.4	68.2	68.4	68.5	68.3	68.3	68.2	68.3	68.5	68.5	68.4	68.7												
	316, 317	I275NB19	2,110	70	3	1,158	68.4	68.2	68.4	68.5	68.3	68.3	68.2	68.2	68.5	68.5	68.4	68.7												
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,530	70	5	372	60.0	59.9	60.1	60.1	59.9	59.9	59.9	60.2	60.2	59.9	60.1	60.3	66.0	65.9	66.2	66.2	65.8	65.7	65.7	65.9	66.1	66.0	66.2	66.6
	318, 319	I275NB21	3,530	70	5	2,611	66.0	65.9	66.2	66.2	65.8	65.6	65.7	65.9	66.1	66.0	66.2	66.6												
	319, 320	I275NB22	3,530	70	3	1,802	67.0	66.9	67.2	67.2	66.8	66.6	66.7	66.8	67.1	67.1	67.1	67.5												
	320, 321	I275NB23	3,530	70	3	501	67.1	67.0	67.3	67.4	67.0	66.9	66.8	67.0	67.2	67.3	67.2	67.6												
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,950	70	3	1,814	65.6	65.3	65.9	65.8	65.2	65.2	65.0	65.2	65.8	65.9	65.8	66.3	65.6	65.3	65.9	65.8	65.2	65.2	65.0	65.2	65.8	65.9	65.8	66.3
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,270	70	5	814	63.8	63.6	63.7	63.9	63.3	63.2	63.2	63.4	64.3	64.0	63.8	64.3	65.9	65.7	65.9	66.1	65.5	65.4	65.3	65.6	66.3	66.1	66.0	66.4
	323, 324	I275NB26	5,270	70	5	1,850	66.9	66.7	66.8	67.0	66.5	66.3	66.2	66.6	67.2	67.0	66.9	67.3												
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	6,030	70	4	838	65.2	64.9	65.1	65.5	64.1	61.5	60.6	63.3	65.6	65.5	65.5	65.9	62.0	60.7	61.7	62.6	59.2	55.6	56.1	58.4	62.9	62.8	63.2	64.3
	325, 326	I275NB28	6,030	70	4	704	55.6	52.8	54.6	57.2	48.7	40.6	42.5	47.1	57.2	57.6	58.2	60.8												
	326, 327	I275NB29	6,030	70	3	1,988	63.0	61.7	62.8	63.3	60.9	58.5	59.1	60.3	63.7	63.6	63.9	64.8												
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,670	70	3	1,906	66.0	65.7	65.7	66.1	65.8	64.8	64.9	65.3	66.0	66.0	66.1	66.5	65.8	65.6	65.6	66.0	65.5	64.8	64.9	65.2	65.9	65.9	66.0	66.4
	328, 329	I275NB31	5,670	70	3	1,046	65.9	65.6	65.6	66.0	65.6	64.7	64.8	65.2	66.0	65.9	66.0	66.4												
	329, 330	I275NB32	5,670	70	3	803	65.8	65.6	65.5	66.0	65.5	64.8	64.9	65.2	65.9	65.8	65.9	66.4												
	330, 331	I275NB33	5,670	70	3	2,542	65.7	65.5	65.5	65.9	65.4	64.9	64.9	65.2	65.8	65.8	65.9	66.3												
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	7,000	70	3	1,731	21.6	21.4	20.4	20.4	21.1	20.9	21.1	21.2	21.1	21.0	20.6	20.9	21.6	21.4	20.4	20.4	21.1	20.9	21.1	21.2	21.1	21.0	20.6	20.9
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	7,310	70	4	787	22.6	22.5	22.1	22.1	22.3	22.6	22.7	22.7	22.5	22.4	22.6	22.1	53.7	53.5	53.6	53.7	53.6	53.0	53.4	53.5	53.7	53.4	53.6	53.4
	395, 396	I275SB1	7,310	70	4	818	37.3	37.5	38.0	37.8	38.1	37.6	37.4	37.7	37.7	37.9	37.9	37.5												
	396, 397	I275SB1	7,310	70	3	1,049	57.5	57.2	57.5	57.7	57.3	56.7	57.1	57.0	57.6	57.3	57.5	57.1												
	397, 398	I275SB1	7,310	70	3	1,916	63.3	63.2	63.1	63.4	63.4	62.6	62.9	63.1	63.4	63.0	63.2	63.0												
	398, 399	I275SB1	7,310	70	3	2,120	61.1	60.5	60.9	60.8	60.7	59.9	60.7	60.7	60.7	60.5	60.7	60.6												
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,070	70	3	2,742	64.6	64.7	64.9	64.8	65.0	64.7	64.9	64.9	64.9	65.0	64.8	64.8	63.7	63.8	64.0	63.8	64.0	63.8	64.0	63.8	64.0	64.1	63.8	63.9
	400, 401	I275SB3	6,070	70	4	1,083	61.5	61.4	61.8	61.4	61.4	61.6	61.5	61.2	61.5	61.6	61.4	61.6												
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,200	70	3	4,105	66.5	66.4	66.4	66.5	66.5	66.5	66.5	66.4	66.5	66.5	66.6	66.3	66.5	66.4	66.4	66.5	66.5	66.5	66.5	66.4	66.5	66.5	66.6	66.3
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,030	70	4	720	64.4	64.3	64.4	64.7	64.4	64.2	64.1	64.4	64.6	64.5	64.7	64.7	65.1	64.8	64.8	65.1	65.0	64.8	64.9	64.9	65.0	64.9	65.2	65.0
	403, 404	I275SB6	5,030	70	4	1,327	66.0	65.8	65.7	66.1	66.0	65.9	65.8	65.8	66.0	65.8	66.1	65.9												
	404, 405	I275SB7	5,030	70	4	461	65.2	65.0	64.8	65.3	65.1	64.9	65.1	64.9	65.0	64.9	65.3	65.0												
	405, 406	I275SB8	5,030	70	4	452	63.2	62.7	62.7	62.8	62.9	62.7	62.9	62.9	62.5	62.7	63.1	62.9												
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,070	70	3	855	67.2	66.9	66.9	67.1	67.1	67.0	66.9	67.0	67.0	66.9	67.2	67.0	67.7	67.5	67.5	67.8	67.6	67.7	67.4	67.6	67.7	67.5	67.7	67.6
	407, 408	I275SB10	3,070	70	3	347	67.8	67.6	67.7	68.0	67.8	67.9	67.6	67.8	67.8	67.7	67.9	67.7												
	408, 409	I275SB11	3,070	70	3	1,585	67.9	67.7	67.8	68.0	67.8	67.9	67.6	67.8	67.9	67.7	67.9	67.8												
	409, 410	I275SB12	3,070	70	3	458	67.8	67.6	67.6	67.9	67.7	67.8	67.5	67.7	67.8	67.6	67.8	67.7												
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	5,150	70	4	629	61.1	61.0	61.2	61.3	60.9	60.9	60.9	60.8	61.4	61.1	61.3	61.3	63.6	63.4	63.7	63.8	63.4	63.4	63.2	63.3	63.9	63.6	63.7	63.8
	411, 412	I275SB14	5,150	70	4	247	64.5	64.3	64.5	64.6	64.3	64.3	64.2	64.1	64.7	64.4	64.4	64.6												
	412, 413	I275SB15	5,150	70	4	608	65.9	65.6	65.9	66.0	65.6	65.5	65.3	65.5	66.1	65.8	65.9	66.0												
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	6,850	70	4	492	55.9	52.6	55.1	56.0	51.5	48.7	49.7	52.3	56.8	56.0	56.9	58.9	62.2	61.1	61.7	62.3	60.7	59.7	60.2	61.0	62.4	62.0	62.8	63.3
	414, 415	I275SB17	6,850	70	4	3,870	63.8	63.1	63.5	64.0	63.0	62.3	62.6	63.2	64.1	63.8	64.4	64.7												
	415, 416	I275SB18	6,850	70	4	1,086	59.2	57.7	58.1	59.4	56.9	55.2	56.4	57.5	59.0	58.6	59.9	60.4												
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	5,430	70	3	1,385	64.7	64.4	64.4	64.7	64.2	63.5	63.7	64.1	64.8	64.4	64.9	65.1	65.0	64.7	64.8	65.1	64.6	64.0	64.2	64.5	65.1	64.7	65.2	65.4
	417, 418	I275SB20	5,430	70	3	343	66.4	66.2	66.3	66.5	66.3	66.0	66.0	66.1	66.5	66.3	66.6	66.6												
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	6,500	70	3	1,507	61.0	60.4	60.2	60.8	60.5	58.9	59.5	59.8	61.1	60.4	61.4	61.4	61.0	60.4	60.2	60.8	60.5	58.9	59.5	59.8	61.1	60.4	61.4	61.4
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	7,460	70	3	1,015	59.9	58.6	57.4	60.1	56.4	53.8	53.6	58.6	59.4	59.6	60.0	61.4	59.9	58.6	57.4	60.1	56.4	53.8	53.6	58.6	59.4	59.6	60.0	61.4
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	7,990	70	3	2,282	61.5	60.3	59.8	61.8	58.8	54.0	55.9	58.9	60.7	61.3	61.8	62.7	62.3	61.6	61.0	62.6	60.1	56.0	57.2	59.9	61.8	62.3	62.6	63.5
	420, 421	I275SB23	7,990	70	3	430	62.5	61.8	61.3	62.8	60.3	56.2	56.9	59.9	62.3	62.6	62.8	63.9												
	421, 422	I275SB24	7,990	70	3	403	62.9	62.5	61.5	63.1	60.7	57.4	57.8	60.4	62.6	63.0	63.1	64.2												
	422, 423	I275SB25	7,990	70	3	426	63.1	62.9	61.8	63.3	61.3	58.0	58.3	60.9	62.8	63.3	63.3	64.3												
	423, 424	I275SB26	7,990	70	3	412	63.2	63.1	62.2	63.4	61.5	58.3	58.4	61.0	62.8	63.5	63.4	64.3												
	424, 425	I275SB27	7,990	70	3	734	63.5	63.5	62.7	63.8	62.3	59.1	59.6	61.7	63.2	63.8	63.7	64.4												
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,100	50	3	841	48.3	48.1	48.5	48.4	47.8	48.0	48.0	48.2	48.5	48.3	48.5	48.6	48.2	48.0	48.3	48.2	47.7	47.4	47.6	47.9	48.4	48.2	48.4	48.5
	500, 501	GandyEB3	3,100	50	4	954	48.5	48.4	48.6	48.5	48.2	48.0	48.2	48.4	48.6	48.5	48.7	48.7												
	501, 502	GandyEB4	3,100	50	5	174	45.7	45.5	45.7	45.7	43.7	41.9	42.7	44.0	46.7	46.2	46.8	47.0												
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,110	50	3	178	48.7	48.5	48.6	48.7	48.2	47.9	47.9	48.4	48.8	48.9	48.8	48.9	48.7	48.5	48.6	48.7	48.2	47.9	47.9	48.4	48.8	48.9	48.8	48.9
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,110	50	3	99	42.0	42.2	42.5	42.8	42.5	42.2	42.6	42.5	42.8	42.3	43.1	42.9	43.7	44.1	44.3	44.5	44.1	43.8	44.1	44.1	44.4	44.1	44.8	44.6
	505, 506	GandyEB10	1,110	50	3	119	45.0	45.6	45.7	45.9	45.5	45.1	45.3	45.5	45.8	45.6	46.3	46.0												
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,395	50	3	1,167	46.0	46.1	45.8	46.2	46.0	45.1	45.3	45.5	45.9	46.2	46.4	46.7	46.0	46.1	45.8	46.2	46.0	45.1	45.3	45.5	45.9	46.2	46.4	46.7
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,685	55	3	181	41.5	41.0	41.2	41.6	40.9	40.4	40.7	41.0	41.5	41.4	41.6	41.9	46.5	45.2	45.5	46.1	44.9	44.9	44.8	45.2	46.3	46.0	46.1	46.7
	520, 521	GandyWB5	3,685	55	3	291	49.0	48.6	48.7	49.0	48.5	48.4	48.4	48.6	49.0	48.9	49.0	49.3												

2030 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
~~Loop On Ramp~~	521, 522	GandyWB6	3,685	55	4	590	46.8	44.9	45.3	46.1	44.4	44.6	44.2	44.8	46.5	46.0	46.1	46.9												
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,615	55	3	1,768	52.8	52.6	52.8	53.0	52.4	52.6	52.6	52.6	53.0	53.0	52.9	53.0	52.8	52.6	52.8	53.0	52.4	52.6	52.6	52.6	53.0	53.0	52.9	53.0
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,035	55	3	1,179	51.3	50.7	51.2	51.3	50.8	50.5	50.5	50.9	51.2	51.4	51.4	51.5	51.6	51.1	51.5	51.5	51.1	50.8	50.9	51.2	51.5	51.7	51.7	51.8
	524, 525	GandyWB9	4,035	55	3	455	52.3	51.9	52.2	52.3	51.8	51.7	51.7	52.0	52.1	52.3	52.4	52.5												
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,090	50	1	525	47.3	46.1	46.2	47.5	40.5	26.8	26.9	28.1	30.9	46.8	48.7	48.7	43.9	43.4	42.5	44.6	37.9	23.9	25.6	26.8	30.0	44.0	46.5	46.6
	600, 601	GdyNBoff2	2,090	50	1	1,220	43.8	43.4	42.1	44.4	37.9	23.3	25.6	27.0	30.0	43.7	46.3	46.2												
	601, 7001	GdyNBoff3	2,090	50	2	135	31.6	32.2	31.7	35.8	27.9	18.5	20.5	20.7	26.1	35.1	40.1	41.4												
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,285	50	1	84	36.2	35.2	35.2	35.3	35.2	34.5	34.9	34.2	35.1	36.0	37.0	37.1	40.8	40.1	39.8	40.2	40.1	39.3	39.7	39.1	40.1	40.8	41.5	41.7
	605, 606	GdyNBoff9	1,285	50	1	107	41.3	40.5	40.3	40.6	40.4	39.8	40.2	39.4	40.4	41.2	42.0	42.2												
	606, 506	GdyNBoff10	1,285	50	1	158	43.0	42.6	42.0	42.5	42.5	41.5	41.9	41.4	42.4	43.0	43.6	43.7												
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,990	50	2	179	39.9	38.1	38.4	39.5	35.1	32.7	33.3	36.5	41.7	40.1	41.5	42.2	39.9	38.1	38.4	39.5	35.1	32.7	33.3	36.5	41.7	40.1	41.5	42.2
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,030	50	2	501	47.3	47.0	47.2	47.2	47.2	47.2	47.3	47.0	47.4	47.5	47.3	47.7	48.8	48.6	48.8	48.8	48.8	48.6	48.7	48.8	48.9	48.8	48.7	49.0
	623, 624	GdyNBon6	1,030	50	2	299	48.9	48.8	48.9	48.9	48.9	48.8	48.9	48.9	49.0	49.0	48.8	49.2												
	624, 625	GdyNBon7	1,030	50	2	253	49.1	48.8	49.0	48.9	49.0	48.9	48.9	49.0	49.1	49.0	48.9	49.2												
	625, 626	GdyNBon8	1,030	50	2	238	49.1	48.9	49.1	49.0	49.0	48.9	49.0	49.0	49.2	49.0	49.0	49.2												
	626, 627	GdyNBon9	1,030	50	2	242	49.1	48.9	49.2	49.0	49.1	49.0	49.0	49.1	49.3	49.1	49.0	49.2												
	627, 628	GdyNBon10	1,030	50	2	277	49.1	48.9	49.1	49.0	49.1	49.0	49.1	49.1	49.3	49.1	49.0	49.2												
	628, 629	GdyNBon11	1,030	50	2	337	49.1	49.0	49.1	49.1	49.1	48.9	49.1	49.1	49.3	49.1	49.0	49.2												
	629, 630	GdyNBon12	1,030	50	2	877	49.1	49.0	49.2	49.1	49.0	48.9	49.0	49.2	49.2	49.1	49.0	49.2												
	630, 307	GdyNBon13	1,030	50	2	344	49.1	48.9	49.1	49.1	49.0	48.8	49.0	49.1	49.2	49.1	49.0	49.1												
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,420	50	2	481	48.9	48.6	48.8	48.8	48.7	48.5	48.6	48.8	48.8	48.8	49.0	48.9	48.0	47.7	47.8	47.9	47.8	47.6	47.7	47.8	47.8	48.0	48.1	48.1
	660, 661	GdySBoff2	1,420	50	2	394	49.3	49.0	49.1	49.2	49.2	49.1	49.2	49.2	49.2	49.2	49.3	49.2												
	661, 662	GdySBoff3	1,420	50	2	1,949	47.9	47.5	47.6	47.7	47.6	47.4	47.5	47.6	47.6	47.8	47.9	47.9												
	662, 523	GdySBoff4	1,420	50	1	424	46.6	46.4	46.4	46.6	46.3	46.1	46.1	46.4	46.4	46.8	46.8	46.9												
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	960	50	1	286	44.7	44.7	44.5	44.8	45.3	45.6	44.4	45.1	44.0	45.1	44.8	45.2	46.6	46.6	46.5	46.7	47.1	47.4	46.3	47.0	46.0	47.0	46.7	47.0
	621, 622	GdySBon3	960	50	1	204	47.4	47.4	47.3	47.6	48.0	48.3	47.1	47.9	46.8	48.0	47.6	47.9												
	622, 419	GdySBon4	960	50	1	319	47.8	47.7	47.7	47.8	48.2	48.4	47.5	48.1	47.3	48.1	47.9	48.1												
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,070	35	1	302	33.3	32.5	32.8	32.8	32.5	32.4	32.8	32.5	32.9	32.9	32.8	33.2	33.1	32.8	33.0	32.8	32.7	32.7	33.0	32.7	32.9	32.9	32.9	33.1
	640, 641	GdySBonLoop2	1,070	35	1	259	33.3	33.1	33.3	33.1	33.0	33.0	33.3	33.0	33.2	33.2	33.2	33.4												
	641, 642	GdySBonLoop3	1,070	35	1	227	33.3	33.1	33.3	33.1	33.0	32.9	33.3	32.9	33.1	33.2	33.1	33.3												
	642, 643	GdySBonLoop4	1,070	35	1	211	33.1	32.8	33.0	32.8	32.7	32.7	32.9	32.7	32.8	32.9	32.9	33.1												
	643, 644	GdySBonLoop5	1,070	35	1	211	32.9	32.7	32.9	32.7	32.7	32.6	32.8	32.6	32.8	32.8	32.8	33.0												
	644, 645	GdySBonLoop6	1,070	35	1	207	32.8	32.7	32.8	32.6	32.6	32.5	32.8	32.5	32.7	32.7	32.8	32.9												
	645, 418	GdySBonLoop7	1,070	35	1	252	32.8	32.7	32.8	32.7	32.7	32.5	32.8	32.6	32.7	32.8	32.8	32.9												
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,680	60	4	1,418	57.9	57.6	57.8	57.9	57.4	57.2	57.4	57.5	58.1	57.9	58.0	58.0	57.2	56.9	57.1	57.1	56.7	56.5	56.7	56.8	57.4	57.2	57.3	57.3
	541, 542	RvEB3	3,680	60	3	1,028	56.1	55.9	56.1	56.1	55.8	55.6	55.8	55.9	56.4	56.2	56.3	56.3												
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,045	60	2	513	58.1	57.9	57.9	57.9	57.6	57.6	57.7	57.8	58.1	58.1	58.1	58.1	58.1	57.9	57.9	57.9	57.6	57.6	57.7	57.8	58.1	58.1	58.1	58.1
