FINAL TRAFFIC TECHNICAL MEMORANDUM

S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway Project Development and Environment Study Pinellas County, Florida

Work Program Item Segment No: 410755 1



Prepared for:

Florida Department of Transportation District Seven 11201 North McKinley Drive Tampa, Florida 33612-6456

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Florida Department of Transportation District Seven 11201 N. Malcolm McKinley Drive Tampa, Florida 33612

Prepared by:



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Section 1.0 INTRODUCTION

The Florida Department of Transportation (FDOT) conducted a Project Development and Environment (PD&E) Study for bridge and roadway improvement alternatives along S.R. 679 (Pinellas Bayway Structure E) at the Gulf Intracoastal Waterway, hereafter referred to as the Intracoastal Waterway. The project location map (Figure 1-1) illustrates the location and limits of the study.

1.1 PURPOSE

The purpose of the PD&E Study was to provide documented environmental and engineering analyses to assist FDOT and the United States Coast Guard (USCG), the lead federal agency, in reaching a decision as to the type, location, and conceptual design of roadway and bridge improvements to the S.R. 679 (Pinellas Bayway Structure E) crossing of the Intracoastal Waterway. The PD&E Study satisfied the requirements of the National Environmental Policy Act (NEPA) and other state and federal regulations.

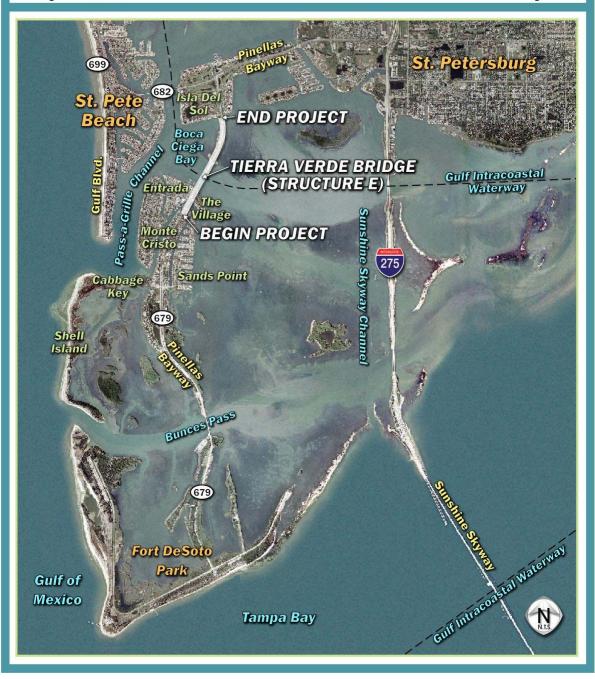
The PD&E Study documents the need for the improvements and presents the procedures that FDOT utilized to develop and evaluate various improvement alternatives including rehabilitation and replacement of the existing double-leaf bascule bridge (Bridge Number 150049) known locally as the Tierra Verde Bridge. FDOT collected information relating to the engineering and environmental characteristics essential for alternatives and analytical decisions. FDOT then established design criteria and developed preliminary alternatives. The comparison of alternatives is based on a variety of parameters utilizing a matrix format. This process identified the alternative which would have the least impact, while providing the necessary improvements. The study also solicited input from the community and users of the facility. The design year for the analysis is 2030.

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PROJECT LOCATION MAP

Figure 1-1



1.2 PROJECT DESCRIPTION

The PD&E Study limits encompass the portion of S.R. 679 from south of Madonna Boulevard (milepost 8.366) in Tierra Verde to south of S.R. 682 (milepost 9.454) in St. Petersburg, Florida, a distance of 1.088 miles. The project is located within Sections 8, 17, and 20, Township 32 South, Range 16 East, and within the Pass-A-Grille Beach United States Geological Survey (USGS) Quad map (quad Number 3022). Structure E is a low-level bascule structure that spans the Intracoastal Waterway, a marked federal navigational channel that generally runs between the mainland and the nearly contiguous barrier islands along the Gulf of Mexico. S.R. 679 is not part of the National Highway System, the Florida Intrastate Highway System, or the Strategic Intermodal System (SIS); however, the Intracoastal Waterway within the study area is on the SIS. In addition, both S.R. 682 and S.R. 679 are designated hurricane evacuation routes by the Florida State Emergency Response Team (SERT).

S.R. 679 was originally constructed in 1961 to join the man-made islands of Tierra Verde with Isla Del Sol in St. Petersburg in Pinellas County. S.R. 679 is a north-south urban minor arterial that provides the only vehicular access to the islands of Tierra Verde and Mullet Key, where Fort Desoto Park is located. S.R. 679 is part of the Pinellas Bayway toll system, which also includes S.R. 682.

Routine bridge inspections have identified safety and structural problems associated with the age of the existing bridge, including concrete delaminations, spalls, cracks, and other deficiencies. Structure E is functionally obsolete and is rated "scour critical". It also contains fracture critical elements, meaning that members are subject to tension such that failure could result in collapse of bridge. The remaining service life under normal maintenance conditions is estimated to be six years, meaning that under the current normal maintenance program, the bridge will need to be rehabilitated or replaced by year 2011. Improvement alternatives considered for this facility include rehabilitation, rehabilitation (with widening), and replacement with a low-level bascule bridge, a mid-level bascule bridge, or a high-level fixed-bridge.

1.3 TRAFFIC STUDY METHODOLOGY

The Traffic Memorandum presented the analyses of existing and future traffic conditions for the Structure E study area. The study area focused on S.R. 679, Madonna Boulevard, The Village driveway, and other driveways immediately adjacent to the intersection of S.R. 679 and Madonna Boulevard as displayed in the Traffic Study Location Map (Figure 1-2). Existing traffic analyses were performed with the existing intersection and bridge conditions. Future traffic analyses were based on the consideration of either retaining the existing intersection conditions or realigning Madonna Boulevard and The Village driveway in combination with different bridge height and bridge opening alternatives. In addition, signalizing the intersection of Madonna Boulevard and S.R. 679 was also analyzed.

Once the parameters of the study area were defined, the first step was evaluating the existing conditions. This required a data collection effort that included conducting and summarizing traffic count data and conducting field reviews of the study area. The existing data collected were used to evaluate existing traffic conditions for the study area. The existing analyses information is presented in Section 2.0 - Existing Conditions. Once existing conditions were evaluated, the next stage in the study methodology was to evaluate future traffic conditions. The development of traffic projections was required to evaluate the future conditions within the study corridor, which was then used to perform future operational analyses of the study area. This information is presented in Section 3.0 - Future Conditions. The final step of the methodology includes summarizing the results determined in Sections 2.0 and 3.0 and presenting these results in Section 4.0 - Summary and Recommendations

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Traffic Study Location Map

Figure 1-2



Section 2.0 EXISTING TRAFFIC CONDITIONS

This section summarizes the type of data and resources used to evaluate existing traffic conditions for the study area. The data collected were used to describe the physical roadway and traffic characteristics of the study area. The study area focused on S.R. 679, Madonna Boulevard, The Village driveway, and other driveways immediately adjacent to the intersection of S.R. 679 and Madonna Boulevard, as displayed in the Traffic Study Location Map (Figure 1-2).

2.1 EXISTING TRAFFIC VOLUME DATA

2.1.1 TRAFFIC COUNT DATA

The traffic count data was collected during the month of May 2005. The following summarizes types, corresponding dates, and times for the counts collected for this study.

- Seventy-two hour and forty-eight hour vehicle classification counts were conducted to reflect weekday and weekend conditions at the following location:
 - Location just north of Structure E
 - May 21-22, 2005 (Weekend)
 - May 24-26, 2005 (Weekday)
 - May 28-30, 2005 (Memorial Day Weekend)
- Four hour turning movement counts (total vehicle and trucks) were collected during the Noon (11:00 AM 1:00 PM) and PM (4:00 PM 6:00 PM) peak periods for the following locations:
 - Madonna Boulevard/S.R. 679 (May 29, 2005)
 - The Village driveway/S.R. 679 (May 29, 2005)
 - Right-in/Right-out driveway accessing S.R. 679 from southwest quadrant (May 29, 2005)
 - Southbound driveway accessing Madonna Boulevard from northwest quadrant (May 29, 2005)
 - Northbound driveway accessing Madonna Boulevard from southwest quadrant (May 29, 2005)

The traffic count locations are shown in Figure 2-1. Copies of the traffic counts are provided in Appendix A (seventy-two hour or forty-eight hour traffic counts) and Appendix B (four hour turning movement counts).

2.1.2 WEEKEND AVERAGE DAILY TRAFFIC (WADT) VOLUMES

The weekend average daily traffic volume was used for the purpose of performing the traffic analyses. The existing (2005) WADT volume for the study area was developed from raw forty-eight hour count data. Axle correlation factors developed from the forty-eight hour vehicle classification counts were applied to the raw forty-eight hour count data, to obtain the WADT volumes. The development of WADT is reported in Appendix C. The resultant existing (2005) WADT volume is depicted in Figure 2-2.

2.1.3 EXISTING TRAFFIC CHARACTERISTICS

The peak hour distribution factor (K), the directional distribution factor (D), and the design hour truck factor (T) for S.R. 679 were calculated based on the forty-eight hour vehicle class count data. This data has been summarized in Table 2-1 and was used for existing operational analyses.

Table 2-1 Existing K, D, and T Values

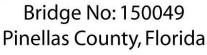
K	D	T
9.48%	67.10%	8.20%

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Traffic Count Locations





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Existing Weekend Average Daily Traffic



In the absence of classification counts on the minor roads and driveways, a visually justifiable assumption (through simulation) was made for the percentage of trucks and boat-trailer traffic on all the minor roads and driveways in the study area. Similar assumption had to be made for the percentage of boat-trailer traffic on S.R. 679, as the classification counts do not provide such level of detail. These assumptions were backed up by field observations and expert opinions. Based on detailed data for the boat traffic provided by FDOT, suitable assumptions were made for the purpose of simulation for the number of boats that needed the bridge to open. Once again, for the purpose of simulation, the bridge openings were assumed to be pre-timed and scheduled to open at regular intervals irrespective of the magnitude of boat traffic.

The actual D value obtained from the forty-eight hour count data was 69.1 percent. However, in order to comply with the limit for urban areas as specified by the *Florida Department of Transportation Design Traffic Handbook*¹, a value of 67.1 percent was used for the purpose of operational analyses.

The peak direction was found to be southbound on S.R. 679 and eastbound on Madonna Boulevard during the Noon peak hour and northbound and westbound respectively during the PM peak hour.

2.1.4 PEAK HOUR VOLUMES AND DESIGN HOUR VOLUMES (DHV)

The existing (2005) peak hour turning movement volumes for the Structure E study area were developed from raw 15-minute turning movement counts taken between the hours of 11:00 AM - 1:00 PM and 4:00 PM - 6:00 PM. Fifteen-minute intervals were summed to determine the peak hour for each intersection. FDOT seasonal adjustment factors, provided in Appendix D, were applied to the raw counts, to obtain the peak hour turning movement volumes. The peak hour turning movement counts were then converted to the design hour volume by applying the methodology in the proceeding paragraph.

First, the existing WADT volume was multiplied by the K_{30} factor of 9.48 percent to develop non-directional peak hour volumes. The directional peak hour volumes were then determined by applying a D_{30} factor of 67.1 percent to develop peak direction approach

volumes and 1-D₃₀ or 32.9 percent to develop non-peak direction approach volumes at the intersections. For any north-south movement on S.R. 679, the existing DHV was developed using the existing weekend average daily traffic, and the K and D factors that were obtained from the forty-eight hour vehicle class count. The DHVs for all other movements on other roadways/driveways in the study area were developed by applying a factor to the corresponding peak hour volume on that movement. That factor was based on the peak hour volume and the DHV for the adjacent north-south movement on S.R. 679. As noted in Section 2.1.3, the peak direction for the study area is expected to be southbound for S.R. 679 and eastbound for Madonna Boulevard during the Noon peak hour and the reverse during the PM peak hour. The turning movements for each intersection approach were estimated by applying the turn percentages obtained from the peak hour turning movement volumes. The resultant existing Noon and PM DHVs are shown in Figure 2-3. The calculations for existing peak hour volume and DHV are documented in Appendix E.

2.2 EXISTING ROADWAYS AND TRAVEL PATTERNS

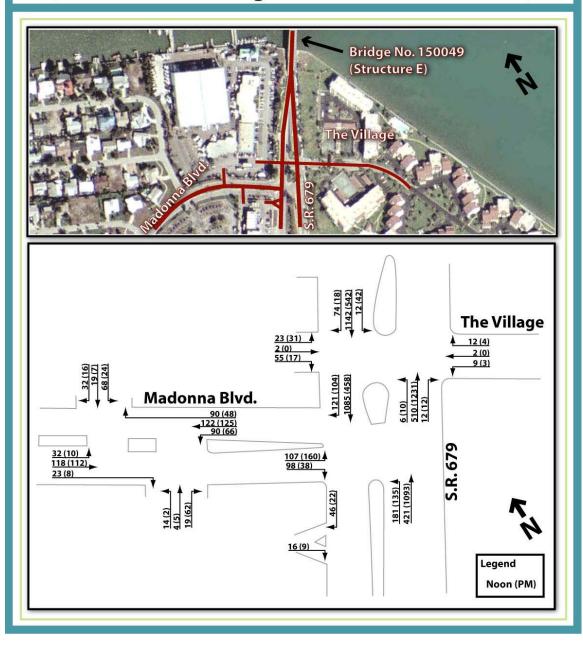
Structure E sits on S.R. 679 and spans over the Intracoastal Waterway, a marked federal navigational channel that generally runs between the mainland and the nearly contiguous barrier islands along the Gulf of Mexico. S.R. 679 was originally constructed in 1961 to join the man-made islands of Tierra Verde with Isla Del Sol in St. Petersburg in Pinellas County. S.R. 679 is a north-south urban minor arterial that provides the only vehicular access to the islands of Tierra Verde and Mullet Key, where Fort Desoto Park is located. The Village driveway and Madonna Boulevard mainly serve the residential communities to the east and west of S.R. 679. The other driveways in the study area serve the businesses on the northwest and southwest quadrants of the intersection of Madonna Boulevard and S.R. 679. Fort Desoto Park is a major generator of traffic from outside the islands. This traffic utilizes Structure E to get to and from the Park. It is heavier southbound during the Noon hours and northbound during the PM hours. Maximum traffic was observed during the holiday weekends followed by the regular weekends and then the weekdays.



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Existing Design Hour Volume



2.3 EXISTING ROADWAY CHARACTERISTICS

As per the Florida Department of Transportation Quality/Level of Service Handbook² and Pinellas County Comprehensive Plan Transportation Element³, the Level of Service (LOS) standard for S.R. 679 is LOS D for the peak hour. The only signal control within the study area is in the form of the bascule bridge on Structure E. The following intersections are stop controlled with a free movement for traffic on the major roadway and stop controls for the minor roadways/driveways:

- Madonna Boulevard (minor)/S.R. 679 (major)
- The Village driveway (minor)/S.R. 679 (major)
- Right-in/Right-out driveway accessing S.R. 679 from southwest quadrant
- Southbound driveway accessing Madonna Boulevard from northwest quadrant
- Northbound driveway accessing Madonna Boulevard from southwest quadrant

From South to north, S.R. 679 transitions from a four-lane divided roadway to a two-lane undivided roadway just north of Madonna Boulevard. Southbound S.R. 679 opens up from one lane to two lanes. However, a bottleneck is created on northbound S.R. 679 when the lanes are constricted from two lanes to one lane. In addition, the intersection of S.R. 679, Madonna Boulevard, and The Village driveway are staggered with numerous driveways in the immediate vicinity. The existing intersection lane geometries are displayed in Figure 2-4.

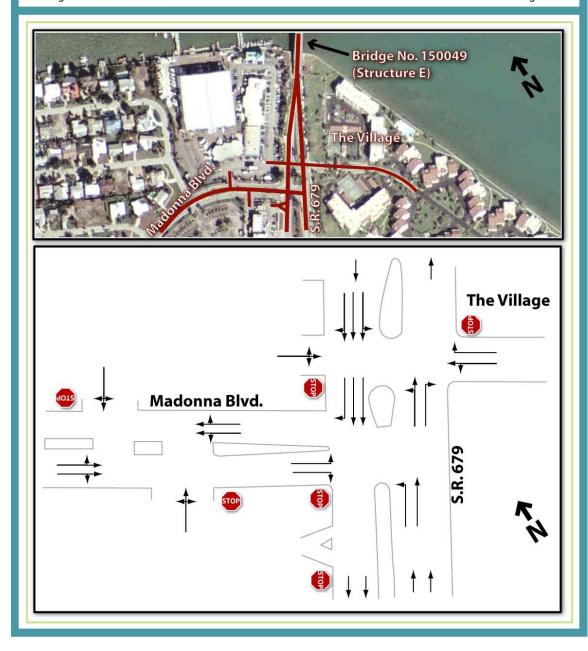
2.4 EXISTING OPERATIONAL ANALYSES

The existing operational analyses included evaluation of the whole study area as described in previous sections. The analyses were conducted using the traffic simulation software, *VISSIM*, *version* 4.1⁴. The simulation was performed for the peak vehicular hour (Noon and PM) with bridge opening three times an hour for Low-level bascule bridge condition and two times for Mid-level bascule bridge condition. The study area was observed several times before and after the simulation runs to verify the existing conditions model. Observations were made and incorporated in the model to reflect the existing field conditions as best as possible.

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Existing Lane Geometry



2.4.1 ANALYZED SCENARIOS FOR EXISTING CONDITIONS

The following scenarios were analyzed for both Noon and PM peak hours:

• <u>2005 Noon Low and 2005 PM Low</u>: Low-level bascule bridge opening every 20 minutes.

This is the worst case (peak hour vehicular traffic and maximum boat demand) existing scenario with the bridge opening three times in an hour.

• <u>2005 Noon Mid and 2005 PM Mid</u>: Mid-level bascule bridge opening every 30 minutes.

This is a worst case (peak hour vehicular traffic and maximum boat demand) hypothetical scenario with the bridge opening twice in an hour. This scenario was simulated with the existing traffic for the purpose of comparison with future scenarios.

• 2005 Noon Fixed and 2005 PM fixed: High-level fixed bridge.

Once again, this hypothetical scenario was simulated with existing traffic for the purpose of comparison with similar future scenarios. This being a fixed bridge, the boat traffic volume had no effect on traffic operations.

The existing *VISSIM* outputs for the analyses are provided in Appendix F.

2.4.2 ROADWAY SEGMENT OPERATIONAL ANALYSES

Since the project will not increase segment capacities, a LOS analysis was not performed for the segments.

2.4.3 RESULTS OF EXISTING OPERATIONAL ANALYSES

The results of the operational analyses were evaluated from a simulated network in terms of measures of effectiveness (MOE) such as travel times, queue lengths, and delays. Travel times were recorded for north to south, south to north, west to north, north to west, and network-wide for all vehicles. Queue counters were set up to determine the average and maximum queue lengths on S.R. 679 and the eastbound approach on Madonna Boulevard at the intersection with S.R. 679. Average travel and stopped delays per vehicle were recorded for the whole network, at the bascule bridge, and for the eastbound

approach on Madonna Boulevard at the intersection with S.R. 679. Approximate locations of the travel time segments, queue counters, and locations for recording travel delays are shown in Figure 2-5. The LOS and delay per vehicle have been reported below and in Figures 2-6 and 2-7. The detailed results of the Noon and PM peak hour analyses are reported in Table 2-2 and have been summarized in Charts 2-1 through 2-6.

Existing LOS* and Delay

• Existing Noon:

- Low

■ At the Bridge: LOS F (91 seconds/vehicle)

At S.R. 679/Madonna Boulevard:
 LOS D (52 seconds/vehicle)

- Mid

■ At the Bridge: LOS F (82 seconds/vehicle)

At S.R. 679/Madonna Boulevard:
 LOS D (41 seconds/vehicle)

- Fixed

■ At the Bridge: N/A

■ At S.R. 679/Madonna Boulevard: LOS C (26 seconds/vehicle)

• Existing PM:

- Low

■ At the Bridge: LOS C (30 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (489 seconds/vehicle)

- Mid

■ At the Bridge: LOS C (28 seconds/vehicle)

At S.R. 679/Madonna Boulevard: LOS F (357 seconds/vehicle)

Fixed

At the Bridge: N/A

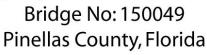
■ At S.R. 679/Madonna Boulevard: LOS F (278 seconds/vehicle)

* The delays are based on VISSIM simulation outputs but the LOS has been assigned for comparison purposes based on the delay classification provided by the Highway Capacity Manual.

