Project Development & Environment Study

S.R. 401 Bridge Replacement Project

Project Traffic Analysis Report

FM Number: 444787-1-22-01
ETDM Number: 14397
Brevard County

Prepared for the

Florida Department of Transportation
District Five

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. & 327 and Memorandum of Understanding dated May 26, 2022 and executed by Federal Highway Administration and FDOT.

August 2022

Mary McGehee
FDOT Project Manager

Project Traffic Analysis Report

Florida Department of Transportation

District 5

SR 401 Bridge Replacement Project

Limits of Project: . The project length is 3,700' and begins approximately 500' south of the SR 528 overpass bridges over SR 401 and continues beyond approximately 3,200' north to the Charles M. Rowland Dr.

Brevard County, Florida

Financial Management Number: 444787-1-22-01

ETDM Number: 14397

Date: June 2022

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

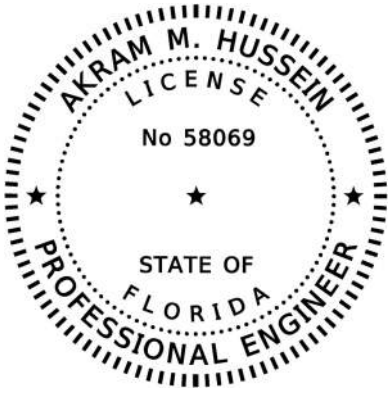
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Traffic forecast for the project was developed using:	
Travel Demand Model	Growth Rates
Type of Travel Demand Model Used: ☒ Metropolitan Planning Model ☒ Other Model (*specify*) Data-driven analysis of special markets.	Used for the forecasting of trucks in/out of the Port. Truck growth was kept proportional to forecast growth in freight tonnage at the Port.
Is the travel demand model based on the latest adopted Long Range Transportation Plan?	
☒YES	☐NO
12/9/2020 Date when MPO adopted the latest Long Range Transportation Plan	Explain why
2015 Base Year of Travel Demand Model	
2045 Horizon Year of Travel Demand Model	
Long Range Transportation Plan documentation is available at (provide web address): https://metroplanorlando.org/plans/metropolitan-transportation-plan/	
Traffic Data and Factors	
Standard K = 9.9 (across SR401 bridge) D Factor = 66.67 (SB across SR 401 bridge) T_{Daily} = 11% (across SR 401 bridge)	Data Collection Year = 2021 Opening Year = 2030 Interim Year = N/A Design Year = 2050
Discuss any changes in land use, economics, population and employment data since the model was built. The model's role in producing the forecasts was limited; the data-driven procedures of the Port area (special generator) governed. The model prinicpally provided non-Port-related trip demand, which is a minor component. The non-Port demand relates to the development in the restricted area to the north and east, accessible via SR 401. We did not have access to updated data in the area but note the model forecasts no change in population or employment in this area..	
Traffic Analysis Assumptions	
Discuss study area, data calibration/validation parameters, analysis tools, analysis periods and MOEs. Please refer to the SR 401 Bridge Replacement PD&E Study Revised Traffic Forecasts memorandum, dated January 28, 2022.	

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SECTION 1 *EXECUTIVE SUMMARY*

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to evaluate alternative improvements for SR 401 Bridge Replacement Project in Brevard County. The total project length is approximately 3,700 feet (**Figure 2-1**). Study objectives included the evaluation of the three existing bascule bridges along SR 401 for retrofit improvements or replacement with either a medium-level movable span bridge or a new High-Level Fixed Span Bridge over the Canaveral Barge Canal. Improvement alternatives were identified which enhance safety and meet future transportation demand. After an evaluation process was completed, the High-Level Fixed Span Bridge Alternative is the Recommended Alternative which will negate any queues on SR 401 as existing conditions do with the existing bascule bridge.

S.R. 401 is designated as a Strategic Intermodal System (SIS) connector, providing access to Cape Canaveral, a SIS Seaport. Port Canaveral's operations include major cruise terminals, cargo terminals, and substantial tanker truck traffic. Additionally, S.R. 401 is classified as a part of the State Strategic Highway Network (STRAHNET) connector by the Military Surface Deployment and Distribution Command as a connection to an ocean terminal to deploy and sustain U.S. forces on a global basis. The two southbound bridges (700030 and 700031) were constructed in 1963 and the northbound bridge (7000117) was constructed in 1972. The bridges are the primary access to Cape Canaveral Air Force Station and Space Florida operations, Naval Ordinance Test Unit, facilities for the U.S. Coast Guard, and access to Space Florida operations. The maximum weight limits of the existing bridges restrict heavy loads. The 2011 Spaceport Area Transportation Infrastructure Assessment by the Space Coast TPO identified the weight limit as an impediment to expanding port freight operations and maximizing military uses.

This *Project Traffic Analysis Report* (PTAR) has been prepared for the proposed project. Analysis was performed as a part of this study for the existing year (2021) and the future years – opening year (2030), and design year (2050) with the existing and the projected future traffic volumes.

The operational analysis was performed for existing conditions with the existing lane geometry and 2019 traffic. The acceptable FDOT LOS Procedure on LOS targets for the study is 'LOS D'. The existing analysis showed that most of the study area roadways operate at an acceptable level of service during the morning (AM) and midday (MD) peak periods. The afternoon (PM) volumes were less than the MD that is why the analysis included the MD peak as provided in the Approved Forecast Memorandum. The existing roadway Freeway and ramp junction analyses showed that they operate at an acceptable level of service during the AM and MD peaks.

Operational analyses of future conditions for years 2030 and 2050 were conducted for both the No-Build and Build conditions. The Build condition is the proposed new High-Level Fixed Span Bridge Alternative. The future geometry along SR 401 is the same for all alternatives with different type of bridge structures. SR 528 is proposed to be improved from four lanes to six lanes within the project limits under FM #407402-4-52-01 and funding years was not determined yet for this improvement and this was reflected in the future Build analysis. The same set of traffic projections and volumes were used for both conditions No-Build and Build. The No-Build Alternative considered the existing lane geometry, and the Build Alternative considered the proposed geometry with the proposed High-Level Fixed Span Bridge Alternative. The analysis showed that the roadway segments and ramp junctions will still operate at acceptable levels of service "LOS D" or better during the future years under the No-Build and Build conditions.

The operational analysis for Build Alternative was conducted to assess the traffic operational impact of the bridge and to operate at an acceptable level of service. The Build Alternative only consolidated the ramps along SR 401 northbound and southbound. The Build analysis performed in this study showed that the High-Level Fixed Span Bridge Alternative will result in improved traffic operations and safety along the SR 401 roadway segments within the project limits to meet the demands of future travelers while minimizing project costs and impacts. The safety analysis also indicated that the High-Level Fixed Span Bridge Alternative yielded the greatest number of reduced crashes per year.

SECTION 2 *INTRODUCTION*

The Florida Department of Transportation (FDOT) is conducting a Project Development and Environment (PD&E) Study to consider the proposed improvements to the SR 401 Bridge Project, located in Brevard County. The traffic analysis was performed in accordance with guidance from the 2020 FDOT PD&E Manual, 2021 FDOT Traffic Analysis Handbook, and 2019 FDOT Project Traffic Forecasting Handbook. This analysis includes the Project Study Area to be analyzed, and method and assumptions that will be used to analyze existing and future traffic conditions. Owing to the special generator nature of Port Canaveral, which contributes almost wholly to the traffic volumes on SR 401, including at the interchange with SR 528, the travel forecasts are largely data-driven for each of the different travel markets serving the Port with guidance from the current regional travel demand model: CFRPM v 7.0. The methodology is detailed in Section 6 Travel Demand Forecasting.

Capacity analysis was based on the latest Highway Capacity Manual (HCM) 7th Edition procedures. Data has been gathered in accordance with the Traffic Analysis Handbook.

Traffic analysis includes an approach or procedure to evaluate the safety performance of the project alternatives.

This report documents the alternatives analyzed and evaluation metrics regarding traffic for the alternatives. The Project Traffic Analysis Report (PTAR) focuses on analysis and documentation for the recommended alternative High-Level Fixed Span Bridge.

The total study project length is 3,700' along SR 401. The SR 401 corridor begins approximately 500' south of the SR 528 overpass bridges and continues beyond the SR 528 overpass bridges to approximately 3,200' north to the Charles M. Rowland Drive as shown in **Figure 2-1**. Within the project limits, the existing roadway is a principal arterial and urban minor arterial. The proposed improvement will provide one High-Level Fixed Span Bridge with six lanes.

The Traffic Methodology for this analysis was approved by FDOT District Five in February 2022 and is included in **Appendix A** of this report.

Figure 2-1 Project Location Map and Study Area



SECTION 3 *PURPOSE AND NEED FOR PROJECT*

The project involves the evaluation of the three existing bascule bridges for retrofit improvements or replacement with either a medium-level movable span bridge or a new high-level fixed span bridge over the Canaveral Barge Canal. The alternatives evaluated replacing the existing bridges with two separate bridge structures. The project length is 3,700' and begins approximately 500' south of the SR 528 overpass bridges over SR 401 and continues beyond approximately 3,200' north to the Charles M. Rowland Dr. (Cruise Terminal Exit) gore area to account for the various bridge profile touchdown locations anticipated. Alternative concepts included evaluation of all ramps on the SR 528 and SR 401 interchange to determine how they connect to the canal bridge.

The primary need for the project is based on system linkage, modal interrelationship, improve traffic and pedestrian flows and safety enhancements to accommodate future growth.