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,965	60	2	120	55.8	55.6	55.4	55.8	54.9	54.0	50.1	50.7	54.9	55.8	56.1	56.0	56.8	56.6	56.5	56.8	56.0	55.3	52.0	52.7	56.1	56.8	57.0	56.9
	546, 547	RvEB10	1,965	60	2	165	57.5	57.4	57.3	57.6	56.8	56.3	53.4	54.1	56.9	57.5	57.7	57.6												
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,300	60	2	1,053	57.0	56.8	57.0	57.2	56.5	56.4	55.2	55.8	57.0	57.1	57.2	57.2	57.0	56.8	57.0	57.2	56.5	56.4	55.2	55.8	57.0	57.1	57.2	57.2
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,350	60	2	756	58.3	58.3	58.5	58.4	58.1	57.9	58.2	58.2	58.6	58.4	58.4	58.5	58.2	58.0	58.4	58.1	57.7	57.2	57.9	57.9	58.5	58.2	58.3	58.4
	558, 559	RvWB3	2,350	60	2	146	57.9	57.3	58.2	57.7	56.9	55.9	57.5	57.4	58.2	57.7	57.9	58.3												
	559, 560	RvWB4	2,350	60	3	151	57.9	57.1	58.3	57.5	56.4	55.0	56.8	56.9	58.1	57.7	57.8	58.2												
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,065	60	2	125	58.4	58.1	58.4	58.0	56.9	53.9	55.0	55.2	57.8	57.9	58.4	58.6	58.4	58.1	58.4	58.0	56.9	53.9	55.0	55.2	57.8	57.9	58.4	58.6
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,695	60	2	133	55.7	55.6	55.7	55.9	54.9	54.2	53.4	53.4	55.5	55.5	55.8	56.1	57.7	57.6	57.7	57.9	57.3	57.2	56.8	56.9	57.9	57.7	57.8	57.9
	567, 568	RvWB14	1,695	60	2	750	58.0	57.9	58.0	58.1	57.5	57.5	57.0	57.2	58.2	58.0	58.0	58.2												
	568, 569	RvWB15	1,695	60	2	281	57.9	57.8	58.0	58.2	57.7	57.8	57.6	57.8	58.4	58.1	58.0	58.2												
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,895	60	4	1,137	57.6	57.6	57.6	57.8	57.6	57.6	57.6	57.8	57.9	57.7	57.7	57.8	57.6	57.6	57.6	57.8	57.6	57.6	57.6	57.8	57.9	57.7	57.7	57.8
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,900	50	2	228	49.1	48.8	48.8	49.4	48.6	48.3	48.3	48.7	49.2	49.3	49.6	49.5	49.1	48.8	48.8	49.4	48.6	48.3	48.3	48.7	49.2	49.3	49.6	49.5
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,900	50	2	168	45.4	45.3	45.5	45.6	45.3	45.0	44.8	45.2	45.4	45.5	45.8	45.6	46.9	46.7	46.9	46.9	46.7	46.3	46.4	46.6	46.8	46.9	47.2	47.0
	701, 702	RvNBoff5	2,900	50	2	198	47.5	47.1	47.4	47.3	47.1	46.7	46.8	46.9	47.2	47.3	47.7	47.4												
	702, 703	RvNBoff6	2,900	50	3	130	48.1	47.9	48.1	48.0	47.8	47.3	47.6	47.8	47.9	47.9	48.2	48.1												
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	335	50	1	336	49.2	49.0	49.3	49.0	49.1	49.0	49.0	48.8	48.8	49.0	49.3	49.0	49.3	49.1	49.4	49.2	49.3	49.3	49.1	49.1	49.0	49.2	49.4	49.2
	704, 705	RvNBoff8	335	50	1	200	49.2	49.2	49.4	49.2	49.4	49.4	49.2	49.1	49.0	49.2	49.4	49.2												
	705, 706	RvNBoff9	335	50	1	223	49.3	49.2	49.5	49.3	49.4	49.5	49.2	49.2	49.1	49.3	49.5	49.3												
	706, 707	RvNBoff10	335	50	1	262	49.3	49.2	49.5	49.3	49.4	49.5	49.2	49.3	49.1	49.3	49.5	49.2												
	707, 547	RvNBoff11	335	50	1	264	49.3	49.1	49.4	49.2	49.2	49.4	49.1	49.2	49.1	49.2	49.4	49.2												
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,200	50	2	248	49.3	49.3	49.3	49.4	49.4	49.2	49.2	49.4	49.3	49.4	49.3	49.5	49.3	49.3	49.3	49.4	49.4	49.2	49.1	49.4	49.3	49.4	49.4	49.5
	715, 716	RvNBoff21	1,200	50	2	642	49.4	49.4	49.4	49.5	49.5	49.2	49.2	49.5	49.3	49.4	49.5	49.5												
	716, 569	RvNBoff22	1,200	50	2	670	49.3	49.3	49.3	49.4	49.4	49.1	49.1	49.4	49.3	49.3	49.5	49.5												
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	285	50	1	296	53.6	53.2	53.8	53.9	52.8	52.8	53.5	53.2	54.1	54.1	53.7	53.9	52.2	51.8	52.4	52.5	51.5	51.6	52.2	51.8	52.7	52.6	52.3	52.4
	758, 7016	RvNBon4	285	50	1	127	48.9	48.8	49.1	49.2	48.5	49.0	49.1	48.7	49.5	49.0	49.1	48.9												
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,420	50	2	97	45.7	45.6	45.8	46.0	45.3	45.4	45.4	45.6	46.0	45.9	46.0	45.7	46.7	46.5	46.7	46.8	46.3	46.4	46.4	46.5	46.8	46.8	46.8	46.7
	757, 317	RvNBon10	1,420	50	2	123	47.4	47.3	47.4	47.5	47.2	47.2	47.2	47.3	47.5	47.5	47.5	47.4												
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,960	50	2	223	50.9	50.7	50.7	50.8	50.8	50.7	50.8	50.7	50.7	50.7	50.9	50.7	49.7	49.4	49.5	49.7	49.6	49.4	49.6	49.6	49.7	49.5	49.7	49.5
	770, 7032	RvSBoff2	1,960	50	2	150	48.0	47.4	47.9	48.0	47.8	47.6	47.8	48.0	48.0	47.9	48.0	47.8												
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,080	50	3	102	40.6	39.9	40.8	41.0	38.6	38.5	38.8	39.5	41.4	41.1	40.9	41.2	42.6	42.2	42.3	42.8	41.3	41.2	41.4	41.7	43.1	42.7	42.5	43.2
	793, 410	RvSBon5	2,080	50	3	655	42.9	42.6	42.5	43.1	41.7	41.7	41.8	42.1	43.4	42.9	42.7	43.5												
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,635	50	2	270	48.6	48.6	48.8	48.7	48.5	48.5	48.6	48.7	48.8	48.8	49.0	48.7	48.7	48.6	48.9	48.8	48.6	48.6	48.7	48.8	48.9	48.9	49.0	48.7
	790, 7011	RvSBon11	1,635	50	2	250	48.8	48.7	48.9	48.9	48.7	48.7	48.8	48.9	49.0	49.0	49.1	48.8												
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,565	50	2	311	48.3	48.1	48.3	48.3	48.2	47.9	47.9	48.2	48.1	48.3	48.4	48.5	48.0	48.0	48.0	48.2	48.0	47.8	47.8	48.0	48.0	48.1	48.2	48.3
	708, 710	118NBoff2	2,565	50	2	567	47.6	47.4	47.5	47.7	47.5	47.2	47.1	47.5	47.5	47.7	47.7	47.8												
	710, 711	118NBoff3	2,565	50	2	460	47.5	47.4	47.5	47.7	47.5	47.3	47.2	47.5	47.5	47.6	47.7	47.8												
	711, 712	118NBoff4	2,565	50	3	472	48.4	48.4	48.4	48.5	48.4	48.3	48.2	48.4	48.4	48.4	48.5	48.6												
	712, 713	118NBoff5	2,565	50	3	395	48.5	48.5	48.6	48.7	48.6	48.4	48.4	48.6	48.5	48.6	48.6	48.7												
	713, 714	118NBoff6	2,565	50	3	188	48.6	48.5	48.5	48.7	48.5	48.4	48.4	48.6	48.6	48.7	48.6	48.8												
	714, 717	118NBoff7	1,365	50	2	212	48.1	48.0	48.1	48.4	48.0	48.1	47.9	48.1	48.1	48.3	48.2	48.3												

2030 Starter PM							Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,365	50	2	389	48.4	48.4	48.5	48.7	48.4	48.5	48.3	48.5	48.4	48.6	48.5	48.6	48.5	48.4	48.5	48.8	48.5	48.5	48.3	48.5	48.5	48.6	48.5	48.7
	718, 719	118NBoff9	1,365	50	2	373	48.5	48.5	48.6	48.8	48.5	48.6	48.4	48.6	48.5	48.6	48.5	48.7												
	719, 720	118NBoff10	1,365	50	2	589	48.5	48.4	48.5	48.8	48.5	48.6	48.4	48.6	48.5	48.6	48.5	48.8												
	720, 721	118NBoff11	1,365	50	2	311	48.5	48.4	48.5	48.8	48.5	48.6	48.4	48.5	48.5	48.6	48.6	48.7												
	721, 722	118NBoff12	1,365	50	2	327	48.5	48.4	48.5	48.8	48.5	48.5	48.4	48.5	48.5	48.6	48.6	48.7												
	722, 723	118NBoff13	1,365	50	2	626	48.5	48.4	48.5	48.8	48.5	48.5	48.4	48.4	48.5	48.6	48.7	48.7												
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,885	60	4	1,252	55.9	55.8	55.8	56.1	55.8	55.8	55.8	55.9	55.9	56.0	56.1	56.1	56.7	56.6	56.5	56.8	56.5	56.5	56.6	56.6	56.7	56.7	56.8	56.8
	724, 725	118NBoff15	3,885	60	4	575	58.2	58.2	58.1	58.4	58.1	58.1	58.2	58.2	58.2	58.3	58.4	58.3												
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,660	60	2	611	58.5	58.4	58.4	58.7	58.3	58.2	58.3	58.4	58.5	58.5	58.6	58.6	56.4	56.1	56.2	56.6	56.2	55.8	56.2	56.1	56.5	56.4	56.7	56.6
	740, 741	118NBon3	2,660	60	2	1,571	55.6	55.2	55.3	55.8	55.3	54.9	55.3	55.2	55.7	55.6	55.9	55.8												
NB I-275 On Ramp from 118th	741, 748	118NBon4	960	50	1	268	54.8	54.7	54.8	55.2	54.6	54.6	54.8	54.7	54.9	54.9	54.9	54.9	47.6	47.6	47.7	47.9	47.4	47.4	47.6	47.6	47.8	47.8	47.8	47.8
	748, 749	118NBon5	960	50	1	541	47.7	47.6	47.6	48.0	47.4	47.4	47.6	47.6	47.8	47.8	47.8	47.7												
	749, 750	118NBon6	960	50	1	715	47.4	47.4	47.6	47.8	47.3	47.3	47.4	47.5	47.7	47.7	47.7	47.6												
	750, 751	118NBon7	960	50	1	245	47.2	47.2	47.3	47.5	47.0	47.0	47.2	47.2	47.3	47.4	47.4	47.3												
	751, 752	118NBon8	960	50	1	252	47.0	47.0	47.2	47.3	46.8	46.7	47.0	47.0	47.1	47.2	47.2	47.2												
	752, 753	118NBon9	960	50	1	352	46.9	46.9	47.2	47.2	46.7	46.7	46.8	47.0	47.1	47.1	47.1	47.1												
	753, 754	118NBon10	960	50	1	264	46.9	46.9	47.1	47.2	46.7	46.7	46.8	46.9	47.0	47.1	47.1	47.1												
	754, 755	118NBon11	960	50	1	415	46.8	46.8	46.9	47.0	46.6	46.6	46.7	46.8	46.9	47.0	47.0	47.0												
	755, 7009	118NBon12	960	50	1	733	46.5	46.6	46.7	46.8	46.3	46.4	46.5	46.6	46.7	46.8	46.8	46.7												
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,790	50	1	147	33.8	33.4	33.6	33.5	33.5	33.1	33.7	33.5	33.4	33.4	33.4	33.5	45.1	44.7	44.8	44.8	44.9	44.6	45.0	44.8	44.9	44.7	44.8	44.8
	775, 776	118SBoff3	1,790	50	1	934	45.4	45.0	45.2	45.0	45.2	44.7	45.4	45.0	45.3	45.1	45.0	45.1												
	776, 777	118SBoff4	1,790	50	1	371	46.2	46.0	45.9	46.0	46.1	45.8	46.3	46.1	46.2	45.9	46.0	46.0												
	777, 778	118SBoff5	1,790	50	1	446	46.2	46.0	45.9	46.1	46.1	46.0	46.2	46.1	46.2	45.9	46.1	46.1												
	778, 6020	118SBoff6	1,790	50	1	340	46.1	45.9	45.9	46.0	45.9	45.9	45.9	46.0	46.0	45.8	46.1	46.0												
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,520	50	2	990	48.6	48.5	48.4	48.6	48.5	48.6	48.5	48.6	48.5	48.5	48.7	48.5	48.6	48.5	48.4	48.6	48.5	48.6	48.5	48.6	48.5	48.5	48.7	48.5
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,700	50	1	197	45.6	45.2	45.5	46.0	45.1	44.7	45.1	45.1	45.7	45.8	46.2	46.2	46.0	45.7	45.9	46.3	45.6	45.4	45.6	45.7	46.1	46.2	46.3	46.5
	742, 743	118SBon2	1,700	50	1	119	45.2	44.8	45.1	45.6	44.5	44.3	44.6	44.7	45.4	45.5	45.8	46.0												
	743, 744	118SBon3	1,700	50	1	126	45.4	45.0	45.4	45.8	44.8	44.5	44.8	45.0	45.7	45.7	46.0	46.2												
	744, 745	118SBon4	1,700	50	1	162	45.9	45.5	45.9	46.3	45.4	45.1	45.3	45.6	46.2	46.2	46.4	46.6												
	745, 746	118SBon5	1,700	50	1	200	46.3	46.1	46.4	46.7	46.0	45.9	45.9	46.1	46.6	46.7	46.8	47.0												
	746, 747	118SBon6	1,700	50	1	166	46.5	46.4	46.6	46.9	46.4	46.3	46.2	46.4	46.8	46.8	46.9	47.0												
	747, 413	118SBon7	1,700	50	1	973	46.0	45.9	46.0	46.4	45.8	45.6	45.8	45.9	46.1	46.2	46.3	46.3												
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,425	60	3	2,420	57.7	57.8	57.8	57.9	57.7	57.6	57.7	57.8	58.0	57.9	57.9	58.0	57.7	57.8	57.8	57.9	57.7	57.6	57.7	57.8	58.0	57.9	57.9	58.0
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,320	50	2	647	49.0	49.1	49.0	49.1	49.0	48.8	48.9	49.0	49.3	49.1	49.1	49.3	49.0	49.0	48.9	49.0	48.9	48.7	48.8	48.9	49.2	49.0	49.0	49.2
	811, 812	UlmNBon4	1,320	50	2	590	49.0	49.1	49.0	49.1	49.0	48.9	49.0	49.0	49.3	49.1	49.1	49.3												
	812, 813	UlmNBon5	1,320	50	2	323	48.9	49.0	48.9	48.9	48.9	48.7	48.8	48.9	49.2	49.0	49.0	49.2												
	813, 814	UlmNBon6	1,320	50	2	328	48.9	49.0	48.9	48.9	48.9	48.7	48.8	48.9	49.2	49.0	49.0	49.2												
	814, 815	UlmNBon7	1,320	50	2	288	49.0	48.9	48.9	48.9	48.9	48.7	48.7	48.9	49.2	49.0	49.0	49.2												
	815, 816	UlmNBon8	1,320	50	2	273	49.0	48.9	48.9	48.9	48.8	48.7	48.7	48.8	49.2	49.0	49.0	49.2												
	816, 322	UlmNBon9	1,320	50	2	888	48.9	48.9	48.8	48.9	48.7	48.6	48.7	48.7	49.2	48.9	48.9	49.1												
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,870	50	2	318	48.0	48.2	48.3	48.3	48.1	48.3	48.3	48.0	48.4	48.2	48.0	48.3	48.6	48.6	48.8	48.7	48.7	48.8	48.7	48.5	48.8	48.7	48.5	48.7
	830, 831	UlmSBoff2	1,870	50	2	346	49.0	49.0	49.1	49.0	49.1	49.1	49.1	48.9	49.1	49.1	48.9	49.0												
	831, 7036	UlmSBoff3	1,870	50	2	283	48.7	48.7	48.9	48.8	48.9	48.9	48.8	48.7	48.9	48.9	48.7	48.7												
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,560	50	2	398	48.5	48.5	48.7	48.7	48.7	48.6	48.6	48.5	48.8	48.8	48.4	48.6	56.6	56.7	56.9	56.8	56.9	56.8	56.8	56.7	56.9	56.9	56.6	56.8
	834, 835	UlmSBoff8	1,560	60	2	584	54.3	54.2	54.4	54.4	54.4	54.4	54.4	54.2	54.5	54.5	54.2	54.4												
	835, 836	UlmSBoff9	1,560	60	2	481	58.6	58.6	58.8	58.8	58.9	58.7	58.8	58.7	58.9	58.9	58.6	58.7												
	836, 837	UlmSBoff10	1,560	60	2	2,160	58.3	58.4	58.6	58.5	58.6	58.5	58.6	58.5	58.7	58.6	58.3	58.6												
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,105	35	1	493	49.1	49.1	49.2	49.7	48.7	48.5	48.9	49.1	49.3	49.4	49.3	49.6	44.9	44.9	45.0	45.5	44.5	44.3	44.6	44.8	45.1	45.1	45.1	45.3
	802, 803	UlmSBon2	1,105	35	1	214	35.2	35.1	35.2	35.7	34.9	34.6	34.7	35.0	35.5	35.4	35.3	35.5												
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	830	35	1	163	33.3	33.3	33.2	33.4	33.2	33.1	33.0	33.1	33.4	33.4	33.3	33.4	41.5	41.4	41.4	41.7	41.4	41.3	41.3	41.3	41.6	41.6	41.5	41.6
	808, 809	UlmSBon4	830	35	1	163	33.6	33.5	33.7	33.7	33.6	33.5	33.5	33.5	33.8	33.7	33.7	33.7												
	809, 810	UlmSBon5	830	35	1	228	33.5	33.4	33.5	33.7	33.5	33.3	33.3	33.4	33.7	33.6	33.5	33.5												
	810, 402	UlmSBon6	830	50	1	1,170	45.2	45.2	45.2	45.5	45.1	45.1	45.1	45.1	45.4	45.3	45.3	45.4												
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	275	35	1	201	34.5	34.6	34.5	34.9	34.3	34.5	34.6	34.7	34.5	34.7	34.4	34.3	43.7	43.8	43.7	44.0	43.5	43.8	43.9	43.9	43.7	43.9	43.6	43.6
	804, 805	UlmSBMLK2	275	50	1	361	41.5	41.5	41.4	41.6	41.2	41.5	41.5	41.5	41.4	41.5	41.3	41.3												
	805, 806	UlmSBMLK3	275	50	1	499	49.1	49.2	49.1	49.5	48.8	49.2	49.4	49.3	49.0	49.3	48.9	48.9												
SB MLK	806, 807	UlmSBMLK4	585	50	2	1,171	49.3	49.3	49.1	49.5	49.1	49.4	49.3	49.2	49.4	49.2	49.1	49.1	49.3	49.3	49.1	49.5	49.1	49.4	49.3	49.2	49.4	49.2	49.1	49.1
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1,080	49.5	49.7	49.8	49.5	49.5	49.7	49.6	49.7	49.9	49.5	49.6	49.8	49.2	49.4	49.5	49.2	49.2	49.4	49.3	49.4	49.6	49.2	49.4	49.5