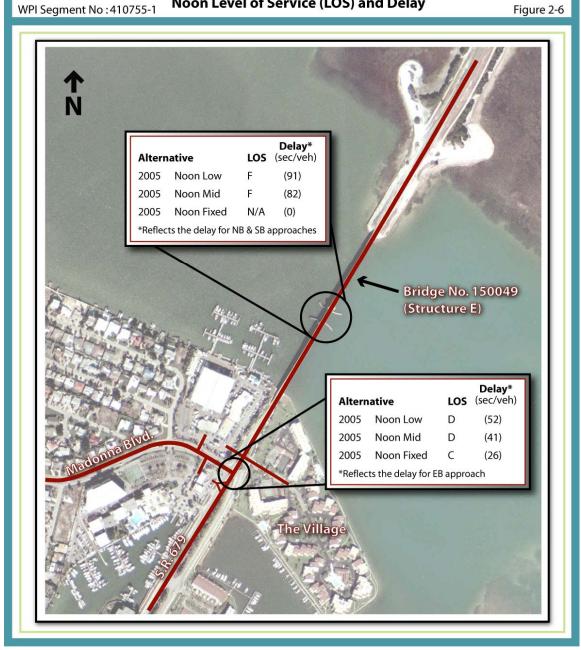


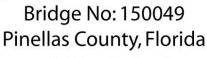
WPI Segment No : 410755-1 and Travel Delay Recordings





Existing Weekend Noon Level of Service (LOS) and Delay





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Existing Weekend PM Level of Service (LOS) and Delay

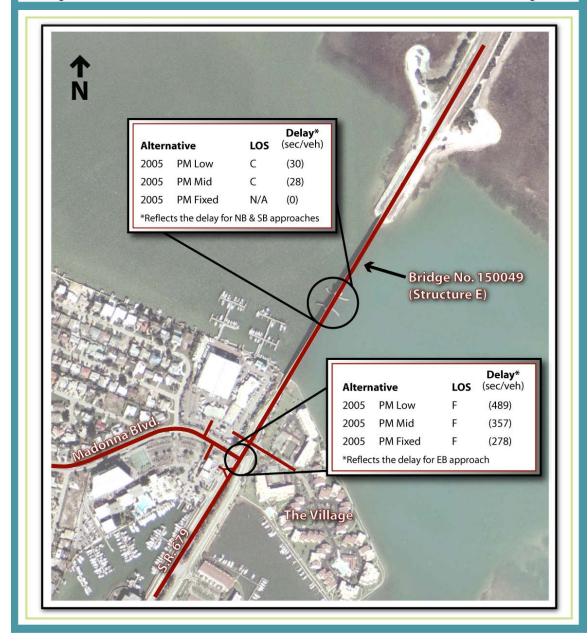


Table 2-2 Travel Times, Queue Lengths, Delays, and LOS for Existing Analyses

	Results of Operational Analyses using VISSIM 4.1 (Weekend Noon Peak 11:00 AM - 1:00 PM and PM Peak 4:00PM - 6:00 PM)																	
		Tra	vel Time	s (minutes	s)		Queue Lengths (feet) Delay (seconds per vehicle)											
Alternatives	TT ¹ N to S	TT ¹ S to N	TT ¹ W to N	TT ¹ N to W	TT ¹ Network-wide	NB ² Avg. Queue	NB ² Max. Queue	SB ² Avg. Queue	SB ² Max. Queue	EB ³ Avg. Queue	EB ³ Max. Queue	N-S Avg. Travel Delay @ Bridge	Madonna/SR 679 Avg. Travel Delay ⁴	Network-wide Travel Avg. Delay	Network-wide Stopped Avg. Delay	LOS at Bridge ⁵	LOS at Madonna ⁶	Alternatives
2005 Noon Low	5.26	2.28	3.11	1.18	2.96	302	1975	2038	6035	52	318	91	52	96	60	F	D	2005 Noon Low
2005 Noon Mid	4.76	1.82	2.59	1.45	2.72	222	1924	1631	6035	26	307	82	41	78	46	F	D	2005 Noon Mid
2005 Noon Fixed	3.31	1.12	1.56	1.15	2.06	0	0	0	0	11	156	N/A	26	18	2	N/A	С	2005 Noon Fixed
2005 PM Low	3.91	12.25	13.18	1.47	11.05	5451	6067	219	1938	842	1414	30	489	549	288	С	F	2005 PM Low
2005 PM Mid	3.72	10.82	11.65	1.28	9.21	4759	6067	191	2102	516	625	28	357	396	186	С	F	2005 PM Mid
2005 PM Fixed	3.20	7.71	9.28	1.12	7.74	0	0	0	0	437	630	N/A	278	254	89	N/A	F	2005 PM Fixed

Notes:

- 1. TT stands for travel time.
- 2. NB and SB queue lengths refer to queuing at the bridge in the case of bascule bridge and at the intersection of SR 679 and Madonna Boulevard in the case of fixed bridge.
- 3. EB queuing refers to queuing at the eastbound approach of the intersection of SR 679 and Madonna Boulevard.
- 4. This being an unsignalized intersection under existing conditions, the delay refers to the delay for the EB movement on Madonna Bouelvard.
- 5. LOS at the bridge has been calculated based on N-S Average Travel Delay at the bridge.
- 6. LOS at Modonna has been calculated based on the Average Travel Delay at the intersection of Madonna Boulevard and SR 679.

N/A refers to free flow conditions on the bridge in case of fixed bridge.

Travel time segment markers, queue counters, and travel delay recording locations have been shown in Figure 2-5.

LOS Criteria

LOS	Delay(sec/veh)
Α	≤10
В	> 10 ≤ 20
С	> 20 ≤ 35
D	> 35 ≤ 55
Е	> 55 ≤ 80
F	> 80

CHART 2-1 TRAVEL TIME SUMMARY FOR 2005 NOON PEAK HOUR

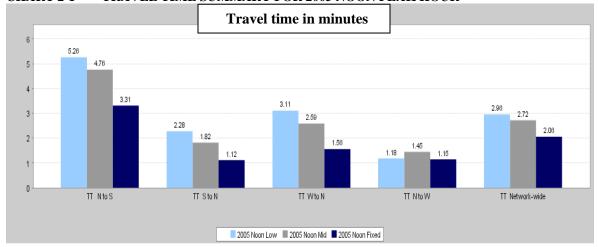


CHART 2-2 MAXIMUM QUEUE LENGTH SUMMARY FOR 2005 PEAK HOUR

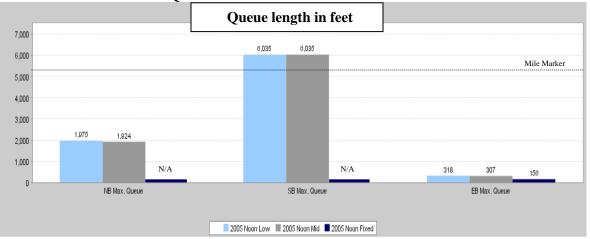


CHART 2-3 DELAY SUMMARY FOR 2005 NOON PEAK HOUR

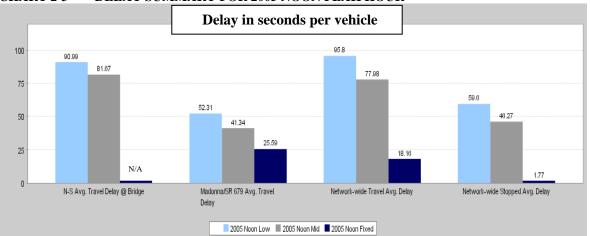


CHART 2-4 TRAVEL TIME SUMMARY FOR 2005 PM PEAK HOUR

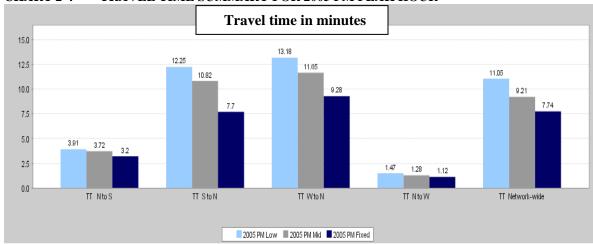


CHART 2-5 MAXIMUM QUEUE LENGTH SUMMARY FOR 2005 PM PEAK HOUR

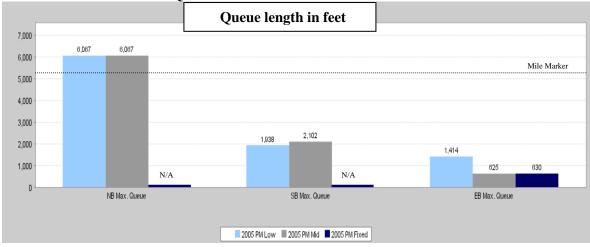
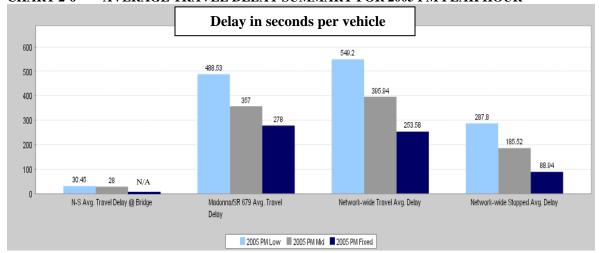


CHART 2-6 AVERAGE TRAVEL DELAY SUMMARY FOR 2005 PM PEAK HOUR



Section 3.0 FUTURE TRAFFIC CONDITIONS

This section summarizes the analysis of future traffic conditions for the Structure E study area as shown in Figure 2-1. In order to complete the analyses, the development of future traffic characteristics and projections were completed for the study area. Opening year (2010), interim year 2020, and design year (2030) traffic projections were developed for the three bridge alternatives: 1) Low-level bascule, 2) Mid-level bascule, and 3) Fixed structure. Operational analyses were performed for the Noon and PM peak hours.

3.1 TRAVEL DEMAND FORECASTING MODEL

The 2025 Cost Feasible Tampa Bay Regional Planning Model provided the basis to develop future WADT volumes for the study area. Some refinements were made to the model at the suggestion of FDOT District Seven staff. Additionally, the model derived annual average daily traffic (AADT) volumes were adjusted using the National Cooperative Highway Research Program (NCHRP) 255 average adjustment method to reflect a more realistic volume projection for 2025. Based on existing WADT and AADT, the 2025 WADT was obtained from the NCHRP 255 adjusted model AADT. The refinements and the related calculations are reported in Appendix G.

3.2 WADT PROJECTIONS

The future WADT volumes were developed for the opening year (2010), interim year (2020), and design year (2030) roadway system located in the Structure E study area. The future weekend traffic volumes were used to determine the design hour traffic projections for this study.

2010 and 2020 WADT volumes were developed by interpolating between the existing WADT and 2025 WADT volumes. 2030 WADT volume was developed by extrapolating from existing WADT and 2025 WADT volumes. The detailed calculations are

documented in Appendix G. Figure 3-1 displays the WADT volumes for 2010, 2020, and 2030.

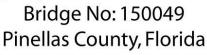
3.3 FUTURE TRAFFIC ASSUMPTIONS

The future WADT volumes were developed for the opening year (2010), interim year (2020), and design year (2030) roadway system located in the Structure E study area. The future weekend traffic volumes were used to determine the design hour traffic projections for this study.

2010 and 2020 WADT volumes were developed by interpolating between the existing WADT and 2025 WADT volumes. 2030 WADT volume was developed by extrapolating from existing WADT and 2025 WADT volume. The detailed calculations are documented in Appendix G. Figure 3-1 displays the WADT volumes for 2010, 2020, and 2030.

3.4 FUTURE GEOMETRIC AND OPERATIONAL ASSUMPTIONS

Existing operational analyses illustrated that the PM peak hour was the more critical and limiting time period for the intersection of S.R. 679 and Madonna Boulevard as far as the operational performance was concerned. The LOS for the PM peak hour was found to be LOS F for all the three alternatives (2005 PM Low, 2005 PM Mid, and 2005 PM Fixed) analyzed for the existing analyses. With growth in traffic, the level of service for future years would be expected to degrade further and also owing to safety concerns, the intersection of Madonna Boulevard, S.R. 679, and The Village driveway was assumed to be realigned and signalized for future analyses. However, no signal warrant study was performed. The driveways accessing S.R. 679 north of Madonna Boulevard were assumed to be closed for future operational analyses. Also, the right-in/right-out driveway accessing S.R. 679 south of Madonna Boulevard has been assumed to be closed for future operational analyses. The proposed realigned geometry is shown in Figure 3-2.



WPI Segment No : 410755-1

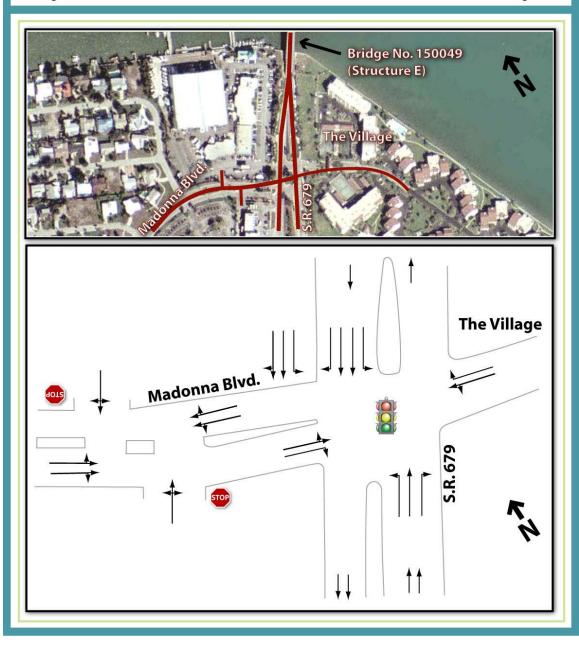
2010, 2020, and 2030 Weekend Average Daily Traffic



Bridge No: 150049 Pinellas County, Florida

WPI Segment No: 410755-1

Realigned Lane Geometry



3.5 DESIGN HOUR PROJECTIONS

The 2005 DHVs under existing geometric conditions were first used to project the DHVs for 2010, 2020, and 2030 under the existing geometric conditions. The methodology used to develop future DHVs under the existing geometric conditions, were similar to what was previously discussed in Section 2.1.4, except that the corresponding future WADT volumes were used for 2010, 2020, and 2030. The DHVs developed for 2010, 2020, and 2030 under existing geometric conditions were then redistributed, in order to reflect the traffic distribution and travel pattern due to the proposed realigned intersection and closure of driveways. The calculations involved in developing future DHVs are documented in Appendix H. DHVs for 2010, 2020, and 2030 are shown in Figures 3-3, 3-4, and 3-5, respectively.

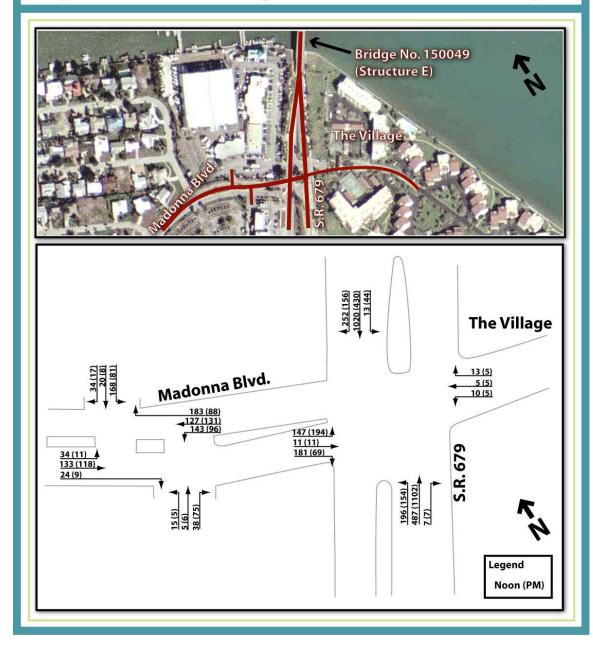
3.6 FUTURE OPERATIONAL ANALYSES

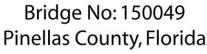
The future operational analyses included evaluation of the whole study area under proposed conditions as mentioned and shown in previous sections. The analyses were conducted using *VISSIM 4.1* and the simulation was performed for the peak vehicular hour (Noon and PM) combined with bridge opening three times an hour for Low-level bascule bridge condition and two times for Mid-level bascule bridge condition. The signal-operating plan of S.R. 689 and Madonna Boulevard intersection used for simulation was optimized using *SYNCHRO* 6 ⁶.



Bridge No: 150049 Pinellas County, Florida

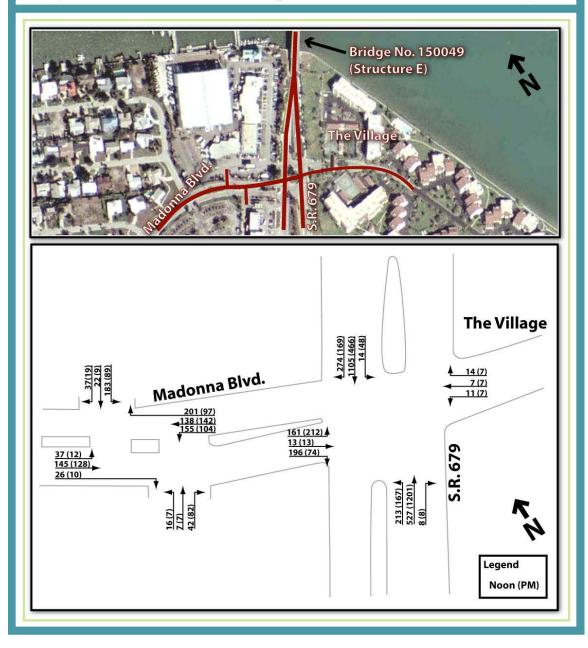
Opening Year 2010
Design Hour Volume





WPI Segment No: 410755-1

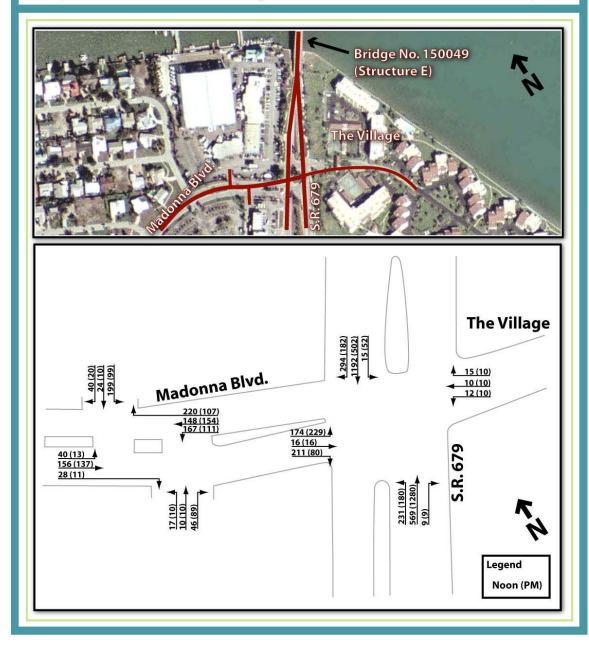
Interim Year 2020 Design Hour Volume





Bridge No: 150049 Pinellas County, Florida

> Design Year 2030 Design Hour Volume



3.6.1 ANALYZED SCENARIOS FOR FUTURE CONDITIONS

2010

- <u>2010 Noon Low and 2010 PM Low</u>: Low-level bascule bridge opening every 20 minutes.
- <u>2010 Noon Mid and 2010 PM Mid</u>: Mid-level bascule bridge opening every 30 minutes.
- 2010 Noon Fixed and 2010 PM fixed: High-level fixed bridge.

<u>2020</u>

- <u>2020 Noon Low and 2020 PM Low</u>: Low-level bascule bridge opening every 20 minutes.
- <u>2020 Noon Mid and 2020 PM Mid</u>: Mid-level bascule bridge opening every 30 minutes.
- 2020 Noon Fixed and 2020 PM fixed: High-level fixed bridge.

2030

- <u>2030 Noon Low and 2030 PM Low</u>: Low-level bascule bridge opening every 20 minutes.
- <u>2030 Noon Mid and 2030 PM Mid</u>: Mid-level bascule bridge opening every 30 minutes.
- 2030 Noon Fixed and 2030 PM fixed: High-level fixed bridge.

3.6.2 RESULTS OF FUTURE OPERATIONAL ANALYSES

As in case of the existing analyses, the results of the operational analyses were evaluated in terms of MOE such as travel times, queue lengths, and delays. Travel times were recorded for north to south, south to north, west to north, north to west, and for network-wide for all vehicles. Queue counters were set up to count the average and maximum queue lengths on S.R. 679 and for the eastbound approach on Madonna Boulevard at its intersection with S.R. 679. Average travel and stopped delays per vehicle were recorded for the whole network, at the bascule bridge, and for the eastbound approach on Madonna Boulevard at its intersection with S.R. 679. The travel time

segments, queue counters, and locations for recording travel delays are shown in Figure 2-5. The LOS and delay in seconds per vehicle for different years and different alternatives has been reported below and displayed in Figures 3-6 and 3-7. The detailed results of the Noon and PM peak hour analyses are reported in Table 3-1 and have been summarized in Charts 3-1 through 3-18.

Future LOS* and Delay

2010

• <u>2010 Noon</u>:

- Low

■ At the Bridge: LOS F (124 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS E (68 seconds/vehicle)

- Mid

• At the Bridge: LOS F (112 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS D (47 seconds/vehicle)

Fixed

At the Bridge: N/A

■ At S.R. 679/Madonna Boulevard: LOS C (35 seconds/vehicle)

• 2010 PM:

- Low

■ At the Bridge: LOS D (39 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (534 seconds/vehicle)

- Mid

• At the Bridge: LOS D (39 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (525 seconds/vehicle)

Fixed

At the Bridge: N/A

At S.R. 679/Madonna Boulevard:
LOS D (50 seconds/vehicle)

* The delays are based on VISSIM simulation outputs but the LOS has been assigned for comparison purposes based on the delay classification provided by the Highway Capacity Manual.

2020

•	2020 Noon:
•	2020 MOOII.