S.R. 401 is designated as a Strategic Intermodal System (SIS) connector, providing access to Cape Canaveral, a SIS Seaport. Port Canaveral's operations include major cruise terminals, cargo terminals, and substantial tanker truck traffic. Additionally, S.R. 401 is classified as a part of the State Strategic Highway Network (STRAHNET) connector by the Military Surface Deployment and Distribution Command as a connection to an ocean terminal to deploy and sustain U.S. forces on a global basis. The two southbound bridges (700030 and 700031) were constructed in 1963 and the northbound bridge (7000117) was constructed in 1972. The bridges are the primary access to Cape Canaveral Air Force Station and Space Florida operations, Naval Ordinance Test Unit, facilities for the U.S. Coast Guard, and access to Space Florida operations. The maximum weight limits of the existing bridges restrict heavy loads. The 2011 Spaceport Area Transportation Infrastructure Assessment by the Space Coast TPO identified the weight limit as an impediment to expanding port freight operations and maximizing military uses.

SECTION 4 *AREA OF INFLUENCE*

The study area is in Brevard County, Florida at approximate Milepost 12.933. The study includes the interchange with SR 528 (due to the proximity to the SR 401 Bridge) which is approximately 1.84 miles east of N. Banana River Dr interchange and 0.87 miles west of George King Boulevard interchange. **Figure 2-1** shows the project location and area of influence. The land uses around the study area is predominantly commercial and transportation related uses.

The total study project length is 3,700' along SR 401. The SR 401 corridor begins approximately 500' south of the SR 528 overpass bridges and continues beyond the SR 528 overpass bridges to approximately 3,200' north to the Charles M. Rowland Dr. For the traffic analysis, the study area along SR 401 and SR 528 includes the following:

SR 528 Mainline:

i. Between North Banana River Drive and SR 401 interchanges

ii. Between SR 401 and George King Boulevard interchanges

SR 401:

i. Northbound off ramp to Charles Rowland Drive (access to Terminals 8 and 10)

ii. "Fly-over" ramp from Charles Rowland Drive to southbound SR 401

iii. Between SR 528 and the signalized intersection with Charles Rowland Drive (providing access to Terminals 5 and 6)

SR 528/SR 401 Interchange Ramps:

i. Westbound SR 528 to northbound SR 401

ii. Eastbound SR 528 to northbound SR 401

iii. Southbound SR 401 to westbound SR 528

iv. Southbound SR 401 to eastbound SR 528

SECTION 5 *EXISTING TRAFFIC CONDITIONS*

5.1 ROADWAY CHARACTERISTICS

Within the project limits, SR 401 currently is a 6-lane divided urban minor arterial to the north of SR 528 and a 4-lane urban collector to the north of Charles Rowland Drive with a posted speed limit of 45 miles per hour. Within this segment of SR 528, it is currently a 4-lane, east-west urban principal arterial expressway limited access facility. SR 528 in the study area has a posted speed limit of 55 miles per hour. Charles Rowland Drive is minor collector road arterial to the east of SR 401 serving the Cruise Terminals. Existing lane geometry are shown on **Figure 5-1**.

5.2 TRAFFIC CHARACTERISTICS

Existing year 2021 vehicle classification counts on roadway segments and ramps was collected in September and October 2021 by Traffic Engineering Data Solutions, Inc. for 72-hours at 10 locations along SR 401, and at the SR 528 interchange and Charles Rowland Drive during a typical weekday(s). Traffic counts were collected at the following locations shown on **Figure 5-2** and included in the approved Forecast Memorandum in **Appendix B** of this report:

1. SR 528 west of SR 401
2. SR 528 to SR 401 NB
3. SR 401 SB to SR 528 EB
4. SR 528 East of SR 401
5. SR 528 WB to SR 401 NB

6.1 Charles Rowland Dr NB (Provisioning Vehicles)

6.2 Charles Rowland Dr. NB (CT 8 & CT10)

7.0 Charles Rowland Dr. SB (Fly-Over Ramp)

8.0 SR 401 north of Charles Rowland Dr

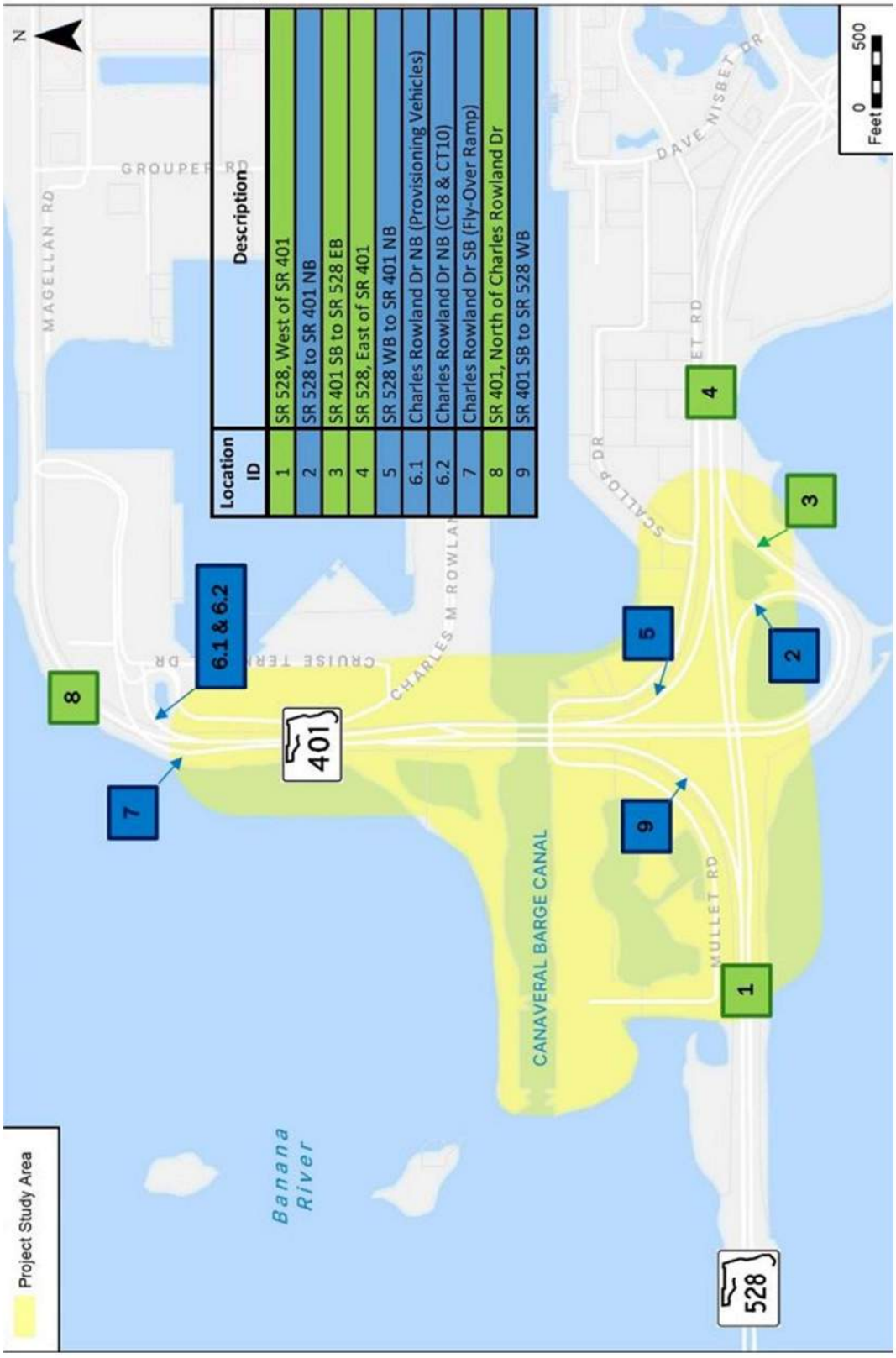
9.0 SR 401 SB to SR 528 WB

Pedestrian and bicycle data was also collected for eight hours at the bridge between a location north of the bridge and Mullet Road south of the bridges. One pedestrian was observed who crossed the western bridge. As both SR 401 and SR 528 are limited access facilities, bicycle and pedestrian modes are not allowed and are not proposed for either facility.

Figure 5-1 Existing Lane Geometry



Figure 5-2 Traffic Count Locations



SECTION 6 *TRAVEL DEMAND FORECASTING*

Study area volumes are forecast for the project opening year 2030, and design year 2050. Separate volume forecasts are prepared for port-related and non-port related activities and then added together, as will be discussed in the "Forecasting Approach" section below. The primary sources of information for the port-related trips are traffic counts, Canaveral Port Authority (CPA) provided information on past and present cruise ship and cargo activity, and information contained in the Canaveral Port Authority's 30 Year Strategic Vision Plan. This document is available at the following link:
https://www.portcanaveral.com/PortCanaveral/media/Recreation/JPC/PORT-CANAVERAL-30-YEAR-VISION-PLAN_1.pdf

The Central Florida Regional Planning Model (CFRPM) v. 7.0 is a primary source for forecast of weekday non-port-related volumes. It has a 2015 base year and planning horizons in five-year increments out to 2045. The 2030 project opening year forecast is rooted in the CFRPM 2030 forecast. The 2050 design year forecast volumes are prepared by trendline analysis of the CFRPM post-processed forecast volumes between its 2015 base year and 2045. The 2019 Project Traffic Forecasting Handbook was followed, where applicable.

Volume forecasts are prepared for the segments in which traffic counts are collected. The ten locations are shown on **Figures 6-1, 6-2,** and **6-3**. In addition, forecasts are prepared for roadway segments located in-between the numbered segments. These include the critical SR 401 bascule bridge segment (each direction) and SR 528 between the SR 401 on- and off-ramps (each direction). The detail analysis for developing the traffic volumes was presented in the approved Traffic Forecast Memorandum by FDOT D5 in March 2022 which is included in **Appendix B** of this report. This also included the recommended AM and MD hourly peak traffic volumes, peak hour factors, and truck percentages for the project which are also shown in **Figures 6-1, 6-2**, and **6-3**. The approved Traffic Analysis Methodology included analysis for AM and PM peak hours. The afternoon (PM) volumes were less than the MD that is why the analysis included the MD peak as provided in the Approved Forecast Memorandum.