	851, 852	MLKNBon3	420	50	1	350	49.2	49.4	49.5	49.2	49.2	49.4	49.3	49.4	49.6	49.2	49.4	49.5												
	852, 853	MLKNBon4	420	50	1	360	49.0	49.2	49.4	49.0	49.0	49.2	49.1	49.2	49.4	49.0	49.2	49.3												
	853, 321	MLKNBon5	420	50	1	548	48.7	49.0	49.2	48.8	48.8	49.0	48.9	48.9	49.2	48.8	49.1	49.1												
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	310	50	1	294	48.6	48.8	48.2	48.6	48.7	48.9	48.4	48.3	48.8	48.4	48.6	48.3	49.1	49.0	48.6	49.0	49.1	49.3	48.7	48.8	49.2	48.8	49.0	48.7
	839, 840	MLKSBoff4	310	50	1	336	49.2	49.3	48.8	49.2	49.3	49.5	48.9	49.0	49.3	49.0	49.2	48.9												
	840, 841	MLKSBoff5	310	50	1	395	49.2	49.1	48.7	49.0	49.1	49.4	48.8	48.9	49.2	48.9	49.1	48.8												
	841, 806	MLKSBoff6	310	50	1	539	49.1	49.0	48.7	48.9	49.1	49.3	48.8	48.8	49.3	48.9	49.0	48.7												
NB I-275 On Ramp from 4th	900, 901	4thNBon2	760	60	2	1,270	59.4	59.7	59.4	59.5	59.4	59.4	59.4	59.5	59.4	59.5	59.5	59.5	58.5	58.8	58.6	58.7	58.4	58.4	58.5	58.6	58.7	58.7	58.6	58.8
	901, 902	4thNBon3	760	60	2	634	59.3	59.6	59.3	59.5	59.3	59.2	59.4	59.4	59.4	59.4	59.4	59.4												
	902, 903	4thNBon4	760	60	2	322	58.6	58.8	58.7	58.8	58.4	58.4	58.7	58.7	58.7	58.8	58.8	58.9												
	903, 904	4thNBon5	760	60	2	279	57.7	58.0	57.9	58.2	57.4	57.5	57.8	57.9	58.0	58.1	57.9	58.3												
	904, 905	4thNBon6	760	60	2	388	57.6	57.9	57.7	58.1	57.1	57.3	57.7	57.6	57.9	57.9	57.6	58.3												
	905, 906	4thNBon7	760	60	1	313	57.7	58.1	57.8	58.1	57.3	57.5	57.7	57.6	58.1	58.0	57.8	58.3												
	906, 907	4thNBon8	760	60	1	305	57.8	58.1	57.8	58.0	57.5	57.6	57.7	57.7	58.1	58.0	57.9	58.3												
	907, 324	4thNBon9	760	60	1	666	57.6	57.9	57.6	57.7	57.4	57.5	57.4	57.5	57.9	57.8	57.8	58.0												
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,240	60	1	466	56.7	55.7	56.2	56.4	55.8	55.7	55.6	55.8	55.8	56.1	55.8	56.1	57.9	57.5	57.5	57.7	57.6	57.4	57.5	57.5	57.5	57.4	57.5	57.7
	920, 921	4thSBoff2	1,240	60	1	492	58.3	57.9	58.1	58.3	58.1	58.0	57.9	58.1	58.0	57.9	58.0	58.2												
	921, 922	4thSBoff3	1,240	60	1	420	58.2	57.8	57.9	58.1	57.9	57.8	57.8	57.9	57.9	57.7	57.9	58.1												
	922, 923	4thSBoff4	1,240	60	1	393	57.9	57.4	57.4	57.6	57.5	57.4	57.3	57.4	57.5	57.3	57.4	57.7												
	923, 924	4thSBoff5	1,240	60	1	384	57.6	57.1	57.1	57.3	57.1	57.1	57.0	57.1	57.2	57.0	57.1	57.4												
	924, 925	4thSBoff6	1,240	60	1	354	57.4	56.9	56.9	57.1	57.0	56.9	56.9	56.9	56.9	56.8	56.9	57.1												
	925, 926	4thSBoff7	1,240	60	1	501	57.2	56.7	56.8	56.9	56.7	56.7	56.8	56.7	56.5	56.5	56.7	56.9												
	926, 927	4thSBoff8	1,240	60	1	416	57.0	56.5	56.5	56.6	56.5	56.4	56.4	56.5	56.5	56.2	56.5	56.6												
	927, 928	4thSBoff9	1,240	60	2	1,153	58.2	57.8	57.7	57.9	57.8	57.7	57.8	57.7	57.8	57.7	57.8	57.9												

2030 Starter PM			Demand				Speed (mph)												Weighted Speed (mph)											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,240	60	2	1,242	58.8	58.6	58.5	58.7	58.7	58.5	58.5	58.5	58.5	58.5	58.5	58.7												
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	840	70	1	1,116	69.0	68.7	68.8	69.0	68.9	68.8	68.9	69.0	68.8	69.1	68.9	69.0	67.3	66.8	67.1	67.3	67.1	66.8	67.0	67.1	67.1	67.3	67.2	67.4
	5000, 5001	SULNB2	840	70	1	2,205	68.4	67.9	68.1	68.3	68.2	68.0	68.2	68.3	68.2	68.4	68.3	68.3												
	5001, 5002	SULNB3	840	70	1	528	67.3	66.8	67.0	67.3	67.1	66.8	67.0	67.0	67.1	67.3	67.3	67.3												
	5002, 5003	SULNB4	840	70	1	346	67.0	66.6	66.8	67.0	66.9	66.5	66.8	66.8	66.9	67.1	67.1	67.1												
	5003, 5004	SULNB5	840	70	1	235	66.9	66.4	66.7	66.8	66.8	66.3	66.6	66.6	66.7	66.9	66.9	67.0												
	5004, 5005	SULNB6	840	70	1	270	66.8	66.2	66.5	66.7	66.6	66.2	66.5	66.5	66.6	66.8	66.7	66.8												
	5005, 5006	SULNB7	840	70	1	238	66.7	66.1	66.4	66.5	66.5	66.0	66.3	66.4	66.5	66.7	66.6	66.7												
	5006, 5007	SULNB8	840	70	1	261	66.6	66.0	66.4	66.4	66.4	65.9	66.2	66.3	66.4	66.5	66.5	66.7												
	5007, 5008	SULNB9	840	70	1	451	66.5	65.8	66.2	66.3	66.2	65.7	66.0	66.2	66.3	66.4	66.3	66.6												
	5008, 5009	SULNB10	840	70	1	242	66.3	65.7	66.1	66.2	66.0	65.6	65.9	66.1	66.1	66.2	66.2	66.5												
	5009, 5010	SULNB11	840	70	1	158	66.2	65.7	66.0	66.2	65.9	65.5	65.8	66.0	66.0	66.2	66.1	66.4												
	5010, 5011	SULNB12	840	70	1	539	66.1	65.5	65.9	66.1	65.8	65.4	65.6	65.8	65.9	66.0	66.0	66.3												
	5011, 5012	SULNB13	840	70	1	564	65.8	65.3	65.7	65.9	65.6	65.2	65.5	65.6	65.6	65.8	65.8	66.1												
	5012, 5013	SULNB14	840	70	1	824	65.6	65.1	65.5	65.6	65.4	65.0	65.3	65.4	65.4	65.7	65.6	66.0												
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,170	70	1	2,172	64.7	64.3	64.7	64.9	64.4	63.9	64.3	64.2	64.6	64.9	64.6	65.3	64.2	63.8	64.1	64.2	63.9	63.6	63.9	63.7	64.0	64.3	64.0	64.5
	5014, 5015	SULNB16	1,170	70	1	1,149	65.0	64.5	64.9	65.0	64.7	64.3	64.7	64.6	64.8	65.0	64.9	65.4												
	5015, 5016	SULNB17	1,170	70	1	2,057	64.5	64.0	64.4	64.4	64.2	64.0	64.1	64.1	64.3	64.5	64.4	64.8												
	5016, 5017	SULNB18	1,170	70	1	1,250	64.2	63.8	64.1	64.1	63.9	63.7	63.9	63.7	64.0	64.2	64.1	64.4												
	5017, 5018	SULNB19	1,170	70	1	1,385	63.9	63.5	63.8	63.9	63.7	63.4	63.6	63.5	63.7	64.0	63.7	64.2												
	5018, 5019	SULNB20	1,170	70	1	843	63.7	63.4	63.7	63.8	63.6	63.3	63.5	63.4	63.5	64.0	63.6	64.0												
	5019, 5020	SULNB21	1,170	70	1	687	63.7	63.3	63.6	63.7	63.5	63.3	63.4	63.3	63.4	63.8	63.4	63.8												
	5020, 5021	SULNB22	1,170	70	1	2,036	63.4	63.1	63.4	63.5	63.3	63.0	63.2	63.1	63.2	63.6	63.3	63.7												
	5021, 5022	SULNB23	1,170	70	1	171	63.1	62.7	62.7	62.9	62.7	62.2	62.7	62.6	62.8	63.2	62.9	63.1												
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,530	70	1	1,752	59.7	59.1	58.9	59.2	58.7	57.4	58.8	58.8	59.4	59.7	59.7	60.1	62.7	62.4	62.4	62.5	62.3	61.9	62.2	62.3	62.5	62.8	62.7	62.8
	5023, 5024	SULNB25	1,530	70	1	1,039	64.1	64.1	64.0	64.0	64.0	63.7	63.6	63.9	63.9	64.1	64.0	64.2												
	5024, 5025	SULNB26	1,530	70	1	814	64.6	64.2	64.3	64.6	64.5	64.5	64.3	64.3	64.3	64.6	64.4	64.5												
	5025, 5026	SULNB27	1,530	70	1	2,530	63.6	63.4	63.5	63.6	63.5	63.3	63.4	63.3	63.5	63.7	63.6	63.6												
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	66.0	65.6	66.3	65.9	65.1	65.1	65.4	64.9	65.7	66.2	66.0	66.8	68.4	67.9	68.2	68.2	67.8	68.0	68.3	67.9	67.9	68.0	67.7	68.5
	5100, 5101	SULNBRamp2	330	70	1	528	67.9	67.6	68.1	67.7	67.4	67.4	67.8	67.3	67.7	67.9	67.7	68.5												
	5101, 5102	SULNBRamp3	330	70	1	379	68.9	68.6	69.0	68.7	68.5	68.7	69.0	68.5	68.7	68.8	68.6	69.3												
	5102, 5103	SULNBRamp4	330	70	1	376	69.1	68.8	69.1	68.9	68.7	69.0	69.1	68.8	68.8	68.9	68.7	69.4												
	5103, 5104	SULNBRamp5	330	70	1	363	69.1	68.7	69.0	68.9	68.6	69.0	69.0	68.8	68.7	68.7	68.5	69.4												
	5104, 5105	SULNBRamp6	330	70	1	352	69.0	68.5	68.9	68.8	68.5	68.8	68.9	68.8	68.6	68.6	68.4	69.3												
	5105, 5106	SULNBRamp7	330	70	1	831	68.8	68.3	68.7	68.6	68.4	68.6	68.7	68.5	68.3	68.5	68.1	69.1												
	5106, 5107	SULNBRamp8	330	70	1	1,172	68.6	68.1	68.4	68.5	68.1	68.3	68.6	68.2	68.0	68.3	67.8	68.7												
	5107, 5108	SULNBRamp9	330	70	1	656	68.4	67.8	68.1	68.2	67.7	68.1	68.3	67.9	67.8	68.0	67.7	68.3												
	5108, 5109	SULNBRamp10	330	70	1	803	68.2	67.6	67.9	68.0	67.5	67.8	68.1	67.7	67.6	67.9	67.5	68.1												
	5109, 5110	SULNBRamp11	330	70	1	897	68.0	67.4	67.7	67.8	67.4	67.6	67.9	67.5	67.4	67.6	67.2	68.0												
	5110, 5111	SULNBRamp12	330	70	1	513	67.9	67.3	67.5	67.7	67.2	67.4	67.7	67.4	67.3	67.4	67.1	67.8												
	5111, 5013	SULNBRamp13	330	70	1	267	67.9	67.2	67.4	67.6	67.2	67.4	67.7	67.3	67.2	67.3	67.1	67.7												
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	360	70	1	157	67.2	67.0	66.8	67.0	66.9	66.9	66.7	67.0	66.9	67.0	67.2	67.1	67.2	67.0	66.8	67.0	66.9	66.9	66.7	67.0	66.9	67.0	67.2	67.1
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	68.3	68.2	68.4	68.5	68.1	67.9	68.1	68.2	68.5	68.4	68.4	68.4	68.3	68.2	68.4	68.5	68.1	67.9	68.1	68.2	68.5	68.4	68.4	68.4
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,260	70	1	941	67.7	67.6	67.8	67.8	67.3	67.2	67.4	67.5	67.8	67.9	67.8	67.9	64.3	64.3	64.4	64.5	64.1	63.9	64.0	64.1	64.5	64.6	64.6	64.7
	5997, 5998	SULSB1	1,260	70	1	816	66.7	66.4	66.8	66.7	66.2	66.1	66.3	66.4	66.7	66.9	66.8	67.0												
	5998, 5999	SULSB1	1,260	70	1	1,054	66.1	65.8	66.2	66.1	65.7	65.5	65.7	65.7	66.1	66.3	66.3	66.4												
	5999, 6000	SULSB1	1,260	70	1	1,908	65.2	65.0	65.3	65.3	64.8	64.5	64.7	64.9	65.4	65.4	65.5	65.6												
	6000, 6001	SULSB2	1,260	70	1	2,064	64.4	64.4	64.6	64.7	64.2	64.0	64.1	64.2	64.7	64.7	64.8	64.9												
	6001, 6002	SULSB3	1,260	70	1	572	64.1	64.1	64.2	64.4	64.0	63.6	63.7	63.8	64.4	64.4	64.6	64.6												
	6002, 6003	SULSB4	1,260	70	1	407	64.0	64.0	64.1	64.3	63.9	63.6	63.6	63.7	64.3	64.2	64.4	64.4												
	6003, 6004	SULSB5	1,260	70	1	1,528	63.8	63.8	63.9	64.1	63.7	63.4	63.4	63.6	64.0	64.1	64.2	64.2												
	6004, 6005	SULSB6	1,260	70	1	1,420	63.5	63.6	63.6	63.8	63.5	63.1	63.2	63.4	63.8	63.9	63.9	64.0												
	6005, 6006	SULSB7	1,260	70	1	4,087	63.2	63.3	63.3	63.4	63.2	62.9	62.9	63.1	63.4	63.5	63.6	63.6												
	6006, 6007	SULSB8	1,260	70	1	1,611	63.0	63.0	63.0	63.2	63.0	62.8	62.7	62.9	63.2	63.3	63.3	63.4												
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	730	70	1	767	65.1	65.1	65.0	65.3	64.9	65.0	65.0	65.1	65.2	65.3	65.3	65.4	65.4	65.4	65.2	65.6	65.1	65.4	65.3	65.4	65.4	65.5	65.5	65.6
	6008, 6009	SULSB10	730	70	1	614	66.6	66.6	66.4	66.8	66.3	66.5	66.5	66.6	66.6	66.6	66.6	66.7												
	6009, 6010	SULSB11	730	70	1	382	66.4	66.5	66.2	66.6	66.1	66.4	66.4	66.4	66.4	66.5	66.5	66.5												
	6010, 6011	SULSB12	730	70	1	135	66.1	66.2	65.9	66.3	65.8	66.1	66.1	66.1	66.1	66.2	66.2	66.2												
	6011, 6012	SULSB13	730	70	1	204	65.9	66.0	65.7	66.0	65.6	65.9	65.9	65.9	65.8	66.0	65.9	66.0												
	6012, 6013	SULSB14	730	70	1	613	65.4	65.5	65.3	65.5	65.1	65.5	65.3	65.4	65.3	65.6	65.5	65.6												
	6013, 6014	SULSB15	730	70	1	251	65.1	65.3	65.0	65.2	64.8	65.1	65.0	65.1	65.1	65.3	65.3	65.3												
	6014, 6015	SULSB16	730	70	1	233	65.0	65.2	64.8	65.3	64.7	65.1	64.9	65.0	65.0	65.3	65.3	65.3												
	6015, 6016	SULSB17	730	70	1	274	65.0	65.2	64.8	65.3	64.6	65.0	64.8	65.0	65.0	65.3	65.3	65.2												
	6016, 6017	SULSB18	730	70	1	238	65.0	65.2	64.7	65.2	64.6	65.0	64.8	65.0	65.0	65.2	65.3	65.2												
	6017, 6018	SULSB19	730	70	1	314	65.0	65.1	64.6	65.2	64.6	65.0	64.8	65.0	65.0	65.2	65.2	65.1												
	6018, 6019	SULSB20	730	70	1	879	64.8	64.8	64.6	65.0	64.4	64.8	64.6	64.7	64.8	65.0	65.0	65.0												
	6019, 6020	SULSB21	730	70	1	207	64.6	64.6	64.4	64.8	64.1	64.6	64.4	64.6	64.6	64.8	64.7	64.8												
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	530	70	1	582	64.3	64.4	64.5	64.5	64.5	64.2	64.3	64.3	64.7	64.7	64.6	64.8	65.5	65.4	65.4	65.5	65.6	65.1	65.3	65.2	65.6	65.6	65.5	65.6
	6100, 6101	SULSBRamp2	530	70	1	621	66.7	67.1	67.0	67.0	67.1	66.8	67.0	66.8	67.2	67.2	67.0	67.2												
	6101, 6102	SULSBRamp3	530	70	1	317	67.3	67.7	67.6	67.6	67.7	67.4	67.6	67.3	67.7	67.7	67.6	67.8												
	6102, 6103	SULSBRamp4	530	70	1	915	66.9	67.2	67.2	67.3	67.3	66.9	67.1	66.9	67.3	67.3	67.2	67.4												
	6103, 6104	SULSBRamp5	530	70	1	1,093	66.2	66.4	66.4	66.4	66.6	66.1	66.2	66.1	66.6	66.6	66.3	66.6												
	6104, 6105	SULSBRamp6	530	70	1	1,068	66.0	66.1	66.1	66.1	66.3	65.7	65.9	65.7	66.3	66.4	66.1	66.2												
	6105, 6106	SULSBRamp7	530	70	1	788	65.7	65.8	65.8	65.8	66.0	65.3	65.6	65.4	66.1	66.1	65.8	65.9												
	6106, 6107	SULSBRamp8	530	70	1	367	65.6	65.7	65.7	65.8	65.8	65.2	65.5	65.3	66.0	66.0	65.6	65.8												
	6107, 6108	SULSBRamp9	530	70	1	373	65.6	65.7	65.7	65.7	65.8	65.2	65.4	65.4	65.9	65.9	65.6	65.7												
	6108, 6109	SULSBRamp10	530	70	1	445	65.5	65.6	65.6	65.7	65.7	65.2	65.4	65.3	65.8	65.9	65.6	65.7												
	6109, 6110	SULSBRamp11	530	70	1	8,866	65.1	64.9	64.9	65.0	65.0	64.6	64.7	64.7	65.1	65.1	65.0	65.0												
	6110, 1	SULSBRamp12	530	70	1	292	64.6	64.5	64.3	64.5	64.4	64.0	64.2	64.3	64.5	64.6	64.5	64.5												
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	310	70	1	154	68.4	68.0	68.5	68.6	68.4	68.3	68.4	68.2	68.6	68.1	68.1	68.0	68.4	68.0	68.5	68.6	68.4	68.3	68.4	68.2	68.6	68.1	68.1	68.0

2030 Starter PM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6,400	70	3	1,087	1,420	1,493	1,425	1,360	1,586	1,627	1,610	1,536	1,355	1,381	1,312	1,251	17	15	18	19	14	12	30	30	30	20	21	25
	300, 301	I275NB3	6,400	70	3	805	1,419	1,493	1,426	1,359	1,586	1,621	1,600	1,544	1,365	1,380	1,312	1,251	36	38	40	34	39	37	52	55	35	32	32	32
	301, 302	I275NB4	6,400	70	3	478	1,418	1,493	1,427	1,358	1,586	1,618	1,592	1,550	1,372	1,380	1,314	1,251	33	33	34	33	36	33	37	36	34	34	34	34
	302, 303	I275NB5	6,400	70	3	2,687	1,417	1,489	1,434	1,356	1,563	1,596	1,575	1,563	1,423	1,381	1,318	1,251	1110	1156	1130	1023	1301	1374	1357	1295	1161	1066	974	932
	303, 304	I275NB6	6,400	70	4	382	1,417	1,488	1,434	1,357	1,560	1,592	1,573	1,565	1,429	1,383	1,318	1,251	109	112	120	119	115	177	271	230	190	120	121	128
