Project Development & Environment Study

Selmon Expressway (SR 618) Downtown Viaduct Improvements
From Florida Avenue to South 22nd Street

Final
Design Traffic Technical Memorandum

THEA Project Number: 52.20.02
FDOT WPI Segment Number: 416361 4
Hillsborough County

Prepared for

TAMPA-HILLSBOROUGH EXPRESSWAY AUTHORITY

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Prepared for:

300 Primera Boulevard
Suite 220
Lake Mary, FL

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EXECUTIVE SUMMARY

This document was prepared as part of the Project Development and Environment (PD&E) study to identify and analyze various alternative design concepts to meet the future traffic needs on the Selmon Expressway Downtown Viaduct from Florida Avenue to South 22nd Street in Hillsborough County. The total project length is approximately 1.7 miles. Improvements include the widening of the existing structure to the inside to provide a divided 6-lane roadway. In addition, full consideration will be given to a "No-Build" alternative. Traffic data was collected and existing conditions evaluated including capacity, levels of service (AM and PM peak hours) and safety.

This study will help Tampa Hillsborough Expressway Authority (THEA) reach a decision on the conceptual design for the project corridor. Improvements include the widening of the existing structure to the inside to accommodate a divided 6-lane roadway. The Build alternative will be situated within the existing right-of-way. Also included in this project is the proposed re-decking of approximately one mile segment of the existing viaduct structure located within the project area by the Florida Department of Transportation (FDOT). The proposed re-decking will extend from Florida Avenue to North 12th Street. In addition, full consideration will be given to a "No-Build" alternative. The Selmon Expressway Downtown Viaduct Project Location Map is shown in **Figure ES-1**. The design year for this project is 2035.

The western terminus of the project is Florida Avenue; this terminus was selected because it incorporates the deck replacement limits and enables the four high volume downtown exit and entrance ramps of the expressway to be contained within the projects limits. These four ramps receive and apply approximately two-thirds percent of the total am and pm peak hour traffic along the viaduct east of downtown. Downtown ramps that are located west of the project limits experience relatively low traffic volumes.

The majority of downtown traffic on the expressway enters and leaves from the east. This volume is expected to increase with the opening of the I-4 Connector as approximately 10% of the total volume using this section of the Selmon Expressway will originate or be destined to the Connector.

Selmon Expressway (SR 618) Viaduct PD&E Design Traffic HNTB	***Project Location Map***	**Figure ES-1**

The eastern project terminus meets the four-lane to six-lane transition that serves as the merge/diverge for ramps that will be constructed as part of the I-4 Connector. This will allow for a continuous six-lane section for the expressway in this area, and is thus the logical terminus for both geometric and traffic reasons. The existing viaduct structure ends at 19th Street, so the continuation of the widening to South 22nd Street in a build alternative would be by embankment and asphalt pavement.

The development of traffic projections for the Selmon Expressway Downtown Viaduct proposed improvements requires the examination of historical growth, proposed development levels within the corridor vicinity, and a basic understanding of local traffic circulation patterns and travel characteristics of the corridor.

The traffic model applied for this study was based on the latest Tampa Bay Regional Planning Model Version 6.1 (TBRPM) released in March 2008. The TBRPM is the tool that the Regional Transportation Analysis uses in forecasting future travel demand. This model represents the latest adopted Year 2025 Long Range Transportation Plan projects lists in the Tampa Bay/FDOT District 7 study area, which includes Hillsborough County, Pinellas County, Pasco County, Hernando County and Citrus County. The TBRPM was validated to match 2008 traffic volumes in the study area. Design year (2035) AADT were developed utilizing the TBRPM (25A) with 2035 socio-economic data provided by FDOT. The design year peak hour turning movement volumes were developed using K_{30} and D_{30} factors obtained from the 2008 Florida Traffic Information CD for the Lee Roy Selmon Expressway.

Design hour traffic operational analysis was performed for the No-Build and Build alternatives along the Lee Roy Selmon Expressway corridor. Overall mainline freeways 2035 LOS for the No-Build were found to be F (east and westbound). For the Build alternatives, these changed to LOS D with the exception of the segment between Kennedy Boulevard and 22nd Street. Analysis of the ramps along the Lee Roy Selmon Expressway resulted in several of the locations operating at LOS F. However as can be seen in **Table ES-1**, vehicle density at these locations was reduced under the Build alternative. It was found that through traffic is better served with the addition of a third lane on the Lee Roy Selmon Expressway. The addition of this improvement allows for traffic operational

gains in several locations. Results of this traffic analysis will enable THEA to make a well-informed decision on a preferred alternative to improve the Lee Roy Selmon Expressway corridor to meet the future traffic demand.

Table ES-1. No Build vs. Build Ramp (LOS) Comparison

		2015				2025				2035			
		No Build		Build		No Build		Build		No Build		Build	
RAMP LOCATION	PERIOD	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS
EB off ramp to 22nd St.	AM	25.9	C	19.2	B	27.2	E	27.1	D	48.7	F	34.4	D
	PM	31.8	D	23.0	C	45.8	F	32.2	C	59.6	F	39.8	F
EB on ramp from 22nd St.	AM	28.2	D	19.0	B	38.4	F	26.1	C	48.8	F	32.8	D
	PM	35.7	E	25.3	C	52.0	F	38.1	F	68.1	F	49.1	F
WB off ramp to 22nd St.	AM	29.8	D	20.8	C	22.9	C	26.5	C	49.2	F	30.7	D
	PM	24.3	C	17.3	B	32.3	D	22.4	C	40.3	F	26.8	C
WB on ramp from 22nd St.	AM	35.7	E	25.3	C	52.0	F	36.4	E	68.1	F	49.1	F
	PM	29.6	D	21.0	C	42.7	F	31.7	D	56.0	F	41.5	F
EB on ramp from Nebraska Ave	AM	25.8	C	18.8	B	31.4	D	26.9	C	46.0	F	34.8	D
	PM	31.0	D	22.7	C	43.5	F	32.5	D	55.8	F	42.3	F
WB off ramp to Kennedy Blvd	AM	31.8	D	24.4	C	45.8	F	34.8	D	59.6	F	44.4	F
	PM	25.9	C	19.5	B	37.2	E	27.4	C	48.7	F	34.2	D
EB off ramp to Channelside Dr.	AM	15.2	B	15.8	B	19.7	B	21.0	C	24.0	C	25.9	C
	PM	18.3	B	19.1	B	23.7	C	25.1	C	28.5	D	30.7	D
EB on ramp from Jefferson St.	AM	25.0	C	17.7	B	36.3	E	26.7	C	47.9	F	35.7	E
	PM	29.9	D	21.2	C	44.1	F	32.3	D	58.1	F	42.6	F
WB off ramp to Morgan St.	AM	24.4	C	18.6	B	34.8	D	26.5	C	44.7	F	33.7	F
	PM	20.1	C	15.4	B	28.3	D	22.2	C	36.6	E	28.5	D
WB on ramp from Florida Ave.	AM	21.3	C	22.0	C	28.3	D	29.7	D	35.1	E	37.5	E
	PM	17.7	B	18.2	B	23.4	C	24.6	C	29.0	D	31.0	D

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1. INTRODUCTION

1.1 Background

The Tampa Hillsborough County Expressway Authority (THEA) is conducting a Project Development and Environment (PD&E) study to identify and analyze various alternative design concepts to meet the future traffic needs on the Selmon Expressway Downtown Viaducts from Florida Avenue to South 22nd Street in Hillsborough County. The total project length is approximately 1.7 miles. This study will help THEA reach a decision on the conceptual design for the project corridor. Improvements include the widening of the existing structure to the inside to accommodate a divided 6-lane roadway. The Build alternative will be situated within the existing right-of-way. Also included in this project is the proposed re-decking of approximately one mile segment of the existing viaduct structure located within the project area by the Florida Department of Transportation (FDOT). The proposed re-decking will extend from Florida Avenue to North 12th Street. In addition, full consideration will be given to a "No-Build" alternative. The Selmon Expressway Downtown Viaduct Project Location Map is shown in **Figure 1**. The design year for this project is 2035.

1.2 Description of Project

The western terminus of the project is Florida Avenue; this terminus was selected because it incorporates the deck replacement limits and enables the four high volume downtown exit and entrance ramps of the expressway to be contained within the projects limits. These four ramps receive and apply approximately two-thirds of the total am and pm peak hour traffic along the viaduct east of downtown. Downtown ramps that are located west of the project limits experience relatively low traffic volumes.

The majority of downtown traffic on the expressway enters and leaves from the east. This volume is expected to increase with the opening of the I-4 Connector as approximately 10% of the total volume using this section of the Selmon Expressway will originate or be destined to the Connector.

Selmon Expressway (SR 618) Viaduct PD&E Design Traffic HNTB	***Project Location Map***	**Figure 1**

The eastern project terminus meets the four-lane to six-lane transition that serves as the merge/diverge for ramps that will be constructed as part of the I-4 Connector. This will allow for a continuous six-lane section for the expressway in this area, and is thus the logical terminus for both geometric and traffic reasons. The existing viaduct structure ends at 19th Street, so the continuation of the widening to South 22nd Street in a build alternative would be by embankment and asphalt pavement.

1.3 Objective

The objective of this Design Traffic Technical Memorandum is to document existing conditions, the methodology and procedures used in the development of the future traffic estimates, and traffic operations for different future alternatives along the Selmon Expressway Downtown Viaduct corridor. In addition, the traffic data necessary for noise and air studies for the base year (2008) and design year (2035) alternatives are documented. The traffic analysis for viable alternatives was based on a minimum acceptable Level of Service "D" in accordance with the Long Range Transportation Plan (LRTP) policies in Hillsborough County and the Florida Interstate Highway System (FIHS) urban criteria.

1.4 Methodology

Based on the objective of this Traffic Report, a specific methodology is utilized in the development of design traffic forecasts. This basic methodology is listed herein.

- Existing Traffic Volumes provided by THEA, City of Tampa and FDOT for use in the identification of existing operational deficiencies and the evaluation of proposed roadway improvement alternatives that are to be identified in the Future Conditions section.

- Based on historic data and information for future development within the project area, estimate future travel characteristics for the corridor. This includes Design Hour Demand (K_{30}), Design Hour Directional Demand (D), and percentage of trucks for both the design hour and daily demand (T_{peak}, T_{daily}).

- Using historical traffic counts (Trends Analysis), historic growth rates, statistical (population and economic growth projections) and/or travel demand models (FSUTMS) for the area, develop estimates of future traffic volumes for comparison.

- Modify travel characteristics (K-demand) based on non-constrained or constrained conditions.

- Develop opening year (2015), interim year (2025) and design year (2035) traffic projections for the project.

- The findings and analyses will be documented in this Design Traffic Technical Memorandum.

This methodology is based on *the FDOT's Topics Memorandums and Guidelines* for these procedures and has been modified to allow for the development of information which will provide a broader database in the preliminary and final design process.

2. EXISTING CONDITIONS

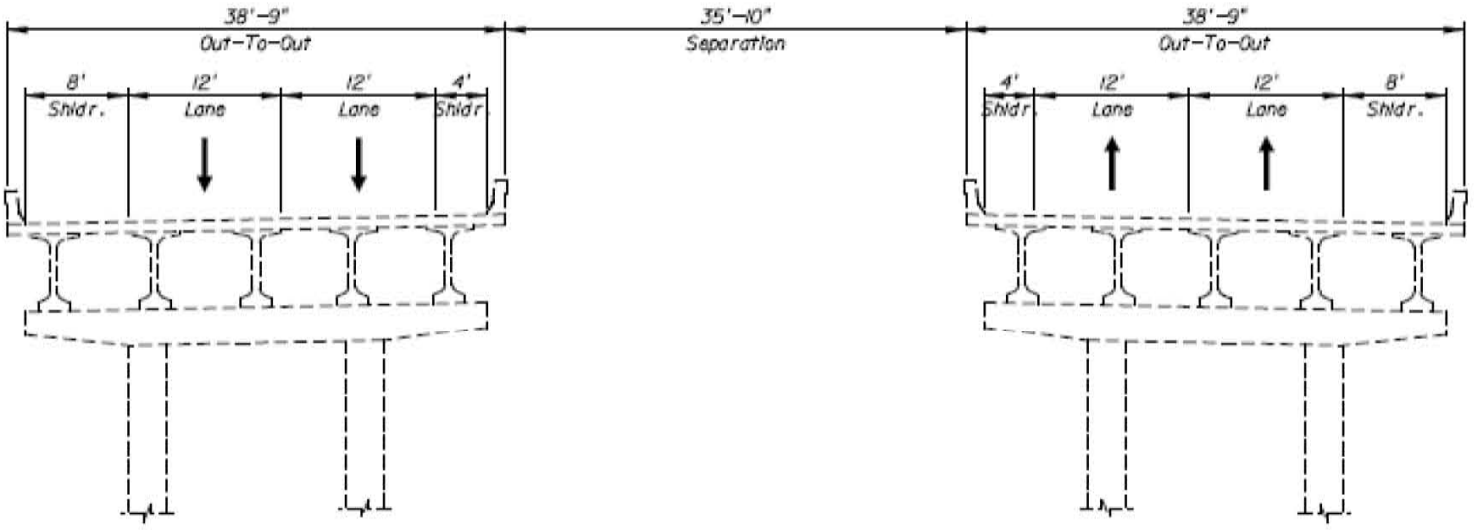
The Selmon Expressway is primarily an east/west facility, which in its entirety, extends from a western terminus at Gandy Boulevard (US 92/SR 600) to an eastern terminus at Brandon Parkway in Hillsborough County. The Selmon Expressway corridor is functionally classified as an Urban Arterial – Freeways and Expressways and is part of the FIHS, which is comprised of interconnected limited and controlled access roadways including interstate highways, Florida's Turnpike, selected urban expressways and major arterial highways. The FIHS is the highway component of the Strategic Intermodal System (SIS), which is a statewide network of highways, railways, waterways and transportation hubs that handle the bulk of Florida's passenger and freight traffic.

2.1 Field Inventory

The existing typical section of the Expressway from Florida Avenue to west of Channelside Drive is currently a set of twin viaduct bridges carrying two elevated 12 foot lanes in each direction. A separate bridge carrying three Reversible Elevated Lanes (REL) is situated within the proximity of the Viaduct structure at the eastern portion of the study area from east of Channelside Drive to South 22nd Street. The existing typical sections are shown in **Figures 2 and 3**. A 55 mph speed limit is posted on the Selmon Expressway (Viaduct) between Florida Avenue and 22nd Street. The posted speed limit on the REL is 65 mph. The corridor study area includes access to and from the Selmon Expressway at the following cross streets:

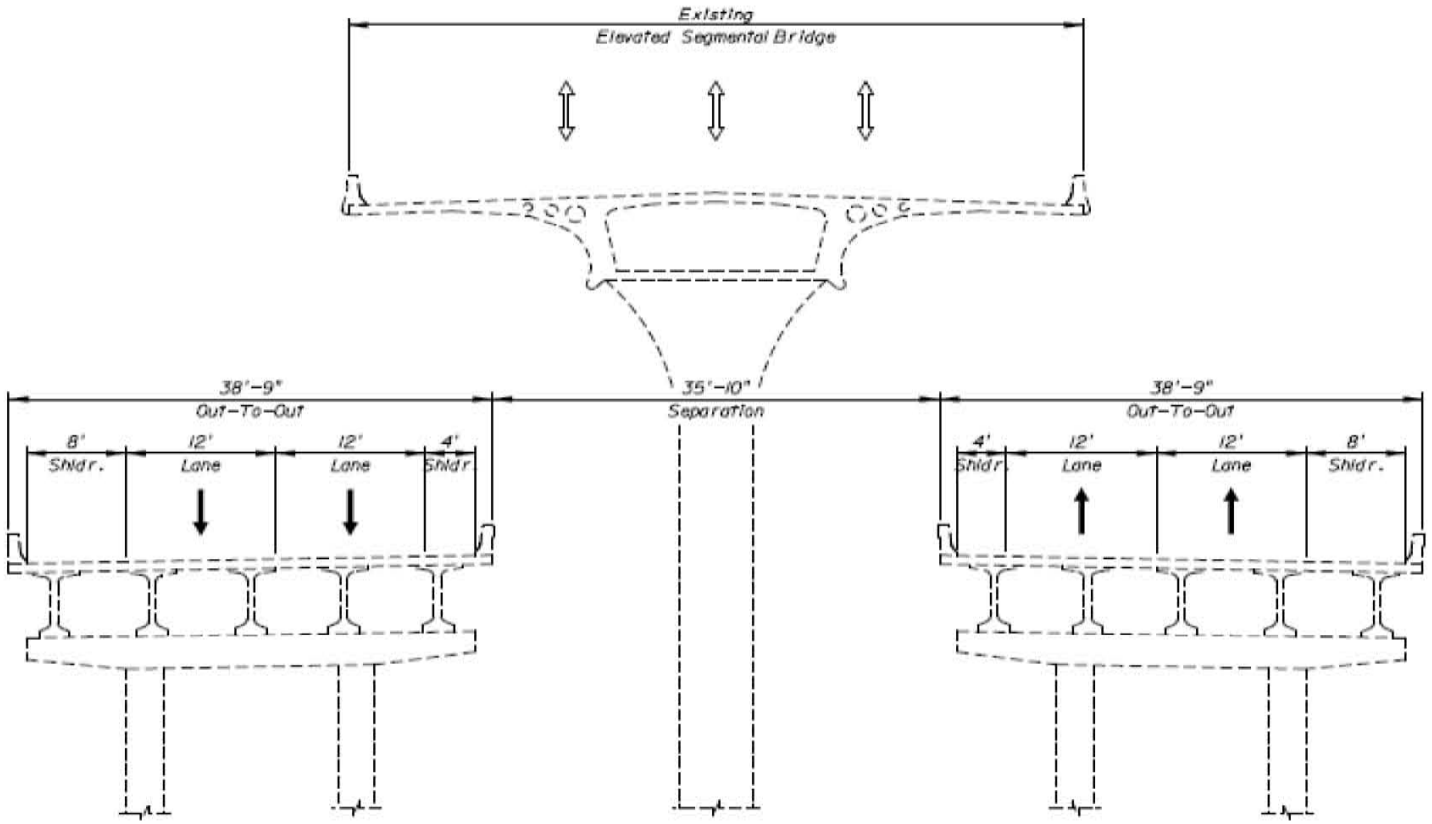
- Florida Avenue
- Channelside Drive
- Jefferson Street
- Morgan Street
- Kennedy Boulevard
- Nebraska Avenue
- South 22nd Street

Figure 4 illustrates the existing laneage for the Selmon Expressway and other facilities within the study area.



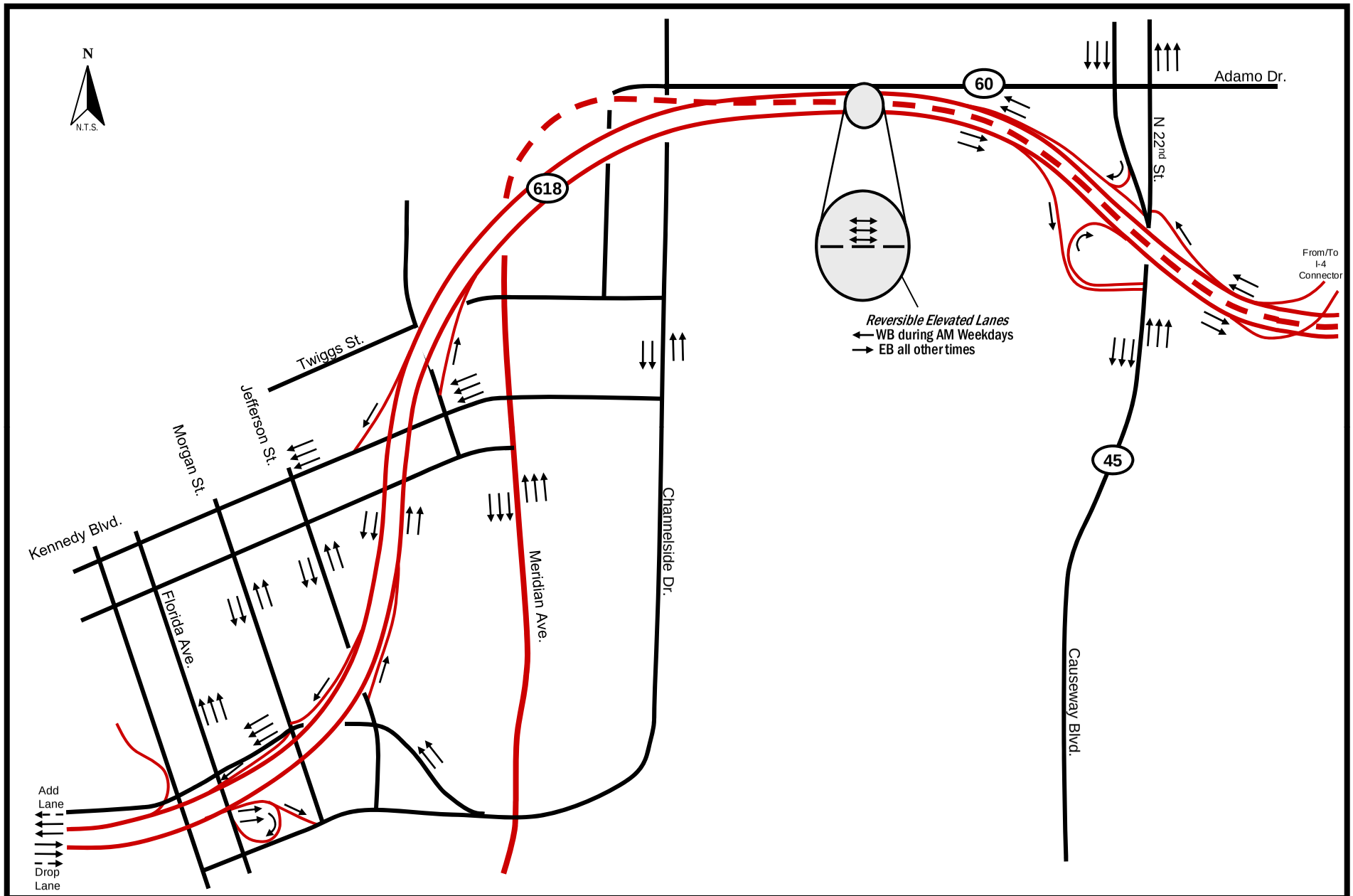
Typical Section I
From Florida Avenue to West of Channelside Drive

Selmon Expressway (SR 618) **Viaduct PD&E Design Traffic** HNTB	***Existing Typical Section I***	**Figure 2**



Typical Section II
From East of Channelside Drive to South 22nd Street

Selmon Expressway (SR 618) Viaduct PD&E Design Traffic HNTB	***Existing Typical Section II***	**Figure 3**



Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic
HNTB

Existing Lane Geometry

Figure 4

2.2 Traffic Data

Traffic count information was collected from a variety of sources including:

- Ramp counts collected by THEA as part of their annual program
- City of Tampa Traffic Count Program
- FDOT 2008 Florida Traffic Information CD

The traffic count information collected from these sources was adjusted to reflect 2008 year conditions. These were considered as the base year for the analysis performed as part of this report. For the purpose of this traffic analysis, seasonal factors (obtained from the 2008 Florida Traffic Information CD-ROM) were applied to the traffic count information collected along the corridor. Traffic count information can be found in **Appendix A**. Existing 2008 Average Annual Daily Traffic (AADT) and Directional Design Hourly Volumes (DDHV) are depicted in Figures 5 and 7 found in Section 4 of this document.

2.3 Transit Service

Hillsborough Area Regional Transit (HART) Authority has several express bus routes that run along the general use lanes of the Selmon Expressway in the study corridor as listed below.

- Route 22X, from Downtown Tampa to Dover/North Brandon
- Route 24X, from Mac Dill Air Force Base to FishHawk/Riverwiev
- Route 25X, from MacDill Air Force Base to South Brandon
- Route 27X, from Downtown Tampa to South Brandon
- Route 28X, from Downtown Tampa to Seffner/Dover
- Route 47LX, from Downtown Tampa to South County

2.4 Capacity Analysis

Operational analyses were conducted utilizing the Highway Capacity Software (HCS) 2000 for the existing year conditions. The mainline level of service for Selmon Expressway was determined using the Freeways Module of the HCS software package, while ramp merge/diverge operations

were evaluated using the Ramps module of the HCS software package. These analyses were based on the adjusted AM and PM peak hour volumes.

2.4.1 Ramp Capacity Analysis

Level of Service (LOS) analyses were conducted for the ten ramps located along the length of the corridor, for the AM and PM peak hours utilizing the HCS 2000 Ramps analysis.

According to Exhibit 25-4 (page 25-5) of *Highway Capacity Manual (HCM 2000)*, a vehicle density exceeding 35 pc/mi/ln is considered LOS E condition. LOS F conditions exist when the total flow departing from the conflict area exceeds the capacity of the downtown freeway segment. Density is defined as the number of vehicles on a roadway segment averaged over space. A summary of the HCS LOS analysis for the ramps is included in **Table 1**. The capacity analysis worksheets for the existing conditions are included in **Appendix B**.

Table 1. Base Year (2008) Ramp Peak Hour Levels of Service (LOS)

RAMP LOCATION	PERIOD	DENSITY (pc/mi/ln)	LOS
EB off ramp to 22nd St.	AM	17.8	B
	PM	21.9	C
EB on ramp from 22nd St.	AM	20.9	C
	PM	25.1	C
WB off ramp to 22nd St.	AM	22.9	C
	PM	18.7	B
WB on ramp from 22nd St.	AM	25.1	C
	PM	20.9	C
EB onramp from Nebraska Ave	AM	18.5	B
	PM	26.4	C
WB off ramp to Kennedy Blvd	AM	21.9	C
	PM	17.8	B
EB off ramp to Channelside Dr.	AM	11.9	B
	PM	14.4	B
EB on ramp from Jefferson St.	AM	16.8	B
	PM	20.0	B
WB off ramp to Morgan St.	AM	17.3	B
	PM	14.1	B
WB on ramp from Florida Ave.	AM	16.3	B
	PM	13.8	B

The overall ramp level of service data indicate that the ramps currently operate at an overall level of service of LOS C or better during both the AM and PM peak hours.

2.4.2 Mainline Capacity Analysis

Mainline LOS analyses along the Selmon Expressway were conducted using the Freeways module of the HCS software program that performs level of service analyses. For the mainline LOS analysis, the freeway segment boundaries were selected from one interchange to the next and extending to the sections east and west of the project limits. Therefore, the Selmon Expressway was divided into four freeway segments. The Freeway HCS worksheets for the mainline segment LOS analysis are included in **Appendix C** and the results are summarized in **Table 2**.

Table 2. Base Year (2008) Peak Hour Mainline Levels of Service (LOS)

SEGMENT	DENSITY[(1)] (PC/MI/LN)	LOS
34th Street to 22nd Street	22.6	C
22nd Street to Kennedy Boulevard.	21.7	C
Kennedy Boulevard to Florida Avenue.	17.4	B
Florida Avenue to Tampa Street	12.4	B

(1) Densities greater than 45 pc/mi/ln are noted as "N/A.

The freeway LOS analysis indicates that, under the existing conditions, the entire Selmon Expressway corridor, operates at an overall average LOS C or better during the AM and PM peak hours in both directions.

3. DEVELOPMENT OF FUTURE TRAFFIC

The development of traffic projections for the Selmon Expressway Downtown Viaduct proposed improvements requires the examination of historical growth, proposed development levels within the corridor vicinity, and a basic understanding of local traffic circulation patterns and travel characteristics of the corridor.

The traffic model applied for this study was based on the latest Tampa Bay Regional Planning Model Version 6.1 (TBRPM V6.1) released in March 2008. The TBRPM V6.1 is the tool that the Regional Transportation Analysis uses in forecasting future travel demand. This model represents the latest adopted Year 2025 Long Range Transportation Plan projects lists in the Tampa Bay/FDOT District 7 study area, which includes Hillsborough County, Pinellas County, Pasco County, Hernando County and Citrus County. The TBRPM V 6.1 boundary is also expanded southward into Manatee County to include the Port Manatee area and I-75 / I-275 loop and interchange. The TBRPM was developed by FDOT District 7 in cooperation with the Hillsborough County, Pinellas County, Pasco County and Hernando County Metropolitan Planning Organizations (MPOs) and is designed to be sensitive to changes in land use and transportation characteristics.

A base year 2006 model was validated for the Selmon Expressway Downtown Viaduct study area. Traffic counts from the FDOT, Hillsborough County and the City of Tampa were utilized for the validation of the travel demand model. As part of the base year model validation, adjustments to the base transportation network were required including the addition of the Reversible Elevated Lanes (REL) to the TBRPM V6.1 model. During the validation, other minor adjustments to the TBRPM model were required in order to replicate travel patterns within the study area.

Future year traffic volumes were developed for Year 2035 through the application of the 2025 TBRPM adopted model and newly developed 2035 land use data, which incorporated the updates from the base 2006 model calibration.

3.1 Land Use Data Development

Land use data developed in preparation of the 2035 TBRPM that is to be used for the preparation of

Long Range Transportation Plans for the individual MPOs in the Tampa Bay area was used as the base for the future model runs for the Selmon Expressway Downtown Viaducts traffic projections.

3.2 Planned Improvements

The cost feasible Year 2025 LRTP, as developed by the Hillsborough County MPO and approved by FDOT, was used as the future year base transportation network. This network included the various highway and transit improvements that could be implemented by the various jurisdictions and agencies over the next twenty years. These improvements are documented in the Long Range Transportation Plans for Hillsborough County. The network was modified to include projects which were specifically reflective of the future year No-Build corridor conditions.

The I-4 Connector is an example of projects that are included in the LRTP that will have significant impacts on travel patterns within the study area. The Interstate 4/Crosstown Connector is a proposed limited-access toll road that is slated to connect the Lee Roy Selmon Crosstown Expressway to Interstate 4 in Tampa, Florida. When completed this facility will a have an impact on future traffic demand along the Selmon Expressway. The connector project is being coordinated by a partnership between FDOT, Florida's Turnpike, and the Tampa-Hillsborough Expressway Authority with construction slated to begin in the year 2010.

To estimate the impacts of future trips on the functionally classified roadway network, modifications were made to the year 2000 TBRPM transportation network as well as to the future toll structure as proposed by THEA.

3.3 Model Validation

To ensure the validity of future traffic projections along the Selmon Expressway Downtown Viaduct corridor it was necessary to validate the TBRPM model to review the model performance in the study area. As part of this project, the model's performance in Hillsborough County was also reviewed to determine if the travel model reproduced traffic demand for selected individual roadways in the project area. For this process, 2006 model traffic results were adjusted from peak season (January-April) traffic to annual average daily traffic (AADT) using a Model Output

Conversion Factor (MOCF) for Hillsborough County of 0.95 and compared with observed 2006 traffic counts at FDOT and City of Tampa count stations. A comparison of the 2006 model results with the observed 2006 AADT counts is presented in **Table 3**.

Table 3. AADT Comparison of TBRPM 2006 Forecast Volumes with 2006 Observed Counts

Road	From	To	Volume[(1)]	Count[(2)]	Volume/ Count
Selmon Expwy(REL)	50th St	West of 22nd St	14,381	10,200	1.41
SR 618/SELMON EXPWY	39th St	21st St	53,946	45,000	1.20
SR 618/SELMON EXPWY	21st St	14th St	56,326	49,800	1.13
SR 618/SELMON EXPWY	14th St	SR 60	45,162	41,800	1.08
FLORIDA AVE	Broerein St	Channelside Dr	15,136	16,500	0.92
22ND ST	SR 60	Selmon Expy	13,341	17,000	0.78
22ND ST	Selmon Expy	Flagler St	31,000	30,500	1.02
SR 60/ADAMO DR	28th St	22nd St	36,946	31,000	1.19
SR 60/ADAMO DR	22nd St	21st St	33,924	33,500	1.01
SR 60/ADAMO DR	21st St	13th St	45,233	35,500	1.27
CHANNELSIDE DR	Kennedy Blvd	Jefferson St	12,679	14,000	0.91
SR 60/KENNEDY BLVD	Nebraska Ave	Jefferson St	14,871	10,500	1.42
SR 60/KENNEDY BLVD	Jefferson St	Morgan St	17,167	19,500	0.88
		Total	**390,113**	**354,802**	**1.10**

(1) TBRPM 2006 Forecast Traffic Volume
(2) 2006 FDOT and City of Tampa Traffic Count

Since the study focus is on the Selmon Expressway, manual adjustments were necessary to better reflect existing 2006 counts at a few locations. These manual adjustments included:

1. Readjust the splits between the various Selmon Expressway on- and off-ramps to better reflect existing year traffic volumes and provide a balance along the system.
2. Adjust the traffic volumes along the Selmon Expressway to closer reflect the 2006 AADT counts.

3.4 Future Year 2035 Model Review

The model review process for corridor analysis is not complete without a review of the historical traffic growth along the corridor and a review of the baseline future year model forecasts to ensure that the model will act properly with revised socio-economic activity levels.

3.4.1 Historical Traffic Growth along the Corridor

Based on the historic count information provided by the FDOT, trends analyses were performed for several FDOT count stations on the Selmon Expressway. These count stations, provided historic counts ranging from 1998 to 2008. Based on this historical data, future growth trends were established by a least square linear regression of the historic counts. These trend analysis sheets are shown in **Appendix D** and the growth rates based upon this analysis are shown in **Table 4**. The trend generated growth rates ranged from 1.04 percent at the FDOT count station 105277 to 2.79 percent at station 105249. The overall average of the historic trends simple annual growth rates for the study area was 1.56 percent simple growth per year.

Table 4. Historical Traffic Growth at FDOT Count Stations

LOCATION	2008 FDOT AADT	2035 TREND FORECAST	GROWTH[(1)] RATE
SR 618 (Lee Roy Selmon Expressway) – East of Plant Avenue (Station 105249)	41,000	67,000	2.79%
SR 618 (Lee Roy Selmon Expressway) – West of SR 60 (Kennedy) (Station 105276)	37,000	55,700	1.14%
SR 618 (Lee Roy Selmon Expressway) – East of 14th Street (Station 105277)	46,000	64,100	1.04%
SR 618 (Lee Roy Selmon Expressway) – West of SR 45 (21st Street) (Station 105264)	48,000	72,800	1.28%
Average			**1.56%**

(1) 2008 to 2035 simple annual growth

The low average growth rate for the area reflects the already developed land use conditions in the study area.

3.4.2 Future Year 2035 Volumes

Due to the specific conditions associated with any roadway, it is necessary to utilize the various methods in projecting future traffic forecasts (such as trends analysis and FSUTMS Travel Demand Models) as a database for comparison. In addition, actual road conditions such as access, existing and anticipated operational conditions, proposed future roadway network improvements, specific

developments, traffic patterns/mix, and driver perception must also be assessed and analyzed in developing future traffic forecasts. Most of these considerations are based on engineering judgment, field observations, and knowledge of the operations of the existing facility. This information is then applied to the overall database to develop future forecasts of travel demand which would be representative of traffic volume increases expected in the future (Design Traffic Forecasts).

Estimates of the future 2035 traffic volumes were developed using the 2035 socio-economic data and the adopted 2025 cost-feasible, long range transportation network. Using these data sets and the validated TBRPM (25A) model, 2035 traffic assignments were made to the area highway network. Traffic projections were made for two scenarios, No Build that assumes no improvements to the Selmon Expressway and a Build Scenario that assumes the addition of a third lane in each direction between Florida Avenue and 22nd Street. The results of the 2035 AADT projections are presented in **Table 5**.

3.5 Traffic Parameters

Once the future AADT's are developed for the study area roadways, K_{30} and D_{30} (K and D) factors are used to estimate the design hour volumes. Information from the 2008 Florida Traffic Information CD was used to determine project traffic characteristics for the facilities in the study area. These traffic characteristics include the 30th Analysis Hour Factor (K_{30}) and the Directional Distribution Factor (D_{30}). The K_{30} factor is the proportion of the AADT occurring during the 30th highest hour of the design year. The D_{30} factor is the proportion of the 30th highest hour traffic that is traveling in the peak direction. Following are the K_{30}, D_{30}, and T factors from the 2008 Florida Traffic Information CD and the adjusted factors as per Figure 3.7 of the *FDOT Project Traffic Forecasting Handbook*. This figure provides the recommended range of K_{30} values to be used for project traffic forecasting.

- K_{30} = 9.13 (Mainline) – Adjusted to 9.40 as per the Project Traffic Forecasting Handbook
- K_{30} = 15.15 (ramp) – Adjusted to 10.0 as per the Project Traffic Forecasting Handbook
- D_{30} = 55.29%
- T_{Daily} = 8.10%

Table 5. 2035 AADT Projections and Levels of Service

			2008 Existing Condition	2008 LOS	2035 No Build Condition	2035 No Build LOS	2035 Build Condition	2035 Build LOS
Road	**From**	**To**	**AADT**		**AADT**		**AADT**	
Reversible Express Lanes [1]	22nd St	End of REL	10,200	B	29,700	B	29,600	B
SR 618/X-TOWN EXPWY [1]	26th St	22nd St	48,000	C	102,200	F	105,800	D
	22nd St	Kennedy Blvd	46,000	C	122,300	F	136,000	F
	Kennedy Blvd	Florida Ave	37,000	B	93,500	F	104,900	D
	West of Florida Ave		41,000	B	84,600	F	93,500	F
22nd St [1]	South of X-Town Expwy		29,500	B	49,400	C	53,400	C
	North of X-Town Expwy (NB)		21,500	B	24,800	B	26,800	B
	North of X-Town Expwy (SB)		16,000	B	29,200	C	28,100	C
Kennedy Blvd [1]	East of X-Town Expwy		12,000	C	25,200	D	22,900	C
	West of X-Town Expwy		21,000	C	31,900	D	31,200	C
Brorein St [2]	East of X-Town Expwy		11,500	C	17,700	C	17,000	C
	West of X-Town Expwy		14,500	C	32,700	D	30,500	C
Florida Ave [2]	South of X-Town Expwy		13,600	C	16,200	C	16,300	C
	North of X-Town Expwy		13,700	C	29,400	D	28,600	D
SR 60/Adamo Dr [1]	28th St	22nd St	29,000	D	42,100	F	43,400	F
	22nd St	21st St	25,000	C	36,500	F	36,600	F
	21st St	Channelside Dr	26,500	D	55,500	F	53,600	F
Channelside Dr [2]	SR 60	Twiggs St	28,800	D	65,100	F	64,600	F
	Twiggs St	Kennedy Blvd	26,400	D	50,500	F	51,400	F
	Kennedy Blvd	Jefferson St	13,700	C	22,700	C	21,600	C
	Jefferson St	Florida Ave	12,900	C	25,800	D	25,400	D

(1) Florida Traffic Information 2008 CD

(2) City of Tampa 2008 Traffic Count Program

4. FUTURE CONDITIONS

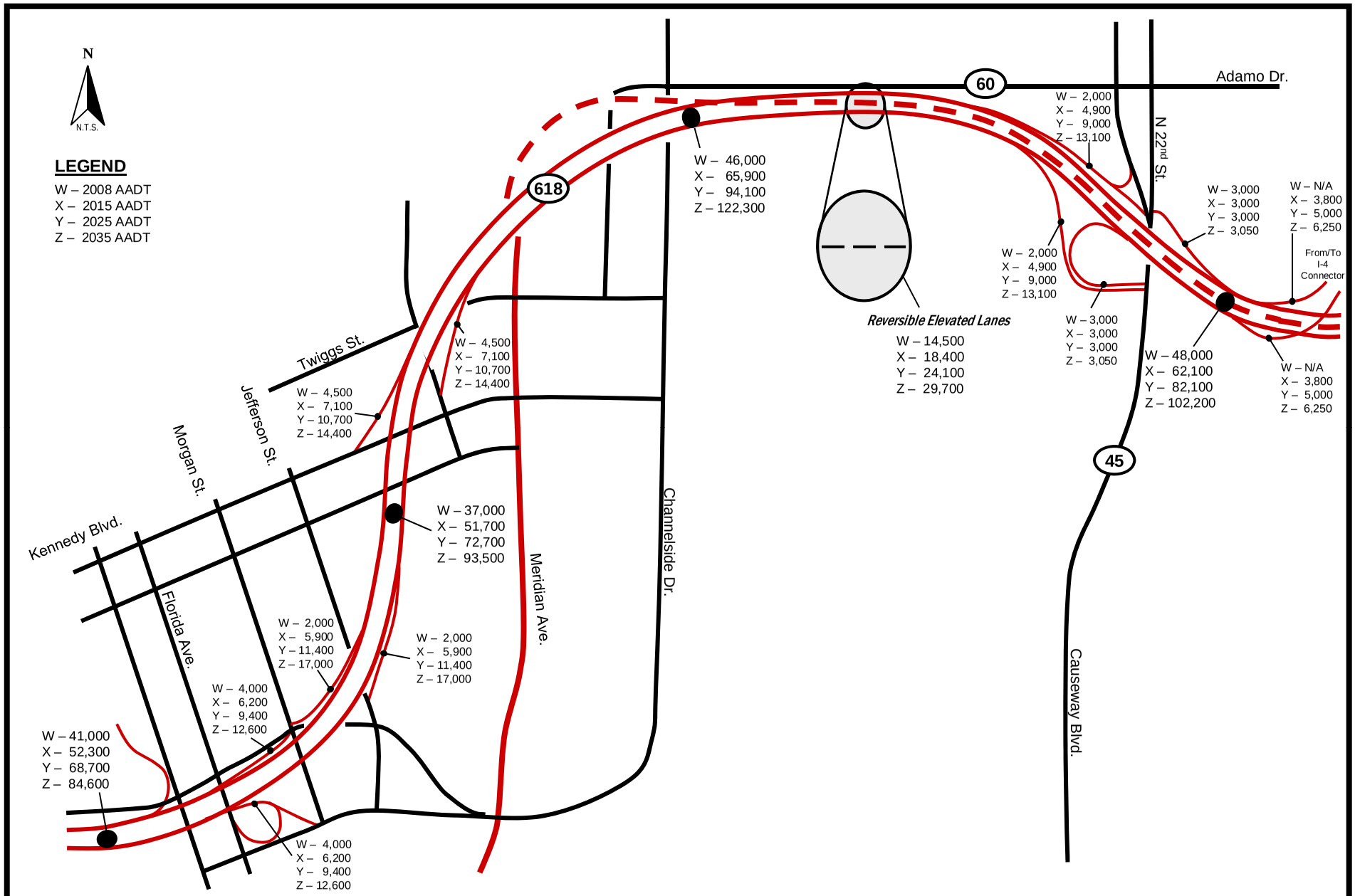
Before accepting the model results as appropriate for use in the design traffic report, the results of the TBRPM transportation model for this area were reviewed closely to determine the accuracy of the traffic forecasts. This information was then applied to the overall database to develop future forecasts of travel demand which would be representative of traffic volume increases expected in the future i.e., design traffic forecasts. Due to the characteristics of the study area, diversity of land uses located along the Lee Roy Selmon Expressway corridor and the projected development expected to occur, future traffic volumes for the Selmon Expressway Downtown Viaduct proposed improvements were developed from the forecasts obtained from the TBRPM model.

The future year traffic conditions were developed and analyzed for the study area along Lee Roy Selmon Expressway from west of Florida Avenue to east of 22nd Street. Using the validated travel demand model described in the previous section as well as future year socio-economic data and transportation system, the operational conditions for each build alternative as well as the no-build alternative were analyzed. A summary of this information and analyses is presented below.

4.1 No-Build Projected AADT Volumes and Capacity Analysis

The year 2035 was selected as the design year for future year traffic analysis. The current TBRPM traffic model provides peak season traffic volumes that are converted to AADT volumes, using the Hillsborough countywide MOCF of 0.95.

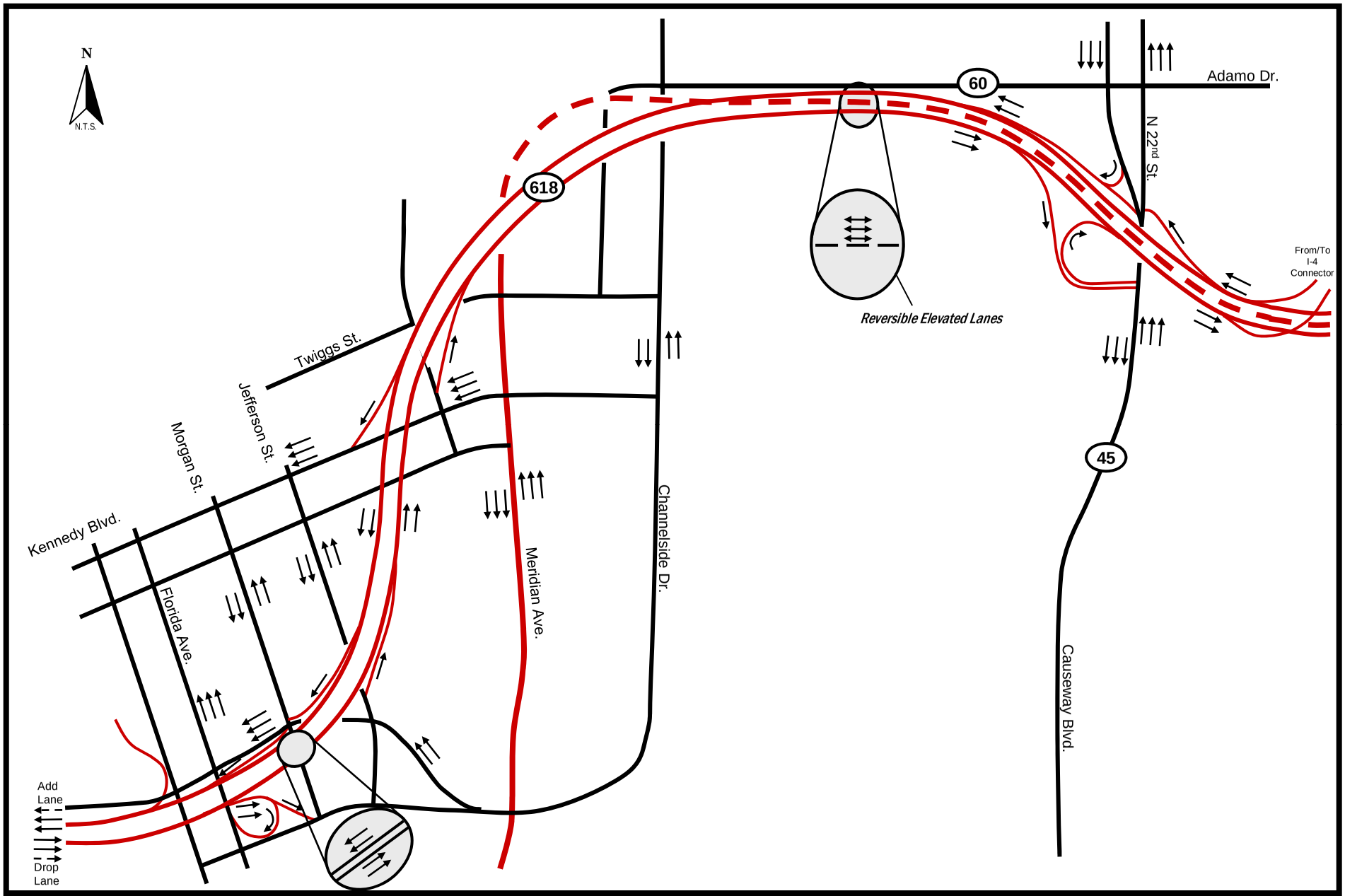
Using the current TBRPM traffic model with the adopted 2035 socio-economic data and the base transportation network, the 2035 No-Build Alternative AADT volumes were developed by applying the above adjustment factors as well as the manual adjustments outlined for the corridor validation. The AADT volumes for the No-Build Alternative are shown in **Figure 5**. The No Build Laneage (number of lanes) is presented in **Figure 6.** Based on this laneage, roadway operational characteristics i.e., levels of service were tested using the projected AADT. The level of service ratings for these volumes were developed by comparing the two-way 2035 AADT volumes with the



Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic
HNTB

No Build Average Annual Daily Traffic

Figure 5



Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic
HNTB

No Build Lane Geometry

Figure 6

threshold volumes from *Table 1 of the FDOT 2009 Quality/Level of Service Handbook*. The results of these analyses were presented in **Table 5**.

4.1.1 Development of Directional Design Hour Volumes

Directional design hour volumes were estimated from the 2035 AADT volumes using the K_{30} and D_{30} factors developed in Section 3.5 of this document. These directional design hour volumes as shown in **Figure 7** were then used to develop the future design hour (AM and PM) ramp movements used in the HCS analysis for the No-Build alternative.

4.1.2 Future No-Build Peak Hour Ramp Operational Analysis

Level of Service (LOS) analyses were conducted for the ten ramps located along the length of the corridor, for the AM and PM peak hours utilizing the HCS 2000 Ramps analysis. A summary of the HCS LOS analysis for the ramps is included in **Table 6**. The capacity analysis worksheets for the No Build conditions are included in **Appendix E**.

4.1.3 Future No Build Mainline Capacity Analysis

Mainline LOS analyses along the Selmon Expressway were conducted using the Freeways module of the HCS software program that performs LOS analyses. For the mainline LOS analysis, the freeway segment boundaries were selected from one interchange to the next and extending to the sections east and west of the project limits. Therefore, the Selmon Expressway was divided into four freeway segments. The Freeway HCS worksheets for the mainline segment LOS analysis are included in **Appendix F** and the results are summarized in **Table 7**.

The freeways LOS analysis indicates that, by the year 2025, the segments from east of 22nd Street to Kennedy Boulevard are expected to operate at LOS F. By the year 2035, the entire study corridor, would operate at an overall average LOS F during the AM and PM peak hours in both directions.

4.2 Build Projected AADT Volumes and Capacity Analysis

One preliminary design alternative was identified for further development in this Selmon Expressway Downtown Viaduct Project. The “Build” alternative being evaluated consists of the

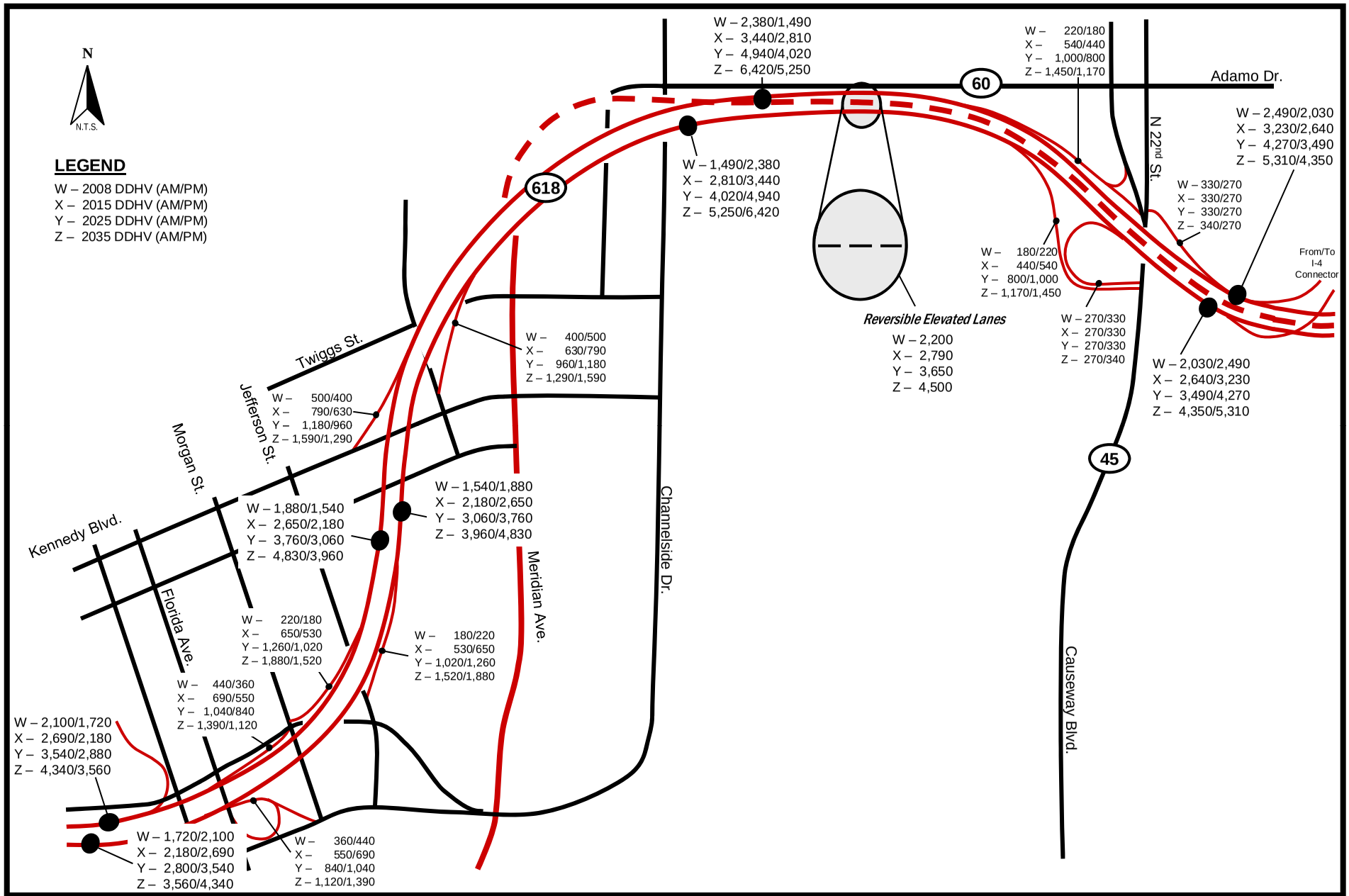
Table 6. Future No-Build Ramp Peak Hour Levels of Service (LOS)

		2015		2025		2035	
RAMP LOCATION	**PERIOD**	**DENSITY (pc/mi/ln)**	**LOS**	**DENSITY (pc/mi/ln)**	**LOS**	**DENSITY (pc/mi/ln)**	**LOS**
EB off ramp to 22nd St.	AM	25.9	C	27.2	E	48.7	F
	PM	31.8	D	45.8	F	59.6	F
EB on ramp from 22nd St.	AM	28.2	D	38.4	F	48.8	F
	PM	35.7	E	52.0	F	68.1	F
WB off ramp to 22nd St.	AM	29.8	D	22.9	C	49.2	F
	PM	24.3	C	32.3	D	40.3	F
WB on ramp from 22nd St.	AM	35.7	E	52.0	F	68.1	F
	PM	29.6	D	42.7	F	56.0	F
EB on ramp from Nebraska Ave	AM	25.8	C	31.4	D	46.0	F
	PM	31.0	D	43.5	F	55.8	F
WB off ramp to Kennedy Blvd	AM	31.8	D	45.8	F	59.6	F
	PM	25.9	C	37.2	E	48.7	F
EB off ramp to Channelside Dr.	AM	15.2	B	19.7	B	24.0	C
	PM	18.3	B	23.7	C	28.5	D
EB on ramp from Jefferson St.	AM	25.0	C	36.3	E	47.9	F
	PM	29.9	D	44.1	F	58.1	F
WB off ramp to Morgan St.	AM	24.4	C	34.8	D	44.7	F
	PM	20.1	C	28.3	D	36.6	E
WB on ramp from Florida Ave.	AM	21.3	C	28.3	D	35.1	E
	PM	17.7	B	23.4	C	29.0	D

Table 7. Future No-Build Mainline Peak Hour Levels of Service (LOS)

	2015		2025		2035	
SEGMENT	**DENSITY[(1)] (PC/MI/LN)**	**LOS**	**DENSITY[(1)] (PC/MI/LN)**	**LOS**	**DENSITY[(1)] (PC/MI/LN)**	**LOS**
34th Street to 22nd Street	29.5	D	N/A	F	N/A	F
22nd Street to Kennedy Boulevard.	31.8	D	N/A	F	N/A	F
Kennedy Boulevard to Florida Avenue.	24.3	C	36.3	E	N/A	F
Florida Avenue to Tampa Street	24.4	C	33.0	D	N/A	F

(1) Densities greater than 45 pc/mi/ln are noted as "N/A".



Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic
HNTB

No Build Design Hourly Volumes

Figure 7

addition of a third lane on the Lee Roy Selmon Expressway from Florida Avenue to 22nd Street. The lane arrangement for this Build alternative is illustrated in **Figure 8.**

Using the current TBRPM (25A) traffic model with the modified 2035 socio-economic data, the base transportation network and alternative improvements, the 2035 AADT volumes for the preliminary design or Build alternatives were developed by applying the adjustment described for the No-Build Alternative. The 2035 AADT volumes for the design alternatives are shown on **Figure 9**. The level of service ratings for these volumes were developed by comparing the two-way 2035 AADT volumes with the threshold volumes from *Table 1 of the FDOT 2009 Quality/Level of Service Handbook*. The results of these analyses were shown in **Table 5** earlier in this document.