Figure 6-1 Annual Average Daily Traffic

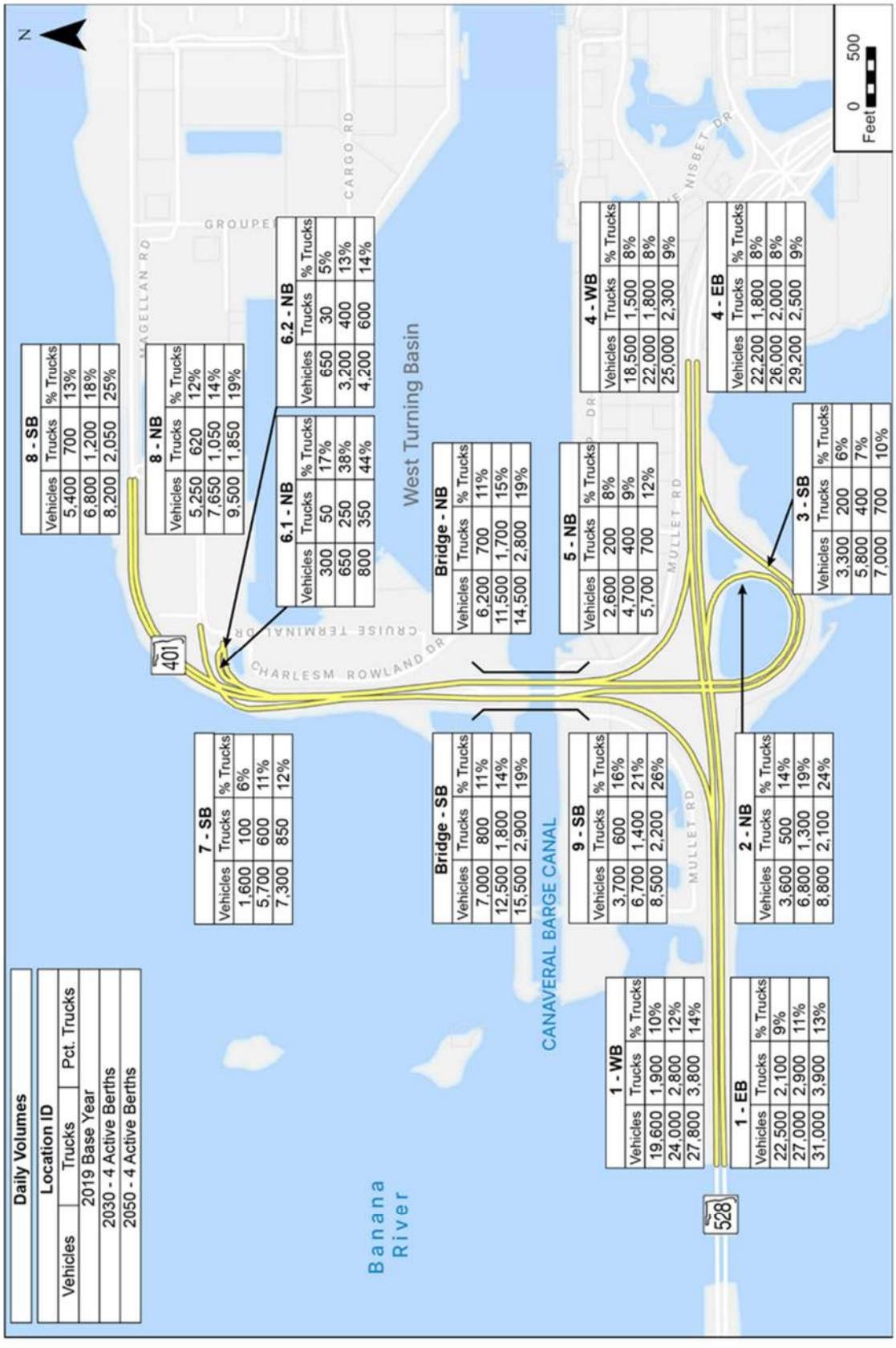


Figure 6-2 AM Peak Hour Traffic Volumes

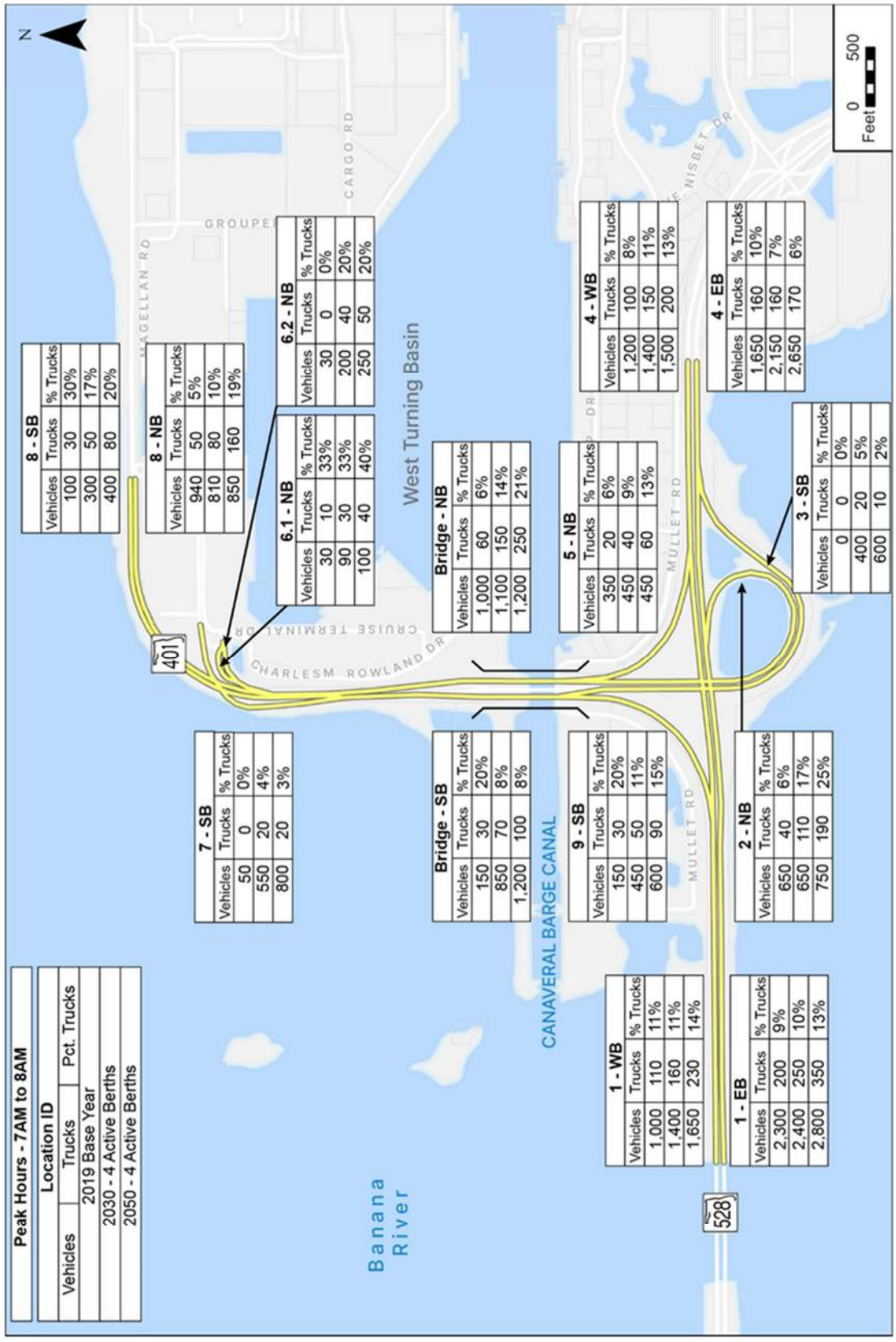
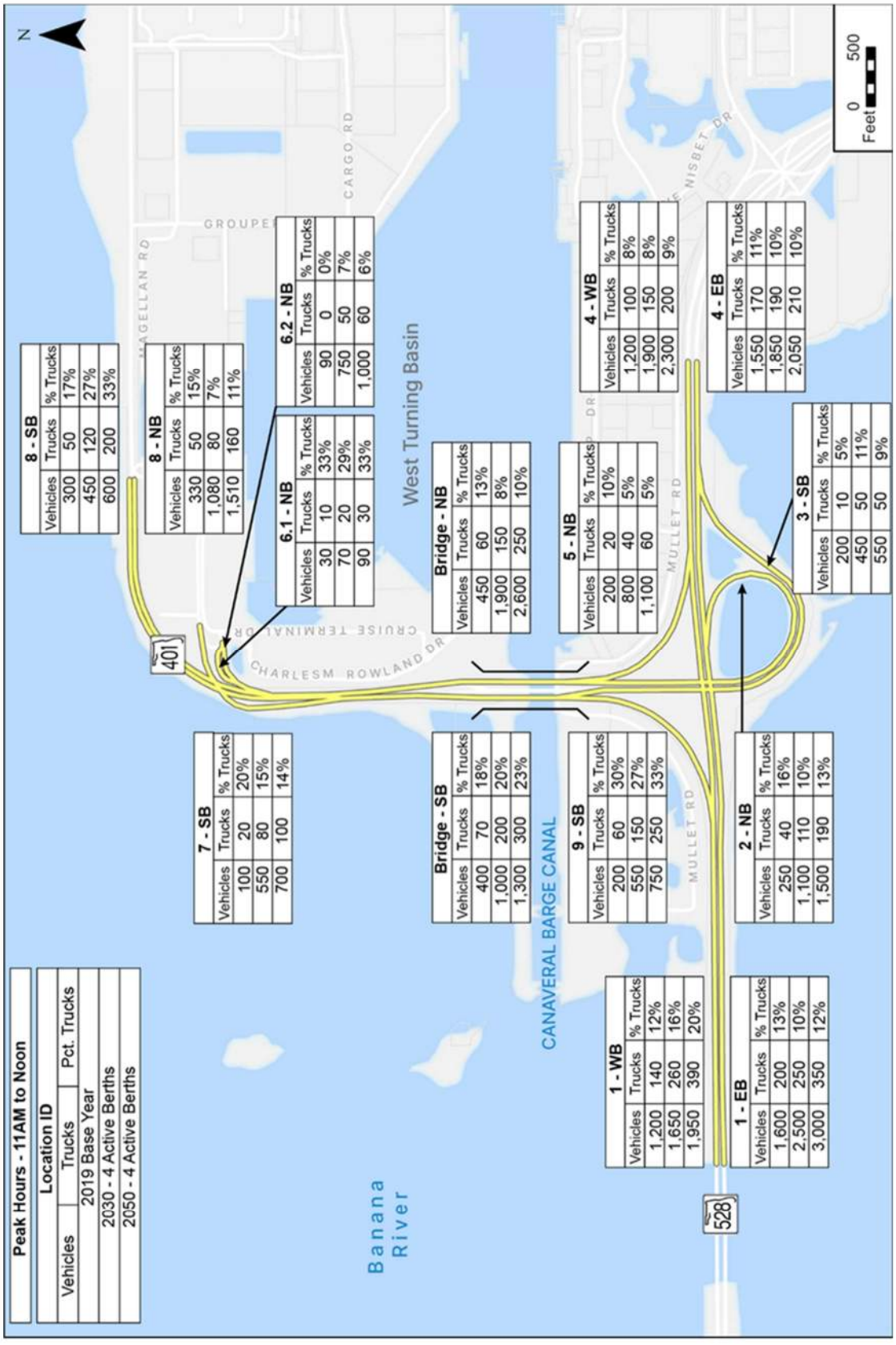