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4,310	70	3	1,375	953	1,016	967	914	1,057	1,077	1,057	1,067	959	930	895	844	74	85	81	73	90	116	150	133	105	74	68	68
	305, 306	I275NB8	4,310	70	3	1,306	955	1,016	966	914	1,054	1,078	1,059	1,068	958	927	897	846	69	71	70	65	74	66	71	77	65	66	65	63
	306, 307	I275NB9	4,310	70	3	591	956	1,016	965	914	1,054	1,079	1,057	1,068	960	925	898	849	34	35	36	30	34	36	35	37	33	34	32	31
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	5,340	70	5	1,065	1,190	1,250	1,203	1,136	1,303	1,354	1,318	1,322	1,180	1,148	1,113	1,053	235	226	230	215	241	260	254	254	211	217	201	201
	308, 309	I275NB11	5,340	70	5	3,035	1,190	1,248	1,205	1,137	1,299	1,352	1,312	1,329	1,181	1,151	1,114	1,055	342	366	347	337	374	382	379	383	332	327	328	302
	309, 2	I275NB12	5,340	70	4	350	1,188	1,249	1,204	1,138	1,300	1,350	1,312	1,329	1,182	1,152	1,112	1,055	127	133	126	132	135	132	132	136	136	123	126	128
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	5,010	70	4	745	1,112	1,169	1,126	1,065	1,212	1,266	1,229	1,240	1,106	1,076	1,038	989	370	400	371	352	413	432	429	422	393	351	355	331
	310, 311	I275NB13	5,010	70	4	380	1,112	1,167	1,126	1,065	1,211	1,266	1,230	1,240	1,106	1,074	1,040	989	143	142	146	140	148	167	153	158	134	140	130	123
	311, 312	I275NB14	5,010	70	4	399	1,114	1,168	1,127	1,066	1,210	1,264	1,230	1,239	1,107	1,075	1,040	990	147	153	148	133	156	167	153	169	144	141	130	126
	312, 313	I275NB15	5,010	70	4	368	1,116	1,168	1,124	1,070	1,208	1,263	1,232	1,236	1,108	1,077	1,039	992	58	67	60	56	77	82	66	74	56	52	50	48
	313, 314	I275NB16	5,010	70	4	460	1,117	1,167	1,123	1,072	1,206	1,264	1,232	1,234	1,108	1,081	1,037	993	38	42	42	35	49	49	46	46	35	37	36	30
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,110	70	3	879	462	476	458	439	498	518	499	509	450	448	426	400	24	22	26	23	25	31	26	29	21	21	18	17
	315, 316	I275NB18	2,110	70	3	1,293	461	476	458	440	496	518	498	509	453	446	426	401	28	27	26	22	32	28	31	28	24	26	22	22
	316, 317	I275NB19	2,110	70	3	1,158	461	477	459	437	497	515	501	508	455	445	427	401	29	28	28	25	28	31	28	31	26	24	22	21
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,530	70	5	372	780	808	766	742	835	876	835	833	762	763	719	677	197	215	193	192	213	224	200	199	203	208	185	180
	318, 319	I275NB21	3,530	70	5	2,611	777	808	766	746	828	876	838	830	767	763	720	682	435	450	419	416	464	493	456	452	425	430	396	376
	319, 320	I275NB22	3,530	70	3	1,802	775	807	766	746	830	874	836	831	769	763	722	685	92	93	92	92	98	108	100	98	95	93	87	83
	320, 321	I275NB23	3,530	70	3	501	775	807	766	746	829	875	835	833	768	764	723	685	25	27	28	22	25	29	26	25	25	23	24	21
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,950	70	3	1,814	868	905	862	835	930	985	941	934	855	851	816	766	230	234	222	213	243	258	248	241	217	220	201	187
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,270	70	5	814	1,171	1,212	1,171	1,128	1,260	1,342	1,277	1,263	1,128	1,137	1,095	1,027	271	274	278	264	287	309	290	285	251	252	250	240
	323, 324	I275NB26	5,270	70	5	1,850	1,169	1,210	1,172	1,130	1,254	1,341	1,279	1,261	1,132	1,135	1,096	1,031	144	146	144	137	147	162	156	157	135	144	133	119
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	6,030	70	4	838	1,339	1,385	1,343	1,292	1,441	1,541	1,473	1,439	1,292	1,298	1,252	1,179	557	573	557	540	592	574	571	558	541	537	537	514
	325, 326	I275NB28	6,030	70	4	704	1,343	1,381	1,347	1,292	1,432	1,538	1,479	1,444	1,292	1,298	1,253	1,180	341	356	352	320	407	504	465	414	298	315	301	272
	326, 327	I275NB29	6,030	70	3	1,988	1,346	1,381	1,353	1,292	1,421	1,534	1,485	1,445	1,296	1,301	1,251	1,181	385	417	383	365	441	513	486	450	356	371	347	312
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,670	70	3	1,906	1,254	1,292	1,258	1,206	1,319	1,424	1,385	1,352	1,211	1,211	1,164	1,100	120	122	126	126	125	132	130	129	129	117	124	123
	328, 329	I275NB31	5,670	70	3	1,046	1,255	1,289	1,259	1,205	1,318	1,426	1,382	1,355	1,215	1,207	1,167	1,103	68	67	69	70	68	73	68	70	67	71	65	65
	329, 330	I275NB32	5,670	70	3	803	1,253	1,285	1,261	1,205	1,319	1,424	1,384	1,355	1,215	1,209	1,167	1,102	52	50	51	56	53	56	58	56	58	53	53	54
	330, 331	I275NB33	5,670	70	3	2,542	1,244	1,286	1,260	1,212	1,305	1,429	1,386	1,354	1,219	1,208	1,168	1,105	170	171	163	163	172	174	174	180	172	182	161	169
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	7,000	70	3	1,731	1,498	1,536	1,518	1,532	1,533	1,512	1,539	1,530	1,529	1,536	1,525	1,533	149	136	143	148	143	143	140	135	144	145	138	137
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	7,310	70	4	787	1,566	1,605	1,598	1,590	1,610	1,600	1,610	1,608	1,586	1,601	1,592	1,590	681	712	729	729	736	716	721	730	729	740	715	730
	395, 396	I275SB1	7,310	70	4	818	1,566	1,604	1,598	1,592	1,609	1,599	1,610	1,604	1,587	1,603	1,592	1,588	595	599	571	581	584	582	599	598	593	582	595	601
	396, 397	I275SB1	7,310	70	3	1,049	1,563	1,606	1,599	1,591	1,609	1,598	1,611	1,603	1,589	1,602	1,592	1,587	155	139	143	145	143	150	145	151	150	142	142	145
	397, 398	I275SB1	7,310	70	3	1,916	1,564	1,606	1,599	1,592	1,607	1,599	1,610	1,606	1,585	1,605	1,592	1,589	226	218	227	217	227	229	218	227	225	227	222	222
	398, 399	I275SB1	7,310	70	3	2,120	1,558	1,611	1,595	1,594	1,610	1,601	1,606	1,602	1,591	1,606	1,588	1,591	404	423	413	424	443	426	430	432	432	436	418	418
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,070	70	3	2,742	1,312	1,359	1,345	1,338	1,337	1,343	1,345	1,347	1,336	1,340	1,328	1,342	751	751	734	734	739	747	751	743	748	741	758	734
	400, 401	I275SB3	6,070	70	4	1,083	1,314	1,358	1,345	1,337	1,338	1,343	1,345	1,348	1,334	1,341	1,327	1,341	242	266	257	256	247	254	258	259	249	258	256	249
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,200	70	3	4,105	910	943	959	925	942	941	942	946	935	941	926	947	282	288	294	287	295	295	292	293	288	294	297	291
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,030	70	4	720	1,092	1,135	1,143	1,097	1,142	1,155	1,151	1,143	1,111	1,125	1,095	1,106	211	225	218	213	217	229	226	221	212	218	214	214
	403, 404	I275SB6	5,030	70	4	1,327	1,093	1,140	1,137	1,098	1,142	1,155	1,151	1,143	1,111	1,127	1,095	1,100	436	461	464	432	453	467	472	466	452	462	432	444
	404, 405	I275SB7	5,030	70	4	461	1,094	1,139	1,136	1,100	1,143	1,154	1,151	1,142	1,113	1,127	1,095	1,100	87	90	99	90	91	91	94	98	92	93	87	90
	405, 406	I275SB8	5,030	70	4	452	1,094	1,139	1,135	1,102	1,143	1,154	1,150	1,141	1,114	1,127	1,097	1,100	31	34	36	35	32	37	32	35	32	31	29	35
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,070	70	3	855	644	668	670	653	674	673	682	669	651	661	653	653	32	37	38	35	36	37	34	36	36	36	35	34
	407, 408	I275SB10	3,070	70	3	347	644	668	670	653	675	672	682	669	652	661	653	653	13	12	13	10	13	11	12	13	13	12	10	11
	408, 409	I275SB11	3,070	70	3	1,585	643	667	671	654	673	672	683	672	651	660	651	653	59	60	57	55	63	57	64	59	58	60	61	58
	409, 410	I275SB12	3,070	70	3	458	641	667	670	656	670	673	683	674	650	660	651	655	18	17	22	19	20	18	17	17	20	16	15	20
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	5,150	70	4	629	1,107	1,147	1,133	1,109	1,168	1,193	1,184	1,157	1,098	1,119	1,091	1,079	477	509	482	459	529	568	533	511	447	470	436	418
	411, 412	I275SB14	5,150	70	4	247	1,107	1,147	1,133	1,108	1,169	1,193	1,183	1,157	1,099	1,118	1,090	1,080	36	37	37	32	35	39	43	38	37	34	34	31
	412, 413	I275SB15	5,150	70	4	608	1,108	1,146	1,134	1,110	1,166	1,194	1,183	1,156	1,102	1,117	1,091	1,080	75	82	71	64	84	93	85	83	65	72	69	63
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	6,850	70	4	492	1,486	1,548	1,520	1,471	1,584	1,633	1,612	1,566	1,461	1,484	1,438	1,414	509	546	511	496	570	600	577	563	480	485	475	453
	414, 415	I275SB17	6,850	70	4	3,870	1,488	1,545	1,520	1,477	1,575	1,637	1,611	1,565	1,476	1,473	1,448	1,411	967	1006	934	925	1001	1040	1027	996	940	938	902	900
	415, 416	I275SB18	6,850	70	4	1,086	1,483	1,544	1,524	1,477	1,570	1,637	1,612	1,567	1,477	1,468	1,457	1,413	345	368	375	342	386	429	396	386	356	342	330	310
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	5,430	70	3	1,385	1,153	1,192	1,187	1,149	1,215	1,271	1,244	1,212	1,142	1,148	1,137	1,099	120	114	124	119	117	134	123	123	107	119	117	112
	417, 418	I275SB20	5,430	70	3	343	1,153	1,192	1,188	1,148	1,215	1,270	1,246	1,212	1,142	1,149	1,137	1,098	22	23	19	21	19	20	21	24	17	19	19	20
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	6,500	70	3	1,507	1,379	1,430	1,435	1,380	1,465	1,539	1,511	1,467	1,375	1,375	1,359	1,312	431	456	473	440	471	514	498	482	444	429	423	397
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	7,460	70	3	1,015	1,568	1,633	1,644	1,577	1,678	1,768	1,739	1,680	1,570	1,569	1,543	1,490	309	336	349	319	355	362	361	335	312	317	315	303
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	7,990	70	3	2,282	1,684	1,753	1,759	1,695	1,792	1,901	1,883	1,806	1,697	1,677	1,658	1,601	313	323	320	304	343	353	361	341	324	311	313	307
	420, 421	I275SB23	7,990	70	3	430	1,684	1,754	1,759	1,695	1,790	1,900	1,883	1,806	1,699	1,676	1,658	1,600	31	30	25	27	29	35	35	28	27	28	24	24
	421, 422	I275SB24	7,990	70	3	403	1,683	1,755	1,758	1,696	1,788	1,900	1,883	1,808	1,700	1,676	1,661	1,599	23	21	24	24	30	30	26	24	22	26	27	23
	422, 423	I275SB25	7,990	70	3	426	1,683	1,754	1,759	1,696	1,786	1,901	1,883	1,807	1,700	1,676	1,665	1,597	23	23	26	24	26	24	24	26	25	23	24	25
	423, 424	I275SB26	7,990	70	3	412	1,682	1,753	1,759	1,696	1,786	1,900	1,883	1,809	1,700	1,677	1,666	1,597	26	25	26	26	24	25	27	23	26	23	24	24
	424, 425	I275SB27	7,990	70	3	734	1,683	1,754	1,756	1,697	1,784	1,900	1,883	1,812	1,699	1,678	1,664	1,602	53	58	59	58	59	60	55	53	55	55	61	55
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,100	50	3	841	687	725	692	655	776	808	778	740	635	671	638	599	400	417	401	394	451	471	459	439	372	398	381	358
	500, 501	GandyEB3	3,100	50	4	954	686	724	695	655	773	810	776	742	636	671	637	602	526	579	556	525	634	664	637	589	517	542	497	468
	501, 502	GandyEB4	3,100	50	5	174	685	724	695	655	772	810	776	743	636	669	637	602	70	77	72	63	87	92	88	80	60	64	58	57
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,110	50	3	178	267	274	260	239	292	306	291	284	231	249	240	224	0	0	0	0	0	0	0	0	0	0	0	0
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,110	50	3	99	267	277	262	239	288	303	294	287	232	246	240	226	11	11	12	9	11	14	16	11	12	12	9	10
	505, 506	GandyEB10	1,110	50	3	119	267	276	263	239	288	303	294	288	233	246	240	226	13	13	13	12	13	13	14	12	12	11	11	9
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,395	50	3	1,167	541	551	550	509	573	598	614	581	537	521	504	474	379	381	396	365	393	419	454	407	412	369	360	334
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,685	55	3	181	829	859	835	793	898	961	929	887	798	800	758	722	32	35	34	30	36	39	36	37	32	35	33	31
	520, 521	GandyWB5	3,685	55	3	291	828	857	837	793	900	959	930	887	799	798	761	721	34	33	33	30	33	35	34	30	30	31	29	28

2030 Starter PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
~~Loop On Ramp~~	521, 522	GandyWB6	3,685	55	4	590	825	856	835	796	896	960	929	888	800	799	762	722	518	553	563	520	578	620	591	593	523	506	504	471
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,615	55	3	1,768	601	613	586	562	641	691	669	633	569	574	543	511	69	76	70	64	85	82	87	76	71	66	67	59
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,035	55	3	1,179	925	964	933	888	987	1,054	1,032	995	915	889	865	825	468	507	489	467	498	534	533	516	489	450	461	444
	524, 525	GandyWB9	4,035	55	3	455	925	966	931	888	987	1,055	1,031	994	916	890	865	825	36	36	33	31	35	42	41	35	34	32	29	27
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,090	50	1	525	465	469	470	442	501	509	520	498	478	452	424	407	0	0	0	0	0	0	0	0	0	0	0	0
	600, 601	GdyNBoff2	2,090	50	1	1,220	466	467	471	443	492	500	527	493	491	452	424	408	51	52	52	46	64	108	109	100	87	43	30	28
	601, 7001	GdyNBoff3	2,090	50	2	135	467	466	472	443	491	499	526	493	493	452	425	408	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,285	50	1	84	278	275	287	267	285	296	322	292	305	272	264	248	0	0	0	0	0	0	0	0	0	0	0	0
	605, 606	GdyNBoff9	1,285	50	1	107	278	275	287	267	285	296	321	292	305	272	263	248	0	0	0	0	0	0	0	0	0	0	0	0
	606, 506	GdyNBoff10	1,285	50	1	158	278	275	287	267	285	296	321	293	305	271	264	247	0	0	0	0	0	0	0	0	0	0	0	0
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,990	50	2	179	419	449	436	416	480	506	484	459	407	420	398	379	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,030	50	2	501	233	241	232	219	255	278	261	249	216	227	212	205	14	12	13	13	16	17	15	17	13	13	11	11
	623, 624	GdyNBon6	1,030	50	2	299	234	241	232	218	255	278	260	250	217	226	213	205	4	5	5	5	5	6	5	5	4	5	4	4
	624, 625	GdyNBon7	1,030	50	2	253	234	241	232	219	255	278	260	250	217	226	212	206	3	4	4	4	4	4	7	3	4	3	3	3
	625, 626	GdyNBon8	1,030	50	2	238	234	240	233	219	255	278	260	251	217	226	213	205	3	4	2	3	4	5	4	4	4	3	3	3
	626, 627	GdyNBon9	1,030	50	2	242	234	239	234	219	255	277	260	251	217	226	213	205	4	3	3	3	4	4	5	3	4	2	3	3
	627, 628	GdyNBon10	1,030	50	2	277	234	239	233	219	255	277	261	250	217	225	213	205	2	3	3	4	5	4	5	4	2	4	3	4