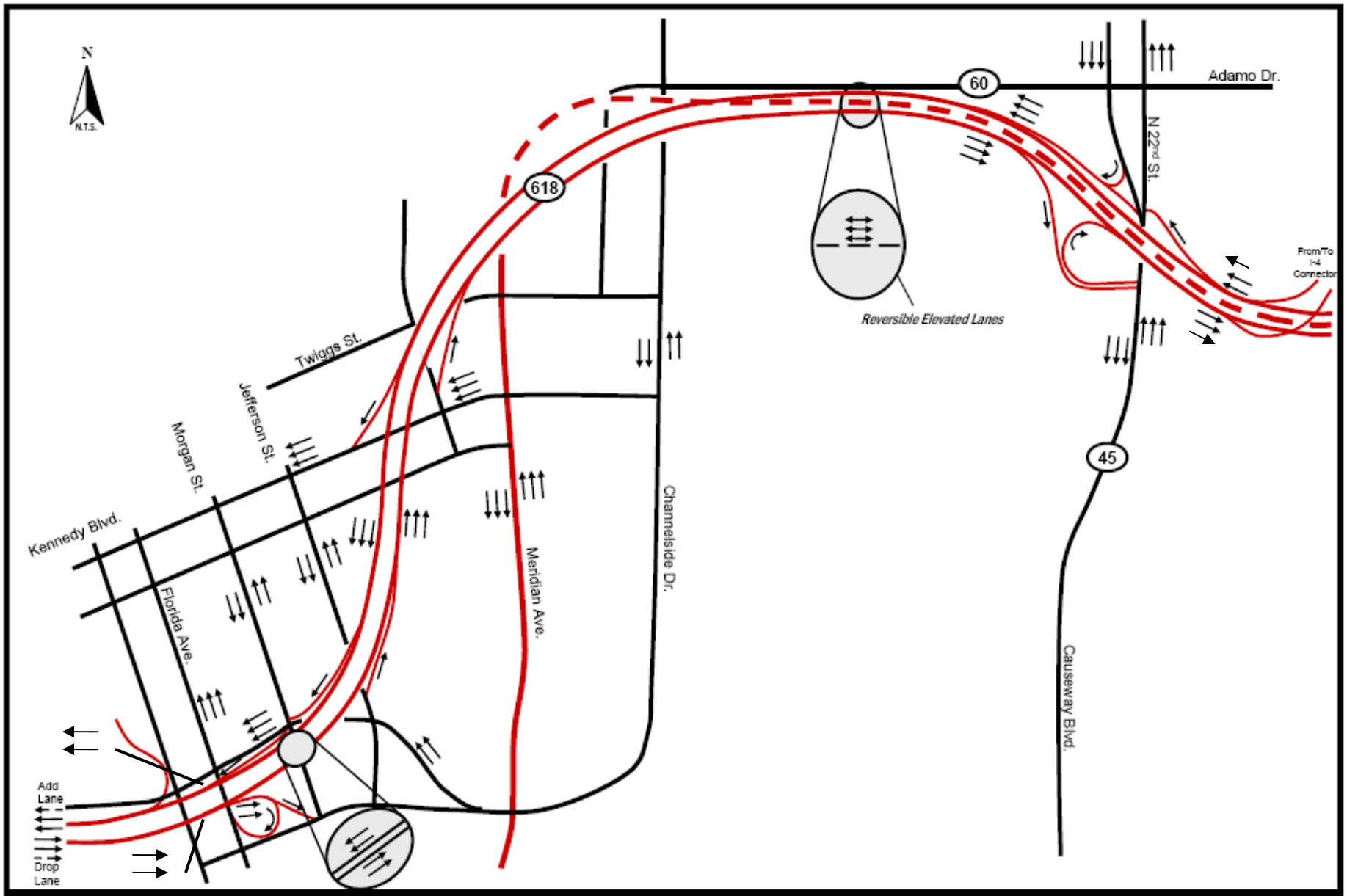
The preliminary design year 2035 level of service analyses based on annual average daily traffic for the various roadway segments in the Build alternative, as summarized in **Table 5**, indicates that the freeway segments along the Lee Roy Selmon Expressway will generally operate at LOS D, with the exception of the segment between Kennedy Boulevard and 22nd Street that is projected to operate at LOS F by 2035.

4.2.1 Development of Build Alternative Directional Design Hour Volumes

Directional design hour volumes were estimated from the 2035 AADT volumes using the K_{30} and D_{30} factors developed in Section 3.5 of this document. These directional design hour volumes as shown in **Figure 10** were then used to develop the future design hour (AM and PM) ramp movements used in the HCS analysis for the Build alternative.

4.2.2 Future Peak Build Hour Ramp Operational Analysis

LOS analyses were conducted for the ten ramps located along the length of the corridor, for the AM and PM peak hours utilizing the HCS 2000 Ramps analysis. A summary of the HCS LOS analysis for the ramps is included in **Table 8**. The capacity analysis worksheets for the Build conditions are included in **Appendix E**.

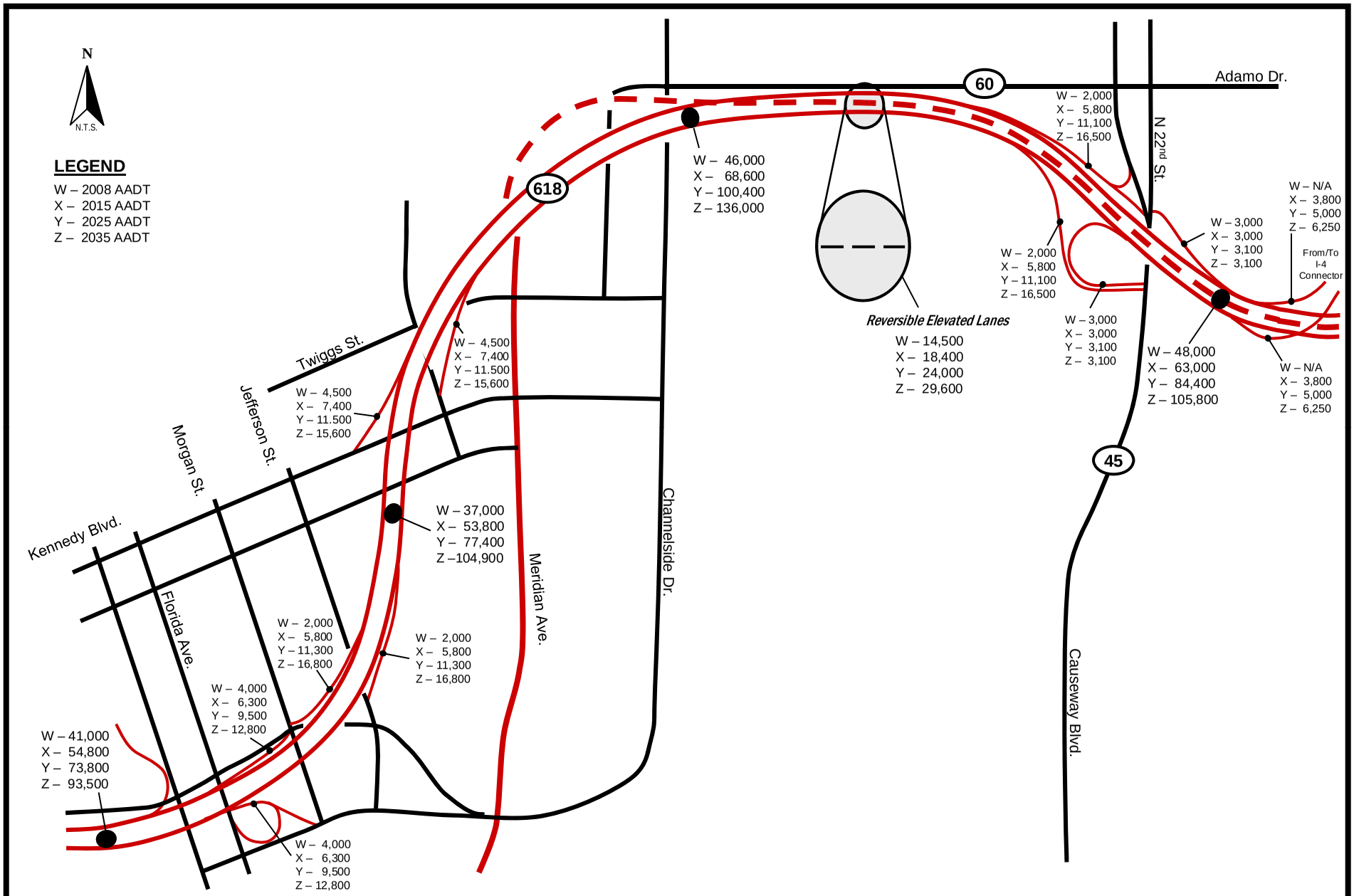


Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic

HNTB

Build Lane Geometry

Figure 8

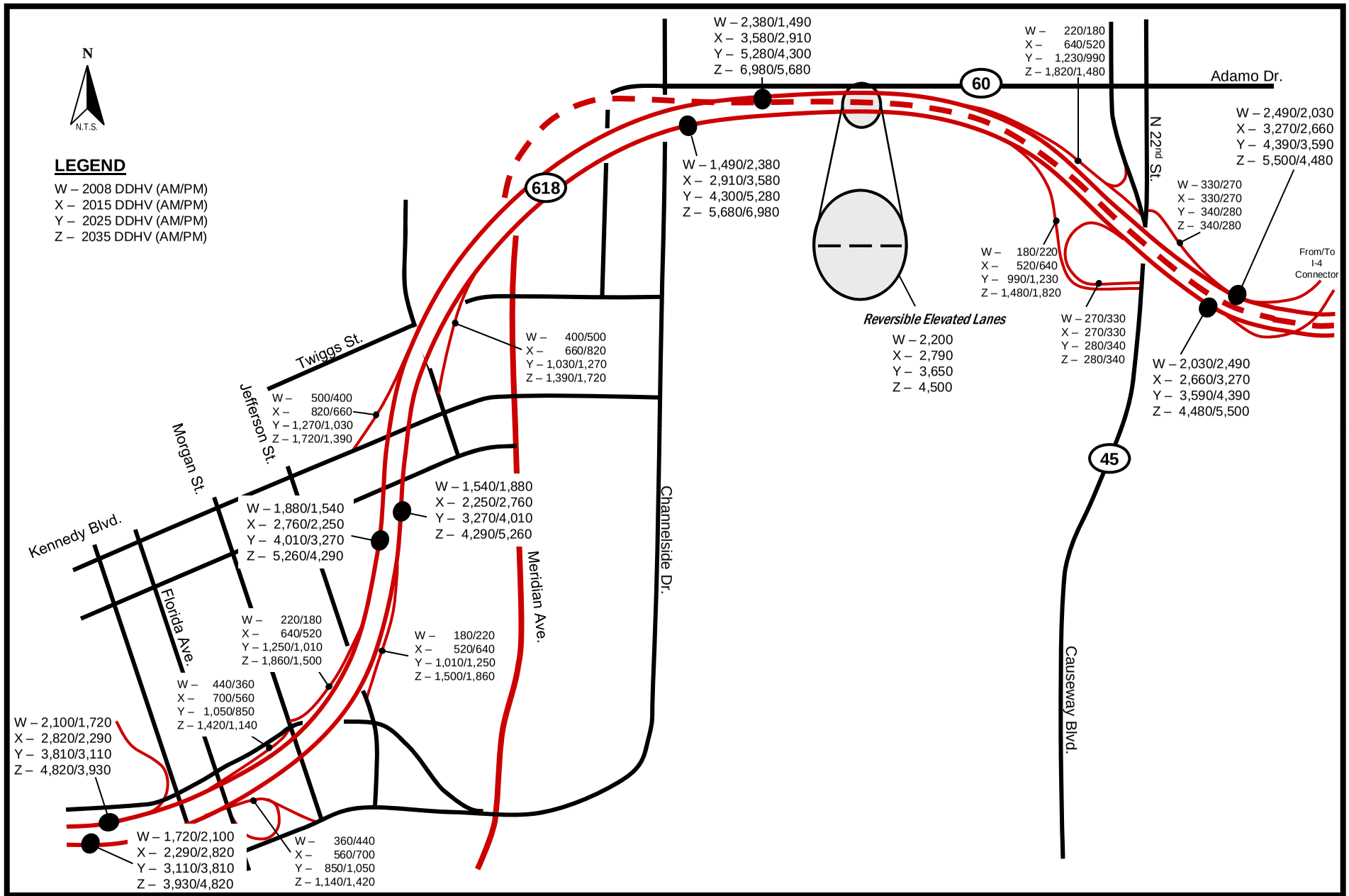


Selmon Expressway (SR 618) Viaduct PD&E Design Traffic

HNTB

Build Annual Average Daily Traffic

Figure 9



Selmon Expressway (SR 618)
Viaduct PD&E Design Traffic
HNTB

Build Design Hourly Volumes

Figure 10

Table 8. Future Build Ramp Peak Hour Levels of Service (LOS)

		2015		2025		2035	
RAMP LOCATION	**PERIOD**	**DENSITY (pc/mi/ln)**	**LOS**	**DENSITY (pc/mi/ln)**	**LOS**	**DENSITY (pc/mi/ln)**	**LOS**
EB off ramp to 22nd St.	AM	19.2	B	27.3	D	34.4	D
	PM	23.0	C	32.2	C	39.8	F
EB on ramp from 22nd St.	AM	19.0	B	26.1	C	32.8	D
	PM	25.3	C	38.1	F	49.1	F
WB off ramp to 22nd St.	AM	20.8	C	26.5	C	30.7	D
	PM	17.3	B	22.4	C	26.8	C
WB on ramp from 22nd St.	AM	25.3	C	36.4	E	49.1	F
	PM	21.0	C	31.7	D	41.5	F
EB on ramp from Nebraska Ave	AM	18.8	B	26.9	C	34.8	D
	PM	22.7	C	32.5	D	42.3	F
WB off ramp to Kennedy Blvd	AM	24.4	C	34.8	D	44.4	F
	PM	19.5	B	27.4	C	34.2	D
EB off ramp to Channelside Dr.	AM	15.8	B	21.0	C	25.9	C
	PM	19.1	B	25.1	C	30.7	D
EB on ramp from Jefferson St.	AM	17.7	B	26.7	C	35.7	E
	PM	21.2	C	32.3	D	42.6	F
WB off ramp to Morgan St.	AM	18.6	B	26.5	C	33.7	F
	PM	15.4	B	22.2	C	28.5	D
WB on ramp from Florida Ave.	AM	22.0	C	29.7	D	37.5	E
	PM	18.2	B	24.6	C	31.0	D

4.2.3 Future Build Mainline Capacity Analysis

Mainline LOS analyses along the Selmon Expressway were conducted using the Freeways module of the HCS software program that performs level of service analyses. For the mainline LOS analysis, the freeway segment boundaries were selected from one interchange to the next and extending to the sections east and west of the project limits. Therefore, the Selmon Expressway was divided into four freeway segments. The Freeway HCS worksheets for the mainline segment LOS analysis are included in **Appendix F** and the results are summarized in **Table 9**.

The freeways LOS analysis indicates that with the proposed improvements, in the year 2035, the segments from 34th Street to 22nd Street and Kennedy Boulevard to Florida Avenue would operate at an overall average LOS D. The segments from 22nd Street to Kennedy Boulevard and Florida Avenue to Tampa Street can be expected to operate at LOS F.

Table 9. Future Build Mainline Peak Hour Levels of Service (LOS)

	2015		2025		2035	
SEGMENT	DENSITY[1] (PC/MI/LN)	LOS	DENSITY[1] (PC/MI/LN)	LOS	DENSITY[1] (PC/MI/LN)	LOS
34th Street to 22nd Street	19.3	C	25.9	C	34.1	D
22nd Street to Kennedy Boulevard.	21.1	C	32.6	D	N/A	F
Kennedy Boulevard to Florida Avenue.	16.3	B	23.7	C	32.0	D
Florida Avenue to Tampa Street	25.6	C	36.9	E	N/A	F

[2] Densities greater than 45 pc/mi/ln are noted as "N/A".

An additional alternative, was considered, that consisted of adding a one-lane slip ramp in the westbound direction from the REL to the general use lanes at a point located between Kennedy Boulevard and Morgan Street. The proposed design for this alternative showed the slip ramp connecting to the general use lanes as an inside or left access ramp. This ramp would serve as a lane drop for the REL to minimize the transition length and impact on the southern edge of the existing REL structure, which would create a 2-lane section for the REL near the approach/departure to Twiggs Street. The REL would remain 3-lanes in each direction at Twiggs Street, but an eastbound lane merge will need to occur before reaching the ramp area. Appendix H includes a memorandum summarizing the projected traffic volumes for this option.

This alternative was not considered for further analysis due to low traffic volumes projected to use this ramp and other engineering considerations noted in the Project Development Engineering Report.

5. TRAFFIC DATA FOR AIR AND NOISE STUDIES

Opening year and design year traffic data were developed for the air and noise quality studies. The assumptions and results are discussed below.

5.1 Traffic Data for Air Quality Analysis

Traffic data were developed for the required air quality screening test. The data was based on the forecasted traffic for the future years. The methodology for the development of the traffic forecasts is documented in Section 3, Development of Future Traffic.

Forecasted traffic demand for No-Build and Build alternatives were considered in developing traffic data for the air quality screening test. The posted speed is 55 mph for the No-Build and all Build conditions. The Selmon Expressway interchange with South 22nd Street was used the worst case area for use in the air screening analysis. The completed Traffic Data for Air Study Screening Test forms are included in **Appendix G**.

5.2 Traffic Data for Noise Analysis

Traffic data were developed for the required noise analyses. The following segments were selected for possible analysis.

- Nebraska Avenue - from Nuccio Parkway to Kennedy Boulevard
- E Cass Street/Nuccio Parkway - from Jefferson Street to east of Nebraska Avenue
- Twiggs Street - from Jefferson Street to Channelside Drive
- Channelside Drive - from Adamo Drive to Kennedy Boulevard
- Jackson Street - from Morgan Street to Nebraska Avenue
- Jefferson Street - from Twiggs Street to Whiting Street
- Meridian Avenue
- Viaduct including ramp data REL lanes

The maximum traffic volumes under LOS "C" for each individual segment were obtained from the *FDOT 2009 Quality / Level of Service Handbook*. Base Year 2008 AADT traffic volumes and traffic characteristics (K_{30}, D_{30} and T_{Daily} factors) were obtained from the FDOT traffic count stations or estimated from the field traffic data collected. The posted speed limits were obtained from field observations. The completed Traffic Data for Noise Study forms are included in **Appendix G** to this report.

6. CONCLUSION

The results of the design hour traffic operational analysis that was performed for the No-Build and Build alternatives along the Lee Roy Selmon Expressway corridor showed that the overall mainline LOS for the 2035 No-Build conditions were found to be F (east and westbound). For the Build alternative, these improved to LOS D with the exception of the segment between Kennedy Boulevard and 22nd Street. Analysis of the ramps along the Lee Roy Selmon Expressway resulted in several of the locations operating at LOS F. However the results of these analyses showed that vehicle density at these locations was reduced under the Build alternative.

In conclusion, it was determined that through traffic is better served with the addition of a third lane on the Lee Roy Selmon Expressway. The addition of this improvement allows for traffic operational gains throughout the length of the corridor. Results of this traffic analysis will enable the THEA to make a well-informed decision on a preferred alternative to improve the Lee Roy Selmon Expressway corridor to meet the future traffic demand.

7. SUMMARY

This document was prepared as part of the Project Development and Environment (PD&E) study to identify and analyze various alternative design concepts to meet the future traffic needs on the Selmon Expressway Downtown Viaduct from Florida Avenue to South 22nd Street in Hillsborough County. The total project length is approximately 1.7 miles. Improvements include the widening of the existing structure to the inside to provide a divided 6-lane roadway. In addition, full consideration will be given to a "No-Build" alternative. Traffic data was collected and existing conditions evaluated including capacity, levels of service (AM and PM peak hours) and safety.

The TBRPM v6.1 was validated to match 2006 traffic volumes in the study area. Design year (2035) AADT were developed utilizing the 2025 LRTP network with 2035 socio-economic data and the appropriate MOCF factor. The design year peak hour turning movement volumes were developed using K_{30} and D_{30} factors obtained from the 2008 Florida Traffic Information CD for the Lee Roy Selmon Expressway.

Design hour traffic operational analysis was performed for the No-Build and Build alternatives along the Lee Roy Selmon Expressway corridor. Overall mainline freeways 2035 LOS for the No-Build were found to be F (east and westbound). For the Build alternatives, these changed to LOS D with the exception of the segment between Kennedy Boulevard and 22nd Street. Analysis of the ramps along the Lee Roy Selmon Expressway resulted in several of the locations operating at LOS F. However as can be seen in **Table 10**, vehicle density at these locations was reduced under the Build alternative. It was found that through traffic is better served with the addition of a third lane on the Lee Roy Selmon Expressway. The addition of this improvement allows for traffic operational gains in several locations. Results of this traffic analysis will enable the THEA to make a well-informed decision on a preferred alternative to improve the Lee Roy Selmon Expressway corridor to meet the future traffic demand.

Preliminary traffic data for future air and noise analyses were developed and the required data input forms completed and are included in this document.

Table 10. No Build vs. Build Intersection (LOS) Comparison

		2015				2025				2035			
		No Build		Build		No Build		Build		No Build		Build	
RAMP LOCATION	PERIOD	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS	DENSITY (pc/mi/ln)	LOS
EB off ramp to 22nd St.	AM	25.9	C	19.2	B	27.2	E	27.1	D	48.7	F	34.4	D
	PM	31.8	D	23.0	C	45.8	F	32.2	C	59.6	F	39.8	F
EB on ramp from 22nd St.	AM	28.2	D	19.0	B	38.4	F	26.1	C	48.8	F	32.8	D
	PM	35.7	E	25.3	C	52.0	F	38.1	F	68.1	F	49.1	F
WB off ramp to 22nd St.	AM	29.8	D	20.8	C	22.9	C	26.5	C	49.2	F	31.5	D
	PM	24.3	C	17.3	B	32.3	D	22.4	C	40.3	F	26.8	C
WB on ramp from 22nd St.	AM	35.7	E	25.3	C	52.0	F	36.4	E	68.1	F	49.1	F
	PM	29.6	D	21.0	C	42.7	F	31.7	D	56.0	F	41.5	F
EB on ramp from Nebraska Ave	AM	25.8	C	18.8	B	31.4	D	26.9	C	46.0	F	34.8	D
	PM	31.0	D	22.7	C	43.5	F	32.5	D	55.8	F	42.3	F
WB off ramp to Kennedy Blvd	AM	31.8	D	24.4	C	45.8	F	34.8	D	59.6	F	44.4	F
	PM	25.9	C	19.5	B	37.2	E	27.4	C	48.7	F	34.2	D
EB off ramp to ChannelSide Dr.	AM	20.2	C	15.8	B	26.6	C	21.0	C	32.9	D	25.9	C
	PM	24.8	C	19.1	B	32.7	D	25.1	C	40.2	F	30.7	D
EB on ramp from Jefferson St.	AM	25.0	C	17.7	B	36.3	E	26.7	C	47.9	F	35.7	E
	PM	29.9	D	21.2	C	44.1	F	32.3	D	58.1	F	42.6	F
WB off ramp to Morgan St.	AM	24.4	C	18.6	B	34.8	D	26.5	C	44.7	F	33.7	F
	PM	20.1	C	15.4	B	28.3	D	22.2	C	36.6	E	28.5	D
WB on ramp from Florida Ave.	AM	30.6	D	22.0	C	40.5	F	29.7	D	50.1	F	37.5	E
	PM	25.3	C	18.2	B	31.3	D	24.6	C	41.3	F	31.0	D

APPENDICES

A. Traffic Count Information
B. HCS Ramp Worksheets – Existing Year
C. HCS Freeway Worksheets – Existing Year
D. Trend Analysis
E. HCS Ramp Worksheets – Future Years
F. HCS Freeway Worksheets – Future Years
G. Air and Noise Traffic Data Forms
H. REL Slip Ramp Option Memo

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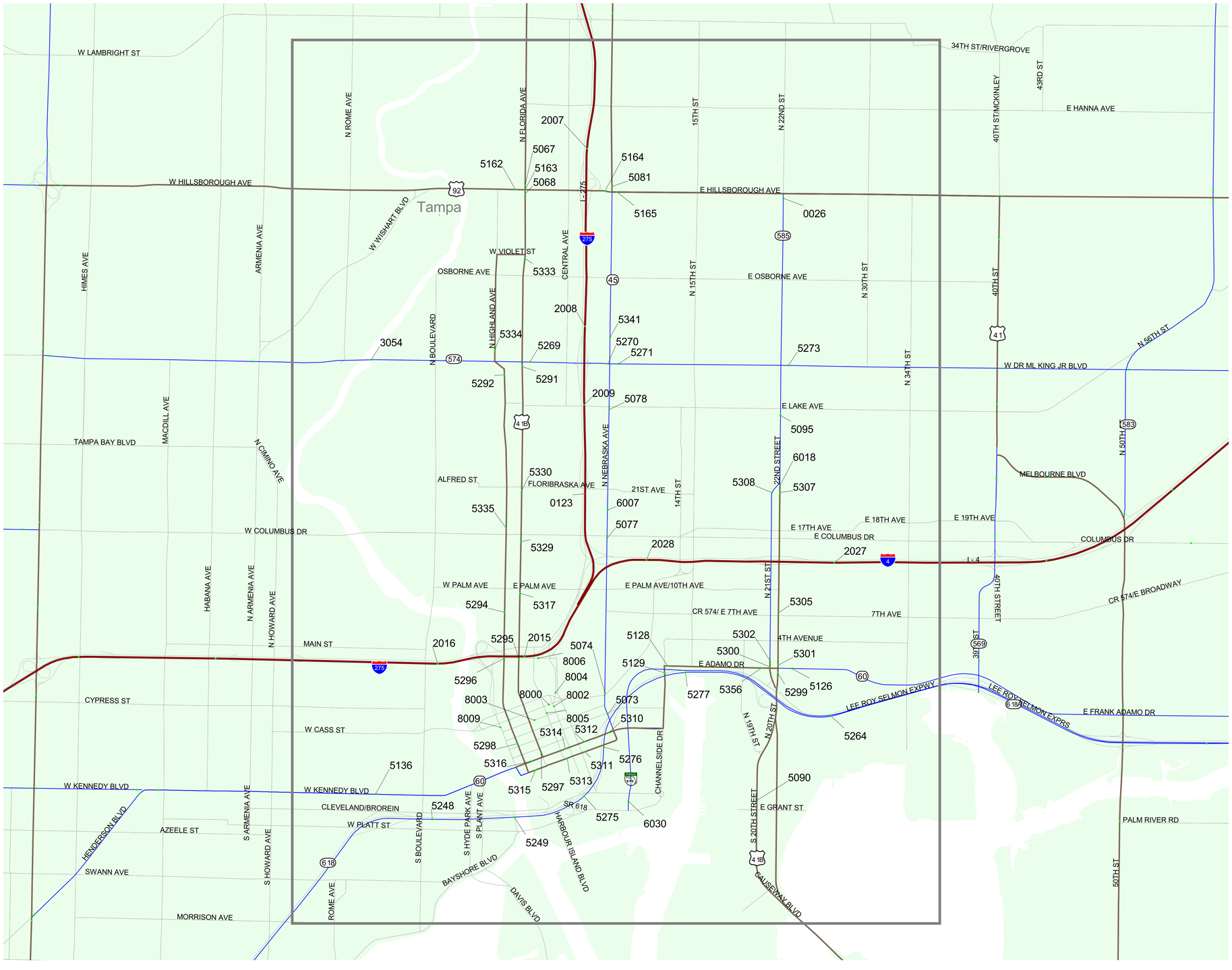
APPENDIX A

PTMS and TTMS Sites, 2006, Hillsborough County (10) - Inset 2



FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

7A

Site Code: 130122200001
Station ID: 109734311100

HILLSBOROUGH
CROSSTOWN EXP EB/ TO 22ND ST
Eastbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	*	39	48	*	44	*	*	44
01:00	*	*	35	14	*	24	*	*	24
02:00	*	*	23	37	*	30	*	*	30
03:00	*	*	40	42	*	41	*	*	41
04:00	*	*	52	46	*	49	*	*	49
05:00	*	*	91	114	*	102	*	*	102
06:00	*	*	220	212	*	216	*	*	216
07:00	*	*	**268**	**262**	*	**265**	*	*	**265**
08:00	*	*	231	222	*	226	*	*	226
09:00	*	*	164	215	*	190	*	*	190
10:00	*	*	210	206	*	208	*	*	208
11:00	*	*	148	216	*	182	*	*	182
12:00 PM	*	*	204	219	*	212	*	*	212
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04:00	*	*	**304**	**276**	*	**290**	*	*	**290**
05:00	*	*	287	260	*	274	*	*	274
06:00	*	*	202	234	*	218	*	*	218
07:00	*	*	120	151	*	136	*	*	136
08:00	*	*	83	83	*	83	*	*	83
09:00	*	*	68	101	*	84	*	*	84
10:00	*	*	54	81	*	68	*	*	68
11:00	*	*	42	79	*	60	*	*	60
Day Total	0	0	3540	3809	0	3675	0	0	3675
% Avg. WkDay	0.0%	0.0%	96.3%	103.6%	0.0%				
% Avg. Week	0.0%	0.0%	96.3%	103.6%	0.0%	100.0%	0.0%	0.0%	
AM Peak			07:00	07:00		07:00			07:00
Vol.			268	262		265			265
PM Peak			16:00	16:00		16:00			16:00
Vol.			304	276		290			290
Grand Total	0	0	3540	3809	0	3675	0	0	3675
ADT	Not Calculated								

FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

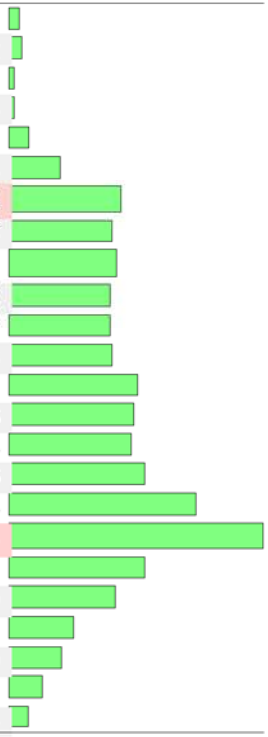
7B

Site Code: 130110600000
Station ID: 109735311100

HILLSBOROUGH
22ND ST TO EB / CROSSTOWN EXP
Eastbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	*	12	7	*	10	*	*	10
01:00	*	*	15	8	*	12	*	*	12
02:00	*	*	4	6	*	5	*	*	5
03:00	*	*	7	3	*	5	*	*	5
04:00	*	*	9	29	*	19	*	*	19
05:00	*	*	49	48	*	48	*	*	48
06:00	*	*	90	**119**	*	**104**	*	*	**104**
07:00	*	*	102	90	*	96	*	*	96
08:00	*	*	**107**	93	*	100	*	*	100
09:00	*	*	93	96	*	94	*	*	94
10:00	*	*	92	95	*	94	*	*	94
11:00	*	*	82	109	*	96	*	*	96
12:00 PM	*	*	114	127	*	120	*	*	120
01:00	*	*	106	126	*	116	*	*	116
02:00	*	*	97	130	*	114	*	*	114
03:00	*	*	133	119	*	126	*	*	126
04:00	*	*	177	170	*	174	*	*	174
05:00	*	*	**236**	**235**	*	**236**	*	*	**236**
06:00	*	*	110	141	*	126	*	*	126
07:00	*	*	97	101	*	99	*	*	99
08:00	*	*	58	62	*	60	*	*	60
09:00	*	*	47	51	*	49	*	*	49
10:00	*	*	32	30	*	31	*	*	31
11:00	*	*	16	20	*	18	*	*	18
Day Total	0	0	1885	2015	0	1952	0	0	1952
% Avg. WkDay	0.0%	0.0%	96.6%	103.2%	0.0%				
% Avg. Week	0.0%	0.0%	96.6%	103.2%	0.0%	100.0%	0.0%	0.0%	
AM Peak			08:00	06:00		06:00			06:00
Vol.			107	119		104			104
PM Peak			17:00	17:00		17:00			17:00
Vol.			236	235		236			236
Grand Total	0	0	1885	2015	0	1952	0	0	1952
ADT	Not Calculated								



FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

7C

Site Code: 130122400000
Station ID: 109711711100

HILLSBOROUGH
CROSSTOWN EXP WB/ TO 222ND ST
Westbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	9	3	*	*	6	*	*	6
01:00	*	8	8	*	*	8	*	*	8
02:00	*	16	0	*	*	8	*	*	8
03:00	*	4	0	*	*	2	*	*	2
04:00	*	7	5	*	*	6	*	*	6
05:00	*	26	25	*	*	26	*	*	26
06:00	*	140	135	*	*	138	*	*	138
07:00	*	**178**	**190**	*	*	**184**	*	*	**184**
08:00	*	157	140	*	*	148	*	*	148
09:00	*	153	141	*	*	147	*	*	147
10:00	*	141	151	*	*	146	*	*	146
11:00	*	128	133	*	*	130	*	*	130
12:00 PM	*	110	**132**	*	*	**121**	*	*	**121**
01:00	*	**117**	117	*	*	117	*	*	117
02:00	*	115	89	*	*	102	*	*	102
03:00	*	84	99	*	*	92	*	*	92
04:00	*	113	87	*	*	100	*	*	100
05:00	*	85	98	*	*	92	*	*	92
06:00	*	97	76	*	*	86	*	*	86
07:00	*	78	74	*	*	76	*	*	76
08:00	*	26	18	*	*	22	*	*	22
09:00	*	12	3	*	*	8	*	*	8
10:00	*	6	3	*	*	4	*	*	4
11:00	*	3	1	*	*	2	*	*	2
Day Total	0	1813	1728	0	0	1771	0	0	1771
% Avg. WkDay	0.0%	102.4%	97.6%	0.0%	0.0%				
% Avg. Week	0.0%	102.4%	97.6%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00			07:00			07:00
Vol.		178	190			184			184
PM Peak		13:00	12:00			12:00			12:00
Vol.		117	132			121			121
Grand Total	0	1813	1728	0	0	1771	0	0	1771
ADT		Not Calculated							

FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

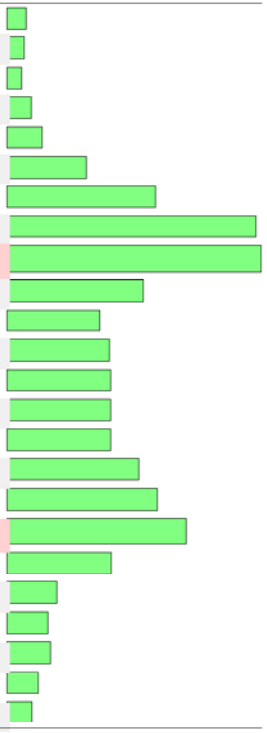
7D

Site Code: 130130600000
Station ID: 109712711100

HILLSBOROUGH
22ST TO WB/ CROSSTOWN EXP
Westbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	38	33	*	*	36	*	*	36
01:00	*	17	47	*	*	32	*	*	32
02:00	*	28	28	*	*	28	*	*	28
03:00	*	40	50	*	*	45	*	*	45
04:00	*	67	63	*	*	65	*	*	65
05:00	*	132	159	*	*	146	*	*	146
06:00	*	283	262	*	*	272	*	*	272
07:00	*	462	451	*	*	456	*	*	456
08:00	*	**474**	**456**	*	*	**465**	*	*	**465**
09:00	*	291	210	*	*	250	*	*	250
10:00	*	160	182	*	*	171	*	*	171
11:00	*	200	175	*	*	188	*	*	188
12:00 PM	*	176	204	*	*	190	*	*	190
01:00	*	176	205	*	*	190	*	*	190
02:00	*	184	198	*	*	191	*	*	191
03:00	*	239	244	*	*	242	*	*	242
04:00	*	285	266	*	*	276	*	*	276
05:00	*	**308**	**350**	*	*	**329**	*	*	**329**
06:00	*	181	202	*	*	192	*	*	192
07:00	*	102	83	*	*	92	*	*	92
08:00	*	75	75	*	*	75	*	*	75
09:00	*	92	68	*	*	80	*	*	80
10:00	*	59	58	*	*	58	*	*	58
11:00	*	41	50	*	*	46	*	*	46
Day Total	0	4110	4119	0	0	4115	0	0	4115
% Avg. WkDay	0.0%	99.9%	100.1%	0.0%	0.0%				
% Avg. Week	0.0%	99.9%	100.1%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	08:00			08:00			08:00
Vol.		474	456			465			465
PM Peak		17:00	17:00			17:00			17:00
Vol.		308	350			329			329
Grand Total	0	4110	4119	0	0	4115	0	0	4115
ADT		Not Calculated							



FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

8A

Site Code: 130110300000
Station ID: 109733311100

HILLSBOROUGH
NEBRASKA AVE TO EB/ CROSSTOWN EXP
Eastbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	*	56	55	*	56	*	*	56
01:00	*	*	20	23	*	22	*	*	22
02:00	*	*	21	13	*	17	*	*	17
03:00	*	*	12	21	*	16	*	*	16
04:00	*	*	12	17	*	14	*	*	14
05:00	*	*	26	36	*	31	*	*	31
06:00	*	*	89	101	*	95	*	*	95
07:00	*	*	113	94	*	104	*	*	104
08:00	*	*	108	110	*	109	*	*	109
09:00	*	*	150	151	*	150	*	*	150
10:00	*	*	148	152	*	150	*	*	150
11:00	*	*	**200**	**179**	*	**190**	*	*	**190**
12:00 PM	*	*	245	229	*	237	*	*	237
01:00	*	*	233	247	*	240	*	*	240
02:00	*	*	341	277	*	309	*	*	309
03:00	*	*	392	351	*	372	*	*	372
04:00	*	*	861	818	*	840	*	*	840
05:00	*	*	**1087**	**1034**	*	**1060**	*	*	**1060**
06:00	*	*	643	610	*	626	*	*	626
07:00	*	*	300	303	*	302	*	*	302
08:00	*	*	210	220	*	215	*	*	215
09:00	*	*	135	173	*	154	*	*	154
10:00	*	*	115	149	*	132	*	*	132
11:00	*	*	93	85	*	89	*	*	89
Day Total	0	0	5610	5448	0	5530	0	0	5530
% Avg. WkDay	0.0%	0.0%	101.4%	98.5%	0.0%				
% Avg. Week	0.0%	0.0%	101.4%	98.5%	0.0%	100.0%	0.0%	0.0%	
AM Peak			11:00	11:00		11:00			11:00
Vol.			200	179		190			190
PM Peak			17:00	17:00		17:00			17:00
Vol.			1087	1034		1060			1060
Grand Total	0	0	5610	5448	0	5530	0	0	5530
ADT		Not Calculated							

FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

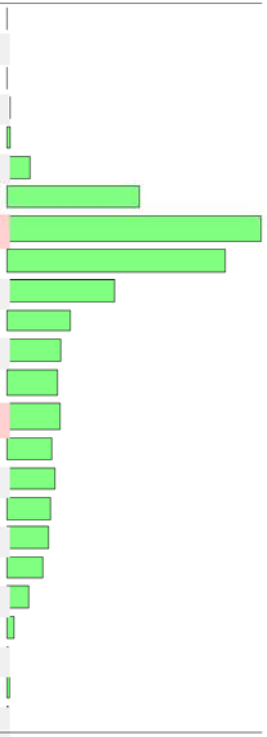
8B

Site Code: 130130800000
Station ID: 109713711100

HILLSBOROUGH
CROSSTOWN EXP WB/ TO KENNEDY
Westbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	2	7	*	*	4	*	*	4
01:00	*	4	3	*	*	4	*	*	4
02:00	*	1	5	*	*	3	*	*	3
03:00	*	28	19	*	*	24	*	*	24
04:00	*	22	23	*	*	22	*	*	22
05:00	*	154	146	*	*	150	*	*	150
06:00	*	899	808	*	*	854	*	*	854
07:00	*	**1601**	**1672**	*	*	**1636**	*	*	**1636**
08:00	*	1395	1421	*	*	1408	*	*	1408
09:00	*	690	696	*	*	693	*	*	693
10:00	*	410	407	*	*	408	*	*	408
11:00	*	339	356	*	*	348	*	*	348
12:00 PM	*	300	**351**	*	*	326	*	*	326
01:00	*	**348**	338	*	*	**343**	*	*	**343**
02:00	*	312	270	*	*	291	*	*	291
03:00	*	305	313	*	*	309	*	*	309
04:00	*	268	294	*	*	281	*	*	281
05:00	*	284	255	*	*	270	*	*	270
06:00	*	216	246	*	*	231	*	*	231
07:00	*	138	149	*	*	144	*	*	144
08:00	*	52	41	*	*	46	*	*	46
09:00	*	16	5	*	*	10	*	*	10
10:00	*	20	19	*	*	20	*	*	20
11:00	*	12	9	*	*	10	*	*	10
Day Total	0	7816	7853	0	0	7835	0	0	7835
% Avg. WkDay	0.0%	99.8%	100.2%	0.0%	0.0%				
% Avg. Week	0.0%	99.8%	100.2%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		07:00	07:00			07:00			07:00
Vol.		1601	1672			1636			1636
PM Peak		13:00	12:00			13:00			13:00
Vol.		348	351			343			343
Grand Total	0	7816	7853	0	0	7835	0	0	7835
ADT		Not Calculated							



FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

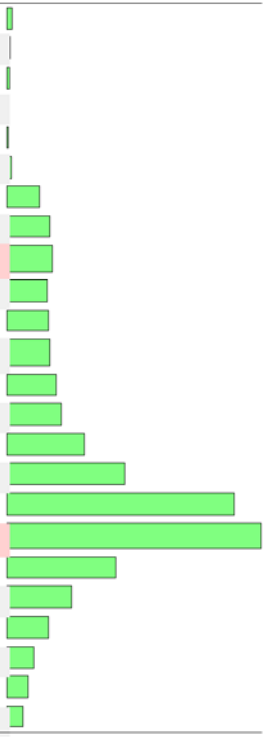
8C

Site Code: 130130400000
Station ID: 109732311100

HILLSBOROUGH
JEFFERSON TO EB/ CROSSTOWN EXP
Eastbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	15	17	*	*	16	*	*	16
01:00	*	5	15	*	*	10	*	*	10
02:00	*	7	11	*	*	9	*	*	9
03:00	*	4	5	*	*	4	*	*	4
04:00	*	1	9	*	*	5	*	*	5
05:00	*	10	17	*	*	14	*	*	14
06:00	*	99	100	*	*	100	*	*	100
07:00	*	119	144	*	*	132	*	*	132
08:00	*	133	**146**	*	*	**140**	*	*	**140**
09:00	*	104	143	*	*	124	*	*	124
10:00	*	121	136	*	*	128	*	*	128
11:00	*	**134**	130	*	*	132	*	*	132
12:00 PM	*	136	163	*	*	150	*	*	150
01:00	*	144	187	*	*	166	*	*	166
02:00	*	226	246	*	*	236	*	*	236
03:00	*	363	355	*	*	359	*	*	359
04:00	*	667	717	*	*	692	*	*	692
05:00	*	**802**	**744**	*	*	**773**	*	*	**773**
06:00	*	331	334	*	*	332	*	*	332
07:00	*	212	182	*	*	197	*	*	197
08:00	*	126	131	*	*	128	*	*	128
09:00	*	83	83	*	*	83	*	*	83
10:00	*	77	53	*	*	65	*	*	65
11:00	*	56	42	*	*	49	*	*	49
Day Total	0	3975	4110	0	0	4044	0	0	4044
% Avg. WkDay	0.0%	98.3%	101.6%	0.0%	0.0%				
% Avg. Week	0.0%	98.3%	101.6%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		11:00	08:00			08:00			08:00
Vol.		134	146			140			140
PM Peak		17:00	17:00			17:00			17:00
Vol.		802	744			773			773
Grand Total	0	3975	4110	0	0	4044	0	0	4044
ADT		Not Calculated							



FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

9A

Site Code: 130121100000
Station ID: 109715711100

HILLSBOROUGH
FLORIDA TO WB /CROSSTOWN EXP
Westbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	20	25	*	*	22	*	*	22
01:00	*	18	10	*	*	14	*	*	14
02:00	*	10	9	*	*	10	*	*	10
03:00	*	17	8	*	*	12	*	*	12
04:00	*	14	15	*	*	14	*	*	14
05:00	*	30	23	*	*	26	*	*	26
06:00	*	56	63	*	*	60	*	*	60
07:00	*	90	**86**	*	*	**88**	*	*	**88**
08:00	*	**94**	76	*	*	85	*	*	85
09:00	*	73	77	*	*	75	*	*	75
10:00	*	56	60	*	*	58	*	*	58
11:00	*	82	70	*	*	76	*	*	76
12:00 PM	*	74	93	*	*	84	*	*	84
01:00	*	79	68	*	*	74	*	*	74
02:00	*	85	68	*	*	76	*	*	76
03:00	*	111	100	*	*	106	*	*	106
04:00	*	199	157	*	*	178	*	*	178
05:00	*	**254**	**252**	*	*	**253**	*	*	**253**
06:00	*	131	115	*	*	123	*	*	123
07:00	*	52	51	*	*	52	*	*	52
08:00	*	50	34	*	*	42	*	*	42
09:00	*	52	54	*	*	53	*	*	53
10:00	*	49	51	*	*	50	*	*	50
11:00	*	16	25	*	*	20	*	*	20
Day Total	0	1712	1590	0	0	1651	0	0	1651
% Avg. WkDay	0.0%	103.7%	96.3%	0.0%	0.0%				
% Avg. Week	0.0%	103.7%	96.3%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	07:00			07:00			07:00
Vol.		94	86			88			88
PM Peak		17:00	17:00			17:00			17:00
Vol.		254	252			253			253
Grand Total	0	1712	1590	0	0	1651	0	0	1651
ADT		Not Calculated							

FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

9B

Site Code: 130100200000
Station ID: 109714711100

HILLSBOROUGH
CROSSTOWN EXP /WB TO MORGAN ST
Westbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	1	4	*	*	2	*	*	2
01:00	*	2	2	*	*	2	*	*	2
02:00	*	0	0	*	*	0	*	*	0
03:00	*	7	3	*	*	5	*	*	5
04:00	*	33	21	*	*	27	*	*	27
05:00	*	168	158	*	*	163	*	*	163
06:00	*	695	679	*	*	687	*	*	687
07:00	*	915	**952**	*	*	**934**	*	*	**934**
08:00	*	**930**	926	*	*	928	*	*	928
09:00	*	384	400	*	*	392	*	*	392
10:00	*	209	213	*	*	211	*	*	211
11:00	*	187	187	*	*	187	*	*	187
12:00 PM	*	157	161	*	*	159	*	*	159
01:00	*	175	157	*	*	166	*	*	166
02:00	*	185	158	*	*	172	*	*	172
03:00	*	140	141	*	*	140	*	*	140
04:00	*	159	163	*	*	161	*	*	161
05:00	*	**201**	**219**	*	*	**210**	*	*	**210**
06:00	*	179	153	*	*	166	*	*	166
07:00	*	94	92	*	*	93	*	*	93
08:00	*	26	35	*	*	30	*	*	30
09:00	*	18	16	*	*	17	*	*	17
10:00	*	9	16	*	*	12	*	*	12
11:00	*	9	11	*	*	10	*	*	10
Day Total	0	4883	4867	0	0	4874	0	0	4874
% Avg. WkDay	0.0%	100.2%	99.9%	0.0%	0.0%				
% Avg. Week	0.0%	100.2%	99.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak		08:00	07:00			07:00			07:00
Vol.		930	952			934			934
PM Peak		17:00	17:00			17:00			17:00
Vol.		201	219			210			210
Grand Total	0	4883	4867	0	0	4874	0	0	4874
ADT		Not Calculated							

FLORIDA TRANSPORTATION ENGINEERING, INC.
8250 PASCAL DR.
PH# (941) 639 2818, (800)-639-4851
FAX# (941) 639 4851

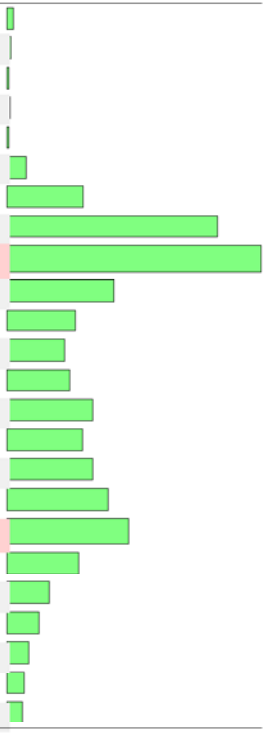
9C

Site Code: 130122800000
Station ID: 109731311100

HILLSBOROUGH
CROSSTOWN EXP EB/ TO CHANNELSIDE DR
Eastbound

Latitude: 0' 0.000 Undefined

Start Time	Mon 05-Jun-06	Tue 06-Jun-06	Wed 07-Jun-06	Thu 08-Jun-06	Fri 09-Jun-06	Average Day	Sat 10-Jun-06	Sun 11-Jun-06	Week Average
12:00 AM	*	17	11	*	*	14	*	*	14
01:00	*	9	9	*	*	9	*	*	9
02:00	*	2	8	*	*	5	*	*	5
03:00	*	7	8	*	*	8	*	*	8
04:00	*	6	4	*	*	5	*	*	5
05:00	*	48	35	*	*	42	*	*	42
06:00	*	160	167	*	*	164	*	*	164
07:00	*	469	434	*	*	452	*	*	452
08:00	*	**544**	**546**	*	*	**545**	*	*	**545**
09:00	*	229	231	*	*	230	*	*	230
10:00	*	151	143	*	*	147	*	*	147
11:00	*	128	119	*	*	124	*	*	124
12:00 PM	*	146	124	*	*	135	*	*	135
01:00	*	177	192	*	*	184	*	*	184
02:00	*	177	148	*	*	162	*	*	162
03:00	*	230	139	*	*	184	*	*	184
04:00	*	231	204	*	*	218	*	*	218
05:00	*	**288**	**237**	*	*	**262**	*	*	**262**
06:00	*	147	160	*	*	154	*	*	154
07:00	*	82	101	*	*	92	*	*	92
08:00	*	75	63	*	*	69	*	*	69
09:00	*	52	42	*	*	47	*	*	47
10:00	*	46	30	*	*	38	*	*	38
11:00	*	35	34	*	*	34	*	*	34
Day Total	0	3456	3189	0	0	3324	0	0	3324
% Avg. WkDay	0.0%	104.0%	95.9%	0.0%	0.0%				
% Avg. Week	0.0%	104.0%	95.9%	0.0%	0.0%	100.0%	0.0%	0.0%	
AM Peak Vol.		08:00 544	08:00 546			08:00 545			08:00 545
PM Peak Vol.		17:00 288	17:00 237			17:00 262			17:00 262
Grand Total	0	3456	3189	0	0	3324	0	0	3324
ADT		Not Calculated							



City of Tampa Transportation Division Inventory of Roadway Conditions(Existing and Future)

Updated: 10/19/2009

Please NOTE : This spreadsheet is currently using 2005 data(excluding counts) and has not been updated.