- Low

■ At the Bridge: LOS F (179 seconds/vehicle)

At S.R. 679/Madonna Boulevard: LOS F (85 seconds/vehicle)

Mid

■ At the Bridge: LOS F (123 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS E (73 seconds/vehicle)

Fixed

■ At the Bridge: N/A

At S.R. 679/Madonna Boulevard:
LOS D (41 seconds/vehicle)

• 2020 PM:

- Low

■ At the Bridge: LOS D (42 seconds/vehicle)

At S.R. 679/Madonna Boulevard:
LOS F (535 seconds/vehicle)

Mid

■ At the Bridge: LOS D (40 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (541 seconds/vehicle)

Fixed

■ At the Bridge: N/A

At S.R. 679/Madonna Boulevard:
 LOS F (86 seconds/vehicle)

2030

• 2030 Noon:

- Low

■ At the Bridge: LOS F (206 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (110 seconds/vehicle)

Mid

■ At the Bridge: LOS F (164 seconds/vehicle)

■ At S.R. 679/Madonna Boulevard: LOS F (82 seconds/vehicle)

Fixed

At the Bridge: N/A

■ At S.R. 679/Madonna Boulevard: LOS E (64 seconds/vehicle)

2030 PM:

- Low

• At the Bridge: LOS D (46 seconds/vehicle)

LOS F (546 seconds/vehicle) At S.R. 679/Madonna Boulevard:

Mid

At the Bridge: LOS D (44 seconds/vehicle)

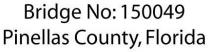
At S.R. 679/Madonna Boulevard: LOS F (570 seconds/vehicle)

Fixed

At the Bridge: N/A

At S.R. 679/Madonna Boulevard: LOS F (144 seconds/vehicle)

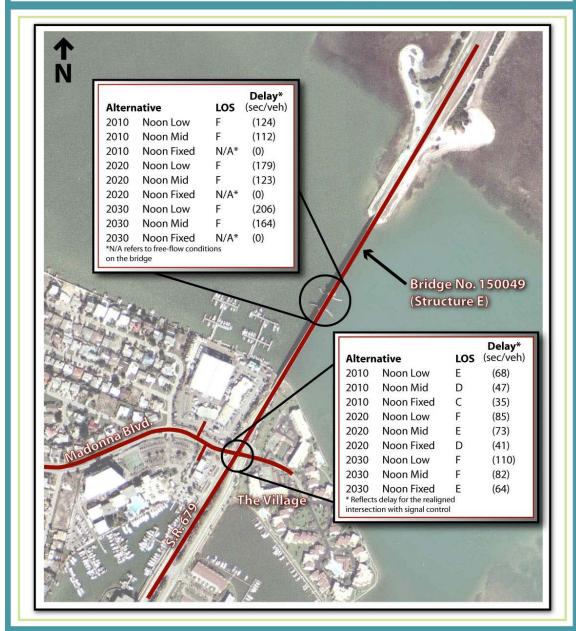
S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway



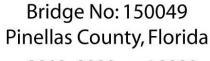
2010, 2020, and 2030

WPI Segment No: 410755-1 Noon Level of Service (LOS) and Delay

Figure 3-6



S.R. 679 (Pinellas Bayway Structure E) at Intracoastal Waterway



2010, 2020, and 2030

WPI Segment No: 410755-1 PM Level of Service (LOS) and Delay

Figure 3-7

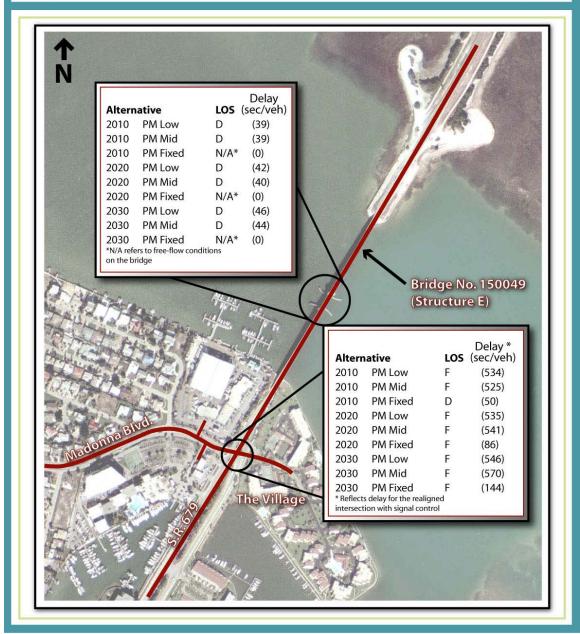


Table 3-1 Travel Times, Queue Lengths, Delays, and LOS for Future Analyses

	Results of Operational Analyses using VISSIM 4.1 (Weekend Noon Peak 11:00 AM - 1:00 PM)																	
		Tra	vel Times	s (minute:	s)			Queue Ler	ngths (feet)			Delay (seconds per vehicle)						
Alternatives	TT ¹ N to S	TT ¹ S to N	TT ¹ W to N	TT ¹ N to W	TT ¹ Network-wide	NB ² Avg. Queue	NB ² Max. Queue	SB ² Avg. Queue	SB ² Max. Queue	EB ³ Avg. Queue	EB ³ Max. Queue	N-S Avg. Travel Delay @ Bridge	Madonna/SR 679 Avg. Travel Delay	Network-wide Travel Avg. Delay	Network-wide Stopped Avg. Delay	LOS at Bridge ⁴	LOS at Madonna ⁵	Alternatives
2010 [#] Noon Low	6.42	2.79	6.41	1.38	8.31	551	2257	3603	6628	354	696	124	68	195	91	F	Е	2010 [#] Noon Low
2010 [#] Noon Mid	5.76	2.08	4.78	1.28	7.69	241	1991	2719	6627	230	649	112	47	145	61	F	D	2010 [#] Noon Mid
2010 [#] Noon Fixed	3.56	1.25	2.28	1.03	6.61	21	450	48	316	78	493	N/A	35	56	12	N/A	С	2010 [#] Noon Fixed
2020 [#] Noon Low	7.35	2.85	8.31	1.21	9.37	601	2388	5736	6630	495	876	179	85	246	118	F	F	2020 [#] Noon Low
2020 [#] Noon Mid	5.90	2.14	6.38	1.25	8.77	185	1961	3709	6629	349	786	123	73	187	84	F	Е	2020 [#] Noon Mid
2020 [#] Noon Fixed	3.72	1.23	2.52	1.05	7.35	18	302	70	1406	103	584	N/A	41	66	13	N/A	D	2020 [#] Noon Fixed
2030 [#] Noon Low	7.62	3.41	10.57	1.37	10.13	1164	2570	6392	6639	726	982	206	110	286	135	F	F	2030 [#] Noon Low
2030 [#] Noon Mid	6.52	2.14	9.33	1.23	9.68	219	2043	5505	6635	580	907	164	82	228	101	F	F	2030 [#] Noon Mid
2030 [#] Noon Fixed	4.06	1.28	3.45	1.16	8.32	32	512	599	5851	188	721	N/A	64	92	22	N/A	Е	2030 [#] Noon Fixed

	Results of Operational Analyses using VISSIM 4.1 (Weekend PM Peak 4:00 PM - 6:00 PM)																	
		Tra	vel Times	s (minutes	s)			Queue Ler	ngths (feet)				Delay (sec				1	
Alternatives	TT ¹ N to S	TT ¹ S to N	TT ¹ W to N	TT ¹ N to W	TT ¹ Network-wide	NB ² Avg. Queue	NB ² Max. Queue	SB ² Avg. Queue	SB ² Max. Queue	EB ³ Avg. Queue	EB ³ Max. Queue	N-S Avg. Travel Delay @ Bridge	Madonna/SR 679 Avg. Travel Delay⁴	Network-wide Travel Avg. Delay	Network-wide Stopped Avg. Delay	LOS at Bridge ⁵	LOS at Madonna ⁶	Alternatives
2010 [#] PM Low	4.28	4.21	17.71	1.16	14.26	8430	10048	344	2502	1369	1512	39	534	796	426	D	F	2010 PM Low
2010 [#] PM Mid	4.00	3.80	18.04	1.23	13.59	7732	10048	283	2537	1365	1497	39	525	722	373	D	F	2010 PM Mid
2010 [#] PM Fixed	3.37	1.48	3.96	0.99	6.49	462	1754	19	189	195	637	N/A	50	61	17	N/A	D	2010 PM Fixed
2020 [#] PM Low	4.35	4.20	16.42	1.29	15.74	8806	10048	398	2944	1487	1608	42	535	874	473	D	F	2020 PM Low
2020 [#] PM Mid	4.09	3.70	17.06	1.14	15.36	8073	10048	331	2981	1460	1585	40	541	831	434	D	F	2020 PM Mid
2020 [#] PM Fixed	3.42	1.56	9.76	0.99	7.50	927	2239	25	255	604	855	N/A	86	95	37	N/A	F	2020 PM Fixed
2030# PM Low	4.49	4.33	15.04	1.51	16.85	9143	10048	461	3074	1487	1600	46	546	929	501	D	F	2030 PM Low
2030 [#] PM Mid	4.29	3.78	16.30	1.17	16.44	8286	10048	397	3114	1470	1605	44	570	879	457	D	F	2030 PM Mid
2030 [#] PM Fixed	4.29	3.78	16.30	1.17	8.68	2058	3456	26	285	714	939	N/A	144	149	55	N/A	F	2030 PM Fixed

Notes:

- 2. NB and SB queue lengths refer to queuing at the bridge in the case of bascule bridge and at the intersection of SR 679 and Madonna Boulevard in the case of fixed bridge.
- 3. EB queuing refers to queuing at the eastbound approach of the intersection of SR 679 and Madonna Boulevard.
- 4. LOS at the bridge has been calculated based on N-S Average Travel Delay at the bridge.
- 5. LOS at Modonna has been calculated based on the Average Travel Delay at the intersection of Madonna Boulevard and SR 679.
- #. 2010 onwards, the intersection of SR 679, Madonna Boulevard, and The Village drivewayhas been treated as realigned and signalized for operational analyses. A signal warrant study has not been evaluated. N/A refers to free flow conditions on the bridge in case of fixed bridge.

Travel time segment markers, queue counters, and travel delay recording locations have been shown in Figure 2-5.

LOS Criteria > 55 ≤ 80

CHART 3-1 TRAVEL TIME SUMMARY FOR 2010 NOON PEAK HOUR

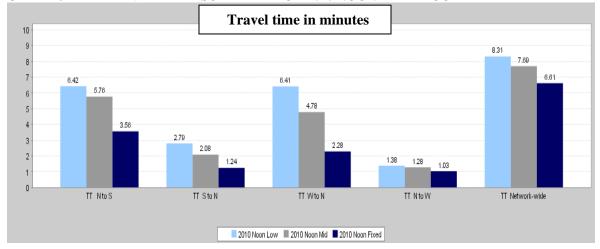


CHART 3-2 MAXIMUM QUEUE LENGTH SUMMARY FOR 2010 NOON PEAK HOUR

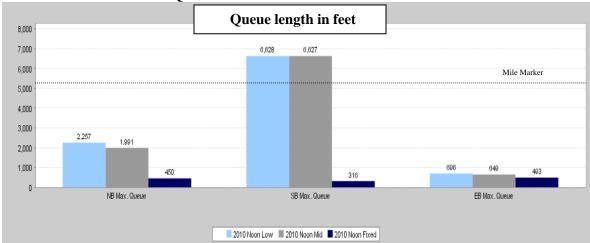


CHART 3-3 AVERAGE TRAVEL DELAY SUMMARY FOR 2010 NOON PEAK HOUR

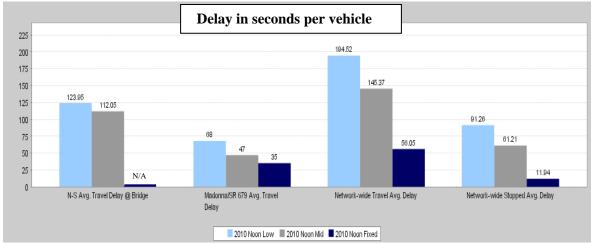


CHART 3-4 TRAVEL TIME SUMMARY FOR 2010 PM PEAK HOUR

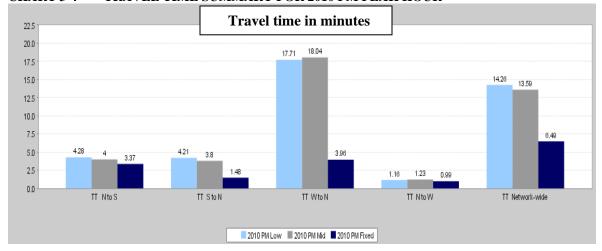


CHART 3-5 MAXIMUM QUEUE LENGTH SUMMARY FOR 2010 PM PEAK HOUR

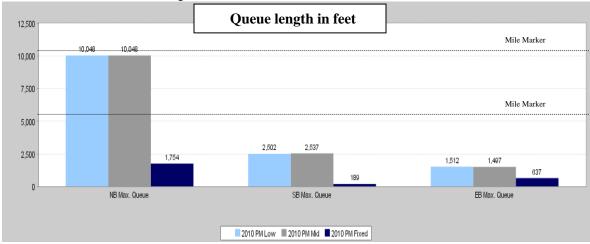


CHART 3-6 AVERAGE TRAVEL DELAY SUMMARY FOR 2010 PM PEAK HOUR

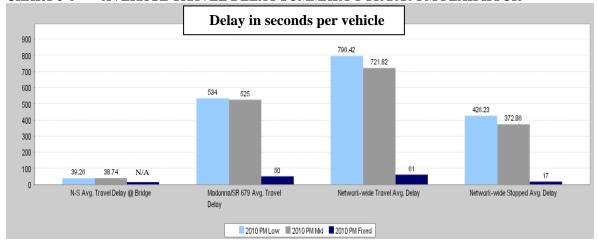


CHART 3-7 TRAVEL TIME SUMMARY FOR 2020 NOON PEAK HOUR

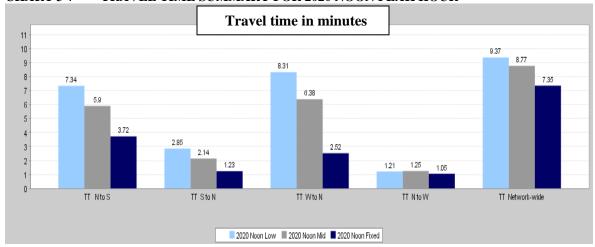


CHART 3-8 MAXIMUM QUEUE LENGTH SUMMARY FOR 2020 NOON PEAK HOUR

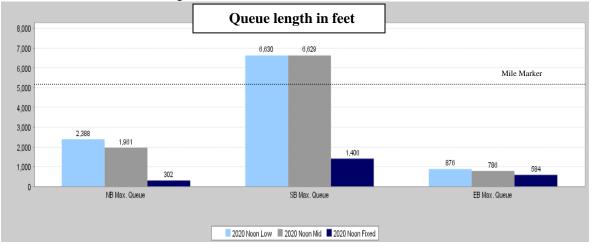


CHART 3-9 AVERAGE TRAVEL DELAY SUMMARY FOR 2020 NOON PEAK HOUR

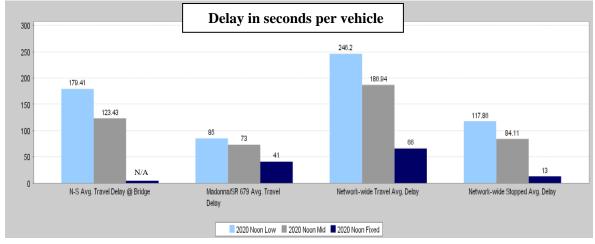


CHART 3-10 TRAVEL TIME SUMMARY FOR 2020 PM PEAK HOUR

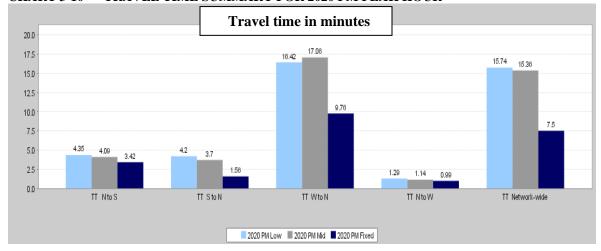


CHART 3-11 MAXIMUM QUEUE LENGTH SUMMARY FOR 2020 PM PEAK HOUR

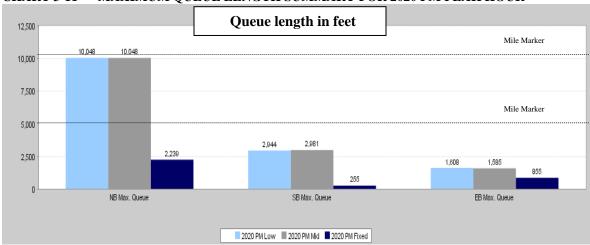


CHART 3-12 AVERAGE TRAVEL DELAY SUMMARY FOR 2020 PM PEAK HOUR

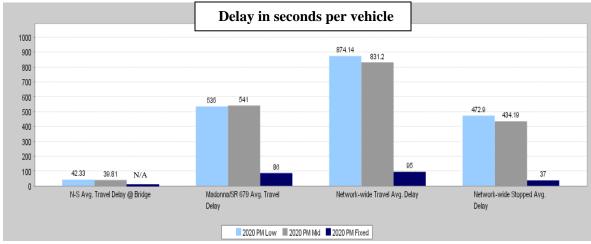


CHART 3-13 TRAVEL TIME SUMMARY FOR 2030 NOON PEAK HOUR

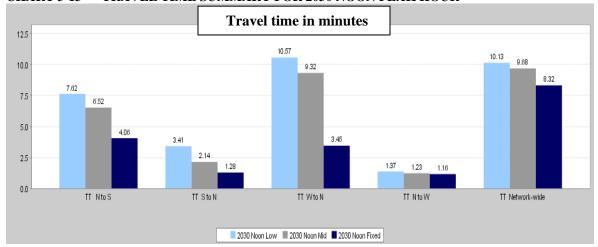


CHART 3-14 MAXIMUM QUEUE LENGTH SUMMARY FOR 2030 NOON PEAK HOUR

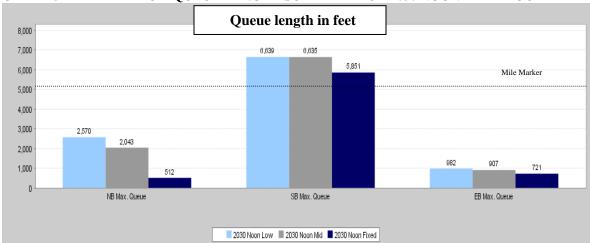


CHART 3-15 AVERAGE TRAVEL DELAY SUMMARY FOR 2030 NOON PEAK HOUR

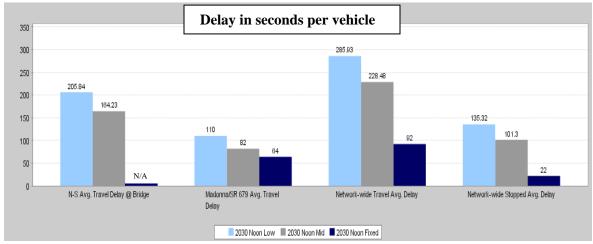


CHART 3-16 TRAVEL TIME SUMMARY FOR 2030 PM PEAK HOUR

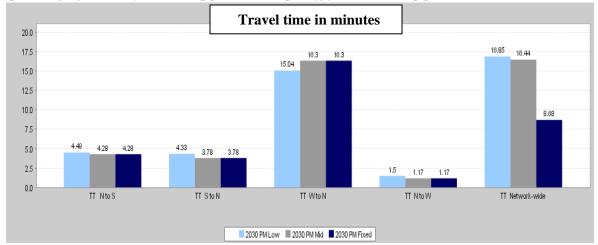


CHART 3-17 MAXIMUM QUEUE LENGTH SUMMARY FOR 2030 PM PEAK HOUR

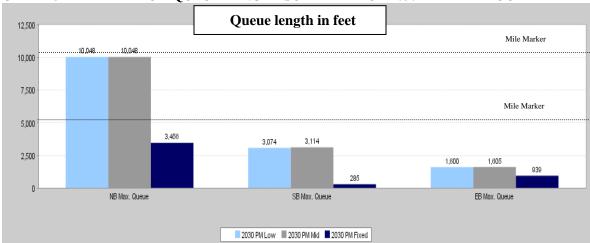
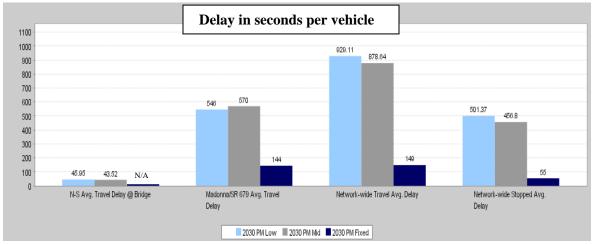


CHART 3-18 AVERAGE TRAVEL DELAY SUMMARY FOR 2030 PM PEAK HOUR



Section 4.0 SUMMARY AND CONCLUSIONS

The purpose of this study was to analyze the existing and future operational performance of the Structure E study area and to provide information on how different bridge alternatives compare against one another. As per the *Florida Department of Transportation Quality/Level of Service Handbook* and *Pinellas County Comprehensive Plan Transportation Element*, the LOS standard for S.R. 679 is LOS D for the peak hour. The following sections summarize the findings and the results for the existing and future traffic conditions.

4.1 SUMMARY OF EXISTING CONDITIONS

Existing conditions analyses were performed under existing geometric and bridge conditions for the existing Noon and PM peak hour DHV. In addition, existing analyses were also performed for the Mid and Fixed bridge alternatives in order to understand how each of them would have worked, under stop controlled conditions at the intersection of S.R. 679 and Madonna Boulevard. The evaluation of existing operating conditions reveals that low and mid bascule bridge alternatives would have LOS F operations at the bridge during the Noon peak hour and LOS C operations during the PM peak hour. All three alternatives would operate above the LOS standard for the intersection of S.R. 679 and Madonna Boulevard during the Noon peak hour but would operate at LOS F with extremely high delays for the PM peak hour.

It can be concluded from the existing analyses that the fixed bridge alternative would work the best under existing conditions because of free flow conditions at the bridge but even this option would experience very high delay at the stop controlled eastbound approach of Madonna Boulevard at its intersection with S.R. 679. Also, the fixed bridge alternative seems to perform better in terms of travel times on various segments, average and maximum queue lengths, and network-wide average delays.

4.2 SUMMARY OF FUTURE CONDITIONS

All the bridge alternatives that were analyzed for existing conditions were also carried into the analyses for future years. It was observed from the existing analyses that the stop controlled intersection of S.R. 679 and Madonna Boulevard was experiencing extremely high delays in case of all the three alternatives for the PM peak hour. With growth in traffic, the level of service for future years would be expected to degrade further and also owing to safety concerns, the intersection of Madonna Boulevard, S.R. 679, and The Village driveway was assumed to be realigned with a signal control for future analyses. The driveways accessing S.R. 679 to the north and immediate south of Madonna Boulevard were assumed to be closed for future operational analyses.

The low-level bascule bridge operates below the LOS standard at the bridge and at the intersection of S.R. 679 and Madonna Boulevard for the Noon peak hour in 2010, 2020, and 2030. It operates at the standard LOS at the bridge in the PM peak hour for 2010, 2020, and 2030 but operates at LOS F with extremely high delays for the PM peak hour at the intersection of S.R. 679 and Madonna Boulevard.

For 2010 Noon peak hour, the mid-level bascule bridge operates at LOS F at the bridge and at LOS D at the intersection of S.R. 679 and Madonna Boulevard. However, it operates below the standard LOS at both the locations in 2020 and 2030. It performs better than the low-level bascule in the Noon peak hour for all three years but the performance of the two bascule bridge alternatives are comparable in the PM peak hour for all three years. Similar to the low-level bridge alternative, the mid-level bridge alternative operates at the standard LOS at the bridge for 2010, 2020, and 2030 and at LOS F with extremely high delays at the intersection of S.R. 679 and Madonna Boulevard during PM peak hour.

The fixed bridge would experience free-flow conditions on the bridge. It operates at LOS C, LOS D, and LOS E at the intersection of S.R. 679 and Madonna Boulevard for 2010, 2020, and 2030 Noon, respectively. For the PM peak hour at the intersection of S.R. 679 and Madonna Boulevard, it operates at the standard LOS for 2010 but degrades to LOS F for 2020 and 2030.