Figure 6-3 MD Peak Hour Traffic Volumes



SECTION 7 *OPERATIONAL ANALYSIS PROCEDURES*

The traffic volumes developed in Section 6 were used to run the capacity analyses utilizing the latest Highway Capacity Manual (HCM) 7th Edition for the following AM & MD peak hour periods as shown below.

- Existing Year 2021 No-Build
- Opening Year 2030 No-Build & Preferred Build Alternative
- Design Year 2050 No-Build & Preferred Build Alternative

Highway Capacity Software (HCS) have been used for the analysis of the freeway segments, multilane and the ramp junctions. In this context it should be noted that HCS methodology have been used for specific modules like freeways, multilane, and ramp merge/diverge analyses that are acceptable. The operational analysis includes SR 528 mainline through movements, SR 401 mainline and ramps from/to SR 401 and SR 528.

The FDOT LOS criteria used in this analysis was in accordance with Procedure No. 525-000-006, Level of Service Targets and Highway Capacity Analysis for the State Highway System (Urbanized areas) as summarized below:

- SR 401: LOS D
- SR 528 Mainline and Ramps: LOS D
- Charles M Rowland Dr.: LOS D

The operational analysis compared defined Measures of Effectiveness (MOEs) for the analysis of the No-Build alternative with the Build alternative to quantify potential betterment or non-significant degradation of the Build alternative improvements.

MOEs LOS and Density used to evaluate and compare the Build and No-Build alternatives will be as follows:

- Ramps Merge/Diverge – Density
- Freeway Segments – Density

The existing, opening, and design years AM and MD peak hour volumes are shown in **Figures 6-2** and **6-3**.

7.1 EXISTING YEAR LEVEL OF SERVICE ANALYSIS

The existing year (base year 2019) lane geometry and approved existing AM and MD peak hour traffic volumes, were used for the existing analysis. The acceptable LOS targets for the study area is 'LOS D'. LOS was estimated from the Highway Capacity Manual (HCM) 7th Edition software. The existing year LOS and density results for all the study areas are summarized in **Tables 7-1 and 7-2**. The existing LOS analysis details (HCS output worksheets) are provided in **Appendix C**.

Based on the existing analysis, all the mainline roadway segments, the ramp merge/diverge junctions and multilane within the study area operate within the acceptable level of service "LOS D" or better as shown on **Tables 7-1 and 7-2.**

Table 7-1 Existing Year AM/MD HCS Freeway & Ramp Summary

Location ID	Freeway			Merge/Diverge Area		
	Freeway Volume (veh/hr)	Density (pc/mi/ln)	LOS	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
1. SR 528 EB Freeway Segment from N Banana to SR 401	2300/1600	24.3/16.6	C/B			
2. SR 528 EB off Loop Ramp to SR 401 NB	2300/1600			650/250	26.4/18.5	C/B
3. SR 528 EB on Ramp from SR 401 SB	1650/1350			1/200	19.3/15.6	B/B
4. SR 528 EB Freeway Segment from SR 401 to George King Blvd	1650/1550	19.9/15.4	C/B			
4. SR 528 WB Freeway Segment from George King Blvd to SR 401	1200/1200	12.1/11.9	B/B			
5. SR 528 WB off Ramp to SR 401 NB	1200/1200			350/200	3.3/3.0	A/A
9. SR 528 WB on Ramp from SR 401 SB	850/1000			150/200	12.3/13.4	B/B
1. SR 528 WB Freeway Segment from SR 401 to N Banana	1000/1200	10.9/12.0	A/B			
6.1 & 6.2 NB off Ramp from SR 401 to Charles NB	1000/450			60/120	0.9/0.0	A/A
7. SB on Ramp from Charles to SR 401	100/300			50/100	1.6/3.8	A/A

Table 7-2 Existing Year AM/MD HCS Multilane Summary

Location ID	NB			SB		
	Volume (veh/hr)	Density (pc/mi/ln)	LOS	Volume (veh/hr)	Density (pc/mi/ln)	LOS
8. SR 401 from SR 528 to Charles M Rowland Dr	1000/450	8.9/4.6	A/A	150/400	1.6/3.8	A/A
8. SR 401 from North of Charles M Rowland Dr	940/330	12.9/5.3	B/A	100/300	1.8/4.4	A/A

SECTION 8 *FUTURE OPERATIONAL ANALYSIS*

8.1 ALTERNATIVE ANALYSIS

The three alternatives bridge layout with the existing and the SR 528 proposed improvements from four lanes to six lanes within the project limits under FM #407402-4-52-01 are included in **Appendix D,** which includes the existing bascule bridges for retrofit improvements or replacement with either a medium-level movable span bridge or a new High-Level Fixed Span Bridge over the Canaveral Barge Canal. All bridge alternatives have the same geometry layouts with the only difference is the type of bridge.

The evaluation process took into consideration traffic, physical, natural, social, and cost criteria. In terms of roadway traffic delays and safety, the fixed bridge alternative has the best ranking because it provides free flow traffic. From a marine navigational standpoint, the drawbridge alternative ranks highest since it offers no limitation on vessel height. From the bridge alternatives, the following was noted:

- The drawbridge alternative ranks lowest for utility impacts because the size of the abutments may result in impacts to nearby overhead power lines and buried utilities. In terms of effects on the natural and social environment, all three build alternatives are expected to result in relatively equal impacts.
- From a cost perspective, the no build alternative's operations and maintenance over the 75-year design life is expected to exceed $80 million because the bridge is more than 40 years old and will require resurfacing and repairs. The fixed bridge has the lowest operations and maintenance costs overall because it does not have mechanical or electrical components like the lift bridge and drawbridge.

The recommended alternative was the High-Level Fixed Span Bridge Alternative. The analysis included evaluation of access management in relation to traffic safety and operational efficiency within the Study Area. Operational effectiveness of No-Build and Build Alternatives was evaluated using the agreed upon performance MOEs LOS and density.

8.2 OPERATIONAL ANALYSIS

Operational analysis was conducted for the High-Level Fixed Span Bridge Alternative for opening and design years 2030 and 2050 for the Build and No-Build. The future geometry along SR 401 is the same for all alternatives with different type of bridge structures. SR 528 is proposed to be improved from four lanes to six lanes within the project limits, and this was reflected in future Build analysis.

A detailed operational analysis was performed for all analysis years for No-Build and Build scenarios. The operational analysis considered all the relevant FDOT design standards and determination of the (LOS) by using the latest version of Highway Capacity Software (HCS). The HCS future year analysis was performed for the mainline, ramps for years 2030, and 2050 using the traffic volumes shown in **Figures 6-2 and 6-3.** These figures show the AM and MD peak hour volumes for, opening year (2030) and design year (2050), respectively. The Build and No-Build volumes are the same for 2030 and 2050 as shown in the approved Traffic Forecast Memorandum.