	628, 629	GdyNBon11	1,030	50	2	337	234	239	234	219	255	277	261	251	218	225	213	205	5	5	4	4	4	4	6	5	3	4	4	4
	629, 630	GdyNBon12	1,030	50	2	877	235	238	233	221	253	278	260	250	219	224	215	204	12	11	12	10	12	15	13	11	9	12	10	8
	630, 307	GdyNBon13	1,030	50	2	344	235	238	233	221	253	276	260	251	219	224	215	204	4	5	5	3	6	6	6	5	4	4	5	5
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,420	50	2	481	330	350	340	326	351	366	368	356	336	320	321	315	16	21	20	17	20	22	23	16	18	18	16	15
	660, 661	GdySBoff2	1,420	50	2	394	329	350	341	325	351	367	368	356	336	321	321	315	8	7	7	7	9	8	8	9	7	6	7	6
	661, 662	GdySBoff3	1,420	50	2	1,949	329	350	343	324	349	367	365	359	337	320	324	314	171	177	177	172	174	183	179	182	175	168	167	165
	662, 523	GdySBoff4	1,420	50	1	424	328	350	343	325	348	366	365	359	338	319	324	314	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	960	50	1	286	189	206	207	196	222	228	223	210	195	192	185	178	0	0	0	0	0	0	0	0	0	0	0	0
	621, 622	GdySBon3	960	50	1	204	189	205	208	195	221	228	223	210	194	192	185	178	0	0	0	0	0	0	0	0	0	0	0	0
	622, 419	GdySBon4	960	50	1	319	189	205	207	196	221	229	223	210	194	193	185	177	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,070	35	1	302	226	242	245	233	252	273	258	258	231	225	223	211	0	0	0	0	0	0	0	0	0	0	0	0
	640, 641	GdySBonLoop2	1,070	35	1	259	226	242	245	233	252	274	257	258	231	225	223	210	0	0	0	0	0	0	0	0	0	0	0	0
	641, 642	GdySBonLoop3	1,070	35	1	227	227	242	244	232	251	274	258	258	231	225	224	210	0	0	0	0	0	0	0	0	0	0	0	0
	642, 643	GdySBonLoop4	1,070	35	1	211	227	242	244	232	252	273	259	258	231	226	223	210	0	0	0	0	0	0	0	0	0	0	0	0
	643, 644	GdySBonLoop5	1,070	35	1	211	226	242	245	232	251	272	260	258	232	225	223	210	0	0	0	0	0	0	0	0	0	0	0	0
	644, 645	GdySBonLoop6	1,070	35	1	207	226	242	245	232	251	272	260	257	233	226	223	210	0	0	0	0	0	0	0	0	0	0	0	0
	645, 418	GdySBonLoop7	1,070	35	1	252	227	241	246	231	250	273	259	258	233	226	223	209	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,680	60	4	1,418	819	860	817	782	915	968	920	879	751	794	759	719	624	660	631	596	715	742	709	677	572	619	587	550
	541, 542	RvEB3	3,680	60	3	1,028	817	860	817	780	915	968	919	880	753	796	755	722	66	73	63	60	74	79	75	71	60	63	60	58
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,045	60	2	513	455	477	456	434	506	534	513	490	423	443	421	396	0	0	0	0	0	0	0	0	0	0	0	0
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,965	60	2	120	442	452	445	414	486	510	508	490	425	421	410	384	5	4	6	5	8	9	19	17	7	4	4	5
	546, 547	RvEB10	1,965	60	2	165	442	451	445	414	486	510	508	490	425	421	410	385	6	6	7	7	10	9	20	20	8	8	6	6
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,300	60	2	1,053	522	529	523	492	568	595	591	580	501	496	475	460	124	129	127	119	133	140	146	151	117	115	108	114
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,350	60	2	756	524	547	521	500	589	616	588	557	482	510	483	460	43	45	40	44	45	51	47	43	41	45	37	40
	558, 559	RvWB3	2,350	60	2	146	525	547	521	500	589	615	588	557	482	510	483	460	42	40	36	38	43	50	45	42	37	43	37	33
	559, 560	RvWB4	2,350	60	3	151	524	547	521	500	588	616	588	557	482	510	483	460	33	37	33	34	37	40	38	39	29	33	30	31
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,065	60	2	125	461	482	461	436	522	541	516	489	424	444	426	403	0	0	0	0	0	0	0	0	0	0	0	0
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,695	60	2	133	373	396	378	356	416	447	442	423	357	368	350	334	7	8	7	7	9	12	13	13	10	9	7	6
	567, 568	RvWB14	1,695	60	2	750	374	395	378	357	413	447	445	420	360	367	350	334	25	24	26	25	32	36	37	40	28	27	24	22
	568, 569	RvWB15	1,695	60	2	281	374	395	379	357	413	447	445	420	360	367	350	334	8	10	9	9	10	12	12	10	10	8	9	6
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,895	60	4	1,137	676	710	691	647	733	792	792	757	668	653	631	605	91	97	98	85	102	99	105	103	82	84	86	80
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,900	50	2	228	655	692	665	633	708	745	735	724	658	634	611	595	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,900	50	2	168	656	691	666	634	708	744	735	724	659	633	611	596	68	67	67	66	66	72	71	72	64	65	60	63
	701, 702	RvNBoff5	2,900	50	2	198	656	690	667	633	707	745	735	724	659	633	612	596	103	109	107	102	113	117	119	123	100	101	90	103
	702, 703	RvNBoff6	2,900	50	3	130	657	690	668	633	706	745	735	724	659	633	612	597	55	64	59	60	60	60	63	63	59	63	55	59
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	335	50	1	336	79	80	78	75	83	86	84	90	75	75	67	74	0	0	0	0	0	0	0	0	0	0	0	0
	704, 705	RvNBoff8	335	50	1	200	79	80	78	76	82	86	84	90	75	75	67	73	0	0	0	0	0	0	0	0	0	0	0	0
	705, 706	RvNBoff9	335	50	1	223	79	79	78	75	82	86	84	90	75	75	67	73	0	0	0	0	0	0	0	0	0	0	0	0
	706, 707	RvNBoff10	335	50	1	262	79	80	78	75	82	86	84	90	75	75	67	73	0	0	0	0	0	0	0	0	0	0	0	0
	707, 547	RvNBoff11	335	50	1	264	79	79	79	75	83	85	84	90	75	75	67	73	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,200	50	2	248	305	315	312	289	321	346	351	333	306	286	280	269	5	4	5	5	5	6	6	6	3	5	5	4
	715, 716	RvNBoff21	1,200	50	2	642	305	316	311	289	322	346	350	334	305	286	280	270	11	12	11	11	13	11	11	13	11	9	13	9
	716, 569	RvNBoff22	1,200	50	2	670	306	313	311	290	323	346	349	335	305	287	281	270	15	14	11	11	15	17	17	14	14	14	11	12
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	285	50	1	296	63	66	61	64	66	75	72	68	58	66	57	56	0	0	0	0	0	0	0	0	0	0	0	0
	758, 7016	RvNBon4	285	50	1	127	63	66	61	64	66	75	72	68	58	66	57	57	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,420	50	2	97	317	331	307	304	341	359	334	324	307	319	291	277	11	11	11	10	12	15	13	12	11	10	10	11
	757, 317	RvNBon10	1,420	50	2	123	318	331	307	304	341	359	334	325	307	319	291	277	17	22	17	17	20	19	20	20	16	16	17	15
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,960	50	2	223	450	473	464	450	467	480	471	469	464	466	443	447	7	6	8	8	9	8	7	8	8	7	7	8
	770, 7032	RvSBoff2	1,960	50	2	150	450	472	464	450	467	479	471	468	465	466	443	447	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,080	50	3	102	467	480	462	451	501	521	498	484	446	464	439	422	148	161	149	143	164	171	166	161	141	147	134	141
	793, 410	RvSBon5	2,080	50	3	655	467	481	462	451	500	521	498	485	446	464	440	421	136	145	139	131	166	182	169	155	119	138	133	111
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,635	50	2	270	362	383	362	345	407	434	408	390	332	352	334	327	12	12	11	11	12	15	13	12	10	11	10	9
	790, 7011	RvSBon11	1,635	50	2	250	362	383	362	346	407	434	408	390	332	353	334	326	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Off Ramp to WB Roosevelt/118th	703, 708	118NBoff1	2,565	50	2	311	579	610	590	557	623	660	651	634	584	558	546	523	46	43	42	46	48	52	49	48	43	46	39	38
	708, 710	118NBoff2	2,565	50	2	567	578	613	590	556	622	659	654	636	583	558	549	521	57	65	61	54	65	69	73	67	63	49	50	48
	710, 711	118NBoff3	2,565	50	2	460	579	613	589	558	620	659	655	636	582	559	549	520	97	101	106	89	108	115	117	106	94	87	86	82
	711, 712	118NBoff4	2,565	50	3	472	580	611	591	557	619	659	656	634	585	558	550	519	46	50	52	45	49	53	52	55	49	50	45	44
	712, 713	118NBoff5	2,565	50	3	395	581	611	591	558	619	659	656	634	586	559	551	519	25	26	23	25	25	30	28	27	25	26	21	21
	713, 714	118NBoff6	2,565	50	3	188	581	611	591	558	618	660	656	634	585	559	550	520	9	9	7	8	10	7	9	10	9	9	8	9
	714, 717	118NBoff7	1,365	50	2	212	277	296	277	270	296	314	304	301	281	272	271	250	8	10	10	9	10	11	11	10	8	8	8	7

2030 Starter PM							Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
NB I-275 Off Ramp to 118th	717, 718	118NBoff8	1,365	50	2	389	276	297	276	270	296	313	304	302	281	272	271	251	13	12	12	11	13	14	14	13	12	10	11	10
	718, 719	118NBoff9	1,365	50	2	373	276	297	277	270	296	313	304	302	281	271	271	251	7	8	6	7	8	9	8	9	8	8	9	7
	719, 720	118NBoff10	1,365	50	2	589	276	297	277	271	295	313	304	301	281	272	272	250	11	14	11	12	14	13	14	16	13	11	11	10
	720, 721	118NBoff11	1,365	50	2	311	275	297	277	270	296	313	303	302	282	271	271	250	5	5	6	5	5	7	7	5	7	7	7	4
	721, 722	118NBoff12	1,365	50	2	327	276	297	277	270	296	313	304	303	282	271	272	251	8	8	7	5	6	6	8	7	6	7	7	5
	722, 723	118NBoff13	1,365	50	2	626	276	297	278	269	295	313	303	302	284	271	271	251	13	13	11	10	13	15	13	16	13	11	13	10
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,885	60	4	1,252	837	891	868	836	898	936	923	891	871	847	828	793	167	176	167	171	175	180	180	177	177	168	162	157
	724, 725	118NBoff15	3,885	60	4	575	836	892	868	838	897	934	925	890	872	847	827	795	34	37	40	37	45	42	41	37	36	36	34	34
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,660	60	2	611	592	625	588	563	665	699	665	632	549	573	543	521	206	201	196	192	220	224	212	214	203	194	193	177
	740, 741	118NBon3	2,660	60	2	1,571	595	624	589	564	664	698	664	636	549	572	544	519	95	108	99	90	119	129	117	107	80	92	80	78
NB I-275 On Ramp from 118th	741, 748	118NBon4	960	50	1	268	218	219	210	200	243	255	239	225	195	205	198	184	0	0	0	0	0	0	0	0	0	0	0	0
	748, 749	118NBon5	960	50	1	541	218	220	211	199	242	257	239	224	195	206	197	185	0	0	0	0	0	0	0	0	0	0	0	0
	749, 750	118NBon6	960	50	1	715	218	220	210	200	242	257	238	225	195	206	198	185	0	0	0	0	0	0	0	0	0	0	0	0
	750, 751	118NBon7	960	50	1	245	218	220	210	201	241	257	238	225	195	206	197	185	0	0	0	0	0	0	0	0	0	0	0	0
	751, 752	118NBon8	960	50	1	252	218	220	210	200	241	256	238	226	195	206	197	185	0	0	0	0	0	0	0	0	0	0	0	0
	752, 753	118NBon9	960	50	1	352	217	221	209	201	241	256	239	226	196	205	197	185	0	0	0	0	0	0	0	0	0	0	0	0
	753, 754	118NBon10	960	50	1	264	218	220	209	200	241	256	239	226	196	204	198	184	0	0	0	0	0	0	0	0	0	0	0	0
	754, 755	118NBon11	960	50	1	415	217	220	210	200	241	255	240	225	197	204	196	186	0	0	0	0	0	0	0	0	0	0	0	0
	755, 7009	118NBon12	960	50	1	733	216	220	210	199	241	254	241	226	195	205	197	185	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,790	50	1	147	405	430	422	411	425	432	430	419	423	421	405	405	0	0	0	0	0	0	0	0	0	0	0	0
	775, 776	118SBoff3	1,790	50	1	934	405	429	423	411	424	433	430	417	425	420	404	405	0	0	0	0	0	0	0	0	0	0	0	0
	776, 777	118SBoff4	1,790	50	1	371	405	429	423	411	425	432	430	417	426	420	403	406	0	0	0	0	0	0	0	0	0	0	0	0
	777, 778	118SBoff5	1,790	50	1	446	406	428	423	411	425	433	430	416	427	420	403	406	0	0	0	0	0	0	0	0	0	0	0	0
	778, 6020	118SBoff6	1,790	50	1	340	406	428	422	411	424	432	432	415	427	420	404	406	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,520	50	2	990	561	596	589	568	603	622	621	589	584	579	555	542	119	124	122	123	124	127	127	120	127	131	127	123
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,700	50	1	197	377	405	380	364	421	442	426	411	355	367	345	336	0	0	0	0	0	0	0	0	0	0	0	0
	742, 743	118SBon2	1,700	50	1	119	377	405	380	364	420	442	426	410	355	366	346	336	0	0	0	0	0	0	0	0	0	0	0	0
	743, 744	118SBon3	1,700	50	1	126	377	405	380	363	420	442	426	410	355	366	346	336	0	0	0	0	0	0	0	0	0	0	0	0
	744, 745	118SBon4	1,700	50	1	162	377	405	381	363	420	442	426	411	355	365	346	336	0	0	0	0	0	0	0	0	0	0	0	0
	745, 746	118SBon5	1,700	50	1	200	378	405	381	363	420	443	426	411	355	365	347	336	0	0	0	0	0	0	0	0	0	0	0	0
	746, 747	118SBon6	1,700	50	1	166	378	404	382	362	420	443	425	411	356	365	348	336	0	0	0	0	0	0	0	0	0	0	0	0
	747, 413	118SBon7	1,700	50	1	973	378	405	384	363	418	441	427	411	357	364	349	336	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton from West of I-275 to I-275	800, 801	UlmNBon2	2,425	60	3	2,420	542	562	545	512	602	639	606	577	502	518	502	474	353	384	365	345	406	436	422	389	343	357	330	309
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,320	50	2	647	304	310	309	287	335	360	333	324	272	286	277	262	13	13	14	14	14	16	17	14	12	13	12	12
	811, 812	UlmNBon4	1,320	50	2	590	303	311	309	287	335	359	335	324	272	285	278	262	11	11	11	11	12	12	11	12	9	9	10	8
	812, 813	UlmNBon5	1,320	50	2	323	302	310	310	287	335	358	335	324	272	285	278	262	6	6	7	6	8	8	8	8	5	6	5	5
	813, 814	UlmNBon6	1,320	50	2	328	302	309	310	287	334	358	335	325	272	284	278	262	7	5	7	8	8	9	6	7	7	4	7	5
	814, 815	UlmNBon7	1,320	50	2	288	303	309	311	287	334	358	335	326	273	283	279	262	6	5	6	6	6	7	7	6	5	5	5	4
	815, 816	UlmNBon8	1,320	50	2	273	303	309	310	288	334	358	335	326	273	283	279	262	4	6	6	5	6	7	7	5	4	5	4	6
	816, 322	UlmNBon9	1,320	50	2	888	304	309	310	290	332	358	335	326	273	283	279	262	18	20	17	18	21	22	21	23	15	17	14	14
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,870	50	2	318	405	408	390	409	401	398	407	400	396	401	403	393	27	26	25	26	31	25	26	26	24	29	27	25
	830, 831	UlmSBoff2	1,870	50	2	346	406	408	391	410	399	398	408	400	396	401	403	392	10	13	11	12	10	11	9	10	9	10	11	8
	831, 7036	UlmSBoff3	1,870	50	2	283	405	409	391	410	399	397	408	400	395	401	403	392	0	0	0	0	0	0	0	0	0	0	0	0
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,560	50	2	398	334	335	330	345	331	332	340	332	327	333	337	327	9	9	9	12	12	10	11	9	10	11	10	9
	834, 835	UlmSBoff8	1,560	60	2	584	335	333	330	345	330	333	340	331	327	334	336	327	34	34	36	32	34	34	35	36	35	35	33	32
	835, 836	UlmSBoff9	1,560	60	2	481	335	333	329	345	330	333	341	331	327	334	337	328	4	4	5	5	5	3	5	5	3	5	4	5
	836, 837	UlmSBoff10	1,560	60	2	2,160	334	332	330	343	332	333	342	330	326	337	337	326	35	33	31	35	31	33	34	29	31	32	35	31