Even though the fixed bridge operates below the standard LOS at the intersection of S.R. 679 and Madonna Boulevard for 2030 Noon, and 2030 PM, it performs much better than the bascule bridge alternatives. The fixed bridge alternative experiences significantly reduced travel times, queue lengths, and delays. Also, signal controlling the realigned intersection of S.R. 679, Madonna Boulevard, and The Village driveway seems to significantly reduce the PM peak hour delay with the fixed bridge alternative.

Detailed results of the operational analyses for all the alternatives and all the years have been documented in Table 4-1. Average travel delays for the signal control at the bascule bridge, for the intersection at S.R. 679 and Madonna Boulevard, and for the whole network have been summarized in Charts 4-1 and 4-2.

Table 4-1
Travel Times, Queue Lengths, Delays, and LOS for Existing and Future Analyses

								_										1
	Results of Operational Analyses using VISSIM 4.1 (Weekend Noon Peak 11:00 AM - 1:00 PM)																	
		Tra	vel Times	(minute	s)			Queue Ler	ngths (feet)				Delay (sec	onds per vehicle)				
Alternatives	TT ¹ N to S	TT ¹ S to N	TT ¹ W to N	TT ¹ N to W	TT ¹ Network-wide	NB ² Avg. Queue	NB ² Max. Queue	SB ² Avg. Queue	SB ² Max. Queue	EB ³ Avg. Queue	EB ³ Max. Queue	N-S Avg. Travel Delay @ Bridge	Madonna/SR 679 Avg. Travel Delay ⁴	Network-wide Travel Avg. Delay	Network-wide Stopped Avg. Delay	LOS at Bridge ⁵	LOS at Madonna ⁶	Alternatives
2005 Noon Low	5.26	2.28	3.11	1.18	2.96	302	1975	2038	6035	52	318	91	52	96	60	F	D	2005 Noon Low
2005 Noon Mid	4.76	1.82	2.59	1.45	2.72	222	1924	1631	6035	26	307	82	41	78	46	F	D	2005 Noon Mid
2005 Noon Fixed	3.31	1.12	1.56	1.15	2.06	0	0	0	0	11	156	N/A	26	18	2	N/A	С	2005 Noon Fixed
2010 [#] Noon Low	6.42	2.79	6.41	1.38	8.31	551	2257	3603	6628	354	696	124	68	195	91	F	E	2010 [#] Noon Low
2010 [#] Noon Mid	5.76	2.08	4.78	1.28	7.69	241	1991	2719	6627	230	649	112	47	145	61	F	D	2010 [#] Noon Mid
2010 [#] Noon Fixed	3.56	1.25	2.28	1.03	6.61	21	450	48	316	78	493	N/A	35	56	12	N/A	С	2010 [#] Noon Fixed
2020 [#] Noon Low	7.35	2.85	8.31	1.21	9.37	601	2388	5736	6630	495	876	179	85	246	118	F	F	2020 [#] Noon Low
2020 [#] Noon Mid	5.90	2.14	6.38	1.25	8.77	185	1961	3709	6629	349	786	123	73	187	84	F	Е	2020 [#] Noon Mid
2020 [#] Noon Fixed	3.72	1.23	2.52	1.05	7.35	18	302	70	1406	103	584	N/A	41	66	13	N/A	D	2020 [#] Noon Fixed
2030 [#] Noon Low	7.62	3.41	10.57	1.37	10.13	1164	2570	6392	6639	726	982	206	110	286	135	F	F	2030 [#] Noon Low
2030 [#] Noon Mid	6.52	2.14	9.33	1.23	9.68	219	2043	5505	6635	580	907	164	82	228	101	F	F	2030 [#] Noon Mid
2030 [#] Noon Fixed	4.06	1.28	3.45	1.16	8.32	32	512	599	5851	188	721	N/A	64	92	22	N/A	Е	2030 [#] Noon Fixed

	Results of Operational Analyses using VISSIM 4.1 (Weekend PM Peak 4:00 PM - 6:00 PM)																	
		Tra	vel Times	(minutes	s)			Queue Ler	ngths (feet)				Delay (sec	onds per vehicle)				
Alternatives	TT ¹ N to S	TT ¹ S to N	TT ¹ W to N	TT ¹ N to W	TT ¹ Network-wide	NB ² Avg. Queue	NB ² Max. Queue	SB ² Avg. Queue	SB ² Max. Queue	EB ³ Avg. Queue	EB ³ Max. Queue	N-S Avg. Travel Delay @ Bridge	Madonna/SR 679 Avg. Travel Delay ⁴	Network-wide Travel Avg. Delay	Network-wide Stopped Avg. Delay	LOS at Bridge ⁵	LOS at Madonna ⁶	Alternatives
2005 PM Low	3.91	12.25	13.18	1.47	11.05	5451	6067	219	1938	842	1414	30	489	549	288	С	F	2005 PM Low
2005 PM Mid	3.72	10.82	11.65	1.28	9.21	4759	6067	191	2102	516	625	28	357	396	186	С	F	2005 PM Mid
2005 PM Fixed	3.20	7.71	9.28	1.12	7.74	0	0	0	0	437	630	N/A	278	254	89	N/A	F	2005 PM Fixed
2010 [#] PM Low	4.28	4.21	17.71	1.16	14.26	8430	10048	344	2502	1369	1512	39	534	796	426	D	F	2010 PM Low
2010 [#] PM Mid	4.00	3.80	18.04	1.23	13.59	7732	10048	283	2537	1365	1497	39	525	722	373	D	F	2010 PM Mid
2010 [#] PM Fixed	3.37	1.48	3.96	0.99	6.49	462	1754	19	189	195	637	N/A	50	61	17	N/A	D	2010 PM Fixed
2020 [#] PM Low	4.35	4.20	16.42	1.29	15.74	8806	10048	398	2944	1487	1608	42	535	874	473	D	F	2020 PM Low
2020 [#] PM Mid	4.09	3.70	17.06	1.14	15.36	8073	10048	331	2981	1460	1585	40	541	831	434	D	F	2020 PM Mid
2020 [#] PM Fixed	3.42	1.56	9.76	0.99	7.50	927	2239	25	255	604	855	N/A	86	95	37	N/A	F	2020 PM Fixed
2030 [#] PM Low	4.49	4.33	15.04	1.51	16.85	9143	10048	461	3074	1487	1600	46	546	929	501	D	F	2030 PM Low
2030 [#] PM Mid	4.29	3.78	16.30	1.17	16.44	8286	10048	397	3114	1470	1605	44	570	879	457	D	F	2030 PM Mid
2030 [#] PM Fixed	4.29	3.78	16.30	1.17	8.68	2058	3456	26	285	714	939	N/A	144	149	55	N/A	F	2030 PM Fixed

Notes

- 1. TT stands for travel time
- 2. NB and SB queue lengths refer to queuing at the bridge in the case of bascule bridge and at the intersection of SR 679 and Madonna Boulevard in the case of fixed bridge.
- 3. EB queuing refers to queuing at the eastbound approach of the intersection of SR 679 and Madonna Boulevard.
- 4. This being an unsignalized intersection under existing conditions, the delay refers to the delay for the EB movement on Madonna Bouelvard.
- 5. LOS at the bridge has been calculated based on N-S Average Travel Delay at the bridge.
- 6. LOS at Modonna has been calculated based on the Average Travel Delay at the intersection of Madonna Boulevard and SR 679.
- ** 2010 onwards, the intersection of SR 679, Madonna Boulevard, and The Village driveway has been treated as realigned and signalized for operational analyses. A signal warrant study has not been evaluated.

 N/A refers to free flow conditions on the bridge in the case of fixed a bridge.

Travel time segment markers, queue counters, and travel delay recording locations have been shown in Figure 2-5.

LOS Criteria

Los	Delay(sec/veh)						
Α	≤ 10						
В	> 10 ≤ 20						
С	> 20 ≤ 35						
D	> 35 ≤ 55						
E	> 55 ≤ 80						
F	> 80						

CHART 4-1 SUMMARY OF AVERAGE TRAVEL DELAYS FOR WEEKEND NOON PEAK HOUR

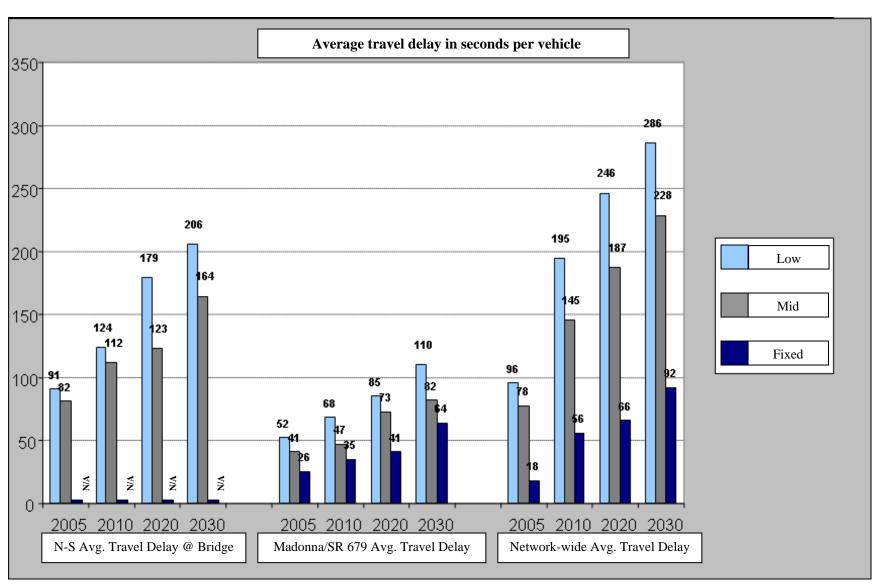
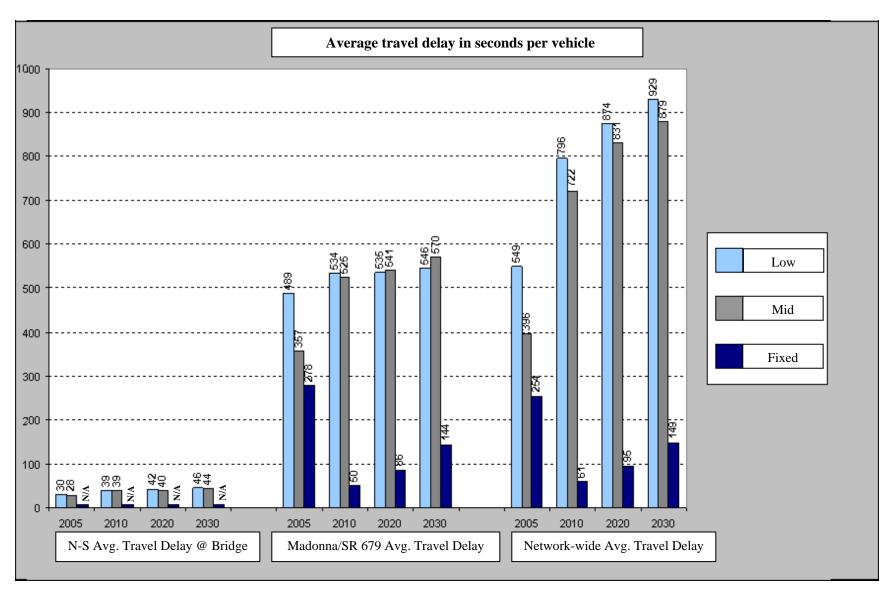


CHART 4-2 SUMMARY OF AVERAGE TRAVEL DELAYS FOR WEEKEND PM PEAK HOUR



Section 5.0 **REFERENCES**

- 1. Design Traffic Handbook, Florida Department of Transportation; Tallahassee, Florida, 1996.
- 2. Quality/Level of Service Handbook, Florida Department of Transportation; Tallahassee, Florida, 2002.
- 3. Pinellas County Comprehensive Plan Transportation Element; http://www.pinellascounty.org/Plan/compendium/Transportation.pdf
- 4. VISSIM 4.1 09, PTV AG; Karlsruhe, Germany.
- 5. Synchro 6, Trafficware; Albany, California, 2003.

APPENDICES

Appendix A: Forty-Eight Hour Class Counts

Appendix B: Four Hour Turning Movement Counts

Appendix C: Existing WADT and Traffic Characteristics

Appendix D: Seasonal Factors

Appendix E: Existing DHV

Appendix F: VISSIM Outputs, AVI Clips, and Field Videos

Appendix G: Model Adjustments and Future WADT

Appendix H: Future DHV

Appendix I: Noise and Air Traffic Data



Site Code: 140122900000 Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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79.8%

Percent

11.7%

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Latitude: 0' 0.000 South NORTH BOUND Start Class Total <u>Time</u> 33 05/21/05 00:15 25 0 0 0 ŏ 18 0 ō Ö. 0 26 0 00:30 22 Ó ٥ 26 26 00:45 0 ø 87 0 11 0 111 10 17 01:00 23 26 01:15 D. a ń 01:30 22 n 0 0 n 19 01:45 85 15 12 02:00 12 0 0 0 0 0 02:15 0 0 6 1 0 02:45 38 7 n 59 2 0 o Q Ō. 11 0 0 03:00 0 8 03:15 2 03.30 ø 0 Ó 0 Ď O 03:45 26 8 10 04:00 0 0 0 0 0 04:15 O 0 0 O. n n 14 04:30 64.45 0 Ω 0 34 2 18 05:00 0 Ò 0 15 0 n n 0 0 0 13 05:15 05:30 0 10 0 11 05:45 51 37 0 0 0 0 0 06:00 18 Ö 23 0 21 16 06:15 18 0 Ò Ò Ø 0 Ö Ò. 0: n 06:30 8 0 n 29 06:45 22 89 0 0 · O 31 07:00 21 6 0 0 0 0 25 07:15 07:30 18 ٥ 0 ó ŏ 52 42 55 163 127 24 0 0 62 75 08:00 51 8 08:15 58 0 99 81 14 0 0 0 . 77 267 08:45 91 45 70 70 77 85 09:00 3 Q. 0 0 0: 09:15 0 0 112 19 09.30 89 93 09:45 13 322 40 6 0 383 13 14 11 108 10:00 83 94 n n 116 Ó 0 10:15 10:30 .3 2 0 Q 81 99 131 454 10:45 368 56 O 103 13 õ 126 11:00 135 24 14 167 o 107 11.30 85 Ó. 2 0 2 Ö. n 119 97 11:45 13 0 420 64 15 Total 18 1837 270 11 10 42 13 10 10 16 2301 0.0% 0.7% 0.4% 0.6% 0.4% 0.4% 0.4%

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class Total Time 16 12 PM 12:15 Ò 12.30 12:45 13:00 13:15 13.30 ń 13:45 148 14:00 19 Ü Û 14:15 14:30 168 17 n 15:00 15:15 15:30 693 15:45 16:00 16.15 16:30 16:45 10 n ò 17:00 19 17:15 17:30 Ò 17:45 18:00 18:15 1.27 20 18:30 18:45 19:00 ø O Ù 19:15 19:30 Ð 832 19:45 13 20:00 20.15 20:30 78 20:45 21:00 21:15 21:30 21:45 22:00 22:15 ŏ ō Ō. 22:30 22:45 n ñ ø 23:00 23:15 n O. ø 23:30 Ü <u>23:45</u> 8036 Total 0.1% 0.9% 0.2% 0.0% 0.1% 0.2% 0.1% 0.2% 0.0% 10.2% 0.2% 0.9% 3.5%

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class Class Class Total Time 000 13 7 Ó o 0 Ð 00:15 0 n 5 0 00:30 0 00:45 28 23 n O 0 0 o ŏ ō 01:00 Ô 6 n n 3 01:15 3 01:30 0 a 0 0 6 01:45 18 0 0 0 0 0 0 0 ٥ 02:00 Ō 8 2 2 02:15 0 'n 0 0 Ó 0 Ω Ò n 02:30 0 0 0 0 02:45 Ö 0 0 14 12 Ô Ö 0 o 0 0 3 0 Õ 0 0 03:15 ŏ 6 0 0 03:30 3 03:45 20 0 14 0 O 0 0 Q 04:00 O ō 10 0 Ō 0 Ô ø 0 11 04:15 Ω 0 0 6 _5 25 n Ω 29 12 0 Õ 0 05:00 9 0 0 o 0 'n Ó 05:15 9 3 0 20 15 05:30 05:45 18 0 o 65 10 Ö ō ō 31 06:00 20 45 0 O Ð ٥ O 0 Ō 53 0 06:15 06:30 O 62 80 06:45 0 182 40 0 13 0 0 0 0 111 07:00 96 07:15 0 127 Ō. 171 o O 07,30 143 25 0 Ò 127 477 12 0 07:45 0 549 153 08:00 136 15 Ω o n ۵ 11 16 08:15 121 0 150 08:30 131 139 2 514 51 ō 118 09:00 96 19 87 11 103 09:15 ŏ Ď 80 ñ 09:30 68 O n 162 125 376 09;45 27 66 0 0 463 0 10:00 14 0 3 0 0 0 Λ n 118 Ö 104 83 89 Ď. 10:15 1 18 0 2 0 Û 107 10:30 14 23 115 10:45 84 351 n Π O 444 139 ø 11:00 n 115 21 2 Õ. 0 0 0 0 0 147 11:15 11:30 108 33 Ď 21 0 0 0 0 123 131 11:45 105 0 540 2975 424 2467 94 402 0 10 0 0

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Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South NORTH BOUND Class Start Class Total Time. 22 14 Ö d 12:15 12:30 21 a n O 13:00 13:15 Ü 409 80 13:45 o 14:15 ø n Ð O. 14:30 14:45 O 15:00 25 15:15 15:30 O. 98 16:00 0.0 Q, O Q 0. O 16:15 16:30 458 375 16:45 n O ø O. 17:00 Ö Ö n O 17:15 17:30 16 Ŏ 17:45 104 n ō 18:00 Ō 115 Ō D 18:15 375 18:45 79 80 19:00 Û Ö 19:15 ö 19:30 19:45 20:00 20:15 ō 20:30 20:45 ø 21:00 21:15 21:30 Ô O ñ .0 147 21:45 22:00 o ŏ 22:15 22:30 Ò 17 94 23 O O a 23:00 23:15 n 23:30 O Ó Ô D Ò O 'n 23:45 Đ Total

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Site Code: 140122900000 Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class Total Time 05/25/05 O ٥ O 0 00:15 0 0 00:30 0 00:45 19 0 17 O ٥ 3 01:00 Ô 3 0 0 01:15 ā Ð n 'n 3 5 01:45 0 18 16 0 0 2 0 0 0 7 0 02:15 Ó O O Ω O 02:30 02:45 15 0 ō 0 0 18 ō 0 ō 03:00 0 . 1. 11 0 Ö O O. 0 O 0 13 03:30 6 Ó 6 <u>2</u> 22 <u>2</u> 0 0 0 0 04:00 0 5 5 Ø 0 0 0 0 0 0 0 04:30 0 O O 0 n 04.45 O 19 0 24 0 0 11 05:00 O 0 0 0 0 Û 0 0 Ó 05:15 05:30 0 12 05:45 19 39 0 2 n 0 0 47 10 ō ō Ò 06:00 23 33 0 ٥ ō 38 06:15 0 57 45 12 67 197 55 156 06:45 12 39 07:00 12 0 0 0 0 'n 106 135 07:15 0 117 16 Ö ŏ Õ 175 13 18 Õ 158 0 07:30 96 07:45 462 0 530 143 08:00 08:15 123 126 16 20 132 08:30 95 461 112 65 105 18 127 09:00 0 109 09:15 85 Ö. 09:30 Ò. 72 12. Ò 09:45 139 17 0 0 ٥ Ó 0 482 10:00 0 95 11 25 0 0 O Ó Ö 0 0 0 D 106 121 10:15 0 94 Ö 6 Ō 83 25 115 24 85 132 10:45 376 102 474 10 0 n n 132 0 11:00 21 0 11:15 11:30 112 90 19 0 84 12 Ō 0 0 Ő a 0 Ö Ö 0 98 154 11:45 123 29 Đ 496 81 399 0 Total 2383 6 0.2% 2865

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Site Code: 140122900000 Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class Total 138 130 Time 19 26 ō ŭ ŏ 12:15 12.30 12.45 558 109 n n o 13:00 13:15 13.30 O n n Ð. Đ 375 64 13:45 n 14:15 O Ô a 14:30 14:45 31 22 30 24 Ō. 15:00 15:15 n 104 612 16:00 ò Ö Ö 16:30 O 16:45 16 17:00 ñ ũ O 17:15 17:30 ō 90 ō ō 18:00 18,15 18,45 19:00 72 72 19:15 ŏ ō 19:30 19:45 n 20:00 n n 20:15 20:30 Ö n 21:00 21:15 n 31 21:30 Ä n п 21:45 22:00 Ω Ω Λ n n n ŏ o 22:15 22:30 25 Ū Ð 155 22:45 n n 23:00 23:15 23:30 n n ัด O. 23:45 0.0% 0.0% 0.0% 0.2%

Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South NORTH BOUND Class Start Class 14 Total <u>Time</u> 6 10 13 05/26/05 0 ō ō 0 Ō 0 2 12 00:15 12 Ö 0 Ö 0 00:45 n 6 29 33 0 01:00 6 8 0 01:15 0 9 n 0 Û a Ď Ö 01:30 8 n 'n 01:45 20 24 02:00 5 0 0 6 ò ŏ ŏ ō ø 0 0 02:15 02:30 13 0 0 0 00 0 00 0 0 O 0 16 Ö Ó O. 0 0 0 ō. ö 03:00 3 03:15 O O 03:30 n 0 0 0 03:45 10 0 04:00 0 0 o 0 0 04:15 0 0 0 Ü n 0 5 04:30 0 04:45 20 O O O 0 23 10 0 05:00 0 3 0 0 05:15 15 2 0 0 19 05:45 14 47 16 5 0 0 56 26 37 06:00 8 2 0 0 43 72 06:15 0 5 0 0 Ø 0 06:30 0 58 0 59 06:45 50 07:00 0 13 o 0 n 0 102 Ŏ. 0 0 0 n 115 07:15 106 18 0 126 140 105 453 59 0 523 08:00 124 19 ō 146 08:15 105 118 08:30 134 10 0 0 0 0 150 109 130 08:45 18 0 09:00 87 9 0 6 0 0 0 0 103 09:15 90 18 109 09:30 108 14 125 09:45 105 390 56 0 12 0 0 0 0 0 0 462 10:00 117 92 16 O O 0 o 0 ۵ 0 10:15 86 ō ō 108 16 10:30 115 19 139 10:45 92 385 63 13 10 478 11:00 111 25 11:15 93 19 120 20 18 Ò O 0 Ñ. Ò Ω 11:30 0 96 n 0 121 101 122 11:45 504 2888 10 Total 2411 370 32 n 0.1% 0.0% 0.0% Percent 0.4% 83.5% 12.8% 1.7% 0.1% 0.0% 1.1% 0.1% 0.0% 0.0% 0.0% 0.2%