ON	From - To (S to N or W to E)	Impact Fee District	Funct Class Funct Class*	Maint. Respons.	Exist Road Type	Dist (MI)	Date of Count (mm/dd/yr)	Existing Daily Volume	Existing LOS D Capacity	Existing LOS	Existing PM Peak Volume
4th Ave	Channelside Dr (North)(13th St) to 21st St	CET	C	CITY	2LU	0.67	04/02/08	2,753	10,300	A	352
4th Ave	21st St to 22nd St	CET	C	CITY	2LU	0.06	04/02/08	2,122	10,300	A	279
4th Ave	22nd St to 34th St	CET	C	CITY	2LU	0.77	04/09/08	1,094	10,300	A	85
7th Ave	Nebraska Ave to Nuccio Parkway	CET	C	CITY	2LD	0.25	07/15/08	7,304	17,200	B	691
7th Ave	Nuccio Parkway to 21st St	CET	C	CITY	2LD	0.66	07/15/08	6,289	10,300	B	524
7th Ave	21st St to 22nd St	CET	C	CITY	2LU	0.06	07/15/08	13,858	10,300	F	1,155
7th Ave	22nd St to 34th St	CET	C	CITY	2LU	0.77	07/15/08	6,857	16,100	B	587
7th Ave	34th St to 39th St	CET	C	CITY	4LU	0.42	07/15/08	8,306	22,800	A	777
7th Ave	39th St to 43rd St	CET	C	CITY	4LU	0.33	07/15/08	10,751	22,800	B	983
109th Ave	Nebraska Ave to 15th St	NCT	C	CITY	2LU	0.49	01/27/08	1,783	10,300	A	173
109th Ave	15th St to 22nd St	NCT	C	CITY	2LU	0.49	01/27/08	1,178	10,300	A	149
109th Ave	22nd St to 30th St	NCT	C	CITY	2LU	0.49	01/27/08	1,877	10,300	A	186
13th St	Adamo Dr to 4th Ave	CET	C	CITY	2LU	0.16	09/07/08	4,049	10,300	A	367
13th St Ext	5th Ave to Nuccio Pkwy	CET	C	CITY	2LU	0.24	05/30/95	3,394	10,300	A	316
14th St (A.R.D.C.)	Nuccio Parkway to Columbus Dr	CET	OC	COUNTY	2LO	0.25	05/14/08	4,518	24,429	A	337
14th St (A.R.D.C.)	Columbus Dr to 21st Ave	CET	OC	COUNTY	2LO	0.25	05/14/08	3,321	24,429	A	253
14th St (A.R.D.C.)	21st Ave to Lake Ave	CET	OC	COUNTY	2LO	0.53	08/16/96	3,474	24,429	A	244
15th St	Sligh Ave to Hanna Ave	CET	C	CITY	2LU	0.51	02/03/08	2,159	10,300	A	264
15th St	Hanna Ave to Hillsborough Ave	CET	C	CITY	2LU	0.49	02/03/08	3,107	10,300	A	389
15th St	Hillsborough Ave to Osborne Ave	CET	C	CITY	2LU	0.50	02/03/08	4,025	10,300	A	540
15th St	Osborne Ave to M.L.K. Jr Blvd	CET	C	CITY	2LU	0.48	02/03/08	5,416	10,300	B	664
15th St	M.L.K. Jr Blvd to Lake Ave	CET	C	CITY	4LU	0.25	02/03/08	8,686	22,800	A	971
15th St	Lake Ave to 21st Ave	CET	OC	CITY	2LO	0.50	02/03/08	7,650	21,000	A	1,036
15th St	21st Ave to Columbus Dr	CET	OC	CITY	2LO	0.30	02/03/08	4,913	21,000	A	751
15th St	Columbus Dr to Nuccio Parkway	CET	OC	CITY	2LO	0.25	02/03/08	4,542	21,000	A	709
15th St	Linebaugh Ave to Bougainvillea Ave	NCT	C	CITY	2LU	0.25	02/03/08	5,066	10,300	B	218
15th St	Bougainvillea Ave to 109th Ave	NCT	C	CITY	2LU	0.25	02/03/08	3,545	10,300	A	327
15th St	109th Ave to Fowler Ave	NCT	C	CITY	2LU	0.49	02/03/08	4,546	10,300	B	453
17th Ave	A.R.D.C.(14th St) to 15th St	CET	OM	COUNTY	2LO	0.08	07/08/08	5,330	21,000	A	469
17th Ave	15th St to 22nd St	CET	OM	COUNTY	2LO	0.51	07/08/08	1,211	21,000	A	186
17th Ave	22nd St to 29th St	CET	OM	COUNTY	2LO	0.41	07/08/08	3,588	21,000	A	314
18th Ave	29th St to 36th St	CET	OM	COUNTY	2LO	0.56	07/08/08	4,141	21,000	A	370
19th Ave	36th St to 40th St	CET	OM	COUNTY	2LO	0.32	07/08/08	2,729	21,000	A	216
19th Ave	40th St to Columbus Dr	CET	OM	COUNTY	2LO	0.27	09/05/07	2,883	21,000	A	233
19th St	Durham to Adamo Dr	CET	C	CITY	4LU	0.53	02/24/08	6,891	22,800	A	697
20th St	Maritime Blvd to Grant St	CET	M	STATE	6LD	0.54	02/17/08	25,912	45,000	B	2,042
20th St	Grant St(Maritime Blvd) to Harper St	CET	M	STATE	6LD	0.27	02/05/08	33,840	45,000	C	2,769
20th St	Harper St to Durham	CET	C	CITY	6LD	0.23	02/05/08	36,540	45,000	C	2,891
21st Ave	Nebraska Ave to 15th St	CET	C	CITY	2LU	0.49	02/05/08	6,014	10,300	B	584
21st Ave	15th St to 22nd St	CET	C	CITY	2LU	0.47	02/05/08	4,916	10,300	B	460
21st St	22nd St to Adamo Dr	CET	OM	STATE	3LO	0.09	02/05/08	19,088	27,643	C	1,641
21st St	Adamo Dr(4th Ave) to 7th Ave	CET	OM	STATE	3LO	0.54	02/05/08	18,837	27,643	C	1,290
21st St	7th Ave to Palm Ave	CET	OM	STATE	3LO	0.30	02/05/08	20,538	27,643	C	1,301
21st St	Palm Ave(14th Ave) to Columbus Dr	CET	OM	STATE	3LO	0.29	02/05/08	7,022	27,643	A	579
21st St	Columbus Dr to 23rd Ave	CET	OM	STATE	2LO	0.32	02/05/08	9,101	18,214	B	648
22nd St	Causeway Blvd to Maritime Blvd	CET	M	STATE	5LU	1.89	06/10/96	22,539	42,800	B	817
22nd St	Maritime Blvd(Durham St) to 21st St	CET	M	STATE	3LU	1.08	02/17/08	28,819	27,643	D	2,094
22nd St	21st St to Adamo Dr	CET	OM	STATE	3LU	0.13	02/17/08	18,413	27,643	C	1,308
22nd St	Adamo(4th) Dr to 7th Ave	CET	OM	STATE	3LO	0.31	02/17/08	19,507	27,643	C	1,531
22nd St	7th Ave to 14th Ave	CET	OM	STATE	3LO	0.35	02/17/08	17,274	27,643	C	1,244
22nd St	14th Ave to Columbus Dr	CET	OM	STATE	3LO	0.10	02/17/08	7,244	27,643	A	624
22nd St	Columbus Dr to 23rd Ave	CET	OM	STATE	2LO	0.25	02/17/08	6,349	18,214	A	544
22nd St	23rd Ave to 26th Ave	CET	M	STATE	2LU	0.15	02/17/08	9,384	13,400	C	855

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ON	From - To (S to N or W to E)	Impact Fee District	Funct Class Funct Class*	Maint. Respons.	Exist Road Type	Dist (MI)	Date of Count (mm/dd/yr)	Existing Daily Volume	Existing LOS D Capacity	Existing LOS	Existing PM Peak Volume
			Existing								
22nd St	26th Ave to Lake Ave	CET	M	STATE	2LU	0.25	02/17/08	10,014	13,400	C	931
22nd St	Lake Ave to M.L.K.Jr Blvd	CET	M	STATE	2LU	0.25	02/17/08	9,867	10,300	D	884
22nd St	M.L.K.Jr Blvd to Osborne Ave	CET	M	STATE	2LU	0.51	02/17/08	6,143	10,300	B	555
22nd St	Osborne Ave to Hillsborough Ave	CET	M	STATE	2LU	0.51	02/17/08	12,746	10,300	E	1,146
22nd St	Hillsborough Ave to Hanna Ave	CET	C	CITY	2LU	0.49	02/17/08	5,698	10,300	B	477
22nd St	Hanna Ave to Sligh Ave	CET	C	CITY	2LU	0.49	02/17/08	4,698	17,400	A	443
22nd St	Rowlett Park Dr to Waters Ave	CET	C	CITY	2LU	0.27	04/09/08	4,489	10,300	B	398
22nd St	Waters Ave to Busch Blvd	CET	C	CITY	2LU	0.49	04/09/08	2,136	17,400	A	206
22nd St	Busch Blvd to Linebaugh Ave	NCT	C	CITY	2LU	0.50	02/25/08	5,209	10,300	B	584
22nd St	Linebaugh Ave to Bougainvillea Ave	NCT	C	CITY	2LU	0.30	02/25/08	3,583	10,300	A	363
22nd St	Bougainvillea Ave to 109th Ave	NCT	C	CITY	2LU	0.25	03/12/08	4,320	10,300	B	394
22nd St	109th Ave to Fowler Ave	NCT	C	CITY	2LU	0.49	02/25/08	7,546	10,300	C	740
30th St	Hillsborough Ave to Hanna Ave	CET	C	CITY	2LU	0.49	01/27/08	10,385	41,500	A	912
30th St	Hanna Ave to Sligh Ave	CET	C	CITY	2LU	0.49	01/27/08	4,487	41,500	A	428
30th St	Yukon St to Busch Blvd	CET	C	CITY	2LU	0.25	01/27/08	6,862	41,500	A	633
30th St	Busch Blvd to Linebaugh Ave	NCT	M	CITY	5LU	0.49	01/27/08	24,722	34,200	C	2,034
30th St	Linebaugh Ave to Bougainvillea Ave	NCT	M	CITY	5LU	0.25	01/27/08	25,189	34,200	C	2,107
30th St	Bougainvillea Ave to 109th Ave	NCT	M	CITY	5LU	0.25	01/27/08	28,161	41,500	C	2,312
30th St	109th Ave to Fowler Ave	NCT	M	CITY	5LU	0.49	01/27/08	28,290	34,200	C	2,339
34th St	Adamo Dr to 7th Ave	CET	C	CITY	4LU	0.37	01/29/08	6,519	22,800	A	606
34th St	7th Ave to Columbus Dr	CET	C	CITY	4LU	0.23	01/29/08	5,906	22,800	A	553
34th St	Columbus Dr to Lake Ave	CET	C	CITY	2LU	0.87	02/12/08	5,801	10,300	B	544
34th St	Lake Ave to M.L.K.Jr Blvd	CET	C	CITY	2LU	0.25	01/29/08	8,524	10,300	C	807
34th St	M.L.K.Jr Blvd to Osborne Ave	CET	C	CITY	2LU	0.49	02/14/08	510	10,300	A	854
34th St	Osborne Ave to Hillsborough Ave	CET	C	CITY	2LU	0.49	01/29/08	4,461	10,300	B	429
39th St	Adamo Dr to 7th Ave	CET	P	STATE	6LD	0.38	02/24/08	11,384	45,000	A	1,072
39th St	7th Ave to 12th Av	CET	P	STATE	6LD	0.28	02/24/08	10,282	45,000	A	995
40th St	12th Av to I-4	CET	P	STATE	6LD	0.08	02/24/08	13,663	45,000	A	1,268
40th St	I-4 to Columbus Dr	CET	P	STATE	6LD	0.13	02/24/08	14,139	45,000	A	1,251
40th St	Columbus Dr(19th Ave) to Melburne Blvd	CET	P	STATE	6LD	0.50	02/24/08	16,243	45,000	A	1,483
40th St	Melburne Blvd to Lake Ave	CET	P	STATE	6LD	0.25	02/24/08	20,234	45,000	B	1,774
40th St	Lake Ave to M.L.K.Jr Blvd	CET	P	STATE	6LD	0.25	02/24/08	19,079	45,000	A	1,837
40th St	M.L.K.Jr Blvd to Osborne Ave	CET	P	STATE	6LD	0.49	02/24/08	12,588	45,000	A	1,217
40th St	Osborne Ave to Hillsborough Ave	CET	P	STATE	6LD	0.49	02/24/08	29,806	45,000	C	2,651
40th St	Hillsborough Ave to Hanna Ave	CET	M	COUNTY	2LU	0.49	02/13/07	14,193	16,100	D	1,306
40th St	Hanna Ave(Yukon St) to Busch Blvd	CET	M	COUNTY	2LU	1.67	02/24/08	14,688	16,100	D	1,315
43rd St	Hanna Ave to Sligh Ave	CET	NC	CITY	2LU	0.49	02/24/08	4,558	10,300	B	407
46th St	River Hills Dr to Busch Blvd	CET	C	CITY	2LU	0.74	02/24/08	2,977	16,400	A	331
46th St	Busch Blvd(Bougainvillea Ave) to Fowler Ave	NCT	C	CITY	2LU	1.48	07/20/08	4,113	10,300	A	369
50th St	City Limits to Crosstown Exp	CET	P	STATE	5LU	0.32	09/14/08	31,607	34,200	D	2,681
50th St	Crosstown Exp to Adamo Dr	CET	P	STATE	5LU	0.16	09/14/08	23,240	38,791	B	2,047
50th St	Adamo Dr to Broadway Ave	CET	P	STATE	6LD	0.66	02/16/06	41,034	51,200	C	3,032
50th St	Broadway Ave to Columbus Dr	CET	P	STATE	6LD	0.34	09/14/08	39,309	51,200	C	2,858
50th St	Columbus Dr to I4-50th St Ramp	CET	P	STATE	6LD	0.08	09/14/08	30,707	51,200	B	2,353
50th St	I4-50th St Ramp to Melburne Blvd	CET	P	STATE	5LU	0.13	03/01/06	31,865	34,200	D	2,560
50th St	Melburne Blvd to M.L.K.Jr. Blvd	CET	P	STATE	5LU	0.71	02/16/06	25,702	34,200	C	2,116
Adamo Dr	13th St to 19th St	CET	P	STATE	4LU	0.45	09/07/08	33,940	36,600	D	3,529
Adamo Dr	19th St to 21nd St	CET	P	STATE	4LU	0.21	09/14/08	29,044	36,600	C	3,033
Adamo Dr	22nd St to 34th St	CET	P	STATE	5LU	0.74	09/07/08	28,714	29,400	D	2,530
Adamo Dr	34th St to 39th St	CET	P	STATE	5LU	0.42	09/07/08	33,815	29,400	E	2,969
Adamo Dr	39th St to 50th St	CET	P	STATE	5LU	1.26	09/07/08	33,240	57,100	B	3,175
Adamo Dr	50th St to Maydell Dr	CET	P	STATE	5LU	1.00	09/16/08	36,413	57,100	B	3,085
Adamo Dr	Maydell Dr to Orient Rd	CET	P	STATE	5LU	0.63	09/14/08	35,585	57,100	B	2,970

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					Existing						
Adamo Dr	Orient Rd to City Limits	CET	P	STATE	5LU	0.23	09/14/08	38,772	57,100	C	3,433
Amberly Drive	CR 581 east to Tampa Palms Blvd N.	UN	C	CITY	2LU	1.92	04/28/98	9,160	13,400	C	852
Amberly Drive	CR 581 west to Tampa Palms Blvd N.	UN	C	CITY	2LU	0.79	04/28/98	3,560	13,400	A	331
Anderson Rd	Hillsborough Ave to City Limits	CET	C	CITY	3LU	0.06	09/09/07	11,885	10,815	E	1,129
Armenia Ave	Swann Ave to Azeele St	INB	C	CITY	2LU	0.40	06/08/08	8,885	10,300	D	762
Armenia Ave	Azeele St to Platt St	INB	OC	CITY	2LO	0.10	06/08/08	9,755	18,214	B	797
Armenia Ave	Platt St(Cleveland St) to Kennedy Blvd	INB	OM	COUNTY	3LO	0.30	06/08/08	10,775	27,643	A	850
Armenia Ave	Kennedy Blvd(Main St) to Columbus Dr	CET	OM	COUNTY	2LO	1.02	06/08/08	11,299	21,000	B	865
Armenia Ave	Columbus Dr to Tampa Bay Blvd	CET	OM	COUNTY	2LO	0.49	06/08/08	11,827	21,000	B	915
Armenia Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	CET	M	COUNTY	4LU	0.49	06/08/08	25,188	34,200	C	2,155
Armenia Ave	M.L.K.Jr Blvd to Osborne Ave	CET	M	COUNTY	4LU	0.50	06/08/08	20,667	34,200	B	1,818
Armenia Ave	Osborne Ave to Hillsborough Ave	CET	M	COUNTY	4LU	0.49	06/08/08	26,333	34,200	C	2,164
Armenia Ave	Hillsborough Ave to Sligh Ave	CET	M	COUNTY	4LU	1.00	06/08/08	20,696	34,200	B	1,810
Armenia Ave	Sligh Ave to Waters Ave	CET	M	COUNTY	2LU	0.98	06/08/08	15,164	22,600	C	1,202
Armenia Ave	Waters Ave to Busch Blvd	CET	M	COUNTY	2LU	0.55	06/08/08	14,004	16,100	D	1,261
Armenia Ave	Busch Blvd to Linebaugh Ave	CET	M	COUNTY	2LU	1.10	06/08/08	9,621	16,100	B	931
Armenia Ave	Linebaugh Ave to Country Club Dr	CET	M	COUNTY	2LU	0.89	06/08/08	10,233	22,600	B	960
Armenia Ave	Country Club Dr to City Limits	CET	M	COUNTY	2LU	0.15	06/08/08	6,622	16,100	A	612
Ashley Dr	I275 to Tyler St	CBD	P	CITY	5LU	0.36	08/17/08	14,130	39,100	A	974
Ashley Dr	Tyler St to Cass St	CBD	P	CITY	6LD	0.07	08/17/08	29,010	44,100	C	2,533
Ashley Dr	Cass St to Polk St	CBD	P	CITY	6LD	0.05	08/17/08	28,383	44,100	B	2,448
Ashley Dr	Polk St to Zack St	CBD	P	CITY	6LD	0.05	08/24/08	35,311	39,100	D	2,790
Ashley Dr	Zack St to Twiggs St	CBD	P	CITY	6LD	0.05	08/17/08	26,907	44,100	B	2,243
Ashley Dr	Twiggs St to Madison St	CBD	P	CITY	6LD	0.05	08/24/08	34,383	44,100	C	3,214
Ashley Dr	Madison St to Kennedy Blvd	CBD	P	CITY	5LU	0.05	08/24/08	28,994	28,800	D	2,697
Ashley Dr	Kennedy Blvd to Jackson St	CBD	M	CITY	4LU	0.05	08/24/08	20,592	28,800	C	2,010
Ashley Dr	Jackson St to Brorein St	CBD	C	CITY	4LU	0.20	08/17/08	7,478	22,800	A	766
Ashley Dr	Brorein St to Channelside Dr (East)	CBD	C	CITY	2LD	0.08	08/17/08	2,221	10,300	A	192
Azeele St	West Shore Blvd to Lois Ave	INB	NC	CITY	2LU	0.63	11/02/06	3,253	10,300	A	453
Azeele St	Lois Ave to Dale Mabry Hwy	INB	NC	CITY	2LU	0.51	11/02/06	5,694	10,300	B	610
Azeele St	Dale Mabry Hwy to Himes Ave	INB	C	COUNTY	4LU	0.25	11/02/06	9,061	14,800	B	1,014
Azeele St	Himes Ave to MacDill Ave	INB	C	COUNTY	4LU	0.49	11/02/06	12,512	29,400	B	1,384
Azeele St	MacDill Ave to Tampania	INB	C	COUNTY	4LU	0.42	11/02/06	12,313	29,400	B	1,267
Azeele St	Tampania to Howard Ave	INB	C	CITY	2LU	0.19	11/02/06	4,765	10,300	B	394
Bay to Bay Blvd	Bayshore Dr to MacDill Ave	INB	M	COUNTY	4LU	0.21	03/12/08	15,400	29,400	B	1,294
Bay to Bay Blvd	MacDill Ave to Himes Ave	INB	M	COUNTY	4LU	0.51	03/12/08	25,011	29,400	D	2,108
Bay to Bay Blvd	Himes Ave to Dale Mabry Hwy	INB	M	COUNTY	4LU	0.25	03/31/08	17,754	29,400	B	1,536
Bay to Bay Blvd	Dale Mabry Hwy to Manhattan Ave	INB	M	COUNTY	4LU	0.72	03/26/08	12,447	29,400	A	1,146
Bay to Bay Blvd	Manhattan Ave to West Shore Blvd	INB	L	CITY	2LU	0.38	03/26/08	8,035	13,400	B	726
Bayshore Blvd	MacDill AFB to Interbay Blvd	INB	C	CITY	2LU	1.30	01/06/08	11,586	16,100	C	1,894
Bayshore Blvd	Interbay Blvd to Gandy Blvd	INB	C	CITY	2LU	1.28	12/09/07	15,802	23,200	C	1,764
Bayshore Blvd	Gandy Blvd to Euclid Ave	INB	M	COUNTY	4LD	1.00	12/09/07	26,394	42,800	B	2,820
Bayshore Blvd	Euclid Ave to El Prado Blvd	INB	M	COUNTY	4LD	0.20	01/06/08	35,787	42,800	C	3,824
Bayshore Blvd	El Prado Blvd to Bay to Bay Blvd	INB	M	COUNTY	4LD	0.57	12/09/07	33,390	42,800	C	3,525
Bayshore Blvd	Bay to Bay Blvd to Howard Ave	INB	M	COUNTY	4LD	0.59	12/09/07	36,228	42,800	C	3,745
Bayshore Blvd	Howard Ave to Rome Ave	INB	M	COUNTY	6LD	0.46	12/09/07	34,436	64,400	B	3,706
Bayshore Blvd	Rome Ave to Swann Ave	INB	M	COUNTY	6LD	0.93	12/09/07	33,190	64,400	B	3,644
Bayshore Blvd	Swann Ave to Verne St	INB	M	COUNTY	4LD	0.31	01/06/08	30,714	42,800	C	3,524
Bayshore Blvd	Verne St to Platt St	INB	M	COUNTY	4LD	0.19	12/09/07	33,087	42,800	C	3,801
Bayshore Blvd	Platt St to Brorein	INB	M	COUNTY	2LO	0.12	12/09/07	16,772	18,214	D	2,042
Bird St	Florida Ave to I-275	CET	M	COUNTY	4LU	0.25	10/24/06	7,016	22,800	A	485
Bird St	I-275 to Nebraska Ave	CET	M	COUNTY	4LU	0.25	09/08/08	4,772	22,800	A	384
Bougainvillea	Florida Ave to I-275	CET	C	CITY	2LU	0.28	08/07/08	2,675	10,300	A	299

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Bougainvillea Ave	I-275 to Nebraska Ave	NCT	C	CITY	2LU	0.20	08/07/08	2,673	10,300	A	288
Bougainvillea Ave	Nebraska Ave to 15th St	NCT	C	CITY	2LU	0.49	08/07/08	3,119	10,300	A	360
Bougainvillea Ave	15th St to 22nd St	NCT	C	CITY	2LU	0.50	10/25/06	6,103	10,300	B	697
Bougainvillea Ave	22nd St to 30th St	NCT	C	CITY	2LU	0.50	08/07/08	3,615	10,300	A	376
Bougainvillea Ave	30th St to McKinley Dr	NCT	C	CITY	2LU	0.61	08/07/08	6,333	10,300	B	614
Bougainvillea Ave	McKinley Dr to 46th St	NCT	C	CITY	2LU	0.38	08/07/08	7,875	10,300	C	763
Boulevard	Swann Ave to Platt St	INB	C	CITY	4LU	0.29	10/09/06	8,533	22,800	A	846
Boulevard	Platt St to Kennedy Blvd	INB	C	CITY	4LU	0.20	10/09/06	10,758	16,200	C	911
Boulevard	Kennedy Blvd to Cass St	CET	M	COUNTY	4LU	0.36	10/11/06	13,249	16,200	C	1,150
Boulevard	Cass St to Cypress St	CET	M	COUNTY	4LU	0.15	10/11/06	11,542	29,400	A	1,173
Boulevard	Cypress St to I-275	CET	M	COUNTY	4LU	0.30	10/11/06	11,142	16,200	C	374
Boulevard	I-275 to Palm Ave	CET	M	COUNTY	4LU	0.50	10/23/06	13,233	29,400	B	1,322
Boulevard	Palm Ave to Columbus Dr	CET	M	COUNTY	4LU	0.30	11/01/06	11,679	29,400	A	1,116
Boulevard	Columbus Dr to M.L.K.Jr Blvd	CET	M	COUNTY	4LU	0.97	10/18/06	7,240	29,400	A	774
Boulevard	M.L.K.Jr Blvd to Osborne Ave	CET	NC	CITY	2LU	0.51	10/19/06	5,532	16,200	A	572
Boulevard	Sligh Ave to Waters Ave	CET	C	CITY	2LU	0.98	10/19/06	6,306	10,300	B	800
Boulevard	Waters Ave to Busch Blvd	CET	C	CITY	2LU	0.49	10/19/06	7,951	10,300	C	701
Boulevard	Busch Blvd to Linebaugh Ave	CET	C	CITY	2LU	0.45	10/19/06	8,035	10,300	C	837
Boulevard	Linebaugh Ave to Country Club Dr	CET	C	CITY	2LU	1.09	10/19/06	9,001	10,300	D	833
Boy Scout Blvd(Spruce)	Memorial(Frontage Road) to Westshore Blvd	WS	P	STATE	6LD	1.20	06/14/07	45,647	51,200	D	4,134
Boy Scout Blvd	Westshore Blvd to Lois Ave	WS	P	STATE	6LD	0.82	03/30/08	37,004	67,700	B	3,551
Boy Scout Blvd	Lois Ave to Columbus Dr	WS	P	STATE	6LD	0.14	03/30/08	33,573	51,200	C	3,043
Broadway Ave	43rd St to 50th St	CET	M	COUNTY	4LU	0.52	05/14/08	11,989	34,200	A	1,053
Broadway Ave	50th St to Columbus Dr	CET	M	COUNTY	2LU	1.25	05/14/08	11,792	20,000	B	950
Broadway Ave	Columbus Dr(Orient Rd) to City Limits	CET	M	COUNTY	2LU	0.74	05/14/08	16,237	20,000	C	1,346
Brorein	Plant St to Bayshore Blvd	INB	OM	COUNTY	3LO	0.30	03/02/08	10,129	32,143	A	928
Brorein St	Hillsborough River to Tampa St	CBD	OM	COUNTY	4LO	0.11	02/17/08	25,261	39,071	C	2,536
Brorein St	Tampa St to Franklin St	CBD	OM	COUNTY	4LO	0.05	02/17/08	18,213	39,071	B	1,645
Brorein St	Franklin St(Florida) to Morgan St	CBD	OM	COUNTY	4LO	0.13	02/17/08	14,466	39,071	A	1,164
Brorein St	Morgan St(crosstown) to Jefferson St	CBD	OP	CITY	4LO	0.15	02/17/08	11,543	39,071	A	837
Brorein St	Jefferson St to Channelside Dr (East)	CBD	OP	CITY	2LO	0.12	02/17/08	1,093	20,571	A	683
Busch Blvd	I-275 to Nebraska Ave	NCT	P	STATE	6LD	0.26	08/07/08	46,779	68,000	C	3,481
Busch Blvd	Nebraska Ave to 22nd St	NCT	P	STATE	6LD	0.98	07/20/08	41,460	68,000	B	3,280
Busch Blvd	22nd St to 30th St	NCT	P	STATE	6LD	0.50	07/20/08	48,879	68,000	C	4,310
Busch Blvd	30th St to 40th St	NCT	P	STATE	6LD	0.61	07/20/08	47,780	51,200	D	3,920
Busch Blvd	Armenia Ave to Boulevard	CET	P	STATE	4LU	1.00	07/20/08	37,707	34,200	E	3,201
Busch Blvd	Boulevard to Florida Ave	CET	P	STATE	4LD	0.49	07/20/08	41,466	68,000	B	3,487
Busch Blvd	Florida Ave to I275-Busch Ramp W	CET	P	STATE	6LD	0.25	07/20/08	47,786	68,000	C	4,003
Busch Blvd	40th St to 52nd St (City Limits)	NCT	P	STATE	6LD	1.10	07/20/08	37,223	68,000	B	3,030
Ceasar St	Cumberland Ave to Channelside Dr (East)	CBD	C	CITY	2LU	0.09	09/07/08	130	10,300	A	18
Cass St	Hillsborough River to Ashley Dr	CBD	OM	COUNTY	3LO	0.14	12/18/07	5,424	31,500	A	771
Cass St	Ashley Dr to Tampa St	CBD	OC	CITY	3LO	0.05	12/18/07	4,922	31,500	A	547
Cass St	Tampa St to Franklin St	CBD	OC	CITY	3LO	0.05	12/18/07	5,072	31,500	A	556
Cass St	Franklin St to Florida Ave	CBD	OC	CITY	3LO	0.04	12/18/07	7,102	31,500	A	819
Cass St	Florida Ave to Marion St	CBD	OC	CITY	4LO	0.05	12/18/07	6,117	39,071	A	644
Cass St	Marion St to Morgan St	CBD	OC	CITY	4LO	0.05	12/18/07	6,151	39,071	A	689
Cass St	Morgan St to Pierce St	CBD	OC	CITY	4LO	0.05	12/18/07	5,060	39,071	A	666
Cass St	Pierce St to Jefferson St	CBD	C	CITY	4LU	0.05	12/18/07	5,208	22,800	A	649
Cass St	Jefferson St to Nebraska Ave	CBD	C	CITY	4LU	0.23	12/18/07	6,184	22,800	A	758
Cass St	Howard Ave to Willow Ave	CET	C	CITY	2LU	0.63	12/18/07	3,478	10,300	A	406
Cass St	Willow Ave to Boulevard	CET	C	CITY	4LU	0.25	12/18/07	4,813	22,800	A	537
Cass St	Boulevard to Hillsborough River	CET	M	COUNTY	4LU	0.18	12/18/07	8,448	22,800	A	920
Central Ave	Lake Ave to M.L.K.Jr Blvd	CET	C	CITY	2LU	0.25	10/24/06	3,976	10,300	A	352

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Central Ave	M.L.K.Jr Blvd to Osborne Ave	CET	C	CITY	2LU	0.50	10/24/06	4,834	10,300	B	538
Central Ave	Osborne Ave to Hillsborough Ave	CET	C	CITY	2LU	0.50	10/24/06	5,331	10,300	B	576
Central Ave	Hillsborough Ave to Hanna Ave	CET	C	CITY	2LU	0.50	10/24/06	5,332	10,300	B	649
Central Ave	Hanna Ave to Sligh Ave	CET	C	CITY	2LU	0.50	10/24/06	4,636	10,300	B	570
Channelside Dr (East)	Hillsborough River to Franklin St	CBD	OM	COUNTY	4LO	0.19	09/07/08	24,482	39,071	C	2,405
Channelside Dr (East)	Franklin St to Florida Ave	CBD	OM	COUNTY	4LO	0.05	09/07/08	22,841	39,071	B	2,282
Channelside Dr (East)	Florida Ave to Morgan St	CBD	OM	COUNTY	3LO	0.11	09/07/08	12,172	31,500	A	1,392
Channelside Dr (East)	Morgan St to Jefferson St	CBD	OP	COUNTY	3LO	0.08	09/07/08	12,877	31,500	A	1,465
Channelside Dr (East)	Brorein St to Cumberland St	CBD	P	COUNTY	4LU	0.21	09/07/08	13,652	28,800	B	1,164
Channelside Dr (North)	Channelside Dr (East) to Kennedy Blvd	CBD	P	STATE	4LD	0.40	09/14/08	12,930	29,400	B	1,249
Channelside Dr (North)	Kennedy Blvd to Twiggs St	CBD	P	STATE	5LU	0.11	09/07/08	26,402	29,400	D	2,586
Channelside Dr (North)	Twiggs St to Adamo Dr	CBD	P	STATE	5LU	0.17	09/07/08	28,752	29,400	D	2,754
Church Av	Euclid Ave to Bay to Bay Blvd	INB	NC	CITY	2LU	0.77	07/08/08	2,049	10,300	A	173
Church Av	Bay to Bay Blvd to Henderson Blvd	INB	NC	CITY	2LU	0.91	07/08/08	2,725	10,300	A	297
Church Av	Henderson Blvd to Swann Ave	INB	C	CITY	2LU	0.34	07/08/08	2,691	10,300	A	312
Cleveland St	Armenia Ave to Howard Ave	INB	OM	COUNTY	3LO	0.11	12/09/07	6,322	32,143	A	745
Cleveland St	Howard Ave(Willow) to Boulevard	INB	OM	COUNTY	3LO	1.51	11/26/07	13,090	32,143	A	1,407
Columbus Dr	Himes Ave to MacDill Ave	CET	M	COUNTY	5LU	0.49	03/30/08	25,160	29,400	D	2,459
Columbus Dr	MacDill Ave to Habana Ave	CET	M	COUNTY	5LU	0.20	06/29/99	22,409	29,400	C	1,273
Columbus Dr	Habana Ave to Armenia	CET	M	COUNTY	4LU	0.20	03/30/08	31,498	29,400	E	3,226
Columbus Dr	Armenia to Howard	CET	M	COUNTY	4LU	0.10	03/30/08	22,546	29,400	C	2,291
Columbus Dr	Howard to Rome Ave	CET	M	COUNTY	4LU	0.20	03/30/08	22,029	29,400	C	2,177
Columbus Dr	Rome Ave to Boulevard	CET	M	COUNTY	4LU	0.50	03/30/08	18,754	29,400	B	1,853
Columbus Dr	Boulevard to Tampa St	CET	M	COUNTY	2LU	0.40	06/30/99	14,604	17,800	D	843
Columbus Dr	Tampa St to Florida Ave	CET	M	COUNTY	2LU	0.10	03/30/08	13,865	13,400	D	1,333
Columbus Dr	Florida Ave to Nebraska Ave	CET	M	COUNTY	2LU	0.49	03/30/08	10,975	17,800	B	1,035
Columbus Dr	Nebraska Ave to ARDC(14th St)	CET	M	COUNTY	2LU	0.42	03/30/08	9,802	13,400	C	966
Columbus Dr	ARDC(14th St) to 22nd St	CET	OM	COUNTY	2LO	0.50	03/30/08	4,919	16,600	A	551
Columbus Dr	22nd St to 34th St	CET	OM	COUNTY	2LO	0.77	03/30/08	4,551	21,000	A	498
Columbus Dr	34th St to 40th St	CET	OM	COUNTY	2LO	0.50	03/30/08	3,597	21,000	A	374
Columbus Dr	40th St to 19th Ave	CET	OM	COUNTY	2LO	0.50	03/30/08	3,748	17,800	A	406
Columbus Dr	19th Ave(Columbus Dr.) to 50th St	CET	M	COUNTY	4LU	0.48	03/30/08	19,590	29,400	C	1,397
Columbus Dr	50th St to Broadway Ave	CET	M	CITY	2LU	1.20	05/04/08	13,375	10,300	F	1,048
Columbus Dr	Boy Scout Blvd to Dale Mabry Hwy	WS	M	COUNTY	6LD	0.50	03/30/08	41,316	51,200	C	3,706
Columbus Dr	Dale Mabry Hwy to Himes Ave	WS	M	COUNTY	4LD	0.21	04/30/07	29,514	29,400	D	2,943
Commerce Blvd	Tampa Palms Blvd. to New Tampa Blvd.	UN	C	CITY	2LD	1.40	01/22/01	10,990	13,400	C	3,362
Commerce St	Interbay Blvd to Hoadley(City Limits)	INB	C	CITY	2LU	0.71	03/25/08	4,751	10,300	B	363
Country Club Dr	Armenia Ave to Boulevard	CET	C	CITY	2LU	0.68	01/10/08	2,304	10,300	A	256
Country Club Dr	Boulevard to Florida Ave	CET	C	CITY	2LU	0.49	01/10/08	4,252	10,300	B	453
Courtney Campbell	Rocky Point to Eisenhower	WS	P	STATE	6LD	1.29	06/26/05	64,273	67,000	D	5,522
CR 581	City Limits to Amberly Dr	UN	M	COUNTY	4LD	0.33	01/20/08	53,666	34,200	F	4,237
CR 581	Amberly Dr to Tampa Palms	UN	M	COUNTY	4LD	0.61	01/20/08	53,626	37,800	F	4,483
CR 581	Tampa Palms to I-75	UN	M	COUNTY	4LD	2.45	01/20/08	40,277	37,800	E	3,075
CR 581	I-75 to (Dona Michelle)Hunter's Green Dr	UN	M	COUNTY	4LD	1.65	01/20/08	64,827	34,200	F	5,196
CR 581	Hunter's Green Dr to New Tampa Blvd/ Cross (	UN	M	COUNTY	4LD	0.50	01/20/08	46,034	34,200	F	3,777
CR 581	New Tampa Blvd/ Cross Creek Blvd to County	UN	M	COUNTY	4LD	1.90	01/20/08	40,823	37,800	E	3,302
Cross Creek Blvd	CR 581 to Kinnan St	UN	C	COUNTY	4LD	1.70	01/20/08	26,318	37,800	C	2,107
Cross Creek Blvd	Kinnan St to Morris Bridge Road	UN	C	COUNTY	2LU	2.90	01/20/08	29,715	10,300	F	2,995
Crosstown Expr	Plant Ave to Florida Ave	CBD	I	STATE	4LF	0.39	04/08/02	31,500	68,900	B	5,050
Crosstown Expr	Florida Ave to Kennedy Blvd	CBD	I	STATE	4LF	0.62	04/08/02	40,000	68,900	B	3,212
Crosstown Expr	Kennedy Blvd to Channelside Dr (North)	CBD	I	STATE	4LF	0.49	04/08/02	40,000	68,900	B	4,381
Crosstown Expr	Gandy Blvd to Euclid Ave	INB	I	STATE	4LF	1.08	04/08/02	24,000	68,900	A	3,703
Crosstown Expr	13th St to 22nd St	CET	I	STATE	4LF	3.03	04/08/02	51,000	68,900	C	2,764

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Crosstown Expr	22nd St to I-4 Connector	CET	I	STATE	4LF	0.50	04/08/02	58,000	68,900	C	4,635
Crosstown Expr	I-4 Connector to 39th St	CET	I	STATE	4LF	1.39	04/08/02	46,000	68,900	C	2,029
Crosstown Expr	39th St to 50th St (US 41)	CET	I	STATE	4LF	0.86	04/08/02	44,000	68,900	C	3,516
Crosstown Expr	50th St (US 41) to 78th St	CET	I	STATE	4LF	2.00	04/08/02	46,000	68,900	C	1,593
Crosstown Expr	Euclid Ave to Bay To Bay Blvd	INB	I	STATE	4LF	0.86	04/08/02	24,000	68,900	A	5,050
Crosstown Expr	Bay To Bay Blvd to Willow Ave	INB	I	STATE	4LF	2.03	04/08/02	27,500	68,900	A	2,776
Crosstown Expr	Willow Ave to Plant Ave	INB	I	STATE	4LF	0.61	04/08/02	29,000	68,900	B	2,502
Cumberland Ave	Jefferson to Caesar	CBD	OC	CITY	2LO	0.13	11/28/06	670	20,571	A	175
Cumberland Ave	Caesar to Meridian	CBD	C	CITY	0L	0.09	09/23/97	0	0	A	158
Cumberland Ave	Meridian to Channelside Dr (North)	CBD	C	CITY	2LU	0.17	11/29/07	3,828	13,000	A	362
Cypress St	Frontage Road to Westshore Blvd	WS	C	CITY	5LU	0.68	03/04/08	16,235	22,800	C	1,785
Cypress St	West Shore Blvd(Trask St) to Lois Ave	WS	C	CITY	5LU	0.60	03/04/08	22,245	22,800	D	2,927
Cypress St	Lois Ave to I-275	WS	C	CITY	5LU	0.22	03/04/08	14,033	22,800	B	1,828
Cypress St	I-275 to Dale Mabry Hwy	WS	C	CITY	5LU	0.32	04/24/07	14,117	22,800	B	1,761
Cypress St	Dale Mabry Hwy to Himes Ave	WS	C	CITY	5LU	0.21	03/04/08	14,029	18,800	C	1,764
Cypress St	Himes Ave to MacDill Ave	CET	C	CITY	2LU	0.76	03/12/08	7,298	18,800	A	906
Cypress St	MacDill Ave to Armenia Ave	CET	NC	CITY	2LU	0.50	03/04/08	6,533	18,800	A	843
Cypress St	Armenia Ave to Howard Ave	CET	NC	CITY	2LU	0.10	03/04/08	10,770	18,800	B	1,252
Cypress St	Howard Ave to Willow Ave	CET	NC	CITY	2LU	0.60	03/04/08	8,161	10,300	C	394
Cypress St	Willow Ave to Boulevard	CET	NC	CITY	2LU	0.30	03/04/08	3,755	10,300	A	889
Dale Mabry Hwy	Kennedy Blvd to Cypress St	WS	P	STATE	6LD	0.46	06/01/08	44,393	51,200	D	3,365
Dale Mabry Hwy	Cypress St to I-275	WS	P	STATE	6LD	0.21	06/01/08	58,052	62,700	D	4,607
Dale Mabry Hwy	I-275 to Spruce St	WS	P	STATE	6LD	0.26	06/01/08	67,960	62,700	E	5,327
Dale Mabry Hwy	Spruce St to Columbus Dr	WS	P	STATE	6LD	0.47	06/01/08	55,553	62,700	D	4,187
Dale Mabry Hwy	Columbus Dr to Tampa Bay Blvd	WS	P	STATE	6LD	0.47	06/01/08	63,048	62,700	D	5,014
Dale Mabry Hwy	Tampa Bay Blvd to M.L.K.Jr Blvd	WS	P	STATE	6LD	0.50	06/08/08	37,100	51,200	C	2,958
Dale Mabry Hwy	M.L.K.Jr Blvd to Hillsborough	WS	P	STATE	6LD	1.00	07/06/08	53,760	55,200	D	4,162
Dale Mabry Hwy	Hillsborough Ave to City Limits	CET	P	STATE	6LD	0.25	06/08/08	66,906	62,700	E	5,682
Dale Mabry Hwy	MacDill AFB to Interbay Blvd	INB	M	STATE	4LD	0.50	06/01/08	25,949	34,200	C	2,500
Dale Mabry Hwy	Interbay Blvd to Gandy Blvd	INB	M	STATE	4LD	1.40	06/01/08	28,508	34,200	C	2,632
Dale Mabry Hwy	Gandy Blvd to Bay Vista Ave	INB	P	STATE	4LU	0.87	06/01/08	28,923	29,400	D	2,168
Dale Mabry Hwy	Bay Vista Ave to Euclid Ave	INB	P	STATE	4LD	0.15	06/01/08	42,132	34,200	E	3,240
Dale Mabry Hwy	Euclid Ave to El Prado	INB	P	STATE	4LU	0.19	06/01/08	32,941	29,400	E	2,415
Dale Mabry Hwy	El Prado Blvd to Bay to Bay Blvd	INB	P	STATE	4LU	0.57	06/01/08	32,334	29,400	E	2,366
Dale Mabry Hwy	Bay to Bay Blvd(Neptune St) to Henderson Blv	INB	P	STATE	4LU	0.97	06/08/08	38,196	29,400	F	3,031
Dale Mabry Hwy	Henderson Blvd to Swann Ave	INB	P	STATE	4LD	0.25	06/08/08	38,408	34,200	E	2,922
Dale Mabry Hwy	Swann Ave to Azeele St	INB	P	STATE	4LD	0.25	06/01/08	45,293	34,200	F	3,483
Dale Mabry Hwy	Azeele St to Kennedy Blvd	INB	P	STATE	4LD	0.25	06/01/08	35,217	34,200	D	3,862
Davis Blvd	Plant Ave to N.Adalia Ave	INB	M	COUNTY	4LU	0.24	09/15/08	24,701	42,800	B	2,250
Davis Blvd	N.Adalia Ave to Baltic Ave	INB	M	COUNTY	4LU	0.44	09/15/08	23,143	42,800	B	2,128
Davis Blvd E.	Baltic Ave to S.Davis Blvd	INB	C	CITY	4LU	0.89	01/09/08	2,360	22,800	A	225
Davis Blvd W.	S.Davis Blvd to Baltic Ave	INB	C	CITY	4LU	1.45	09/15/08	9,294	22,800	A	770
Davis Blvd S.	E.Davis Blvd to W.Davis Blvd	INB	C	CITY	4LU	0.81	09/15/08	3,161	22,800	A	314
El Prado Blvd	Westshore Blvd to Manhattan Ave	INB	NC	CITY	4LD	0.53	03/26/08	4,009	22,800	A	372
El Prado Blvd	Manhattan Ave to Dale Mabry Hwy	INB	NC	CITY	4LD	0.72	03/26/08	8,573	22,800	A	836
El Prado Blvd	Dale Mabry Hwy to MacDill Ave	INB	NC	CITY	4LD	0.76	03/26/08	5,345	22,800	A	557
El Prado Blvd	MacDill Ave to Bayshore Blvd	INB	NC	CITY	4LD	0.19	03/31/08	1,584	22,800	A	231
Euclid Ave	Westshore Blvd to Manhattan Ave	INB	NC	CITY	2LU	0.53	03/26/08	8,543	10,300	C	823
Euclid Ave	Manhattan Ave to Dale Mabry Hwy	INB	NC	CITY	2LU	0.72	03/26/08	10,263	10,300	D	1,075
Euclid Ave	Dale Mabry Hwy(Himes Ave) to MacDill Ave	INB	NC	CITY	2LU	0.76	03/26/08	9,894	14,800	C	999
Euclid Ave	MacDill Ave to Bayshore Blvd	INB	NC	CITY	2LU	0.23	03/26/08	3,385	10,300	A	332
Fletcher Ave	46th St to 50th St	UN	M	COUNTY	4LD	0.60	07/20/08	33,408	51,200	B	2,946
Floribraska Ave	Tampa St to Florida Ave	CET	M	COUNTY	4LU	0.09	07/08/08	3,189	29,400	A	273

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ON	From - To (S to N or W to E)	Impact Fee District	Funct Class Funct Class*	Maint. Respons.	Exist Road Type	Dist (MI)	Date of Count (mm/dd/yr)	Existing Daily Volume	Existing LOS D Capacity	Existing LOS	Existing PM Peak Volume
Floribraska Ave	Florida Ave to Nebraska Ave	CET	M	COUNTY	4LU	0.47	07/08/08	9,681	29,400	A	886
Florida Ave	Scott St to Tyler St	CBD	OM	STATE	3LO	0.26	06/22/08	17,925	44,400	A	2,322
Florida Ave	Tyler St to Cass St	CBD	OM	STATE	4LO	0.05	06/22/08	18,206	39,071	B	2,325
Florida Ave	Cass St to Polk St	CBD	OM	STATE	4LO	0.05	06/22/08	18,610	39,071	B	2,381
Florida Ave	Polk St to Zack St	CBD	OM	STATE	4LO	0.05	06/22/08	18,679	39,071	B	2,311
Florida Ave	Zack St to Twiggs St	CBD	OM	STATE	4LO	0.05	06/22/08	18,121	39,071	B	2,176
Florida Ave	Twiggs St to Madison St	CBD	OM	STATE	4LO	0.05	06/22/08	16,011	39,071	B	1,893
Florida Ave	Madison St to Kennedy Blvd	CBD	OM	STATE	4LO	0.05	06/22/08	16,275	39,071	B	1,931
Florida Ave	Kennedy Blvd to Jackson St	CBD	OM	STATE	4LO	0.05	06/22/08	16,543	44,400	A	1,905
Florida Ave	Jackson St to Whiting St	CBD	OM	CITY	4LO	0.10	06/22/08	25,429	39,071	C	3,145
Florida Ave	Whiting St to Brorein St	CBD	OM	CITY	3LO	0.10	06/22/08	13,683	31,500	B	1,220
Florida Ave	Brorein St to Channelside Dr (East)	CBD	OM	CITY	3LO	0.10	06/22/08	13,645	31,500	B	1,268
Florida Ave	Channelside Dr (East) to Ice Palace Dr (East)	CBD	M	CITY	2LU	0.11	06/22/08	2,809	13,000	A	251
Florida Ave	Scott St to Palm Ave	CET	OM	STATE	3LO	0.40	06/22/08	9,043	32,143	A	1,440
Florida Ave	Palm Ave to Columbus Ave	CET	OM	STATE	3LO	0.30	06/22/08	6,058	39,600	A	1,088
Florida Ave	Columbus Ave(Floribraska Ave) to Lake Ave	CET	OM	STATE	3LO	0.77	06/22/08	9,717	32,143	A	1,464
Florida Ave	Lake Ave to M.L.K.Jr Blvd	CET	OM	STATE	3LO	0.20	06/22/08	9,892	32,143	A	1,509
Florida Ave	M.L.K.Jr Blvd to Osborne Ave	CET	OM	STATE	3LO	0.49	06/22/08	9,335	41,700	A	1,498
Florida Ave	Osborne Ave to Hillsborough Ave	CET	M	STATE	4LU	0.49	06/22/08	24,746	34,200	A	2,856
Florida Ave	Hillsborough Ave(Hanna Ave) to Sligh Ave	CET	M	STATE	4LU	1.00	06/22/08	18,366	34,200	B	1,820
Florida Ave	Sligh Ave(Bird St) to Waters Ave	CET	M	STATE	4LU	1.02	07/06/08	30,965	34,200	D	2,745
Florida Ave	Waters Ave(Yukon St) to Busch Blvd	CET	M	STATE	5LU	0.50	07/06/08	31,571	29,400	E	2,795
Florida Ave	Busch Blvd to Linebaugh Ave	CET	M	STATE	6LD	0.49	07/06/08	30,186	45,000	C	2,935
Florida Ave	Linebaugh Ave to Bougainvillea Ave	CET	M	STATE	4LU	0.25	08/07/08	26,445	29,400	D	2,271
Florida Ave	Bougainvillea Ave to Country Club Dr	CET	M	STATE	2LU	0.74	07/06/08	25,480	16,100	F	2,166
Fowler Ave	Florida Ave to I275 Ramp	CET	P	STATE	5LU	0.31	07/06/08	31,842	93,200	A	2,701
Fowler Ave	Fowler-I275 Ramp N to Nebraska Ave	NCT	P	STATE	5LU	0.19	07/06/08	45,248	93,200	B	3,839
Fowler Ave	Nebraska Ave to 15th St	NCT	P	STATE	8LD	0.49	07/06/08	49,543	69,200	C	4,185
Fowler Ave	15th St to 22nd St	NCT	P	STATE	8LD	0.49	07/06/08	50,084	69,200	C	4,217
Fowler Ave	22nd St to 30th St	NCT	P	STATE	8LD	0.49	07/20/08	48,492	69,200	C	4,025
Fowler Ave	30th St to McKinley Dr	NCT	P	STATE	8LD	0.60	07/27/08	50,270	45,900	E	3,977
Fowler Ave	McKinley Dr to 50th St	NCT	P	STATE	8LD	0.90	05/22/05	62,199	93,200	C	5,000
Fowler Ave	50th St to 52nd St (City Limits)	NCT	P	STATE	6LD	0.25	07/20/08	31,304	45,900	C	2,438
Fowler Ave	Rosewood Dr. and 50th St.	NCT	P	STATE	6LD	0.25	07/27/08	50,717	69,200	C	4,218
Frankland Rd	San Miguel to Neptune St	INB	NC	CITY	2LU	0.32	06/18/08	3,433	10,300	A	344
Franklin St	Whitting St to Brorein St	CBD	C	CITY	3LU	0.08	11/26/07	2,339	10,815	A	404
Franklin St	Brorein St to Channelside Dr (East)	CBD	C	CITY	3LU	0.08	08/24/08	11,033	10,815	D	852
Franklin St	Channelside Dr (East) to Ice Palace Dr (East)(	CBD	C	CITY	3LU	0.11	11/19/06	13,309	10,815	E	1,249
Franklin St	Ice Palace Dr (East) to Garrison Channel	CBD	C	CITY	2LU	0.09	01/07/08	14,610	10,300	F	1,323
Frontage Road	Boy Scout to Cypress	WS	C	STATE	2LU	0.50	03/08/06	5,292	10,300	B	642
Gandy Blvd	Pinellas Co. to Westshore Blvd	INB	P	STATE	4LF	2.00	07/14/07	38,191	41,700	D	3,994
Gandy Blvd	Westshore Blvd to Manhattan Ave	INB	P	STATE	4LD	0.47	07/14/07	34,511	34,200	D	4,183
Gandy Blvd	Manhattan Ave to Crosstown Express	INB	P	STATE	4LD	0.66	07/14/07	23,924	49,214	B	2,423
Gandy Blvd	Crosstown Express to Dale Mabry Hwy	INB	P	STATE	4LD	0.20	07/14/07	51,859	49,214	E	4,532
Gandy Blvd	Dale Mabry Hwy to Himes Ave	INB	P	COUNTY	4LD	0.26	07/14/07	22,244	22,800	D	1,787
Gandy Blvd	Himes Ave to Bayshore Blvd	INB	M	COUNTY	4LU	1.04	07/14/07	13,328	22,800	B	1,167
George Road	Memorial Hwy to Independent Pkwy	WS	C	CITY	2LU	0.40	08/05/07	2,485	10,300	A	305
Habana Ave	Main St to Columbus Dr	CET	C	CITY	2LU	0.63	12/06/06	1,156	10,300	A	149
Habana Ave	Columbus Dr to Tampa Bay Blvd	CET	C	CITY	2LU	0.49	12/06/06	5,918	10,300	B	552
Habana Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	CET	C	CITY	2LU	0.49	12/06/06	8,228	10,300	C	775
Habana Ave	M.L.K.Jr Blvd to Hillsborough Ave	CET	C	CITY	5LU	0.98	12/06/06	18,829	22,800	C	1,800
Habana Ave	Hillsborough Ave to Henry (City Limits)	CET	C	CITY	2LU	0.25	12/06/06	9,617	10,300	D	1,004
Hanna Ave	Florida Ave(Central Ave) to Nebraska Ave	CET	C	CITY	2LU	0.60	01/10/08	2,547	10,300	A	389

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Hanna Ave	Nebraska Ave to 15th St	CET	C	CITY	2LU	0.50	01/10/08	5,849	10,300	B	614
Hanna Ave	15th St to 22nd St	CET	C	CITY	2LU	0.50	01/10/08	3,412	10,300	A	319
Hanna Ave	22nd St to 30th St	CET	C	CITY	2LU	0.49	01/28/08	4,819	10,300	B	482
Hanna Ave	30th St to 40th St	CET	C	CITY	2LU	0.76	01/22/07	6,464	10,300	C	671
Hanna Ave	40th St to 43rd St	CET	C	CITY	2LU	0.25	01/10/08	5,170	10,300	B	431
Harrison St	Franklin St to Jefferson/Orange	CBD	C	CITY	2LU	0.21	04/20/08	1,381	10,300	A	132
Henderson Blvd	Bay to Bay Blvd to Manhattan Ave	INB	NC	COUNTY	4LU	0.28	12/05/06	2,526	22,800	A	254
Henderson Blvd	Manhattan Ave(Church) to Dale Mabry Hwy	INB	M	COUNTY	4LU	1.04	12/17/07	18,332	22,800	C	1,606
Henderson Blvd	Dale Mabry Hwy to Swann Ave	INB	M	STATE	4LU	0.36	12/17/07	20,882	22,800	D	1,825
Henderson Blvd	Swann Ave to Azeele St	INB	M	STATE	4LU	0.32	12/17/07	18,340	22,800	C	1,680
Henderson Blvd	Azeele St to Kennedy Blvd	INB	M	STATE	4LU	0.31	12/17/07	9,838	22,800	B	873
Highland Ave	M.L.K.Jr Blvd to Osborne Ave	CET	OM	STATE	3LO	0.50	11/28/07	7,790	36,571	A	565
Highland Ave	Osborne Ave to Violet St	CET	OM	STATE	3LO	0.50	11/28/07	8,903	36,571	A	720
Highland Ave	Violet St to Hillsborough Ave	CET	NC	CITY	2LU	0.39	12/10/07	6,533	13,400	B	1,029
Highwood Preserve Blvd.	CR 581 to New Tampa Blvd.	UN	C	CITY	2LU	1.60	05/18/00	7,830	13,400	B	3,362
Hillsborough Ave	Eisenhower Blvd to Westshore Blvd	WS	P	STATE	6LD	1.36	09/09/07	55,708	67,700	C	4,414
Hillsborough Ave	Westshore Blvd to Lois Ave	WS	P	STATE	6LD	0.61	09/09/07	64,025	67,700	D	4,707
Hillsborough Ave	Lois Ave to Dale Mabry Hwy	WS	P	STATE	6LD	0.46	07/30/06	70,875	67,700	D	2,667
Hillsborough Ave	Dale Mabry Hwy to Himes Ave	WS	P	STATE	6LD	0.25	09/09/07	72,615	67,700	E	5,330
Hillsborough Ave	Himes Ave to Armenia Ave	CET	P	STATE	6LD	1.01	07/30/06	58,743	67,700	D	2,195
Hillsborough Ave	Armenia Ave to Rome Ave	CET	P	STATE	6LD	0.49	07/30/06	58,052	67,700	C	2,070
Hillsborough Ave	Rome Ave to Hillsborough River	CET	P	STATE	6LD	0.66	07/30/06	55,920	67,700	C	2,121
Hillsborough Ave	Hillsborough River to Florida Ave	CET	P	STATE	6LD	0.49	07/30/06	50,496	67,700	C	3,253
Hillsborough Ave	Florida Ave to I-275	CET	P	STATE	6LD	0.46	07/30/06	54,479	67,700	C	1,885
Hillsborough Ave	I-275 to Nebraska Ave	CET	P	STATE	6LD	0.27	07/30/06	52,804	67,700	C	1,664
Hillsborough Ave	Nebraska Ave to 15th St	CET	P	STATE	6LD	0.49	07/30/06	51,924	67,700	C	1,694
Hillsborough Ave	15th St to 22nd St	CET	P	STATE	6LD	0.49	07/30/06	51,667	67,700	C	1,784
Hillsborough Ave	22nd St to 30th St	CET	P	STATE	6LD	0.49	07/30/06	54,547	67,700	C	1,978
Hillsborough Ave	30th St to 40th St	CET	P	STATE	6LD	0.74	07/30/06	51,911	67,700	C	1,956
Hillsborough Ave	40th St to 50th St (City Limits)	CET	P	STATE	6LD	0.75	07/30/06	46,285	67,700	C	1,867
Himes Ave	Interbay Blvd to Gandy Blvd	INB	C	CITY	2LU	1.25	12/02/07	3,112	10,300	A	349
Himes Ave	Gandy Blvd to Euclid Ave	INB	C	CITY	4LU	1.04	12/02/07	10,445	22,800	B	1,160
Himes Ave	Euclid Ave(El Prado) to Bay to Bay Blvd	INB	C	CITY	2LU	0.76	12/09/07	3,315	10,300	A	358
Himes Ave	Bay to Bay Blvd to San Miguel	INB	C	CITY	2LU	0.42	12/02/07	5,408	10,300	B	584
Himes Ave	Neptune St(Morrison Ave) to Swann Ave	INB	NC	CITY	2LU	0.89	12/02/07	2,094	10,300	A	249
Himes Ave	Swann Ave to Azeele St	INB	NC	CITY	2LU	0.40	12/02/07	7,024	21,400	A	807
Himes Ave	Azeele St to Kennedy Blvd	INB	NC	CITY	2LU	0.10	12/02/07	6,862	23,600	A	857
Himes Ave	Kennedy Blvd to Cypress St	WS	C	CITY	5LU	0.46	12/02/07	14,924	38,000	A	1,489
Himes Ave	Cypress St to I-275	WS	M	CITY	5LU	0.30	12/02/07	26,782	34,200	C	2,900
Himes Ave	I-275(Spruce St) to Columbus Dr	WS	M	CITY	5LU	0.67	12/02/07	22,671	34,200	C	2,183
Himes Ave	Columbus Dr to Tampa Bay Blvd	WS	M	CITY	4LD	0.47	12/10/07	24,706	34,200	C	2,424
Himes Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	WS	M	CITY	4LD	0.50	12/02/07	24,107	34,200	C	2,231
Himes Ave	M.L.K.Jr Blvd to Hillsborough Ave	WS	M	CITY	4LD	1.00	12/10/07	15,064	23,600	B	1,630
Himes Ave	Hillsborough Ave to Henry (City Limits)	CET	C	COUNTY	2LU	0.25	12/11/07	16,623	10,300	F	1,431
Howard Ave	Bayshore Blvd(Morrison Ave) to Swann Ave	INB	C	CITY	2LU	1.00	06/10/08	15,332	10,300	F	1,239
Howard Ave	Swann Ave to Azeele St	INB	C	CITY	2LU	0.40	06/10/08	12,811	10,300	E	940
Howard Ave	Azeele St to Platt St	INB	OC	CITY	2LO	0.10	06/10/08	11,923	18,214	C	857
Howard Ave	Platt St(Cleveland St) to Kennedy Blvd	INB	OM	CITY	3LO	0.30	06/10/08	17,845	27,643	C	1,461
Howard Ave	Kennedy Blvd to Cass St	CET	OM	COUNTY	2LO	0.34	06/10/08	17,785	23,000	C	1,594
Howard Ave	Cass St to Cypress St	CET	OM	COUNTY	2LO	0.15	06/28/07	20,893	24,429	D	1,719
Howard Ave	Cypress St(Main St) to Columbus Dr	CET	OM	COUNTY	2LO	0.75	06/18/08	12,427	24,429	B	1,281
Howard Ave	Columbus Dr to Armenia Ave	CET	OM	COUNTY	2LO	0.53	06/18/08	12,073	24,429	B	1,249
Hyde Park Ave	Bayshore On-Ramp to DeLeon St	INB	OM	CITY	2LO	0.09	11/21/06	17,031	21,000	C	1,237
Hyde Park Ave	DeLeon St to Platt St	INB	OM	CITY	2LO	0.19	10/09/06	14,150	21,000	C	1,038