8.3 YEAR 2030 LEVEL OF SERVICE ANALYSIS

The 2030 No-Build condition includes the existing geometry shown in **Figure 5-1**. The levels of service (LOS) for the study roadway segments and ramp junctions have been analyzed using the design hour volumes shown in **Figures 6-2 and 6-3** for the AM and MD peak hours**.** The Build condition is the High-Level Fixed Span Bridge Alternative, and the geometry is included in **Appendix D**. The proposed geometry is the same for the HCS analysis along SR 401 and along the ramps except for the future SR 528 mainline proposed to be six lanes instead of four lanes within the project limits. These improvements along SR 528 will be implemented by year 2030 so year 2030 No-Build and Build calculated LOS results for roadway segments, ramp junctions and multilane within the project limits are the same and are summarized in **Tables 8-1 and 8-2.** The 2030-year LOS analysis details and HCS analysis worksheets are provided in **Appendix E.**

Table 8-1 Year 2030 No Build & Build AM/MD HCS Freeway & Ramp Summary

Location ID	Freeway			Merge/Diverge Area		
	Freeway Volume (veh/hr)	Density (pc/mi/ln)	LOS	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
1. SR 528 EB Freeway Segment from N Banana to SR 401	2400/2500	17.0/16.8	B/B			
2. SR 528 EB off Loop Ramp to SR 401 NB	2400/2500			650/1100	21.0/21.9	C/C
3. SR 528 EB on Ramp from SR 401 SB	1750/1400			400/450	17.3/13.1	B/B
4. SR 528 EB Freeway Segment from SR 401 to George King Blvd	2150/1850	16.8/12.2	B/B			
4. SR 528 WB Freeway Segment from George King Blvd to SR 401	1400/1900	9.7/12.5	A/B			
5. SR 528 WB off Ramp to SR 401 NB	1400/1900			450/800	2.6/4.5	A/A
9. SR 528 WB on Ramp from SR 401 SB	950/1100			450/550	13.9/14.4	B/B
1. SR 528 WB Freeway Segment from SR 401 to N Banana River Dr	1400/1650	10.2/11.4	A/B			
6.1 & 6.2. NB off Ramp from SR 401 to Charles NB	1100/1900			290/820	2.7/11.8	A/B
7. SB on Ramp from Charles to SR 401	300/450			550/550	11.2/10.1	B/B

Table 8-2 Year 2030 No Build & Build AM/MD HCS Multilane Summary

Location ID	NB			SB		
	Volume (veh/hr)	Density (pc/mi/ln)	LOS	Volume (veh/hr)	Density (pc/mi/ln)	LOS
8. SR 401 from SR 528 to Charles M Rowland Dr	1100/1900	10.5/18.4	A/C	850/1000	8.0/9.7	A/A
8. SR 401 from North of Charles M Rowland Dr	810/1080	11.6/16.2	B/B	300/450	4.8/7.2	A/A

Based on the results of the analysis shown in the **Tables 8-1 and 8-2**, all roadway segments, ramp junctions and multilane operate at an acceptable level of service.

8.4 YEAR 2050 LEVEL OF SERVICE ANALYSIS

The 2050 No-Build condition includes the existing geometry shown in **Figure 5-1**. The levels of service (LOS) for the roadway segments and ramp junctions have been calculated using the design hour volumes shown in **Figures 6-2 and 6-3** for the AM and MD peak hours. The Build condition is the High-Level Fixed Span Bridge Alternative, and the geometry as included in **Appendix D**. The proposed geometry is the same for the HCS analysis along SR 401 and along the ramps except for the future proposed SR 528 mainline is proposed to be six lanes instead of four lanes within the project limits. These improvements along SR 528 will be implemented by year 2030.Year 2050 No-Build and Build calculated LOS for roadway segments, ramp junctions and multilane within the project limits are the same and are summarized in **Tables 8-3 and 8-4**. The design year No-Build and Build LOS analyses details HCS analysis worksheets are provided in **Appendix F**.

Table 8-3 Year 2050 No Build & Build AM/MD HCS Freeway & Ramp Summary

Location	Freeway			Merge/Diverge Area		
	Freeway Volume (veh/hr)	Density (pc/mi/ln)	LOS	Ramp Volume (veh/hr)	Density (pc/mi/ln)	LOS
1. SR 528 EB Freeway Segment from N Banana to SR 401	2800/3000	20.4/20.5	C/C			
2. SR 528 EB off Loop Ramp to SR 401 NB	2800/3000			750/1500	24.4/26.5	C/C
3. SR 528 EB on Ramp from SR 401 SB	2050/1500			600/550	22.9/18.8	C/B
4. SR 528 EB Freeway Segment from SR 401 to George King Blvd	2650/2050	20.6/13.5	C/B			
4. SR 528 WB Freeway Segment from George King Blvd to SR 401	1500/2300	10.6/15.3	A/B			
5. SR 528 WB off Ramp to SR 401 NB	1500/2300			450/1100	0.8/8.3	A/A
9. SR 528 WB on Ramp from SR 401 SB	1050/1200			600/750	16.9/18.0	B/B
1. SR 528 WB Freeway Segment from SR 401 to N Banana	1650/1950	12.3/14.0	B/B			
6.1 & 6.2. NB off Ramp from SR 401 to Charles NB	1200/2600			350/1090	3.8/20.0	A/B
7. SB on Ramp from Charles to SR 401	400/600			800/700	16.0/13.5	B/B

Table 8-4 Year 2030 No Build & Build AM/MD HCS Multilane Summary

Location ID	NB			SB		
	Volume (veh/hr)	Density (pc/mi/ln)	LOS	Volume (veh/hr)	Density (pc/mi/ln)	LOS
8. SR 401 from SR 528 to Charles M Rowland Dr	1200/2600	12.2/25.7	B/C	1200/1300	11.3/12.9	B/B
8. SR 401 from North of Charles M Rowland Dr	850/1510	13.2/23.4	B/C	400/600	6.5/10.1	A/A

Based on the results of the analysis shown in the **Tables 8-4 and 8-5**, all roadway segments, ramp junctions and multilane operate at an acceptable level of service.

Crash data for the five (5) year period from January 1, 2016, to December 31, 2020, was obtained from the Florida Department of Transportation's CARS database and the University of Florida's Signal Four Analytics for the 0.5-mile segment of S.R. 401 from approximately 950 feet north of SR 528 to the overpass for Charles M Rowland Drive, to analyze the crash reduction implications of proposed alternatives. In addition to CARS data, bridge opening data was used from the Study Navigation Report and FDOT data. The focus of this analysis was the bridge leading to Port Canaveral and the adjacent segment, where improvements are planned and will ultimately tie into planned future improvements for the interchange of SR 528 and S.R. 401. As summarized in the Crash Summary **Table 9-1**, 13 crashes occurred throughout the segment. Due to a general lack of crash modification factors (CMFs) for replacing drawbridges or bridge replacements, a combination of crash reduction calculations was performed based on the proposed alternative using engineering judgment and CMFs for other improvements, such as lighting along the corridor.

Table 9-1 Five Year Crash Summary

Crash Year		2016	2017	2018	2019	2020	Total	Percentage
Crash Type	Fixed Object	0	0	0	4	1	5	38.46%
	Object-in-Road	0	0	1	1	0	2	15.38%
	Off-Road	0	0	1	0	0	1	7.69%
	Rear-End	0	2	1	0	1	4	30.77%
	Sideswipe	0	1	0	0	0	1	7.69%
	Total	0	3	3	5	2	13	100.00%
Light Conditions	Daytime	0	3	1	4	2	10	76.92%
	Night	0	0	2	1	0	3	23.08%
	Total	0	3	3	5	2	13	100.00%
Surface Conditions	Dry Pavement	0	3	1	3	1	8	61.54%
	Wet Pavement	0	0	2	2	1	5	38.45%
	Total	0	3	3	5	2	13	100.00%
Crash Severity	Property Damage Only	0	2	2	4	2	10	76.92%
	Sustained Injury	0	1	1	1	0	3	23.08%
	Fatality	0	0	0	0	0	0	0.00%
	Total	0	3	3	5	2	13	100.00%

High-Level Fixed Span Bridge Alternative: The High-Level Fixed Span Bridge Alternative will have a fixed clearance of 65 feet and will be high enough to where lifting or opening the bridge will not be necessary to let vessels pass underneath the bridge. Six (6) crashes over the five (5) years occurred because of the drawbridge being opened, which means 1.2 crashes per year will be eliminated just by converting it into a High-Level Fixed Span Bridge. Out of the remaining seven (7) crashes, a lighting CMF with a value of 0.68 was applied to the three (3) nighttime crashes, which resulted in 0.19 crashes being reduced per year. Two grade change CMFs, one for positive grade change $e^{(-0.0535*(G_2-G_1))}$ and another for negative grade change $e^{(-0.0396*(G_2-G_1))}$ were considered for the seven (7) crashes that occurred within the graded portion of the study segment to both approaches in both directions, as the High-Level Fixed Span Bridge will have a 6% grade vs. the current 4% grade for the drawbridge. The positive grade change CMF formula yields a CMF of 0.89 which was applied to six (6) crashes whereas the negative grade change CMF formula yields a CMF of 1.08 which was applied to one (1) crash. Based on the calculations, positive grade change will reduce 0.13 crashes per year and the negative grade change will lead to 0.02 more crashes per year. All factors and CMFs combined, 1.5 crashes (1.2 + 0.19 + 0.13 - 0.02) will be reduced per year after changing the drawbridge to a High-Level Fixed Span Bridge. Safety benefits are summarized in **Table 9-2** below and calculations are shown in the **Appendix G**.

Table 9-2 Summary of Safety Benefits

Benefit	CMF	Number of Applicable Crashes	Number of Crashes Reduced Per Year
Replace Drawbridge with HLFS Bridge	N/A*	6	1.2
Provide Lighting	0.68	3	0.19
Positive Grade Change	0.89	6	0.13
Negative Grade Change	1.08	1	-0.02
Total Number of Crashes Reduced Per Year			1.5

*A CMF was not available, but the six (6) crashes occurred due to motorists stopping for the drawbridge, and which will not occur with the High-Level Fixed Span Bridge alternative.

A collision summary sheet, collision diagrams, and relevant CMFs are provided in the **Appendix G**.

SECTION 10 *CONCLUSION*

The results from the operational analysis for the existing and future conditions with the High-Level Fixed Span Bridge Alternative showed that the study area roadways and ramps operate at an acceptable level of service "D" or better during AM and MD in the future. The safety analysis also indicated that the High-Level Fixed Span Bridge Alternative yielded the greatest number of reduced crashes per year. Operational analyses of future conditions for years 2030 and 2050 were conducted for both the No-Build and the Build conditions as a part of this study. The No-Build condition considered the existing lane geometry. The proposed geometry is the same for the HCS analysis along SR 401 and along the ramps except for the future SR 528 mainline is proposed to be six lanes instead of four lanes within the project limits. The year for these improvements along SR 528 has not been determined yet. SR 528 is proposed to be improved from four lanes to six lanes within the project limits under FM #407402-4-52-01. The Build condition considered for the SR 401 project is the High-Level Fixed Span Bridge Alternative.