Site Code: 140122900000 Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class Class 14 Total Time 144 124 12 PM 113 25 0 0 0 19 17 ō ō 0 0 99 Ö 0 0 12:15 0 12.30 93 0 Ò 115 12:45 13 74 0 145 528 432 115 10 2 n fi 0 ٥ 0 1 20 138 13:00 2 155 13:15 107 Ô 13:30 87 15 n 3 n Ò Ô n ñ O 228 13:45 194 30 Ω 628 86 0 8 523 14:00 122 26 Ò 0 0 0 0 0 0 0 156 ō 151 14:15 126 20 n 0 21 14:30 106 14:45 30 208 645 172 1 0 526 97 22 0 0 3 ō Ö 167 15:00 O 137 149 O 3 29 183 15:15 15.30 135 31 0 Ò n O o O. 170 131 552 30 112 167 13 16:00 119 16 0 0 0 0 141 a .0 142 16:15 17 2 0 Ó 0 0 ø Ó 16:30 121 29 0 0 146 119 477 24 86 16:45 584 156 Ó Ō 2 0 17:00 124 26 0 0 n. D. 0 0 17:15 17:30 29 15 135 124 0 ø 144 92 17 17:45 124 594 5 484 0 18:00 122 ō ō 0 142 0 18:15 117 11 0 0 Q. 135 18:30 87 0 O 106 110 18:45 89 15 493 0 0 19:00 0 101 10 0 0 0 0 0 0 113 87 19:15 78 94 18 0 ٥ 19:30 92 10 103 19:45 365 0 ٥ 417 86 20:00 80 5 Ω 20:15 73 ũ 83 6 20:30 68 83 72 293 85 0 72 2 0. 77 21:00 21:15 48 54 49 21:30 n Ò Ò 44 3 21:45 36 200 15 0 0 n 222 49 27 40 57 22:00 0 0 ٥ 0 0 0 0 2 32 0 0 22:15 22:30 46 29 1**64** 22:45 138 18 ŏ 0 22 23:00 22 0 24 14 Ō Ö ø Ω 23:30 12 0 ń Ö Ď. n ń 21 23:45 15 81 5380 70 0 0 75 56 18 0.0% 0.0% 0,0% 0.0% 0.3% 0.1% 0.1% 0.0% 1.0% 0.1% 0.0% Percent 0.3% 83.2% 13.5% 1.4%

Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South NORTH BOUND Class Start 15 Total Time 8 05/27/05 0 ō 0 13 Ø 0 0 00:15 11 ٥ 00:30 6 0 Ö 8 00:45 0 10 39 33 n 0 O 0 01:00 5 01:15 0 5 0 0 01:30 8 ñ 'n n Ŏ. Ô O n 0 11 01:45 24 0 02:00 0 o ٥ 0 0 0 0 4 0 ō 02:15 ń Ô 0 3 ø n n 0 02:45 2 Ð 0 Đ п n O D 0 10 0 ğ ŏ Õ 0 0 0 03:00 O 6 0 0 03:15 Ó 0 0 ñ ñ ã n Ò Ď 03:45 12 0 0 0 04:00 0 0 5 0 0 ø O. 04:15 0 0 0 ٥ 04:30 0 0 0 0 04:45 0 n 0 20 11 Ó 05:00 0 11 0 ø Ŏ 0 O O 0 13 17 05:15 05:30 10 12 ō 05:45 17 58 50 Ω 06:00 19 5 Õ ō 26 0 38 29 0 0 0 ø 0 O 53 06:30 43 68 06:45 57 148 185 0 07:00 51 19 0 0 0 0 0 72 134 117 07:15 07:30 14 0 0 135 130 10 145 420 57 20 489 126 08:00 102 08:15 145 22 168 0 162 115 499 12 75 133 0 09:00 107 19 0 0 132 09:15 121 19 0 O 146 114 o 0 09:30 86 18 O 128 520 20 76 09:45 105 0 419 10 10 ٥ 0 124 20 12 19 10:00 98 2 3 2 a O O 0 104 Ō. ō 0 10:15 10:30 0 118 141 10:45 130 428 102 518 68 3 9 123 11:00 19 0 120 11:15 18 ġ ń O. 0 0 0 Đ. 143 11:30 115 23 3 0 Đ 174 19 11:45 145 458 79 11 31 0 3033 0.1%

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South NORTH BOUND Class Start Class <u>Total</u> Time 10 38 27 05/28/05 30 n O 0 o o 21 23 0 D Ó Ω 00:15 Õ 0 Û 24 00:30 00:45 19 108 91 13 Ω Đ 0 ٥ Ω Ω 0 0 ō Ū 15 0 01:00 11 17 O 0 2 17 01:15 19 17 0 Ð. Û 13 01:45 0 64 57 0 13 9 12 0 0 0 0 0 02:00 0 o 02:15 ø Ò. 0 0 n a 0 02:30 0 0 10 02:45 0 0 0 39 33 0 0 8 Ò 0 03:00 5 0 0 03:15 03:30 ń 0 ō ŏ 0 5 0 03:45 26 0 22 0 0 0 0 0 04:00 10 0 0 0 0 Ö 0 04:15 13 0 04:30 12 0 0 O 0 04:45 0 8 0 0 0 32 0 n 37 16 05:00 14 0 Ò 0 0 0 n 0 Ö 0 0 05:15 05:30 0 11 10 0 ŏ 8 6 05:45 37 0 0 0 0 46 Õ ō ō 19 06:00 17 0 0 0 0 ō 0 0 0 Q 22 18 06:15 0 17 06:30 12 29 06:45 ۵ 68 16 0 0 O 07:00 26 8 0 36 33 26 5 ŏ 50 51 O 07:30 Ø Õ ŭ 57 186 07:45 47 0 9 0 67 08:00 56 10 0 68 ā 08:15 14 0 15 107 08:30 95 296 50 75 81 4 0 O 09:00 94 09:15 121 o O 09:30 98 21 0 n 'n 13 44 09:45 101 354 6 0 413 10:00 97 16 0 ቡ 0 n 0 ٥ n 121 Ö D 119 10:15 98 89 0 O 15 0 3 Ω o 11 136 10:45 115 20 0 399 62 ō O a n 0 480 Ö ō ø 125 11:00 104 13 0 0 2 0 176 143 27 11:15 0 5 2 0 11,30 92 15 0 0 0 0 Ò. n n 113 131 11:45 111 13 O 0 15 450 68 0 0 8 303 6 2384 Total

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Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Total Time 12 PM 12:15 Q Ó ö 12:30 12:45 116 13:00 15 13:15 ŏ ō Ö 13:30 O. 13:45 14:00 21 14:15 ō 14:45 n ō 15:00 25 15:15 Ď Ô 15:30 n ñ 762 15:45 Q 139 281 16:00 O 35 O ü 16:15 16:30 31 21 256 n ŏ 17:00 17:15 17:30 D 1155 <u>17:45</u> O 18:00 18:15 18:30 n U α 18:45 10 19:00 30 Ö 19:15 747 108 908 19:45 20:00 27 Ö ŏ 20:15 ø 20:30 20:45 88 21:00 O. Ò O O O n 21:15 21:30 383 21:45 ō 22:00 ö 22:30 D 22:45 23:00 Û 23:15 ò 39 a Ó 23:30 Ò 23:45 Ó 8694 Total 0.1% 0.1% 0.0% 0.0% 0.0% 0.0%

Site Code: 140122900000 Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class 15 Total 31 Time 05/29/05 28 O o 24 26 ō 30 ō 0 0 00:15 00:30 0 0 28 00:45 17 93 21 14 7 106 10 n n 0 24 0 01:00 17 01:15 10 01:30 Ò Ø n O 0 16 11 53 01:45 0 11 16 0 0 0 n 0 0 0 18 13 02:15 0 11 Ð Ó ń n 0 02:30 0 8 02:45 42 18 0 0 0 0 Π n 50 0 ō Ô ō 27 2 7 0 0 03:00 03:15 03:30 0 Û 0 0 31 13 0 0 0 04:00 0 6 0 ·5 04:15 5 0 0 0 0 Q 0 0 04:30 O 0 0 ۵ 0 04:45 Ø 0 20 0 23 0 O 05:00 0 0 0 0 0 Ö 0 0 6 05:15 05:30 0 0 05:45 23 14 15 0 n 27 ō ō 0 17 0 0 06:00 1 0 ō 06:15 Q 0 18 O 27 20 0 0 15 06:45 11 13 60 24 22 44 36 0 0. 07:00 0 0 0 0 0 0 .01 30 29 07:15 07:30 ŏ ŏ 0 0 43 07:45 22 0 ٥ 0 153 64 08:00 08:15 56 38 0 46 ۵ 58 08:30 80 223 91 30 0 13 O 108 09:00 89 09:15 8 11 ۵ 91 85 Û 09:30 67 'n 'n 09:45 124 13 0 0 0 426 5 10 9 10:00 82 Q 0 ٥ 0 o n n n 0 0 90 ŏ ŏ 115 Ö 0 0 10:15 100 Ū. 3 83 96 104 125 10:45 369 108 39 15 426 0 n n Ö ō ø 11:00 0 0 105 121 11:15 0 11 0 11:30 0 79 6 0 0 Ö Ű. O 88 173 155 0 11:45 12 447 0 44 31 n 2171

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Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E] Site Code: 140122900000 Station ID: 150002111100

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19:45	4	292	34	000	3	0	0	13	1	0	0	0	0	0	1	
	6	1070	130	1	10	0	0	38	1	0	0	0	0	0	9	1
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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Latitude: 0' 0.000 South **NORTH BOUND** Class Start Class 14 15 Total 24 Time 2 19 05/30/05 0 0 00:15 ŏ 26 Ö 0 34 22 0 00:30 0 25 00:45 105 Ö n 85 14 ٥ 2 13 01:00 9 01:15 18 0 26 11 n ä O 01:30 'n n 0 Ό 12 01:45 62 16 12 45 02:00 13 2 0 0 0 0 0 0 0 0 ō 0 5 Ó 02:15 0 a 02:30 10 39 0 27 5 0 0 0 0 n 0 0 0 Ŏ. ō ō. 0 Ö 03:00 03:15 03:30 ٥ 0 o O a 0 0 9 03:45 23 24 0 0 04:00 0 0 0 ٥ 10 0 6 7 04:15 5 Ô Ð 0 0 O n 0 04:30 0 04:45 22 0 0 n 28 ō 05:00 8 0 6 2 0 Ó 0 O Ø 05:15 05:30 10 10 31 05:45 12 0 0 06;00 11 ō 13 2 20 23 06:15 18 0 Ø 0 0 0 0 Q 06:30 21 a 0 23 19 06:45 79 30 0 0 0 0 07:00 26 0 0 0 0 0 31 07:15 07:30 28 45 ŏ ō 51 <u>59</u> 171 143 22 0 0 68 08:00 08:15 58 0 72 69 08:30 57 0 0 O 0 74 257 12 40 89 08:45 09:00 12 0 0 0 0 0 99 78 09:15 09:30 60 10 88 09:45 80 306 45 6 0 n 21 O O ۵ 382 112 10:00 94 13 0 10:15 10:30 10 ġ ū ō 0 0 0 121 11 114 197 10:45 70 19 15 454 11 121 144 11:00 11:15 118 0 0 0 2 146 107 0 Ö 11:30 Ò 88 17 n n 181 151 23 <u>11:45</u> Total 1940 314 62 n

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Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South **NORTH BOUND** Class Start **Total** <u>Time</u> 12 PM ō Õ 12:15 12:30 75 13 12:45 O 13:00 13:15 o 25 ñ 13:30 Ó O: a 13;4<u>5</u> 14:00 27 o ō 14:15 14:30 226 O Ö Ò ō 15:00 15:15 Ò 15:30 ñ n Ô o 928 107 15:45 16:00 ā 16:15 Ó O 16:30 16:45 n Ω Q 17:00 O D 17:15 O O Q. 37.2 17:45 18:00 Ó O 'n O 26 18:30 18:45 19:00 Ò n n 19:15 o 19:30 19:45 15 20:00 20:15 99 20:45 Ó 21:00 O. 21:15 21:30 74 12 a Ó 21:45 O O ō Ó o 22:00 22:15 39 O O Ð ŏ ō Ö 22:30 22:45 23:00 Ô Ö ŏ ō Ó 23:30 O O n O 23:45 9803 Total 0.0% 0.2% 0.0% 0.0% 0.0% 0.5% 9.9% 0.1% 0.8% 0.0% 0.0% 2.1% 0.2% Percent 85.5% Grand Total 0.2% 0.2% 0.0% 0.1% 0.1% 0.0% 0.6% 0,5% 82.5% 12.2% 0.2% 1.2% 0.1% 0,1% 2.1% Percent

Site Code: 140122900000 Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Percent

14.6%

2.2%

Latitude: 0' 0.000 South SOUTH BOUND Class Start Class Total <u>Time</u> 24 05/21/05 19 00:15 O. 00:45 01:00 01:15 O O 01:30 ø à n 01:45 7 02:00 15 Ō, O 02:15 02:30 27 3 4 _3 43 Ó Ó 03:00 03:15 03:30 Õ Ó Ġ n O. 03:45 12 04:00 04:15 Ŏ ü 04:30 04:45 a n 15 05:00 O Ö 05:15 05:30 Ó 22 05:45 06:00 24 29 Ó Q 06:30 06:45 07:00 47 71 Ø O 07:15 16 07.30 179 307 Ð 08:00 08:15 08:30 O 330 108 08:45 24 33 09:00 09:15 09:30 7 ó 761 09:45 10:00 21 ŏ 10:15 o Ö 10:30 10:45 11:00 ø Ō 11:15 11:30 Ø 11:45 3798 Total 0.3% 0.3% 0.2% 0.0% 0.8% 0.7% 71.2% 0.4% 0.2% 0.2% 7.6% 0.8% 0.3%

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

11.5%

Latitude: 0' 0.000 South SOUTH BOUND Class Start Total <u>Time</u> 157 12 PM 12,15 ō Ö O 12:45 12 13:00 13:15 28 ñ 13:30 Õ 728 13:45 14:00 14:15 14:30 o 127 26 ō. 15:00 152 15:15 15:30 O C: 77 475 15:45 16:00 ò 15 ø 16:15 n 16:30 O 17:00 17:15 17:30 ń ō n 17:45 18:00 ō Ö 18:15 Q 66 18:30 18:45 57 79 90 91 19:00 Ö Õ Ω Ò 19:15 19,30 306 363 20:00 76 20:15 20:30 228 20:45 26 21:00 Q. 21:15 21:30 51 ŏ ŏ 21:45 22:00 45 22:15 Q 22:30 159 22:45 23:00 40 30 23:15 ō n Ö 23:30 23:45 50 Total 1.3% 0.6% 0.4% 0.1% 0.2% 0.3% 0.0% Percent 80.6% 0.7% 1.6% 0.3% 0.2% 1.3%

1.3%

0.3%

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Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

74.0%

1.0%

Percent

14.2%

0.4%

1.7%

0.1%

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Latitude: 0' 0.000 South SOUTH BOUND Class Class. Start Class Class Total Time 34 05/22/05 17 ŏ Ö 00:15 34 00:30 00:45 O Ö Ď. 01:00 01:15 01:30 O 'n 'n 'n <u>13</u> 58 01:45 Ó n a 02:15 O. O 02:30 57 Ō. 03:00 03:15 Q ũ 03:45 20 04:00 'n Ö O 04:30 Ó O. 04:45 10 05:00 o Ö Ü O 05:15 05:30 70 05:45 ብ 06:00 Ó Ó Ö Q. 06:15 Õ 135 06:45 O. 07:00 07:15 80 16 ō 07:30 ō ดละกก O 08:15 93 09:00 Q. 28 D 09:30 O. a 09:45 8 4 7 10:00 17 ŏ 10:15 183 10:45 11:00 11:15 $\bar{\mathbf{z}}$ o Ò. 11:30 11:45

5.3%

0.6%

0.2%

0.2%

0.7%

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Percent

1.4%

79.0%

10.7%

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Latitude: 0' 0.000 South SOUTH BOUND Class Start Class Class Total Time 12 PM 12:15 12:30 117 2 3 2 26 Ö 12:45 8 13:00 13:15 13:30 13:45 14:15 14:30 14:45 14 22 0 112 n 15:00 15:15 15:30 ń Ò 15:45 <u>4</u> 22 16:00 Ô Ø 16:30 Ü 10,45 n n O 17:00 O O O 17:15 17:30 17:45 ō Õ 18:00 18:15 18:30 n o 295 18:45 107 19:00 19:15 55 ŏ O ō 19:30 19:45 n 56 20:00 20:15 7 n n 20:30 178 O. 49. 21:00 21:15 21:30 n 'n n. O 21:45 22:00 n o O. ō Ō 22:15 22:30 30 137 O Ò 23:00 25 31 23:15 23:30 Ô n n 107 23:45 Total 1.0% 0.5% 0.2% 0.5% 0.0% 1.9% 0.2%

0.2%

1,9%

0.2%

1.6%

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E] Site Code: 140122900000 Station ID: 150002111100

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Start	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	Class	
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	3	460	109	4	27	1	0	23	4	4	1	0	7	0	18	661
11.00	0	95	29	2	6	0	.0	7	O.	1.	0	1	2	Q	4	147
11:15	2	93	18	0	1	0	0	3	4	3	0	0	0	0	6	130
11:30	0	95	18	1	8	0	0	3	2	0	1	. 0.	0	0	3	131
11:45	2	97	21 86	0	3	0		15	1.	1 5	1	0	1	0	19	136 544
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Total																

Station ID: 150002111100

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PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

0.3%

Percent

1.0%

80.4%

14.0%

2.5%

0.1%

0.0%

1.1%

0.2%

0.2%

0.0%

Latitude: 0' 0.000 South **SOUTH BOUND** Class Start Class **Total** <u>Time</u> 12 PM Ó 12:15 12:30 12:45 13.00 71 Ó n Ď ũ 13:30 n 13:45 84 77 14:00 10 ō ō 14:15 14:30 73 77 16 O o 15:00 15:15 98. 15,30 a ø Ö 15:45 16:00 84 15 ñ 16,15 O n: 16:30 16:45 21 O O n n O ō. 17:00 ō 95 17:15 17:30 ď O. :O 354 17:45 97 95 18:00 9 18:15 O ø O 18:30 18:45 19:00 77 O 15 19:15 Ø 19:30 7<u>1</u> 344 54 20:00 20:15 20:30 21:00 O) Q 21:15 21:30 44 21:45 ō 22:00 O 22:15 ō ö 22:30 Ò 22:45 23:00 23:15 ō ō Ö 23:30 Ô 23:45 3948 Total a

0.0%

0.0%

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Percent

0.7%

81.9%

10.4%

3.6%

Latitude: 0' 0.000 South SOUTH BOUND Class Start Class 15 Total Time 05/24/05 0 0 0 ŏ ō ō Ö 10 00:15 0 Ö 10 00:30 00.45 13 42 12 33 0 0 0 11 0 0 01:00 0 **4** 8 ø Ô ď 01:30 8 0 Ò Ó 01:45 24 25 02:00 0 0 0 0 0 0 ٥ ٥ 0 0 7 1 ō ŏ ō 0 02:15 02:30 0 Ó 6 02:45 21 16 3 0 0 0 n o Ö o 0 03:00 03:15 o 2 03:30 0 0 0 0 Ö O Û 0 :0 0 03:45 0 04:00 D 0 0 0 04:15 0 0 0 0 0 0 n n ø 0 04:30 0 04.45 17 7 13 0 0 0 05:00 000 Ó 0 5 0 0 0 0 0 05:15 05:30 13 3 Ö. ō 0 13 05:45 23 60 0 46 11 0 06:00 10 3 ō Ó 0 17 21 06.15 0 0 Ø Ô 0 0 0 ۵ 0 31 06:30 23 6 0 0 51 41 06:45 24 120 41 0 30 35 40 0 O. 07:00 0 8 Q 2 0 0 O 47 07:15 07:30 8 0 51 70 209 160 29 2 08:00 48 6 08:15 85 101 79 08:30 66 109 90 O 289 19 29 7 73 93 09:00 61 0 0 09:15 73 80 Ö 8 09:30 2 91 09:45 78 292 33 12 0 n Ω D 349 100 10:00 78 11 10 3 n O 1 0 85 Ó 10:15 102 10:30 87 0 76 326 10:45 96 396 40 12 11:00 80 10 99 11:15 0 107 0 124 120 11:30 104 9 3 0 0 0 87 101 11:45 444 2039 378 Total 1669 212 16 42 0.0% 0.3% 0.2% 0.0% 0.0% 0.0% 0.0% 0.0% 0.8% 0.0% 2.1%

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South SOUTH BOUND Class Start Total Time 12 PM 12:15 80 õ Ö 85 12:30 12:45 n Ó 13:00 13:15 ñ 13:30 Ó ñ Ô n 13:45 14:00 a 14:15 ű n 14:30 402 14:45 101 n O ō 15:00 15:15 15.30 a Ð 397 16:00 .9 10 16:15 ũ Ö n .0 16:30 408 16 45 n ŏ 17:00 O D 17:15 17:30 Ō. 7 ō ō 18:00 18:15 Ó Q Q 402 18:45 ō 19:00 Q 19:15 Ö ŏ ō 19.30 359 20:00 50 20:15 20:30 n 21:00 21:15 21:30 n Ô O n n 21:45 22:00 Û Π n n n a ŏ ŏ 22.15 22.30 26 Ö 146 22.45 20 n n ō 23:00 Ô 23:15 O ũ n 23:30 O O n n 23:45 4179