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Hyde Park Ave	Platt St to Kennedy Blvd	INB	OM	CITY	2LO	0.27	10/09/06	6,219	21,000	A	393
I-275	City Limits to Kennedy Blvd	WS	I	STATE	4LF	0.57	06/01/07	147,000	68,900	F	9,981
I-275	Kennedy Blvd to Memorial Hwy	WS	I	STATE	4LF	0.43	06/01/07	86,500	68,900	E	6,633
I-275	Memorial Hwy to Westshore Blvd	WS	I	STATE	6LF	0.40	06/01/07	147,000	103,400	F	9,018
I-275	Westshore Blvd to Lois Ave	WS	I	STATE	6LF	0.61	06/01/07	169,500	103,400	F	9,261
I-275	Lois Ave to Dale Mabry Hwy	WS	I	STATE	6LF	0.61	06/01/07	175,500	103,400	F	9,772
I-275	Dale Mabry Hwy to Himes Ave	WS	I	STATE	6LF	0.21	06/01/07	187,000	103,400	F	10,480
I-275	Himes Ave to Armenia/Howard	CET	I	STATE	6LF	1.09	06/01/07	191,500	103,400	F	11,887
I-275	Armenia/Howard to Ashley Dr	CET	I	STATE	6LF	1.23	06/01/07	204,000	103,400	F	12,500
I-275	Ashley/Scott Ex to Ash. NBOnRamp	CBD	I	STATE	6LF	0.25	06/01/07	201,000	103,400	F	12,100
I-275	Ash. NBOnRamp to Oran./Jeff.OnRamp	CBD	I	STATE	6LF	0.44	04/08/02	105,000	103,400	D	10,811
I-275	Orange/Jefferson Ramp to I-4	CET	I	STATE	6LF	0.35	04/08/02	134,500	103,400	F	9,278
I-275	I-4 to M.L.K.Jr Blvd	CET	I	STATE	6LF	1.10	06/01/07	164,500	103,400	F	11,100
I-275	M.L.K.Jr Blvd to Hillsborough Ave	CET	I	STATE	6LF	1.00	06/01/07	162,500	103,400	F	10,900
I-275	Hillsborough Ave to Sligh Ave	CET	I	STATE	6LF	1.00	06/01/07	163,000	103,400	F	11,000
I-275	Sligh Ave to Bird St	CET	I	STATE	6LF	0.80	06/01/07	172,500	103,400	F	11,600
I-275	Bird St to Busch Blvd	CET	I	STATE	6LF	0.68	06/01/07	156,500	103,400	F	10,553
I-275	Busch Blvd to City Limits	NCT	I	STATE	6LF	1.48	06/01/03	124,500	103,400	E	9,352
I-4	50th St to City Limits	CET	I	STATE	4LF	0.60	06/01/06	107,000	68,900	F	8,239
I-4	I-275 to 22nd St	CET	I	STATE	6LF	0.98	06/01/07	134,500	103,400	F	9,100
I-4	22th St to 40th St	CET	I	STATE	4LF	1.30	06/01/07	131,500	68,900	F	9,950
I-4	40th St to 50th St	CET	I	STATE	4LF	0.80	06/01/07	116,500	68,900	F	10,800
I-275	City Limits to Kennedy Blvd	WS	I	STATE	4LF	1.08	06/01/07	155,500	68,900	F	10,514
I-275	Kennedy Blvd to Memorial Hwy	WS	I	STATE	4LF	1.11	06/01/06	125,399	68,900	F	10,543
I-275	Memorial Hwy to Westshore Blvd	WS	I	STATE	6LF	1.14	06/01/06	124,174	103,400	E	10,571
Ice Palace Dr (East)	Franklin St to Ice Palace Dr (North)	CBD	C	CITY	2LD	0.30	07/15/95	510	10,300	A	47
Ice Palace Dr (North)	Ashley Dr to Channelside Dr (East)	CBD	C	CITY	2LU	0.09	07/15/95	506	10,300	A	47
Interbay Blvd	Westshore Blvd to Dale Mabry Hwy	INB	C	CITY	2LU	1.33	12/02/07	12,092	10,300	E	1,005
Interbay Blvd	Dale Mabry Hwy(MacDill Ave) to Bayshore Blv	INB	NC	CITY	2LU	1.48	12/02/07	2,228	10,300	A	203
Jackson St	Ashley Dr to Tampa St	CBD	OM	STATE	3LO	0.05	04/20/08	14,984	31,500	B	1,490
Jackson St	Tampa St to Franklin St	CBD	OM	STATE	3LO	0.05	04/20/08	13,866	31,500	B	1,410
Jackson St	Franklin St to Florida Ave	CBD	OM	STATE	3LO	0.05	05/04/08	11,029	31,500	A	1,182
Jackson St	Florida Ave to Marion St	CBD	OM	STATE	3LO	0.05	05/04/08	10,674	31,500	A	1,266
Jackson St	Marion St to Morgan St	CBD	OM	STATE	3LO	0.05	04/20/08	10,152	31,500	A	1,234
Jackson St	Morgan St to Pierce St	CBD	OM	STATE	3LO	0.05	05/04/08	10,072	31,500	A	1,402
Jackson St	Pierce St to Nebraska Ave	CBD	OM	STATE	3LO	0.24	04/20/08	10,925	31,500	A	1,691
Jefferson St	Cass St to Zack St	CBD	C	CITY	4LU	0.10	04/13/08	7,547	22,800	A	1,146
Jefferson St	Zack St to Twiggs St	CBD	C	CITY	4LU	0.05	04/20/08	7,082	22,800	A	990
Jefferson St	Twiggs St to Kennedy Blvd	CBD	C	CITY	4LU	0.10	04/13/08	5,805	22,800	A	713
Jefferson St	Kennedy Blvd to Jackson St	CBD	C	CITY	4LU	0.05	04/13/08	6,544	22,800	A	728
Jefferson St	Jackson St to Brorein St	CBD	C	CITY	2LU	0.29	04/13/08	6,339	10,300	B	830
Jefferson St	Brorein St to Channelside Dr (East)	CBD	C	CITY	2LO	0.09	04/13/08	3,714	10,300	A	574
Jefferson St	Channelside Dr (East) to Ashley Dr	CBD	C	CITY	2LU	0.12	07/15/95	514	10,300	A	827
Jefferson St/Orange St	Scott St to Cass St	CBD	M	CITY	6LD	0.21	04/13/08	10,011	44,100	A	1,232
Kay St	Tampa St to Franklin St	CBD	OM	CITY	2LO	0.04	01/09/08	7,010	20,571	A	525
Kay St	Franklin St. to Morgan	CBD	OC	CITY	2LO	0.04	11/29/07	12,448	20,571	B	1,159
Kennedy Blvd	I-275 to Hoover Blvd	WS	P	STATE	5LU	0.35	08/10/08	15,758	42,800	A	1,734
Kennedy Blvd	Hoover Blvd to Memorial Hwy	WS	P	STATE	6LD	0.38	08/10/08	21,671	45,000	B	2,246
Kennedy Blvd	Memorial Hwy to Westshore Blvd	WS	P	STATE	6LD	0.29	08/17/08	52,022	45,000	E	4,520
Kennedy Blvd	Westshore Blvd to Lois Ave	WS	P	STATE	6LD	0.63	08/10/08	39,758	45,000	D	3,521
Kennedy Blvd	Lois Ave to Dale Mabry Hwy	WS	P	STATE	5LU	0.50	08/03/08	37,556	29,400	F	3,102
Kennedy Blvd	Dale Mabry Hwy to Himes Ave	WS	P	STATE	5LU	0.21	08/10/08	32,636	29,400	E	2,675
Kennedy Blvd	Himes Ave to Henderson Blvd	CET	P	STATE	5LU	0.40	08/03/08	32,032	29,400	E	2,757

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								Existing			
Kennedy Blvd	Henderson Blvd to MacDill Ave	CET	P	STATE	5LU	0.10	08/17/08	46,912	29,400	F	3,962
Kennedy Blvd	MacDill Ave to Armenia Ave	CET	P	STATE	5LU	0.50	08/17/08	33,914	29,400	E	2,828
Kennedy Blvd	Armenia Ave to Howard Ave	CET	P	STATE	5LU	0.10	08/03/08	33,848	40,800	C	2,898
Kennedy Blvd	Howard Ave(Oregan) to Willow Ave	CET	P	STATE	5LU	0.60	08/10/08	32,405	29,400	E	2,791
Kennedy Blvd	Willow Ave(Hyde Park) to Plant Ave	CET	P	STATE	5LU	0.70	08/10/08	27,135	29,400	D	2,186
Kennedy Blvd	Plant Ave to Hillsborough River	CET	P	STATE	5LU	0.10	08/10/08	36,384	29,400	E	3,282
Kennedy Blvd	Ashley Dr to Tampa St	CBD	OM	STATE	4LO	0.05	08/03/08	12,452	39,071	A	833
Kennedy Blvd	Tampa St to Franklin St	CBD	OM	STATE	4LO	0.05	08/03/08	15,620	39,071	A	1,962
Kennedy Blvd	Franklin St to Florida Ave	CBD	OM	STATE	4LO	0.05	08/03/08	14,617	39,071	A	1,048
Kennedy Blvd	Florida Ave to Marion St	CBD	OM	STATE	4LO	0.05	08/03/08	24,509	39,071	C	1,690
Kennedy Blvd	Marion St to Morgan St	CBD	OM	STATE	4LO	0.05	08/03/08	14,584	40,800	A	1,080
Kennedy Blvd	Morgan St to Pierce St	CBD	OM	STATE	4LO	0.05	08/03/08	14,899	40,800	A	979
Kennedy Blvd	Pierce St to Jefferson St	CBD	OM	STATE	4LO	0.05	08/10/08	15,060	39,071	A	1,014
Kennedy Blvd	Jefferson St to Nebraska Ave	CBD	OM	STATE	4LO	0.24	08/10/08	15,358	40,800	A	968
Kennedy Blvd	Nebraska Ave to Channelside Dr (North)	CBD	M	STATE	4LU	0.26	08/17/08	10,909	40,800	A	1,116
Lake Ave	Florida Ave to Central Ave	CET	C	CITY	2LU	0.34	05/29/08	3,373	10,300	A	316
Lake Ave	Central Ave to Nebraska Ave	CET	C	CITY	2LU	0.25	05/29/08	5,189	10,300	B	481
Lake Ave	Nebraska Ave to 15th St	CET	C	CITY	2LU	0.50	05/14/08	5,265	10,300	B	476
Lake Ave	15th St to 22nd St	CET	C	CITY	2LU	0.50	05/29/08	6,175	10,300	B	570
Lake Ave	22nd St to 34th St	CET	C	CITY	2LU	0.77	06/19/08	3,568	10,300	A	364
Lake Ave	34th St to 40th St	CET	C	CITY	2LU	0.50	05/29/08	5,022	10,300	B	484
Lake Ave	40th St to M.L.K.Jr Blvd	CET	C	CITY	2LU	0.77	05/29/08	3,765	10,300	A	307
Laurel St	Hillsborough River to Tampa St	CBD	NC	CITY	4LU	0.23	05/04/08	2,584	22,800	A	292
Linebaugh Ave	Armenia Ave to Boulevard	CET	C	CITY	2LU	0.76	11/05/06	11,634	10,300	E	1,093
Linebaugh Ave	Boulevard to Florida Ave	CET	C	CITY	2LU	0.49	11/15/06	10,074	10,300	D	1,007
Linebaugh Ave	Florida Ave to I-275	CET	C	CITY	2LU	0.25	12/06/06	3,302	10,300	A	290
Linebaugh Ave	I-275 to Nebraska Ave	NCT	C	CITY	2LU	0.22	11/05/06	4,603	10,300	B	491
Linebaugh Ave	Nebraska Ave to 15th St	NCT	C	CITY	2LU	0.49	11/05/06	5,650	10,300	B	554
Linebaugh Ave	15th St to 22nd St	NCT	C	CITY	2LU	0.49	11/05/06	2,859	10,300	A	321
Linebaugh Ave	22nd St to 30th St	NCT	C	CITY	2LU	0.49	11/05/06	2,488	10,300	A	304
Lois Ave	Henderson Blvd to Swann Ave	INB	C	CITY	2LU	0.76	07/08/08	4,700	10,300	B	464
Lois Ave	Swann Ave to Azeele St	INB	C	CITY	2LU	0.25	07/08/08	5,930	10,300	B	622
Lois Ave	Azeele St to Kennedy Blvd	INB	C	CITY	2LU	0.25	06/24/08	13,893	10,300	F	1,503
Lois Ave	Kennedy Blvd(I-275 S ramp) to I-275 N ramp	WS	C	CITY	4LU	0.57	06/24/08	22,920	38,400	B	2,179
Lois Ave	I-275 N ramp to Cypress St	WS	C	CITY	4LU	0.19	06/24/08	31,511	38,400	C	3,443
Lois Ave	Cypress St to Spruce St	WS	C	CITY	4LU	0.43	06/24/08	17,785	22,800	C	1,773
Lois Ave	Spruce St to Boy Scout Blvd	WS	C	CITY	4LU	0.39	06/24/08	15,534	34,600	B	1,720
Lois Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	WS	C	CITY	2LU	0.50	06/24/08	3,711	10,300	A	439
Lois Ave	M.L.K.Jr Blvd to Hillsborough Ave	WS	C	CITY	2LU	1.00	06/24/08	12,827	10,300	E	1,197
M.L.K.Jr Blvd	Westshore Blvd to Lois Ave	WS	C	CITY	2LU	0.61	08/06/08	4,512	10,300	B	418
M.L.K.Jr Blvd	Lois Ave to Dale Mabry Hwy	WS	C	CITY	2LU	0.50	08/06/08	7,457	10,300	C	634
M.L.K.Jr Blvd	Dale Mabry Hwy to Himes Ave	WS	P	STATE	6LD	0.21	08/27/08	25,307	38,700	C	2,132
M.L.K.Jr Blvd	Himes Ave to MacDill Ave	CET	M	STATE	5LU	0.49	07/27/08	32,452	25,500	F	2,803
M.L.K.Jr Blvd	MacDill Ave to Habana Ave	CET	M	STATE	5LU	0.25	07/27/08	31,349	25,500	E	2,810
M.L.K.Jr Blvd	Habana Ave to Armenia Ave	CET	M	STATE	5LU	0.25	07/27/08	28,778	25,500	E	2,520
M.L.K.Jr Blvd	Armenia Ave to N Boulevard	CET	M	STATE	4LU	1.04	07/27/08	29,622	34,200	D	2,566
M.L.K.Jr Blvd	Boulevard to Highland Ave	CET	M	STATE	4LU	0.32	07/27/08	31,525	34,200	D	2,794
M.L.K.Jr Blvd	Highland Ave to Tampa St	CET	M	STATE	4LU	0.06	07/27/08	29,382	25,500	E	2,515
M.L.K.Jr Blvd	Tampa St to Florida Ave	CET	M	STATE	4LU	0.09	07/27/08	30,563	25,500	E	2,617
M.L.K.Jr Blvd	Central Ave to Marguerite St	CET	M	STATE	4LU	0.33	07/27/08	34,644	25,500	F	3,102
M.L.K.Jr Blvd	Marguerite St to Taliaferro Ave	CET	M	STATE	5LU	0.08	07/27/08	30,930	25,500	E	2,591
M.L.K.Jr Blvd	Taliaferro Ave to Nebraska Ave	CET	M	STATE	4LU	0.09	07/27/08	25,141	38,600	B	2,134
M.L.K.Jr Blvd	15th St to 22nd St	CET	M	STATE	4LU	1.00	07/29/08	24,556	34,200	C	2,366

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M.L.K.Jr Blvd	22nd St to 34th St	CET	M	STATE	5LU	0.80	07/16/06	24,786	34,200	C	1,041
M.L.K.Jr Blvd	34th St to 40th St	CET	M	STATE	5LU	0.50	07/29/08	16,617	38,600	A	1,605
M.L.K.Jr Blvd	40th St to 50th St	CET	M	STATE	2LU	0.77	08/06/08	8,623	16,100	B	801
M.L.K.Jr Blvd	50th St to 56th St (City Limits)	CET	M	STATE	2LU	0.50	06/28/06	11,337	16,100	C	952
MacDill Ave	Kennedy Blvd to Swann Ave	INB	M	CITY	4LU	0.80	03/09/08	18,858	34,200	B	1,570
MacDill Ave	Swann Ave(Morrison) to Bay to Bay Blvd	INB	M	CITY	4LU	1.10	03/09/08	18,615	34,200	B	1,551
MacDill Ave	Bay to Bay Blvd(Euclid Ave) to Gandy Blvd	INB	C	CITY	2LU	1.83	03/25/08	6,737	16,100	B	636
MacDill Ave	Gandy Blvd to Interbay Blvd	INB	C	CITY	2LU	1.10	03/09/08	6,217	16,100	A	816
MacDill Ave	Interbay Blvd to MacDill AFB	INB	C	CITY	2LU	0.90	03/09/08	6,647	16,100	B	1,033
MacDill Ave	Kennedy Blvd(Cypress St) to I-275	CET	M	CITY	4LU	0.74	03/09/08	22,853	20,900	E	2,254
MacDill Ave	I-275 to Spruce St	CET	M	CITY	4LU	0.50	03/09/08	15,102	14,700	D	1,518
MacDill Ave	Spruce St to Columbus Dr	CET	M	CITY	4LU	0.10	03/09/08	14,583	20,900	C	1,158
MacDill Ave	Columbus Dr to Tampa Bay Blvd	CET	C	CITY	2LU	0.49	03/09/08	5,250	10,300	B	422
MacDill Ave	Tampa Bay Blvd to M.L.K.Jr Blvd	CET	C	CITY	2LU	0.49	03/09/08	4,714	10,300	B	455
Madison St	Ashley Dr to Tampa St	CBD	C	CITY	2LD	0.05	08/17/08	2,372	13,650	A	230
Madison St	Tampa St to Franklin St	CBD	C	CITY	2LD	0.05	08/17/08	2,312	13,650	A	226
Madison St	Franklin St(Florida Ave) to Marion St	CBD	C	CITY	2LD	0.10	08/24/08	2,573	13,650	A	366
Madison St	Marion St to Morgan St	CBD	C	CITY	2LD	0.05	08/24/08	2,272	13,650	A	270
Madison St	Morgan St to Pierce St	CBD	C	CITY	2LD	0.05	08/24/08	1,379	13,650	A	146
Main St	MacDill Ave to Armenia Ave	CET	NC	CITY	2LU	0.49	01/30/08	3,715	10,300	A	349
Main St	Armenia Ave to Howard Ave	CET	NC	CITY	2LU	0.11	01/30/08	3,976	10,300	A	363
Main St	Howard Ave to Rome Ave	CET	NC	CITY	2LU	0.30	01/30/08	7,282	10,300	C	627
Main St	Rome Ave to Boulevard	CET	NC	CITY	2LU	0.49	01/30/08	8,127	10,300	C	740
Manhattan Ave	Interbay Blvd to Gandy Blvd	INB	C	CITY	2LU	1.89	04/21/08	6,034	16,100	A	532
Manhattan Ave	Gandy Blvd to Euclid Ave	INB	M	COUNTY	4LD	1.04	04/21/08	19,178	34,200	B	1,687
Manhattan Ave	Euclid Ave(Bay to Bay Blvd) to Henderson Blvc	INB	M	COUNTY	4LU	0.97	04/21/08	18,196	29,400	B	1,706
Maritime Blvd	Hookers Point to 22nd St	CET	C	CITY	2LU	0.98	02/17/08	14,787	10,300	F	1,224
Maydell Dr	Adamo Dr to Palm River(City Lim.)	CET	C	CITY	2LU	0.23	09/14/08	2,672	10,300	A	277
McKinley Dr	Busch Blvd to Busch Gardens Ent.	NCT	M	COUNTY	5LU	0.09	01/20/08	14,806	38,800	A	1,322
McKinley Dr	Busch Gardens Ent. to Bougainvillea Ave	NCT	M	COUNTY	4LD	0.66	01/28/08	12,646	34,200	A	1,358
McKinley Dr	Bougainvillea Ave to Fowler Ave	NCT	M	COUNTY	4LD	0.76	01/20/08	11,842	34,200	A	1,265
Melbourne Blvd	40th St to 50th St	CET	P	STATE	2LU	0.91	03/25/08	6,975	10,300	C	595
Memorial Hwy	Kennedy Blvd to I-275	WS	P	STATE	4LD	0.20	08/05/07	72,520	49,214	F	5,329
Memorial Hwy	I-275 to Spruce St	WS	P	STATE	8LF	0.78	05/22/05	113,182	137,900	C	7,616
Memorial Hwy	Spruce St to Courtney Campbell	WS	P	STATE	8LF	0.71	04/24/05	134,041	137,900	D	10,345
Meridian St	Twiggs St to Jackson Street	CBD	C	CITY	6LU	0.53	11/26/07	10,681	37,250	A	1,168
Meridian St	Jackson St to Cumberland Ave	CBD	C	CITY	6LU	0.53	11/26/07	5,231	37,250	A	604
Morgan St	Scott St to Tyler St	CBD	OC	CITY	3LO	0.05	08/10/08	1,372	31,500	A	123
Morgan St	Tyler St to Cass St	CBD	OC	CITY	3LO	0.05	08/24/08	4,332	31,500	A	492
Morgan St	Cass St to Polk St	CBD	OC	CITY	4LO	0.05	08/10/08	4,282	39,071	A	505
Morgan St	Polk St to Zack St	CBD	OC	CITY	4LO	0.05	08/24/08	2,906	39,071	A	373
Morgan St	Zack St to Twiggs St	CBD	OC	CITY	4LO	0.05	08/10/08	4,053	39,071	A	453
Morgan St	Twiggs St to Madison St	CBD	OC	CITY	4LO	0.05	08/10/08	3,470	39,071	A	439
Morgan St	Madison St to Kennedy Blvd	CBD	OC	CITY	4LO	0.05	08/24/08	3,918	39,071	A	454
Morgan St	Kennedy Blvd to Jackson St	CBD	C	CITY	4LU	0.05	08/10/08	3,856	22,800	A	508
Morgan St	Jackson St to Whiting St	CBD	C	CITY	4LU	0.10	08/24/08	3,881	22,800	A	489
Morgan St	Whiting St to Brorein St	CBD	C	CITY	2LU	0.11	08/17/08	3,830	10,300	A	461
Morgan St	Brorein St to Channelside Dr (East)	CBD	C	CITY	2LU	0.11	08/17/08	2,048	10,300	A	154
Morrison Ave	Dale Mabry Hwy to MacDill Ave	INB	NC	CITY	2LU	0.76	06/03/08	3,312	10,300	A	319
Morrison Ave	MacDill Ave to Howard Ave	INB	NC	CITY	2LU	0.63	06/03/08	3,138	10,300	A	286
Morrison Ave	Howard Ave to Rome Ave	INB	NC	CITY	2LU	0.38	06/03/08	2,275	10,300	A	215
Nebraska Ave	Scott St to Cass St	CBD	M	STATE	4LU	0.22	08/12/08	6,740	29,400	A	610
Nebraska Ave	Cass St to Twiggs St	CBD	M	STATE	4LU	0.10	08/12/08	8,478	29,400	A	887

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			Existing								
Nebraska Ave	Twiggs St to Kennedy Blvd	CBD	M	STATE	4LU	0.14	08/12/08	6,895	29,400	A	820
Nebraska Ave	Kennedy Blvd to Jackson St	CBD	OM	STATE	3LO	0.05	08/12/08	2,970	31,500	A	426
Nebraska Ave	Scott to Henderson Ave	CET	M	STATE	4LU	0.30	08/13/08	13,874	29,400	B	1,250
Nebraska Ave	Henderson Ave to 7th Ave	CET	M	STATE	4LU	0.06	08/13/08	7,046	29,400	A	686
Nebraska Ave	7th Ave to Palm Ave	CET	M	STATE	4LU	0.13	08/13/08	11,359	29,400	A	1,423
Nebraska Ave	Palm Ave to Columbus Dr	CET	M	STATE	4LU	0.30	08/13/08	13,252	29,400	B	1,303
Nebraska Ave	Columbus Dr(21st Ave) to Lake Ave	CET	M	STATE	4LU	0.74	02/21/06	17,706	29,400	B	1,467
Nebraska Ave	Lake Ave to M.L.K.Jr Blvd	CET	M	STATE	4LU	0.25	08/13/08	14,742	29,400	B	1,213
Nebraska Ave	M.L.K.Jr Blvd to Osborne Ave	CET	M	STATE	4LU	0.50	09/08/08	15,036	29,400	B	1,464
Nebraska Ave	Osborne Ave to Hillsborough Ave	CET	M	STATE	4LU	0.50	09/08/08	14,540	29,400	B	1,291
Nebraska Ave	Hillsborough Ave to Hanna Ave	CET	M	STATE	4LU	0.50	09/08/08	20,510	29,400	C	1,964
Nebraska Ave	Hanna Ave to Sligh Ave	CET	M	STATE	4LU	0.50	09/08/08	20,779	29,400	C	1,823
Nebraska Ave	Sligh Ave(Bird St) to Waters Ave	CET	M	STATE	4LU	0.88	09/08/08	22,105	29,400	C	1,835
Nebraska Ave	Waters Ave to Yukon St	CET	M	STATE	4LU	0.28	09/08/08	21,627	29,400	C	1,770
Nebraska Ave	Yukon St to Busch Blvd	CET	M	STATE	4LU	0.25	08/26/07	22,765	29,400	C	1,679
Nebraska Ave	Busch Blvd to Linebaugh Ave	NCT	M	STATE	5LU	0.49	09/16/08	22,568	29,400	C	1,714
Nebraska Ave	Linebaugh Ave to Bougainvillea Ave	NCT	M	STATE	5LU	0.25	09/16/08	24,852	29,400	C	1,944
Nebraska Ave	Bougainvillea Ave to 109th Ave	NCT	M	STATE	5LU	0.25	09/16/08	23,727	29,400	C	1,890
Nebraska Ave	109th Ave to Fowler Ave	NCT	M	STATE	5LU	0.49	09/16/08	19,987	29,400	C	1,590
Neptune St	Henderson Blvd(Frankland Rd) to Himes Ave	INB	NC	CITY	2LU	0.51	07/17/08	4,191	10,300	A	399
New Tampa Blvd	Power Easement to I-75	UN	M	COUNTY	0L	2.49	01/01/96	0	0	A	0
New Tampa Blvd	I-75 to CR 581W	UN	M	CITY	2LU	1.73	01/13/08	4,117	13,400	A	400
Nuccio Pkwy	15th St to Palm Ave	CET	C	CITY	5LU	0.40	07/21/08	5,341	22,800	A	681
Nuccio Pkwy	Palm Ave to 7th Ave	CET	C	CITY	5LU	0.19	01/16/08	7,932	22,800	A	880
Nuccio Pkwy	7th Ave to Nebraska Ave	CET	C	CITY	5LU	0.44	01/09/08	6,609	22,800	A	726
NW X-Way (Toll Rd)	Spruce St to Courtney Campbell	WS	I	STATE	6LF	0.50	01/01/96	118,000	103,400	E	10,974
NW X-Way (Toll Rd)	Courtney Campbell to Memorial Hwy	WS	I	STATE	6LF	1.00	01/01/96	136,000	103,400	F	8,370
NW X-Way (Toll Rd)	Memorial Hwy to Hillsborough Ave	WS	I	STATE	6LF	0.75	01/01/96	99,000	103,400	D	10,044
NW X-Way FRT E	Courtney Campbell to Hillsborough Ave	WS	C	STATE	4LU	2.25	04/08/02	33,500	22,800	F	512
Orient Rd	Adamo Dr to Broadway Ave	CET	C	COUNTY	2LU	0.98	09/14/08	6,128	10,300	B	550
Osborne Ave	Boulevard(Highland) to Florida Ave	CET	C	CITY	2LU	0.43	07/10/08	1,978	10,300	A	223
Osborne Ave	Florida Ave to Nebraska Ave	CET	C	CITY	2LU	0.49	07/10/08	3,560	10,300	A	360
Osborne Ave	Nebraska Ave to 15th St	CET	C	CITY	2LU	0.50	07/10/08	2,016	10,300	A	215
Osborne Ave	15th St to 22nd St	CET	C	CITY	2LU	0.50	07/10/08	2,232	10,300	A	231
Osborne Ave	22nd St to 34th St	CET	C	CITY	2LU	0.70	08/06/08	2,581	10,300	A	285
Osborne Ave	34th St to 40th St	CET	C	CITY	2LU	0.60	07/10/08	3,300	10,300	A	300
Palm Ave	Boulevard to Tampa St	CET	C	CITY	4LU	0.42	04/01/08	12,893	22,800	B	1,867
Palm Ave	Tampa St to Florida Ave	CET	C	CITY	4LU	0.09	04/01/08	9,621	22,800	B	1,311
Palm Ave	Florida Ave to Nebraska Ave	CET	C	CITY	4LU	0.49	04/01/08	14,772	22,800	C	1,824
Palm Ave	Nebraska Ave(Nuccio Pkwy) to 15th St	CET	C	CITY	5LU	0.50	04/01/08	9,175	34,200	A	1,079
Palm Ave	15th St to 22nd St	CET	C	CITY	5LU	0.05	04/09/08	7,540	34,200	A	478
Pierce St	Tyler St to Cass St	CBD	OC	CITY	4LO	0.05	08/24/08	440	39,071	A	44
Pierce St	Cass St to Polk St	CBD	OC	CITY	4LO	0.05	08/24/08	9,099	39,071	A	618
Pierce St	Polk St to Zack St	CBD	OC	CITY	4LO	0.05	08/24/08	9,031	39,071	A	549
Pierce St	Zack St to Twiggs St	CBD	OC	CITY	4LO	0.05	08/24/08	7,763	39,071	A	552
Pierce St	Twiggs St to Madison St	CBD	OC	CITY	4LO	0.05	08/24/08	6,105	39,071	A	371
Pierce St	Madison St to Kennedy Blvd	CBD	OC	CITY	4LO	0.05	08/24/08	7,115	39,071	A	507
Pierce St	Kennedy Blvd to Jackson St	CBD	OC	CITY	4LO	0.05	08/24/08	5,406	39,071	A	465
Pierce St	Jackson to Whiting	CBD	OC	CITY	2LO	0.10	08/24/08	3,546	20,571	A	300
Plant Ave	Kennedy Blvd to Cleveland St	INB	OM	CITY	2LO	0.19	05/13/08	5,317	21,000	A	475
Plant Ave	Cleveland St to Platt St	INB	OM	CITY	2LO	0.11	06/02/08	11,936	21,000	B	1,248
Plant Ave	Platt St to Davis Is Bridge	INB	OM	CITY	2LO	0.20	05/13/08	13,539	21,000	C	1,250
Platt St (Park City Way)	Azeele St to Armenia Ave	INB	OM	CITY	3LO	0.08	04/22/08	12,383	32,143	A	1,462

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Platt St	Armenia Ave to Willow Ave	INB	OM	CITY	3LO	0.76	04/22/08	12,075	32,143	A	1,291
Platt St	Willow Ave to Boulevard	INB	OM	CITY	3LO	0.27	05/13/08	13,739	32,143	B	1,330
Platt St	Boulevard to Hyde Park Ave	INB	OM	CITY	3LO	0.28	05/13/08	18,614	32,143	B	1,602
Platt St	Hyde Park Ave(Plant Ave) to Bayshore Blvd	INB	OM	CITY	2LO	0.25	05/13/08	10,913	21,000	B	1,087
Polk St	Ashley Dr to Tampa St	CBD	OC	CITY	2LO	0.05	12/12/07	2,391	20,571	A	289
Polk St	Tampa St to Franklin St	CBD	OC	CITY	2LO	0.05	12/12/07	2,225	20,571	A	407
Polk St	Franklin St to Florida Ave	CBD	OC	CITY	2LO	0.05	12/12/07	1,704	20,571	A	276
Polk St	Florida Ave to Marion St	CBD	OC	CITY	2LO	0.05	12/12/07	1,945	20,571	A	328
Polk St	Marion St to Morgan St	CBD	OC	CITY	2LO	0.05	12/12/07	1,977	20,571	A	253
Polk St	Morgan St to Pierce St	CBD	OC	CITY	2LO	0.05	01/08/08	2,913	20,571	A	322
Polk St	Pierce St to Jefferson St	CBD	OC	CITY	2LO	0.05	12/11/07	1,191	20,571	A	148
River Hills Dr	22nd St to 26th St	CET	C	CITY	2LU	0.36	01/27/08	6,901	10,300	C	785
River Hills Dr	40th St to 46th St	CET	C	CITY	2LU	0.25	04/09/08	4,387	10,300	B	448
River Hills Dr	46th St to City Limits	CET	C	CITY	2LU	0.55	04/09/08	2,034	10,300	A	200
Rome Ave	M.L.K.Jr Blvd(Wishart Blvd) to Hillsborough Av	CET	C	CITY	2LU	1.00	07/17/08	3,971	10,300	A	305
Rome Ave	Hillsborough Ave to Sligh Ave	CET	C	CITY	2LU	0.98	07/17/08	3,914	10,300	A	497
Rome Ave	Sligh Ave to Waters Ave	CET	C	CITY	2LU	0.98	07/17/08	2,246	10,300	A	239
Rome/Snow/Dakota	Bayshore Blvd(Morrison Ave) to Swann Ave	INB	L	CITY	2LU	0.89	08/05/08	3,833	10,300	A	340
Rowlett Park Dr	Waters Ave to 22nd St	CET	C	CITY	2LU	0.28	01/27/08	5,462	10,300	B	456
Rowlett Park Dr	22nd St to Sligh Ave	CET	C	CITY	2LU	0.83	01/27/08	8,704	10,300	D	808
San Miguel	Himes Ave to Frankland Rd	INB	NC	CITY	2LU	0.08	01/16/08	3,599	10,300	A	375
Scott St	Tampa St to Florida Ave	CBD	OM	CITY	3LO	0.07	04/20/08	6,128	31,500	A	515
Scott St	Florida Ave to Jefferson/Orange	CBD	OM	CITY	3LO	0.24	04/20/08	11,292	31,500	A	1,209
Serena Dr	46th St to 50th St	NCT	C	CITY	2LU	0.51	01/22/08	3,855	10,300	A	505
Serena Dr	50th St to 52nd St (City Limits)	NCT	C	CITY	2LU	0.20	01/22/08	2,868	10,300	A	314
Sligh Ave	Armenia Ave to Rome Ave	CET	M	COUNTY	4LU	0.53	02/03/08	26,726	23,200	E	2,746
Sligh Ave	Rome Ave to Boulevard	CET	M	COUNTY	4LU	0.49	02/03/08	23,837	28,900	C	2,405
Sligh Ave	Boulevard to Florida Ave	CET	M	COUNTY	4LU	0.49	02/03/08	25,488	39,800	B	2,359
Sligh Ave	Florida Ave to I-275	CET	M	COUNTY	4LU	0.30	02/03/08	22,797	39,800	B	2,044
Sligh Ave	I-275 to Nebraska Ave	CET	M	COUNTY	4LU	0.22	02/03/08	17,639	29,400	B	1,449
Sligh Ave	Nebraska Ave to 15th St	CET	C	CITY	2LU	0.50	02/03/08	5,590	39,800	A	593
Sligh Ave	15th St to 22nd St	CET	C	CITY	2LU	0.49	02/03/08	5,256	16,300	A	565
Sligh Ave	22nd St to Rowlett Park Dr	CET	C	CITY	2LU	0.28	02/03/08	13,727	39,800	A	1,259
Sligh Ave	Rowlett Park Dr to 30th St	CET	C	CITY	2LU	0.25	02/12/08	6,245	23,200	A	635
Spruce St	Lois Ave to Dale Mabry Hwy	WS	NC	CITY	2LU	0.61	06/03/08	7,750	15,200	B	935
Spruce St	Dale Mabry Hwy to Himes Ave	WS	NC	CITY	2LU	0.21	06/03/08	9,019	10,300	D	859
Spruce St	Himes Ave to MacDill Ave	CET	NC	CITY	2LU	0.49	06/03/08	3,648	10,300	A	339
Swann Ave	Lois Ave to Dale Mabry Hwy	INB	C	CITY	2LU	0.49	06/19/08	2,662	10,300	A	322
Swann Ave	Dale Mabry Hwy to Henderson Blvd	INB	C	CITY	2LU	0.25	06/19/08	7,987	10,300	C	706
Swann Ave	Henderson Blvd to MacDill Ave	INB	C	CITY	2LU	0.62	06/19/08	6,189	10,300	B	568
Swann Ave	MacDill Ave to Howard Ave	INB	C	CITY	2LU	0.53	06/19/08	14,185	10,300	F	1,240
Swann Ave	Howard Ave(Boulevard) to Bayshore Blvd	INB	C	CITY	2LU	1.12	06/19/08	4,419	10,300	B	395
Tampa Bay Blvd	Westshore Blvd to Lois Ave	WS	C	CITY	4LU	0.61	06/19/08	2,543	22,800	A	225
Tampa Bay Blvd	Lois Ave to Dale Mabry Hwy	WS	C	CITY	2LD	0.50	06/04/08	8,261	10,300	C	786
Tampa Bay Blvd	Dale Mabry Hwy to Himes Ave	WS	C	CITY	4LD	0.21	06/04/08	7,128	22,800	A	773
Tampa Bay Blvd	Himes Ave to MacDill Ave	CET	C	CITY	2LU	0.50	06/04/08	6,527	10,300	C	694
Tampa Bay Blvd	MacDill Ave(Habana Ave) to Armenia Ave	CET	C	CITY	2LU	0.50	06/04/08	7,786	10,300	C	818
Tampa Palms N	CR 581 to Power Easement	UN	C	CITY	4LD	2.50	05/05/04	5,636	22,800	A	472
Tampa Palms N	Easement Road to CR 581	UN	C	CITY	4LD	2.00	01/20/08	7,857	22,800	A	786
Tampa Palms S	CR 581 to Power Easement	UN	C	CITY	4LD	1.70	05/05/04	10,796	22,800	B	891
Tampa Palms S	Power Easement to CR 581	UN	C	CITY	4LD	0.80	01/20/08	7,150	22,800	A	702
Tampa St	M.L.K.Jr Blvd to Lake Ave	CET	OM	STATE	3LO	0.95	03/02/08	7,608	36,571	A	501
Tampa St	Lake Ave to Floribraska Ave	CET	OM	STATE	3LO	0.30	03/09/08	7,338	36,571	A	461

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Tampa St	Floribraska Ave to Columbus Dr	CET	OM	STATE	3LO	0.27	03/02/08	10,380	36,571	A	656
Tampa St	Columbus Dr to Palm Ave	CET	OM	STATE	3LO	0.32	03/09/08	7,708	36,571	A	522
Tampa St	Palm Ave to Scott St	CET	OM	STATE	3LO	0.38	03/31/08	10,181	36,571	A	719
Tampa St	Scott St to Tyler St	CBD	OM	STATE	3LO	0.26	03/02/08	6,268	31,500	A	417
Tampa St	Tyler St to Cass St	CBD	OM	STATE	3LO	0.05	03/02/08	13,337	31,500	B	950
Tampa St	Cass St to Polk St	CBD	OM	STATE	3LO	0.05	03/04/08	13,457	31,500	B	1,007
Tampa St	Polk St to Zack St	CBD	OM	STATE	3LO	0.05	03/09/08	13,877	31,500	B	959
Tampa St	Zack St to Twiggs St	CBD	OM	STATE	3LO	0.05	03/25/08	13,057	31,500	B	967
Tampa St	Twiggs St to Madison St	CBD	OM	STATE	3LO	0.05	03/09/08	19,432	31,500	B	1,419
Tampa St	Madison St to Kennedy Blvd	CBD	OM	STATE	3LO	0.05	03/09/08	13,981	31,500	B	1,062
Tampa St	Kennedy Blvd to Jackson St	CBD	OM	STATE	3LO	0.05	03/02/08	13,326	31,500	B	1,054
Tampa St	Jackson St to Brorein St(Whiting St)	CBD	OM	CITY	3LO	0.21	03/02/08	10,891	31,500	A	1,023
Tampa St	Brorein St to Franklin	CBD	OM	CITY	2LO	0.05	03/02/08	6,489	20,571	A	455
Trask St	Boy Scout to Cypress St	WS	C	CITY	2LU	0.50	05/13/08	4,583	10,300	B	617
Trask St	Cypress St to Kennedy Blvd	WS	C	CITY	2LU	0.73	05/13/08	1,097	10,300	A	141
Twiggs St	Ashley Dr to Tampa St	CBD	OC	CITY	3LO	0.05	04/06/08	4,289	31,500	A	357
Twiggs St	Tampa St to Franklin St	CBD	OC	CITY	3LO	0.05	04/06/08	6,319	31,500	A	600
Twiggs St	Franklin St to Florida Ave	CBD	OC	CITY	3LO	0.05	04/06/08	6,637	31,500	A	663
Twiggs St	Florida Ave to Marion St	CBD	C	CITY	3LO	0.05	04/13/08	7,231	31,500	A	588
Twiggs St	Marion St to Morgan St	CBD	OC	CITY	3LO	0.05	05/04/08	7,231	31,500	A	589
Twiggs St	Morgan St to Pierce St	CBD	OC	CITY	4LO	0.05	04/13/08	8,076	39,071	A	668
Twiggs St	Pierce St to Jefferson St	CBD	OC	CITY	4LU	0.05	04/13/08	9,766	22,800	B	839
Twiggs St	Jefferson St to Nebraska Ave	CBD	C	CITY	4LU	0.20	04/20/08	11,330	22,800	B	512
Twiggs St	Nebraska Ave to Channelside Dr (North)	CBD	C	CITY	4LU	0.29	04/13/08	7,725	22,800	A	742
Tyler St	Cass St to Ashley Dr	CBD	OM	CITY	3LO	0.14	04/06/08	6,072	31,500	A	525
Tyler St	Ashley Dr to Tampa St	CBD	OC	CITY	3LO	0.05	04/06/08	4,496	31,500	A	416
Tyler St	Tampa St to Franklin St	CBD	OC	CITY	3LO	0.05	04/06/08	3,707	31,500	A	313
Tyler St	Franklin St to Florida Ave	CBD	OC	CITY	3LO	0.05	04/06/08	3,681	31,500	A	294
Tyler St	Florida Ave to Marion St	CBD	OC	CITY	3LO	0.05	04/06/08	2,675	31,500	A	236
Tyler St	Marion St to Morgan St	CBD	OC	CITY	3LO	0.05	04/06/08	5,377	31,500	A	467
Tyler St	Morgan St to Jefferson St	CBD	OC	CITY	3LO	0.08	04/06/08	2,702	31,500	A	204
Washington St	Florida Ave to Jefferson St	CBD	C	CITY	2LU	0.21	05/04/08	1,883	10,300	A	249
Waters Ave	City Limits to Armenia Ave	CET	P	COUNTY	5LU	0.09	01/27/08	36,211	34,200	E	2,552
Waters Ave	Armenia Ave to Rome Ave	CET	P	COUNTY	4LU	0.49	01/27/08	30,736	34,200	D	2,412
Waters Ave	Rome Ave to Boulevard	CET	P	COUNTY	4LU	0.49	01/27/08	29,319	34,200	C	2,316
Waters Ave	Boulevard to Florida Ave	CET	P	COUNTY	4LU	0.49	01/27/08	28,848	34,200	C	2,242
Waters Ave	Florida Ave to Nebraska Ave	CET	M	CITY	4LU	0.49	01/27/08	14,185	22,800	B	1,261
Waters Ave	Nebraska Ave to 22nd St	CET	C	CITY	2LU	0.98	01/27/08	4,819	10,300	B	457
Westshore Blvd	Kennedy Blvd to I-275	WS	P	COUNTY	6LD	0.49	02/10/08	42,133	46,800	D	3,821
Westshore Blvd	I-275 to Cypress St	WS	P	COUNTY	4LD	0.50	02/10/08	40,605	31,100	F	3,452
Westshore Blvd	Cypress St to Spruce/Boy Scout	WS	P	COUNTY	4LD	0.54	02/10/08	31,737	31,100	D	3,088
Westshore Blvd	Tampa Bay Blvd to M.L.K.Jr Blvd	WS	C	CITY	2LU	0.50	02/10/08	2,766	11,680	A	471
Westshore Blvd	M.L.K.Jr Blvd to Hillsborough Ave	WS	C	CITY	2LU	1.00	02/10/08	15,675	11,680	F	1,560
Westshore Blvd	Interbay Blvd to Bay Ave	INB	C	COUNTY	2LD	0.89	02/10/08	15,195	15,330	D	1,141
Westshore Blvd	Bay Ave to Gandy Blvd	INB	C	COUNTY	2LD	0.95	02/10/08	16,021	15,330	D	1,339
Westshore Blvd	Gandy Blvd(El Prado) to Bay to Bay Blvd	INB	M	COUNTY	2LU	1.80	02/10/08	22,039	11,680	F	1,671
Westshore Blvd	Bay to Bay Blvd(Swann) to Azeele St	INB	M	COUNTY	2LU	1.44	02/10/08	16,480	11,680	F	1,424
Westshore Blvd	Azeele St to Kennedy Blvd	INB	M	COUNTY	4LD	0.25	02/10/08	27,882	34,200	C	2,220
Whiting St	Jefferson St to Nebraska Ave	CBD	C	CITY	2LU	0.26	04/20/08	2,051	10,300	A	222
Whiting St	Jefferson St to Morgan St	CBD	C	CITY	2LU	0.11	04/20/08	3,789	10,300	A	490
Whiting St	Morgan St to Florida Ave	CBD	C	CITY	2LU	0.11	04/20/08	2,588	10,300	A	332
Whiting St	Florida Ave to Tampa St	CBD	C	CITY	2LU	0.11	04/20/08	5,614	10,300	B	501
Whiting St	Tampa St to Ashley Dr	CBD	C	CITY	2LU	0.03	04/20/08	4,667	10,300	B	475
Willow Ave	Cass St to Kennedy Blvd	CET	C	CITY	2LU	0.35	06/18/08	3,576	10,300	A	351

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Willow Ave	Kennedy Blvd to Platt St(Cleveland St)	INB	C	CITY	2LU	0.20	06/18/08	9,864	10,300	D	988
Willow Ave	Main St to I-275(Green St)	CET	C	CITY	2LU	0.08	06/18/08	6,778	10,300	C	250
Willow Ave	I-275(Green St) to Cypress St	CET	C	CITY	2LU	0.28	06/18/08	4,301	10,300	B	414
Willow Ave	Cypress St to Cass St	CET	C	CITY	2LU	0.13	06/18/08	3,116	10,300	A	304
Wishart Blvd	Armenia Ave to Rome Ave	CET	NC	CITY	2LU	0.72	06/04/08	2,976	10,300	A	315
Wishart Blvd	Rome Ave to Hillsborough Ave	CET	NC	CITY	2LU	0.63	06/04/08	1,463	10,300	A	139
Yukon St	Florida Ave to Nebraska Ave	CET	C	CITY	2LU	0.46	01/22/08	4,549	10,300	B	481
Yukon St	26th St to 30th St	CET	C	CITY	2LU	0.27	01/22/08	5,865	10,300	B	555
Yukon St	30th St to 40th St	CET	C	CITY	2LU	0.59	01/22/08	3,014	10,300	A	325
Zack St	Ashley Dr to Tampa St	CBD	OC	CITY	3LO	0.05	05/04/08	4,610	31,500	A	483
Zack St	Tampa St to Franklin St	CBD	OC	CITY	3LO	0.05	05/04/08	7,668	31,500	A	670
Zack St	Franklin St to Florida Ave	CBD	OC	CITY	3LO	0.05	05/04/08	6,035	31,500	A	523
Zack St	Florida Ave to Marion St	CBD	OC	CITY	3LO	0.05	05/04/08	3,777	31,500	A	365
Zack St	Marion St to Morgan St	CBD	OC	CITY	3LO	0.05	05/04/08	3,288	31,500	A	329
Zack St	Morgan St to Pierce St	CBD	OC	CITY	3LO	0.05	05/04/08	2,865	31,500	A	278
Zack St	Pierce St to Jefferson St	CBD	OC	CITY	3LO	0.05	05/04/08	2,530	31,500	A	289
Zack St	Jefferson St to Nebraska	CBD	C	CITY	2LU	0.20	05/04/08	2,036	10,300	A	215

***Functional Classification of roads**

P-Principal Arterial
M- Minor arterial
C-Collector
OM-one-way minor arterial
OC-one-way collector
I-Interstate
NC- Neighborhood collector

FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
0001		SR 45/US 41/NEBRASKA, NORTH OF SR 685/BUS 41/FLA	N	22000	S	21500	43500 C	9.13F	9.00	55.29F	52.82	3.38A
0002		US 41,S.OF FLORIDA AVE./NEBRASKA AVE. APEX.	N	13500	S	11500	25000 C	9.13F	9.00	55.29F	52.82	4.34A
0003		US 41/SR 45/50TH ST, N OF SR 676/CAUSEWAY BLVD	N	10500	S	11500	22000 C	9.13F	9.00	55.29F	52.82	12.92P
0004		US 41/SR 45/50TH ST, S OF SR 676/CAUSEWAY BLVD	N	17000	S	18000	35000 C	9.13F	9.00	55.29F	52.82	11.03A
0005		SR 45/US 41, SOUTH OF 19TH AVE. SO.	N	8500	S	8400	16900 C	9.13F	9.00	55.29F	52.82	3.80A
0006		SR 45/US 41, BRIDGE AT LITTLE MANATEE RIVER	N	7900	S	7700	15600 C	9.13F	9.00	55.29F	52.82	7.29A
0008		US 301/SR43, S OF GIBSONTON DR	N	14500	S	14500	29000 C	9.13F	9.00	55.29F	52.82	5.55P
0010		US 301, SOUTH OF THE INTERCHANGE OF I-4 AND US 9	N	17500E	S	19500E	37000 E	9.13F	9.00	55.29F	52.82	8.42P
0011		SR 574/ML KING BLVD, EAST OF MCINTOSH ROAD	E	5300	W	5100	10400 C	9.13F	9.00	55.29F	52.82	5.42F
0012		EAST OF DOVER ROAD	E	14500	W	15000	29500 C	9.13F	9.50	55.29F	52.82	5.84F
0020		SR 580/HILLSBOROUGH AVE, WEST OF MEMORIAL BLVD	E	28500	W	31500	60000 C	9.13F	9.00	55.29F	52.82	3.06A
0021		SR 60/KENNEDY BLVD, WEST OF WESTSHORE BLVD.	E	29500	W	25000	54500 C	9.13F	9.00	55.29F	52.82	1.96A
0022		SR 676/CAUSEWAY BLVD, W OF US 41/SR 45/50TH ST	E	8000	W	7900	15900 C	9.13F	9.00	55.29F	52.82	8.41F
0023		SR 674, EAST OF CR 39 FT. LONESOME	E	1400	W	1400	2800 C	9.13F	9.50	55.29F	52.82	23.67F
0024		SR 60/ADAMO DRV, E OF US301	E	25000	W	26000	51000 C	9.13F	9.00	55.29F	52.82	6.47F
0026		SR676/22ND ST CSWY, S OF HILLSBOROUGH AVE	N	6200	S	6400	12600 C	9.13F	9.00	55.29F	52.82	4.69A

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION		DIRECTION 1		DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
0027		EAST OF MAIN CHANNEL BRIDGE ON COURTNEY CAMPBELL		E 24500E	W	24500E	49000 S	9.13F	9.00	55.29F	52.82	5.51P
0028		SR 600/US 92, EAST OF GANDY BRIDGE		E 16500	W	17000	33500 C	9.13F	9.00	55.29F	52.82	5.64A
0029		SR 60/KENNEDY BLVD, EAST OF HILLS. RIVER BRIDGE		E 15000	W	22000	37000 C	9.13F	9.00	55.29F	52.82	2.32A
0030		SR 676/22ND ST CSWY, W OF SR 43/US 301	305	E 8900	W	9400	18300 C	9.13F	9.00	55.29F	52.82	9.60A
0033		US 41(BUS)/SR 45/22ND ST CSWY, W OF US 41/SR 45		E 12500	W	13000	25500 C	9.13F	9.00	55.29F	52.82	6.38A
0034		SR 39/COLLINS ST., SOUTH OF SR 600/BAKER ST.		N 3300	S	2200	5500 C	9.13F	9.00	55.29F	52.82	3.38P
0036		SR 600/US 92, WEST OF FALKENBURG RD.		E 7400	W	6800	14200 C	9.13F	9.00	55.29F	52.82	9.12A
0037		SR 43/US 301 NORTH OF SR 674		N 5100	S	4800	9900 C	9.13F	9.00	55.29F	52.82	11.49A
0038		SR 600/HILLSBOROUGH AVE, EAST OF HARNEY RD.		E 25000	W	24500	49500 C	9.13F	9.00	55.29F	52.82	10.90P
0040		SR43/US301, SOUTH OF SR 60	304	N 17000E	S	18500E	35500 F	9.13F	9.00	55.29F	52.82	5.55F
0041		SR 39, NORTH OF SR 60		N 8000	S	8100	16100 C	9.13F	9.00	55.29F	52.82	9.33A
0044		US 301/SR 43, N OF BLOOMINGDALE AVE		N 28000	S	28000	56000 C	9.13F	9.00	55.29F	52.82	5.41A
0046		SR 60, WEST OF SR 39		E 10500	W	10500	21000 C	9.13F	9.00	55.29F	52.82	9.54A
0047		EAST OF CR 640, LITHIA ROAD, BRANDON		E 28500	W	28500	57000 C	9.13F	9.00	55.29F	52.82	4.09A
0048		SR 60/ADAMO DR, E OF FAULKENBURG RD		E 33000	W	33000	66000 C	9.13F	9.00	55.29F	52.82	6.47F
0050		SR 41/US 301, 0.25 MI N OF STACY RD		N 5800	S	5900	11700 C	9.13F	9.50	55.29F	52.82	11.07A

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2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
0051		SR 45/ US 41, SOUTH OF CR 672 (BIG BEND ROAD)	N	13000	S	12500	25500	C	9.13F	9.00	55.29F	52.82	6.48P
0053		SR 600/HILLSBOROUGH AVE., EAST OF KINGSWAY ROAD	E	4600E	W	4700E	9300	F	9.13F	9.00	55.29F	52.82	8.74P
0054		HILLSBOROUGH AV E, W OF CR 579	E	7600	W	7400	15000	C	9.13F	9.00	55.29F	52.82	13.65F
0058		SR 574/MLK AVE, WEST OF CR 579/MANGO RD	E	18500	W	17500	36000	C	9.13F	9.00	55.29F	52.82	4.17A
0059		SR 41/US 301, N OF SR 400/SR600 INTERCHANGE	N	15500	S	14000	29500	C	9.13F	9.00	55.29F	52.82	9.83A
0060		SR 41/US 301, NORTH OF SR 582/FOWLER AVE	N	8900	S	9600	18500	C	9.13F	9.00	55.29F	52.82	12.19A
0062		SR 685/BUS US 41/FLORIDA AVE, NORTH OF FOWLER AV	N	12000	S	13500	25500	C	9.13F	9.00	55.29F	52.82	3.25P
0063		SR 573/SOUTH DALE MABRY, NORTH OF MACDILL A.F.B.	N	11500	S	11000	22500	C	9.13F	9.00	55.29F	52.82	4.42A
0066		SR 39/WHEELER ST, SOUTH OF SAM ALLEN RD	N	6800	S	7600	14400	C	9.13F	9.00	55.29F	52.82	12.88A
0068		SR 39, NORTH OF CR 39B (PARK ROAD EXTENSION)	N	11000	S	12000	23000	C	9.13F	9.00	55.29F	52.82	5.67A
0072		SR 582/FOWLER AVE, WEST OF SR 41/US 301	E	9000	W	9100	18100	C	9.13F	9.00	55.29F	52.82	10.79A
0080	T	SR-600/US-92, W OF TURKEY CREEK RD,HILLS. CO	E	0E	W	0E	12800	F	9.73D	9.33	55.52D	57.80	5.46D
0084		SR 400/I-4, EAST OF PARK ROAD EXCHANGE	E	50000	W	50500	100500	C	8.54F	8.50	52.48F	52.82	15.45A
0085		SR 43/US 301, N OF MANATEE COUNTY LINE	N	1900	S	1700	3600	C	9.13F	9.00	55.29F	52.82	13.39A
0086		SR 400/I-4, WEST OF ALEXANDER STREET	E	46500	W	47000	93500	C	8.54F	8.50	52.48F	52.82	16.18A
0087		SR 400/I4, W OF SR566/THONOTOSASSA RD.	E	53500	W	54000	107500	C	8.54F	8.50	52.48F	52.82	14.90A

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
0088		SR 400/I-4 AT ATR-106, WEST OF BETHLEHEM ROAD	E	54500	W	56000	110500	C	8.54F	8.50	52.48F	52.82	15.77A
0089		SR 400/I-4, EAST OF CR 579 (MANGO ROAD)	E	66000	W	62500	128500	C	8.54F	8.50	52.48F	52.82	8.92F
0091		SR 400/I-4, EAST OF SR 600/US 92 INTERCHANGE	E	70000	W	70500	140500	C	8.54F	8.50	52.48F	52.82	9.21A
0100		THONOTOSASSA ROAD SOUTH OF I-4	N	11000	S	10000	21000	C	9.13F	9.00	55.29F	52.82	4.80A
0104		SR 400/I-4, NORTHEAST OF ORIENT ROAD	E	55500	W	59500	115000	C	8.54F	8.50	52.48F	52.82	7.69A
0106	T	SR-400/I-4,UNDER BETHLEHAM RD OVERPASS,HILLS. CO	E	57211	W	58143	115354	C	8.54A	8.50	52.48A	53.55	12.21A
0109		SR 678/BEARSS AVE, WEST OF SR 45/US 41/NEBRASKA	E	27000	W	23000	50000	C	9.13F	9.00	55.29F	52.82	3.06A
0112		SR 400/I4, EAST OF SR 39 INTERCHANGE	E	50500	W	50500	101000	C	8.54F	8.50	52.48F	52.82	16.05A
0113		SR 574/MLK AVE, EAST OF SR 400/I-4	E	19500	W	18000	37500	C	9.13F	9.00	55.29F	52.82	5.11A
0114		SR 574/MLK AVE, EAST OF SR 43/US 301	E	18000	W	17500	35500	C	9.13F	9.00	55.29F	52.82	4.47A
0115		SR 574/ML KING BLVD, E OF MANGO RD/CR 579	E	14500	W	13500	28000	C	9.13F	9.00	55.29F	52.82	4.05A
0118		SR 582/FOWLER AVE, AT HILLSBOROUGH RIVER	E	30000	W	30500	60500	C	9.13F	9.00	55.29F	52.82	6.74F
0124		SR 45/US 41, NORTH OF FLETCHER AVE.	N	12000	S	13000	25000	C	9.13F	9.00	55.29F	52.82	5.96P
0131		SR 674 WEST OF SR 43/US 301	E	11500	W	11500	23000	C	9.13F	9.00	55.29F	52.82	5.55A
0133		SR 574, WEST OF TURKEY CREEK RD.	E	5100	W	4800	9900	C	9.13F	9.00	55.29F	52.82	8.04A
0140		SR 674, EAST OF US 41	E	7800	W	8100	15900	C	9.13F	9.00	55.29F	52.82	6.60A