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,105	35	1	493	237	252	236	225	265	279	274	254	231	232	226	210	0	0	0	0	0	0	0	0	0	0	0	0
	802, 803	UlmSBon2	1,105	35	1	214	237	252	236	225	266	278	274	255	231	232	226	211	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	830	35	1	163	181	195	182	173	204	211	209	196	179	179	169	161	0	0	0	0	0	0	0	0	0	0	0	0
	808, 809	UlmSBon4	830	35	1	163	180	195	182	172	204	211	209	195	180	179	169	162	0	0	0	0	0	0	0	0	0	0	0	0
	809, 810	UlmSBon5	830	35	1	228	181	195	182	172	203	211	210	194	180	179	168	161	0	0	0	0	0	0	0	0	0	0	0	0
	810, 402	UlmSBon6	830	50	1	1,170	181	194	183	173	202	212	209	196	178	181	168	161	0	0	0	0	0	0	0	0	0	0	0	0
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	275	35	1	201	56	57	54	52	62	67	64	60	53	52	57	49	0	0	0	0	0	0	0	0	0	0	0	0
	804, 805	UlmSBMLK2	275	50	1	361	56	57	54	53	62	67	64	60	53	52	57	49	0	0	0	0	0	0	0	0	0	0	0	0
	805, 806	UlmSBMLK3	275	50	1	499	56	57	54	52	61	67	64	60	53	52	57	49	0	0	0	0	0	0	0	0	0	0	0	0
SB MLK	806, 807	UlmSBMLK4	585	50	2	1,171	129	129	118	117	129	132	130	131	121	120	121	113	11	14	11	10	13	13	13	13	11	11	11	11
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1,080	94	97	94	89	104	113	104	100	86	91	86	82	0	0	0	0	0	0	0	0	0	0	0	0
	851, 852	MLKNBon3	420	50	1	350	94	97	94	89	104	113	104	100	86	90	87	82	0	0	0	0	0	0	0	0	0	0	0	0
	852, 853	MLKNBon4	420	50	1	360	94	97	94	89	104	112	104	100	86	90	87	83	0	0	0	0	0	0	0	0	0	0	0	0
	853, 321	MLKNBon5	420	50	1	548	94	97	94	89	103	112	105	100	86	90	87	83	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	310	50	1	294	72	73	63	65	66	66	67	69	69	67	66	64	0	0	0	0	0	0	0	0	0	0	0	0
	839, 840	MLKSBoff4	310	50	1	336	72	73	63	65	67	66	67	70	69	67	66	64	0	0	0	0	0	0	0	0	0	0	0	0
	840, 841	MLKSBoff5	310	50	1	395	72	72	64	65	67	66	67	70	68	67	66	64	0	0	0	0	0	0	0	0	0	0	0	0
	841, 806	MLKSBoff6	310	50	1	539	72	73	64	64	67	66	66	71	68	68	65	64	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 On Ramp from 4th	900, 901	4thNBon2	760	60	2	1,270	167	180	168	160	192	199	190	181	155	163	157	148	3	4	7	5	4	7	5	4	5	5	3	3
	901, 902	4thNBon3	760	60	2	634	167	180	167	161	192	199	190	181	155	163	157	148	71	79	72	74	83	85	84	82	68	72	70	69
	902, 903	4thNBon4	760	60	2	322	167	180	168	160	193	198	191	181	155	163	157	149	8	9	8	7	11	11	8	7	7	6	7	5
	903, 904	4thNBon5	760	60	2	279	168	179	169	160	193	198	190	180	156	163	157	148	4	3	3	3	4	4	4	3	2	3	3	3
	904, 905	4thNBon6	760	60	2	388	168	178	168	160	194	197	190	181	156	163	157	148	0	0	0	0	1	1	0	1	1	0	1	0
	905, 906	4thNBon7	760	60	1	313	168	178	168	161	193	197	190	181	157	163	157	148	0	0	0	0	0	0	0	0	0	0	0	0
	906, 907	4thNBon8	760	60	1	305	169	179	168	160	194	197	191	181	156	163	156	148	0	0	0	0	0	0	0	0	0	0	0	0
	907, 324	4thNBon9	760	60	1	666	169	178	168	161	193	197	191	180	157	162	157	148	0	0	0	0	0	0	0	0	0	0	0	0
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,240	60	1	466	241	253	251	258	271	255	262	259	258	262	260	252	0	0	0	0	0	0	0	0	0	0	0	0
	920, 921	4thSBoff2	1,240	60	1	492	241	254	251	258	271	254	261	259	258	262	260	252	0	0	0	0	0	0	0	0	0	0	0	0
	921, 922	4thSBoff3	1,240	60	1	420	241	253	252	258	271	255	261	258	259	261	261	252	0	0	0	0	0	0	0	0	0	0	0	0
	922, 923	4thSBoff4	1,240	60	1	393	241	253	252	257	271	255	260	259	259	261	261	251	0	0	0	0	0	0	0	0	0	0	0	0
	923, 924	4thSBoff5	1,240	60	1	384	241	254	251	258	270	255	261	259	259	261	261	251	0	0	0	0	0	0	0	0	0	0	0	0
	924, 925	4thSBoff6	1,240	60	1	354	241	254	252	257	270	255	261	260	258	262	261	251	0	0	0	0	0	0	0	0	0	0	0	0
	925, 926	4thSBoff7	1,240	60	1	501	241	254	252	256	271	255	261	260	257	263	261	250	0	0	0	0	0	0	0	0	0	0	0	0
	926, 927	4thSBoff8	1,240	60	1	416	241	254	252	256	271	255	261	260	257	263	262	250	2	4	2	2	4	3	3	3	3	4	4	3
	927, 928	4thSBoff9	1,240	60	2	1,153	241	255	252	255	270	256	261	260	257	262	263	250	61	66	66	72	76	69	71	69	69	69	73	68

2030 Starter PM			Demand				Volume (veh)												Total Lane Changes											
Segment	Link ID No.	Link Name	Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12	Time Period 1	Time Period 2	Time Period 3	Time Period 4	Time Period 5	Time Period 6	Time Period 7	Time Period 8	Time Period 9	Time Period 10	Time Period 11	Time Period 12
	928, 929	4thSBoff10	1,240	60	2	1,242	241	256	251	255	270	256	261	261	257	262	261	253	23	24	25	25	26	24	26	25	25	27	23	23
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	840	70	1	1,116	185	198	187	177	212	220	210	199	172	183	172	163	0	0	0	0	0	0	0	0	0	0	0	0
	5000, 5001	SULNB2	840	70	1	2,205	185	196	187	178	209	221	210	199	174	182	173	163	0	0	0	0	0	0	0	0	0	0	0	0
	5001, 5002	SULNB3	840	70	1	528	186	196	187	178	209	221	211	199	174	181	173	163	0	0	0	0	0	0	0	0	0	0	0	0
	5002, 5003	SULNB4	840	70	1	346	186	196	187	178	208	220	211	200	174	181	173	163	0	0	0	0	0	0	0	0	0	0	0	0
	5003, 5004	SULNB5	840	70	1	235	186	196	187	179	208	220	211	200	174	181	174	163	0	0	0	0	0	0	0	0	0	0	0	0
	5004, 5005	SULNB6	840	70	1	270	186	196	188	178	208	220	211	200	174	180	174	163	0	0	0	0	0	0	0	0	0	0	0	0
	5005, 5006	SULNB7	840	70	1	238	186	196	188	179	208	220	211	200	174	180	175	162	0	0	0	0	0	0	0	0	0	0	0	0
	5006, 5007	SULNB8	840	70	1	261	186	196	188	179	207	220	212	199	174	180	175	162	0	0	0	0	0	0	0	0	0	0	0	0
	5007, 5008	SULNB9	840	70	1	451	187	196	188	178	207	220	212	200	174	180	175	163	0	0	0	0	0	0	0	0	0	0	0	0
	5008, 5009	SULNB10	840	70	1	242	186	196	188	178	207	220	212	200	175	180	175	163	0	0	0	0	0	0	0	0	0	0	0	0
	5009, 5010	SULNB11	840	70	1	158	186	195	188	178	207	220	212	200	175	179	176	162	0	0	0	0	0	0	0	0	0	0	0	0
	5010, 5011	SULNB12	840	70	1	539	187	195	188	179	207	219	212	200	176	179	176	162	0	0	0	0	0	0	0	0	0	0	0	0
	5011, 5012	SULNB13	840	70	1	564	186	196	188	180	206	219	212	200	175	180	175	162	0	0	0	0	0	0	0	0	0	0	0	0
	5012, 5013	SULNB14	840	70	1	824	187	195	188	180	206	220	210	201	175	180	175	163	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5013, 5014	SULNB15	1,170	70	1	2,172	261	275	264	257	287	307	293	291	254	255	250	232	75	80	77	75	83	87	83	90	79	76	73	70
	5014, 5015	SULNB16	1,170	70	1	1,149	263	274	264	257	288	306	294	292	255	255	249	233	0	0	0	0	0	0	0	0	0	0	0	0
	5015, 5016	SULNB17	1,170	70	1	2,057	260	274	266	255	289	304	295	291	256	255	249	234	0	0	0	0	0	0	0	0	0	0	0	0
	5016, 5017	SULNB18	1,170	70	1	1,250	259	274	266	256	287	303	296	291	258	252	250	235	0	0	0	0	0	0	0	0	0	0	0	0
	5017, 5018	SULNB19	1,170	70	1	1,385	258	276	266	255	287	305	294	293	258	252	251	235	0	0	0	0	0	0	0	0	0	0	0	0
	5018, 5019	SULNB20	1,170	70	1	843	258	275	266	254	288	303	296	293	258	252	249	236	0	0	0	0	0	0	0	0	0	0	0	0
	5019, 5020	SULNB21	1,170	70	1	687	258	274	268	254	287	303	296	292	259	252	250	235	0	0	0	0	0	0	0	0	0	0	0	0
	5020, 5021	SULNB22	1,170	70	1	2,036	261	274	267	254	286	301	297	291	260	253	251	235	0	0	0	0	0	0	0	0	0	0	0	0
	5021, 5022	SULNB23	1,170	70	1	171	262	274	268	255	285	302	297	291	260	252	252	235	0	0	0	0	0	0	0	0	0	0	0	0
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,530	70	1	1,752	354	360	365	343	381	409	400	384	350	343	339	317	92	90	95	88	98	105	104	93	89	92	88	80
	5023, 5024	SULNB25	1,530	70	1	1,039	353	360	365	344	380	408	403	385	349	342	340	316	0	0	0	0	0	0	0	0	0	0	0	0
	5024, 5025	SULNB26	1,530	70	1	814	354	360	365	344	378	409	402	384	350	341	340	316	0	0	0	0	0	0	0	0	0	0	0	0
	5025, 5026	SULNB27	1,530	70	1	2,530	353	358	366	343	377	408	404	387	349	341	339	316	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	75	81	79	74	84	85	83	90	77	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5100, 5101	SULNBRamp2	330	70	1	528	75	80	79	75	83	86	83	91	76	75	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5101, 5102	SULNBRamp3	330	70	1	379	75	80	79	75	83	85	83	90	77	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5102, 5103	SULNBRamp4	330	70	1	376	76	80	79	75	84	86	83	90	77	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5103, 5104	SULNBRamp5	330	70	1	363	75	80	79	75	84	86	83	90	78	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5104, 5105	SULNBRamp6	330	70	1	352	75	80	79	75	83	86	83	90	78	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5105, 5106	SULNBRamp7	330	70	1	831	75	80	78	75	83	87	82	90	78	75	74	70	0	0	0	0	0	0	0	0	0	0	0	0
	5106, 5107	SULNBRamp8	330	70	1	1,172	74	80	78	75	83	87	82	90	78	75	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5107, 5108	SULNBRamp9	330	70	1	656	75	80	78	76	83	87	82	90	78	75	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5108, 5109	SULNBRamp10	330	70	1	803	75	80	78	76	82	88	82	90	79	75	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5109, 5110	SULNBRamp11	330	70	1	897	75	80	77	75	83	87	82	89	79	76	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5110, 5111	SULNBRamp12	330	70	1	513	75	80	77	75	83	87	82	90	79	76	73	70	0	0	0	0	0	0	0	0	0	0	0	0
	5111, 5013	SULNBRamp13	330	70	1	267	75	80	77	75	83	87	83	90	79	76	73	70	0	0	0	0	0	0	0	0	0	0	0	0
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	360	70	1	157	92	90	95	88	98	105	104	93	89	92	88	80	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	347	368	349	334	391	412	392	374	324	338	323	306	71	70	75	65	76	81	77	72	61	65	66	60
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,260	70	1	941	277	298	274	269	314	332	317	302	263	273	257	247	0	0	0	0	0	0	0	0	0	0	0	0
	5997, 5998	SULSB1	1,260	70	1	816	277	298	273	270	314	332	316	301	263	274	257	246	0	0	0	0	0	0	0	0	0	0	0	0
	5998, 5999	SULSB1	1,260	70	1	1,054	277	298	274	268	313	332	316	302	263	274	257	246	0	0	0	0	0	0	0	0	0	0	0	0
	5999, 6000	SULSB1	1,260	70	1	1,908	278	297	274	268	313	331	317	303	264	273	258	247	0	0	0	0	0	0	0	0	0	0	0	0
	6000, 6001	SULSB2	1,260	70	1	2,064	279	296	275	268	313	329	316	305	265	272	258	248	0	0	0	0	0	0	0	0	0	0	0	0
	6001, 6002	SULSB3	1,260	70	1	572	278	296	276	269	313	329	317	305	265	271	258	248	0	0	0	0	0	0	0	0	0	0	0	0
	6002, 6003	SULSB4	1,260	70	1	407	279	295	275	269	312	330	316	306	265	271	258	248	0	0	0	0	0	0	0	0	0	0	0	0
	6003, 6004	SULSB5	1,260	70	1	1,528	279	294	277	268	310	330	318	304	267	270	257	250	0	0	0	0	0	0	0	0	0	0	0	0
	6004, 6005	SULSB6	1,260	70	1	1,420	278	293	278	267	311	328	317	307	268	270	257	250	0	0	0	0	0	0	0	0	0	0	0	0
	6005, 6006	SULSB7	1,260	70	1	4,087	280	294	276	270	305	330	317	308	269	269	258	251	0	0	0	0	0	0	0	0	0	0	0	0
	6006, 6007	SULSB8	1,260	70	1	1,611	278	294	278	269	304	331	317	307	271	267	260	252	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	730	70	1	767	158	168	166	157	180	192	185	176	156	156	149	141	0	0	0	0	0	0	0	0	0	0	0	0
	6008, 6009	SULSB10	730	70	1	614	159	168	166	157	180	192	184	176	157	156	148	141	0	0	0	0	0	0	0	0	0	0	0	0
	6009, 6010	SULSB11	730	70	1	382	159	167	167	157	181	192	185	176	157	156	148	141	0	0	0	0	0	0	0	0	0	0	0	0
	6010, 6011	SULSB12	730	70	1	135	159	167	167	156	181	191	185	176	157	156	148	142	0	0	0	0	0	0	0	0	0	0	0	0
	6011, 6012	SULSB13	730	70	1	204	159	167	166	156	181	191	185	177	158	156	148	142	0	0	0	0	0	0	0	0	0	0	0	0
	6012, 6013	SULSB14	730	70	1	613	159	167	166	157	181	191	183	177	158	155	148	142	0	0	0	0	0	0	0	0	0	0	0	0
	6013, 6014	SULSB15	730	70	1	251	159	166	167	157	181	191	183	176	158	155	149	142	0	0	0	0	0	0	0	0	0	0	0	0
	6014, 6015	SULSB16	730	70	1	233	159	167	166	157	181	191	184	176	159	154	149	142	0	0	0	0	0	0	0	0	0	0	0	0
	6015, 6016	SULSB17	730	70	1	274	159	167	166	157	182	190	184	176	159	154	149	142	0	0	0	0	0	0	0	0	0	0	0	0
	6016, 6017	SULSB18	730	70	1	238	158	167	166	156	182	191	184	176	159	154	149	142	0	0	0	0	0	0	0	0	0	0	0	0
	6017, 6018	SULSB19	730	70	1	314	157	168	166	156	180	192	184	175	160	154	149	142	0	0	0	0	0	0	0	0	0	0	0	0
	6018, 6019	SULSB20	730	70	1	879	157	167	167	156	181	191	185	175	159	156	149	141	0	0	0	0	0	0	0	0	0	0	0	0
	6019, 6020	SULSB21	730	70	1	207	157	167	167	156	181	191	185	175	159	156	149	141	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	6007, 6100	SULSBRamp1	530	70	1	582	120	126	113	111	124	138	134	130	114	112	111	112	0	0	0	0	0	0	0	0	0	0	0	0
	6100, 6101	SULSBRamp2	530	70	1	621	120	125	114	112	124	138	134	130	113	113	111	112	0	0	0	0	0	0	0	0	0	0	0	0
	6101, 6102	SULSBRamp3	530	70	1	317	119	125	114	111	124	138	134	130	114	112	111	112	0	0	0	0	0	0	0	0	0	0	0	0
	6102, 6103	SULSBRamp4	530	70	1	915	119	126	114	111	125	138	134	130	114	112	111	112	0	0	0	0	0	0	0	0	0	0	0	0
	6103, 6104	SULSBRamp5	530	70	1	1,093	119	125	115	111	124	138	133	130	114	112	112	111	0	0	0	0	0	0	0	0	0	0	0	0
	6104, 6105	SULSBRamp6	530	70	1	1,068	119	125	115	111	123	138	133	130	115	112	112	111	0	0	0	0	0	0	0	0	0	0	0	0
	6105, 6106	SULSBRamp7	530	70	1	788	119	125	116	110	125	137	134	129	113	113	111	111	0	0	0	0	0	0	0	0	0	0	0	0
	6106, 6107	SULSBRamp8	530	70	1	367	119	124	116	109	126	135	135	130	113	113	111	111	0	0	0	0	0	0	0	0	0	0	0	0
	6107, 6108	SULSBRamp9	530	70	1	373	119	125	116	110	126	135	135	131	113	113	111	111	0	0	0	0	0	0	0	0	0	0	0	0
	6108, 6109	SULSBRamp10	530	70	1	445	118	125	115	111	125	135	135	130	114	112	111	112	0	0	0	0	0	0	0	0	0	0	0	0
	6109, 6110	SULSBRamp11	530	70	1	8,866	118	122	117	112	123	134	136	132	116	110	112	111	0	0	0	0	0	0	0	0	0	0	0	0
	6110, 1	SULSBRamp12	530	70	1	292	119	122	117	111	123	134	136	132	117	110	113	112	0	0	0	0	0	0	0	0	0	0	0	0