0.0%

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8.3%

Percent

0.5%

88.1%

2.2%

0.1%

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Percent

0.4%

71.5%

22.9%

0.2%

3.0%

0.4%

0.0%

1.3%

0.1%

Latitude: 0' 0.000 South SOUTH BOUND Class Start 15 Total Time 19 05/25/05 19 0 0 00:15 00:30 0 Ŏ. 14 Ō. 0 20 8 00:45 54 0 45 5 0 0 3 01:00 3 10 10 8 Ò ñ Ò 01:30 Ó. 3 n n ò O 01:45 23 02:00 0 3 Q 0 ٥ ٥ 0 0 o 0 0 0 0 Ō 02:15 0 a Ö 0. 13 13 6 0 0 O a 0 0 Ö. Ö ő ŏ ō ō õ 0 03:00 03:15 0 a Ô 2 03:30 0 'n 0 n Ó 0 Đ. 13 0 04:00 0 0 0 0 04:15 Û 0 0 O 0 0 0 0 0 0 04:30 O 04:45 0 0 ٥ 0 0 9 ō 05:00 0 0 0 0 0 0 0 O 05:15 6 13 0 17 <u>19</u> 57 05:45 39 16 0 0 06:00 18 6 24 21 32 06:15 O 0 0 0 0 0 0 21 16 06:30 10 ß 0 0 0 29 12 06:45 106 0 07:00 0 α 45 30 10 2 0 D. 0 0 O. O 0 50 07:15 29 18 07:30 25 ò ō 11 99 233 155 58 0 0 00:80 25 87 59 08:15 68 17 96 75 08:30 49 19 0 0 0 D Π 33 94 08:45 85 261 09:00 47 38 4 0 Œ, 0 0 91 09:15 09:30 60 19 82 73 26 103 Đ 120 396 09:45 86 266 106 13 Ð 0 0 0 0 0 ō 113 ō 0 10:00 81 25 O 5 ٥ Ö 93 18 ŏ ō 0 10:15 0 109 23 93 10:45 88 116 341 13 452 11:00 82 25 5 11:15 0 93 22 119 95 0 Ö. Ο. Ö D 127 11:30 27 Ø 2 0 0 0 147 111 27 <u>11:45</u> 511 2253 381 101 13 Total 1610 517 68 8 ٥ 29 0 n

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

82.6%

0.9%

Percent

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0.1%

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Latitude: 0' 0.000 South **SOUTH BOUND** Class Start Class otal <u>Time</u> 15 12 PM 12:15 Q ŏ 12:30 12:45 364 13:00 Ô 95 Ô 13:30 a 13:45 14:00 Ò 73 75 ŏ 14:15 14:30 77 23 17 92 93 94 n n 0 1 O 15:00 15:15 15.30 n. 374 15:45 16:00 0 0 Ω 16:15 n n 16:30 16:45 n n Π 17:00 27 Ö .0 17:15 17:30 Ω n 'n 17:45 14 11 18:00 18:15 Û Q 'n a 18.30 18:45 76 84 19:00 19:15 14 ŏ 19.30 387 75 O 20:00 70 20:15 Q Ó 232 20:45 21:00 O O Q Ó 21:15 55 12 ò 21:30 21:45 26 ō 51 36 22:00 22:15 ŏ Ŏ 22:30 157 22:45 O 23:00 17 23:15 Ö. Ô ō 0. 23:30 23:45 4786 0.0% 0.0%

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

0.6%

Percent

72.5%

20.5%

0.3%

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Latitude: 0' 0.000 South SOUTH BOUND Class Start Class otal Time 05/26/05 24 14 Ö 13 0 n Ô 00:15 O 0 0 n 0 13 00:30 00:45 52 0 0 Ω Q 0 59 ō 11 01:00 Ö 0 0 9 0 Û 0 6 01:15 6 01;30 0 Ô 01:45 23 0 0 0 0 0 5 10 02:00 ō a 02:15 10 0 0 0 0 O 0 ñ 02:30 Q 0 0 02.45 o 20 0 0 O 0 2 03:00 0 2 0 0 0 O 0 0 ň 0 03:15 03:30 0 0 O ŏ ō 0 8 15 03:45 12 ٥ 0 0 00 04:00 Q Q 0 0 ٥ Q 04:15 14 8 Ò 8 Ö 0 0 0 0 0 05:00 Ō 0 Đ. 10 00 05:15 0 0 0 13 0 05:30 O 18 52 21 0 05:45 14 36 16 15 0 0 0 0 06:00 0 0 Π n 0 Q 29 Ō 11 0 06:15 06:30 25 41 30 86 37 43 06:45 134 36 54 48 13 07:00 000 54 32 57 0 0 07:30 15 0 82 0 19 07:45 0 153 63 238 53 77 53 08:00 13 0 0 75 2 ō 101 17 24 0 0 08:15 82 08:30 101 359 254 76 79 18 7 120 09:00 29 0 O 73 70 25 104 09:15 109 n 09:30 26 0 0 0 115 80 299 27 107 0 09:45 21 0 10:00 77 19 0 0 106 103 10:15 10:30 76 108 0 20 0 0 3 Û 21 n 95 30 10:45 16 0 Ô ñ 475 133 11:00 104 17 0 6 0 0 5 Đ. 0 0 0 11:15 11:30 104 22 111 Q 0 135 137 11:45 O 0 538 427 1729 85 488 13 82 Ð 0 Total

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

0.6%

Percent

82.7%

13.6%

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1.8%

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Latitude: 0' 0.000 South SOUTH BOUND Class Start Time 12 PM Total <u>3</u> 152 109 0 35 22 0 ō ō ō ū 0 146 104 12:15 Õ 12:30 113 139 0 156 593 450 116 18 20 144 13:00 120 2 0 Ö 133 13:15 158 13:30 127 27 2 0 Ö O Ö n 125 13:45 100 14 82 457 11 14:00 112 15 0 ٥ 0 0 136 116 94 111 Ô O. 0 14:15 18 2 n O. 14:30 22 14 116 412 69 2 15 O 0 0 505 4 0 ŏ ō 135 a Ü 0 15:00 116 16 20 109 15:15 86 15:30 113 Ö ø ñ O. n Ó 136 118 433 142 0 72 0 16:00 112 17 0 0 141 95 112 O 16:15 25 O 0 O 0 0 128 Ō 143 16:30 26 Ð 0 15:45 133 16 452 n 0 568 178 0 17:00 149 21 0 Ò 0 ø 17:15 17:30 12 27 125 111 0 120 ō 0 0 ø 148 156 516 75 0 0 0 0 607 18:00 111 12 Õ 0 128 0 ō 18:15 137 0 0 Ŏ 0 O 170 18:30 122 13 0 140 141 18:45 120 13 0 0 0 0 129 19:00 113 13 0 0 0 0 0 0 19:15 19:30 79 18 8 o 98 86 ŏ ō ō 19:45 86 364 47 0 3 n ٥ 421 97 20:00 83 13 O 20:15 55 8 65 20:30 81 18 104 75 294 20:45 7 46 83 ٥ 21:00 69 9 0 Q. 80 21:15 21:30 21:45 57 10 67 87 75 ō o 10 a <u>51</u> 252 9 38 0 0 294 22:00 22:15 22:30 66 58 8 0 0 n Ð O Λ O o 53 10 Ö ō 65 0 ō Q 0 29 36 22:45 32 172 36 203 28 0 Ð Õ 23:00 33 0 2 23:15 28 30 30 n ń 0 0 23:30 26 3 0 0 0 n. Ω 16 23:45 14 0 101 112 5313 Total 30 4393 725 **Q7** Ð 47 Ω 11

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101
Punta Gorda, FL 33950
Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

Latitude: 0' 0.000 South SOUTH BOUND Class Start Class Total Time 14 05/27/05 00:15 O 00:30 n 00:45 01:00 n 01:15 01:30 û 01:45 02:00 O 02:15 02:30 02:45 03:00 n 03:15 03:30 10: 03:45 O 04:00 04:15 04:30 o. 04:45 05:00 05:15 05:30 Ô. 05:45 56 06:00 n O Ð 06:15 06:30 06:45 07:00 07:15 07:30 165 63 07:45 ō 08:00 n n O O 08:30 08:45 102 09:00 09:15 99:30 09:45 367 106 10:00 10:15 10:30 O 119 10:45 11:00 11:15 ō n O 11:30 Ó n 123 11:45 708_ Total 0.0% 0.0% 20.9% 0.5% 0.2% 0.0% 0.1% 0.0% 0.0% 0.0% 0.1% Percent 0.4% 71.0%

Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101
Punta Gorda, FL 33950
Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Site Code: 140122900000

Station ID: 150002111100

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Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

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Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101 Punta Gorda, FL 33950 Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

SOUTH BOUND Latitude: 0' 0.000 South Class Start Class Time Total 05/30/05 00:30 n n 00:45 01:00 01:15 01:30 01:45 02:00 02:15 02:45 n n 62:00 03:15 03:30 03:45 04:00 Ô 04:30 04:45 05:00 05:15 05:30 05:45 54 06:00 n Λ O O n Ð 06:15 06:45 60-07:00 07:15 88 07:30 07:45 08:00 08:15 08:30 n O 08:45 117 721 09:00 09:15 n 09:30 O 09:45 826 166 10:00 Ô 10:15 Ü 10:30 139 10:45 11:00 11.15 235 11:30 :3 107 n n n Total O 77.8% 0.3% 0.0% 3.1% 0.2% 0.0% 0.0% 0.2% 0.0% 1.0% Percent 0.3% 15.0% 0.4%

Site Code: 140122900000

Station ID: 150002111100

Florida Transportation Engineering, Inc. 8250 Pascal Drive, Suite 101
Punta Gorda, FL 33950
Ph# 941 639 2818, Fax# 941 639 4851

PINELLAS SR-679,N/O BRIDGE [STRUCTURE E]

SOUTH BOUND Latitude: 0' 0.000 South Class Start Class Class Class Time Total 12 PM 12:30 12:45 13:00 13:15 13:30 13:45 22 14:00 14:15 14:45 154 180 15:00 15:15 15:30 15:45 O 16:00 Ò 13:15 16:30 16:45 17:00 ů. 17:15 17:30 17:45 18:00 O Ð n n n 18:15 - 9 18:30 18.45 19:00 19:15 19:30 Ö. 19:45 20:00 20:15 20:30 O n 20:45 21:00 33 21:15 Ď. O 21:30 0. 21:45 160 22:00 Ó 22:15 108 22:45 Ö 23:00 ō 23:15 23:30 23:45 4358 Total O 0.0% 0.2% 0.0% 1.3% 82.8% 10.8% 0.4% 1.5% 0.0% 0.9% 0.5% 0.2% 0.0% 0.0% 1.3% Percent Grand Total 0.4% 0.1% 2.5% 0.4% 0.2% 0.1% 0.8% Percent 0.9% 78.7% 13.7% 2.0% 0.1% 0.1% 0.2% 0.0%



Florida .Transportation Engineering, Inc. 8250 Pascal Drive Punta Gorda, FL 33950 Ph# (941)6392818, Fax#(941)6394851

Counter: 2131
Counted By: JASON
Vocather: FAIR
Other: 7-11 DRIVEWAY S/O MADONINA-BANK2

File Name: sr679@madorina She Code: 00002131 Start Date: 5/29/2005 Page No: 1

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1275

Florida Transportation Engineering, Inc. 8250 Pascal Drive Purta Gorda, FL 33950 Ph# (941)6392818, Fax#(941)6394851

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Florida Transportation Engineering, Inc. 8250 Pascal Drive Punta Gorda, FL 33950 Ph# (941)6392818, Fax#(941)6394861

Counter: 2131 Counted By: JASON Weather: FAIR Other: 7-11 DRIVEWAY S/O MADONINA-BANK2

File Name : sr679@madonna Site Code : 00002131 Start Date : 6/29/2005 Page No : 1

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Florida Transportation Engineering,Inc. 8250 Pascal Drive Punta Gorda, FL 33950 Pt# (941)6392818, Fax#(941)8394851

Counter: 2136 Counted By: DREW Weather: FAIR.

File Name : SR679@VILLAGE Site Code : 00002136 Start Date : 5729/2005 Page No : 1

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Counter, 2136 Counted By: DREW Weather: FAIR Other:

File Name : SR679@VILLAGE Ste Code : 00002136 Start Date : 5/29/2005 Page No : 1 Int. Total 440<u>00</u> -000<u>0</u> 00000 00000 000 00000 SUBWAY
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Thu Left
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Florida Transportation Engineering, Inc. 8250 Pascal Dive Punta Gorda, FL 33950 Ph# (941)6392818, Fax#(941)6394851

: madonna@711 : 00002132 : 5/29/2005			116	봈	8 4	518	109	58	105	È	86	90	391	8	- 8 <u>-</u>	#38 #38	1751			Total		518	140	0.925		439	121	0.907
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8250 Pascal Drive Punta Gorda, FL 33950 Ph# (941)6392818, Fax#(941)6394861	Gloups Fiffied-Cars, MADONNA	ound	14	to f	<u>.</u>	23	16	<u>4</u> to	4 6		8	<u> </u>	20 8	9 1	<u>></u> ⊠ a	2	232 28.3 13.2	NA A	pun	Peds		38 15.4	5	15		3.5	4	0
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Counter: 2132 Counted By: JOHN Weather: FAIR Other:		ewiT traff	13	च े ने च न		Ţ	12	7.5	12	***BREAK***	66 (200	გ <u>.</u>	71	7.	F	Grand Total Appreh % Total %			Start Time	Peak Hour From	Volume	11,45 Volume	Peak Factor High Int Volume Deak Fartor	Peak Hour From	Intersection Volume Percent	17:45 Volume	Peak Factor High Int. Volume Peak Factor

Florida Transportation Engineering, Inc. 8250 Pascat Drive Punta Gorda, FL 33950 Pn# (941)6392818, Fax#(941)8394851

File Name : madonna@711 Site Code : 00002132 Start Date : 5/29/2005 Page No : 1 Inf. Total 4 4 8 -200 446 Peds 90.0 00-4:04 - 240 0. MADONNA Eastbound Thru Left 000 000 000 000 000 10.0 Ο, 000 000 Right 0 000 000 000 000 000 100.0 16.7 Peds 000 0-000 NON Northbound
Thru Left 0.00 000 000 000 0.00 Groups Printed- Trucks and Bikes
MADONNA
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Left Peds Right Thu
0 0 0 000 000 000 000 000 000 000 000 000 000 33.3 00-000 000 000 000 000 000 000 000 000 000 2 66.7 11.1 000 000 000 100.0 Peds -0-000 SUBWAY Southbound Thru 000 000 000 000 000 000 000 000 000 000 Right 0.00 000 000 000 000 Counter, 2132 Counted By, JOHN Weather: FAIR Other: Start Time 11:00 Grand Total Apprch % Total % 12:30 12:45 Total 16:30 16:45 Total 17.30 17.45 Total 11.30 10.45 10.45 ***BREAK*** ***BREAK*** ***BREAK*** ***BREAK***

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	Right		Ø	0.0	0	0011			0	0.0	0	16:45	0
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	Start Time	Peak Hour From 11:00 to 12:45 - Peak 1 of 1	Intersection Volume	Percent	11:45 Volume	Peak Factor High Int. Volume	Peak Factor	Peak Hour From 16:00 to 17:45 - Peak 1 of 1	Volume	Percent	17:30 Volume	Peak Factor High Int.	Volume Peak Factor



SR 679 North of Bridge (Structure E)

Traffic Characteristics Estimates Weekend Traffic

ESTIMATED K

Н	our	Count	Count	Peak to Daily Ratio	
4:30	-5:30	19606	1540		7.85%
5:00	-6:00	18920	1464	•	7.74%
		19263	N/A		7.80%
ed K100 = Avg. Pk-Daily / Avg. MOCF ed K100 = 7.80% / 0.88 = 8.86%					
K30 = K30 =	Est. K100 8.86%	X FDOT's Ur	ban Area Co 1.07	onversion F	actor
	4:30 5:00 K100 = K100 =	K100 = 7.80% K30 = Est. K100	4:30-5:30 19606 5:00-6:00 18920 19263 K100 = Avg. Pk-Daily / Avg. M K100 = 7.80% /	4:30-5:30	4:30-5:30

 2002
 0.88

 2003
 0.88

 2004
 0.87

 Avg.
 0.88

MOCF

<u>Year</u>

ESTIMATED D

Measured	Peak	Peal	Peak Hour Count		
Day	Hour	NB + SB	NB	SB	_ D
Sat 05/21/05	4:30-5:30	1540	1081	459	70.19%
Sun 05/22/05	5:00-6:00	1464	996	468	68.03%
Average	Estimated D =				69.11%

ESTIMATED T

Measured	Daily	Daily Truck Count		
Day	Count	Med	Heavy	Total
Sat 05/21/05	19606	363	1128	1491
Sun 05/22/05	18920	355	1312	1667
Average	19263	359	1220	1579
% T of Average Daily Count	_	1.86%	6.33%	8.20%

SR 679 North of Bridge (Structure E)

Traffic Characteristics Estimates Weekday Traffic

ESTIMATED K

Measured	Peak	Raw Daily	Pk Hr	Pea	k to Daily
Day	Hour	Count	Count		Ratio
Tue 05/24/2005	5:00-6:00	13481	1011		7.50%
Wed 05/25/2005	5:00-6:00	14645	1134		7.74%
Thr 05/26/2005	4:30-5:30	15966	1229		7.70%
Average		14697	N/A	7.65%	
Estimated K100 = Avg. Pk-Daily / Avg. MOCF Estimated K100 = 7.65% / 0.88 = 8.69%					
Estimated K30 = Est. K100 X FDOT's Urban Area Conversion Factor					
Estimated	K30 = 8.69%	x	1.07	=	9.30%

<u>Year</u>	MOCF
2002	0.88
2003	0.88
2004	<u>0.87</u>
Avg.	0.88

ESTIMATED D

Measured	Peak	Peal	Peak Hour Count		
Day	Hour	NB + SB	NB	SB	D
Tue 05/24/2005	5:00-6:00	1011	474	537	53.12%
Wed 05/25/2005	5:00-6:00	1134	516	618	54.50%
Thr 05/26/2005	4:30-5:30	1229	627	602	51.02%
Average		Estimated D = 52			

ESTIMATED T

Measured	Daily	Daily Truck Count		
Day	Count	Med	Heavy	Total
Tue 05/24/2005	13481	322	180	502
Wed 05/25/2005	14645	279	169	448
Thr 05/26/2005	15966	321	261	582
Average	14697	307	203	511
% T of Average Daily Count		2.09%	1.38%	3.47%

SR 679 North of Bridge (Structure E)

Traffic Characteristics Estimates Memorial Weekend Traffic

<u>Year</u>

2002

2003 2004

Avg.

MOCF

0.88 0.88

0.87 0.88

ESTIMATED K

Measured	Peak	Raw Daily	Pk Hr	Peak to Daily	
Day	Hour	Count	Count	Ratio	
Sat 05/28/2005	4:30-5:30	21102	1664		7.89%
Sun 05/29/2005	5:00-6:00	22400	1798	į	3.03%
Mon 05/30/2005	3:30-4:30	22056	1797		3.15%
Average		21853	N/A		3.02%
Estimated K100 = Avg. Pk-Daily / Avg. MOCF Estimated K100 = 8.02% / 0.88 = 9.11%					
Estimated K30 = Est. K100 X FDOT's Urban Area Conversion Factor					
Estimated	K30 = 9.11%	, X	1.07	=	9.75%

ESTIMATED D

Measured	Peak	Peal	Peak Hour Count		
Day	Hour	NB + SB	NB	SB	מ
Sat 05/28/2005	4:30-5:30	1664	1166	498	70.07%
Sun 05/29/2005	5:00-6:00	1798	1299	499	72.25%
Mon 05/30/2005	3:30-4:30	1797	1276	521	71.01%
Average		Estimated D =			71.11%

ESTIMATED T

Measured	Daily	Daily Truck Count		
Day	Count	Med	Heavy	Total
Sat 05/28/2005	21102	320	803	1123
Sun 05/29/2005	22400	302	1014	1316
Mon 05/30/2005	22056	306	805	1111
Average	21853	309	874	1183
% T of Average Daily Count		1.42%	4.00%	5.42%



Print Date: Dec/18/2005

Florida Department of Transportation Transportation Statistics Office

2004 Peak Season Factor Category Report

PINELLAS COUNTYWIDE Category: 1500

MOCF = 0.94

Week	<u>Dates</u>	SF	<u>PSCF</u>
1	01/01/2004 - 01/03/2004	1.05	1.12
2	01/04/2004 - 01/10/2004	1.04	1.11
3	01/11/2004 - 01/17/2004	1.03	1.10
4	01/18/2004 - 01/24/2004	1.02	1.09
5	01/25/2004 - 01/31/2004	1.00	1.06
6	02/01/2004 - 02/07/2004	0.98	1.04
* 7	02/08/2004 - 02/14/2004	0.97	1.03
* 8	02/15/2004 - 02/21/2004	0.95	1.01
* 9	02/22/2004 - 02/28/2004	0.94	1.00
* 10	02/29/2004 - 03/06/2004	0.93	0.99
* 11	03/07/2004 - 03/13/2004	0.92	0.98
* 12	03/14/2004 - 03/20/2004	0.91	0.97
* 13	03/21/2004 - 03/27/2004	0.92	0.98
* 14	03/28/2004 - 04/03/2004	0.93	0.99
* 15	04/04/2004 - 04/10/2004	0.93	0.99
* 16	04/11/2004 - 04/17/2004	0.94	1.00
* 17	04/18/2004 - 04/24/2004	0.95	1.01
* 18	04/25/2004 - 05/01/2004	0.96	1.02
* 19	05/02/2004 - 05/08/2004	0.97	1.03
20	05/09/2004 - 05/15/2004	0.98	1.04
21	05/16/2004 - 05/22/2004	0.98	1.04
22	05/23/2004 - 05/29/2004	0.99	1.05
23	05/30/2004 - 06/05/2004	0.99	1.05
24	06/06/2004 - 06/12/2004	0.99	1.05
25	06/13/2004 - 06/19/2004	1.00	1.06
26	06/20/2004 - 06/26/2004	1.00	1.06
27	06/27/2004 - 07/03/2004	1.00	1.06
28	07/04/2004 - 07/10/2004	1.00	1.06
29	07/11/2004 - 07/17/2004	1.00	1.06
30	07/18/2004 - 07/24/2004	1.01	1.07
31	07/25/2004 - 07/31/2004	1.02	1.09
32	08/01/2004 - 08/07/2004	1.03	1.10
33	08/08/2004 - 08/14/2004	1.04	1.11
34	08/15/2004 - 08/21/2004	1.05	1.12
35	08/22/2004 - 08/28/2004	1.07	1.14
36	08/29/2004 - 09/04/2004	1.08	1.15
37	09/05/2004 - 09/11/2004	1.10	1.17
38	09/12/2004 - 09/18/2004	1.11	1.18
39	09/19/2004 - 09/25/2004	1.09	1.16
40	09/26/2004 - 10/02/2004	1.06	1.13
41	10/03/2004 - 10/09/2004	1.03	1.10
42	10/10/2004 - 10/16/2004	1.01	1.07
43	10/17/2004 - 10/23/2004	1.01	1.07
44	10/24/2004 - 10/30/2004	1.02	1.09
45	10/31/2004 - 11/06/2004	1.02	1.09
46	11/07/2004 - 11/13/2004	1.03	1.10
47	11/14/2004 - 11/20/2004	1.04	1.11
48	11/21/2004 - 11/27/2004	1.04	1.11
49	11/28/2004 - 12/04/2004	1.04	1.11
50 51	12/05/2004 - 12/11/2004	1.04	1.11
51	12/12/2004 - 12/18/2004	1.05	1.12
52	12/19/2004 - 12/25/2004	1.04	1.11
53	12/26/2004 - 12/31/2004	1.03	1.10