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0141		SR 674, WEST OF SR 93/I-75	E	13500	W	13500	27000	C	9.13F	9.00	55.29F	52.82	5.41A
0142		SR 674, EAST OF SR 93/I-75	E	18000	W	18500	36500	C	9.13F	9.00	55.29F	52.82	4.75A
0143		SR 93/I-75, SOUTH OF CR 672 (BIG BEND ROAD)	N	30500	S	32000	62500	C	8.99F	8.50	55.49F	52.82	16.40A
0144		SR 93/I-75, NORTH OF SR 672 (BIG BEND ROAD)	N	46000	S	45000	91000	C	8.99F	8.50	55.49F	52.82	11.48A
0146		SR 93/I-75, NORTH OF GIBSONTON DRIVE	N	56500	S	54500	111000	C	8.99F	8.50	55.49F	52.82	11.96A
0147		SR 93/I-75, NORTH OF SR 43/US 301	N	45000	S	43500	88500	C	8.99F	8.50	55.49F	52.82	12.93A
0148		SR 93A/I-75, SOUTH OF SR 60	N	31000	S	36500	67500	C	8.99F	8.50	55.49F	52.82	9.99A
0149		I-75 / SR 93A, NORTH OF SR 60	N	71500E	S	69000E	140500	E	8.99F	8.50	55.49F	52.82	10.28F
0150		SR 93A/I-75, NORTH OF SR 574/M.L. KING JR BLVD	N	77500	S	75000	152500	C	8.99F	8.50	55.49F	52.82	10.40A
0151		SR93A/I-75, SOUTH OF SR 582 (FOWLER AVE.)	N	64000	S	66500	130500	C	8.99F	8.50	55.49F	52.82	10.06A
0152		I-75, SOUTH OF FLETCHER AVE.	N	52000	S	56500	108500	C	8.99F	8.50	55.49F	52.82	10.50A
0153		I-75, NORTH OF FLETCHER AVE.	N	42500	S	44500	87000	C	8.99F	8.50	55.49F	52.82	11.60A
0154		SR 93A/I 75 N OF BRUCE DOWNS BLVD., HILLSBOROUGH	N	31500	S	31500	63000	C	8.99F	8.50	55.49F	52.82	15.63A
0156		SR 678/BEARSS AVE, EAST OF SR 685/FLORIDA AVE	E	25000	W	26000	51000	C	9.13F	9.00	55.29F	52.82	3.27A
0157		SR 93/I-75 NB FRONTAGE RD, S OF SR 60	N	13500		0	13500	C	9.13F	8.80	99.99W	99.99	6.93P
0158		SR 93/I-75 SB FRONTAGE RD, S OF SR 60	S	8700		0	8700	C	9.13F	8.80	99.99W	99.99	5.43P

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0159		SR 93/I-75 CONNECTOR-DISTRIBUTOR (NB) S OF SR 61	N 16500		0		16500	C	9.13F	8.80	99.99W	99.99	8.37P
0160		SR 93A/I-75 SB CONNECTOR/DISTRIBUTOR, S OF SR 61	0E		0E		15000	S	9.13F	8.80	99.99W	99.99	7.91P
0162	T	SR-60,1 MI EAST OF US-41,HILLSBOROUGH CO.	E 15741	W	16539		32280	C	9.54A	9.24	55.80A	58.37	6.92A
0192		US 92/SR 600, WEST OF TANNER ROAD	E 3200	W	3400		6600	C	9.13F	9.00	55.29F	52.82	13.65A
0224	T	SR-93A/I-75,0.9 MI S OF SR-60 @SR-618 O/P,HILLS	N 31626	S	30448		62074	C	8.99A	8.50	55.49A	57.36	11.37A
0276	T	SR-674,686' W OF BALM WIMAUMA RD,HILLSBOROUGH CO	E 3038	W	3024		6062	C	11.07P	10.16	60.37P	57.36	9.05A
0321	T	SR-582/FOWLER AV,1450' E OF 15TH ST,TAMPA,HILLS	E 26318	W	26407		52725	C	9.32A	9.00	57.60A	57.10	2.69X
2001		SR 93/I-275, NORTH OF BEARSS AVE	N 24500	S	25500		50000	C	8.79F	8.50	61.49F	52.82	7.55A
2002		SR 93/I-275, NORTH OF SR 579/FLETCHER AVE	N 44000	S	43000		87000	C	8.79F	8.50	61.49F	52.82	6.65A
2003		SR 93/I-275, NORTH OF SR 582/FOWLER AV 7041,704	N 56500	S	52000		108500	C	8.79F	8.50	61.49F	52.82	3.82A
2004		SR 93/I-275, NORTH OF SR 580/BUSCH BLVD	N 69500	S	67000		136500	C	8.79F	8.50	61.49F	52.82	4.46A
2005		SR 93/I-275, NORTH OF BIRD ST 7029,703	N 74500	S	73000		147500	C	8.79F	8.50	61.49F	52.82	5.30A
2006		SR 93/I-275, NORTH OF SLIGH AVE	N 79000	S	80000		159000	C	8.79F	8.50	61.49F	52.82	3.56A
2007		SR 93/I-275,N OF SR600/US92/HILLSBORO AV7019,702	N 82500	S	84500		167000	C	8.79F	8.50	61.49F	52.82	3.29A
2008		SR 93/I-275, NORTH OF SR 574/MLK BLVD	N 79000	S	84000		163000	C	8.79F	8.50	61.49F	52.82	3.41A
2009		SR 93/I-275, S OF MLK BLVD/SR 574	N 75500	S	82500		158000	C	8.79F	8.50	61.49F	52.82	5.45A

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SITE	SITE TYPE	DESCRIPTION		DIRECTION 1		DIRECTION 2	AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2010		SR 93/I-275, NORTH OF SR 400/I-4	7001,700	N 72500	S	78000	150500	C	8.79F	8.50	61.49F	52.82	4.87A
2012		SR 93/I-275, N OF PALM AVE	3113,4016	N 50000E	S	35500E	85500	F	8.79F	8.50	61.49F	52.82	8.92F
2015		SR 93/I-275, WEST OF SR685/FLORIDA AVE		E 100000E	W	101000E	201000	F	8.79F	8.50	61.49F	52.82	4.91P
2016		SR 93/I-275, WEST OF ASHLEY STREET		E 102000E	W	102000E	204000	F	8.79F	8.50	61.49F	52.82	4.41P
2017		SR 93/I-275, WEST OF ARMENIA AVE.		E 92500	W	96000	188500	C	8.79F	8.50	61.49F	52.82	4.09A
2018		SR 93/I-275, WEST OF DALE MABRY		E 75000	W	73000	148000	C	8.79F	8.50	61.49F	52.82	4.80A
2019		SR 93/I-275, EAST OF WESTSHORE BLVD.		E 73500	W	76500	150000	C	8.79F	8.50	61.49F	52.82	4.88P
2020		SR 93/I-275, 0.2 MI E OF MEMORIAL HWY		E 65500	W	72500	138000	C	8.79F	8.50	61.49F	52.82	5.44A
2021		SR 93/I-275, WEST OF MEMORIAL HWY ON I-275		E 36500	W	38000	74500	C	8.79F	8.50	61.49F	52.82	9.53P
2022		SR 93/I-275, EAST OF HOWARD FRANKLIN BRIDGE		E 73000E	W	75000E	148000	F	8.79F	8.50	61.49F	52.82	7.03P
2023		SR 400/I-4, EAST OF SR 574/MLK BLVD		E 54500E	W	57000E	111500	E	8.54F	8.50	52.48F	52.82	8.92F
2024		I-4/SR400,EAST OF US41/SR599/50TH ST.		E 63500	W	60000	123500	C	8.54F	8.50	52.48F	52.82	7.45P
2026		SR 400/I-4, EAST OF 40TH STREET		E 75500	W	73500	149000	C	8.54F	8.50	52.48F	52.82	8.84A
2028		SR 400/I-4,EAST OF SR 45/NEBRASKA AVE		E 84000E	W	69500E	153500	E	8.54F	8.50	52.48F	52.82	7.47P
2600		RP, BEARSS AVE. TO NB SR93/I-275		N 3700		0	3700	C	8.79F	8.50	99.99W	99.99	4.41F
2601		RP, SB SR93/I-275 TO BEARSS AVE		S 3800		0	3800	C	8.79F	8.50	99.99W	99.99	4.41F

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2602		RP, BEARSS AVE. TO SB SR93/I-275	S 22000	0	22000 C	8.79F	8.50	99.99W	99.99	4.41F
2603		RP, NB SR93/I-275 TO BEARSS AVE	N 22500	0	22500 C	8.79F	8.50	99.99W	99.99	4.41F
2604		RP, SB SR93/I-275 TO SR579/FLETCHER AVE	S 3500	0	3500 C	8.79F	8.50	99.99W	99.99	4.41F
2605		RP, SR579/FLETCHER AVE TO NB SR93/I-275	N 3200	0	3200 C	8.79F	8.50	99.99W	99.99	4.41F
2606		RP, NB SR93/I-275 TO SR579/FLETCHER AVE	N 13000	0	13000 C	8.79F	8.50	99.99W	99.99	4.41F
2607		RP, SR579/FLETCHER AVE TO SB SR93/I-275	S 13000	0	13000 C	8.79F	8.50	99.99W	99.99	4.41F
2608		RP, SB SR93/I-275 TO SR582/FOWLER AVE	S 4500	0	4500 C	8.79F	8.50	99.99W	99.99	4.41F
2609		RP, SR582/FOWLER AVE TO NB SR93/I-275	N 5000	0	5000 C	8.79F	8.50	99.99W	99.99	4.41F
2610		RP, SR582/FOWLER AVE TO SB SR93/I-275	S 17000	0	17000 C	8.79F	8.50	99.99W	99.99	4.41F
2611		RP, NB SR93/I-275 TO SR582/FOWLER AVE	N 17500	0	17500 C	8.79F	8.50	99.99W	99.99	4.41F
2612		RP, SB SR93/I-275 TO SR580/BUSCH BLVD	S 7500	0	7500 C	8.79F	8.50	99.99W	99.99	4.41F
2613		RP, SR580/BUSCH BLVD TO SB SR93/I-275	S 14000	0	14000 C	8.79F	8.50	99.99W	99.99	4.41F
2614		RP, SR580/BUSCH BLVD TO NB SR93/I-275	N 7100	0	7100 C	8.79F	8.50	99.99W	99.99	4.41F
2615		RP, NB SR93/I-275 TO SR580/BUSCH BLVD	N 13500	0	13500 C	8.79F	8.50	99.99W	99.99	4.41F
2616		RP, BIRD ST TO SB SR93/I-275	S 7100	0	7100 C	8.79F	8.50	99.99W	99.99	4.41F
2617		RP, NB SR93/I-275 TO BIRD ST	N 6700	0	6700 C	8.79F	8.50	99.99W	99.99	4.41F

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2618		RP, SLIGH AVE TO SB SR93/I-275	S 5800	0	5800 C	8.79F	8.50	99.99W	99.99	4.41F
2619		RP, NB SR93/I-275 TO SLIGH AVE	N 5100	0	5100 C	8.79F	8.50	99.99W	99.99	4.41F
2620		RP, SLIGH AVE TO NB SR93/I-275	N 6500	0	6500 C	8.79F	8.50	99.99W	99.99	4.41F
2621		RP, SB SR93/I-275 TO SLIGH AVE	S 6400	0	6400 C	8.79F	8.50	99.99W	99.99	4.41F
2622		RP, SB SR93/I-275 TO SR600/HILLSBOROUGH AVE	S 10500	0	10500 C	8.79F	8.50	99.99W	99.99	4.41F
2623		RP, SR600/HILLSBOROUGH AVE TO NB SR93/I-275	N 11000	0	11000 C	8.79F	8.50	99.99W	99.99	4.41F
2624		RP, NB SR93/I-275 TO WB SR600/HILLSBOROUGH AVE	W 5200	0	5200 C	8.79F	8.50	99.99W	99.99	4.41F
2625		RP, SR600/HILLSBOROUGH AVE TO SB SR93/I-275	S 9800	0	9800 C	8.79F	8.50	99.99W	99.99	4.41F
2626		RP, NB SR93/I-275 TO EB SR600/HILLSBOROUGH AVE	E 4100	0	4100 C	8.79F	8.50	99.99W	99.99	4.41F
2627		RP, SB SR93/I-275 TO SR574/MLK BLVD	S 7600	0	7600 C	8.79F	8.50	99.99W	99.99	4.41F
2628		RP, SR574/MLK BLVD TO NB SR93/I-275	N 8000	0	8000 C	8.79F	8.50	99.99W	99.99	4.41F
2629		RP, SR574/MLK BLVD TO SB SR93/I-275	S 8000	0	8000 C	8.79F	8.50	99.99W	99.99	4.41F
2630		RP, NB SR93/I-275 TO SR574/MLK BLVD	N 7900	0	7900 C	8.79F	8.50	99.99W	99.99	4.41F
2631		RP, FLORIBRASKA TO NB SR93/I-275	N 4400	0	4400 C	8.79F	8.50	99.99W	99.99	4.41F
2632		RP, SB SR93/I-275 TO FLORIBRASKA AVE	S 4500	0	4500 C	8.79F	8.50	99.99W	99.99	4.41F
2634		RP, SB SR93/I-275 TO JEFFERSON ST	S 15500	0	15500 C	8.79F	8.50	99.99W	99.99	4.41F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2635		RP, ORANGE AVE & JEFFERSON ST TO NB SR93/I-275	N 5700	0	5700 C	8.79F	8.50	99.99W	99.99	4.41F
2636		RP, ORANGE AVE & JEFFERSON ST TO EB SR400/I-4	E 4300	0	4300 C	8.79F	8.50	99.99W	99.99	4.41F
2637		RP, NB ASHLEY ST TO NB SR93/I-275	N 8700	0	8700 C	8.79F	8.50	99.99W	99.99	4.41F
2638		RP, NB SR93/I-275 TO SCOTT ST	N 5100	0	5100 C	8.79F	8.50	99.99W	99.99	4.41F
2639		RP, TAMPA ST & KAY ST TO SB SR93/I-275	S 8400	0	8400 C	8.79F	8.50	99.99W	99.99	4.41F
2640		RP, SB SR93/I-275 TO SB ASHLEY ST	S 15000	0	15000 C	8.79F	8.50	99.99W	99.99	4.41F
2641		RP, NB ASHLEY ST TO SB SR93/I-275	S 9800	0	9800 C	8.79F	8.50	99.99W	99.99	4.41F
2642		RP, NB SR93/I-275 TO SB ASHLEY ST	S 10500	0	10500 C	8.79F	8.50	99.99W	99.99	4.41F
2643		RP, SB SR93/I-275 TO HOWARD AVE	S 11500	0	11500 C	8.79F	8.50	99.99W	99.99	4.41F
2644		RP, ARMENIA AVE TO SB SR93/I-275	S 10500	0	10500 C	8.79F	8.50	99.99W	99.99	4.41F
2645		RP, NB SR93/I-275 TO ARMENIA AVE	0E	0E	11500 F	8.79F	8.50	99.99W	99.99	2.85F
2646		RP, HOWARD AVE TO NB SR93/I-275	N 11000	0	11000 C	8.79F	8.50	99.99W	99.99	2.85F
2647		RP, SB SR93/I-275 TO NB SR600/DALE MABRY HWY	N 6500	0	6500 C	8.79F	8.50	99.99W	99.99	4.41F
2648		RP, SB SR93/I-275 TO SB SR600/DALE MABRY HWY	S 4900	0	4900 C	8.79F	8.50	99.99W	99.99	4.41F
2649		RP,SR600/DALEMABRY HWY&LAUREL ST TO SB SR93/I-27	S 9900	0	9900 C	8.79F	8.50	99.99W	99.99	4.41F
2650		RP, NB SR93/I-275 TO SB SR600/DALE MABRY HWY	S 2100	0	2100 C	8.79F	8.50	99.99W	99.99	4.41F

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2651		RP, NB SR93/I-275 TO NB SR600/DALE MABRY HWY	N 6100	0	6100 C	8.79F	8.50	99.99W	99.99	4.41F
2652		RP, SR600/DALE MABRY HWY TO NB SR93/I-275	N 13000	0	13000 C	8.79F	8.50	99.99W	99.99	4.41F
2653		RP,SB SR93/I-275 TO LOIS AVE	S 6300	0	6300 C	8.79F	8.50	99.99W	99.99	4.41F
2654		RP, LOIS AVE TO SB SR93/I-275	S 4000	0	4000 C	8.79F	8.50	99.99W	99.99	4.41F
2655		RP, NB SR93/I-275 TO LOIS AVE.	N 3900	0	3900 C	8.79F	8.50	99.99W	99.99	4.41F
2656		RP, LOIS AVE TO NB SR93/I-275	N 5700	0	5700 C	8.79F	8.50	99.99W	99.99	4.41F
2657		RP, SB SR93/I-275 TO CR587/WESTSHORE BLVD	S 11500	0	11500 C	8.79F	8.50	99.99W	99.99	4.41F
2660		RP, CR587/WESTSHORE BLVD TO NB SR93/I-275	N 11000	0	11000 C	8.79F	8.50	99.99W	99.99	4.41F
2663		RP, NB SR93/I-275 TO EB SR60/KENNEDY BLVD	E 8500	0	8500 C	8.79F	8.50	99.99W	99.99	4.41F
2665		RP, WB SR400/I-4 TO SR574/MLK BLVD	W 4100	0	4100 C	9.13F	8.80	99.99W	99.99	10.28F
2666		RP, SR574/MLK BLVD TO WB SR400/I-4	W 11500	0	11500 C	8.54F	8.50	99.99W	99.99	8.84F
2667		RP, EB SR400/I-4 TO SR574/MLK BLVD	E 11500	0	11500 C	8.54F	8.50	99.99W	99.99	8.84F
2668		RP, SR574/MLK BLVD TO EB SR400/I-4	E 4100	0	4100 C	8.54F	8.50	99.99W	99.99	8.84F
2669		RP, WB SR400/I-4 TO SR583/50TH ST	W 6100	0	6100 C	8.54F	8.50	99.99W	99.99	8.84F
2670		RP, SR599/50TH ST TO EB SR400/I-4	E 6200	0	6200 C	8.54F	8.50	99.99W	99.99	8.84F
2671		RP, COLUMBUS DR TO WB SR400/I-4	W 14000	0	14000 C	8.54F	8.50	99.99W	99.99	8.84F

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2672		RP, EB SR400/I-4 TO COLUMBUS DR	E 14500	0	14500 C	8.54F	8.50	99.99W	99.99	8.84F
2677		RP, WB SR400/I-4 TO SR585/22ND ST(NB)	W 5800	0	5800 C	8.54F	8.50	99.99W	99.99	8.84F
2678		RP, SR585/21ST ST TO WB SR400/I-4	W 13500	0	13500 C	8.54F	8.50	99.99W	99.99	8.84F
2679		RP, EB SR400/I-4 TO SR585/21ST ST	E 15000	0	15000 C	8.54F	8.50	99.99W	99.99	8.84F
2680		RP, SR 585/22ND ST TO EB SR400/I-4	E 5800	0	5800 C	8.54F	8.50	99.99W	99.99	8.84F
2682		RP, NB SR93/I-275 TO EB SR400/I-4	E 58000	0	58000 C	8.54F	8.50	99.99W	99.99	8.92F
2683		RP, SB SR93/I-275 TO EB SR400/I-4	E 26500	0	26500 C	9.13F	8.80	99.99W	99.99	10.28F
2684		RP, WB SR400/I-4 TO NB SR93/I-275	N 23500	0	23500 C	9.13F	9.50	99.99W	99.99	10.28F
2685		RP, WB SR400/I-4 TO SB SR93/I-275	S 46000	0	46000 C	8.54F	8.50	99.99W	99.99	8.92F
2690		I-4 RAMP LOOP, WB 1-4 TO COUNTY LINE ROAD	W 5200	0	5200 C	9.13F	9.50	99.99W	99.99	9.10F
2691		I-4 RAMP LOOP, COUNTY LINE ROAD TO EB I-4	E 5300	0	5300 C	9.13F	9.50	99.99W	99.99	9.10F
2692		I-4 RAMP, EB I-4 TO COUNTY LINE ROAD	E 7700	0	7700 C	9.13F	9.50	99.99W	99.99	9.10F
2693		I-4 RAMP WB COUNTY LINE ROAD TO WB I-4	W 8200	0	8200 C	9.13F	9.50	99.99W	99.99	9.10F
2694		I-4 RAMP LOOP, FRONTAGE ROAD TO SR 39	W 1600	0	1600 C	9.13F	8.80	99.99W	99.99	9.10F
2695		I-4 RAMP LOOP WB ON RAMP TO SR 39	W 3800	0	3800 C	9.13F	8.80	99.99W	99.99	9.10F
2696		I-4 RAMP LOOP FRONTAGE ROAD TO ALEXANDER	W 2400	0	2400 C	9.13F	8.80	99.99W	99.99	9.10F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2697		I-4 RAMP LOOP, EB FRONTAGE ROAD TO SR 39	E 3700	0	3700 C	9.13F	8.80	99.99W	99.99	9.10F
2698		RAMP LOOP, EB SR 39 TO FRONTAGE ROAD (I-4)	E 2400	0	2400 C	9.13F	8.80	99.99W	99.99	9.10F
2699		RAMP, SB US 301 TO WB I-4	W 2800	0	2800 C	9.13F	8.80	99.99W	99.99	9.10F
2700		RP, SR674/RUSKIN-WIMAUMA RD TO SB SR93A/I-75	S 2700	0	2700 C	9.13F	8.80	99.99W	99.99	10.28F
2701		RP, NB SR93A/I-75 TO SR674/RUSKIN-WIMAUMA RD	N 2600	0	2600 C	9.13F	8.80	99.99W	99.99	10.28F
2702		RP, SB SR93A/I-75 TO WB SR674/RUSKIN-WIMAUMA RD	W 4600	0	4600 C	9.13F	8.80	99.99W	99.99	10.28F
2703		RP, WB SR674/RUSKIN-WIMUAMA RD TO NB SR93A/I-75	N 5100	0	5100 C	9.13F	8.80	99.99W	99.99	10.28F
2704		RP,SB SR93A/I-75 TO EB SR674/RUSKIN-WIMAUMA RD	E 4900	0	4900 C	9.13F	8.80	99.99W	99.99	9.10F
2705		RP, EB SR674/RUSKIN-WIMAUMA RD TO NB SR93A/I-75	N 4500	0	4500 C	9.13F	8.80	99.99W	99.99	9.10F
2706		RP, CR672/BIG BEND RD TO SB SR93A/I-75	S 3400	0	3400 C	9.13F	8.80	99.99W	99.99	9.10F
2707		RP, NB SR93A/I-75 TO CR672/BIG BEND RD	N 3500	0	3500 C	9.13F	8.80	99.99W	99.99	9.10F
2708		RP, SB SR93A/I-75 TO CR672/BIG BEND RD	S 17500	0	17500 C	9.13F	8.80	99.99W	99.99	9.10F
2709		RP, CR672/BIG BEND RD TO NB SR93A/I-75	N 19000	0	19000 C	9.13F	8.80	99.99W	99.99	9.10F
2710		RP, GIBSONTON DR TO SB SR93A/I-75	S 4700	0	4700 C	9.13F	8.80	99.99W	99.99	9.10F
2711		RP, NB SR93A/I-75 TO GIBSONTON DR	N 4000	0	4000 C	9.13F	8.80	99.99W	99.99	9.10F
2712		RP, SB SR93A/I-75 TO GIBSONTON DR	S 13500	0	13500 C	9.13F	8.80	99.99W	99.99	9.10F

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"K/D" FLAGS : A= ACTUAL; F= VOLUME FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; W= ONE-WAY ROAD
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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2713		RP, GIBSONTON DR TO NB SR93A/I-75	N 14000	0	14000 C	9.13F	8.80	99.99W	99.99	9.10F
2714		RP, SB SR93A/I-75 FRONTAGE RD TO SB US301	S 2000	0	2000 C	9.13F	8.80	99.99W	99.99	9.10F
2715		RP, SB SR93A/I-75 FRONTAGE RD TO NB US301	N 11000	0	11000 C	9.13F	8.80	99.99W	99.99	20.35F
2716		RP, SR43/US301 TO SB SR93A/I-75	S 7600	0	7600 C	9.13F	8.80	99.99W	99.99	9.10F
2717		RP, NB SR93A/I-75 TO NB SR43/US301	N 4200	0	4200 C	9.13F	8.80	99.99W	99.99	9.10F
2718		RP, NB SR93A/I-75 TO SB SR43/US301	S 3200	0	3200 C	9.13F	8.80	99.99W	99.99	9.10F
2719		RP, SB I-75 FRONTAGE RD TO I-75, S OF SR 676	S 8700	0	8700 C	9.13F	8.80	99.99W	99.99	9.10F
2720		RP, NB I-75 TO FRONTAGE RD, BTWN US301 & SR676	N 8800	0	8800 C	9.13F	8.80	99.99W	99.99	9.10F
2721		RP, SB I-75 TO FRONTAGE RD, S OF SR618 ON RP	S 9400	0	9400 C	9.13F	8.80	99.99W	99.99	9.10F
2722		RP, SR574/MLK BLVD TO SB SR93A/I-75	S 9100	0	9100 C	9.13F	8.80	99.99W	99.99	9.10F
2723		RP, NB SR93A/I-75 TO EB SR574/MLK BLVD	E 3700	0	3700 C	9.13F	8.80	99.99W	99.99	9.10F
2724		RP, SB SR93A/I-75 TO SR574/MLK BLVD	S 12500	0	12500 C	9.13F	8.80	99.99W	99.99	9.10F
2725		RP, SR574/MLK BLVD TO NB SR93A/I-75	N 12500	0	12500 C	9.13F	8.80	99.99W	99.99	9.46F
2726		RP, NB SR93A/I-75 TO WB SR574/MLK BLVD	W 5100	0	5100 C	9.13F	8.80	99.99W	99.99	9.10F
2727		RP, NB SR93A/I-75 TO EB SR400/I-4	E 17000	0	17000 C	9.13F	8.80	99.99W	99.99	9.10F
2728		RP, EB SR400/I-4 TO SB SR93A/I-75	S 18500	0	18500 C	9.13F	8.80	99.99W	99.99	9.10F

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2729		RP, NB SR93A/I-75 TO WB SR400/I-4	W 19500	0	19500 C	9.13F	8.80	99.99W	99.99	9.10F
2730		RP, EB SR400/I-4 TO NB SR93A/I-75	N 10500	0	10500 C	9.13F	8.80	99.99W	99.99	9.10F
2731		RP, WB SR400/I-4 TO NB SR93A/I-75	N 13500	0	13500 C	9.13F	8.80	99.99W	99.99	9.10F
2732		RP, SB SR93A/I-75 TO WB SR400/I-4	W 11000	0	11000 C	9.13F	8.80	99.99W	99.99	9.10F
2733		RP, WB SR400/I-4 TO SB SR93A/I-75	S 16000	0	16000 C	9.13F	8.80	99.99W	99.99	9.10F
2734		RP, SB SR93A/I-75 TO EB SR400/I-4	E 14000	0	14000 C	9.13F	8.80	99.99W	99.99	9.10F
2735		RP, NB SR93A/I-75 TO EB SR582/FOWLER AVE	E 2300	0	2300 C	9.13F	8.80	99.99W	99.99	9.10F
2736		RP,SR 582/FOWLER AVE TO SB SR93A/I-75	S 17500	0	17500 C	9.13F	8.80	99.99W	99.99	9.10F
2737		RP, WB SR582/FOWLER AVE TO NB SR93A/I-75	N 3800	0	3800 C	9.13F	8.80	99.99W	99.99	9.10F
2738		RP, SB SR93A/I-75 TO WB SR582/FOWLER AVE	W 5100	0	5100 C	9.13F	8.80	99.99W	99.99	9.10F
2739		RP, EB SR582/FOWLER AVE TO NB SR93A/I-75	N 5100	0	5100 C	9.13F	8.80	99.99W	99.99	9.10F
2740		RP, SB SR93A/I-75 TO EB SR582/FOWLER AVE	E 3700	0	3700 C	9.13F	8.80	99.99W	99.99	9.10F
2741		RP, NB SR93A/I-75 TO WB SR582/FOWLER AVE	W 16000	0	16000 C	9.13F	8.80	99.99W	99.99	9.10F
2742		RP, CR582A/FLETCHER AVE TO SB SR93A/I-75	S 16000	0	16000 C	9.13F	8.80	99.99W	99.99	9.10F
2743		RP, CR582A/FLETCHER AVE TO NB SR93A/I-75	N 5000	0	5000 C	9.13F	8.80	99.99W	99.99	9.10F
2744		RP, SB SR93A/I-75 TO CR582A/FLETCHER AVE	S 4700	0	4700 C	9.13F	8.80	99.99W	99.99	9.10F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2745		RP, NB SR93A/I-75 TO CR582A/FLETCHER AVE	N 15000	0	15000 C	9.13F	8.80	99.99W	99.99	9.10F
2746		RP, CR581/BRUCE B DOWNS BLVD TO SB SR93A/I-75	S 18000	0	18000 C	9.13F	9.00	99.99W	99.99	9.10F
2747		RP, NB SR93A/I-75 TO CR581/BRUCE B DOWNS BLVD	N 18000	0	18000 C	9.13F	9.00	99.99W	99.99	9.10F
2748		RP, SB SR93A/I-75 TO CR581/BRUCE B DOWNS BLVD	S 4800	0	4800 C	9.13F	9.00	99.99W	99.99	9.10F
2749		RP, CR581/BRUCE B DOWNS BLVD TO NB SR93A/I-75	N 4800	0	4800 C	9.13F	9.00	99.99W	99.99	9.10F
2752		RP, SB SR93A/I-75 TO SR60/ADAMO DR	S 24000	0	24000 C	9.13F	8.80	99.99W	99.99	9.10F
2753		RP, WB SR60/ADAMO DR TO NB SR93A/I-75	N 17500	0	17500 C	9.13F	8.80	99.99W	99.99	9.10F
2754		RP, EB SR60/ADAMO DR TO NB SR93A/I-75	N 5900	0	5900 C	9.13F	8.80	99.99W	99.99	9.10F
2756		RP, SB SR93/I-275 TO HIMES AVE	S 5400	0	5400 C	8.79F	8.50	99.99W	99.99	2.85F
2757		RP, HIMES AVE TO NB SR93/I-275	N 5400	0	5400 C	8.79F	8.50	99.99W	99.99	2.85F
2763		RP, NB SR93/I-275 TO CYPRESS AV & SR60/MEMORIAL	N 19000	0	19000 C	9.13F	8.80	99.99W	99.99	9.10F
2764		RP,NBI-275 TO NBSR60/MEMORIAL HWY(AFTER CYP.ST R	N 27000	0	27000 C	9.13F	8.80	99.99W	99.99	9.10F
2765		RP, SB SR60/MEMORIAL HWY TO SB SR93/I-275	S 20000	0	20000 C	8.54F	8.50	99.99W	99.99	4.41F
2767		FRONTAGE RD BTWN BIRD ST & WATERS AVE(NB)	N 2500	0	2500 C	9.13F	8.80	99.99W	99.99	20.35F
2768		FRONTAGE RD. BTWN WATERS AVE & BIRD ST(SB)	S 3200	0	3200 C	9.13F	8.80	99.99W	99.99	20.35F
2772		RP, ORIENT RD TO WB SR400/I-4	W 4200	0	4200 C	9.13F	8.80	99.99W	99.99	10.28F

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2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2773		RP, EB SR400/I-4 TO ORIENT RD	E 4500	0	4500 C	9.13F	8.80	99.99W	99.99	10.28F
2774		RP, WB SR600/US92/HILLS AVE TO WB SR400/I-	W 3700	0	3700 C	9.13F	9.50	99.99W	99.99	10.28F
2779		RP, EB SR400/I-4 TO SB SR43/US301	S 2000	0	2000 C	9.13F	9.50	99.99W	99.99	10.28F
2783		RP, EB SR600/US92/HILLSBOROUGH AV TO EB SR400/I-	E 21500	0	21500 C	9.13F	8.80	99.99W	99.99	10.28F
2784		RP, WB SR400/I-4 TO CR579/MANGO RD	W 5600	0	5600 C	9.13F	8.80	99.99W	99.99	10.28F
2785		RP, CR579/MANGO RD TO WB SR400/I-4	W 12000	0	12000 C	9.13F	8.80	99.99W	99.99	10.28F
2786		RP, EB SR400/I-4 TO CR579/MANGO RD	E 12000	0	12000 C	9.13F	8.80	99.99W	99.99	10.28F
2787		RP, CR579/MANGO RD TO EB SR400/I-4	E 5500	0	5500 C	9.13F	8.80	99.99W	99.99	10.28F
2788		RP, WB SR400/I-4 TO MCINTOSH RD	W 3800	0	3800 C	9.13F	8.80	99.99W	99.99	10.28F
2789		RP, MCINTOSH RD TO WB SR400/I-4	W 6300	0	6300 C	9.13F	8.80	99.99W	99.99	10.28F
2790		RP, EB SR400/I-4 TO MCINTOSH RD	E 6300	0	6300 C	9.13F	8.80	99.99W	99.99	10.28F
2791		RP, MCINTOSH RD TO EB SR400/I-4	E 4300	0	4300 C	9.13F	8.80	99.99W	99.99	10.28F
2792		RP, WB SR400/I-4 TO BRANCH FORBES RD	W 2600	0	2600 C	9.13F	8.80	99.99W	99.99	10.28F
2793		RP, BRANCH FORBES RD TO WB SR400/I-4	W 5000	0	5000 C	9.13F	8.80	99.99W	99.99	10.28F
2794		RP, EB SR400/I-4 TO BRANCH FORBES RD	E 5200	0	5200 C	9.13F	8.80	99.99W	99.99	10.28F
2795		RP, BRANCH FORBES RD TO EB SR 400/I-4	E 2700	0	2700 C	9.13F	8.80	99.99W	99.99	10.28F

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2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2796		RP, WB SR400/I-4 TO SR566/THONOTOSASSA RD	W 3300	0	3300 C	9.13F	8.80	99.99W	99.99	10.28F
2797		RP, SR566/THONOTOSASSA RD TO WB SR400/I-4	W 4100	0	4100 C	9.13F	8.80	99.99W	99.99	10.28F
2798		RP, EB SR400/I-4 TO SR566/THONOTOSASSA RD	E 4700	0	4700 C	9.13F	8.80	99.99W	99.99	10.28F
2799		RP, SR566/THONOTOSASSA RD TO EB SR400/I-4	E 3700	0	3700 C	9.13F	8.80	99.99W	99.99	10.28F
2800		RP, WB SR400/I-4 TO ALEXANDER ST FRONTAGE ROAD	E 6600	0	6600 C	9.13F	8.80	99.99W	99.99	10.28F
2801		RP, ALEXANDER ST TO EB SR400/I-4	W 6300	0	6300 C	9.13F	8.80	99.99W	99.99	10.28F
2802		RP, TO & FROM WB SR400/I-4 & SR39/WHEELER ST	E 4000	0	4000 C	9.13F	8.80	99.99W	99.99	10.28F
2804		RP,WBI-4 TO WB SR600/US92/HILLSBORO AVE,E OF US3	W 21000	0	21000 C	9.13F	8.80	99.99W	99.99	10.28F
2805		RP, TO & FROM EB SR400/I-4 & SR39/WHEELER ST	W 3600	0	3600 C	9.13F	8.80	99.99W	99.99	10.28F
2806		RP, WB SR400/I-4 TO SR553/PARK RD	W 4800	0	4800 C	9.13F	8.80	99.99W	99.99	10.28F
2807		RP, SR 553/PARK RD TO WB SR400/I-4	W 4700	0	4700 C	9.13F	8.80	99.99W	99.99	10.28F
2808		RP, EB SR400/I-4 TO SR553/PARK RD	E 4700	0	4700 C	9.13F	8.80	99.99W	99.99	10.28F
2809		RP, SR553/PARK RD TO EB SR400/I-4	E 4500	0	4500 C	9.13F	8.80	99.99W	99.99	10.28F
2810		RP, TAMPA INTERNATIONAL AIRPORT TO WB SR60	0E	0E	5700 F	9.13F	9.00	99.99W	99.99	10.28F
2811		RP, WB SPRUCE ST TO TAMPA INTERNATIONAL AIRPORT	0E	0E	5400 F	9.13F	9.00	99.99W	99.99	10.28F
2812		RP, TAMPA INTERNATIONAL AIRPORT TO EB SPRUCE ST	0E	0E	13500 F	9.13F	9.00	99.99W	99.99	10.28F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2813		RP, EB MEMORIAL HWY TO TAMPA INTERNATIONAL AIRPO	0E	0E	8400 F	9.13F	9.00	99.99W	99.99	10.28F
2830		RP, EB ADAMO DR TO SB FRONTAGE RD	S 4000	0	4000 C	9.13F	9.00	99.99W	99.99	10.28F
2831		RP, EB SR600/GANDY BLVD TO NB SR618/CROSSTOWN EX	E 6400	0	6400 C	9.13F	8.80	99.99W	99.99	10.28F
2832		RP, SB SR618/CROSSTOWN EXPWY TO EB SR600/GANDY B	E 3800	0	3800 C	9.13F	8.80	99.99W	99.99	10.28F
2833		RP, NB US92/S DALE MABRY HWY TO NB X-TOWN EXPWY	E 3900	0	3900 C	9.13F	8.80	99.99W	99.99	10.28F
2834		RP, SB SR618/CROSSTOWN EXPWY TO WB SR600/GANDY B	W 6400	0	6400 C	9.13F	8.80	99.99W	99.99	10.28F
2835		RP, EUCLID AVE TO NB SR618/CROSSTOWN EXPWY	E 2000	0	2000 C	9.13F	8.80	99.99W	99.99	10.28F
2836		RP SB SR618/CROSSTOWN EXPWY TO EUCLID AVE	W 1900	0	1900 C	9.13F	8.80	99.99W	99.99	10.28F
2837		RP, BAY TO BAY BLVD TO NB SR618/CROSSTOWN EXPWY	W 2300	0	2300 C	9.13F	8.80	99.99W	99.99	10.28F
2838		RP, SB SR618/CROSSTOWN EXPWY TO BAY TO BAY BLVD	E 2400	0	2400 C	9.13F	8.80	99.99W	99.99	10.28F
2839		RP, NB SR618/CROSSTOWN EXPWY TO PLATT ST	E 1700	0	1700 C	9.13F	8.80	99.99W	99.99	10.28F
2840		FROM WILLOW AVE TO SB SR618/CROSSTOWN EXPWY	S 1700	0	1700 C	9.13F	8.80	99.99W	99.99	10.28F
2841		RP, EB PLATT ST TO NB SR618/CROSSTOWN EXPWY	N 3300	0	3300 C	9.13F	8.80	99.99W	99.99	10.28F
2842		RP, SB SR618/CROSSTOWN EXPWY TO WB CLEVELAND ST	W 1900	0	1900 C	9.13F	8.80	99.99W	99.99	10.28F
2843		RP, PLANT AVE TO NB SR618/CROSSTOWN EXPWY	N 2200	0	2200 C	9.13F	8.80	99.99W	99.99	10.28F
2844		RP, SB SR618/CROSSTOWN EXPWY TO PLANT AVE	S 2200	0	2200 C	9.13F	8.80	99.99W	99.99	10.28F

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2845		RP, TAMPA ST TO SB SR618/CROSSTOWN EXPWY	S 950	0	950 C	9.13F	8.80	99.99W	99.99	10.28F
2846		RP, BRORIEN ST & MORGAN ST TO WB SR618/X-TOWN EX	S 1500	0	1500 C	9.13F	8.80	99.99W	99.99	10.28F
2847		RP, EB SR618/X-TOWN EXPWY TO FL AVE & MORGAN ST	E 3000	0	3000 C	9.13F	8.80	99.99W	99.99	10.28F
2848		RP, WB SR618/CROSSTOWN EXPWY TO MORGAN ST	W 3600	0	3600 C	9.13F	8.80	99.99W	99.99	10.28F
2849		RP, JEFFERSON ST TO EB SR618/CROSSTOWN EXPWY	E 3200	0	3200 C	9.13F	8.80	99.99W	99.99	10.28F
2850		RP, WB SR618/CROSSTOWN EXPWY TO WB SR60/KENNEDY	W 5500	0	5500 C	9.13F	8.80	99.99W	99.99	10.28F
2851		RP, SR45/NEBRASKA AVE TO EB SR618/CROSSTOWN EXPW	E 2800	0	2800 C	9.13F	8.80	99.99W	99.99	10.28F
2852		RP, SR45/21ST ST TO WB SR618/CROSST0WN EXPWY	W 2500	0	2500 C	9.13F	8.80	99.99W	99.99	13.20A
2853		RP, EB SR618/CROSSTOWN EXPWY TO SR45/22ND ST	E 2300	0	2300 C	9.13F	8.80	99.99W	99.99	16.31A
2854		RP, SR45/22ND ST TO EB SR618/CROSSTOWN EXPWY	E 2100	0	2100 C	9.13F	9.00	99.99W	99.99	10.61A
2855		RP, WB SR618/CROSSTOWN EXPWY TO SR45/22ND ST	W 2000	0	2000 C	9.13F	8.80	99.99W	99.99	9.12A
2856		RP, SR569/39TH ST TO WB SR618/CROSSTOWN EXPWY	W 1000	0	1000 C	9.13F	8.80	99.99W	99.99	10.28F
2858		RP, WB SR618/CROSSTOWN EXPWY TO SR 569/39TH ST	W 750	0	750 C	9.13F	8.80	99.99W	99.99	10.28F
2859		RP, SR569/39TH ST TO EB SR618/CROSSTOWN EXPWY	E 750	0	750 C	9.13F	8.80	99.99W	99.99	9.10F
2860		RP, SR599/50TH ST TO WB SR618/CROSSTOWN EXPWY	W 3300	0	3300 C	9.13F	8.80	99.99W	99.99	9.10F
2861		RP, EB SR618/CROSSTOWN EXPWY TO SR599/50TH ST	E 3300	0	3300 C	9.13F	8.80	99.99W	99.99	9.10F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2862		RP, WB SR618/CROSSTOWN EXPWY TO SR599/50TH ST	W 850	0	850 C	9.13F	8.80	99.99W	99.99	9.10F
2863		RP, SR599/50TH ST TO EB SR618/CROSSTOWN EXPWY	E 900	0	900 C	9.13F	8.80	99.99W	99.99	9.10F
2864		RP, 78TH ST TO WB SR618/CROSSTOWN EXPWY	W 1300	0	1300 C	9.13F	9.00	99.99W	99.99	7.96A
2865		RP, EB SR618/CROSSTOWN EXPWY TO 78TH ST	E 1200	0	1200 C	9.13F	8.80	99.99W	99.99	11.42A
2866		RP, SR43/US301 TO WB SR618/CROSSTOWN EXPWY	W 2800	0	2800 C	9.13F	8.80	99.99W	99.99	9.10F
2867		RP, EB SR618/CROSSTOWN EXPWY TO SR43/US301	E 3800	0	3800 C	9.13F	8.80	99.99W	99.99	9.10F
2868		RP, WB SR618/CROSSTOWN EXPWY TO SR43/US301	W 3300	0	3300 C	9.13F	8.80	99.99W	99.99	9.10F
2869		RP, SR43/US301 TO EB SR618/CROSSTOWN EXPWY	E 3200	0	3200 C	9.13F	8.80	99.99W	99.99	9.10F
2870		RP, FAUKLKENBURG RD TO WB SR618/CROSSTOWN EXPWY	W 4400	0	4400 C	9.13F	8.80	99.99W	99.99	20.35F
2871		RP, EB SR618/CROSSTOWN EXPWY TO FAULKENBURG RD	E 3800	0	3800 C	9.13F	8.80	99.99W	99.99	9.10F
2872		RP, SB I-75 FRONTAGE RD TO WB SR618/X-TOWN EXPWY	W 4700	0	4700 C	9.13F	8.80	99.99W	99.99	9.10F
2873		RP, EB SR618/CROSSTOWN EXPWY TO SB SR93A/I-75	S 7000	0	7000 C	9.13F	8.80	99.99W	99.99	9.10F
2874		RP, NB SR93A/I-75 TO WB SR618/CROSSTOWN EXPWY	W 7300	0	7300 C	9.13F	8.80	99.99W	99.99	9.10F
2875		RP, EB SR618/X-TOWN EXPWY TO NB I-75 FRONTAGE RD	N 4500	0	4500 C	9.13F	8.80	99.99W	99.99	9.10F
2876		RP, SB I-75 TO SB FRONTAGE RD, N OF X-TOWN ON RP	S 6100	0	6100 C	9.13F	8.80	99.99W	99.99	9.10F
2877		RP, NB I-75 FRONTAGE RD TO I-75, AT SR60 OFF RP	N 15500	0	15500 C	9.13F	8.80	99.99W	99.99	9.10F

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2888		RAMP; FROM NB I-75 FRONTAGE ROAD TO CROSSTOWN RA	N 3600	0	3600 C	9.13F	9.00	99.99W	99.99	9.10F
2900		RAMP, SB US 301 TO WB HILLSBOROUGH AVE	W 1200	0	1200 C	9.13F	9.00	99.99W	99.99	9.10F
2901		RAMP, WB HILLSBOROUGH AVE TO WB FRONTAGE ROAD (I	W 6100	0	6100 C	9.13F	9.00	99.99W	99.99	9.10F
2902		RAMP LOOP, NB US 301 TO WB FRONTAGE ROAD (I-4)	W 4000	0	4000 C	9.13F	9.00	99.99W	99.99	9.10F
2903		RAMP LOOP, WB FRONTAGE RD TO TO US 301	W 7500	0	7500 C	9.13F	9.00	99.99W	99.99	9.10F
2904		RAMP, WB FRONTAGE RD (I-4) TO WB HILLSBOROUGH AV	W 23000	0	23000 C	9.13F	9.00	99.99W	99.99	9.10F
2905		RAMP, EB HILLSBOROUGH AVE TO EB FRONTAGE RD (I-4	E 20000	0	20000 C	9.13F	9.00	99.99W	99.99	9.10F
2906		RAMP, EB HILLSBOROUGH AVE TO SB US 301	E 4300	0	4300 C	9.13F	9.00	99.99W	99.99	9.10F
2907		RAMP, EB I-4 TO EB FRONTAGE ROAD	E 4900	0	4900 C	9.13F	8.80	99.99W	99.99	9.10F
2908		RAMP LOOP, SB US 301 TO EB FRONTAGE ROAD (I-4)	E 3400	0	3400 C	9.13F	8.80	99.99W	99.99	9.10F
2909		RAMP LOOP EB, FRONTAGE ROAD TO EB I-4	E 4000	0	4000 C	9.13F	8.80	99.99W	99.99	9.10F
2910		RAMP, NB US 301 TO EB FRONTAGE ROAD (I-4)	E 4200	0	4200 C	9.13F	8.80	99.99W	99.99	9.10F
2911		RAMP, EB FRONTAGE RD (I-4) TO EB HILLSBOROUGH AV	E 6600	0	6600 C	9.13F	9.00	99.99W	99.99	9.10F
2912		RAMP, WB I-4 TO JEFFERSON AND ASHLEY FRONTAGE RO	W 8900	0	8900 C	9.13F	8.80	99.99W	99.99	9.10F
2914		RAMP, SB CYPRESS TO SB I-275	S 3800	0	3800 C	9.13F	8.80	99.99W	99.99	9.10F
2915		RAMP, WB KENNEDY TO SB I-275	W 6600	0	6600 C	9.13F	8.80	99.99W	99.99	9.10F

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
2925		RAMP, SB I-275 FRONTAGE ROAD TO JEFFERSON ST	W 9300		0		9300 C	9.13F	8.80	99.99W	99.99	9.10F
3047		SR574/MLK BLVD, W OF SR 43, US 301	E 20000	W	19000		39000 C	9.13F	9.00	55.29F	52.82	6.63A
3048		FRANK ADAMO DRIVE WEST OF SR 43, US 301 525	E 18500	W	20000		38500 C	9.13F	9.00	55.29F	52.82	6.60A
3054		SR 574/MLK AVE, AT HILLSBOROUGH RIVER	E 18000	W	18500		36500 C	9.13F	9.00	55.29F	52.82	2.08A
5005		SR 39/COLLINS ST. SOUTH OF REYNOLDS ST.	N 5000	S	4500		9500 C	9.13F	9.00	55.29F	52.82	7.51A
5006		SR 39/WHEELER ST, NORTH OF SR 600/US 92/BAKER ST	N 5200	S	5100		10300 C	9.13F	9.00	55.29F	52.82	16.17F
5008		SR 600/US 92/BAKER ST, W OF MARYLAND AVE	E 6100	W	6400		12500 C	9.13F	9.00	55.29F	52.82	6.34A
5011		SR 600/US 92 EB/REYNOLDS ST, E OF SR 39/WHEELER	0E		0E		9300 F	9.13F	9.00	99.99W	99.99	3.54P
5013		SR 600/BAKER ST(WB), EAST OF ALEXANDER ST	W 8500		0		8500 C	9.13F	9.00	99.99W	99.99	5.74A
5014		BAKER ST., US 92 WB, WEST OF ALEXANDER ST.	W 11500		0		11500 C	9.13F	9.00	99.99W	99.99	6.25A
5015		SR 566/THONOTOSASSA RD (EB), WEST OF ALEXANDER S	E 11500		0		11500 C	9.13F	9.00	99.99W	99.99	7.24F
5016		US92EB/THONOTOSASSA RD, EAST OF ALEXANDER ST	E 5900		0		5900 C	9.13F	9.00	99.99W	99.99	7.50A
5017		SR 574/REYNOLDS ST, EAST OF RITTER ST	E 4300	W	3700		8000 C	9.13F	9.00	55.29F	52.82	6.92A
5019		SR574/REYNOLDS ST, EAST OF LEMON ST.	E 4800	W	3400		8200 C	9.13F	9.00	55.29F	52.82	6.45F
5021		SR 574/REYNOLDS ST, EAST OF ALEXANDER ST	E 3500	W	500		4000 C	9.13F	9.00	55.29F	52.82	4.92A
5022		SR 600/US 92 EB/REYNOLDS ST, E OF DAVIS ST	E 8300		0		8300 C	9.13F	9.00	99.99W	99.99	4.42P

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR	
5029		BAKER ST. WEST OF THONOTOSASSA RD., SR 566	E	5200	W	5500	10700	C	9.13F	9.00	55.29F	52.82	8.77A	
5038		PARK RD. SOUTH OF I-4, SR 400	N	9900	S	10000	19900	C	9.13F	9.00	55.29F	52.82	9.87A	
5042		SR 600/US 92 (EB), SOUTHWEST OF BAKER ST.	E	6600		0	6600	C	9.13F	9.00	99.99W	99.99	6.35A	
5048		SR 573/DALE MABRY HWY, SOUTH OF GANDY BLVD 301	N	17000	S	16500	33500	C	9.13F	9.00	55.29F	52.82	9.93A	
5050		DALE MABRY HWY SOUTH OF EUCLID ST.	N	17000	S	16500	33500	C	9.13F	9.00	55.29F	52.82	5.70A	
5051		SR 600/US 92/DALE MABRY HWY, N OF BAY TO BAY BLV	N	20000	S	21000	41000	C	9.13F	9.00	55.29F	52.82	5.87F	
5052		SR 600/DALE MABRY HWY, NORTH OF HENDERSON BLVD	N	21000	S	20500	41500	C	9.13F	9.00	55.29F	52.82	4.95A	
5055		SR 600/US 92/DALE MABRY HWY, NORTH OF CYPRESS ST	N	26500	S	28000	54500	C	9.13F	9.00	55.29F	52.82	3.11A	
5056		SR 600/US 92/DALE MABRY HWY, NORTH OF SPRUCE ST	N	32500	S	34000	66500	C	9.13F	9.00	55.29F	52.82	2.77F	
5058		SR600/US92/DALE MABRY HWY, N OF COLUMBUS DR/SR 5	N	38500	S	38500	77000	C	9.13F	9.00	55.29F	52.82	2.85A	
5061		SR 685/BUS US 41/FLORIDA AVE, NORTH OF LINEBAUGH	N	13500	S	14500	28000	C	9.13F	9.00	55.29F	52.82	2.51A	
5063		SR 685/BUS US 41, NORTH OF WATERS AVE	N	17500	S	16000	33500	C	9.13F	9.00	55.29F	52.82	2.78A	
5064		SR 685/BUS 41/FLA AVE, S OF WATERS	N	15500	S	14500	30000	C	9.13F	9.00	55.29F	52.82	2.71P	
5065		FLORIDA AVE. SOUTH OF BROAD ST.	N	11000	S	11000	22000	C	9.13F	9.00	55.29F	52.82	2.37A	
5067		SR 685/FLORIDA AVE, NORTH OF US 92/HILLSBOROUGH	N	10000	S	9900	19900	C	9.13F	9.00	55.29F	52.82	2.38P	
5068		SR 685/FLORIDA AVE, S OF HILLSBORO AVE/SR 600 30	N	10500	S	7100	17600	C	9.13F	9.00	55.29F	52.82	2.07P	

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
5073		NEBRASKA AVE. NORTH OF KENNEDY BLVD., SR 60	N	2700E	S	4300E	7000 E	9.13F	9.00	55.29F	52.82	3.34P
5074		NEBRASKA AVE. NORTH OF CASS ST.	N	2500	S	3600	6100 C	9.13F	9.00	55.29F	52.82	2.70A
5077		SR 45/US 41/NEBRASKA AVE, SOUTH OF COLUMBUS DR	N	7200	S	6800	14000 C	9.13F	9.00	55.29F	52.82	1.66A
5078		NEBRASKA AVE. SOUTH OF LAKE AVE.	N	6700	S	6900	13600 C	9.13F	9.00	55.29F	52.82	5.58A
5081		NEBRASKA AVE. NORTH OF HILLSBOROUGH AVE., SR 600	N	10000	S	10500	20500 C	9.13F	9.00	55.29F	52.82	2.95A
5082		NEBRASKA AVE. NORTH OF SLIGH AVE.	N	14000	S	14000	28000 C	9.13F	9.00	55.29F	52.82	3.38P
5083		NEBRASKA AVE. NORTH OF BIRD ST.	N	12000	S	11500	23500 C	9.13F	9.00	55.29F	52.82	2.96A
5088		SR 45/US 41/NEBRASKA AVE, SOUTH OF SR 582/FOWLER	N	11000	S	9600	20600 C	9.13F	9.00	55.29F	52.82	3.91A
5090		US41(BUS)/SR45/22ND ST CSWY,S OF SR618/X-TOWN EX	N	14500	S	15000	29500 C	9.13F	9.00	55.29F	52.82	14.04A
5095		SR 585/22ND ST, SOUTH OF SR 574/M.L.KING AVE.	N	5900	S	5200	11100 C	9.13F	9.00	55.29F	52.82	8.41F
5099		SR569/40TH ST, SOUTH OF US92/HILLSBOROUGH AVE	N	13500	S	12500	26000 C	9.13F	9.00	55.29F	52.82	5.31A
5101		US 41/40TH ST, SOUTH OF LAKE AVE.	N	10000	S	10500	20500 C	9.13F	9.00	55.29F	52.82	7.73P
5102		SR 569/40TH ST, SOUTH OF SR599/MELBOURNE AVE	N	7900	S	8200	16100 C	9.13F	9.00	55.29F	52.82	10.65F
5103		39TH ST. NORTH OF E. BROADWAY	N	4800	S	5000	9800 C	9.13F	9.00	55.29F	52.82	13.82P
5104		50TH. ST. NORTH OF ADAMO DR., SR 60	N	17000	S	17000	34000 C	9.13F	9.00	55.29F	52.82	8.77P
5107		50TH. ST. SOUTH OF COLUMBUS DR.	N	18000	S	20500	38500 C	9.13F	9.00	55.29F	52.82	15.05A

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2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
5109		US 41/SR 599/MELBURNE BLVD, W OF 44TH ST	E	2900	W	3000	5900	C	9.13F	9.00	55.29F	52.82	9.68A
5110		SR 574/MLK AVE, EAST OF SR 599/US 41/40TH ST	E	7600	W	8300	15900	C	9.13F	9.00	55.29F	52.82	5.32F
5124		ADAMO DR. WEST OF 50TH ST., SR 599/US 41	E	15500	W	16000	31500	C	9.13F	9.00	55.29F	52.82	5.88A
5126		SR 60/ADAMO DR, BTWN 22ND ST & 28TH ST, W OF US4	E	14000	W	15000	29000	C	9.13F	9.00	55.29F	52.82	6.97P
5128		SR 60/ADAMO DR, E OF 13TH ST	E	13000	W	13500	26500	C	9.13F	9.00	55.29F	52.82	3.71A
5129		13TH. ST. SOUTH OF ADAMO DR., SR 60	N	14500	S	12000	26500	C	9.13F	9.00	55.29F	52.82	3.64A
5131		SR 60/KENNEDY BLVD, WEST OF 13TH ST 300	E	5400	W	5400	10800	C	9.13F	9.00	55.29F	52.82	4.06A
5136		SR 60/KENNEDY BLVD, WEST OF WILLOW AVE	E	18000	W	18000	36000	C	9.13F	9.00	55.29F	52.82	1.83F
5138		SR 60/KENNEDY BLVD,W OF SR 685/HENDERSON BLVD.	E	17500	W	19500	37000	C	9.13F	9.00	55.29F	52.82	2.38A
5139		SR 60/KENNEDY BLVD,E OF SR600/US92/DALE MABRY BL	E	21500	W	21000	42500	C	9.13F	9.00	55.29F	52.82	2.14F
5140		SR 60/KENNEDY BLVD,W OF SR600/US92/DALE MABRY BL	E	21000	W	19500	40500	C	9.13F	9.00	55.29F	52.82	2.14F
5141		SR 60/KENNEDY BLVD, EAST OF WESTSHORE BLVD.	E	21500	W	21000	42500	C	9.13F	9.00	55.29F	52.82	2.22A
5143		SR 60/MEMORIAL HWY, NORTH OF CYPRESS ST.	N	78500E	S	82500E	161000	F	9.13F	9.00	55.29F	52.82	3.76P
5145		COURTNEY CAMPBELL CSWY. WEST OF EISENHOWER BLVD.	E	34000	W	33500	67500	C	9.13F	9.00	55.29F	52.82	3.48A
5147		COLUMBUS DRIVE, WEST OF DALE MABRY HWY	E	22000	W	21000	43000	C	9.13F	9.00	55.29F	52.82	2.13A
5151		HENDERSON BLVD. SOUTH OF J. F. K. BLVD., SR 60	N	4700	S	4300	9000	C	9.13F	9.00	55.29F	52.82	2.16P