APPENDICES

APPENDIX A

Approved Traffic Methodology

TRAFFIC ANALYSIS REPORT
SR 401 BRIDGE REPLACEMENT PROJECT

FM Number: 444787-1-22-01

F I N A L T R A F F I C A N A L Y S I S
M E T H O D O L O G Y

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 5

Brevard County, Florida

January 2022

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1.0 INTRODUCTION

This document serves as the Traffic Analysis Methodology which describes the procedures for the preparation of traffic analysis for the SR 401 Bridge Replacement Project in Brevard County.

The traffic analysis will be performed in accordance with guidance from the 2020 PD&E Manual, 2021 Traffic Analysis Handbook, and 2019 Project Traffic Forecasting Handbook. The forecast will be prepared and agreed upon by the DEPARTMENT prior to beginning any analysis. This methodology will include the Project Study Area to be analyzed, and method and assumptions that will be used to analyze existing and future traffic conditions. Owing to the special generator nature of Port Canaveral, which contributes almost wholly to the traffic volumes on SR 401, including at the interchange with SR 528, the travel forecasts are largely data-driven for each of the different travel markets serving the Port with guidance from the current regional travel demand model: CFRPM v 7.0. The methodology is detailed in Section 7 Travel Demand Forecasting.

Capacity analysis will be based on the latest Highway Capacity Manual (HCM) procedures. Use of microsimulation traffic analysis software such as SimTraffic, CORSIM, and/or VISSIM is not required for this Project. Data will be gathered in accordance with the Traffic Analysis Handbook.

Traffic analysis methodology will include an approach or procedure to evaluate the safety performance of the project alternatives.

All traffic analysis documentation will be written in plain language and in a format that can be easily followed. All traffic analysis files assumptions, inputs, outputs, network data, calculations, and results will be submitted to the DEPARTMENT.

The report will document the alternatives analyzed and evaluation matrix metrics regarding traffic for the alternatives. The PTAR will then focus on analysis and documentation for the recommended alternative only.

2.0 PURPOSE AND NEED FOR PROJECT

The project involves the evaluation of the three existing bascule bridges for retrofit improvements or replacement with either a medium-level movable span bridge or a new fixed span bridge over the Canaveral Barge Canal. The project length is 3,700' and begins approximately 500' south of the SR 528 overpass bridges over SR 401 and continues beyond approximately 3,200' north to the Charles M. Rowland Dr. (Cruise Terminal Exit) gore area to account for the various bridge profile touchdown locations anticipated. Alternative concepts will include evaluation of all ramps on the SR 528 and SR 401 interchange to determine how they will connect to the canal bridge. The ETDM Summary Report lists system linkage and modal interrelationships for the need will be included in this section.

One alternative with no-build and build scenarios will be evaluated as part of this traffic analysis, to meet the demands of future travelers while minimizing project costs and impacts.

3.0 PROJECT SCHEDULE

Notice To Proceed (NTP) was on April 6, 2021, and completion date will be in in April 6, 2023 which is twenty four months from NTP.

4.0 PROJECT LOCATION AND ANTICIPATED AREA OF INFLUENCE

The study area is in Brevard County, Florida at approximate Milepost 12.933. The study includes the interchange with SR 528 (due to the close proximity to the SR 401 Bridge) which is approximately 1.84 miles east of N. Banana River Dr interchange and 0.87 miles west of George King Boulevard interchange. **Figure 1** shows the project location and proposed area of influence.

The total study project length is 3,700' along SR 401. The SR 401 corridor begins approximately 500' south of the SR 528 overpass bridges and continues beyond the SR 528 overpass bridges to approximately 3,200' north to the Charles M. Rowland Dr.

For this Traffic Analysis Report, the study area along SR 401 and SR 528 will include the following segments:

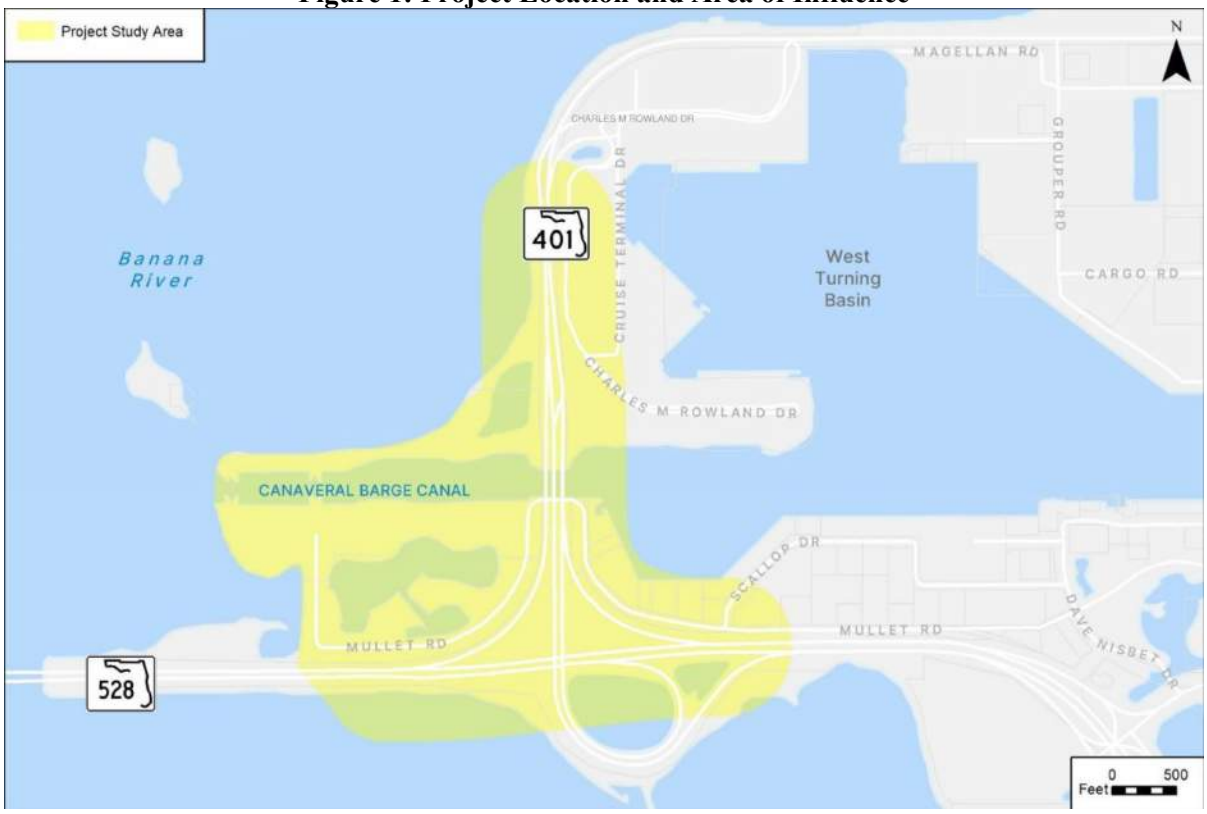
- SR 528 Mainline:
    i. Between North Banana River Drive and SR 401 interchanges
    ii. Between SR 401 and George King Boulevard interchanges

- SR 401:
    i. Northbound off ramp to Charles Rowland Drive (providing access to Terminals 8 and 10)
    ii. "Fly-over" ramp from Charles Rowland Drive to southbound SR 401
    iii. Between SR 528 and the signalized intersection with Charles Rowland Drive (providing access to Terminals 5 and 6)

- SR 528/SR 401 Interchange Ramps:
    i. Westbound SR 528 to northbound SR 401
    ii. Eastbound SR 528 to northbound SR 401
    iii. Southbound SR 401 to westbound SR 528
    iv. Southbound SR 401 to eastbound SR 528

The land use around the study area is predominantly commercial and transportation related uses.

Figure 1: Project Location and Area of Influence



5.0 ANALYSIS YEARS

The analysis years for this project are identified below.

- Existing Year – 2021
- Opening Year – 2030
- Design Year – 2050

6.0 EXISTING CONDITIONS

SR 528: This segment of SR 528 is currently a 4-lane, east-west urban principal arterial expressway limited access facility. SR 528 in the study area has a posted speed limit of 55 miles per hour.

SR 401: SR 401 is a 6-lane urban minor arterial to the north of SR 528 and a 4-lane urban collector to the north of Charles Rowland Drive with a posted speed limit of 45 miles per hour.

Charles Rowland Drive: Charles Rowland Drive is minor collector road arterial to the east of SR 401 serving the Cruise Terminals.

The existing operating conditions will be analyzed, and the existing operational deficiencies will be identified and documented in the report.

7.0 TRAVEL DEMAND FORECASTING

Forecast design hour traffic volumes will be developed for two horizons-2030 opening year and 2050 design year. The set of demand volumes produced in this section will be used in the alternative analysis.

There are four distinct travel markets utilizing the bascule bridges. Parsons' approach to forecasting traffic patterns across the SR 401 bridge involves analyzing each market separately and then combining the individual market forecasts. The following markets are identified:

- **Cruise Ships** – this market encompasses the cruise ship passenger operations including the passengers and their means of transportation to/from the cruise ship terminals, truck movements servicing the ships and terminal support employment. While the CFRPM does account for the Port Canaveral area as a special generator, the trip ends generated are not consistent with the Port Master Plan and do not directly account for truck movements. A more data-driven approach is used to estimate trip-ends associated with this market segment.
- **Port Employment** – This relatively small market represents employees who travel to/from the north side Port area to begin/end their workday and are captured by the CFRPM. It does not include cruise ship terminal support personnel or truck drivers engaging in drayage operations at any of the cargo-related facilities. These are accounted for under the cruise passengers and cargo operations markets, respectively.
- **Cargo Operations** – In 2019, there were more than 3,000 truck movements per week (on average) across the bascule bridges (each way) associated with the various cargo operations at the Port. Weekly truck movements by operator were provided by the Canaveral Port Authority and this activity was allocated to weekdays and weekends based on each company's operating hours. Horizon year truck activity is tied in part to the forecast growth in cargo tonnage represented by the Port Authority's Master Plan.
- **Other** – Access to the Cape Canaveral Air Force Station area is achieved via the SR 401 bascule bridges and require security clearance to enter the restricted area. No information about existing or future activity is readily available or verifiable. Weekday demand activity is sourced directly from the CFRPM. A review of available retail operations supporting personnel working in the restricted area indicate they are open weekdays only.