Florida Department of Transportation Transportation Statistics Office

2004 Peak Season Factor Category Report

PINELLAS 1275 Category: 1527

	2004	Peak Season Factor Category Rep	ort		
					$\mathbf{MOCF} = 0.95$
_	Week	<u>Dates</u>	SF	<u>PSCF</u>	
	1	01/01/2004 - 01/03/2004	1.01	1.06	
	2	01/04/2004 - 01/10/2004	1.01	1.06	
	3	01/11/2004 - 01/17/2004	1.02	1.07	
	4	01/18/2004 - 01/24/2004	1.01	1.06	•
	5	01/25/2004 - 01/31/2004	1.00	1.05	
*	6	02/01/2004 - 02/07/2004	0.98	1.03	
*	7	02/08/2004 - 02/14/2004	0.97	1.02	
*	8	02/15/2004 - 02/21/2004	0.96	1.01	
*	9	02/22/2004 - 02/28/2004	0.95	1.00	
*	10	02/29/2004 - 03/06/2004	0.94	0.99	
*	11	03/07/2004 - 03/13/2004	0.94	0.99	
*	12	03/14/2004 - 03/20/2004	0.93	0.98	
*	13	03/21/2004 - 03/27/2004	0.94	0.99	
*	14	03/28/2004 - 04/03/2004	0.94	0.99	
*	15	04/04/2004 - 04/10/2004	0.94	0.99	
*	16	04/11/2004 - 04/17/2004	0.95	1.00	
*	17	04/18/2004 - 04/24/2004	0.96	1.01	
*	18	04/25/2004 - 05/01/2004	0.98	1.03	
	19	05/02/2004 - 05/08/2004	0.99	1.04	
	20	05/09/2004 - 05/15/2004	1.00	1.05	
	21	05/16/2004 - 05/22/2004	1.00	1.05	
	22	05/23/2004 - 05/29/2004	1.01	1.06	
	23	05/30/2004 - 06/05/2004	1.01	1.06	
	24	06/06/2004 - 06/12/2004	1.02	1.07	
	25	06/13/2004 - 06/19/2004	1.02	1.07	
	26	06/20/2004 - 06/26/2004	1.02	1.07	
	27	06/27/2004 - 07/03/2004	1.02	1.07	
	28	07/04/2004 - 07/10/2004	1.02	1.07	
	29	07/11/2004 - 07/17/2004	1.02	1.07	
	30	07/18/2004 - 07/24/2004	1.02	1.07	
	31	07/25/2004 - 07/31/2004	1.03	1.08	
	32	08/01/2004 - 08/07/2004	1.03	1.08	
	33	08/08/2004 - 08/14/2004	1.04	1.09	
	34	08/15/2004 - 08/21/2004	1.04	1.09	
	35	08/22/2004 - 08/28/2004	1.05	1.11	W.
	36	08/29/2004 - 09/04/2004	1.06	1.12	
	37	09/05/2004 - 09/11/2004	1.06	1.12	
	38	09/12/2004 - 09/18/2004	1.07	1.13	
	39	09/19/2004 - 09/25/2004	1.06	1.12	
	40	09/26/2004 - 10/02/2004	1.04	1.09	
	41	10/03/2004 - 10/09/2004	1.02	1.07	
	42	10/10/2004 - 10/16/2004	1.01	1.06	
	43	10/17/2004 - 10/23/2004	1.01	1.06	
	44	10/24/2004 - 10/30/2004	1.00	1.05	
	45 46	10/31/2004 - 11/06/2004	1.00	1.05	
	46 47	11/07/2004 - 11/13/2004	0.99 0.99	1.04 1.04	
	47	11/14/2004 - 11/20/2004	1.00	1.04	

11/21/2004 - 11/27/2004

11/28/2004 - 12/04/2004

12/05/2004 - 12/11/2004

12/12/2004 - 12/18/2004

12/19/2004 - 12/25/2004

12/26/2004 - 12/31/2004

1.00

1.00

1.00

1.01

1.01

1.02

1.05

1.05

1.05

1.06

1.06

1.07

48

49

50

51

52

53



Structure E (SR679)

2005 AM Design Hour Volume Calculations

SR679 @ Madonna

	Right	¥	%0				ΑŅ	
WB		N/A	%				ΥN	
	re #	ΥX	%0		0	0	¥	
		2005 AM Peak Hr. Vol.	2005 % Turns	2005 Weekend ADT	K30 0.1000		2005 AM DHV	
	Right	82	48%				86	
8	Thr	N/A	%0				ΝΑ	
	Left	96	25%				107	
		2005 AM Peak Hr. Vol.	2005 % Turns				2005 AM DHV	
	Right	96	10%				33	121
88	Thru	897	90%				7465	1085
	Left	1	%0	19300	1830	1228	0	
	ght	2005 AM Peak Hr. Vol	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.6710	2005 AM DHV	Rev. 2005 AM DHV
	Right	N/A	%0				ΝΆ	
8	Thru	381	20%		,-		421	
	Left	161	30%	19300	1830	602	181	
		2005 AM Peak Hr. Vol	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.3290	2005 AM DHV	

711 Driveway South of Madonna - (R-in-R-out)

	Right	¥	%				ĕN
8	Thr	ΥŽ	%				A/N
	Left	ΑX	%		0	0	N/A
		2005AM Peak Hr. Vol.	2005 % Tums	2005 Weekend ADT	K30 0.1000	D 0.5400	2005 AM DHV
	Right	13	100%				16
8	Thru	A/N	%0				N/A
	Left	N/A	%0				N/A
		2005AM Peak Hr. Vol.	2005 % Turns				2005 AM DHV
	u Right	37	100%				46
SB	Thru	N/A	%0				ΑΆ
	Left	NA	9%				ΑΆ
		2005AM Peak Hr. Vol.	2005 % Turns				2005 AM DHV
	Right	ΝΆ	%0				¥
2	Thru	N/A	%0				Ψ/N
	Left	N/A	%0	N/A	0	0	N/A
		2005AM Peak Hr. Vol.	2005 % Turns	2005 Weekend ADT	K30 0.1000	D 0.4600	2005 AM DHV

SR679 @ Subway Village (North of Madonna)

WB	Left Thru Right	7 2 10	37% 11% 53%				9 2 12	
		2005 AM Peak Hr. Vol.	2005 % Turns				2005 AM DHV	
	Right	45	%89				22	
8	Thru	2	3%				2	
	Left	13	28%				23	
		2005 AM Peak Hr. Vol.	2005 % Turns				2005 AM DHV	
	Right	99	%9				74	
SB	Thru	942	93%				1142	
	Left	8	1%	19300	1830	1228	12	
		2005 AM Peak Hr. Vol	• •	• 41	K30 0.0948	D 0.6710	2005 AM DHV	
	Right	6	2%				12	
NB	Thru	459	97%				185	510
	Left	3	1%	19300	1830	602	9	
		2005 AM Peak Hr. Vol	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.3290	2005 AM DHV	Rev. 2005 AM DHV

West of Madonna

	Ħ	<u></u>	8	Γ		١	
	Rid	76	8			7	90
WB	Thru	505	41% 30%			354	122
	Left	9/	30%			4	90
		2005 AM Peak Hr. Vol.	2005 % Tums			2005 AM DHV	Rev. 2005 AM DHV
	Right	£9	13%			23	
8	Thru	66	19% 68% 13%			118	
	Left	27	19%			32	
		2005 AM Peak Hr. Vol.	2005 % Turns			2005 AM DHV	
	Right	_ 27	27%			32	
SB	Thru	16	16%			19	
	₽a⊓	29	27%			89	
	Right	2005 AM Peak Hr. Vol	2005 % Turns			2005 AM DHV	
	Right	16	52%			19	
NB	Thru	3	10%			4	
	Left	12	39%			14	
		2005 AM Peak Hr. Vol	2005 % Turns		-	2005 AM DHV	

K and D factors were reviewed and approved by District 7 Staff.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.

2005 AM Peak Hr. Vol. refer to the furning movement counts completed on the weekend of May 21 and 22, 2005.

The dominated inscrion for the D30 factor is based on existing count data.

Revised DHVs refer to the Usual growth on particular approaches or reflect the balancing between intersections.

In some instances, 2005 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2005 AM DHV to 2005 Peak Hr. Voi.) were used to develop the side street DHV.

Structure E (SR679) 2005 PM Design Hour Volume Calculations.

SR679 @ Madonna

	Right	V.Z	%				Δ/N	
8	Pul	∀	%				N/A	
	Left	V/V	%0				Ø/X	
		2005 PM Peak Hr. Vol.	2005 % Turns				2005 PM DHV	
	Right	33	19%				89	
8	Thru	Ϋ́	%0				A N	
	Left	163	81%				160	
		2005 PM Peak Hr. Vol.	2005 % Turns				2005 PM DHV	
	Right	110	18%				¥	104
88	Thru	484	81%				188	458
	Left	1	%0	19300	1830	602	٥	
		2005 PM Peak Hr. Vol	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.3290	2005 PM DHV	Rev. 2005 PM DHV
	Right	Ν	%0				N/A	
R	Thru	1132	89%				1093	
	Left	143	11%	19300	1830	1228	135	
		2005 PM Peak Hr. Vo	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.6710	2005 PM DHV	

711 Driveway South of Madonna - (R-in-R-out)

	Right	ΑX	%0		A/A
8	Thru	Ø/N	%0		A/N
	Left	ĄŽ	%		Α'N
		2005PM Peak Hr. Vol.	2005 % Turns		2005 PM DHV
	Right	6	100%		6
	IPE	N/A	%0		Α''
	Left	×	%0		ĕ Ž
		2005PM Peak Hr. Vol.	2005 % Turns		2005 PM DHV
	Right	22	100%		22
SB	Thru	N/A	%0		N/A 22
	Left	N/A	%0		ΑN
		2005PM Peak Hr. Vol	2005 % Turns		2005 PM DHV
	Right	N/A	%0		N/A
일	Thru	ΑX	%	_	ΑN
	Left	N/A	%0		Ϋ́
		2005PM Peak Hr. Vol	2005 % Turns		2005 PM DHV

SR679 @ Subway Village (North of Madonna)

	Right	4	27%				y	-
8 8	Thru	_	8				-	,
	Left	-	43%				٠,	,
		2005PM Peak Hr. Vol.	2005 % Turns				2005 PM DHV	
	Right	18	35%				=	
8	Thru	0	%0				-	
	Le#	8	65%				۶	
		2005PM Peak Hr. Vol.	2005 % Turns				2005 PM DHV	•
	Right	23	4%				<u>~</u>	
SB	Thru	574	%06	_			545	
	Leff	43	%/	19300	1830	602	42	
		2005PM Peak Hr., Vol.	2005 % Turns	8	K30 0.0948	D 0.3290	2005 PM DHV	
	Right	10	1%			i	12	
æ		1284	%66				7	1231
	Left	0	%0	19300	1830	1228	7	19
		2005PM Peak Hr. Vol.	2005 % Turns	2005 Weekend ADT	K30 0.0948	D 0.6710	2005 PM DHV	Rev. 2005 PM DHV

West of Madonna

WB	eft Thru Right	74 132 50	┰		Τ		32. 128	6 125 48
		2005PM Peak Hr. Vol. 7	<u>د</u>	<u> </u>			2005 PM DHV	Rev. 2005 PM DHV 6
	Right	∞	%9				to	
EB EB	Thru	114	%98	L			112	
	Left	2	8%				9	
		2005PM Peak Hr. Vot.	2005 % Turns				2005 PM DHV	
	Right	16	33%				16	
SB	Thru		15%			_	7	
	Left	25	52%				24	
		8	2005 % Turns				2005 PM DHV	
	Right	63	%06				62	
8	Thru	5	7%				2	
	Left	7	3%				2	
•		2005PM Peak Hr. Vol.	2005 % Turns				2005 PM DHV	

Notes:
2005 peak hour volumes and 2005 percent turns were developed from the existing count data collected for this study.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.
2005 Wh Peak Hr. Vol. refer to the turning movement counts completed on the weekend of May 21 and 22, 2005.

The dominate direction for the D30 factor is based on existing count data.

Revised DHVs reflect insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2005 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2005 PM DHV to 2005 Peak Hr. Vol.) were used to develop the side street DHV.

Summary of K _{30,} D _{30,} T, a	nd ADT	for SR679	(Structure	e E)
			Source: Exist	ing Daily Counts.
		Weekday	Weekend	Memorial Weekend
	K ₃₀	0.0930	0.0948	0.0975
SR679 North of Structure E	D ₃₀	0.5288	0.6911	0.7111
Sko/ Strong of Stradule L	T	0.0347	0.0820	0.0542
	ADT	14697	19263	21853
	K ₃₀	0.0929	0.1053	0.1060
SR679 South of Pinellas Bayway	D ₃₀	0.5337	0.5606	0.6751
Sico, 5 South of I monds Bay way	Т	0.0584	0.0842	0.1151
	ADT	15896	19903	21812
	K ₃₀	0.0951	0.1108	0.1099
SR679 South of Madonna Blvd.	D ₃₀	0.5901	0.5607	0.5930
STO 75 South of Madolina Bird,	Т	0.0418	0.0729	0.0906
	ADT	14829	20470	23504
		Source	Florida Traff	ic Information CD 2004
	K ₃₀		0.	0993
SR679 North of Structure E (0081, MP = 9.720)	D ₃₀		0.	5918
(0001, 141 7.720)	T		0.	0552
	AADT		10	6000
	K ₃₀		0.	0993
SR679 South of Structure E (5324, MP = 6.875)	D ₃₀		0.	5918
(5527, 1411 0.075)	T		0.	0766
	AADT		9	100

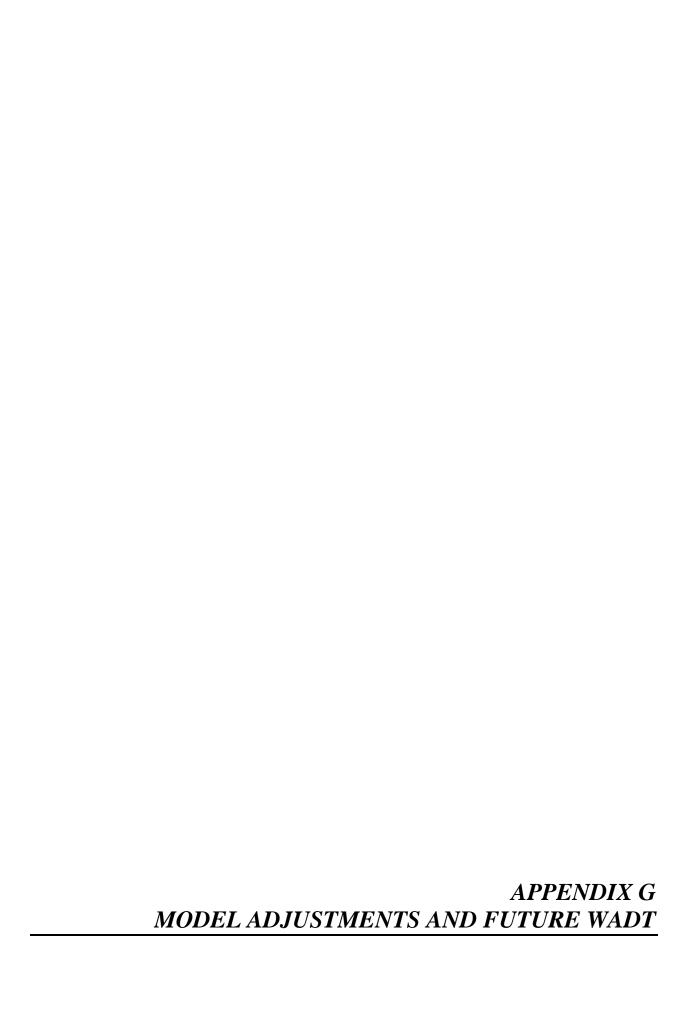


Appendix F

DVD VISSIM Outputs (AVI Clips), and Field Videos

The following are the list and description of files included in the DVD. Please note that the optical drive must be DVD compatible to read this disc.

FILENAME	DESCRIPTION
Vissim Videos	
existing_2005_PM_20.avi	Existing condition, 2005 PM, Low-level bascule bridge
	opening every 20 minutes
realigned_2030_PM_fixd.avi	Realigned Condition, 2030 PM, Fixed bridge
Field Videos (28 th May, 2005)	
AM Bridge Up.MPG	AM, Backup when bridge is open
AM north of bridge 1.avi	AM, North of bridge
AM north queue growing.avi	AM, North of bridge, growing queue
AM south of bridge family 1.avi	AM, South of bridge, towards the intersection
AM south of bridge family 2.avi	AM, South of bridge, towards the bridge
AM SR 682 WB1.avi	AM, SR 682 WB, toll plaza
AM SR 682 WB2.avi	AM, SR 682 WB, toll plaza continued
AM SR 682 WB3 queue.avi	AM, SR 682 WB, queue
Bridge Opening.MPG	Bridge opening
Madonna median stack 1.MPG	Madonna median stacked vehicles
Madonna median stack 2.MPG	Madonna median stacked vehicles continued
PM south of bridge 1.MPG	PM, South of bridge, facing west
PM south of bridge 2.MPG	PM, South of bridge, traveling southbound
PM south of bridge 3.MPG	PM, South of bridge, traveling northbound
PM south of bridge 4.MPG	PM, South of bridge, facing east



			2025 Cost	2025 Cost Affordable LRTP Traffic Adjustment	LRTP Traff	ic Adjustme	int	:		
					MOCF =	0.94			16-Sep-05	
	-	2	3	4= 1*mocf	4= 1*mocf 5= 2*mocf	6=(3/4)*5	7=(3-4)+5	8=(6+7)/2	9=(4/3)	10=(8/3)
	2000	2025	2000	00 Model	2025	Smoothing	thing	2025	2000	2025/2000
Description	Validation	Model	COUNT	Validation	Model	Adj Ratio	Adj Diff	Average	Vol/Count	Growth
	PSWADT	PSWADT	AADT	AADT	AADT	AADT	AADT	AADT	AADT	Ratio
North of Structure E	13693	16603	14400	12,871	15,607	17,460	17,135	17,298	0.89	1.20

Notes: 2025 model AADT adjustment was completed based on NCHRP 255 average adjustment method.

			2025 We	Weekend ADT Calculation	Calculatio	u			
Description	2005 Weekday		2005 Weekday	2025 Model		2025 Model	2025 Adj.	2005 Weekend	2025 Weekend
	Count	SF	AADT	Output	MOCF	AADT	Model AADT	Count ADT	ADT
North of Strucutre E	14697	1	14697	16603	0.94	15607	17298	19300	22700

Notes: 2025 weekend ADT was developed upon multiplying the 2005 weekend count ADT by the ratio of 2025 adj. model AADT over 2005 weekday AADT.

Adjustments made to 2025 TBRPM Cost Feasible Model

- Increased attractions for the Ft. De Soto Park.
- Adjusted centroid locations on either side of SR 679 south of SR 682 to better reflect the local traffic pattern.

	20.	10, 2020, and 20	2010, 2020, and 2030 ADT Calculation	tion	
	2005 Weekend	2010 Interpolated	2020 Interpolated	2025 Weekend	Veekend 2010 Interpolated 2020 Interpolated 2025 Weekend 2030 Extrapolated
	Count ADT	·ADT	ADT	ADT	ADT
North of Structure	19300	20200	21900	22700	23600

o to to 2010 ADT is interpolated between 2005 weekend count ADT and 2025 weekend ADT 2020 ADT is interpolated between 2005 weekend count ADT and 2025 weekend ADT 2030 ADT is extrapolated from 2005 weekend count ADT and 2025 weekend ADT



Structure E (SR679) 2010 AM Design Hour Volume Calculations

WB Left Thru Right N/A N/A N/A 0% 0% 0% 0%	NIA NIA NIA		WB Right N/A N/A N/A 0% 0% 0% 0%	N/A N/A N/A		WB Right 9 2 12 39% 9% 52%	10 25 13		WB Left Thru Right 90 122 90
2005 AM DHV P. 2006 % Turns (2010 AM DHV		2005 AM DHV R 2005 % Turns (2010 AM DHV		2005 AM DHV 3005 % Turns 3	2010 AM DHV Rev. 2010 AM DHV		2005 AM DHV
EB Right 107 N/A 98 52% 0% 48%	128 N/A 104		EB Leff Thru Right N/A N/A 16 0% 0% 100%	N/A N/A 17	a)	EB Right 23 2 55 29% 3% 69%	25 2 60		EB
2005 AM DHV 2005 % Turns	2010 AM DHV Rev. 2010 AM DHV	711 Driveway South of Madonna - (R-in-R-out)	2005 AM DHV 2005 % Turns	2010 AM DHV	SR679 @ Subway Village (North of Madonna)	2005 AM DHV 2005 % Turns	2010 AM DHV Rev. 2010 AM DHV	West of Madonna	2005 AM DHV
SB Left Thru Right 0 1085 121 0% 20200 1915	1285 0 1487 428 1139 126	711 Driveway South	SB	N/A N/A 49	SR679 @ Subway V	SB Left Thru Right 12 1142 74 1% 93% 6% 20200 4005 1015 1015 1005 1005 1005 1005 10	13 1195 77	West	SB
005 A	D 0.6710 2010 AM DHV Rev. 2010 AM DHV		2005 AM DHV 2005 % Turns	2010 AM DHV		2005 AM DHV 2005 % Turns 2010 Weekend ADT K30 0.0948	010 /		2005 AM DHV
[] [4]	630 447 N/A 502		NB Right NJA NJA NJA 0% 0% 0% 0%	N/A N/A N/A		NB Left Thru Right 6 510 12 12 20200 20200 530	7 610		NB Left Thru Right 14 4 19
2005 A	D 0.3290 2010 AM DHV Rev. 2010 AM DHV		2005 AM DHV 2005 % Turns	2010 AM DHV		2005 AM DHV 2005 % Turns 2010 Weekend ADT K30 0.0948	2010		2005 AM DHV

	Right	8	30%			4	94
WB	Thru	90 122	40%			854	127
	Left	86	30%			\$	94
			2005 % Turns			2010 AM DHV	Rev. 2010 AM DHV
	Left Thru Right	83	13%			24	
#	Thru	118	%89	_	 _	2 5	133
	Left	32	18%			8	
		2005 AM DHV	2005 % Turns			2010 AM DHV	Rev. 2010 AM DHV
	Right	32	27%			8	
SB	Left Thru Right	19	16%			50	
	Left	89	21%			A.	28
		2005 AM DHV	2005 % Turns			2010 AM DHV	Rev. 2010 AM DHV
	Right	19	51%			\$	24
NB	Thru	4	11%			4	Ç
	Left	14	38%			15	
		2005 AM DHV	2005 % Turns			2010 AM DHV	Rev. 2010 AM DHV

Notes: 2005 PM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns. K and D factors were reviewed and approved by District 7 Staff.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SN679 north of Structure E.