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	310	70	1	154	71	70	75	64	76	81	77	72	61	65	65	60	0	0	0	0	0	0	0	0	0	0	0	0

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 from South of Gandy to Gandy Off Ramp	299, 300	I275NB2	6,400	70	3	1,087	29.4	49.3	30.2	63.4	49.0	61.4	4,864	6,400	5,312	5,699	6,359	5,299
	300, 301	I275NB3	6,400	70	3	805										5,697	6,352	5,308
	301, 302	I275NB4	6,400	70	3	478										5,695	6,345	5,316
	302, 303	I275NB5	6,400	70	3	2,687										5,696	6,297	5,373
	303, 304	I275NB6	6,400	70	4	382										5,696	6,290	5,380
NB I-275 from Gandy Off Ramp to Gandy On Ramp	304, 305	I275NB7	4,310	70	3	1,375	19.3	21.7	18.1	66.6	65.3	66.7	3,276	4,310	3,577	3,849	4,258	3,627
	305, 306	I275NB8	4,310	70	3	1,306										3,851	4,259	3,628
	306, 307	I275NB9	4,310	70	3	591										3,851	4,258	3,631
NB I-275 from Gandy On Ramp to NB SUL Slip Ramp	307, 308	I275NB10	5,340	70	5	1,065	16.9	18.8	15.8	66.2	65.9	66.4	4,058	5,340	4,432	4,778	5,297	4,493
	308, 309	I275NB11	5,340	70	5	3,035										4,780	5,292	4,500
	309, 2	I275NB12	5,340	70	4	350										4,779	5,291	4,501
NB I-275 from NB SUL Slip Ramp to Roosevelt/118th Off Ramp	2, 310	I275NB12	5,010	70	4	745	17.5	19.6	16.4	64.0	63.1	64.5	3,808	5,010	4,158	4,471	4,947	4,209
	310, 311	I275NB13	5,010	70	4	380										4,470	4,946	4,210
	311, 312	I275NB14	5,010	70	4	399										4,475	4,943	4,212
	312, 313	I275NB15	5,010	70	4	368										4,478	4,939	4,216
	313, 314	I275NB16	5,010	70	4	460										4,479	4,935	4,218
NB I-275 from Roosevelt/118th Off Ramp to Roosevelt/118th On Ramp	314, 315	I275NB17	2,110	70	3	879	9.0	9.9	8.4	68.0	67.8	68.2	1,604	2,110	1,751	1,834	2,023	1,723
	315, 316	I275NB18	2,110	70	3	1,293										1,834	2,021	1,726
	316, 317	I275NB19	2,110	70	3	1,158										1,834	2,020	1,728
NB I-275 from Roosevelt/118th On Ramp to MLK On Ramp	317, 318	I275NB20	3,530	70	5	372	13.2	14.4	12.4	66.1	65.8	66.2	2,683	3,530	2,930	3,095	3,378	2,922
	318, 319	I275NB21	3,530	70	5	2,611										3,097	3,371	2,932
	319, 320	I275NB22	3,530	70	3	1,802										3,094	3,371	2,938
	320, 321	I275NB23	3,530	70	3	501										3,094	3,372	2,939
NB I-275 from MLK On Ramp to Ulmerton On Ramp	321, 322	I275NB24	3,950	70	3	1,814	16.1	17.8	15.2	65.7	65.1	66.0	3,002	3,950	3,279	3,469	3,789	3,288
NB I-275 from Ulmerton On Ramp to 4th On Ramp	322, 323	I275NB25	5,270	70	5	814	16.5	18.2	15.4	65.9	65.5	66.2	4,005	5,270	4,374	4,681	5,141	4,386
	323, 324	I275NB26	5,270	70	5	1,850										4,681	5,136	4,394
NB I-275 from 4th On Ramp to South of NB SUL Slip Ramp	324, 325	I275NB27	6,030	70	4	838	21.6	26.1	19.7	61.8	57.3	63.3	4,583	6,030	5,005	5,359	5,893	5,020
	325, 326	I275NB28	6,030	70	4	704										5,364	5,893	5,023
	326, 327	I275NB29	6,030	70	3	1,988										5,371	5,886	5,030
NB I-275 from NB SUL Slip Ramp to Howard Frankland Bridge	327, 328	I275NB30	5,670	70	3	1,906	25.4	28.1	23.7	65.8	65.1	66.0	4,309	5,670	4,706	5,009	5,480	4,686
	328, 329	I275NB31	5,670	70	3	1,046										5,008	5,480	4,692
	329, 330	I275NB32	5,670	70	3	803										5,004	5,481	4,692
	330, 331	I275NB33	5,670	70	3	2,542										5,001	5,474	4,701
SB I-275 from Howard Frankland Bridge to SB SUL Slip Ramp	393, 394	I275SB1	7,000	70	3	1,731	98.2	98.0	98.8	20.9	21.0	20.9	5,320	7,000	5,810	6,084	6,114	6,123
SB I-275 from SB SUL Slip Ramp to 4th Off Ramp	394, 395	I275SB1	7,310	70	4	787	40.9	41.3	40.9	53.6	53.4	53.5	5,556	7,310	6,067	6,360	6,427	6,369
	395, 396	I275SB1	7,310	70	4	818										6,360	6,423	6,370
	396, 397	I275SB1	7,310	70	3	1,049										6,359	6,421	6,370
	397, 398	I275SB1	7,310	70	3	1,916										6,360	6,421	6,370
	398, 399	I275SB1	7,310	70	3	2,120										6,357	6,419	6,376
SB I-275 from 4th Off Ramp to Ulmerton/MLK Off Ramp	399, 400	I275SB2	6,070	70	3	2,742	24.8	24.9	24.7	63.8	63.9	63.9	4,613	6,070	5,038	5,353	5,371	5,346
	400, 401	I275SB3	6,070	70	4	1,083										5,354	5,374	5,343
SB I-275 from Ulmerton/MLK Off Ramp to Ulmerton On Ramp	401, 402	I275SB4	4,200	70	3	4,105	18.8	18.9	18.8	66.4	66.5	66.5	3,192	4,200	3,486	3,737	3,771	3,749
SB I-275 from Ulmerton On Ramp to Roosevelt/118th Off Ramp	402, 403	I275SB5	5,030	70	4	720	17.2	17.7	17.1	64.9	64.9	65.0	3,823	5,030	4,175	4,468	4,591	4,437
	403, 404	I275SB6	5,030	70	4	1,327										4,468	4,591	4,433
	404, 405	I275SB7	5,030	70	4	461										4,468	4,589	4,435
	405, 406	I275SB8	5,030	70	4	452										4,469	4,587	4,437
SB I-275 from Roosevelt/118th Off Ramp to Roosevelt On Ramp	406, 407	I275SB9	3,070	70	3	855	13.0	13.3	12.9	67.6	67.6	67.6	2,333	3,070	2,548	2,635	2,698	2,618
	407, 408	I275SB10	3,070	70	3	347										2,636	2,697	2,618
	408, 409	I275SB11	3,070	70	3	1,585										2,635	2,699	2,616
	409, 410	I275SB12	3,070	70	3	458										2,634	2,699	2,615

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 from Roosevelt On Ramp to 118th On Ramp	410, 411	I275SB13	5,150	70	4	629	16.2	17.0	15.8	63.6	63.3	63.7	3,914	5,150	4,275	4,495	4,702	4,387
	411, 412	I275SB14	5,150	70	4	247										4,495	4,702	4,387
	412, 413	I275SB15	5,150	70	4	608										4,497	4,699	4,390
SB I-275 from 118th On Ramp to Gandy Off Ramp	413, 414	I275SB16	6,850	70	4	492	24.0	26.0	22.8	61.8	60.4	62.6	5,206	6,850	5,686	6,025	6,395	5,796
	414, 415	I275SB17	6,850	70	4	3,870										6,030	6,388	5,808
	415, 416	I275SB18	6,850	70	4	1,086										6,026	6,386	5,814
SB I-275 from Gandy Off Ramp to Gandy Loop On Ramp	416, 417	I275SB19	5,430	70	3	1,385	24.0	25.6	23.2	64.9	64.3	65.1	4,127	5,430	4,507	4,681	4,942	4,526
	417, 418	I275SB20	5,430	70	3	343										4,680	4,942	4,526
SB I-275 from Gandy Loop On Ramp to Gandy On Ramp	418, 419	I275SB21	6,500	70	3	1,507	25.3	27.3	24.1	60.6	59.7	61.1	4,940	6,500	5,395	5,623	5,983	5,420
SB I-275 from Gandy On Ramp to SUL On Ramp	419, 1	I275SB22	7,460	70	3	1,015	27.6	31.4	26.0	59.0	55.6	60.1	5,670	7,460	6,192	6,421	6,865	6,172
SB I-275 from SB SUL Slip Ramp to South of Gandy	1, 420	I275SB22	7,990	70	3	2,282	33.0	37.6	31.4	61.9	58.3	62.5	6,072	7,990	6,632	6,891	7,381	6,632
	420, 421	I275SB23	7,990	70	3	430										6,891	7,379	6,633
	421, 422	I275SB24	7,990	70	3	403										6,892	7,378	6,635
	422, 423	I275SB25	7,990	70	3	426										6,891	7,378	6,638
	423, 424	I275SB26	7,990	70	3	412										6,890	7,378	6,640
	424, 425	I275SB27	7,990	70	3	734										6,891	7,378	6,643
EB Gandy from West of I-275 to I-275 On Ramp	499, 500	GandyEB2	3,100	50	3	841	15.9	18.1	14.6	48.2	47.6	48.4	2,356	3,100	2,573	2,758	3,103	2,544
	500, 501	GandyEB3	3,100	50	4	954										2,760	3,101	2,545
	501, 502	GandyEB4	3,100	50	5	174										2,759	3,101	2,545
EB Gandy from I-275 On Ramp to NB I-275 Off Ramp	502, 7012	GandyEB5	1,110	50	3	178	7.1	8.1	6.4	48.6	48.1	48.9	844	1,110	921	1,040	1,172	944
EB Gandy from NB to WB I-275 Off Ramp to NB to EB I-275 Off Ramp	7019, 505	GandyEB9	1,110	50	3	99	8.6	9.7	7.7	44.1	44.0	44.5	844	1,110	921	1,044	1,172	944
	505, 506	GandyEB10	1,110	50	3	119										1,044	1,172	944
EB Gandy from NB to EB I-275 Off Ramp to East of I-275	506, 507	GandyEB11	2,395	50	3	1,167	14.7	16.4	13.8	46.0	45.5	46.3	1,820	2,395	1,988	2,151	2,366	2,035
WB Gandy from East of I-275 to SB I-275 Loop On Ramp	7003, 520	GandyWB4	3,685	55	3	181	20.9	23.6	19.2	45.8	44.9	46.3	2,801	3,685	3,059	3,315	3,675	3,078
	520, 521	GandyWB5	3,685	55	3	291										3,314	3,675	3,079
	521, 522	GandyWB6	3,685	55	4	590										3,312	3,673	3,084
WB Gandy from SB I-275 Loop On Ramp to SB I-275 Off Ramp	522, 523	GandyWB7	2,615	55	3	1,768	14.9	16.7	13.8	52.8	52.6	53.0	1,987	2,615	2,170	2,362	2,634	2,197
WB Gandy from SB I-275 Off Ramp to West of I-275	523, 524	GandyWB8	4,035	55	3	1,179	19.8	21.9	18.5	51.4	51.0	51.6	3,067	4,035	3,349	3,709	4,069	3,494
	524, 525	GandyWB9	4,035	55	3	455										3,710	4,066	3,495
NB I-275 Off Ramp to Gandy	304, 600	GdyNBoff1	2,090	50	1	525	40.1	73.7	43.6	43.6	28.6	41.8	1,588	2,090	1,735	1,845	2,027	1,760
	600, 601	GdyNBoff2	2,090	50	1	1,220										1,848	2,012	1,775
	601, 7001	GdyNBoff3	2,090	50	2	135										1,848	2,010	1,777
NB I-275 Off Ramp to EB Gandy	7013, 605	GdyNBoff8	1,285	50	1	84	29.3	32.2	28.3	40.2	39.5	41.0	977	1,285	1,067	1,107	1,195	1,088
	605, 606	GdyNBoff9	1,285	50	1	107										1,107	1,195	1,088
	606, 506	GdyNBoff10	1,285	50	1	158										1,107	1,195	1,088
I-275 On Ramp from EB Gandy	502, 7002	GdyNBon1	1,990	50	2	179	22.2	28.4	19.4	39.0	34.4	41.4	1,512	1,990	1,652	1,720	1,928	1,603
NB I-275 On Ramp from EB Gandy	7004, 623	GdyNBon5	1,030	50	2	501	9.5	10.8	8.9	48.8	48.7	48.9	783	1,030	855	925	1,043	860
	623, 624	GdyNBon6	1,030	50	2	299										925	1,043	861
	624, 625	GdyNBon7	1,030	50	2	253										926	1,043	861
	625, 626	GdyNBon8	1,030	50	2	238										925	1,043	861
	626, 627	GdyNBon9	1,030	50	2	242										925	1,043	861
	627, 628	GdyNBon10	1,030	50	2	277										925	1,043	861
	628, 629	GdyNBon11	1,030	50	2	337										925	1,044	860
	629, 630	GdyNBon12	1,030	50	2	877										927	1,041	863
	630, 307	GdyNBon13	1,030	50	2	344										927	1,041	862
SB I-275 Off Ramp to Gandy	416, 660	GdySBoff1	1,420	50	2	481	16.1	17.2	15.4	47.9	47.7	48.0	1,079	1,420	1,179	1,346	1,441	1,293
	660, 661	GdySBoff2	1,420	50	2	394										1,345	1,441	1,293

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB I-275 Off Ramp to Gandy	661, 662	GdySBoff3	1,420	50	2	1,949										1,346	1,440	1,294
	662, 523	GdySBoff4	1,420	50	1	424										1,346	1,439	1,294
SB I-275 On Ramp from EB Gandy	7005, 621	GdySBon2	960	50	1	286	17.5	19.3	16.5	46.6	47.0	46.7	730	960	797	797	883	749
	621, 622	GdySBon3	960	50	1	204										797	883	749
	622, 419	GdySBon4	960	50	1	319										797	883	749
SB I-275 Loop On Ramp Loop from WB Gandy	522, 640	GdySBonLoop1	1,070	35	1	302	28.7	31.8	27.0	32.9	32.8	33.0	813	1,070	888	946	1,041	890
	640, 641	GdySBonLoop2	1,070	35	1	259										945	1,041	890
	641, 642	GdySBonLoop3	1,070	35	1	227										945	1,041	890
	642, 643	GdySBonLoop4	1,070	35	1	211										945	1,041	891
	643, 644	GdySBonLoop5	1,070	35	1	211										945	1,040	891
	644, 645	GdySBonLoop6	1,070	35	1	207										945	1,040	891
	645, 418	GdySBonLoop7	1,070	35	1	252										945	1,040	891
EB Roosevelt from West of I-275 to SB I-275 On Ramp	540, 541	RvEB2	3,680	60	4	1,418	16.7	18.9	15.3	57.1	56.7	57.3	2,797	3,680	3,054	3,277	3,682	3,023
	541, 542	RvEB3	3,680	60	3	1,028										3,274	3,682	3,026
EB Roosevelt from SB I-275 On Ramp to NB I-275 Off Ramp	542, 7010	RvEB4	2,045	60	2	513	15.7	17.7	14.5	57.9	57.7	58.1	1,554	2,045	1,697	1,822	2,043	1,682
EB Roosevelt West of NB I-275 Off Ramp	7006, 546	RvEB9	1,965	60	2	120	16.5	19.8	15.4	56.7	54.0	56.7	1,493	1,965	1,631	1,751	1,994	1,640
	546, 547	RvEB10	1,965	60	2	165										1,752	1,994	1,640
EB Roosevelt from NB I-275 Off Ramp to East of I-275	547, 548	RvEB11	2,300	60	2	1,053	15.2	17.5	14.2	57.0	56.0	57.1	1,748	2,300	1,909	2,065	2,334	1,932
WB Roosevelt from East of I-275 to NB I-275 On Ramp	557, 558	RvWB2	2,350	60	2	756	17.1	19.3	15.8	58.2	57.7	58.3	1,786	2,350	1,951	2,092	2,349	1,935
	558, 559	RvWB3	2,350	60	2	146										2,092	2,349	1,935
	559, 560	RvWB4	2,350	60	3	151										2,093	2,349	1,935
WB Roosevelt West of NB I-275 On Ramp	560, 7017	RvWB5	2,065	60	2	125	15.8	18.7	14.6	58.2	55.3	58.2	1,569	2,065	1,714	1,839	2,068	1,698
WB Roosevelt from NB I-275 On Ramp to NB I-275 Off Ramp	7018, 567	RvWB13	1,695	60	2	133	13.2	15.4	12.4	57.7	57.0	57.8	1,288	1,695	1,407	1,502	1,728	1,410
	567, 568	RvWB14	1,695	60	2	750										1,504	1,726	1,411
	568, 569	RvWB15	1,695	60	2	281										1,504	1,725	1,412
WB Roosevelt from NB I-275 Off Ramp to West of I-275	569, 570	RvWB16	2,895	60	4	1,137	11.8	13.3	11.1	57.7	57.6	57.8	2,200	2,895	2,403	2,724	3,074	2,558
NB I-275 Off Ramp to Roosevelt/118th	314, 7007	RvNBoff1	2,900	50	2	228	27.0	30.1	25.3	49.0	48.4	49.4	2,204	2,900	2,407	2,646	2,912	2,498
NB I-275 Off Ramp to Roosevelt/118th	7008, 701	RvNBoff4	2,900	50	2	168	23.6	26.1	22.2	46.9	46.5	47.0	2,204	2,900	2,407	2,647	2,911	2,499
	701, 702	RvNBoff5	2,900	50	2	198										2,646	2,911	2,500
	702, 703	RvNBoff6	2,900	50	3	130										2,647	2,911	2,501
NB I-275 Off Ramp to EB Roosevelt	703, 704	RvNBoff7	335	50	1	336	6.3	7.0	5.9	49.2	49.2	49.2	255	335	278	311	342	290
	704, 705	RvNBoff8	335	50	1	200										311	342	290
	705, 706	RvNBoff9	335	50	1	223										312	342	290
	706, 707	RvNBoff10	335	50	1	262										312	342	290
	707, 547	RvNBoff11	335	50	1	264										312	342	290
NB I-275 Off Ramp to WB Roosevelt	714, 715	RvNBoff20	1,200	50	2	248	12.4	13.7	11.6	49.3	49.3	49.4	912	1,200	996	1,221	1,351	1,141
	715, 716	RvNBoff21	1,200	50	2	642										1,221	1,352	1,142
	716, 569	RvNBoff22	1,200	50	2	670										1,220	1,352	1,143
NB I-275 On Ramp from WB Roosevelt	560, 758	RvNBon3	285	50	1	296	4.9	5.4	4.5	52.2	51.8	52.5	217	285	237	253	281	237
	758, 7016	RvNBon4	285	50	1	127										253	281	237
NB I-275 On Ramp from Roosevelt/118th	7030, 757	RvNBon9	1,420	50	2	97	14.7	15.9	13.9	46.7	46.4	46.8	1,079	1,420	1,179	1,260	1,359	1,193
	757, 317	RvNBon10	1,420	50	2	123										1,260	1,359	1,194
SB I-275 Off Ramp to Roosevelt/118th	406, 770	RvSBoff1	1,960	50	2	223	18.5	19.0	18.4	49.6	49.6	49.6	1,490	1,960	1,627	1,836	1,886	1,820