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COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
5152		SR 585/HENDERSON BLVD, NE OF SR 600/DALE MABRY H	E	9100	W	10000	19100 C	9.13F	9.00	55.29F	52.82	4.36A
5158		GANDY BLVD. EAST OF WESTSHORE BLVD.	E	20500E	W	21500E	42000 F	9.13F	9.00	55.29F	52.82	5.87F
5159		GANDY BLVD. WEST OF DALE MABRY HWY., SR 600	E	24000E	W	23500E	47500 F	9.13F	9.00	55.29F	52.82	6.62P
5160		HILLSBOROUGH AVE. W. OF DALE MABRY HWY.	E	40000	W	39000	79000 C	9.13F	9.00	55.29F	52.82	3.27A
5161		HILLSBOROUGH AVE. E. OF DALE MABRY HWY.	E	34500	W	35000	69500 C	9.13F	9.00	55.29F	52.82	5.00A
5162		HILLSBOROUGH AVE. W. OF FLORIDA AVE/SR 685/US41B	E	25000	W	29000	54000 C	9.13F	9.00	55.29F	52.82	6.30A
5163		HILLSBOROUGH AVE. E. OF FLORIDA AVE/SR 685/US41B	E	28500	W	28000	56500 C	9.13F	9.00	55.29F	52.82	4.31F
5164		HILLSBOROUGH AVE. W. OF NEBRASKA AVE., SR 45	E	23500	W	24500	48000 C	9.13F	9.00	55.29F	52.82	4.17A
5165		SR 600/HILLSBOROUGH AVE, EAST OF SR 45/NEBRASKA	E	27000	W	28500	55500 C	9.13F	9.00	55.29F	52.82	4.50P
5169		SR 600/HILLSBOROUGH AVE, EAST OF SR 599/40TH ST	E	25500	W	23000	48500 C	9.13F	9.00	55.29F	52.82	5.39A
5179		SR 583/50TH ST, N OF US 41/SR 599/MELBURNE BLVD	N	11500	S	12000	23500 C	9.13F	9.00	55.29F	52.82	9.19A
5180		J. F. KENNEDY BLVD. WEST OF MEMORIAL HWY., SR 60	E	14000	W	9600	23600 C	9.13F	9.00	55.29F	52.82	2.02A
5182		SR 569/39TH ST, N OF SR 60/ADAMO DR	N	5100	S	5800	10900 C	9.13F	9.00	55.29F	52.82	15.49A
5184		SR 580/BUSCH BLVD, EAST OF ARMENIA AVE.	E	19500	W	21000	40500 C	9.13F	9.00	55.29F	52.82	3.10P
5188		SR 574/MLK AVE,E OF SR600/DALE MABRY	E	14000	W	14500	28500 C	9.13F	9.00	55.29F	52.82	2.44A
5189		MLK BLVD, WEST OF ARMENIA AVE.	E	18000	W	18000	36000 C	9.13F	9.00	55.29F	52.82	2.51F

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
5190		SR 580/BUSCH BLVD,WEST OF SR 45/US 41/NEBRASKA A	E	26000	W	23000	49000 C	9.13F	9.00	55.29F	52.82	2.91P
5191		SR 580/BUSCH BLVD, EAST OF SR 45/US 41/NEBRASKA	E	22000	W	22500	44500 C	9.13F	9.00	55.29F	52.82	2.88P
5193		SR 580/BUSCH BLVD, WEST OF 30TH ST	E	22000	W	22500	44500 C	9.13F	9.00	55.29F	52.82	4.73A
5196		BUSCH BLVD. EAST OF 40TH ST.	E	21000	W	20000	41000 C	9.13F	9.00	55.29F	52.82	2.74P
5204		SR 582/FOWLER AVE, WEST OF 50TH ST	E	31500	W	30500	62000 C	9.13F	9.00	55.29F	52.82	2.69A
5206		SR 600/US 92/DALE MABRY, NORTH OF SR 574/MLK BLV	N	34000	S	36500	70500 C	9.13F	9.00	55.29F	52.82	6.09P
5207		SR 597/DALE MABRY, NORTH OF SR 580/BUSCH BLVD	N	36500	S	27000	63500 C	9.13F	9.00	55.29F	52.82	3.09A
5210		SR 580/HILLSBORO AVE, EAST OF TOWN & COUNTRY BLV	E	27500	W	28000	55500 C	9.13F	9.00	55.29F	52.82	3.39P
5211		SR 580/HILLSBOROUGH AVE, EAST OF HANLEY RD	E	33000	W	30500	63500 C	9.13F	9.00	55.29F	52.82	2.76A
5212		SR 580/HILLSBOROUGH AVE, WEST OF WESTSHORE BLVD	E	34500	W	32500	67000 C	9.13F	9.00	55.29F	52.82	3.56P
5214		SR 582/FOWLER AVE, WEST OF SR 45/US 41/NEBRASKA	E	27000	W	27500	54500 C	9.13F	9.00	55.29F	52.82	1.63A
5215		SR 582/FOWLER AVE, EAST OF SR 685/FLORIDA AVE	E	10500	W	11500	22000 C	9.13F	9.00	55.29F	52.82	2.85A
5219		SR 579/FLETCHER AVE, WEST OF SR 45/US 41/NEBRASK	E	23000	W	22000	45000 C	9.13F	9.00	55.29F	52.82	6.58P
5220		SR 579/FLETCHER AVE, EAST OF SR 685/FLORIDA AVE	E	19000	W	19000	38000 C	9.13F	9.00	55.29F	52.82	4.37A
5223		50TH. ST. NORTH OF PALM RIVER ROAD	N	18000	S	19000	37000 C	9.13F	9.00	55.29F	52.82	11.74A
5225		SR 589/EISENHOWER BLVD, SOUTH OF HILLSBOROUGH AV	N	18500	S	19000	37500 C	9.13F	8.80	55.29F	52.82	4.67A

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5226		SR 580/BUSCH BLVD, WEST OF OVERLOOK DRIVE	E	19500	W	18500	38000 C	9.13F	9.00	55.29F	52.82	4.70A
5227		SR 583/56TH ST, SOUTH OF SR 600/US 92/HILLSBORO	N	16500	S	17500	34000 C	9.13F	9.00	55.29F	52.82	8.34P
5228		SR583/56TH ST, S OF SR600/US92/HILLSBORO AVE 303	N	11500	S	12500	24000 C	9.13F	9.00	55.29F	52.82	9.60A
5229		SR583/50TH ST, N OF SR574/ML KING BLVD	N	12500	S	11500	24000 C	9.13F	9.00	55.29F	52.82	8.96P
5230		SR 583/56TH ST, S OF SR 582/FOWLER AVE	N	19500	S	17500	37000 C	9.13F	9.00	55.29F	52.82	3.99A
5237		SR 45/US 41/NEBRASKA AVE, NORTH OF FOWLER/SR582	N	12000	S	13000	25000 C	9.13F	9.00	55.29F	52.82	4.62P
5238		SR 580/DALE MABRY, NORTH OF SR 600/HILLSBOROUGH	N	37000	S	37500	74500 C	9.13F	9.00	55.29F	52.82	2.60A
5239		SR 583/56TH ST, NORTH OF HILLSBOROUGH RIVER BRID	N	20000	S	21000	41000 C	9.13F	9.00	55.29F	52.82	3.91P
5243		SR 618/X-TOWN EXPWY, E OF US 92/SR 600/GANDY BLV	E	12000E	W	12000E	24000 F	9.13F	8.80	55.29F	52.82	9.60P
5244		SR 618/X-TOWN EXPWY, W OF EUCLID AVE	E	10000	W	10000	20000 C	9.13F	8.80	55.29F	52.82	10.01A
5245		SR 618/X-TOWN EXPWY, W OF MACDILL AVE	E	12000	W	12000	24000 C	9.13F	8.80	55.29F	52.82	8.45P
5246		SR 618/X-TOWN EXPWY, E OF BAY TO BAY BLVD	E	14500	W	15000	29500 C	9.13F	8.80	55.29F	52.82	8.11P
5248		SR 618/LEE ROY SELMON EXPWY, EAST OF WILLOW AVE	E	17000	W	15000	32000 C	9.13F	8.80	55.29F	52.82	7.92A
5249		SR 618/LEE ROY SELMON EXPWY, EAST OF PLANT AVE	E	17500	W	23500	41000 C	9.13F	8.80	55.29F	52.82	10.01F
5251		SR 600/US 92/GANDY BLVD, EAST OF CLARK ST	E	21500	W	23500	45000 C	9.13F	9.00	55.29F	52.82	5.87F
5252		SR 580/BUSCH BLVD, EAST OF SR 599/DALE MABRY HWY	E	21500	W	24500	46000 C	9.13F	9.00	55.29F	52.82	5.47A

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5253		SR 60, WEST OF LAKEWOOD DR.	E	40000	W	43000	83000 C	9.13F	9.00	55.29F	52.82	2.80A
5254		SR 60, WEST OF PARSONS AVE. (BRANDON AREA)	E	32500	W	36000	68500 C	9.13F	9.00	55.29F	52.82	3.33A
5255		SR60 W OF KINGS AV IN BRANDON	E	38500	W	40500	79000 C	9.13F	9.00	55.29F	52.82	4.39P
5256		SR 589/SPRUCE ST, WEST OF WESTSHORE BLVD	E	21500	W	23000	44500 C	9.13F	9.00	55.29F	52.82	3.08A
5258		SR 45/US 41, SOUTH OF 676A (MADISON AVE)	N	12000	S	12500	24500 C	9.13F	9.00	55.29F	52.82	8.41A
5259		US 301/SR 43, S OF SR 676/CAUSEWAY BLVD	N	15500	S	18000	33500 C	9.13F	9.00	55.29F	52.82	6.03A
5260		SR43/US 301, S OF SR 618/CROSSTOWN EXPWY	N	18500	S	21500	40000 C	9.13F	9.00	55.29F	52.82	5.24A
5261		SR 41/US 301, SOUTH OF SR 582/FOWLER AVE.	N	5700	S	5500	11200 C	9.13F	9.00	55.29F	52.82	12.75P
5262		SR 41/US 301, NORTH OF CR 582/HARNEY RD	N	7500	S	6600	14100 C	9.13F	9.00	55.29F	52.82	11.50A
5263		SR 41/US 301, SOUTH OF HARNEY RD	N	10500	S	10500	21000 C	9.13F	9.00	55.29F	52.82	9.98P
5264		SR 618/LEE ROY SELMON EXPWY, WEST OF SR 45/21ST	E	23500	W	24500	48000 C	9.13F	8.80	55.29F	52.82	5.35A
5265		SR 618/X-TOWN EXPWY, W OF 50TH ST	E	16500	W	24500	41000 C	9.13F	8.80	55.29F	52.82	5.82A
5266		SR 618/LEE ROY SELMON EXPWY, EAST OF SR 599/39TH	E	14000	W	21500	35500 C	9.13F	8.80	55.29F	52.82	5.93A
5267		SR 618/LEE ROY SELMON EXPWY, EAST OF 78TH ST	E	12500	W	20500	33000 C	9.13F	8.80	55.29F	52.82	5.96A
5269		SR 574/MLK AVE, EAST OF SR 685/FLORIDA AVE	E	17000	W	17500	34500 C	9.13F	9.00	55.29F	52.82	2.30A
5270		SR 574/MLK AVE, WEST OF SR 45/US 41/NEBRASKA AVE	E	16000	W	17000	33000 C	9.13F	9.00	55.29F	52.82	2.51F

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5271		SR 574/MLK AVE, EAST OF SR 45/US 41/NEBRASKA AVE	E	12500	W	14500	27000	C	9.13F	9.00	55.29F	52.82	2.51F
5273		SR 574/MLK AVE, EAST OF SR 585/22ND ST	E	11000	W	11000	22000	C	9.13F	9.00	55.29F	52.82	3.22A
5275		SR 618/X-TOWN EXPWY, NE OF MORGAN ST	E	15000E	W	15000E	30000	E	9.13F	8.80	55.29F	52.82	10.01F
5276		SR 618/LEE ROY SELMON EXPWY, WEST OF SR 60/KENNE	N	18500E	S	18500E	37000	E	9.13F	8.80	55.29F	52.82	5.69F
5277		SR 618/X-TOWN EXPWY, E OF 14TH ST	E	23000E	W	23000E	46000	E	9.13F	8.80	55.29F	52.82	8.08P
5279		SR685/BUS 41/FLORIDA AVE., N. OF SR 580/BUSCH BL	N	14500	S	14500	29000	C	9.13F	9.00	55.29F	52.82	2.98A
5281		SR 685/FLORIDA AVE, NORTH OF SR 579/FLETCHER AVE	N	11500	S	12000	23500	C	9.13F	9.00	55.29F	52.82	2.77F
5283		FLORIDA AVE. NORTH OF BEARSS AVE., SR 678	N	11500	S	13500	25000	C	9.13F	9.00	55.29F	52.82	3.22A
5285		NEBRASKA AVE. SOUTH OF BEARSS AVE., SR 678	N	9100	S	9800	18900	C	9.13F	9.00	55.29F	52.82	8.56P
5289		SR 600/US 92/BAKER ST, WEST OF SR 39/COLLINS ST	W	9200		0	9200	C	9.13F	9.00	99.99W	99.99	6.74F
5290		BAKER ST., US 92 WB, EAST OF COLLINS ST., SR 39	W	7600		0	7600	C	9.13F	9.00	99.99W	99.99	7.88A
5291		FLORIDA AVE., SOUTH OF MLK BLVD.	N	12000		0	12000	C	9.13F	9.00	99.99W	99.99	4.37P
5292		SR685/TAMPA ST, S OF SR574/MLK BLVD, N OF VIRGIN	S	7200		0	7200	C	9.13F	9.00	99.99W	99.99	5.08A
5294		TAMPA ST., SOUTH OF HENDERSON AVE.	S	11500		0	11500	C	9.13F	9.00	99.99W	99.99	5.18A
5295		SR 685/BUS US 41/FLORIDA AVE, SOUTH OF SCOTT ST	N	20500		0	20500	C	9.13F	9.00	99.99W	99.99	2.32P
5296		SR 685/TAMPA ST, SOUTH OF SCOTT ST (SB)	S	7300		0	7300	C	9.13F	9.00	99.99W	99.99	6.60F

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5297		FLORIDA AVE. NORTH OF J. F. KENNEDY BLVD., SR 60	N 19500	0	19500 C	9.13F	9.00	99.99W	99.99	1.59A
5298		SR 685/BUS 41/TAMPA ST(SB), N OF SR 60/KENNEDY	S 14000	0	14000 C	9.13F	9.00	99.99W	99.99	10.51A
5299		SR 45/BUS 41/22ND ST, SOUTH OF SR 60/ADAMO DR	N 21500	0	21500 C	9.13F	9.00	99.99W	99.99	6.64P
5300		SR 585/21ST ST (SB), SOUTH OF SR 60/ADAMO DR	S 16000	0	16000 C	9.13F	9.00	99.99W	99.99	14.24A
5301		SR 585/22ND ST, NORTH OF SR 60/ADAMO DR	N 14000	0	14000 C	9.13F	9.00	99.99W	99.99	10.72A
5302		SR 585/21ST ST, N OF SR 60/ ADAMO DR	S 15500	0	15500 C	9.13F	9.00	99.99W	99.99	11.98A
5305		SR 676/22ND ST, NORTH OF 7TH AVE.	N 16000	0	16000 C	9.13F	9.00	99.99W	99.99	9.84A
5307		SR 585/22ND ST(NB),NORTH OF SR 585/21ST ST CURVE	N 4400	0	4400 C	9.13F	9.00	99.99W	99.99	3.63A
5308		SR 585/21ST ST, S OF SR 585/22ND ST	S 4700	0	4700 C	9.13F	9.00	99.99W	99.99	4.60A
5310		SR 60/KENNEDY BLVD WEST OF NEBRASKA AVE.	W 12000	0	12000 C	9.13F	9.00	99.99W	99.99	3.64F
5311		SR 60 EB/JACKSON ST, E OF JEFFERSON ST	E 11500	0	11500 C	9.13F	9.00	99.99W	99.99	1.83F
5312		SR 60 WB, KENNEDY BLVD., EAST OF JEFFERSON ST.	W 21000	0	21000 C	9.13F	9.00	99.99W	99.99	2.81P
5313		SR 60 EB, JACKSON ST., EAST OF MORGAN ST.	E 9400	0	9400 C	9.13F	9.00	99.99W	99.99	1.83F
5314		SR 60/KENNEDY BLVD (WB), EAST OF MORGAN ST.	W 18500	0	18500 C	9.13F	9.00	99.99W	99.99	3.64F
5315		SR 60 EB, JACKSON ST., WEST OF FRANKLIN ST.	E 9200	0	9200 C	9.13F	9.00	99.99W	99.99	1.39A
5316		SR 60/KENNEDY BLVD (WB), WEST OF FRANKLIN ST.	W 15000	0	15000 C	9.13F	9.00	99.99W	99.99	2.36A

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5317		FLORIDA AVE. SOUTH OF PALM AVE.	N	10000		0	10000 C	9.13F	9.00	99.99W	99.99	4.10P
5320		SR 618/X-TOWN EXPWY, E OF US 301/SR 43	E	13000	W	22000	35000 C	9.13F	8.80	55.29F	52.82	5.63P
5321		SR 618/X-TOWN EXPWY, E OF FAULKENBURG RD	E	11000	W	18000	29000 C	9.13F	8.80	55.29F	52.82	7.35A
5322		US 301/SR 43, NORTH OF PINE AVE	N	15500	S	17500	33000 C	9.13F	9.00	55.29F	52.82	6.95F
5323		SR 43/US 301,0.25 MI N OF RIVERVIEW DR	N	18000	S	18500	36500 C	9.13F	9.00	55.29F	52.82	5.55F
5324		US 301/SR 43, NORTH OF I-75	N	18500E	S	21500E	40000 F	9.13F	9.00	55.29F	52.82	8.13P
5325		SR 43/US 301, SOUTH OF PALM RIVER ROAD	N	17000	S	17000	34000 C	9.13F	9.00	55.29F	52.82	8.56P
5326		SR 43/US301, NORTH OF SR 60	N	18500	S	19500	38000 C	9.13F	9.00	55.29F	52.82	6.21A
5327		SR 43/US301, SOUTH OF SR 574	N	18500	S	19500	38000 C	9.13F	9.00	55.29F	52.82	9.59A
5329		SR 685/US BUS 41, FLORIDA AVE, S OF COLUMBUS DR	N	10000		0	10000 C	9.13F	9.00	99.99W	99.99	2.76A
5330		SR 685/BUS US 41, FLORIDA AVE,S OF FLORIBRASKA A	N	11500		0	11500 C	9.13F	9.00	99.99W	99.99	4.29P
5333		SR 685/BUS US 41/FLORIDA AVE, N OF LOUISIANA AVE	N	11000		0	11000 C	9.13F	9.00	99.99W	99.99	3.23A
5334		SB SR 685/BUS US 41, HIGHLAND AVE, N OF SR 574	S	8400		0	8400 C	9.13F	9.00	99.99W	99.99	5.64A
5335		SB SR 685/BUS US 41, TAMPA ST, N OF COLUMBUS DR.	S	9700		0	9700 C	9.13F	9.00	99.99W	99.99	6.60F
5341		NEBRASKA AVE/SR45/US41, S OF GENESSEE ST.	N	7300	S	7700	15000 C	9.13F	9.00	55.29F	52.82	4.04A
5346		SR 45/US 41, NORTH OF CR 672 (BIG BEND ROAD)	N	10500	S	10500	21000 C	9.13F	9.00	55.29F	52.82	12.79A

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FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR	
5347		SR 574/ML KING BLVD, W OF VALRICO	E	6700	W	6200	12900	C	9.13F	9.00	55.29F	52.82	5.90A	
5349		SR 60/BRANDON BLVD, WEST OF VALRICO RD.	E	28000	W	29000	57000	C	9.13F	9.00	55.29F	52.82	3.42A	
5350		SR 569/40TH ST, NORTH OF SR 400/I-4	N	7000	S	7200	14200	C	9.13F	9.00	55.29F	52.82	11.15A	
5351		SR 597/N. DALE MABRY HWY., NORTH OF EHRLICH	N	30500	S	29500	60000	C	9.13F	9.00	55.29F	52.82	1.92A	
5353		SR 400/I-4, WEST OF C-579/ MANGO RD	E	60000	W	62500	122500	C	8.54F	8.50	52.48F	52.82	11.42A	
5354		SR 597/N. DALE MABRY HWY., NORTH OF LAKEVIEW	N	24000	S	23000	47000	C	9.13F	9.00	55.29F	52.82	2.43P	
5355		SR 60/KENNEDY BLVD, WEST OF MACDILL AVE	E	22500	W	23500	46000	C	9.13F	9.00	55.29F	52.82	1.78A	
5356		SR 60/ADAMO DR, WEST OF 21ST ST/SB BUS US41	E	12000	W	13000	25000	C	9.13F	9.00	55.29F	52.82	3.64F	
5360		SR 60/MEMORIAL HWY, NORTH OF SR 60/KENNEDY BLVD	S	24000E	N	24000E	48000	F	9.13F	9.00	55.29F	52.82	2.22F	
5361		SR 580/DALE MABRY HWY, SOUTH OF WATERS	N	38000	S	38000	76000	C	9.13F	9.00	55.29F	52.82	1.84P	
5362		SR43/US301, SOUTH OF SYMMES ROAD	N	11500	S	12000	23500	C	9.13F	9.00	55.29F	52.82	5.53A	
5370		SR 597/N. DALE MABRY HWY, NORTH OF FLETCHER	N	30500	S	30500	61000	C	9.13F	9.00	55.29F	52.82	2.62A	
5500		SR 45/US 41, SOUTH OF SUNSET LN.	N	20500	S	20500	41000	C	9.13F	9.00	55.29F	52.82	3.65F	
5501		SR 580/HILLSBOROUGH AVE, WEST OF PISTOL RANGE RD	E	25500	W	26000	51500	C	9.13F	9.00	55.29F	52.82	3.74P	
5506		SR 41/US 301, SOUTH OF PASCO COUNTY	N	6100E	S	6200E	12300	F	9.13F	9.50	55.29F	52.82	11.98P	
5507		SR 580/HILLSBOROUGH AVE, E OF PINELLAS CO. LINE	E	26500	W	26500	53000	C	9.13F	9.00	55.29F	52.82	3.57A	

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FLORIDA DEPARTMENT OF TRANSPORTATION
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5508		SR 60, WEST OF POLK COUNTY LINE	E	9300E	W	9600E	18900	F	9.13F	9.50	55.29F	52.82	10.90P
5600		SR 45/US 41, NORTH OF MANATEE CO. LINE	N	4200	S	4100	8300	C	9.13F	9.50	55.29F	52.82	12.15A
5601		SR 93A/I-75, NORTH OF MANATEE CO. LINE	N	26000	S	25500	51500	C	8.99F	9.50	55.49F	52.82	20.55A
5602		SR 674, WEST OF POLK CO. LINE	E	1100	W	1000	2100	C	9.13F	9.50	55.29F	52.82	38.30A
5603		SR 39, SOUTH OF PASCO CO. LINE	N	4100	S	4200	8300	C	9.13F	9.50	55.29F	52.82	19.46A
5604		SR 600/US 92, WEST OF POLK CO. LINE	E	4200	W	4200	8400	C	9.13F	9.00	55.29F	52.82	8.82A
5606		SR 60/ ADAMO DR, WEST OF GRAND REGENCY BLVD.	E	40000	W	37500	77500	C	9.13F	9.00	55.29F	52.82	5.08F
5607		SR 60/BRANDON BLVD, WEST OF MULRENNEN RD	E	19500	W	18500	38000	C	9.13F	9.00	55.29F	52.82	5.84F
5608		SR 597/NORTH DALE MABRY,NORTH OF LUTZ-LAKE FERN	N	17500	S	17000	34500	C	9.13F	9.00	55.29F	52.82	3.98A
5609		SR 93/I-275, WEST OF HIMES AVE.	E	84500	W	83000	167500	C	8.79F	8.50	61.49F	52.82	5.11P
5610		SR 39/NORTH WHEELER ST,NORTH OF CHAPMAN RD.	N	6100E	S	6200E	12300	F	9.13F	9.50	55.29F	52.82	18.69P
5612		SR 45/US 41, SOUTH OF PASCO COUNTY	N	16500	S	16500	33000	C	9.13F	9.00	55.29F	52.82	3.89A
5615		SR 597/DALE MABRY HWY., N OF VAN DYKE RD.	N	17000	S	17500	34500	C	9.13F	9.00	55.29F	52.82	4.00A
5616		SR 574/MARTIN LUTHER KING, W OF KINGSWAY RD.	E	9700	W	8700	18400	C	9.13F	9.00	55.29F	52.82	5.42F
5617		SR 597/DALE MABRY HWY., N. OF SR 589/VETERANS EX	N	21500	S	21000	42500	C	9.13F	9.00	55.29F	52.82	2.55A
5700		LIVINGSTON AVE SOUTH OF I-275 (HPMS)	N	6100	S	5800	11900	C	9.13F	9.00	55.29F	52.82	2.72A

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SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
5701		PARK RD N OF I-4 (HPMS)	N	4200	S	3700	7900 C	9.13F	9.00	55.29F	52.82	12.19A
5702		BAYSHORE BLVD. N OF GANDY (HPMS)	N	13000	S	12500	25500 C	9.13F	9.00	55.29F	52.82	1.94A
5703		BAYSHORE BLVD SOUTH OF INTERBAY (HPMS)	N	7100	S	6500	13600 C	9.13F	9.00	55.29F	52.82	3.18A
5704		EUCLID AVE E OF MANHATTAN (HPMS)	E	3900	W	3900	7800 C	9.13F	9.00	55.29F	52.82	3.44A
5705		MACDILL AVE N OF I-275 (HPMS)	N	9200	S	6600	15800 C	8.54F	9.00	52.48F	52.82	4.12A
5706		N BLVD NORTH OF I-275 (HPMS)	N	7100	S	6200	13300 C	9.13F	9.00	55.29F	52.82	3.53A
5707		LYNN TURNER RD SOUTH OF EHRLICH (HPMS)	N	9200	S	8100	17300 C	9.13F	9.00	55.29F	52.82	3.74A
5708		MAYDELL AVE N OF CAUSEWAY BLVD (HPMS)	N	700	S	700	1400 C	9.13F	9.00	55.29F	52.82	7.79A
5709		THONOTOSASSA RD NORTH OF I-4 (HPMS)	N	4300	S	4300	8600 C	9.13F	9.00	55.29F	52.82	7.76A
5710		FALKENBURG RD NORTH OF LEE ROY SELMON (HPMS)	N	10500	S	9600	20100 C	9.13F	9.00	55.29F	52.82	4.96A
5711		SOUTH VILLAGE DR WEST OF DALE MABRY (HPMS)	E	10500	W	10500	21000 C	9.13F	9.00	55.29F	52.82	2.96A
5712		N ROME AVE NORTH OF MLK (HPMS)	N	2900	S	3000	5900 C	9.13F	9.00	55.29F	52.82	11.15A
5713		SLIGH AVE WEST OF 56TH ST (HPMS)	E	4600	W	5200	9800 C	9.13F	9.00	55.29F	52.82	5.89A
5714		LINEBAUGH AVE EAST OF RACETRACK RD (HPMS)	E	8800	W	8500	17300 C	9.13F	9.00	55.29F	52.82	3.24A
5715		HOOVER BLVD N OF HILLBOROUGH (HPMS)	N	7800	S	9700	17500 C	9.13F	9.00	55.29F	52.82	7.34A
5716		INTERBAY BLVD/ COMMERCE ST WEST OF WESTSHORE BLV	N	2900	S	2800	5700 C	9.13F	9.00	55.29F	52.82	16.73A

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5717		BEARSS AVE E OF DALE MABRY (HPMS)	E	22500	W	20500	43000 C	9.13F	9.00	55.29F	52.82	5.09A
5718		W. SLIGH AVE E OF DALE MABRY (HPMS)	E	650	W	450	1100 C	9.13F	9.00	55.29F	52.82	10.41A
5719		RIVERVIEW DR EAST OF US 41 (HPMS)	E	2800	W	2700	5500 C	9.13F	9.00	55.29F	52.82	7.51A
5720		CR-39B/ PARK RD EAST OF JL REDMAN HWY (HPMS)	E	1900	W	2500	4400 C	9.13F	9.00	55.29F	52.82	10.12A
5721		MEMORIAL HWY SOUTH OF HILLSBOROUGH (HPMS)	N	20500	S	19500	40000 C	9.13F	9.00	55.29F	52.82	5.08A
5722		CR 587 GUNN HIGHWAY EAST OF LYNN TURNER RD (HPMS	E	16000	W	16000	32000 C	9.13F	9.00	55.29F	52.82	3.22A
5723		CR 587 GUNN HIGHWAY SOUTH OF TARPON SPRINGS ROAD	N	8600	S	8700	17300 C	9.13F	9.50	55.29F	52.82	6.57A
5724		BLOOMINGDALE AVE E OF PROVIDENCE (HPMS)	E	18500	W	19500	38000 C	9.13F	9.00	55.29F	52.82	5.54A
5725		HANLEY RD N OF HILLSBOROUGH (HPMS)	N	8900	S	10500	19400 C	9.13F	9.00	55.29F	52.82	4.68A
5726		CR 39 N OF LITHIA PINECREST (HPMS)	N	3700	S	3900	7600 C	9.13F	9.50	55.29F	52.82	17.86A
5727		MOORES LAKE RD N OF MLK (HPMS)	N	1400	S	1300	2700 C	9.13F	9.00	55.29F	52.82	9.55A
5728		30TH ST NORTH OF BEARSS AVE (HPMS)	N	700	S	600	1300 C	9.13F	9.00	55.29F	52.82	4.16A
5729		BRUCE B DOWNS BLVD SOUTH OF I-75 (HPMS)	N	19500	S	21500	41000 C	9.13F	9.00	55.29F	52.82	4.84A
5730		BRUCE B DOWNS NORTH OF I-75 (HPMS)	N	25000	S	23500	48500 C	9.13F	9.00	55.29F	52.82	3.19A
5731		WESTSHORE BLVD N OF KENNEDY (HPMS)	N	18500	S	15000	33500 C	9.13F	9.00	55.29F	52.82	3.61A
5732		56TH ST S OF FLETCHER (HPMS)	N	13500	S	11500	25000 C	9.13F	9.00	55.29F	52.82	2.36A

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5733		LAKE MAGDALENE BLVD S OF SMITTER (HPMS)	N	1300	S	1700	3000	C	9.13	F	9.00	55.29	F	52.82	2.00	A
5734		BIG BEND RD W OF I-75 (HPMS)	E	13500	W	12000	25500	C	9.13	F	9.00	55.29	F	52.82	11.53	A
5736		BULLARD PKWY WEST OF HARNEY (HPMS)	E	6200	W	6100	12300	C	9.13	F	9.00	55.29	F	52.82	5.43	A
5737		CR 685A VAN DYKE E OF GUNN HWY (HPMS)	E	7700	W	7200	14900	C	9.13	F	9.00	55.29	F	52.82	6.14	A
5738		SUNSET LANE E OF NEBRASKA (HPMS)	E	5200	W	5200	10400	C	9.13	F	9.00	55.29	F	52.82	4.92	A
5739		CR 584 WATERS AVE W OF MANHATTAN (HPMS)	E	25500	W	23000	48500	C	9.13	F	9.00	55.29	F	52.82	5.30	A
5740		MADISON ST/ PROGRESS EAST OF 78TH ST (HPMS)	E	6400	W	6300	12700	C	9.13	F	9.00	55.29	F	52.82	12.02	A
5999		SR45/ US 41 NORTH OF SYMMES ROAD	N	13500	S	13500	27000	C	9.13	F	9.00	55.29	F	52.82	10.04	F
6000		US 301/SR 43 S OF RIVERVIEW DRIVE	N	23000	S	22500	45500	C	9.13	F	9.00	55.29	F	52.82	6.95	F
6001		HILLSBOROUGH AVE E, W OF GALLAGHER RD	E	5000	E	W	5100	E	10100	F	9.13	F	9.00	55.29	F	52.82	10.46	P
6002		SR93/I-75 SB FRONTAGE RD		0	E		0	E	20000	F	9.13	F	8.80	99.99	W	99.99	6.99	P
6003		SR 93/I-75 SB FRNTGE RD, S OF I-75 SB ON RAMP 32		0	E		0	E	6000	S	9.13	F	8.80	99.99	W	99.99	9.54	P
6004		SR93/I-75 NB FRNTG RD S OF SR60		0	E		0	E	23000	F	9.13	F	8.80	99.99	W	99.99	6.72	P
6005		SR 39/WHEELER ST, N OF SAM ALLEN RD	N	6700	S	7000	13700	C	9.13	F	9.00	55.29	F	52.82	16.17	F
6006		SR 574/MLK BLVD E OF WILLIAMS RD	E	18500	W	19000	37500	C	9.13	F	9.00	55.29	F	52.82	3.50	A
6007		SR45/US41/NEBRASKA, S OF FLORIBRASKA	N	7800	S	7300	15100	C	9.13	F	9.00	55.29	F	52.82	2.75	A

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6008		SR45/US41/NEBRASKA, S OF DEBULE RD	N	23000E	S	22500E	45500	F	9.13F	9.00	55.29F	52.82	3.65F
6009		SR39, S OF PARK RD EXTENSION	N	12500	S	13500	26000	C	9.13F	9.00	55.29F	52.82	4.99P
6011		SR 600/HILLSBOROUGH AVENUE, E OF 56TH STREET	E	22000	W	20500	42500	C	9.13F	9.00	55.29F	52.82	8.38P
6012		PARK RD, N OF I-4	N	4400	S	3700	8100	C	9.13F	9.00	55.29F	52.82	9.60F
6013		NEBRASKA AVE, S OF SR580/BUSCH BLVD	N	12500	S	13000	25500	C	9.13F	9.00	55.29F	52.82	3.44P
6015		SR45/US41, S OF APOLLO BEACH BLVD	N	13000	S	13500	26500	C	9.13F	9.00	55.29F	52.82	5.12P
6016		SR674, E OF PEBBLE BEACH BLVD	E	11500	W	12000	23500	C	9.13F	9.00	55.29F	52.82	5.58F
6017		SR39/N WHEELER ST, N OF I-4	N	6300	S	7200	13500	C	9.13F	9.00	55.29F	52.82	11.76A
6018		SR585(NB)/22ND ST, S OF 27TH AVE	N	4600		0	4600	C	9.13F	9.00	99.99W	99.99	8.41F
6019		SR574/DR MLK, W OF I-4	E	9700	W	11000	20700	C	9.13F	9.00	55.29F	52.82	6.90A
6020		SR580/DALE MABRY HWY, N OF WATERS	N	32500	S	34500	67000	C	9.13F	9.00	55.29F	52.82	2.00A
6030		N MERIDIAN AVE, S. OF KENNEDY BLVD. ON THE ENTRA	N	4400E	S	5000E	9400	F	9.13F	9.00	55.29F	52.82	0.51P
8000		E CASS ST, BET PIERCE ST & N MORGAN ST (OFF SYST		0E		0E	5700	F	9.13F	9.00	99.99W	99.99	2.45P
8002		PIERCE ST, N OF E POLK ST		0E		0E	11500	F	9.13F	9.00	99.99W	99.99	1.32P
8003		E POLK ST, BET FLORIDA AV & N MORGAN ST		0E		0E	1300	F	9.13F	9.00	99.99W	99.99	1.54P
8004		ORANGE AV SB, N OF TYLER ST		0E		0E	9700	F	9.13F	9.00	99.99W	99.99	1.80P

SITE TYPE : P= PORTABLE; T= TELEMETERED
AADT FLAGS : C= COMPUTED; E= MANUAL EST; F= FIRST YEAR EST; S= SECOND YEAR EST; T= THIRD YEAR EST; X= UNKNOWN
"K/D" FLAGS : A= ACTUAL; F= VOLUME FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; W= ONE-WAY ROAD
"T" FLAGS : A= ACTUAL; F= AXLE FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; X= CROSS-REFERENCE

FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1		DIRECTION 2		AADT TWO-WAY		"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
8005		N MORGAN ST, N OF POLK ST	N	2000E	S	2700E	4700	F	9.13F	9.00	55.29F	52.82	0.48P
8006		SCOTT ST, E OF N MORGAN ST		0E		0E	13000	F	9.13F	9.00	99.99W	99.99	2.56P
8007		PEMBROKE RD, W OF US41/TAMIAMI TRL	E	1100E	W	1000E	2100	F	9.13F	9.00	55.29F	52.82	33.84P
8008		MARITIME BLVD, W OF 22ND ST/CAUSEWAY BLVD	E	5100E	W	5000E	10100	F	9.13F	9.00	55.29F	52.82	32.12P
8009		ASHLEY DR, N OF POLK ST	N	18000E	S	16500E	34500	F	9.13F	9.00	55.29F	52.82	1.70P
8010		CR672/BIGBEND RD, E OF US41/TAMIAMI TRL	E	12000E	W	12000E	24000	F	9.13F	9.00	55.29F	52.82	10.05P
8011		N 62ND ST, S OF 14TH AV	N	700E	S	650E	1350	F	9.13F	9.00	55.29F	52.82	45.95P
8012		COLUMBUS DRV, BET 53RD ST & 54TH ST	E	3100E	W	4900E	8000	F	9.13F	9.00	55.29F	52.82	13.05P
8014		EAST OF 22ND STREET/CAUSEWAY BOULEVARD	N	1100E	S	900E	2000	F	9.13F	9.00	55.29F	52.82	9.80P
8100		BRANDON PARKWAY, BETWEEN S. LAKWEWOOD DR. AND LU	E	7700	W	7300	15000	C	9.13F	9.00	55.29F	52.82	0.77P
8101		N. 50TH ST., NORTH OF WB I-4 OFF RAMP	N	16000E	S	16500E	32500	F	9.13F	9.00	55.29F	52.82	7.76P
9922	T	SR-93/I-275,0.25MI N OF FLETCHER AV,TAMPA,HILLS	N	40486	S	41404	81890	C	9.04A	8.77	70.49A	69.97	4.97A
9923		SELMON ELEVATED LANES WEST OF LAKEWOOD DRIVE	E	0	W	0	14000	C	9.13F	8.80	55.29F	52.82	9.10F
9924		RAMP, EXITING EB ELEVATED LANES TO EB CROSSTOWN	E	4000		0	4000	C	9.13F	8.80	99.99W	99.99	9.10F
9925		RAMP, EXITING ELEVATED LANES TO CROSSTOWN WEST O	W	1500		0	1500	C	9.13F	8.80	99.99W	99.99	9.10F
9926	T	SR-93A/I-75,1.25 MI N OF SR-60,TAMPA,HILLS CO.	N	67324	S	65306	132630	C	9.11D	8.66	58.23D	57.84	9.00P

SITE TYPE : P= PORTABLE; T= TELEMETERED
AADT FLAGS : C= COMPUTED; E= MANUAL EST; F= FIRST YEAR EST; S= SECOND YEAR EST; T= THIRD YEAR EST; X= UNKNOWN
"K/D" FLAGS : A= ACTUAL; F= VOLUME FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; W= ONE-WAY ROAD
"T" FLAGS : A= ACTUAL; F= AXLE FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; X= CROSS-REFERENCE

FLORIDA DEPARTMENT OF TRANSPORTATION
2008 ANNUAL AVERAGE DAILY TRAFFIC REPORT - REPORT TYPE: ALL

COUNTY: 10 HILLSBOROUGH

SITE	SITE TYPE	DESCRIPTION	DIRECTION 1	DIRECTION 2	AADT TWO-WAY	"K" FCTR	DEMAND K100	"D" FCTR	DEMAND D100	"T" FCTR
9927		RAMP, FROM EB CROSSTOWN TO ELEVATED LANES EB WES	E 1600	0	1600 C	9.13F	8.80	99.99W	99.99	9.10F
9928		RAMP, FROM WB CROSSTOWN TO ELEVATED LANES WB EAS	W 3600	0	3600 C	9.13F	8.80	99.99W	99.99	9.10F
9929		RAMP, FROM EB CROSSTOWN TO EB ELEVATED LANES AT	E 7000	0	7000 C	9.13F	8.80	99.99W	99.99	9.10F
9930		LEE ROY SELMON EXPRESSWAY, ELEVATED LANES WEST O	E 0	W 0	14500 C	9.13F	8.80	55.29F	52.82	9.10F

SITE TYPE : P= PORTABLE; T= TELEMETERED
AADT FLAGS : C= COMPUTED; E= MANUAL EST; F= FIRST YEAR EST; S= SECOND YEAR EST; T= THIRD YEAR EST; X= UNKNOWN
"K/D" FLAGS : A= ACTUAL; F= VOLUME FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; W= ONE-WAY ROAD
"T" FLAGS : A= ACTUAL; F= AXLE FCTR CATG; D= DIST/FUNC. CLASS; P= PRIOR YEAR; S= STATE-WIDE DEFAULT; X= CROSS-REFERENCE

APPENDIX B

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 465 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	1940	0.95	Level	5	2	0.972	1.00	2101
Ramp	180	0.95	Level	5	2	0.972	1.00	195
UpStream								
DownStream	465	0.95	Level	5	2	0.972	1.00	504

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2101 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2101	4700	No
V_{12}	2101	4400:All	No
$V_{FO} = V_F - V_R$	1906	4700	No
V_R	195	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 17.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.446 (Exhibit 25-19)

S_R= 54.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 329 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	2380	0.95	Level	5	2	0.972	1.00	2578
Ramp	220	0.95	Level	5	2	0.972	1.00	238
UpStream								
DownStream	329	0.95	Level	5	2	0.972	1.00	356

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2578 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2578	4700	No
V_{12}	2578	4400:All	No
$V_{FO} = V_F - V_R$	2340	4700	No
V_R	238	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 21.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.449 (Exhibit 25-19)
S_R= 54.7 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	1940	0.95	Level	5	2	0.972	1.00	2101
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2101 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2393	See Exhibit 25-7	No
V_{R12}	2393	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 25-4)

Speed Estimation

M_S = 0.329 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2380	0.95	Level	5	2	0.972	1.00	2578
Ramp	330	0.95	Level	5	2	0.972	1.00	357
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2578 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2935	See Exhibit 25-7	No
V_{R12}	2935	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 = 25.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.359 (Exibit 25-19)

S_R= 56.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	2490	0.95	Level	5	2	0.972	1.00	2697
Ramp	330	0.95	Level	5	2	0.972	1.00	357
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2697 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2697	4700	No
V_{12}	2697	4400:All	No
$V_{FO} = V_F - V_R$	2340	4700	No
V_R	357	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 22.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.460 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	2030	0.95	Level	5	2	0.972	1.00	2199
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2199 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2199	4700	No
V_{12}	2199	4400:All	No
$V_{FO} = V_F - V_R$	1907	4700	No
V_R	292	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 18.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.454 (Exhibit 25-19)

S_R= 54.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2490	0.95	Level	5	2	0.972	1.00	2697
Ramp	220	0.95	Level	5	2	0.972	1.00	238
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2697 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2935	See Exhibit 25-7	No
V_{R12}	2935	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 = 25.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.359 (Exibit 25-19)

S_R= 56.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2030	0.95	Level	5	2	0.972	1.00	2199
Ramp	180	0.95	Level	5	2	0.972	1.00	195
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2199 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2394	See Exhibit 25-7	No
V_{R12}	2394	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 25-4)

Speed Estimation

M_S = 0.329 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	1540	0.95	Level	5	2	0.972	1.00	1668
Ramp	400	0.95	Level	5	2	0.972	1.00	433
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 1668 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2101	See Exhibit 25-7	No
V_{R12}	2101	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 = 18.5 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.318 (Exibit 25-19)

S_R= 57.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 57.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2380	0.95	Level	5	2	0.972	1.00	2578
Ramp	500	0.95	Level	5	2	0.972	1.00	542
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2578 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3120	See Exhibit 25-7	No
V_{R12}	3120	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 = 26.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.374 (Exibit 25-19)

S_R= 56.4 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	2380	0.95	Level	5	2	0.972	1.00	2578
Ramp	500	0.95	Level	5	2	0.972	1.00	542
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12} (Merge Areas)

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12} (Diverge Areas)

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2578 pc/h

Capacity Checks (Merge Areas)

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks (Diverge Areas)

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2578	4700	No
V_{12}	2578	4400:All	No
$V_{FO} = V_F - V_R$	2036	4700	No
V_R	542	2000	No

Level of Service Determination (if not F) (Merge Areas)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F) (Diverge Areas)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 21.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation (Merge Areas)

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation (Diverge Areas)

D_s = 0.477 (Exhibit 25-19)

S_R= 54.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	1940	0.95	Level	5	2	0.972	1.00	2101
Ramp	400	0.95	Level	5	2	0.972	1.00	433
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2101 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2101	4700	No
V_{12}	2101	4400:All	No
$V_{FO} = V_F - V_R$	1668	4700	No
V_R	433	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 17.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.467 (Exhibit 25-19)

S_R= 54.3 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 140 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	1720	0.95	Level	5	2	0.972	1.00	1863
Ramp	360	0.95	Level	5	2	0.972	1.00	390
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.695 using Equation (Exhibit 25-11)
V_{12} = 1414 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	1863	7050	No
V_{12}	1414	4400:All	No
$V_{FO} = V_F - V_R$	1473	7050	No
V_R	390	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 11.9 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.463 (Exhibit 25-19)
S_R= 54.3 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2006

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	2100	0.95	Level	5	2	0.972	1.00	2275
Ramp	440	0.95	Level	5	2	0.972	1.00	477
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.681 using Equation (Exhibit 25-11)
V_{12} = 1702 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2275	7050	No
V_{12}	1702	4400:All	No
$V_{FO} = V_F - V_R$	1798	7050	No
V_R	477	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 14.4 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.471 (Exhibit 25-19)
S_R= 54.2 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	1540	0.95	Level	5	2	0.972	1.00	1668
Ramp	180	0.95	Level	5	2	0.972	1.00	195
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 1668 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	1863	See Exhibit 25-7	No
V_{R12}	1863	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 25-4)

Speed Estimation

M_S = 0.311 (Exibit 25-19)

S_R= 57.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 57.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	1880	0.95	Level	5	2	0.972	1.00	2036
Ramp	220	0.95	Level	5	2	0.972	1.00	238
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2036 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2274	See Exhibit 25-7	No
V_{R12}	2274	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 = 20.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.324 (Exibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 57.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	2100	0.95	Level	5	2	0.972	1.00	2275
Ramp	440	0.95	Level	5	2	0.972	1.00	477
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 239.13 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1346 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2752	See Exhibit 25-7	No
V_{R12}	1823	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 = 16.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.310 (Exibit 25-19)

S_R = 57.9 mph (Exhibit 25-19)

S_0 = 63.5 mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = 59.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	1720	0.95	Level	5	2	0.972	1.00	1863
Ramp	360	0.95	Level	5	2	0.972	1.00	390
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 132.34 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1102 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2253	See Exhibit 25-7	No
V_{R12}	1492	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 = 13.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.303 (Exibit 25-19)

S_R= 58.0 mph (Exhibit 25-19)

S_0= 64.1 mph (Exhibit 25-19)

S = 59.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	1880	0.95	Level	5	2	0.972	1.00	2036
Ramp	220	0.95	Level	5	2	0.972	1.00	238
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2036 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2036	4700	No
V_{12}	2036	4400:All	No
$V_{FO} = V_F - V_R$	1798	4700	No
V_R	238	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 17.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.449 (Exhibit 25-19)

S_R= 54.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2008

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 253 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	1540	0.95	Level	5	2	0.972	1.00	1668
Ramp	180	0.95	Level	5	2	0.972	1.00	195
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 1668 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	1668	4700	No
V_{12}	1668	4400:All	No
$V_{FO} = V_F - V_R$	1473	4700	No
V_R	195	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 14.1 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.446 (Exhibit 25-19)

S_R= 54.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.8 mph (Exhibit 25-15)

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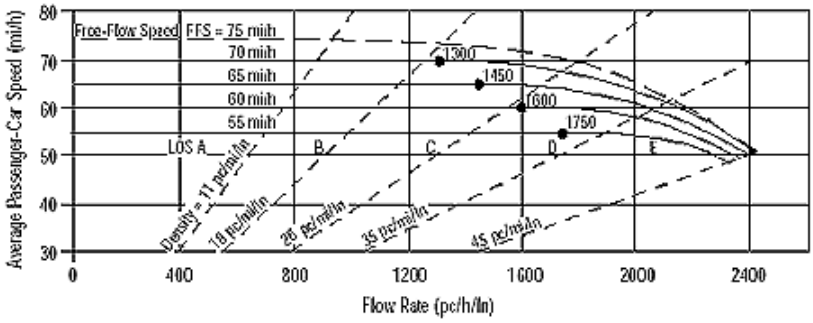
APPENDIX C

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2008*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2490*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1368*	pc/h/ln
S	*60.5*	mi/h
D = v_p / S	*22.6*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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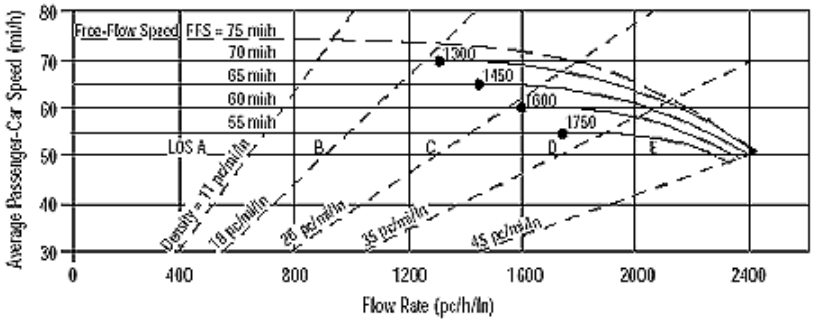
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St --- Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2008*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1313*	pc/h/ln
S	*60.5*	mi/h
D = v_p / S	*21.7*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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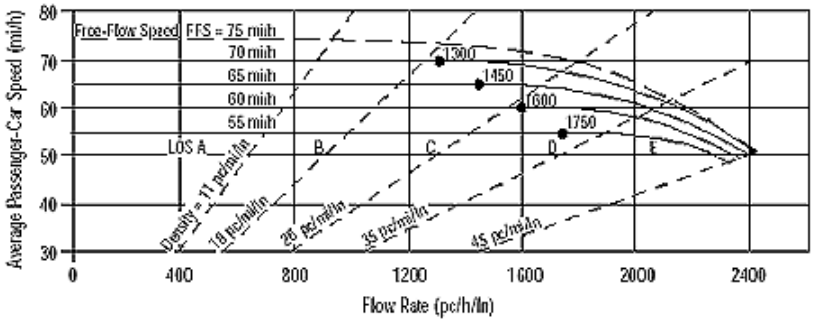
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2008*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1920*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1055*	pc/h/ln
S	*60.5*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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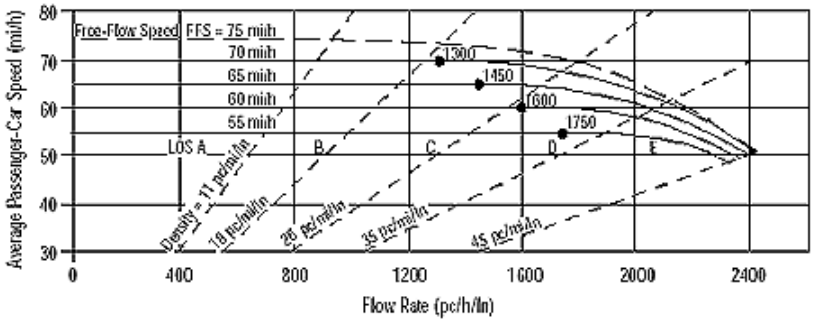
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2008*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2130*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*5*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.972*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*769*	pc/h/ln
S	*62.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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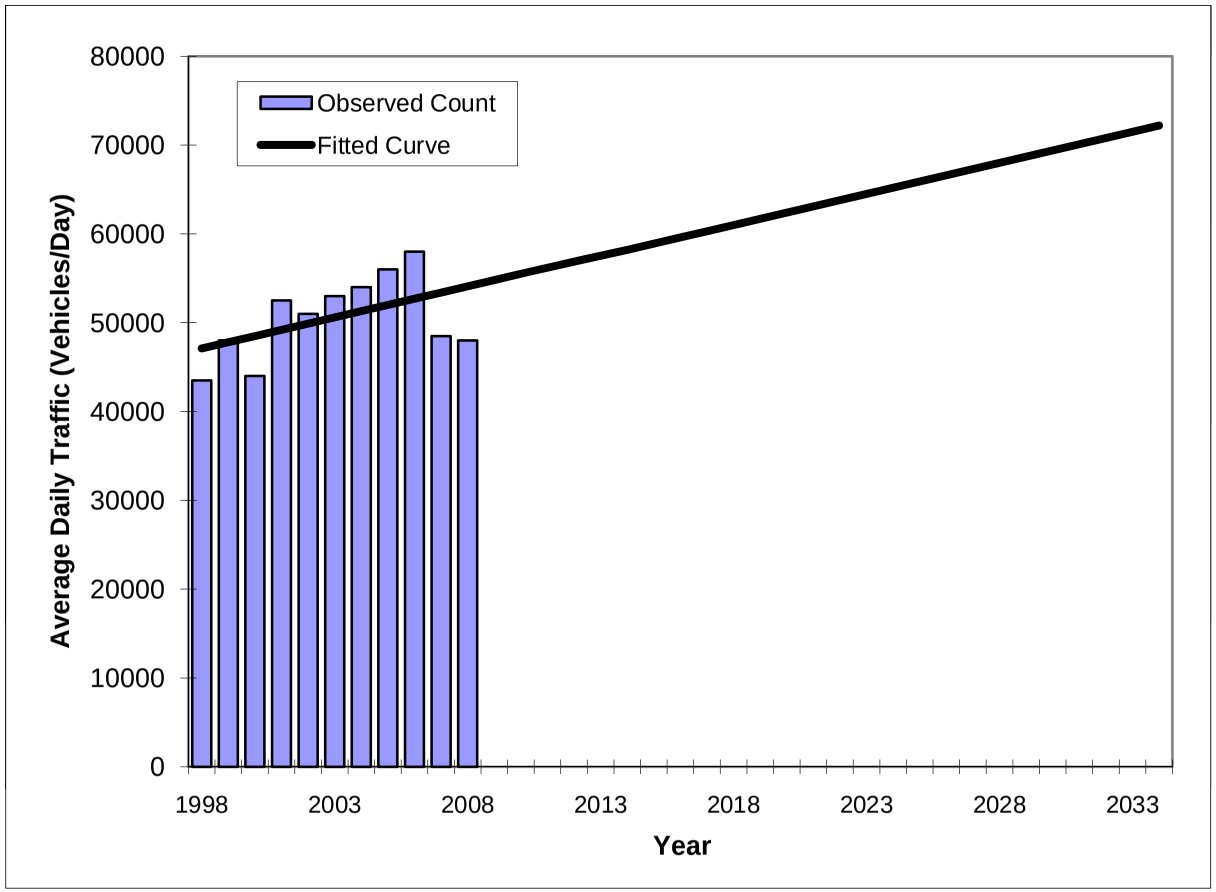
APPENDIX D

TRAFFIC TRENDS

SR 618 -- West of SR 45/21st St

County:	Hillsborough
Station #:	105264
Highway:	SR 618



Year	Traffic (ADT/AADT) Count*	Trend**
1998	43500	47100
1999	48000	47800
2000	44000	48500
2001	52500	49200
2002	51000	49900
2003	53000	50600
2004	54000	51300
2005	56000	52000
2006	58000	52700
2007	48500	53400
2008	48000	54100
2015 Opening Year Trend		
2015	N/A	58900
2025 Mid-Year Trend		
2025	N/A	65900
2035 Design Year Trend		
2035	N/A	72800
TRANPLAN Forecasts/Trends		

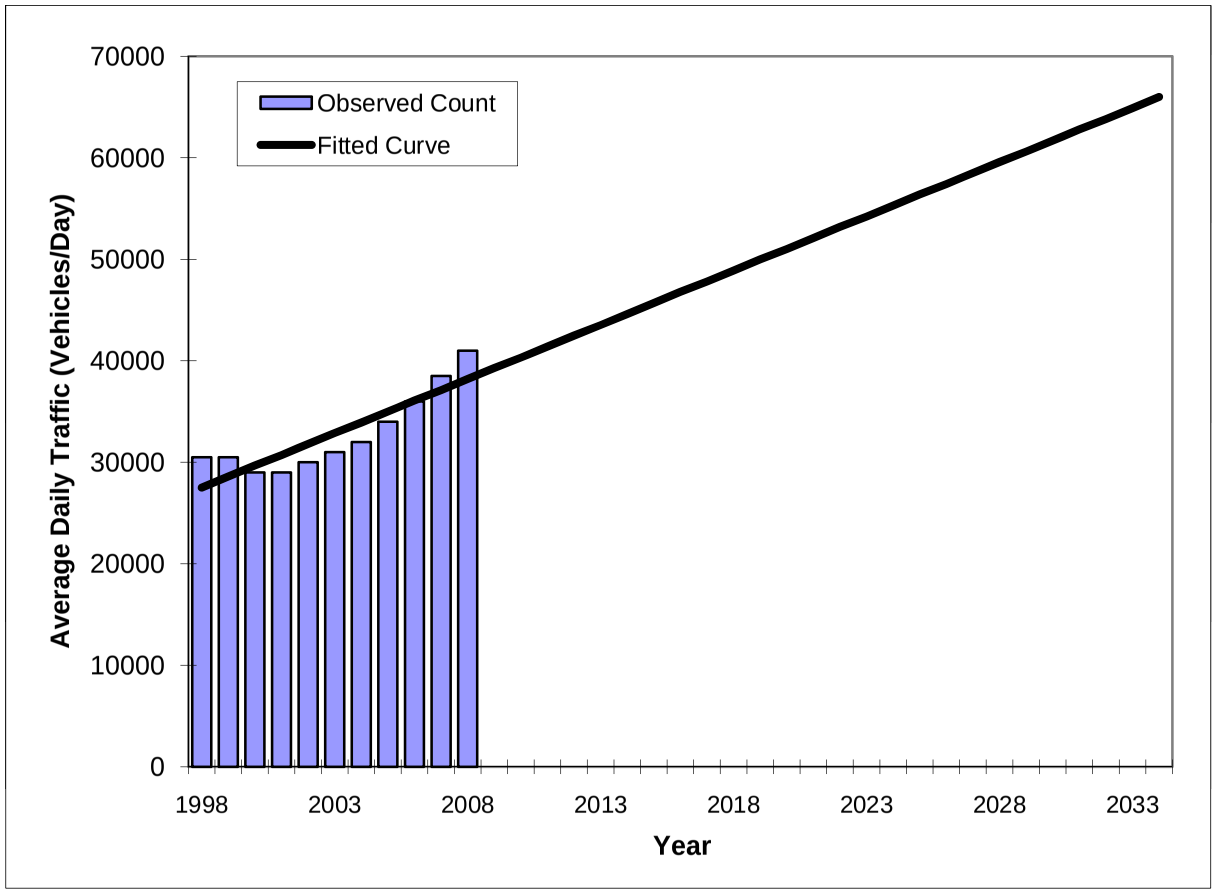
*Axle-Adjusted

** Annual Trend Increase:	695
Trend R-squared:	24.5%
Trend Annual Historic Growth Rate:	1.49%
Trend Growth Rate (2008 to Design Year):	1.28%
Printed:	9-Oct-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 618 -- East of Plant Ave