The domirate direction for the D30 factor is based on existing count data.

The scale DHVs reflect insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2010 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2010 AM DHV to 2005 AM DHV) were used to develop the side street DHV.

Structure E (SR679) 2010 PM Design Hour Volume Calculations

WB	Left Thru Right	N/A N/A N/A	%0 %0 %0				AIN AIN AIN	
		2005 PM DHV	2005 % Turns				2010 PM DHV	
8	Left Thru Right	160 N/A 38	81% 0% 19%				ATT N/A 41	168
		141	2005 % Turns				2010 PM DHV	Rev. 2010 PM DHV
	Left Thru Right	104	19%				7	112
SB	Thru	458	81%				245	478
	Teff	0	%0	20200	1915	029	0	
		2005 PM DHV	2005 % Turns	2010 Weekend ADT	K30 0.0948	D 0.3290	2010 PM DHV	Rev. 2010 PM DHV
	Right	N/A	%0				N/A	
S S	Thru	1093	89%				1144	1122
	Left	135	11%	20200	1915	1285	141	
		2005 PM DHV	2005 % Turns	2010 Weekend ADT	K30 0.0948	D 0.6710	2010 PM DHV	Rev. 2010 PM DHV

711 Driveway South of Madonna - (R-in-R-out)

	Right	×	%0		ΝΆ
WB	Thr	N/A	%0 %0		ΥĮ
	Left	ž	%		Y/N
		2005PM DHV	2005 % Turns		2010 PM DHV
	Right	ი	100%		5
EB	Thru	Α/N	0% 0% 100%		N/A
	re#	V/V	%0		N/A
		2005PM DHV	2005 % Turns		2010 PM DHV
	Right	22	100%		25
SB	Thru	N/A	% 0% 100%		N/A
	Left	N/A	%0		N/A
		2005PM DHV	2005 % Turns		2010 PM DHV
	Right	NΑ	%0		N/A
NB NB	Thru	N/A	%0		N/A
	Left	N/A	%0		ΝĮΑ
		2005PM DHV	2005 % Turns		2010 PM DHV

SR679 @ Subway Village (North of Madonna)

	Right	4	27%				7	5			Right	48	20%		51	
WB	באנה	0	%				þ	G.		WB	Thru	125	%79		734	131
	Left	က	43%				1	æ			Left	99	28%		74	
		2005 PM DHV	2005 % Turns				2010 PM DHV	Rev. 2010 PM DHV				2005 PM DHV	2005 % Turns		2010 PM DHV	Rev. 2010 PM DHV
#	Left Thru Right	31 0 17	65% 0% 35%		T		32 -8- 18	G		8	Left Thru Right	10 112 8	8% 86% 6%		11 120 9	118
		2005 PM DHV	2005 % Turns		<u> </u>		2010 PM DHV	Rev. 2010 PM DHV	West of Madonna			2005 PM DHV	2005 % Turns		2010 PM DHV	Rev. 2010 PM DHV
	Right	18	3%				19		West		Right	16	34%		-11	
SB	Thru	542	%06				295			SB	Thru	_	15%		7	00
	Left	42	2%	20200	1915	සු	44				Left	24	21%		56	
		2005 PM DHV	2005 % Turns	2010 Weekend ADT	K30 0.0948	D 0.3290	2010 PM DHV					2005 PM DHV	2005 % Turns		2010 PM DHV	Rev. 2010 PM DHV
	Right	12	. 1%				13				Right	62	%06		88	65
RB	Thru	1231	%86				1253	1264		NB	Thru	2	%		J	φ
	Left	10	%!	20200	1915	1285	13				Ţ	2	3%		7	c)
		2005 PM DHV	2005 % Turns	2010 Weekend ADT	K30 0.0948	D 0.6710	2010 PM DHV	Rev. 2010 PM DHV				2005 PM DHV	2005 % Turns		2010 PM DHV	Rev. 2010 PM DHV

2005 PM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.

The dominate direction for the D30 factor is based on existing count data.

The dominate direction for the D30 factor uses a posting count data.

The stage D4Vs reflect insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2010 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2010 PM DHV to 2005 PM DHV) were used to develop the side street D4V.

Structure E (SR679) 2020 AM Design Hour Volume Calculations

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WB Leff Thru Right N/A N/A N/A 0% 0% 0% 0% 0% 0% 0% 0		WB Leff Thru Right N/A N/A N/A 0% 0% 0%	N/A N/A N/A		WB Leff Thru Right 9 2 12 39% 52%	11 72 14		WB Leff Thru Right 90 122 90 30%	140 140 163
2005 AM DHV 2005 % Turns 2020 AM DHV		2005 AM DHV 2005 % Turns	2020 AM DHV	٠	2005 AM DHV 2005 % Turns	2020 AM DHV Rev. 2020 AM DHV		2005 AM DHV 2005 % Turns	2020 AM DHV Rev. 2020 AM DHV
EB Right 107 NIA 98 52% U% 48%	140 out)	EB Right N/A N/A N/A 16 0% 100%	N/A N/A 18	na)	EB Right 23 2 55 29% 3% 69%	27 2 65		EB Left Thru Right 32 118 23 18% 68% 13%	37 485 26
2005 AM DHV 2005 % Turns 2020 AM DHV	711 Driveway South of Madonna - (R-in-R-out)	2005 AM DHV 2005 % Turns	2020 AM DHV	SR679 @ Subway Village (North of Madonna)	2005 AM DHV 2005 % Turns	<u>2020 AM DHV</u> <u>Rev. 2020 AM DHV</u>	West of Madonna	2005 AM DHV 2005 % Turns	2020 AM DHV Rev. 2020 AM DHV
SB	REV. GUEU AIRI DAV 711 Driveway South o	2005 AM DHV N/A N/A 46 100% 100%	2020 AM DHV N/A N/A 53	SR679 @ Subway Vil	2005 AM DHV 12 1142 74 2025 Weekend ADI 21900 K30 0.0948 2076	20 A	West of	2005 AM DHV 68 19 32 2005 % Turns 57% 16% 27%	2020 AM DHV 76 22 37 Rev. 2020 AM DHV 84
NB Right 181 421 N/A 189 1990 2076 683 APF NA	Kev. 2020 AIN DITO	NB	2020 AM DHV NIA NIA NIA		NB	20 AM DHY F 683 43 13 2020 AM DHY 8 661 14		NB Left Thru Right 2005 AM DHV 14 4 19 2005 % Turns 38% 11% 51%	2020 AM DHV 16 6 28 Rev. 2020 AM DHV 7 24

Notes: 2005 AM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.

The dominate direction for the D3D factor is based on existing count data.

The dominate inection for the D3D factor is based on existing count data.

The scried DHVs reflect insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2020 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2020 AM DHV to 2005 AM DHV) were used to develop the side street DHV.

Structure E (SR679) 2020 PM Design Hour Volume Calculations

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WB Left Thru Right N/A N/A N/A 0% 0% 0% 0% N/A N/A	WB Right N/A N/A N/A 0% 0% 0% 0%	N/A N/A N/A	WB Right 3 0 4 43% 0% 57%		WB Left Thru Right	147
2005 PM DHV 2005 % Turns 2020 PM DHV	2005PM DHV 2005 % Turns	2020 PM DHV	2005 PM DHV 2005 % Tums 2020 PM DHV Rev. 2020 PM DHV		2005 PM DHV 2005 % Turns 2020 PM DHV Rev. 2020 PM DHV	NEV. 2020 r m 12114
EB Left Thru Right 160 N/A 38 81% 0% 19% 149% 149% 149% 149% 149% 1483	EB	N/A N/A 11	EB Ight 31 0 17 65% 0% 35% 35 9 19		EB Columbia Colu	
2005 PM DHV 2005 % Turns 2020 PM DHV Rev. 2020 PM DHV	of Madonna - (R-in-R- 2005 % Turns	A N/A 27 2026 PM DHV SR679 @ Subway Village (North of Madonna)	2005 PM DHV 2005 % Turns 2020 PM DHV Rev. 2020 PM DHV	West of Madonna	2005 PM DHV 2005 % Turns 2020 PM DHV Rev. 2020 PM DHV	1757 - 5050 - 111 - 111
SB	SB SB N/A N/A 0%	NIA NIA 27 SR679 @ Subway VII	SB 18ght 42 542 18 7% 90% 3% 2.000 5	Westo	SB	
2005 PM DHV 2005 % Turns 2002 Weekend ADI K30 0.0948 D 0.3290 C202 PM DHV Rev. 2020 PM DHV		2020 PM DHV	2005 PM DHV 2005 % Turns 2005 % Turns 2020 Weekend ADT K330 D 0.3290 2020 PM DHV		2005 PM DHV 2005 % Turns 2020 PM DHV Rev. 2020 PM DHV	
NB Left Thru Right	NB Left Thru N/A N/A 0% 0%	2020 PM DHV N/A N/A N/A	NB NB NB NB 2005 PM DHV 10 1231 12 2005 W Turns 1% 98% 1% 2020 Weeknd AD I 1390 K30		2005 PM DHV 2 5 6 2 2005 % Turns 3% 7% 90% 2005 % Lurns 2002 PM DHV 2 6 78 80.2020 PM DHV 7 7 7 71	-

Notes: 2005 PM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns. K and D factors were reviewed and approved by District 7 Staff.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts countieted for SR679 north of Structure E.

The dominate direction for the Day Day factor is absed on existing count data.

The staff of the selfect insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2020 ADT volumes were not available, therefore, growth on adjacent intersection legs (i.e. ratio of 2020 PM DHV) were used to develop the side street DHV.

Structure E (SR679) 2030 AM Design Hour Volume Calculations

	Right	¥	%				ΑX	
WB	Thru	Ϋ́	8				Α×	
	Left	Ϋ́	%0 %0 %0				ΑŅ	
,		_	2005 % Turns				2030 AM DHV	
	Right	88	48%				121	
EB	Thru	ΑN	52% 0% 48%				A/N	
	Left	107	. 25%				Ž,	151
		. 41	2005 % Turns				2030 AM DHV	Rev. 2030 AM DHV
	Right	121	0% 80% 10%		·	•	186	147
SB	Thru	1085	%06				7384	1331
	Left	0	%0	23600	2537	1501	0	
		2005 AM DHV	2005 % Turns	2030 Weekend AD	K30 0.0948	a		Rev. 2030 AM DHV
	Right	N/A	%0				N/A	
2	Thru	421	%02				7	588
	Left	181	30%	23600	2237	736	224	
		2005 AM DHV	2005 % Turns	2030 Weekend ADT	K30 0.0948	D 0.3290	2030 AM DHV	Rev. 2030 AM DHV

711 Driveway South of Madonna - (R-in-R-out)

	Light	¥	%				ΑŅ]
WB	맫	_ ≸	%0 %0 %0				A/N	
_	eff T	 ∀/	%				¥.	
	Ľ	_	Ľ	L			Ľ	
		2005 AM DHV	2005 % Turns				2030 AM DHV	
	Right	16	100%		_	-	20	
8	Thru	N/A	%001 %0 %0				N/A	
	Left	N/A	%0				N/A	
,		2005 AM DHV	2005 % Turns				2030 AM DHV	
	Right	46	100%				23	
SB	Thru	N/A	0% 0% 100%				NA	
	Left	ΝA	%0				N/A	
		2005 AM DHV	2005 % Turns				2030 AM DHV	
	Right	N/A	%				N/A	
R	Thru	Α/N	%				N/A	
	Left	ΑX	%0				N/A	
		2005 AM DHV	2005 % Turns				2030 AM DHV	

SR679 @ Subway Village (North of Madonna)

WB	Thru Right	2 12	9% 25%				15	9		WB	Thru Right	122 90	40% 30%			167 147	148 110
	Left	6	39%				Ŧ	12			Left	6	30%			¥	110
		2005 AM DHV	2005 % Turns				2030 AM DHV	Rev. 2030 AM DHV				2005 AM DHV	2005 % Turns			2030 AM DHV	Rev. 2030 AM DHV
	u Right	55	%69				22			_	u Right	8 23	13%			57 28	9
EB	Thru	7	3%			_	4	₽		8	Thru	118	%89	 	_	#	156
	Leff	23	79%				29				Left	32	18%			40	
		2005 AM DHV	2005 % Turns				2030 AM DHV	Rev. 2030 AM DHV	West of Madonna			2005 AM DHV	2005 % Turns			2030 AM DHV	Rev. 2030 AM DHV
	¥		۰						esto		ij	32	ķ				
	Right	74	%9				8		3		Right	"	27%			4	
SB	Thru Rig	1142 74	69 %56				1396 90		A	SB	Thru Ric	19	16% 27			24 40	
SB			L	23600	2237	1501			A	SB	Left Thru Ric	\dashv	긕			Н	06
SBS	Thru	1142	93%	2030 Weekend ADT 23600	K30 0.0948 2237		1396		M	SB	Thru	68 19	16%			24 24	Rev. 2030 AM DHV 90
SB	Thru	12 1142	1% 93%	ت	0.0948		15 1396		M	SB	Thru	68 19	22% 16%			24 24	
NB SB	Left Thru	2005 AM DHV 12 1142	2005 % Turns 1% 83%	ت	0.0948		2030 AM DHV 15 1396		w	NB SB	Left Thru	2005 AM DHV 68 19	2005 % Turns 57% 16%			24 24	Rev. 2030 AM DHV
W min en	Right Thru	12 2005 AM DHV 12 1142	2% 2005 % Turns 1% 93%	ت	0.0948		15 <u>2030 AM DHV</u> 15 1396	10	M		Right Thru	2005 AM DHV 68 19	51% 2005 % Turns 57% 16%			24 24	Rev. 2030 AM DHV

Notes: 2005 PM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns. K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.

The dominate direction for the D38 factor its based on existing count data.

The dominate direction for the D38 factor its based on existing count data.

In some instances, 2030 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2030 AM DHV to 2005 AM DHV) were used to develop the side street DHV.

Structure E (SR679) 2030 PM Design Hour Volume Calculations

Right 0%%	Right 0% N/A	Right 4 4 4 57%	\$ 6	Right 48 20%	09
WB N/A	WB NA	WB Thru	\$ \$	WB Thru 125 52%	134
Left 0%	N/A	Left 3 3 43%	F/E	Left 66 28%	82
2005 PM DHV 2005 % Turns 2030 PM DHV	2005 PM DHV 2005 % Turns 2006 W DHV	2005 PM DHV 2005 % Tums	2030 PM DHV Rey, 2030 PM DHV	2005 PM DHV 2005 % Turns	2030 PM DHV Rev. 2030 PM DHV
EB Thru Right NIA 38 U% 19% NIA 47	EB	EB Thru Right 0 17 0% 35%	10	EB Thru Right 112 8 86% 6%	137 11
160 81% 81% 28d	N/A N/A	531 65%	37	Left 10 8%	g 4 €
2005 PM DHV 2005 % Turns 2030 PM DHV Rev, 2030 PM DHV	711 Driveway South of Madonna - (R-in-R-out) SB TI Thru Right A N/A 22 2005 PM DHV C 0% 100% C	SR679 @ Subway Village (North of Madonna) SB T Thru Right 542 18 2005 PM DHV 5 90% 3% 2005 % Turns 7	22 2030 PM DHV Rev. 2030 PM DHV West of Madonna	2005 PM DHV 2005 % Turns	2030 PM DHV Rev. 2030 PM DHV
SB	711 Driveway South o	12367 2367 223	662	SB Ight 24 7 16 51% 15% 34%	30 8 20
2005 PM DHV 2005 % Iuris 2030 Weekend ADI K30 0.0948 D 0.3290 2030 PM DHV	2005 PM DHV 2005 % Turns 2030 PM DHV	2005 PM DHV 2005 % Tums 2030 Weekend ADT 7330 0.0848	80	2005 PM DHV 2005 % Tums	2030 PM DHV Rev. 2030 PM DHV
2005 PM DHV Leff Thru Right 2005 % Turns 135 1083 N/A 2030 % Turns 11% 89% 0% K30 0.0948 2237 0 K30 0.0710 1501 0 Z030 PM DHV 165 3436 N/A Rev, 2030 PM DHV 1304 1304	2005 PM DHV NA NIA NIA 10% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0% 0	2005 PM DHV 10 1231 12 2005 % Turns 1% 98% 1% 1% 1% 1% 1% 1% 1% 1% 1% 1% 1% 1% 1%	<u></u>	2005 PM DHV 2 5 62 2005 % Turns 3% 7% 90%	2030 PM DHV 10 10 17
2000 2000 2030 W 2030 W	200 200	2000 2000 730 V 730 V	D 203	88	203 Rev. 2

Notes: 2005 PM DHV were developed based on existing weekend ADT, K, and D completed for north of Strucutre E along with the existing percent turns. K and D factors were reviewed and approved by District 7 Staff.

K and D factors were reviewed and approved by District 7 Staff.

K and D factors used here are based on classification counts completed for SR679 north of Structure E.

The dominate direction for the D3D factor its based on existing count data.

The dominate direction for the D3D factor its based on existing count data.

The some present insignificant growth on particular approaches or reflect the balancing between intersections.

In some instances, 2020 ADT volumes were not available, therefore, growth on adjacent intersection / intersection legs (i.e. ratio of 2020 PM DHV) were used to develop the side street DHV.



DISTRICT 7 PD&E STUDY TRAFFIC DATA FOR AIR STUDY SCREENING TEST

		DATE:	1/13/2006	
		PREPARED BY:	SK	
Financial Project Numbers Work Program Item No.: Federal Aid Numbers (s): Project Description:	410755-1	22-01 y Structure E) at Intracoas	stal Waterway PD&B	E Study
departur alternativ intersect	at congested intersection is e speeds and it could be two yes. The traffic volumes are ion. The speeds are to be 1.4 m (500') from the interse	o different intersections be e to be the vph of the mos the approach speed for th	ased on the "Build" v t congested leg app	vs. "No-Build" roaching the
	Ol	PENING YEAR: 2010		
"Build"			<u>"No-Buil</u>	d" ·-
Signalized Intersection:		Signalize	d Intersection:	
S.R. 679 and Madonna Bo	oulevard	S.R. 679	and Madonna Boule	evard
Design or Peak Hour Traf	fic	Design o	r Peak Hour Traffic	
for most congested leg:	1285 vph	for most	congested leg:	1285 vph
Specify leg:	SB in AM	Specify le	eg:	SB in AM
Approach Speed:	<u>45</u> mph	Approach	n Speed:	45 mph
		DESIGN YEAR: 2030	 	
"Build"			<u>"No-Buil</u>	<u>d"</u>
Signalized Intersection:		Signalize	d Intersection:	
S.R. 679 and Madonna Bo	oulevard	S.R. 679	and Madonna Boule	evard
Design or Peak Hour Traf	fic	Design of	r Peak Hour Traffic	
for most congested leg:	1501vph	for most (congested leg:	1501vph
Specify leg:	SB in AM	Specify le	eg:	SB in AM
Approach Speed:	45 mph	Approach	Speed:	45 mph

PD&E TRAFFIC DATA FOR NOISE STUDIES

	PREPARED BY: SK
Financial Project Number(Federal Aid Numbers (s):	
Project Description:	S.R. 679 (Pinellas Bayway) at Intracoastal Waterway Project Development and Environmental Study
Segment Description: (data sheets are to be fille as volumes. Posted speed	segment only out for every segment having a change in traffic parameters such typical section, etc.)

NOTE: ADT is the LOS (C) volume references in the FDOT LOS tables or Demand, whichever is less.

	Existing Facil	ity	No-Build (design year)			Build (design year)			
Year:	2005	Year:		2030	Year:		2030		
ADT:	LOS (C) 13,800	ADT:	LOS (C)	13,800	ADT:	LOS (C)	13,800		
ADT:	Demand 19,300	(weekend ADT) ADT:	Demand	23,600 (weekend ADT)	ADT:	Demand	23,600 (weekend ADT		
Poste	d Speed: 45	mph Pos	ted Speed:	45 mph	Poste	ed Speed:	45 mph		
		km/h	•	km/h			km/h		
	K = 9.48	%	K =	9.48 %		K =	9.48 %		
	D ≈ 67.1	%	D =	67.1 %		D =	67.1 %		
	T = 8.2	% for 24 hrs	T = Î	8.2 % for 24 hrs		[.] T =	8.2 % for 24 hrs		
	T = 4.1	% Design Hr.	T ≕ ¯	4.1 % Design Hr.		T =	4.1 % Design H		
	3.16 % Heavy 1	rucks DHV	3.16	% Heavy Trucks DHV		3.16	% Heavy Trucks DHV		
	0.93 %Medium	Trucks DHV	0.93	%Medium Trucks DHV		0.93	%Medium Trucks DHV		