	770, 7032	RvSBoff2	1,960	50	2	150										1,836	1,886	1,821
SB I-275 On Ramp from Roosevelt	7023, 793	RvSBon4	2,080	50	3	102	20.6	22.7	19.4	42.5	41.4	42.9	1,581	2,080	1,726	1,861	2,004	1,771
	793, 410	RvSBon5	2,080	50	3	655										1,861	2,003	1,771
SB I-275 On Ramp from EB Roosevelt	542, 790	RvSBon10	1,635	50	2	270	14.9	16.8	13.8	48.8	48.7	48.9	1,243	1,635	1,357	1,453	1,639	1,345
	790, 7011	RvSBon11	1,635	50	2	250										1,453	1,639	1,345
	703, 708	118NBoff1	2,565	50	2	311										2,336	2,569	2,211

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB I-275 Off Ramp to WB Roosevelt/118th	708, 710	118NBoff2	2,565	50	2	567	19.6	21.6	18.5	48.1	47.9	48.1	1,949	2,565	2,129	2,337	2,570	2,210
	710, 711	118NBoff3	2,565	50	2	460										2,339	2,569	2,210
	711, 712	118NBoff4	2,565	50	3	472										2,340	2,568	2,212
	712, 713	118NBoff5	2,565	50	3	395										2,340	2,567	2,214
	713, 714	118NBoff6	2,565	50	3	188										2,340	2,567	2,214
NB I-275 Off Ramp to 118th	714, 717	118NBoff7	1,365	50	2	212	11.5	12.5	11.1	48.5	48.4	48.6	1,037	1,365	1,133	1,120	1,215	1,074
	717, 718	118NBoff8	1,365	50	2	389										1,120	1,215	1,074
	718, 719	118NBoff9	1,365	50	2	373										1,120	1,215	1,074
	719, 720	118NBoff10	1,365	50	2	589										1,120	1,214	1,075
	720, 721	118NBoff11	1,365	50	2	311										1,119	1,214	1,075
	721, 722	118NBoff12	1,365	50	2	327										1,120	1,215	1,075
	722, 723	118NBoff13	1,365	50	2	626										1,120	1,214	1,077
WB 118th from SB I-275 Off Ramp to West of I-275	723, 724	118NBoff14	3,885	60	4	1,252	15.2	16.1	14.7	56.6	56.6	56.7	2,953	3,885	3,225	3,432	3,648	3,339
	724, 725	118NBoff15	3,885	60	4	575										3,434	3,646	3,340
EB 118th from West of I-275 to SB I-275 On Ramp	739, 740	118NBon2	2,660	60	2	611	21.2	23.9	19.5	56.3	56.1	56.5	2,022	2,660	2,208	2,368	2,661	2,186
	740, 741	118NBon3	2,660	60	2	1,571										2,371	2,662	2,184
NB I-275 On Ramp from 118th	741, 748	118NBon4	960	50	1	268	17.8	20.3	16.4	47.7	47.5	47.8	730	960	797	847	962	782
	748, 749	118NBon5	960	50	1	541										847	962	783
	749, 750	118NBon6	960	50	1	715										847	961	783
	750, 751	118NBon7	960	50	1	245										848	961	783
	751, 752	118NBon8	960	50	1	252										848	961	783
	752, 753	118NBon9	960	50	1	352										847	961	783
	753, 754	118NBon10	960	50	1	264										847	962	782
	754, 755	118NBon11	960	50	1	415										847	961	783
	755, 7009	118NBon12	960	50	1	733										846	962	783
SB I-275 Off Ramp to 118th	7034, 775	118SBoff2	1,790	50	1	147	37.8	38.7	37.6	44.8	44.8	44.8	1,360	1,790	1,486	1,668	1,705	1,653
	775, 776	118SBoff3	1,790	50	1	934										1,667	1,704	1,654
	776, 777	118SBoff4	1,790	50	1	371										1,667	1,704	1,655
	777, 778	118SBoff5	1,790	50	1	446										1,668	1,704	1,656
	778, 6020	118SBoff6	1,790	50	1	340										1,667	1,704	1,656
SB I-275 and SB SUL Off Ramp to 118th	6020, 723	118SBoff7	2,520	50	2	990	23.8	25.1	23.3	48.5	48.5	48.6	1,915	2,520	2,092	2,313	2,435	2,260
SB I-275 On Ramp from 118th	741, 742	118SBon1	1,700	50	1	197	33.2	37.3	30.3	46.0	45.6	46.3	1,292	1,700	1,411	1,525	1,700	1,402
	742, 743	118SBon2	1,700	50	1	119										1,525	1,700	1,402
	743, 744	118SBon3	1,700	50	1	126										1,526	1,699	1,403
	744, 745	118SBon4	1,700	50	1	162										1,526	1,699	1,403
	745, 746	118SBon5	1,700	50	1	200										1,527	1,699	1,403
	746, 747	118SBon6	1,700	50	1	166										1,527	1,699	1,403
	747, 413	118SBon7	1,700	50	1	973										1,528	1,697	1,405
EB Ulmerton from West of I-275 to I-275 On	800, 801	UlmNBon2	2,425	60	3	2,420	12.5	14.1	11.6	57.8	57.7	57.9	1,843	2,425	2,013	2,161	2,424	1,996
NB I-275 On Ramp from Ulmerton	801, 811	UlmNBon3	1,320	50	2	647	12.4	13.8	11.2	49.0	48.8	49.1	1,003	1,320	1,096	1,211	1,352	1,096
	811, 812	UlmNBon4	1,320	50	2	590										1,210	1,352	1,097
	812, 813	UlmNBon5	1,320	50	2	323										1,209	1,353	1,096
	813, 814	UlmNBon6	1,320	50	2	328										1,209	1,353	1,096
	814, 815	UlmNBon7	1,320	50	2	288										1,210	1,353	1,096
	815, 816	UlmNBon8	1,320	50	2	273										1,210	1,353	1,096
	816, 322	UlmNBon9	1,320	50	2	888										1,212	1,351	1,098
SB I-275 Off Ramp to Ulmerton/MLK	401, 830	UlmSBoff1	1,870	50	2	318	16.6	16.5	16.4	48.7	48.7	48.7	1,421	1,870	1,552	1,613	1,605	1,592
	830, 831	UlmSBoff2	1,870	50	2	346										1,615	1,604	1,592
	831, 7036	UlmSBoff3	1,870	50	2	283										1,614	1,605	1,591
WB Ulmerton West of I-275	7014, 834	UlmSBoff7	1,560	50	2	398	11.9	11.9	11.8	56.7	56.8	56.8	1,186	1,560	1,295	1,343	1,335	1,325
	834, 835	UlmSBoff8	1,560	60	2	584										1,344	1,334	1,325
	835, 836	UlmSBoff9	1,560	60	2	481										1,342	1,335	1,325
	836, 837	UlmSBoff10	1,560	60	2	2,160										1,339	1,337	1,325

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
Ulmerton to SB I-275 On Ramp/MLK	801, 802	UlmSBon1	1,105	35	1	493	21.6	24.7	20.4	45.1	44.6	45.2	840	1,105	917	950	1,072	899
	802, 803	UlmSBon2	1,105	35	1	214										949	1,072	899
SB I-275 On Ramp from Ulmerton	803, 808	UlmSBon3	830	35	1	163	18.0	20.2	16.9	41.5	41.3	41.6	631	830	689	730	819	688
	808, 809	UlmSBon4	830	35	1	163										730	819	689
	809, 810	UlmSBon5	830	35	1	228										730	818	689
	810, 402	UlmSBon6	830	50	1	1,170										731	818	688
EB Ulmerton to SB MLK	803, 804	UlmSBMLK1	275	35	1	201	5.1	5.9	4.9	43.8	43.8	43.7	209	275	228	219	252	211
	804, 805	UlmSBMLK2	275	50	1	361										219	253	211
	805, 806	UlmSBMLK3	275	50	1	499										219	253	211
SB MLK	806, 807	UlmSBMLK4	585	50	2	1,171	5.0	5.3	4.8	49.3	49.3	49.2	445	585	486	493	522	475
NB I-275 On Ramp from NB MLK	850, 851	MLKNBon2	420	50	1	1,080	7.6	8.6	7.0	49.3	49.3	49.4	319	420	349	373	420	345
	851, 852	MLKNBon3	420	50	1	350										374	420	345
	852, 853	MLKNBon4	420	50	1	360										374	420	345
	853, 321	MLKNBon5	420	50	1	548										375	419	345
SB I-275 Off Ramp to MLK	7015, 839	MLKSBoff3	310	50	1	294	5.6	5.6	5.5	48.9	49.0	48.9	236	310	257	273	269	266
	839, 840	MLKSBoff4	310	50	1	336										273	270	265
	840, 841	MLKSBoff5	310	50	1	395										273	270	265
	841, 806	MLKSBoff6	310	50	1	539										272	270	265
NB I-275 On Ramp from 4th	900, 901	4thNBon2	760	60	2	1,270	7.6	8.6	7.0	58.6	58.5	58.7	578	760	631	675	762	622
	901, 902	4thNBon3	760	60	2	634										675	762	623
	902, 903	4thNBon4	760	60	2	322										675	762	623
	903, 904	4thNBon5	760	60	2	279										675	762	624
	904, 905	4thNBon6	760	60	2	388										675	762	624
	905, 906	4thNBon7	760	60	1	313										675	761	624
	906, 907	4thNBon8	760	60	1	305										675	762	624
	907, 324	4thNBon9	760	60	1	666										676	761	624
SB I-275 Off Ramp to 4th	399, 920	4thSBoff1	1,240	60	1	466	13.8	14.5	14.2	57.7	57.5	57.5	942	1,240	1,029	1,003	1,046	1,032
	920, 921	4thSBoff2	1,240	60	1	492										1,003	1,046	1,032
	921, 922	4thSBoff3	1,240	60	1	420										1,003	1,045	1,033
	922, 923	4thSBoff4	1,240	60	1	393										1,003	1,046	1,032
	923, 924	4thSBoff5	1,240	60	1	384										1,003	1,045	1,032
	924, 925	4thSBoff6	1,240	60	1	354										1,003	1,046	1,031
	925, 926	4thSBoff7	1,240	60	1	501										1,002	1,047	1,032
	926, 927	4thSBoff8	1,240	60	1	416										1,002	1,047	1,032
	927, 928	4thSBoff9	1,240	60	2	1,153										1,003	1,047	1,032
	928, 929	4thSBoff10	1,240	60	2	1,242										1,003	1,047	1,033
NB SUL from East of 118th On Ramp to NB I-275 Slip Ramp	4999, 5000	SULNB1	840	70	1	1,116	11.2	12.6	10.3	67.1	67.0	67.2	638	840	697	746	840	690
	5000, 5001	SULNB2	840	70	1	2,205										747	839	691
	5001, 5002	SULNB3	840	70	1	528										748	840	691
	5002, 5003	SULNB4	840	70	1	346										748	839	691
	5003, 5004	SULNB5	840	70	1	235										748	839	691
	5004, 5005	SULNB6	840	70	1	270										748	839	691
	5005, 5006	SULNB7	840	70	1	238										748	838	691
	5006, 5007	SULNB8	840	70	1	261										748	838	691
	5007, 5008	SULNB9	840	70	1	451										748	839	692
	5008, 5009	SULNB10	840	70	1	242										748	839	692
	5009, 5010	SULNB11	840	70	1	158										748	838	692
	5010, 5011	SULNB12	840	70	1	539										749	837	693
	5011, 5012	SULNB13	840	70	1	564										750	837	692
	5012, 5013	SULNB14	840	70	1	824										749	837	693
	5013, 5014	SULNB15	1,170	70	1	2,172										1,057	1,178	991
	5014, 5015	SULNB16	1,170	70	1	1,149										1,058	1,179	992

2030 Starter PM	Link ID No.	Link Name	Demand Volume (veh/h)	FFS (mph)	No. Full Lanes	Length (ft)	Density (veh/mi/lane)			Speed (mph)			Demand Volume (veh)			Simulated Volume (veh)		
Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
NB SUL from NB I-275 Slip Ramp to Slip Ramp North of 4th	5015, 5016	SULNB17	1,170	70	1	2,057	15.1	16.9	14.2	64.1	63.8	64.2	889	1,170	971	1,056	1,178	994
	5016, 5017	SULNB18	1,170	70	1	1,250										1,054	1,178	994
	5017, 5018	SULNB19	1,170	70	1	1,385										1,055	1,178	995
	5018, 5019	SULNB20	1,170	70	1	843										1,053	1,179	995
	5019, 5020	SULNB21	1,170	70	1	687										1,054	1,177	997
	5020, 5021	SULNB22	1,170	70	1	2,036										1,057	1,176	998
	5021, 5022	SULNB23	1,170	70	1	171										1,058	1,175	998
NB SUL from Slip Ramp North to 4th to Howard Frankland Bridge	5022, 5023	SULNB24	1,530	70	1	1,752	21.5	23.9	20.3	62.5	62.2	62.7	1,163	1,530	1,270	1,421	1,574	1,348
	5023, 5024	SULNB25	1,530	70	1	1,039										1,421	1,575	1,347
	5024, 5025	SULNB26	1,530	70	1	814										1,422	1,574	1,346
	5025, 5026	SULNB27	1,530	70	1	2,530										1,420	1,575	1,346
NB I-275 Slip Ramp to NB SUL	2, 5100	SULNBRamp1	330	70	1	266	4.5	5.0	4.4	68.1	68.0	68.0	251	330	274	309	343	295
	5100, 5101	SULNBRamp2	330	70	1	528										309	343	295
	5101, 5102	SULNBRamp3	330	70	1	379										309	343	295
	5102, 5103	SULNBRamp4	330	70	1	376										309	343	296
	5103, 5104	SULNBRamp5	330	70	1	363										308	342	296
	5104, 5105	SULNBRamp6	330	70	1	352										308	342	296
	5105, 5106	SULNBRamp7	330	70	1	831										308	342	296
	5106, 5107	SULNBRamp8	330	70	1	1,172										308	342	297
	5107, 5108	SULNBRamp9	330	70	1	656										308	341	297
	5108, 5109	SULNBRamp10	330	70	1	803										308	341	297
	5109, 5110	SULNBRamp11	330	70	1	897										307	341	298
	5110, 5111	SULNBRamp12	330	70	1	513										307	342	298
	5111, 5013	SULNBRamp13	330	70	1	267										307	342	298
NB I-275 Slip Ramp to NB SUL	327, 5022	SULNBRamp1	360	70	1	157	5.4	6.0	5.2	67.0	66.9	67.0	274	360	299	365	399	348
SB SUL from Howard Frankland Bridge to SB I-275 Slip Ramp	5995, 5996	SULSB1	1,570	70	1	1,586	15.7	17.7	14.5	68.4	68.1	68.4	1,193	1,570	1,303	1,398	1,569	1,290
SB SUL from SB I-275 Slip Ramp North of 4th to SB I-275 Slip Ramp	5996, 5997	SULSB1	1,260	70	1	941	17.4	19.7	16.1	64.4	64.0	64.6	958	1,260	1,046	1,118	1,264	1,039
	5997, 5998	SULSB1	1,260	70	1	816										1,118	1,263	1,039
	5998, 5999	SULSB1	1,260	70	1	1,054										1,118	1,263	1,040
	5999, 6000	SULSB1	1,260	70	1	1,908										1,117	1,264	1,041
	6000, 6001	SULSB2	1,260	70	1	2,064										1,118	1,263	1,043
	6001, 6002	SULSB3	1,260	70	1	572										1,118	1,263	1,042
	6002, 6003	SULSB4	1,260	70	1	407										1,118	1,263	1,042
	6003, 6004	SULSB5	1,260	70	1	1,528										1,118	1,262	1,044
	6004, 6005	SULSB6	1,260	70	1	1,420										1,116	1,263	1,044
	6005, 6006	SULSB7	1,260	70	1	4,087										1,120	1,260	1,047
	6006, 6007	SULSB8	1,260	70	1	1,611										1,119	1,258	1,049
SB SUL from SB I-275 Slip Ramp to SB I-275 Off Ramp to 118th	6007, 6008	SULSB9	730	70	1	767	9.9	11.2	9.2	65.4	65.3	65.5	555	730	606	649	733	602
	6008, 6009	SULSB10	730	70	1	614										649	733	602
	6009, 6010	SULSB11	730	70	1	382										649	733	603
	6010, 6011	SULSB12	730	70	1	135										649	733	603
	6011, 6012	SULSB13	730	70	1	204										649	733	603
	6012, 6013	SULSB14	730	70	1	613										648	732	604
	6013, 6014	SULSB15	730	70	1	251										649	732	604
	6014, 6015	SULSB16	730	70	1	233										649	732	604
	6015, 6016	SULSB17	730	70	1	274										648	732	604
	6016, 6017	SULSB18	730	70	1	238										648	732	605
	6017, 6018	SULSB19	730	70	1	314										647	731	606
	6018, 6019	SULSB20	730	70	1	879										648	731	605
	6019, 6020	SULSB21	730	70	1	207										648	731	605
	6007, 6100	SULSBRamp1	530	70	1	582										470	526	448

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Segment							Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3	Hour 1	Hour 2	Hour 3
SB SUL Slip Ramp to SB I-275	6100, 6101	SULSBRamp2	530	70	1	621	7.2	8.0	6.9	65.5	65.3	65.6	403	530	440	471	526	448
	6101, 6102	SULSBRamp3	530	70	1	317										470	526	448
	6102, 6103	SULSBRamp4	530	70	1	915										470	526	449
	6103, 6104	SULSBRamp5	530	70	1	1,093										470	525	449
	6104, 6105	SULSBRamp6	530	70	1	1,068										470	524	449
	6105, 6106	SULSBRamp7	530	70	1	788										470	525	449
	6106, 6107	SULSBRamp8	530	70	1	367										469	526	448
	6107, 6108	SULSBRamp9	530	70	1	373										469	526	448
	6108, 6109	SULSBRamp10	530	70	1	445										469	525	449
	6109, 6110	SULSBRamp11	530	70	1	8,866										469	524	450
	6110, 1	SULSBRamp12	530	70	1	292										469	524	451
SB SUL Slip Ramp to SB I-275	5996, 394	SULSBRamp1	310	70	1	154	4.1	4.5	3.7	68.4	68.3	68.2	236	310	257	281	306	251