County:	Hillsborough
Station #:	105249
Highway:	SR 618



Year	Traffic (ADT/AADT) Count*	Trend**
1998	30500	27500
1999	30500	28600
2000	29000	29700
2001	29000	30700
2002	30000	31800
2003	31000	32900
2004	32000	33900
2005	34000	35000
2006	36000	36100
2007	38500	37100
2008	41000	38200
2015 Opening Year Trend		
2015	N/A	45700
2025 Mid-Year Trend		
2025	N/A	56400
2035 Design Year Trend		
2035	N/A	67000
TRANPLAN Forecasts/Trends		

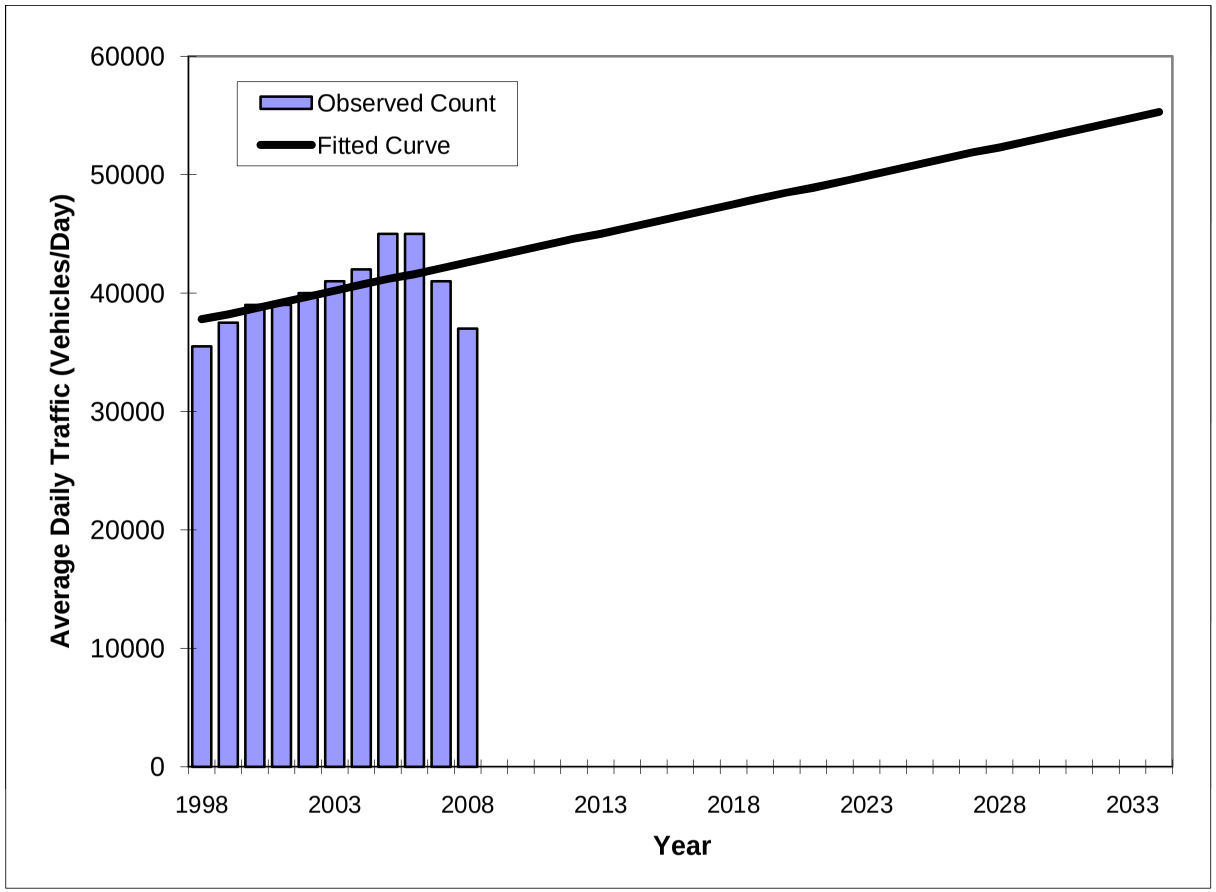
*Axle-Adjusted

** Annual Trend Increase:	1,068
Trend R-squared:	77.2%
Trend Annual Historic Growth Rate:	3.89%
Trend Growth Rate (2008 to Design Year):	2.79%
Printed:	4-Nov-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 618 -- West of SR 60/Kennedy

County:	Hillsborough
Station #:	105276
Highway:	SR 618



Year	Traffic (ADT/AADT) Count*	Trend**
1998	35500	37800
1999	37500	38200
2000	39000	38700
2001	39000	39200
2002	40000	39700
2003	41000	40200
2004	42000	40700
2005	45000	41200
2006	45000	41600
2007	41000	42100
2008	37000	42600
2015 Opening Year Trend		
2015	N/A	46000
2025 Mid-Year Trend		
2025	N/A	50900
2035 Design Year Trend		
2035	N/A	55700
TRANPLAN Forecasts/Trends		

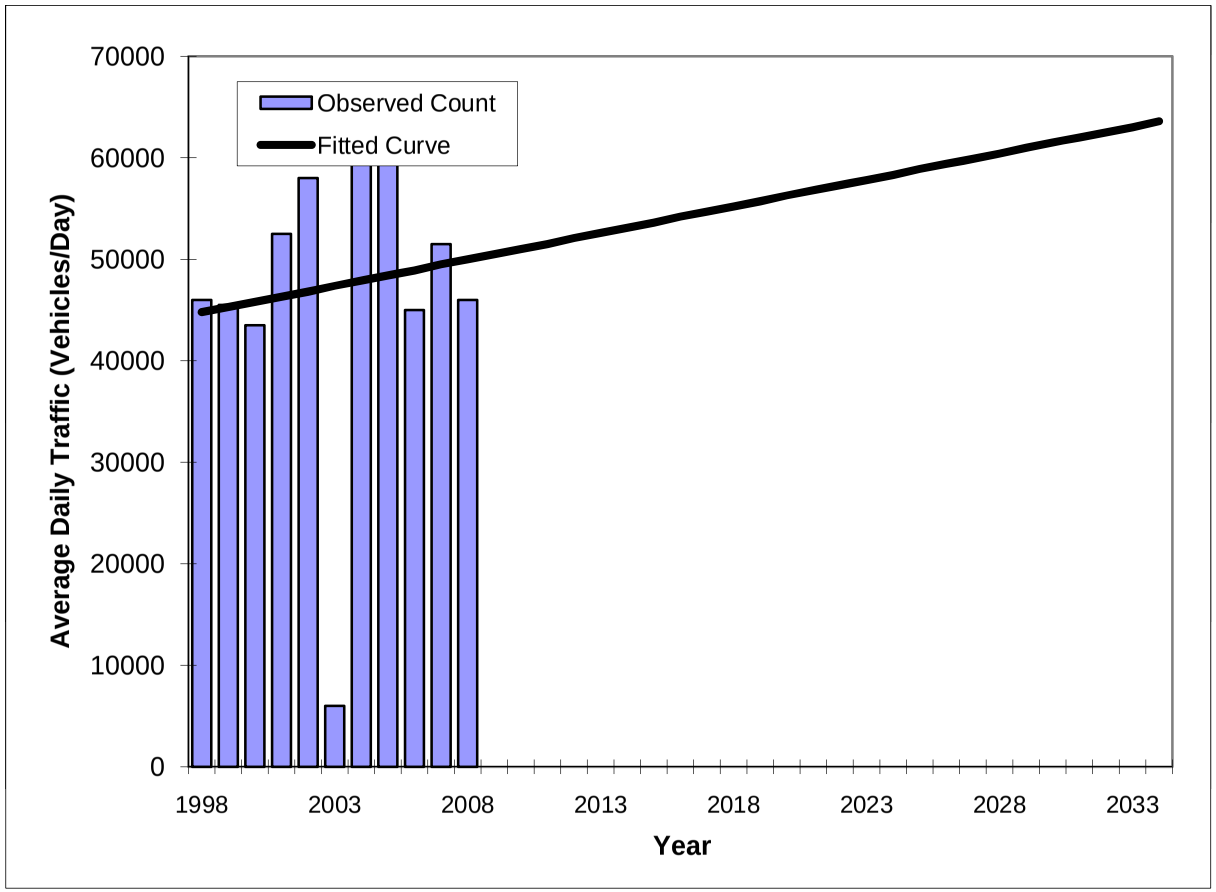
*Axle-Adjusted

** Annual Trend Increase:	486
Trend R-squared:	27.9%
Trend Annual Historic Growth Rate:	1.27%
Trend Growth Rate (2008 to Design Year):	1.14%
Printed:	9-Oct-09
Straight Line Growth Option	

TRAFFIC TRENDS

SR 618 -- E of 14th St

County:	Hillsborough
Station #:	105277
Highway:	SR 618

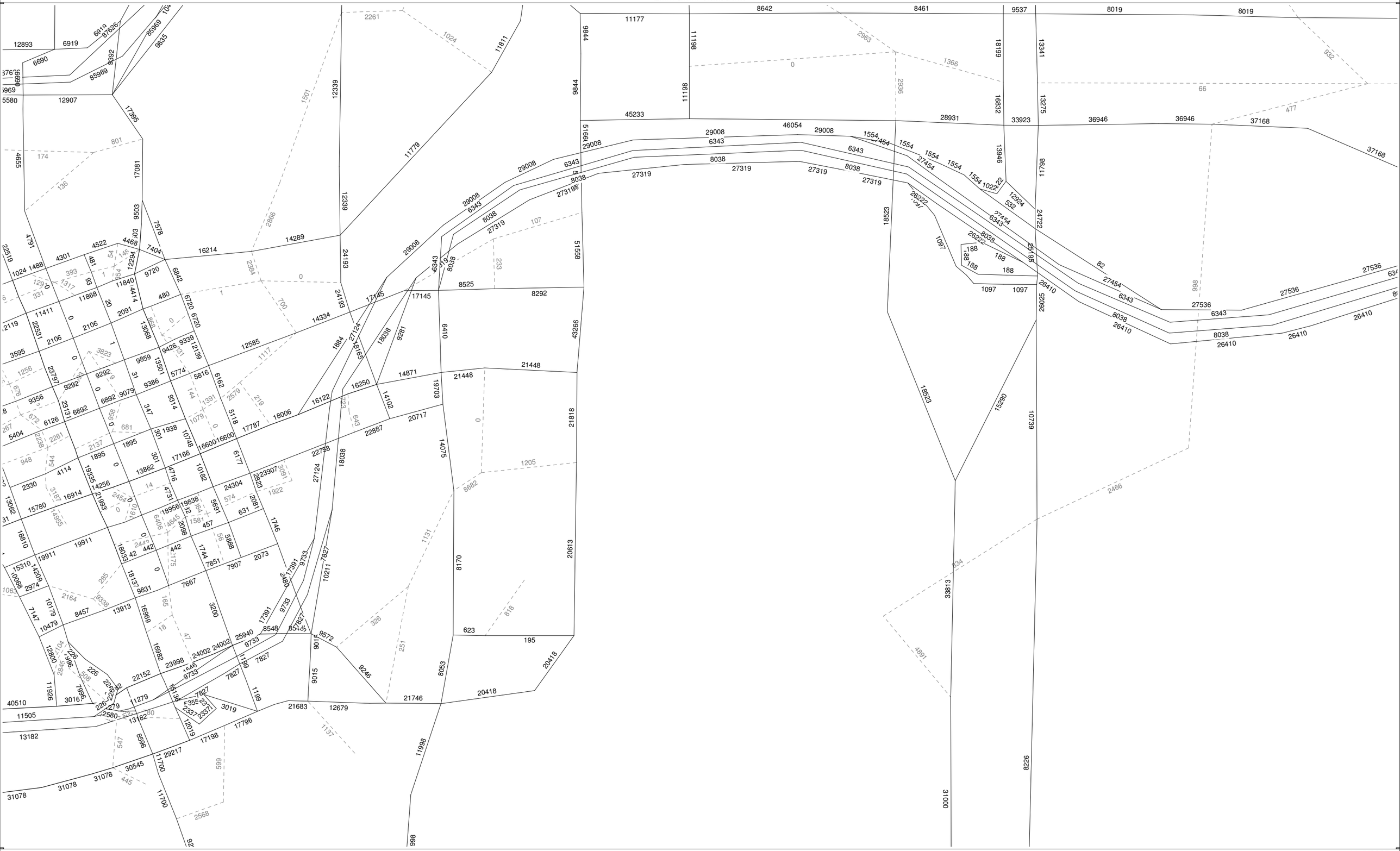


Year	Traffic (ADT/AADT) Count*	Trend**
1998	46000	44800
1999	45500	45300
2000	43500	45800
2001	52500	46300
2002	58000	46800
2003	6000	47400
2004	62000	47900
2005	65000	48400
2006	45000	48900
2007	51500	49500
2008	46000	50000
2015 Opening Year Trend		
2015	N/A	53600
2025 Mid-Year Trend		
2025	N/A	58900
2035 Design Year Trend		
2035	N/A	64100
TRANPLAN Forecasts/Trends		

*Axle-Adjusted

** Annual Trend Increase:	523
Trend R-squared:	1.2%
Trend Annual Historic Growth Rate:	1.16%
Trend Growth Rate (2008 to Design Year):	1.04%
Printed:	9-Oct-09
Straight Line Growth Option	

2006 Base Validation



11/5/2009
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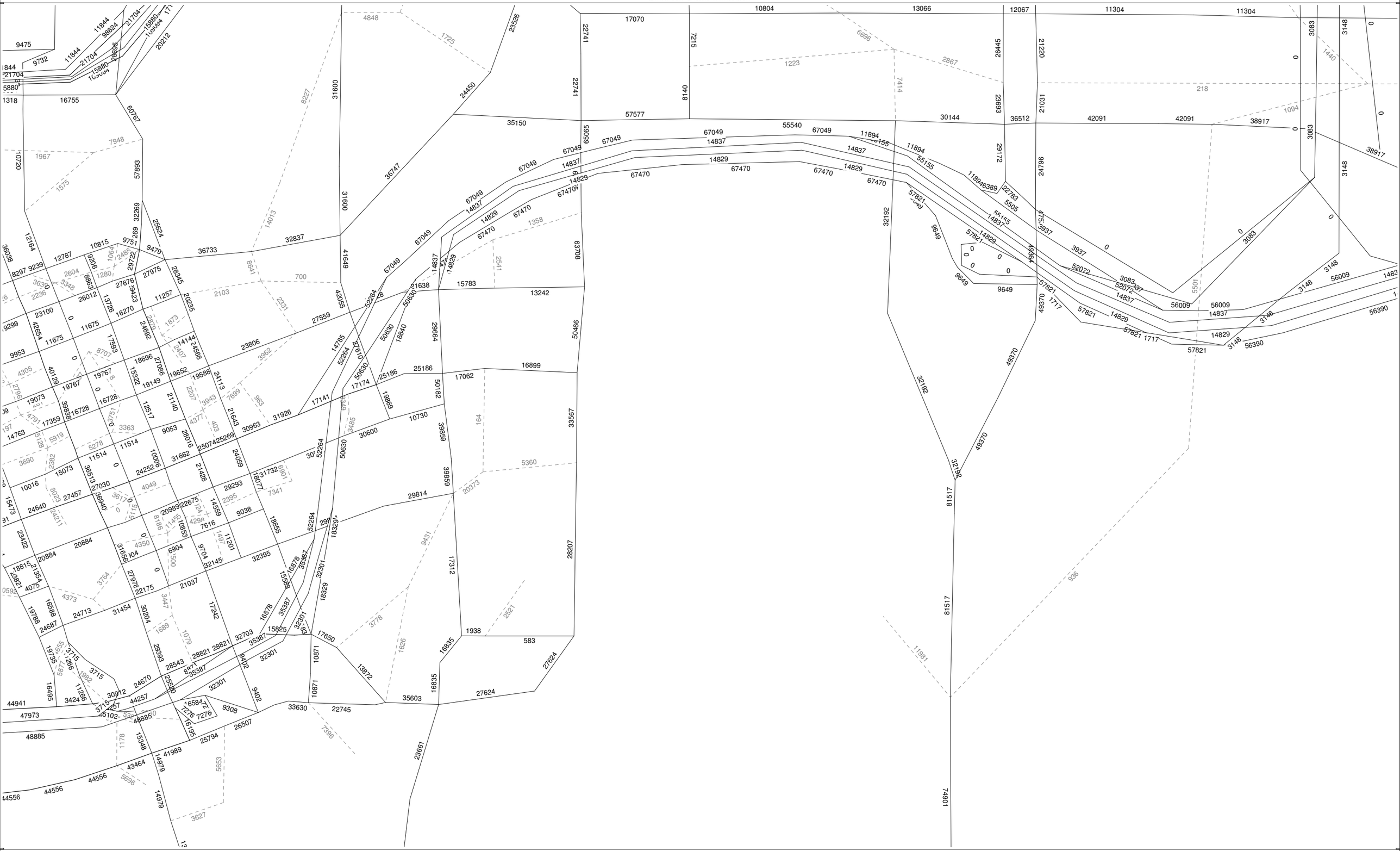
2035 No Build Scenario



11/5/2009
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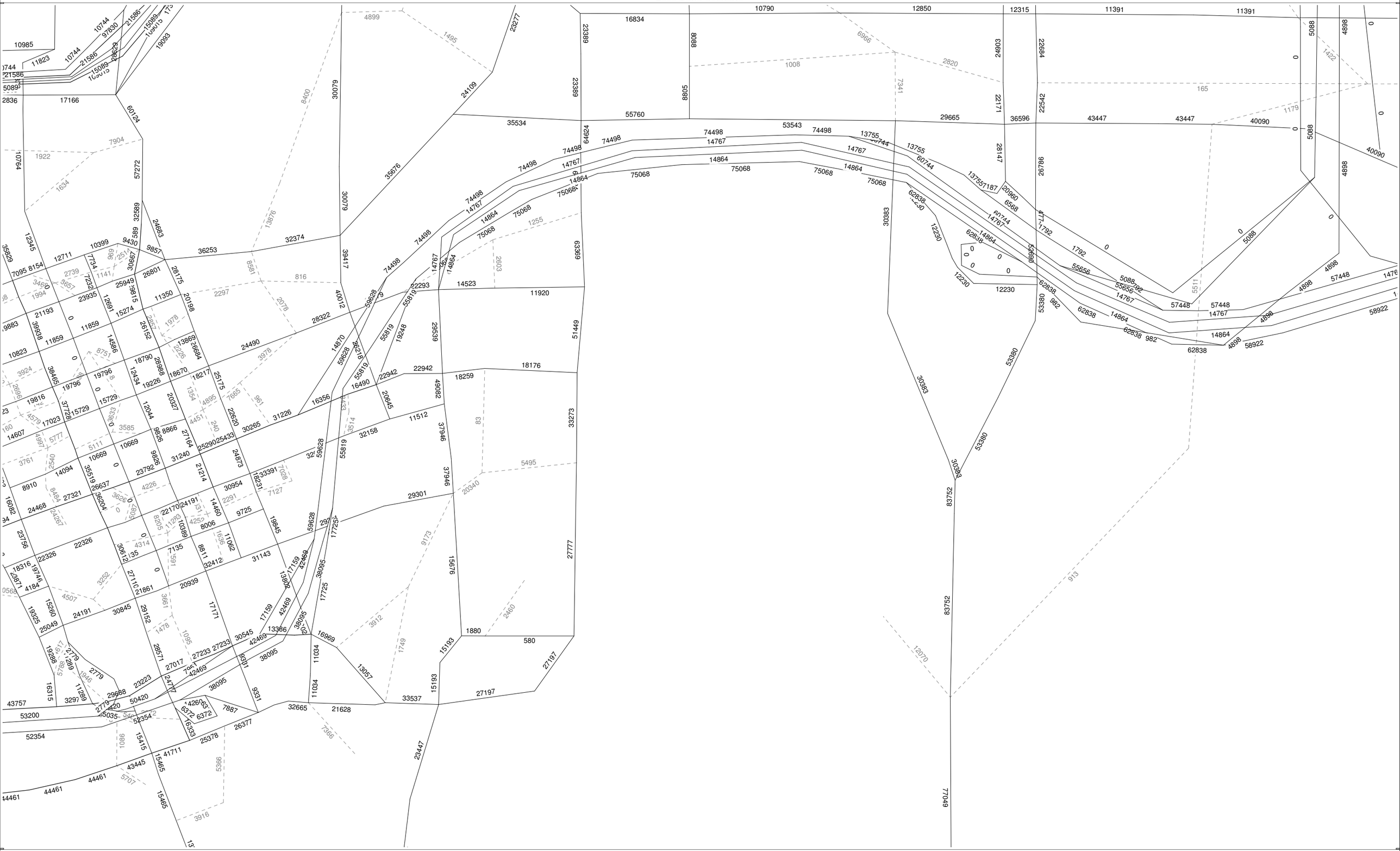
2035 Build Scenario



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APPENDIX E

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 465 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	2910	0.95	Level	5	2	0.972	1.00	3152
Ramp	520	0.95	Level	5	2	0.972	1.00	563
UpStream								
DownStream	465	0.95	Level	5	2	0.972	1.00	504

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.655 using Equation (Exhibit 25-11)
V_{12} = 2260 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3152	7050	No
V_{12}	2260	4400:All	No
$V_{FO} = V_F - V_R$	2589	7050	No
V_R	563	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 19.2 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.479 (Exhibit 25-19)
S_R= 54.0 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 58.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 329 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	5	2	0.972	1.00	3878
Ramp	640	0.95	Level	5	2	0.972	1.00	693
UpStream								
DownStream	329	0.95	Level	5	2	0.972	1.00	356

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.631 using Equation (Exhibit 25-11)
V_{12} = 2703 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3878	7050	No
V_{12}	2703	4400:All	No
$V_{FO} = V_F - V_R$	3185	7050	No
V_R	693	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 23.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.490 (Exhibit 25-19)
S_R= 53.7 mph (Exhibit 25-19)
S_0= 70.6 mph (Exhibit 25-19)
S = 57.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2910	0.95	Level	5	2	0.972	1.00	3152
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 387.22 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1864 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3444	See Exhibit 25-7	No
V_{R12}	2156	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 = 19.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.320 (Exibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= 62.2 mph (Exhibit 25-19)

S = 59.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5	2	0.972	1.00	3878
Ramp	640	0.95	Level	5	2	0.972	1.00	693
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 628.39 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2294 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4571	See Exhibit 25-7	No
V_{R12}	2987	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 25-4)

Speed Estimation

M_S = 0.363 (Exibit 25-19)

S_R = 56.6 mph (Exhibit 25-19)

S_0 = 61.1 mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	3270	0.95	Level	5	2	0.972	1.00	3542
Ramp	330	0.95	Level	5	2	0.972	1.00	357
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.655 using Equation (Exhibit 25-11)
V_{12} = 2443 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3542	7050	No
V_{12}	2443	4400:All	No
$V_{FO} = V_F - V_R$	3185	7050	No
V_R	357	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 20.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.460 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= 70.9 mph (Exhibit 25-19)
S = 58.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	2660	0.95	Level	5	2	0.972	1.00	2881
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.675 using Equation (Exhibit 25-11)

V_{12} = 2038 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2881	7050	No
V_{12}	2038	4400:All	No
$V_{FO} = V_F - V_R$	2589	7050	No
V_R	292	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 17.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.454 (Exhibit 25-19)

S_R= 54.6 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 58.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	5	2	0.972	1.00	3878
Ramp	640	0.95	Level	5	2	0.972	1.00	693
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 628.39 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2294 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4571	See Exhibit 25-7	No
V_{R12}	2987	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 25-4)

Speed Estimation

M_S = 0.363 (Exibit 25-19)

S_R = 56.6 mph (Exhibit 25-19)

S_0 = 61.1 mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2910	0.95	Level	5	2	0.972	1.00	3152
Ramp	520	0.95	Level	5	2	0.972	1.00	563
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 445.21 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1864 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3715	See Exhibit 25-7	No
V_{R12}	2427	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 = 21.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.330 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= 62.2 mph (Exhibit 25-19)

S = 59.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2250	0.95	Level	5	2	0.972	1.00	2437
Ramp	660	0.95	Level	5	2	0.972	1.00	715
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1441 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3152	See Exhibit 25-7	No
V_{R12}	2156	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 = 18.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.320 (Exibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= 63.2 mph (Exhibit 25-19)

S = 59.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2760	0.95	Level	5	2	0.972	1.00	2990
Ramp	820	0.95	Level	5	2	0.972	1.00	888
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1769 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3878	See Exhibit 25-7	No
V_{R12}	2657	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 = 22.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.342 (Exibit 25-19)

S_R= 57.1 mph (Exhibit 25-19)

S_0= 62.4 mph (Exhibit 25-19)

S = 58.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	5	2	0.972	1.00	3878
Ramp	820	0.95	Level	5	2	0.972	1.00	888
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 1450.26 (Equation 25-8 or 25-9)
P_{FD} = 0.661 using Equation (Exhibit 25-11)
V_{12} = 2864 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3878	7050	No
V_{12}	2864	4400:All	No
$V_{FO} = V_F - V_R$	2990	7050	No
V_R	888	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 24.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.508 (Exhibit 25-19)
S_R= 53.3 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	2910	0.95	Level	5	2	0.972	1.00	3152
Ramp	660	0.95	Level	5	2	0.972	1.00	715
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 289.19 (Equation 25-8 or 25-9)
P_{FD} = 0.648 using Equation (Exhibit 25-11)
V_{12} = 2295 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3152	7050	No
V_{12}	2295	4400:All	No
$V_{FO} = V_F - V_R$	2437	7050	No
V_R	715	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 19.5 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.492 (Exhibit 25-19)
S_R= 53.7 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 140 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	2290	0.95	Level	5	2	0.972	1.00	2480
Ramp	560	0.95	Level	5	2	0.972	1.00	607
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.670 using Equation (Exhibit 25-11)

V_{12} = 1862 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2480	7050	No
V_{12}	1862	4400:All	No
$V_{FO} = V_F - V_R$	1873	7050	No
V_R	607	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 15.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.483 (Exhibit 25-19)

S_R= 53.9 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	2820	0.95	Level	5	2	0.972	1.00	3055
Ramp	700	0.95	Level	5	2	0.972	1.00	758
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.649 using Equation (Exhibit 25-11)
V_{12} = 2248 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3055	7050	No
V_{12}	2248	4400:All	No
$V_{FO} = V_F - V_R$	2297	7050	No
V_R	758	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 19.1 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.496 (Exhibit 25-19)
S_R= 53.6 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2250	0.95	Level	5	2	0.972	1.00	2437
Ramp	520	0.95	Level	5	2	0.972	1.00	563
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 292.20 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1441 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3000	See Exhibit 25-7	No
V_{R12}	2004	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 = 17.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.315 (Exibit 25-19)

S_R= 57.8 mph (Exhibit 25-19)

S_0= 63.2 mph (Exhibit 25-19)

S = 59.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2760	0.95	Level	5	2	0.972	1.00	2990
Ramp	640	0.95	Level	5	2	0.972	1.00	693
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 438.36 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1769 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3683	See Exhibit 25-7	No
V_{R12}	2462	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 = 21.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.332 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= 62.4 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2820	0.95	Level	5	2	0.972	1.00	3055
Ramp	700	0.95	Level	5	2	0.972	1.00	758
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 466.18 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1807 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3813	See Exhibit 25-7	No
V_{R12}	2565	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 = 22.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.337 (Exibit 25-19)

S_R= 57.3 mph (Exhibit 25-19)

S_0= 62.3 mph (Exhibit 25-19)

S = 58.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2290	0.95	Level	5	2	0.972	1.00	2480
Ramp	560	0.95	Level	5	2	0.972	1.00	607
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 310.82 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1467 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3087	See Exhibit 25-7	No
V_{R12}	2074	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 = 18.2 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.317 (Exibit 25-19)

S_R= 57.7 mph (Exhibit 25-19)

S_0= 63.2 mph (Exhibit 25-19)

S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	2760	0.95	Level	5	2	0.972	1.00	2990
Ramp	640	0.95	Level	5	2	0.972	1.00	693
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.653 using Equation (Exhibit 25-11)
V_{12} = 2194 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2990	7050	No
V_{12}	2194	4400:All	No
$V_{FO} = V_F - V_R$	2297	7050	No
V_R	693	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 18.6 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.490 (Exhibit 25-19)
S_R= 53.7 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 253 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	2250	0.95	Level	5	2	0.972	1.00	2437
Ramp	520	0.95	Level	5	2	0.972	1.00	563
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.673 using Equation (Exhibit 25-11)
V_{12} = 1825 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2437	7050	No
V_{12}	1825	4400:All	No
$V_{FO} = V_F - V_R$	1874	7050	No
V_R	563	2000	No

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 15.4 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.479 (Exhibit 25-19)
S_R = 54.0 mph (Exhibit 25-19)
S_0 = 71.3 mph (Exhibit 25-19)

S = mph (Exhibit 25-14)	S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4300	0.95	Level	5	2	0.972	1.00	4658
Ramp	280	0.95	Level	5	2	0.972	1.00	303
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 711.85 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2755 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4961	See Exhibit 25-7	No
V_{R12}	3058	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 = 26.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.369 (Exibit 25-19)

S_R= 56.5 mph (Exhibit 25-19)

S_0= 59.9 mph (Exhibit 25-19)

S = 57.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5280	0.95	Level	5	2	0.972	1.00	5719
Ramp	1230	0.95	Level	5	2	0.972	1.00	1332
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1159.11 (Equation 25-2 or 25-3)

P_{FM} = 0.581 using Equation (Exhibit 25-5)

V_{12} = 3325 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7051	See Exhibit 25-7	Yes
V_{R12}	4657	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 = 38.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.697 (Exibit 25-19)

S_R= 49.0 mph (Exhibit 25-19)

S_0= 57.9 mph (Exhibit 25-19)

S = 51.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	4390	0.95	Level	5	2	0.972	1.00	4755
Ramp	340	0.95	Level	5	2	0.972	1.00	368
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.624 using Equation (Exhibit 25-11)
V_{12} = 3106 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4755	7050	No
V_{12}	3106	4400:All	No
$V_{FO} = V_F - V_R$	4387	7050	No
V_R	368	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 26.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.461 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= 68.8 mph (Exhibit 25-19)
S = 58.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	3590	0.95	Level	5	2	0.972	1.00	3889
Ramp	280	0.95	Level	5	2	0.972	1.00	303
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.649 using Equation (Exhibit 25-11)
V_{12} = 2630 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3889	7050	No
V_{12}	2630	4400:All	No
$V_{FO} = V_F - V_R$	3586	7050	No
V_R	303	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 22.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.455 (Exhibit 25-19)
S_R= 54.5 mph (Exhibit 25-19)
S_0= 70.3 mph (Exhibit 25-19)
S = 58.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	5280	0.95	Level	5	2	0.972	1.00	5719
Ramp	1000	0.95	Level	5	2	0.972	1.00	1083
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1105.83 (Equation 25-2 or 25-3)
P_{FM} = 0.585 using Equation (Exhibit 25-5)
V_{12} = 3344 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6802	See Exhibit 25-7	No
V_{R12}	4427	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 = 36.4 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.612 (Exibit 25-19)
S_R = 50.9 mph (Exhibit 25-19)
S_0 = 58.0 mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-11)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)

S = 53.2 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4300	0.95	Level	5	2	0.972	1.00	4658
Ramp	990	0.95	Level	5	2	0.972	1.00	1072
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 876.42 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2755 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5730	See Exhibit 25-7	No
V_{R12}	3827	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 = 31.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.465 (Exibit 25-19)

S_R= 54.3 mph (Exhibit 25-19)

S_0= 59.9 mph (Exhibit 25-19)

S = 56.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3270	0.95	Level	5	2	0.972	1.00	3542
Ramp	1030	0.95	Level	5	2	0.972	1.00	1116
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2095 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4658	See Exhibit 25-7	No
V_{R12}	3211	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 25-4)

Speed Estimation

M_S = 0.383 (Exibit 25-19)

S_R= 56.2 mph (Exhibit 25-19)

S_0= 61.6 mph (Exhibit 25-19)

S = 57.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4010	0.95	Level	5	2	0.972	1.00	4343
Ramp	1270	0.95	Level	5	2	0.972	1.00	1376
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2569 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5719	See Exhibit 25-7	No
V_{R12}	3945	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 = 32.5 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.488 (Exibit 25-19)

S_R= 53.8 mph (Exhibit 25-19)

S_0= 60.4 mph (Exhibit 25-19)

S = 55.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	5280	0.95	Level	5	2	0.972	1.00	5719
Ramp	1270	0.95	Level	5	2	0.972	1.00	1376
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 2206.63 (Equation 25-8 or 25-9)
P_{FD} = 0.622 using Equation (Exhibit 25-11)
V_{12} = 4078 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5719	7050	No
V_{12}	4078	4400:All	No
$V_{FO} = V_F - V_R$	4343	7050	No
V_R	1376	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 34.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.552 (Exhibit 25-19)
S_R= 52.3 mph (Exhibit 25-19)
S_0= 68.8 mph (Exhibit 25-19)
S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	4300	0.95	Level	5	2	0.972	1.00	4658
Ramp	1030	0.95	Level	5	2	0.972	1.00	1116
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 385.64 (Equation 25-8 or 25-9)
P_{FD} = 0.592 using Equation (Exhibit 25-11)
V_{12} = 3214 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4658	7050	No
V_{12}	3214	4400:All	No
$V_{FO} = V_F - V_R$	3542	7050	No
V_R	1116	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 27.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.528 (Exhibit 25-19)
S_R= 52.8 mph (Exhibit 25-19)
S_0= 69.6 mph (Exhibit 25-19)
S = 57.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 140 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	3110	0.95	Level	5	2	0.972	1.00	3369
Ramp	850	0.95	Level	5	2	0.972	1.00	921
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.633 using Equation (Exhibit 25-11)
V_{12} = 2472 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3369	7050	No
V_{12}	2472	4400:All	No
$V_{FO} = V_F - V_R$	2448	7050	No
V_R	921	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 21.0 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.511 (Exhibit 25-19)
S_R= 53.2 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	3810	0.95	Level	5	2	0.972	1.00	4127
Ramp	1050	0.95	Level	5	2	0.972	1.00	1137
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.605 using Equation (Exhibit 25-11)

V_{12} = 2945 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4127	7050	No
V_{12}	2945	4400:All	No
$V_{FO} = V_F - V_R$	2990	7050	No
V_R	1137	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.530 (Exhibit 25-19)

S_R= 52.8 mph (Exhibit 25-19)

S_0= 70.6 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3270	0.95	Level	5	2	0.972	1.00	3542
Ramp	1010	0.95	Level	5	2	0.972	1.00	1094
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 642.30 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2095 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4636	See Exhibit 25-7	No
V_{R12}	3189	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 = 26.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.381 (Exibit 25-19)

S_R= 56.2 mph (Exhibit 25-19)

S_0= 61.6 mph (Exhibit 25-19)

S = 57.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4010	0.95	Level	5	2	0.972	1.00	4343
Ramp	1250	0.95	Level	5	2	0.972	1.00	1354
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 869.36 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2569 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5697	See Exhibit 25-7	No
V_{R12}	3923	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 = 32.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.483 (Exibit 25-19)

S_R= 53.9 mph (Exhibit 25-19)

S_0= 60.4 mph (Exhibit 25-19)

S = 55.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3810	0.95	Level	5	2	0.972	1.00	4127
Ramp	1050	0.95	Level	5	2	0.972	1.00	1137
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 776.70 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2441 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5264	See Exhibit 25-7	No
V_{R12}	3578	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 25-4)

Speed Estimation

M_S = 0.426 (Exibit 25-19)

S_R= 55.2 mph (Exhibit 25-19)

S_0= 60.7 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3110	0.95	Level	5	2	0.972	1.00	3369
Ramp	850	0.95	Level	5	2	0.972	1.00	921
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 568.26 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1993 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4290	See Exhibit 25-7	No
V_{R12}	2914	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 = 24.6 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.358 (Exibit 25-19)

S_R= 56.8 mph (Exhibit 25-19)

S_0= 61.8 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	4010	0.95	Level	5	2	0.972	1.00	4343
Ramp	1250	0.95	Level	5	2	0.972	1.00	1354
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.589 using Equation (Exhibit 25-11)
V_{12} = 3115 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4343	7050	No
V_{12}	3115	4400:All	No
$V_{FO} = V_F - V_R$	2989	7050	No
V_R	1354	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 26.5 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.550 (Exhibit 25-19)
S_R= 52.4 mph (Exhibit 25-19)
S_0= 70.4 mph (Exhibit 25-19)
S = 56.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 253 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	3270	0.95	Level	5	2	0.972	1.00	3542
Ramp	1010	0.95	Level	5	2	0.972	1.00	1094
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.621 using Equation (Exhibit 25-11)
V_{12} = 2615 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3542	7050	No
V_{12}	2615	4400:All	No
$V_{FO} = V_F - V_R$	2448	7050	No
V_R	1094	2000	No

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 22.2 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.526 (Exhibit 25-19)
S_R = 52.9 mph (Exhibit 25-19)
S_0 = 71.3 mph (Exhibit 25-19)

S = mph (Exhibit 25-14)	S = 56.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 465 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	5680	0.95	Level	5	2	0.972	1.00	6152
Ramp	1480	0.95	Level	5	2	0.972	1.00	1603
UpStream								
DownStream	465	0.95	Level	5	2	0.972	1.00	504

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.532 using Equation (Exhibit 25-11)
V_{12} = 4025 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6152	7050	No
V_{12}	4025	4400:All	No
$V_{FO} = V_F - V_R$	4549	7050	No
V_R	1603	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 34.4 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.572 (Exhibit 25-19)
S_R= 51.8 mph (Exhibit 25-19)
S_0= 66.9 mph (Exhibit 25-19)
S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 329 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	6980	0.95	Level	5	2	0.972	1.00	7560
Ramp	1820	0.95	Level	5	2	0.972	1.00	1971
UpStream								
DownStream	329	0.95	Level	5	2	0.972	1.00	356

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.480 using Equation (Exhibit 25-11)
V_{12} = 4656 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7560	7050	Yes
V_{12}	4656	4400:All	Yes
$V_{FO} = V_F - V_R$	5589	7050	No
V_R	1971	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 39.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.605 (Exhibit 25-19)
S_R= 51.1 mph (Exhibit 25-19)
S_0= 63.9 mph (Exhibit 25-19)
S = 55.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5680	0.95	Level	5	2	0.972	1.00	6152
Ramp	280	0.95	Level	5	2	0.972	1.00	303
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1031.57 (Equation 25-2 or 25-3)

P_{FM} = 0.589 using Equation (Exhibit 25-5)

V_{12} = 3626 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6455	See Exhibit 25-7	No
V_{R12}	3929	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 = 32.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.484 (Exibit 25-19)

S_R= 53.9 mph (Exhibit 25-19)

S_0= 57.1 mph (Exhibit 25-19)

S = 55.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	6980	0.95	Level	5	2	0.972	1.00	7560
Ramp	1820	0.95	Level	5	2	0.972	1.00	1971
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1689.83 (Equation 25-2 or 25-3)

P_{FM} = 0.548 using Equation (Exhibit 25-5)

V_{12} = 4142 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	9531	See Exhibit 25-7	Yes
V_{R12}	6113	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 = F (Exhibit 25-4)

Speed Estimation

M_S = 2.048 (Exibit 25-19)

S_R= 17.9 mph (Exhibit 25-19)

S_0= 51.8 mph (Exhibit 25-19)

S = 23.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	5310	0.95	Level	5	2	0.972	1.00	5752
Ramp	340	0.95	Level	5	2	0.972	1.00	368
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.599 using Equation (Exhibit 25-11)
V_{12} = 3594 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5752	7050	No
V_{12}	3594	4400:All	No
$V_{FO} = V_F - V_R$	5384	7050	No
V_R	368	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 30.7 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.461 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= 66.8 mph (Exhibit 25-19)
S = 58.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	4480	0.95	Level	5	2	0.972	1.00	4853
Ramp	280	0.95	Level	5	2	0.972	1.00	303
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.625 using Equation (Exhibit 25-11)
V_{12} = 3146 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4853	7050	No
V_{12}	3146	4400:All	No
$V_{FO} = V_F - V_R$	4550	7050	No
V_R	303	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 26.8 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.455 (Exhibit 25-19)
S_R= 54.5 mph (Exhibit 25-19)
S_0= 68.5 mph (Exhibit 25-19)
S = 58.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	6980	0.95	Level	5	2	0.972	1.00	7560
Ramp	1820	0.95	Level	5	2	0.972	1.00	1971
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1689.83 (Equation 25-2 or 25-3)

P_{FM} = 0.548 using Equation (Exhibit 25-5)

V_{12} = 4142 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	9531	See Exhibit 25-7	Yes
V_{R12}	6113	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 = F (Exhibit 25-4)

Speed Estimation

M_S = 2.048 (Exibit 25-19)

S_R = 17.9 mph (Exhibit 25-19)

S_0 = 51.8 mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = 23.4 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5680	0.95	Level	5	2	0.972	1.00	6152
Ramp	1480	0.95	Level	5	2	0.972	1.00	1603
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1309.77 (Equation 25-2 or 25-3)

P_{FM} = 0.572 using Equation (Exhibit 25-5)

V_{12} = 3518 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7755	See Exhibit 25-7	Yes
V_{R12}	5121	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 25-4)

Speed Estimation

M_S = 0.939 (Exibit 25-19)

S_R= 43.4 mph (Exhibit 25-19)

S_0= 56.5 mph (Exhibit 25-19)

S = 47.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4290	0.95	Level	5	2	0.972	1.00	4647
Ramp	1390	0.95	Level	5	2	0.972	1.00	1506
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2749 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6153	See Exhibit 25-7	No
V_{R12}	4255	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 = 34.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.561 (Exibit 25-19)

S_R= 52.1 mph (Exhibit 25-19)

S_0= 60.0 mph (Exhibit 25-19)

S = 54.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5260	0.95	Level	5	2	0.972	1.00	5697
Ramp	1720	0.95	Level	5	2	0.972	1.00	1863
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 3370 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7560	See Exhibit 25-7	Yes
V_{R12}	5233	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 = 42.3 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.017 (Exibit 25-19)

S_R= 41.6 mph (Exhibit 25-19)

S_0= 58.3 mph (Exhibit 25-19)

S = 45.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	6980	0.95	Level	5	2	0.972	1.00	7560
Ramp	1720	0.95	Level	5	2	0.972	1.00	1863
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 4604.16 (Equation 25-8 or 25-9)
P_{FD} = 0.584 using Equation (Exhibit 25-11)
V_{12} = 5187 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7560	7050	Yes
V_{12}	5187	4400:All	Yes
$V_{FO} = V_F - V_R$	5697	7050	No
V_R	1863	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 44.4 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.596 (Exhibit 25-19)
S_R= 51.3 mph (Exhibit 25-19)
S_0= 66.0 mph (Exhibit 25-19)
S = 55.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	5680	0.95	Level	5	2	0.972	1.00	6152
Ramp	1390	0.95	Level	5	2	0.972	1.00	1506
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 572.16 (Equation 25-8 or 25-9)
P_{FD} = 0.537 using Equation (Exhibit 25-11)
V_{12} = 4001 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6152	7050	No
V_{12}	4001	4400:All	No
$V_{FO} = V_F - V_R$	4646	7050	No
V_R	1506	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 34.2 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.564 (Exhibit 25-19)
S_R= 52.0 mph (Exhibit 25-19)
S_0= 66.8 mph (Exhibit 25-19)
S = 56.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 140 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	3930	0.95	Level	5	2	0.972	1.00	4257
Ramp	1140	0.95	Level	5	2	0.972	1.00	1235
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.597 using Equation (Exhibit 25-11)

V_{12} = 3038 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4257	7050	No
V_{12}	3038	4400:All	No
$V_{FO} = V_F - V_R$	3022	7050	No
V_R	1235	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 25.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.539 (Exhibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 70.5 mph (Exhibit 25-19)

S = 56.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 773 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	4820	0.95	Level	5	2	0.972	1.00	5221
Ramp	1420	0.95	Level	5	2	0.972	1.00	1538
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.559 using Equation (Exhibit 25-11)

V_{12} = 3596 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5221	7050	No
V_{12}	3596	4400:All	No
$V_{FO} = V_F - V_R$	3683	7050	No
V_R	1538	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 30.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.566 (Exhibit 25-19)

S_R= 52.0 mph (Exhibit 25-19)

S_0= 68.9 mph (Exhibit 25-19)

S = 56.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4290	0.95	Level	5	2	0.972	1.00	4647
Ramp	1500	0.95	Level	5	2	0.972	1.00	1625
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 992.41 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2749 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6272	See Exhibit 25-7	No
V_{R12}	4374	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 25-4)

Speed Estimation

M_S = 0.596 (Exibit 25-19)

S_R= 51.3 mph (Exhibit 25-19)

S_0= 60.0 mph (Exhibit 25-19)

S = 53.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5260	0.95	Level	5	2	0.972	1.00	5697
Ramp	1860	0.95	Level	5	2	0.972	1.00	2015
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1300.57 (Equation 25-2 or 25-3)

P_{FM} = 0.572 using Equation (Exhibit 25-5)

V_{12} = 3261 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7712	See Exhibit 25-7	Yes
V_{R12}	5276	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 = 42.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.049 (Exibit 25-19)

S_R= 40.9 mph (Exhibit 25-19)

S_0= 57.7 mph (Exhibit 25-19)

S = 45.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4820	0.95	Level	5	2	0.972	1.00	5221
Ramp	1420	0.95	Level	5	2	0.972	1.00	1538
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1096.63 (Equation 25-2 or 25-3)

P_{FM} = 0.585 using Equation (Exhibit 25-5)

V_{12} = 3056 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6759	See Exhibit 25-7	No
V_{R12}	4594	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 = 37.5 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.672 (Exibit 25-19)

S_R= 49.6 mph (Exhibit 25-19)

S_0= 59.0 mph (Exhibit 25-19)

S = 52.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3930	0.95	Level	5	2	0.972	1.00	4257
Ramp	1140	0.95	Level	5	2	0.972	1.00	1235
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 825.49 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2518 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5492	See Exhibit 25-7	No
V_{R12}	3753	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 25-4)

Speed Estimation

M_S = 0.452 (Exibit 25-19)

S_R= 54.6 mph (Exhibit 25-19)

S_0= 60.5 mph (Exhibit 25-19)

S = 56.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	5260	0.95	Level	5	2	0.972	1.00	5697
Ramp	1860	0.95	Level	5	2	0.972	1.00	2015
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.525 using Equation (Exhibit 25-11)

V_{12} = 3948 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5697	7050	No
V_{12}	3948	4400:All	No
$V_{FO} = V_F - V_R$	3682	7050	No
V_R	2015	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.609 (Exhibit 25-19)

S_R= 51.0 mph (Exhibit 25-19)

S_0= 68.4 mph (Exhibit 25-19)

S = 55.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 253 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	4290	0.95	Level	5	2	0.972	1.00	4647
Ramp	1500	0.95	Level	5	2	0.972	1.00	1625
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.569 using Equation (Exhibit 25-11)
V_{12} = 3345 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4647	7050	No
V_{12}	3345	4400:All	No
$V_{FO} = V_F - V_R$	3022	7050	No
V_R	1625	2000	No

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 28.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.574 (Exhibit 25-19)
S_R = 51.8 mph (Exhibit 25-19)
S_0 = 70.1 mph (Exhibit 25-19)

S = mph (Exhibit 25-14)	S = 55.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 465 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	2810	0.95	Level	5	2	0.972	1.00	3044
Ramp	440	0.95	Level	5	2	0.972	1.00	477
UpStream								
DownStream	465	0.95	Level	5	2	0.972	1.00	504

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3044 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3044	4700	No
V_{12}	3044	4400:All	No
$V_{FO} = V_F - V_R$	2567	4700	No
V_R	477	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 25.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.471 (Exhibit 25-19)
S_R= 54.2 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 329 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	3440	0.95	Level	5	2	0.972	1.00	3726
Ramp	540	0.95	Level	5	2	0.972	1.00	585
UpStream								
DownStream	329	0.95	Level	5	2	0.972	1.00	356

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3726 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3726	4700	No
V_{12}	3726	4400:All	No
$V_{FO} = V_F - V_R$	3141	4700	No
V_R	585	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 31.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.481 (Exhibit 25-19)
S_R= 53.9 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 53.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2810	0.95	Level	5	2	0.972	1.00	3044
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 929.71 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3044 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3336	See Exhibit 25-7	No
V_{R12}	3336	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 = 28.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.396 (Exibit 25-19)

S_R= 55.9 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 55.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3440	0.95	Level	5	2	0.972	1.00	3726
Ramp	540	0.95	Level	5	2	0.972	1.00	585
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 572.75 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3726 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4311	See Exhibit 25-7	No
V_{R12}	4311	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 25-4)

Speed Estimation

M_S = 0.577 (Exibit 25-19)

S_R= 51.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 51.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	3230	0.95	Level	5	2	0.972	1.00	3499
Ramp	330	0.95	Level	5	2	0.972	1.00	357
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3499 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3499	4700	No
V_{12}	3499	4400:All	No
$V_{FO} = V_F - V_R$	3142	4700	No
V_R	357	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 29.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.460 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	2640	0.95	Level	5	2	0.972	1.00	2860
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2860 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2860	4700	No
V_{12}	2860	4400:All	No
$V_{FO} = V_F - V_R$	2568	4700	No
V_R	292	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 24.3 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.454 (Exhibit 25-19)
S_R= 54.6 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	3440	0.95	Level	5	2	0.972	1.00	3726
Ramp	540	0.95	Level	5	2	0.972	1.00	585
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 572.75 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3726 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4311	See Exhibit 25-7	No
V_{R12}	4311	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 25-4)

Speed Estimation

M_S = 0.577 (Exibit 25-19)

S_R = 51.7 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = 51.7 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2810	0.95	Level	5	2	0.972	1.00	3044
Ramp	440	0.95	Level	5	2	0.972	1.00	477
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 445.21 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3044 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3521	See Exhibit 25-7	No
V_{R12}	3521	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 = 29.6 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.418 (Exibit 25-19)

S_R= 55.4 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 55.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2180	0.95	Level	5	2	0.972	1.00	2361
Ramp	630	0.95	Level	5	2	0.972	1.00	682
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2361 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3043	See Exhibit 25-7	No
V_{R12}	3043	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 25-4)

Speed Estimation

M_S = 0.368 (Exibit 25-19)

S_R= 56.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2650	0.95	Level	5	2	0.972	1.00	2870
Ramp	790	0.95	Level	5	2	0.972	1.00	856
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2870 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3726	See Exhibit 25-7	No
V_{R12}	3726	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 25-4)

Speed Estimation

M_S = 0.448 (Exibit 25-19)

S_R= 54.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2690	0.95	Level	5	2	0.972	1.00	2914
Ramp	690	0.95	Level	5	2	0.972	1.00	747
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 433.65 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1724 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3661	See Exhibit 25-7	No
V_{R12}	2471	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 = 21.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.332 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= 62.5 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2200	0.95	Level	5	2	0.972	1.00	2383
Ramp	550	0.95	Level	5	2	0.972	1.00	596
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 287.71 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1410 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2979	See Exhibit 25-7	No
V_{R12}	2006	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 = 17.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.315 (Exibit 25-19)

S_R= 57.8 mph (Exhibit 25-19)

S_0= 63.3 mph (Exhibit 25-19)

S = 59.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 140 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	2200	0.95	Level	5	2	0.972	1.00	2383
Ramp	550	0.95	Level	5	2	0.972	1.00	596
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.673 using Equation (Exhibit 25-11)

V_{12} = 1799 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2383	7050	No
V_{12}	1799	4400:All	No
$V_{FO} = V_F - V_R$	1787	7050	No
V_R	596	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 15.2 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.482 (Exhibit 25-19)

S_R= 53.9 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 57.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	2690	0.95	Level	5	2	0.972	1.00	2914
Ramp	690	0.95	Level	5	2	0.972	1.00	747
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.653 using Equation (Exhibit 25-11)
V_{12} = 2162 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2914	7050	No
V_{12}	2162	4400:All	No
$V_{FO} = V_F - V_R$	2167	7050	No
V_R	747	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 18.3 (pc/mi/ln)
LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.495 (Exhibit 25-19)
S_R= 53.6 mph (Exhibit 25-19)
S_0= 71.3 mph (Exhibit 25-19)
S = 57.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2180	0.95	Level	5	2	0.972	1.00	2361
Ramp	530	0.95	Level	5	2	0.972	1.00	574
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 292.20 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2361 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2935	See Exhibit 25-7	No
V_{R12}	2935	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 25-4)

Speed Estimation

M_S = 0.359 (Exibit 25-19)

S_R= 56.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2650	0.95	Level	5	2	0.972	1.00	2870
Ramp	650	0.95	Level	5	2	0.972	1.00	704
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 415.04 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2870 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3574	See Exhibit 25-7	No
V_{R12}	3574	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 = 29.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.425 (Exibit 25-19)

S_R= 55.2 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 55.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	3440	0.95	Level	5	2	0.972	1.00	3726
Ramp	790	0.95	Level	5	2	0.972	1.00	856
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 4604.16 (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3726 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3726	4700	No
V_{12}	3726	4400:All	No
$V_{FO} = V_F - V_R$	2870	4700	No
V_R	856	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 31.8 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.505 (Exhibit 25-19)
S_R= 53.4 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 53.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	2810	0.95	Level	5	2	0.972	1.00	3044
Ramp	630	0.95	Level	5	2	0.972	1.00	682
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12} (Merge Areas)

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12} (Diverge Areas)

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 502.33 (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3044 pc/h

Capacity Checks (Merge Areas)

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks (Diverge Areas)

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3044	4700	No
V_{12}	3044	4400:All	No
$V_{FO} = V_F - V_R$	2362	4700	No
V_R	682	2000	No

Level of Service Determination (if not F) (Merge Areas)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$
D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F) (Diverge Areas)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 25.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation (Merge Areas)

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation (Diverge Areas)

D_s = 0.489 (Exhibit 25-19)
S_R= 53.7 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 53.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	2650	0.95	Level	5	2	0.972	1.00	2870
Ramp	650	0.95	Level	5	2	0.972	1.00	704
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2870 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2870	4700	No
V_{12}	2870	4400:All	No
$V_{FO} = V_F - V_R$	2166	4700	No
V_R	704	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 24.4 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.491 (Exhibit 25-19)
S_R= 53.7 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 53.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2015 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 253 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	2180	0.95	Level	5	2	0.972	1.00	2361
Ramp	530	0.95	Level	5	2	0.972	1.00	574
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R = mph (Exhibit 25-19)
S_0 = mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2361 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2361	4700	No
V_{12}	2361	4400:All	No
$V_{FO} = V_F - V_R$	1787	4700	No
V_R	574	2000	No

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 20.1 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.480 (Exhibit 25-19)
S_R = 54.0 mph (Exhibit 25-19)
S_0 = N/A mph (Exhibit 25-19)

S = mph (Exhibit 25-14)	S = 54.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4020	0.95	Level	5	2	0.972	1.00	4354
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4354 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4646	See Exhibit 25-7	No
V_{R12}	4646	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 = F (Exhibit 25-4)

Speed Estimation

M_S = 0.692 (Exibit 25-19)

S_R= 49.1 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 49.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5	2	0.972	1.00	5351
Ramp	1000	0.95	Level	5	2	0.972	1.00	1083
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5351 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6434	See Exhibit 25-7	Yes
V_{R12}	6434	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 25-4)

Speed Estimation

M_S = 2.714 (Exibit 25-19)

S_R= 2.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 2.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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		0.95	Level	5	2	0.972	1.00	2697
Ramp	330	0.95	Level	5	2	0.972	1.00	357
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 2697 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2697	4700	No
V_{12}	2697	4400:All	No
$V_{FO} = V_F - V_R$	2340	4700	No
V_R	357	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 22.9 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.460 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	3490	0.95	Level	5	2	0.972	1.00	3780
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 3780 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3780	4700	No
V_{12}	3780	4400:All	No
$V_{FO} = V_F - V_R$	3488	4700	No
V_R	292	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 32.3 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.454 (Exhibit 25-19)
S_R= 54.6 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	5	2	0.972	1.00	5351
Ramp	1000	0.95	Level	5	2	0.972	1.00	1083
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5351 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6434	See Exhibit 25-7	Yes
V_{R12}	6434	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 25-4)