Owing to the special generator nature of Port Canaveral directly accessing the study area roadways, volume development is data driven to the extent possible, utilizing traffic count data specifically collected for the project along with historical (2016-2020) FDOT weekday daily traffic count data to facilitate post-processing of CFRPM-produced volumes, current and historical ground transportation and parking data and cargo truck volumes obtained from the Canaveral Port Authority (CPA), and Master Plan documents pertaining to future Port operations.

The CFRPM serves as the basis for the non-Port traffic in the study area. A "select zone" assignment is performed for the model's base and horizon years. This procedure traces traffic volumes to and from the selected zone (in this case, the north side Port area) through the study area's roadway system,

allowing the calculation of shares of north side Port trips arriving and departing by direction. These trips are therefore easily identifiable and are removed from the model-based volume forecasts for the study area roadway segments to create a temporary baseline without Port-based trips. The data-driven estimates of autos and trucks serving the Port are then added to the temporary baseline to yield the forecast volumes for each roadway segment using the distributions produced by the "select zone" assignment. The forecasts are prepared for autos and trucks separately, and then combined to provide "total" volume.

The basic steps in developing the forecast volumes are outlined as follows:

1. Data collection
    a. Conduct traffic counts (weekdays, September 2021), including vehicle classification.
    b. Gather and organize cruise ship-related activity by terminal coinciding with days traffic counts are collected, plus a representative day in March 2019 when cruise ship activity is robust.
        i. Passengers embarking
        ii. Passengers debarking
        iii. Parking garage counts
        iv. Ground transportation demand servicing the cruise ships
    c. Gather and organize cargo-related activity (number of trucks) by day
2. Develop 2021 weekday traffic volume control totals from traffic count data collected September 2021 (Step 1a).
    a. All roadway segments in study area
    b. By hour
    c. By vehicle classification
3. Leverage the 2019 cruise ship data (Step 1b) to estimate average vehicle occupancies among passenger cars utilizing the terminal garages plus the mix of vehicles comprising ground transportation. The 2019 data is thought to be more representative of ground transportation characteristics in the future, as the pandemic's impact on cruise passenger willingness to utilize public transport or the supply of such transport during the September 2021 data collection timeframe might have skewed the data.
4. Apply the average vehicle occupancy information (Step 3) along with the traffic counts (Step 1a) and known cruise ship activity (Step 1b) and cargo activity (Step 1c) on the day representing the control total to remove the Port North-related traffic volumes from the control totals (Step 2). The result is an assumed 2021 control total without cruise ship activity or cargo.
5. Convert the Step 4 result to a 2019 control total, without cruise ship activity or cargo, by adjusting the SR 528 mainline volumes based on published 2019 AADT information on either side of the SR 401 interchange.

6. Specify a set of future year cruise ship scenarios whereby the user indicates if the berth is active for the assumed design day and if so, the passenger carrying capacity of the ship. The *30 Year Strategic Vision Plan* developed for the Port suggests planning on 5,000 to 7,000 passenger capacity ships in the future (Presently, most ships calling Port Canaveral home are in the 4,000-passenger capacity range). For 2030, it is assumed 5,000 passenger capacity ships will be the norm. By 2050, the capacity is assumed to increase to 7,000. Furthermore, it is assumed each ship will operate at 97% of capacity, but this parameter can be adjusted. As a benchmark, ships homeporting at Port Canaveral averaged around 95% occupancy for the Port's last fiscal year prior to the pandemic. The use of a slightly higher occupancy recognizes some daily (or monthly) variation from the annual average and is intended to represent a peak condition.
7. Compute the Port North-related future trips.
    a. For the cruise ship market, the number of future embarking and debarking passengers at each cruise terminal as represented by the various Step 6 scenarios are translated into vehicle trips by access mode assuming the ground transportation modal shares and vehicle occupancies remain unchanged from the 2019 data. This demand is distributed by time of day consistent with the observed passenger car entries/exits at the cruise terminal garages. Thus, it is assumed future cruise ship operations will have passenger unloading and loading times similar as existing operations.
    b. For the cargo market, the forecast increase in number of trucks is assumed proportional to the forecast increase in freight tonnage at the Port. The forecast truck demand is assumed to maintain the same hourly distribution observed during the September 2021 traffic counts (specifically, the vehicle classification counts for vehicle types 8-15, which are heavy trucks).
8. Compute the non-Port North-related future trips.
    a. The CFRPM v 7.0 was run for all forecast years, including a select zone assignment of the Port North area (the zone encompasses the entirety of Port North). This facilitated the separation of Port North trips from the non-Port trips to/from the secured area that pass-through the Port on SR 401 to access SR-528. This was done for both auto and truck classes within the CFRPM.
    b. The modeled growth in non-Port trips (auto and truck kept separate) are applied to the base year non-port trips using the Furness methods proscribed in the *FDOT Project Traffic Forecasting Handbook*, and then rebalanced as necessary to preserve volume continuity between adjacent segments.
    c. The resulting forecast non-Port trips are distributed by time of day using the hourly distributions associated with the 2019 control totals for non-Port trips.
9. Combine the Port North future trips (Step 7) with the non-Port North future trips (Step 8) to yield final volumes for all segments by vehicle class by hour for each scenario specified in Step 6.

The forecasting procedures are programmed into a series of Excel workbooks utilizing macros to automate the computations and improve quality control. This facilitates easy changing of basic inputs, such as assumed future passenger capacities of the ships serving Port Canaveral (and therefore future cruise passenger demand) or cruise passenger occupancies of vehicles providing ground transportation to/from the cruise ships.

8.0 DATA COLLECTION AND SOURCES

The data sources within the project study area will include, but are not limited to:

- Transportation System Data – Data sources include FDOT Straight Line Diagrams and Roadway Characteristic (RCI) as well as field observations.
- Existing Traffic Data – Existing Turning Movement Counts (TMC), machine counts, classification counts and information from the automatic traffic recorder (ATR) sites will be collected for roadway systems within the area of influence. Data from the Florida Traffic Online database, existing traffic from other studies in the area. Other sources of available data, including local government counts, will also be reviewed.
- Traffic crash data for the five (5) year period from January 1,2016 to December 31, 2020, was obtained from FDOT and is summarized in Table 1 and will be included in the report.
- Existing plans, programs and project lists will be obtained from FDOT and Brevard County.

Table 1 - Five–Year Crash Summary

Crash Year		2016	2017	2018	2019	2020	Total	Percentage
Crash Type	Fixed-Object	1	0	1	4	3	9	15.00%
	Head-On	0	0	0	2	0	2	3.33%
	Object-in-Road	0	0	1	1	0	2	3.33%
	Off-Road	2	1	4	2	0	9	15.00%
	Rear-End	3	9	4	3	3	22	36.67%
	Rollover	2	0	1	2	3	8	13.33%
	Pedestrian	0	0	0	1	0	1	1.67%
	Sideswipe	0	1	2	2	2	7	11.67%
	Total	**8**	**11**	**13**	**17**	**11**	**60**	**100.00%**
Light Conditions	Daytime	7	7	6	14	6	40	66.67%
	Night	1	4	7	3	5	20	33.33%
	Total	**8**	**11**	**13**	**17**	**11**	**60**	**100.00%**
Surface Conditions	Dry Pavement	6	8	10	13	8	45	75.00%
	Wet Pavement	2	3	3	4	3	15	25.00%
	Total	**8**	**11**	**13**	**17**	**11**	**60**	**100.00%**
Crash Severity	Property Damage Only	4	8	10	11	8	41	68.33%
	Sustained Injury	4	3	3	4	3	17	28.33%
	Fatality	0	0	0	2	0	2	3.33%
	Total	**8**	**11**	**13**	**17**	**11**	**60**	**100.00%**

9.0 DATA COLLECTION METHODOLOGY

Existing year 2021 vehicle classification counts on roadway segments and ramps was collected in September and October 2021 by Traffic Engineering Data Solutions, Inc. for 72-hour at 10 locations

SR 401, SR 528 interchange and along Charles Rowland Dr during a typical weekday(s). Traffic counts are to be performed at the following locations and are shown on **Figure 2**:

3 Day Classification Counts:

1. SR 528 west of SR 401
2. SR 528 to SR 401 NB
3. SR 401 SB to SR 528 EB
4. SR 528 East of SR 401
5. SR 528 WB to SR 401 NB

6.1 Charles Rowland Dr NB (Provisioning Vehicles)

6.2 Charles Rowland Dr. NB (CT 8 & CT10)

7.0 Charles Rowland Dr. SB (Fly-Over Ramp)

8.0 SR 401 north of Charles Rowland Dr

9.0 SR 401 SB to SR 528 WB

Pedestrian and bicycle data will be collected for 8 hours at 1 midblock location and a summary diagram will be prepared.

Crash data will be collected for the segments of the project corridor limits and the study area. This information will be compiled for the most recent five-year period and summarized. A safety analysis will be performed to identify high crash segments/locations.

Figure 2: Traffic Count Locations



Location ID	Description
1	SR 528, West of SR 401
2	SR 528 to SR 401 NB
3	SR 401 SB to SR 528 EB
4	SR 528, East of SR 401
5	SR 528 WB to SR 401 NB
6.1	Charles Rowland Dr NB (Provisioning Vehicles)
6.2	Charles Rowland Dr NB (CT8 & CT10)
7	Charles Rowland Dr SB (Fly-Over Ramp)
8	SR 401, North of Charles Rowland Dr
9	SR 401 SB to SR 528 WB

10.0 OPERATIONAL ANALYSIS PROCEDURES

Capacity analyses will be conducted utilizing the latest HCM for the following AM & PM peak hour periods as shown below.