Speed Estimation

M_S = 2.714 (Exibit 25-19)

S_R = 2.6 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = 2.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4020	0.95	Level	5	2	0.972	1.00	4354
Ramp	800	0.95	Level	5	2	0.972	1.00	867
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4354 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5221	See Exhibit 25-7	Yes
V_{R12}	5221	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 25-4)

Speed Estimation

M_S = 1.008 (Exibit 25-19)

S_R= 41.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 41.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3060	0.95	Level	5	2	0.972	1.00	3314
Ramp		0.95	Level	5	2	0.972	1.00	433
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3314 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3747	See Exhibit 25-7	No
V_{R12}	3747	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 = 31.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.451 (Exibit 25-19)

S_R= 54.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 54.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3760	0.95	Level	5	2	0.972	1.00	4073
Ramp	1180	0.95	Level	5	2	0.972	1.00	1278
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4073 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5351	See Exhibit 25-7	Yes
V_{R12}	5351	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 = 43.5 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.108 (Exibit 25-19)

S_R= 39.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 39.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	5	2	0.972	1.00	5351
Ramp	1180	0.95	Level	5	2	0.972	1.00	1278
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 5351 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5351	4700	Yes
V_{12}	5351	4400:All	Yes
$V_{FO} = V_F - V_R$	4073	4700	No
V_R	1278	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 45.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.543 (Exhibit 25-19)
S_R= 52.5 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 52.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	4020	0.95	Level	5	2	0.972	1.00	4354
Ramp	960	0.95	Level	5	2	0.972	1.00	1040
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 4354 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4354	4700	No
V_{12}	4354	4400:All	No
$V_{FO} = V_F - V_R$	3314	4700	No
V_R	1040	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 37.2 (pc/mi/ln)
LOS = E (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.522 (Exhibit 25-19)
S_R= 53.0 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 53.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 140 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	2880	0.95	Level	5	2	0.972	1.00	3119
Ramp	840	0.95	Level	5	2	0.972	1.00	910
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.640 using Equation (Exhibit 25-11)

V_{12} = 2324 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3119	7050	No
V_{12}	2324	4400:All	No
$V_{FO} = V_F - V_R$	2209	7050	No
V_R	910	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 19.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.510 (Exhibit 25-19)

S_R= 53.3 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	202545 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	3540	0.95	Level	5	2	0.972	1.00	3834
Ramp	1040	0.95	Level	5	2	0.972	1.00	1126
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.612 using Equation (Exhibit 25-11)
V_{12} = 2784 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3834	7050	No
V_{12}	2784	4400:All	No
$V_{FO} = V_F - V_R$	2708	7050	No
V_R	1126	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 23.7 (pc/mi/ln)
LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.529 (Exhibit 25-19)
S_R= 52.8 mph (Exhibit 25-19)
S_0= 71.1 mph (Exhibit 25-19)
S = 56.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3060	0.95	Level	5	2	0.972	1.00	3314
Ramp	1020	0.95	Level	5	2	0.972	1.00	1105
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 292.20 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3314 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4419	See Exhibit 25-7	No
V_{R12}	4419	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 = 36.3 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.610 (Exibit 25-19)

S_R= 51.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 51.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3760	0.95	Level	5	2	0.972	1.00	4073
Ramp	1260	0.95	Level	5	2	0.972	1.00	1365
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 415.04 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4073 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5438	See Exhibit 25-7	Yes
V_{R12}	5438	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 25-4)

Speed Estimation

M_S = 1.183 (Exibit 25-19)

S_R= 37.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 37.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3540	0.95	Level	5	2	0.972	1.00	3834
Ramp	1040	0.95	Level	5	2	0.972	1.00	1126
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 711.64 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2268 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4960	See Exhibit 25-7	No
V_{R12}	3394	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 = 28.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.402 (Exibit 25-19)

S_R= 55.8 mph (Exhibit 25-19)

S_0= 61.2 mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	2880	0.95	Level	5	2	0.972	1.00	3119
Ramp	840	0.95	Level	5	2	0.972	1.00	910
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 512.41 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1845 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4029	See Exhibit 25-7	No
V_{R12}	2755	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 25-4)

Speed Estimation

M_S = 0.347 (Exibit 25-19)

S_R= 57.0 mph (Exhibit 25-19)

S_0= 62.2 mph (Exhibit 25-19)

S = 58.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 88 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	3760	0.95	Level	5	2	0.972	1.00	4073
Ramp	1260	0.95	Level	5	2	0.972	1.00	1365
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 4073 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4073	4700	No
V_{12}	4073	4400:All	No
$V_{FO} = V_F - V_R$	2708	4700	No
V_R	1365	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 34.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.551 (Exhibit 25-19)

S_R= 52.3 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 52.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2025 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 253 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	3060	0.95	Level	5	2	0.972	1.00	3314
Ramp	1020	0.95	Level	5	2	0.972	1.00	1105
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3314 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3314	4700	No
V_{12}	3314	4400:All	No
$V_{FO} = V_F - V_R$	2209	4700	No
V_R	1105	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 28.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.527 (Exhibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 52.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 465 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	5250	0.95	Level	5	2	0.972	1.00	5687
Ramp	1170	0.95	Level	5	2	0.972	1.00	1267
UpStream								
DownStream	465	0.95	Level	5	2	0.972	1.00	504

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 5687 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5687	4700	Yes
V_{12}	5687	4400:All	Yes
$V_{FO} = V_F - V_R$	4420	4700	No
V_R	1267	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 48.7 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.542 (Exhibit 25-19)
S_R= 52.5 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 52.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 329 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	6420	0.95	Level	5	2	0.972	1.00	6954
Ramp	1450	0.95	Level	5	2	0.972	1.00	1571
UpStream								
DownStream	329	0.95	Level	5	2	0.972	1.00	356

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 6954 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6954	4700	Yes
V_{12}	6954	4400:All	Yes
$V_{FO} = V_F - V_R$	5383	4700	Yes
V_R	1571	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 59.6 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.569 (Exhibit 25-19)
S_R= 51.9 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 51.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 184 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5250	0.95	Level	5	2	0.972	1.00	5687
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream	184	0.95	Level	5	2	0.972	1.00	199
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 929.71 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5687 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5979	See Exhibit 25-7	Yes
V_{R12}	5979	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 = 48.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.827 (Exibit 25-19)

S_R= 23.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 23.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 121 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	6420	0.95	Level	5	2	0.972	1.00	6954
Ramp	1450	0.95	Level	5	2	0.972	1.00	1571
UpStream	121	0.95	Level	5	2	0.972	1.00	131
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 572.75 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 6954 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8525	See Exhibit 25-7	Yes
V_{R12}	8525	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 = 68.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 19.939 (Exibit 25-19)

S_R= -393.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = -393.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 104 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	5310	0.95	Level	5	2	0.972	1.00	5752
Ramp	340	0.95	Level	5	2	0.972	1.00	368
UpStream								
DownStream	104	0.95	Level	5	2	0.972	1.00	113

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 5752 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5752	4700	Yes
V_{12}	5752	4400:All	Yes
$V_{FO} = V_F - V_R$	5384	4700	Yes
V_R	368	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 49.2 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.461 (Exhibit 25-19)
S_R= 54.4 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To 22nd St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 236 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	4350	0.95	Level	5	2	0.972	1.00	4712
Ramp	270	0.95	Level	5	2	0.972	1.00	292
UpStream								
DownStream	236	0.95	Level	5	2	0.972	1.00	256

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 4712 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4712	4700	Yes
V_{12}	4712	4400:All	Yes
$V_{FO} = V_F - V_R$	4420	4700	No
V_R	292	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 40.3 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.454 (Exhibit 25-19)
S_R= 54.6 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 54.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 104 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

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	6420	0.95	Level	5	2	0.972	1.00	6954
Ramp	1450	0.95	Level	5	2	0.972	1.00	1571
UpStream	104	0.95	Level	5	2	0.972	1.00	113
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 572.75 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 6954 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8525	See Exhibit 25-7	Yes
V_{R12}	8525	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 = 68.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 19.939 (Exibit 25-19)

S_R = -393.6 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = -393.6 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from 22nd St
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 236 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	5250	0.95	Level	5	2	0.972	1.00	5687
Ramp	1170	0.95	Level	5	2	0.972	1.00	1267
UpStream	236	0.95	Level	5	2	0.972	1.00	256
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 445.21 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5687 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6954	See Exhibit 25-7	Yes
V_{R12}	6954	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 25-4)

Speed Estimation

M_S = 4.371 (Exibit 25-19)

S_R= -35.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = -35.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 140 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3960	0.95	Level	5	2	0.972	1.00	4289
Ramp	1290	0.95	Level	5	2	0.972	1.00	1397
UpStream	140	0.95	Level	5	2	0.972	1.00	152
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4289 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5686	See Exhibit 25-7	Yes
V_{R12}	5686	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 = 46.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.435 (Exibit 25-19)

S_R= 32.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 32.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Nebraska Ave
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1000 ft
V_u = 773 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4830	0.95	Level	5	2	0.972	1.00	5232
Ramp	1590	0.95	Level	5	2	0.972	1.00	1722
UpStream	773	0.95	Level	5	2	0.972	1.00	837
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5232 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6954	See Exhibit 25-7	Yes
V_{R12}	6954	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 25-4)

Speed Estimation

M_S = 4.371 (Exibit 25-19)

S_R= -35.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = -35.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 934 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	6420	0.95	Level	5	2	0.972	1.00	6954
Ramp	1590	0.95	Level	5	2	0.972	1.00	1722
UpStream								
DownStream	934	0.95	Level	5	2	0.972	1.00	1012

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 4604.16 (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 6954 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6954	4700	Yes
V_{12}	6954	4400:All	Yes
$V_{FO} = V_F - V_R$	5232	4700	Yes
V_R	1722	2000	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 = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 59.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.583 (Exhibit 25-19)

S_R= 51.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 51.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To kENNEDY
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1000 ft
V_D = 210 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	5250	0.95	Level	5	2	0.972	1.00	5687
Ramp	1290	0.95	Level	5	2	0.972	1.00	1397
UpStream								
DownStream	210	0.95	Level	5	2	0.972	1.00	227

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = 502.33 (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 5687 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5687	4700	Yes
V_{12}	5687	4400:All	Yes
$V_{FO} = V_F - V_R$	4290	4700	No
V_R	1397	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 48.7 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.554 (Exhibit 25-19)
S_R= 52.3 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 52.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 140 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	3560	0.95	Level	5	2	0.972	1.00	3856
Ramp	1120	0.95	Level	5	2	0.972	1.00	1213
UpStream								
DownStream	140	0.95	Level	5	2	0.972	1.00	152

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.608 using Equation (Exhibit 25-11)

V_{12} = 2819 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3856	7050	No
V_{12}	2819	4400:All	No
$V_{FO} = V_F - V_R$	2643	7050	No
V_R	1213	2000	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 24.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.537 (Exhibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 71.2 mph (Exhibit 25-19)

S = 56.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	EB Offramp To Channelside Dr
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 773 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	4340	0.95	Level	5	2	0.972	1.00	4701
Ramp	1390	0.95	Level	5	2	0.972	1.00	1506
UpStream								
DownStream	773	0.95	Level	5	2	0.972	1.00	837

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.573 using Equation (Exhibit 25-11)
V_{12} = 3337 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4701	7050	No
V_{12}	3337	4400:All	No
$V_{FO} = V_F - V_R$	3195	7050	No
V_R	1506	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$
D_R = 28.5 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.564 (Exhibit 25-19)
S_R= 52.0 mph (Exhibit 25-19)
S_0= 69.9 mph (Exhibit 25-19)
S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 545 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3960	0.95	Level	5	2	0.972	1.00	4289
Ramp	1520	0.95	Level	5	2	0.972	1.00	1646
UpStream	545	0.95	Level	5	2	0.972	1.00	590
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 292.20 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4289 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5935	See Exhibit 25-7	Yes
V_{R12}	5935	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 25-4)

Speed Estimation

M_S = 1.760 (Exibit 25-19)

S_R= 24.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 24.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	EB onramp from Jefferson
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1000 ft
V_u = 262 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4830	0.95	Level	5	2	0.972	1.00	5232
Ramp	1880	0.95	Level	5	2	0.972	1.00	2036
UpStream	262	0.95	Level	5	2	0.972	1.00	284
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 415.04 (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 5232 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7268	See Exhibit 25-7	Yes
V_{R12}	7268	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 25-4)

Speed Estimation

M_S = 5.877 (Exibit 25-19)

S_R= -70.2 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = -70.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 934 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	4340	0.95	Level	5	2	0.972	1.00	4701
Ramp	1390	0.95	Level	5	2	0.972	1.00	1506
UpStream	934	0.95	Level	5	2	0.972	1.00	1012
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 978.50 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2781 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6207	See Exhibit 25-7	No
V_{R12}	4287	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 = 35.1 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.570 (Exibit 25-19)

S_R= 51.9 mph (Exhibit 25-19)

S_0= 59.9 mph (Exhibit 25-19)

S = 54.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Steven	Freeway/Dir of Travel	CrossTown Expressway
Agency or Company	HNTB	Junction	WB onramp from FLORIDA
Date Performed	6/26/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 32907-- Viaduct

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1000 ft

V_u = 210 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

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	3560	0.95	Level	5	2	0.972	1.00	3856
Ramp	1120	0.95	Level	5	2	0.972	1.00	1213
UpStream	210	0.95	Level	5	2	0.972	1.00	227
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 734.97 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 2281 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5069	See Exhibit 25-7	No
V_{R12}	3494	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 = 29.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.414 (Exibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 61.1 mph (Exhibit 25-19)

S = 57.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	AM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph
Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1000 ft
V_D = 88 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	4830	0.95	Level	5	2	0.972	1.00	5232
Ramp	1880	0.95	Level	5	2	0.972	1.00	2036
UpStream								
DownStream	88	0.95	Level	5	2	0.972	1.00	95

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$
L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$
L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 1.000 using Equation (Exhibit 25-11)
V_{12} = 5232 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5232	4700	Yes
V_{12}	5232	4400:All	Yes
$V_{FO} = V_F - V_R$	3196	4700	No
V_R	2036	2000	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 = (pc/mi/ln)
LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$
D_R = 44.7 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.611 (Exhibit 25-19)
S_R= 50.9 mph (Exhibit 25-19)
S_0= N/A mph (Exhibit 25-19)
S = 50.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	HNTB	Freeway/Dir of Travel	Crosstown Expressway
Agency or Company	HNTB	Junction	WB Offramp To Morgan St
Date Performed	7/1/2009	Jurisdiction	TAMPA
Analysis Time Period	PM	Analysis Year	2035 No Build

Project Description 39207-Viaduct

Inputs

Upstream Adj Ramp	Terrain: Level	Downstream Adj Ramp
☐ Yes ☐ On		☑ Yes ☑ On
☑ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = 1000 ft
V_u = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	V_D = 253 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	3960	0.95	Level	5	2	0.972	1.00	4289
Ramp	1520	0.95	Level	5	2	0.972	1.00	1646
UpStream								
DownStream	253	0.95	Level	5	2	0.972	1.00	274

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level 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 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 4289 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4289	4700	No
V_{12}	4289	4400:All	No
$V_{FO} = V_F - V_R$	2643	4700	No
V_R	1646	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 36.6 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.576 (Exhibit 25-19)

S_R= 51.7 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 51.7 mph (Exhibit 25-15)

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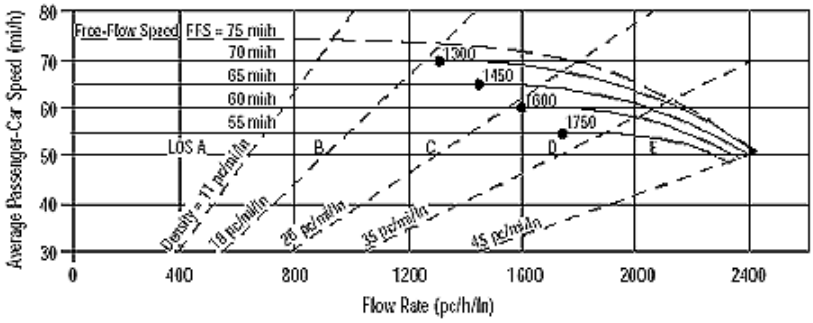
APPENDIX F

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2015 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3230*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1775*	pc/h/ln
S	*60.2*	mi/h
D = v_p / S	*29.5*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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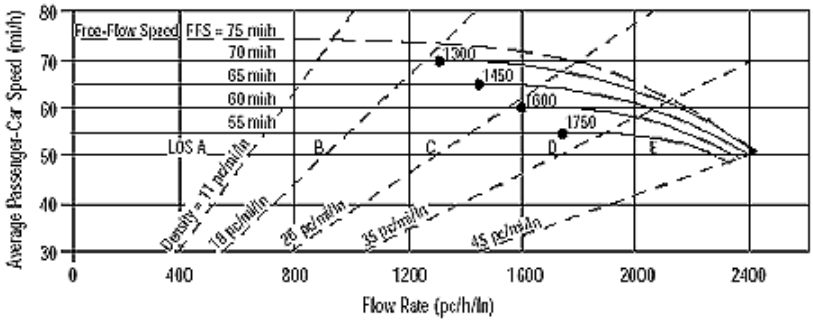

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	
Jurisdiction	*Tampa*
Analysis Year	*2015 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3440*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1890*	pc/h/ln
S	*59.5*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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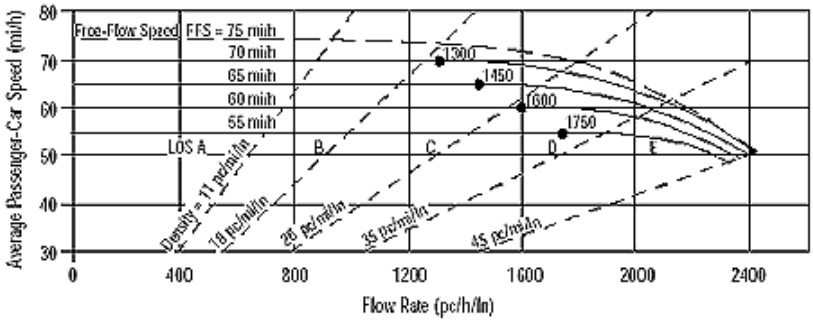

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2015 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2650*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1456*	pc/h/ln
S	*60.5*	mi/h
D = v_p / S	*24.1*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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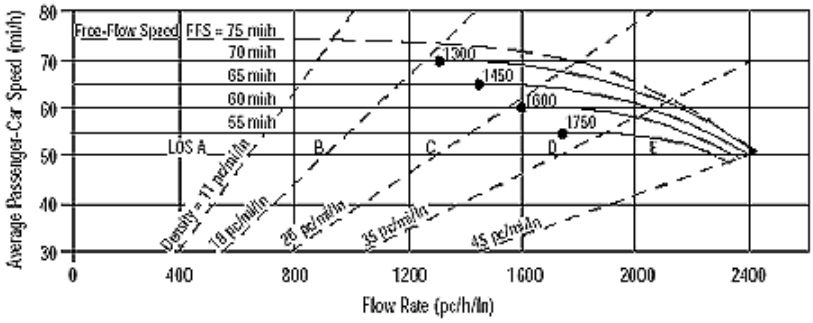

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2015 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2690*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

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	*60.5*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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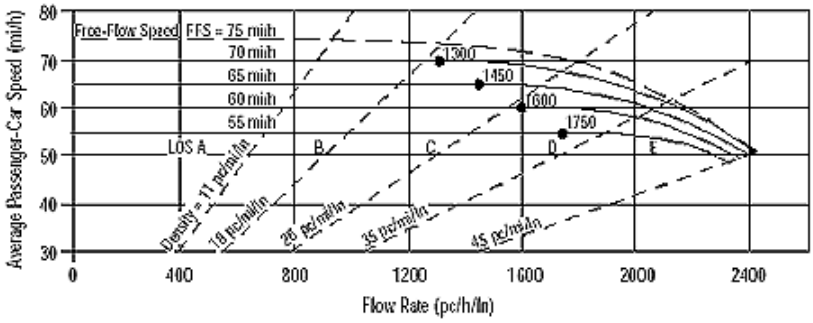

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2025 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2346*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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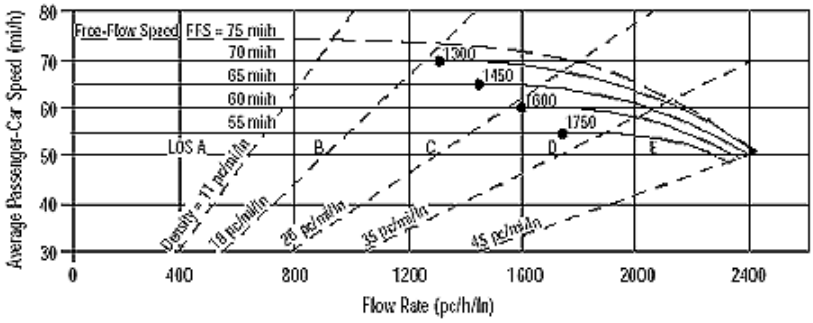

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St---Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2025 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4890*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2687*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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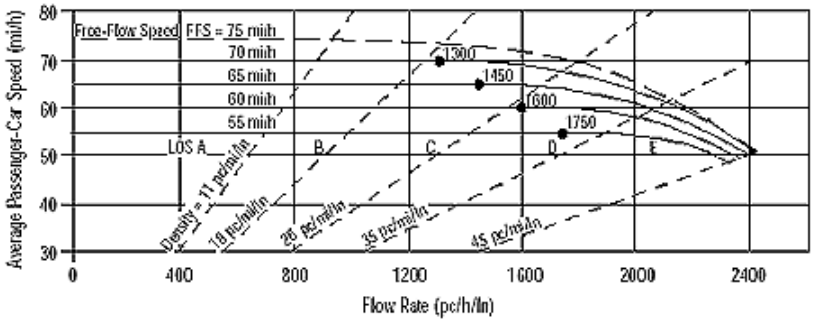

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2025 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3770*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

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	*57.1*	mi/h
D = v_p / S	*36.3*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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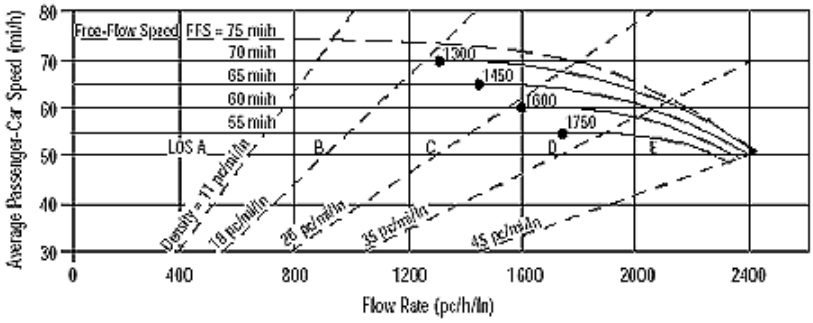
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2025 No Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1945*	pc/h/ln
S	*59.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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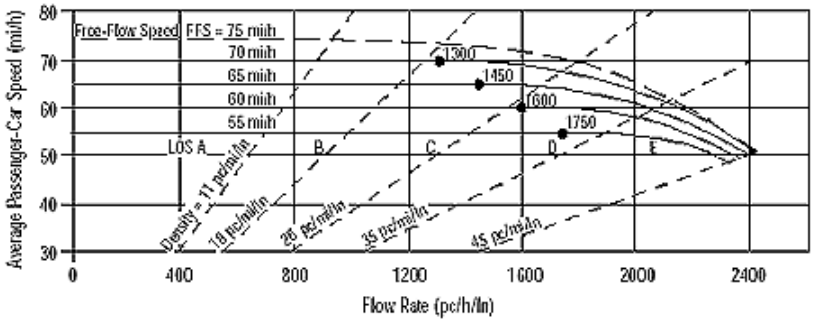
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2035 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5310*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2918*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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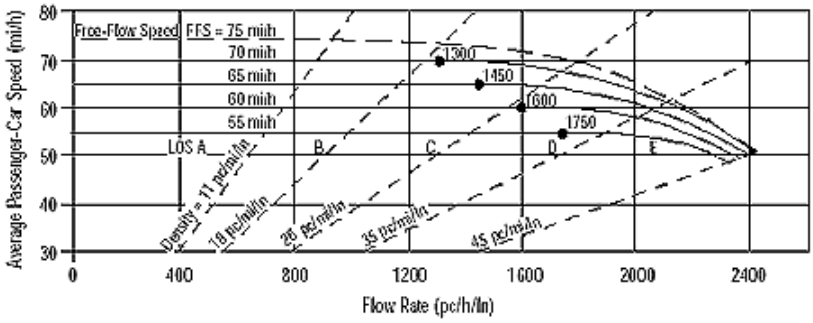

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St --- Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2035 No Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*3495*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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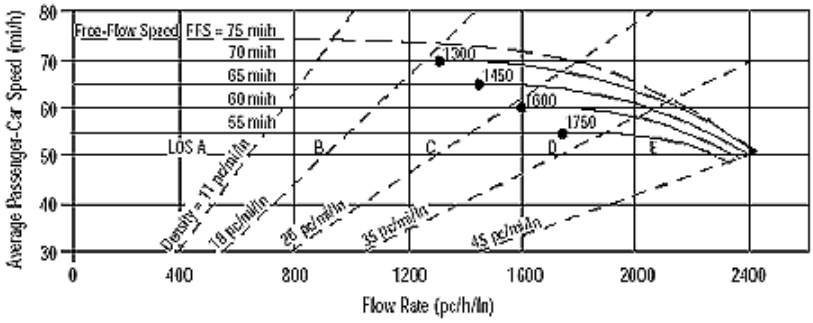

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2035 No Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4830*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2654*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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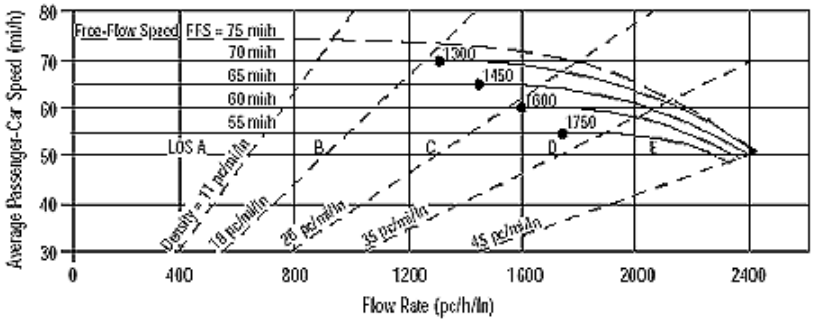
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2035 No Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2385*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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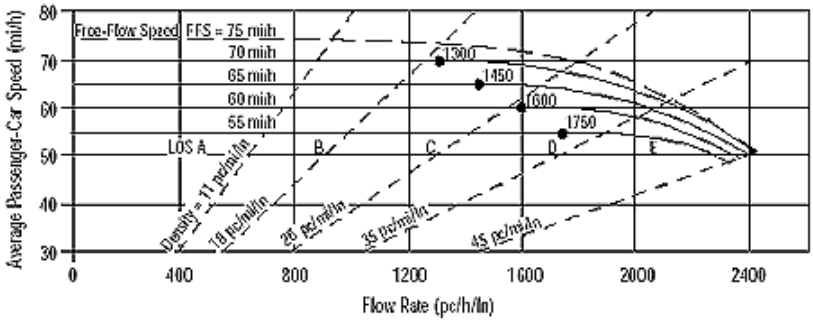
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2015 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3270*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1198*	pc/h/ln
S	*62.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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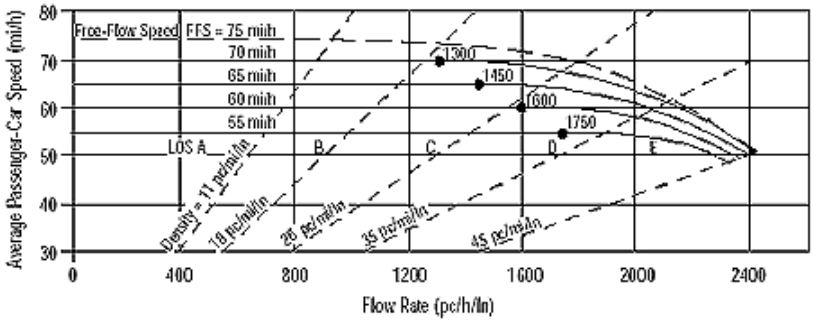
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St --- Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2015 Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1311*	pc/h/ln
S	*62.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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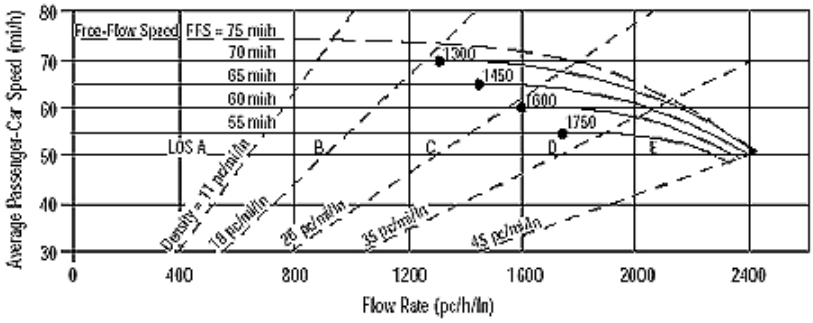
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2015 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2760*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1011*	pc/h/ln
S	*62.0*	mi/h
D = v_p / S	*16.3*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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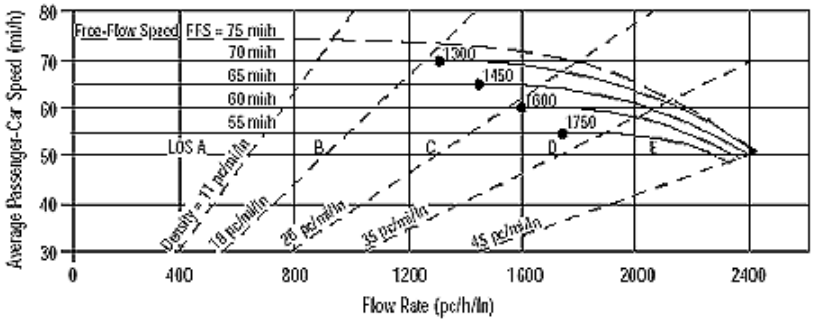

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2015 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2820*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1550*	pc/h/ln
S	*60.5*	mi/h
D = v_p / S	*25.6*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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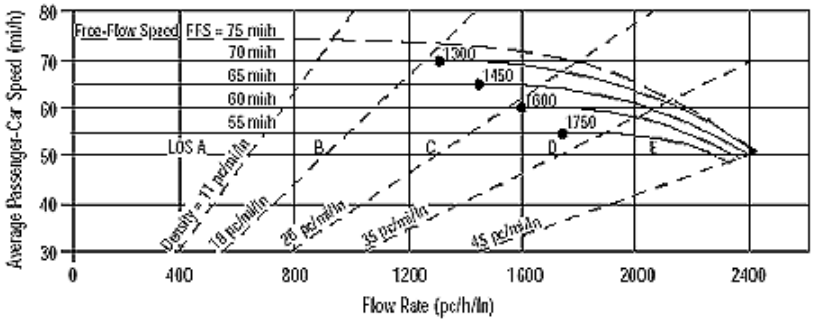

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2025 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4390*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1608*	pc/h/ln
S	*62.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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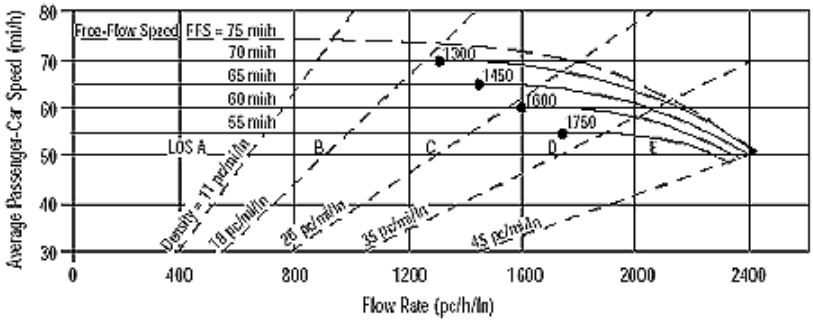

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St --- Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2025 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5280*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1934*	pc/h/ln
S	*60.2*	mi/h
D = v_p / S	*32.1*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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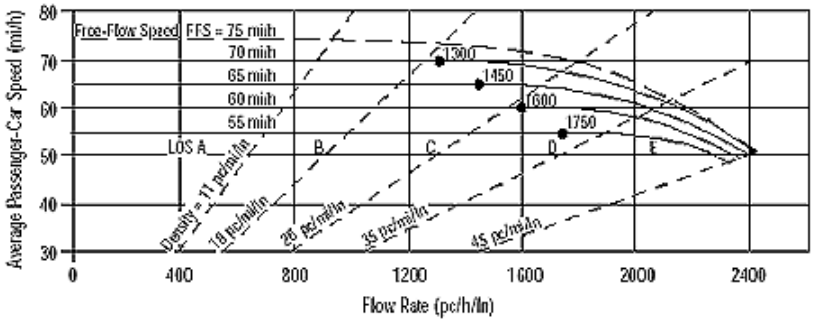

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2025 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4010*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1469*	pc/h/ln
S	*62.0*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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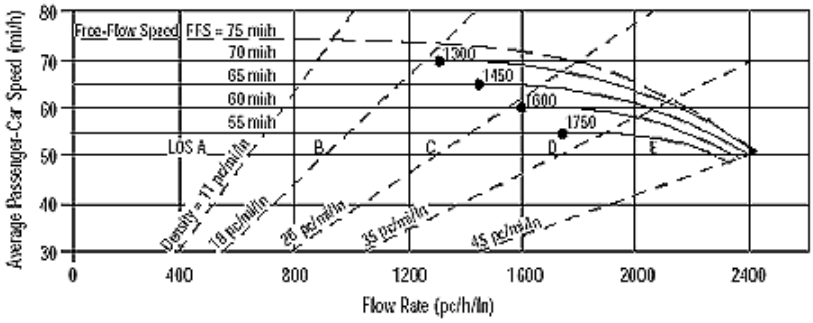

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Florida Ave --- Tampa St*
Jurisdiction	*Tampa*
Analysis Year	*2025 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3810*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2093*	pc/h/ln
S	*56.8*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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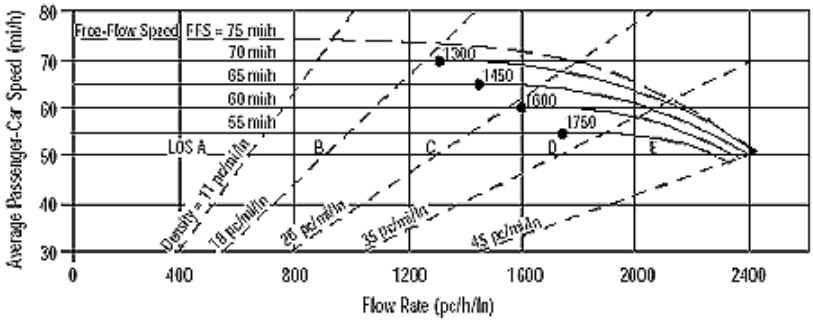

Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*34th St --- 22nd St.*
Jurisdiction	*Tampa*
Analysis Year	*2035 Build*

Project Description 39207 --- Viaduct Project

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5500*	veh/h	Peak-Hour Factor, PHF	*0.95*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2015*	pc/h/ln
S	*59.1*	mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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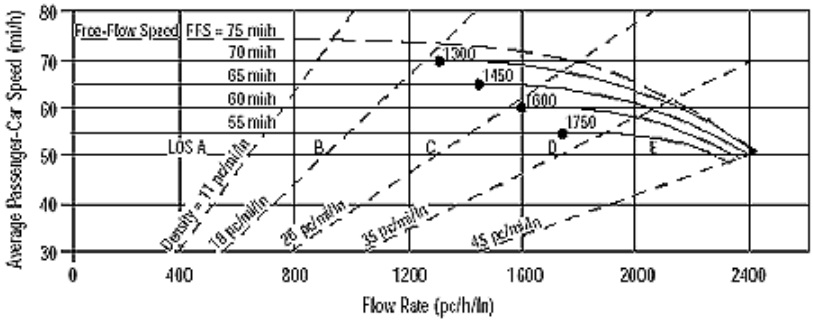
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*22nd St --- Kennedy Blvd*
Jurisdiction	*Tampa*
Analysis Year	*2035 Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

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		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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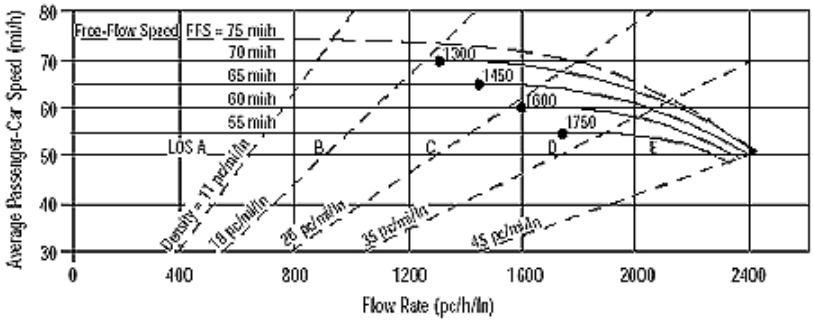
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*6/26/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	*Kennedy Blvd --- Florida Ave*
Jurisdiction	*Tampa*
Analysis Year	*2035 Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*62.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1927*	pc/h/ln
S	*60.3*	mi/h
D = v_p / S	*32.0*	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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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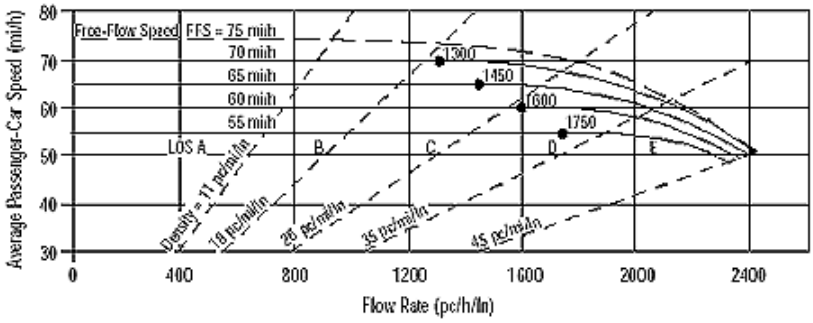
BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Steven*
Agency or Company	*HNTB*
Date Performed	*10/10/2009*
Analysis Time Period	*AM/PM*

Site Information

Highway/Direction of Travel	*CrossTown Expressway*
From/To	
Jurisdiction	*Tampa*
Analysis Year	*2035 Build*

Project Description 39207 --- Viaduct Project

☑ 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	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*2*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.958*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.50*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*65.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*60.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2648*	pc/h/ln
S		mi/h
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
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

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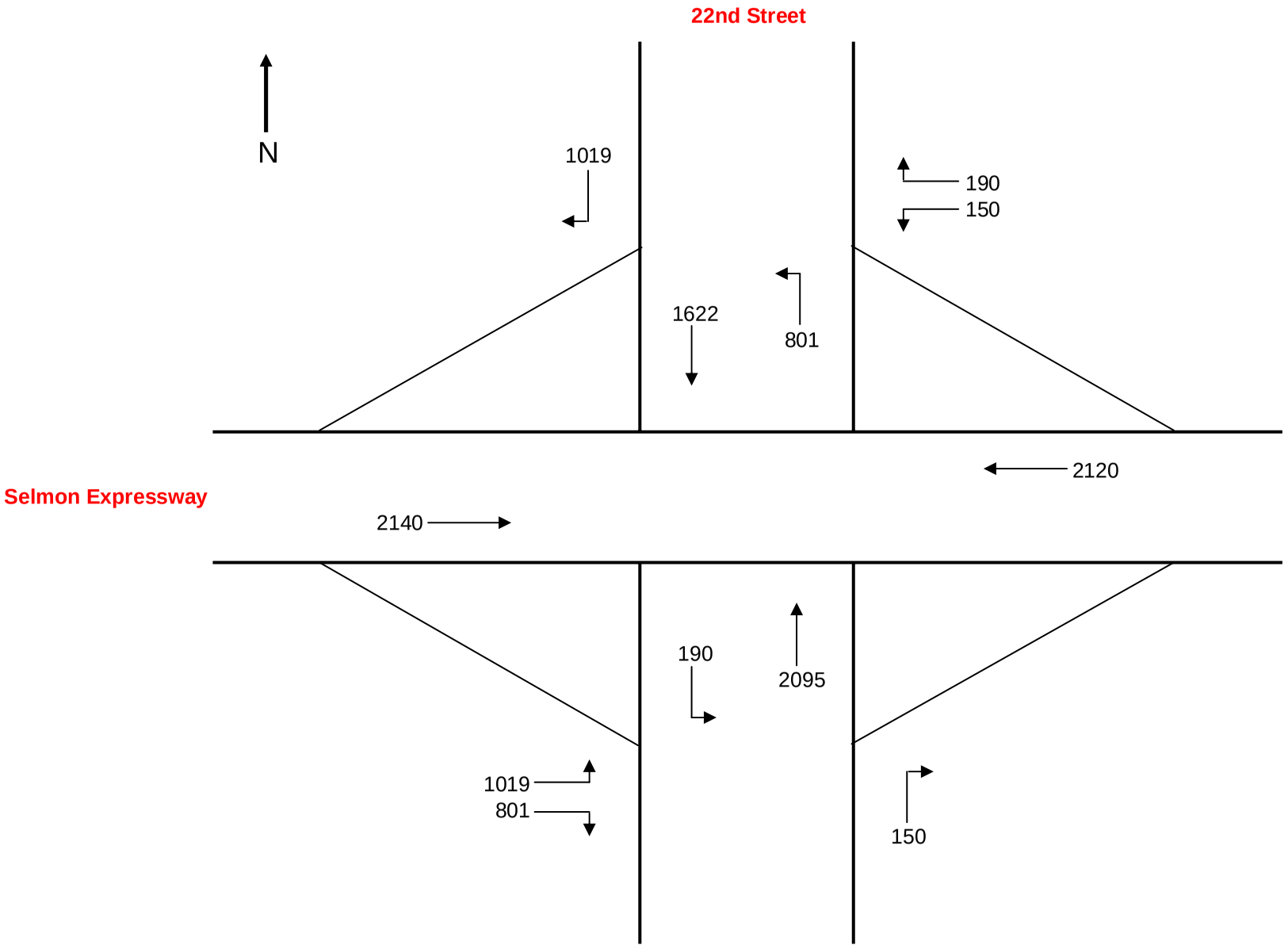
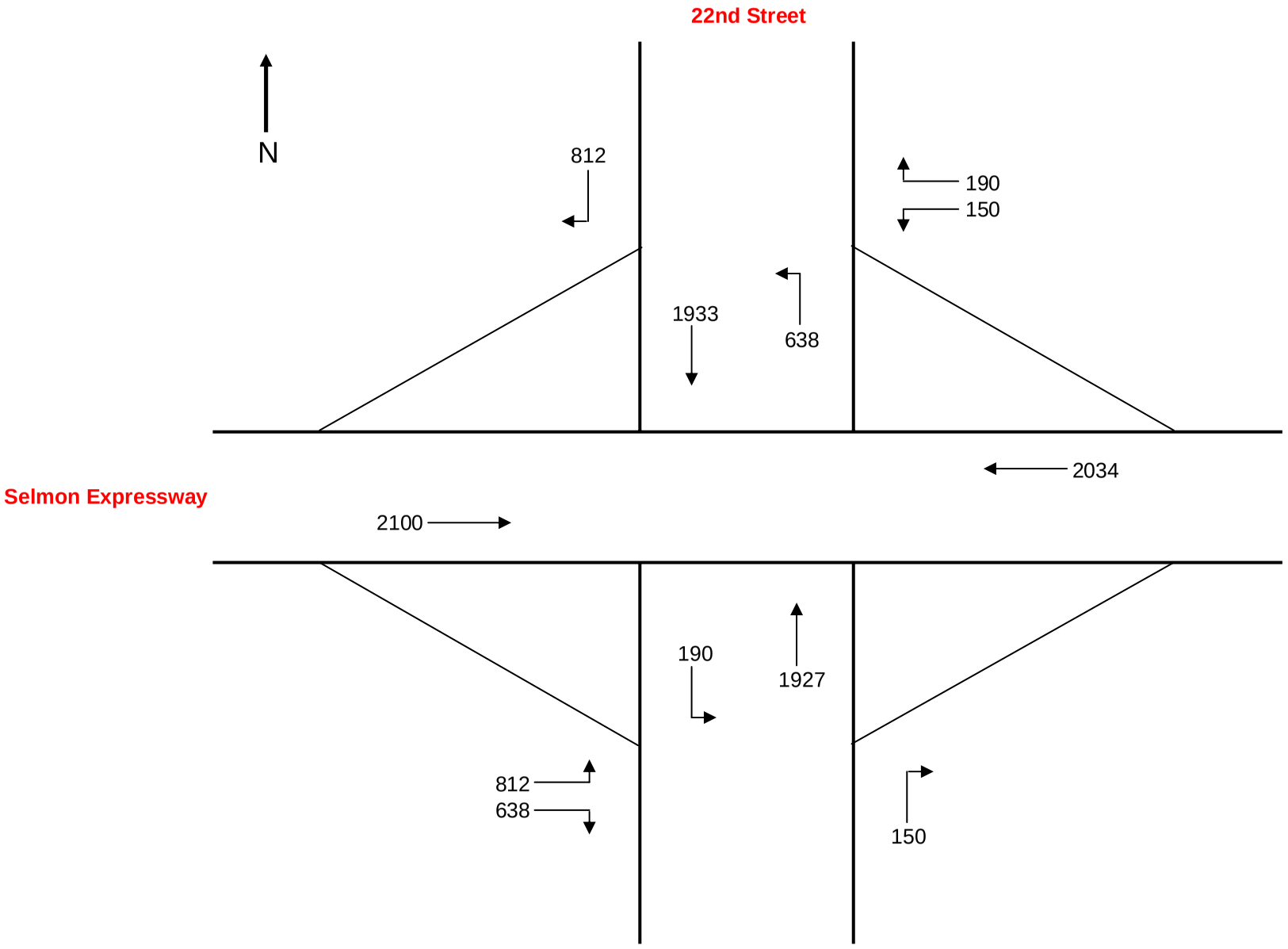
APPENDIX G

Year 2035 PM Peak Build Traffic Data for Air Quality Screening - DDHV Volumes as Obtained from the Design Traffic Technincal Memorandum



Year 2035 PM Peak No-Build Traffic Data for Air Quality Screening - DDHV Volumes as Obtained from the Design Traffic Technincal Memorandum



TRAFFIC DATA FOR NOISE STUDIES

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Nebraska – Nuccio to Kennedy
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 18,750	ADT : LOS(C) 18,750	ADT : LOS(C) 18,750
Demand 7,000	Demand 27,600	Demand 26,200
Posted Speed: 35 mph 63 kmh	Posted Speed: 35 mph 63 kmh	Posted Speed: 35 mph 63 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.
T= 1.67 % Design hr.	T= 1.67 % Design hr.	T= 1.67 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Nuccio – Jefferson to Nebraska
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	**No-Build (design year)**	**Build (design year)**
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 16,875	ADT : LOS(C) 16,875	ADT : LOS(C) 16,875
Demand 6,600	Demand 32,800	Demand 32,400
Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.
T= 1.67 % Design hr.	T= 1.67 % Design hr.	T= 1.67 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Twiggs – Jefferson to Nebraska
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 16,875	ADT : LOS(C) 16,875	ADT : LOS(C) 16,875
Demand 11,300	Demand 27,600	Demand 28,300
Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.
T= 1.67 % Design hr.	T= 1.67 % Design hr.	T= 1.67 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Twiggs – Nebraska to Channelside
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 16,875	ADT : LOS(C) 16,875	ADT : LOS(C) 16,875
Demand 7,700	Demand 27,600	Demand 28,300
Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.
T= 1.67 % Design hr.	T= 1.67 % Design hr.	T= 1.67 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Jackson – Morgan to Nebraska
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 23,400	ADT : LOS(C) 23,400	ADT : LOS(C) 23,400
Demand 9,400	Demand 31,700	Demand 33,400
Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100 %	D= 100 %	D= 100 %
T= 1,83 % for 24 hrs.	T= 1,83 % for 24 hrs.	T= 1,83 % for 24 hrs.
T= .92 % Design hr.	T= .92 % Design hr.	T= .92 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Jefferson – Twiggs to Whiting
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 16,875	ADT : LOS(C) 16,875	ADT : LOS(C) 16,875
Demand 7,100	Demand 24,100	Demand 24,900
Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh	Posted Speed: 30 mph 54 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.	T= 3.34 % for 24 hrs.
T= 1.67 % Design hr.	T= 1.67 % Design hr.	T= 1.67 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Meridian – Twiggs to Whiting
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : _2008_____	Year : _2035_____	Year : _2035_____
ADT : LOS(C) __39,000_____	ADT : LOS(C) __39,000_____	ADT : LOS(C) __39,000_____
Demand __9,400_____	Demand __39,900_____	Demand __38,000_____
Posted Speed: _40___mph _72___kmh	Posted Speed: _40___mph _72___kmh	Posted Speed: _40___mph _72___kmh
K= __9.13___%	K= __9.13___%	K= __9.13___%
D= __55.29___%	D= __55.29___%	D= __55.29___%
T= __0.51___% for 24 hrs.	T= __0.51___% for 24 hrs.	T= __0.51___% for 24 hrs.
T= __.26___% Design hr.	T= __.26___% Design hr.	T= __.26___% Design hr.
_50___% Heavy Trucks	_50___% Heavy Trucks	_50___% Heavy Trucks
_50___% Medium Trucks	_50___% Medium Trucks	_50___% Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway – SR 45 to Kennedy
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 59,800	ADT : LOS(C) 59,800	ADT : LOS(C) 90,500
Demand 46,000	Demand 122,300	Demand 136,000
Posted Speed: 55 mph 89 kmh	Posted Speed: 55 mph 89 kmh	Posted Speed: 55 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 8.10 % for 24 hrs.	T= 8.10 % for 24 hrs.	T= 8.10 % for 24 hrs.
T= 4.05 % Design hr.	T= 4.05 % Design hr.	T= 4.05 % Design hr.
50 % Heavy Trucks 50 % Medium Trucks	50 % Heavy Trucks 50 % Medium Trucks	50 % Heavy Trucks 50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway – Kennedy to Florida
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 59,800	ADT : LOS(C) 59,800	ADT : LOS(C) 90,500
Demand 37,000	Demand 93,500	Demand 104,900
Posted Speed: 55 mph 89 kmh	Posted Speed: 55 mph 89 kmh	Posted Speed: 55 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 55.29 %	D= 55.29 %	D= 55.29 %
T= 8.10 % for 24 hrs.	T= 8.10 % for 24 hrs.	T= 8.10 % for 24 hrs.
T= 6.6 % Design hr.	T= 6.6 % Design hr.	T= 6.6 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – SR 45 WB On
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 2,500	Demand 13,100	Demand 16,500
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 13.20 % for 24 hrs.	T= 13.20 % for 24 hrs.	T= 13.20 % for 24 hrs.
T= 6.6 % Design hr.	T= 6.6 % Design hr.	T= 6.6 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – SR 45 EB Off
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 2,300	Demand 13,100	Demand 16,500
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 16.30 % for 24 hrs.	T= 16.30 % for 24 hrs.	T= 16.30 % for 24 hrs.
T= 8.15 % Design hr.	T= 8.15 % Design hr.	T= 8.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – Kennedy WB Off
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 5,500	Demand 14,400	Demand 15,550
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.
T= 5.15 % Design hr.	T= 5.15 % Design hr.	T= 5.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – Nebraska EB On
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 2,800	Demand 14,400	Demand 15,550
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.
T= 5.15 % Design hr.	T= 5.15 % Design hr.	T= 5.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – Morgan WB Off
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 3,600	Demand 17,000	Demand 16,800
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.
T= 5.15 % Design hr.	T= 5.15 % Design hr.	T= 5.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – Jefferson EB On
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 3,200	Demand 17,000	Demand 16,800
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.
T= 5.15 % Design hr.	T= 5.15 % Design hr.	T= 5.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Ramps – Florida EB Off
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	No-Build (design year)	Build (design year)
Year : 2008	Year : 2035	Year : 2035
ADT : LOS(C) 9,000	ADT : LOS(C) 9,000	ADT : LOS(C) 9,000
Demand 3,000	Demand 12,250	Demand 11,100
Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh	Posted Speed: 25 mph 89 kmh
K= 9.13 %	K= 9.13 %	K= 9.13 %
D= 100.00 %	D= 100.00 %	D= 100.00 %
T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.	T= 10.30 % for 24 hrs.
T= 5.15 % Design hr.	T= 5.15 % Design hr.	T= 5.15 % Design hr.
50 % Heavy Trucks	50 % Heavy Trucks	50 % Heavy Trucks
50 % Medium Trucks	50 % Medium Trucks	50 % Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09

PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American

Work Program Item Segment No(s):

Federal Aid Number(s):

Project Description: Viaduct Widening PD&E Study

Segment Description: Expressway Ramps – Morgan WB On

(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	**No-Build (design year)**	**Build (design year)**
Year : _2008_____ ADT : LOS(C) __9,000_____ Demand __1,500_____ Posted Speed: _25___mph _89___kmh K= __9.13___% D= __100.00___% T= __10.30___% for 24 hrs. T= __5.15___% Design hr. _50___% Heavy Trucks _50___% Medium Trucks	Year : _2035_____ ADT : LOS(C) __9,000_____ Demand __12,250_____ Posted Speed: _25___mph _89___kmh K= __9.13___% D= __100.00___% T= __10.30___% for 24 hrs. T= __5.15___% Design hr. _50___% Heavy Trucks _50___% Medium Trucks	Year : _2035_____ ADT : LOS(C) __9,000_____ Demand __11,100_____ Posted Speed: _25___mph _89___kmh K= __9.13___% D= __100.00___% T= __10.30___% for 24 hrs. T= __5.15___% Design hr. _50___% Heavy Trucks _50___% Medium Trucks

Traffic Data Source: _____

DATE: 9/12/09
PREPARED BY: Luis Diaz, PE, HNTB Corporation & Corey Carter, American
Work Program Item Segment No(s):
Federal Aid Number(s):
Project Description: Viaduct Widening PD&E Study
Segment Description: Expressway Reversible Lanes
(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: ADT is the LOS (C) volume referenced in the FDOT LOS tables or Demand, whichever is less.

Existing Facility	**No-Build (design year)**	**Build (design year)**
Year : _2008_____ ADT : LOS(C) __54,300_____ Demand __15,000_____ Posted Speed: _65___mph _117___kmh K_{pm}= __15___% D= __100 ___% T= ___n/a ___% for 24 hrs. T= __n/a___% Design hr. _n/a___% Heavy Trucks _n/a___% Medium Trucks	Year : _2035_____ ADT : LOS(C) __54,300_____ Demand __29,700_____ Posted Speed: _65___mph _117___kmh K_{pm}= __15___% D= __100 ___% T= ___n/a ___% for 24 hrs. T= __n/a___% Design hr. _n/a___% Heavy Trucks _n/a___% Medium Trucks	Year : _2035_____ ADT : LOS(C) __54,300_____ Demand __29,600_____ Posted Speed: _65___mph _117___kmh K_{pm}= __15___% D= __100 ___% T= ___n/a ___% for 24 hrs. T= __n/a___% Design hr. _n/a___% Heavy Trucks _n/a___% Medium Trucks

Traffic Data Source: _____

APPENDIX H

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HNTB Corporation
Engineers Architects Planners

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Lake Mary, Florida

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October 12, 2009

To: Jeff Novotny, PE

cc.: Dan Kelly, PE, HNTB
Mark Easley, PE, KCA
Jai Ramkissoon, PE, ACE

From: Luis Diaz, P.E.

Re: REL Slip Ramp Option

This memorandum summarizes the effects of installing a one-lane slip ramp in the westbound direction from the REL to the general use lanes at a point located between Kennedy Boulevard and Morgan Street. The current design shows the slip ramp connecting to the general use lanes as an inside or left access ramp. This ramp will serve as a lane drop for the REL to minimize the transition length and impact on the southern edge of the existing REL structure, which will create a 2-lane section for the REL near the approach/departure to Twiggs Street. The REL will remain 3-lanes in each direction at Twiggs Street, but an eastbound lane merge will need to occur before reaching the ramp area.

The transportation model that was developed for the evaluation of the widening of the Lee Roy Selmon Viaduct widening between 22nd Street and Florida Avenue was modified to include this new ramp. The model run assumed year 2035 conditions and that the addition of the slip ramp was combined with the widening of the Viaduct. The following table shows the resulting volumes for the links impacted by the proposed improvement.

Projected 2035 Traffic Volumes with and without the REL Slip Ramp

	Without Slip Ramp (AADT)	With Slip Ramp (AADT)	Without Slip Ramp (DDHV)	With Slip Ramp (DDHV)
General Use Lanes				
Kennedy Boulevard to REL Slip Ramp	101,500	101,100	5,260	5,240
REL Slip Ramp to Morgan Street		102,600		5,690
Ramps				
REL Slip Ramp	N/A	1,500	N/A	450
Morgan Street Off-Ramp	16,800	17,400	1,860	2,040

The results of this analysis shows that the proposed slip ramp between the REL and the general use lanes is projected to carry approximately 1,500 vehicles per day (vpd) in the year 2035, of which 450 are expected to use this ramp during the AM peak period. From the resulting 450 vehicles approximately 180 vehicles are expected to complete a weave maneuver across three lanes of traffic between the left access REL Slip Ramp and the right hand exit on to Morgan Street.

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