- Existing Year 2021
- Opening Year 2030 No-Build & Preferred Build Alternative
- Design Year 2050 No-Build & Preferred Build Alternative

HCS will be used for the analysis of the freeway segments and the ramp junctions. In this context it should be noted that HCS methodology will be used for specific modules like freeways and ramp merge/diverge analysis that are acceptable.

Existing Traffic Operational Analysis

An existing (base year 2021) traffic operational analysis will be conducted and report the operational performance measures as agreed upon in the analysis methodology. The count data will be used to obtain the existing design hourly volumes using historical and seasonal adjustments as appropriate. All existing design hourly volumes will be balanced before being used in the analysis. A total of six freeway segments and six ramp junction analyses using the Highway Capacity Software for the locations identified in section 9. Operational effectiveness will be evaluated using agreed upon performance measures of effectiveness (MOEs) level of service (LOS) and volume to capacity (v/c.

No Build Analysis

Operational analysis will be conducted for the No Build Alternative for the analysis years 2030, and 2050 for one alternative to identify deficiencies related to the purpose and need for the project. Operational effectiveness will be evaluated for the No Build Alternative using agreed upon performance measures of effectiveness (MOEs) LOS and volume to capacity (v/c).

Operational Analysis for Build Alternative

Operational analysis will be conducted for one feasible alternative for opening and design years 2030 and 2050. The analysis will also include evaluation of access management in relation to traffic safety and operational efficiency within the Study Area. Operational effectiveness of Build Alternatives will be evaluated using the agreed upon performance MOEs LOS and volume to capacity (v/c).

A detailed operational analysis will be performed for all analysis years for No-Build and Build scenarios. The operational analysis will consider all the relevant FDOT design standards and determination of the (LOS) by using the latest version of Highway Capacity Software (HCS). The HCS analysis will be performed for the mainline, ramps for existing year (2021), and future years 2030, and 2050.

The following components within the area of influence will be included in the operational analysis: SR 528 mainline through movements, SR 401 mainline and Ramps from/to SR 401 and SR 528.

The FDOT LOS criteria used in this analysis will be in accordance with Procedure No. 525-000-006, Level of Service Standards and Highway Capacity Analysis for the State Highway System (Urbanized areas) as summarized below:

- SR 401: LOS D
- SR 528 Mainline and Ramps: LOS D
- Charles M Rowland Dr.: LOS D

The operational analysis will compare defined MOEs for the analysis of the No-Build alternative with the Build alternative to quantify potential betterment or non-significant degradation of the Build alternative improvements.

Measures of Effectiveness (MOEs) LOS and volume to capacity v/c used to evaluate and compare the Build and No-Build alternatives will be as follows:

- Ramps Merge/Diverge – Density
- Freeway Segments – Density, Travel Speed.

11.0 SAFETY ANALYSIS PROCEDURES

Crash data has been obtained for the most recent five (5) years of available data (see Table 1) from the DEPARTMENT's crash database and other local sources for this Project. The crash data will include the number and type of crashes, crash locations, number of fatalities and injuries, and estimates of property damage and economic loss.

Safety Analysis: Safety analysis will be performed in accordance with Part 2, Chapter 2 of the PD&E Manual. Based on the information obtained from the crash data, project safety needs will be identified that is associated with the existing and future conditions. The Highway Safety Manual (HSM) procedures will be used to estimate the safety performance of the Project alternatives.

Documentation of Safety Analysis: The results of the safety analysis will be documented in the PTAR.

12.0 TRAFFIC ANALYSIS REPORT

The Project Traffic Analysis Report will be prepared as described in Part 2, Chapters 2 and 3 of the PD&E Manual to document development of design traffic volumes and results of the traffic analysis for No Build and Build Alternatives. The results will be shown on diagrams for each alternative and discussed in the report. The Project Traffic Analysis Report will also summarize the comparison of the operational and safety performance of all alternatives evaluated in detail and how they perform against each other. Only one alternative analysis will be documented in the report.

APPENDIX B

Approved Forecast Memorandum

To: Mary McGehee, AICP, FDOT Project Manager

From: Greg Gaides and Sathya Thyagaraj

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Date: January 28, 2022

Subject: SR 401 Bridge Replacement PD&E Study (FPID 444787-1-22-01): Revised Traffic Forecasts

Introduction

Forecast design hour traffic volumes are developed for two planning horizons—2030 opening year and 2050 design year. An initial forecast was issued July 31, 2021, absent any traffic count data available within the study area. Its issuance was driven by accelerated project timeline requirements juxtaposed against the evolving recovery of the cruise ship industry from the COVID-19 pandemic and its related impact on timing for collecting traffic counts.

This document constitutes the revised forecast, grounded in traffic count data collected September 8-10 and 22-24, 2021. The initial forecast is included as **Attachment A** in this report for comparison purposes. It is recommended the revised forecast be accepted as it represents an overall sounder approach reflective of both actual traffic volumes and observed Port North activity in the study area. It is also noted the revised forecasts do not include weekend conditions whereas the initial forecasts do. It was agreed weekend forecasts would not be updated as part of the revised methodology, owing to resource and schedule constraints. If accepted, the forecast volumes will be used to advance the traffic operations analysis.

Study Area

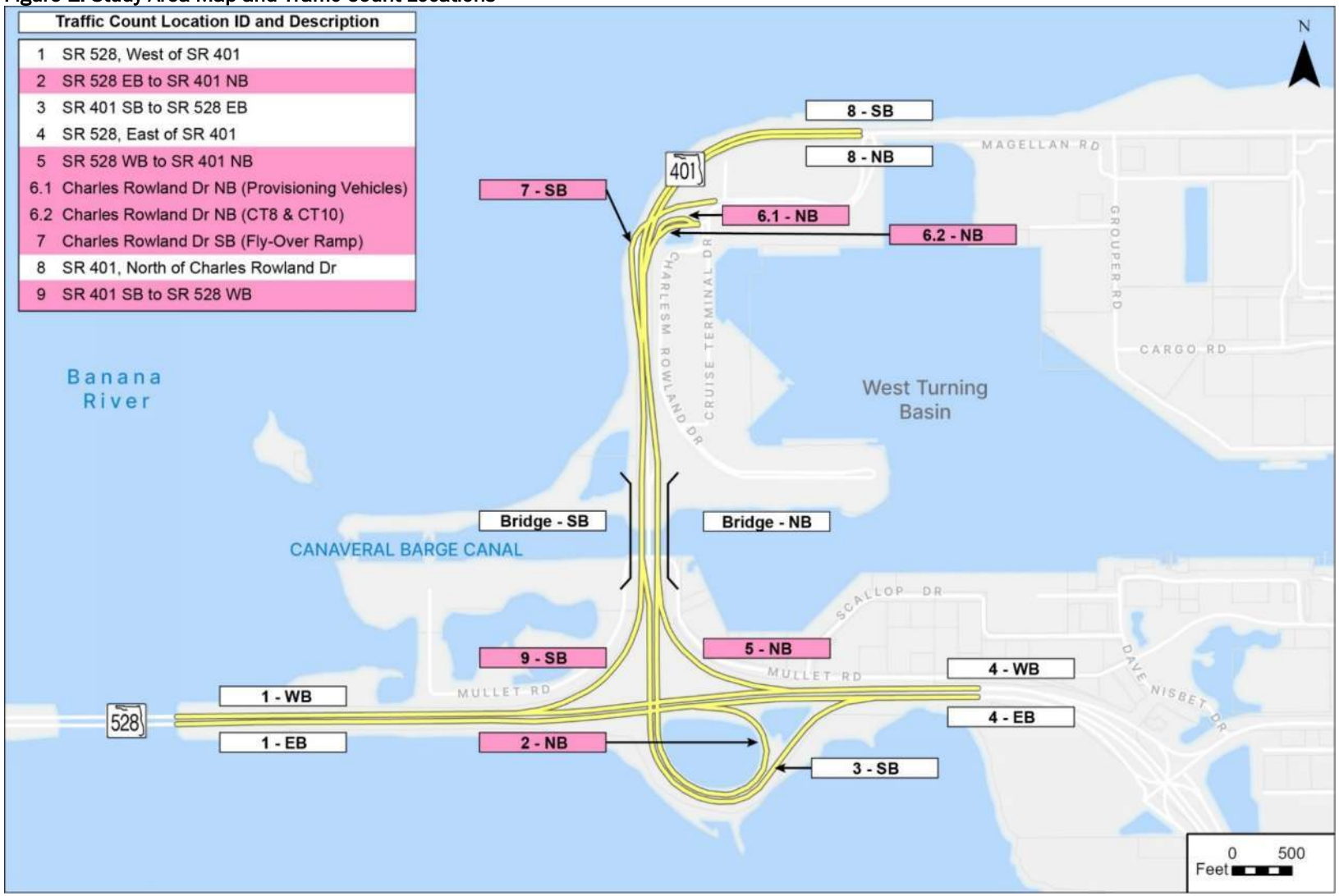
Figure 1 illustrates the study area over which traffic forecasts are prepared. The study area encompasses SR 401 between Charles Rowland Drive and SR 528, and SR 528 mainline between Banana River Drive and George King Boulevard. This includes all ramp movements at SR 401/SR 528.

Existing Traffic Volume Information

Figure 1 also illustrates locations where weekday (72-hour) traffic counts, both volume and classification, were collected in September 2021. The count data were collected in two groups representing different days (discussed under the Data Collection and Analysis section). Group 1 was collected September 8-10, 2021 shown in pink on Figure 1, while Group 2 was collected September 22-24, 2021, and is shown in white on Figure 1. **Attachment B** includes the raw traffic count information. Recent (2019 and 2020) AADT and truck volumes for the interchange area are shown in **Figure 2**.

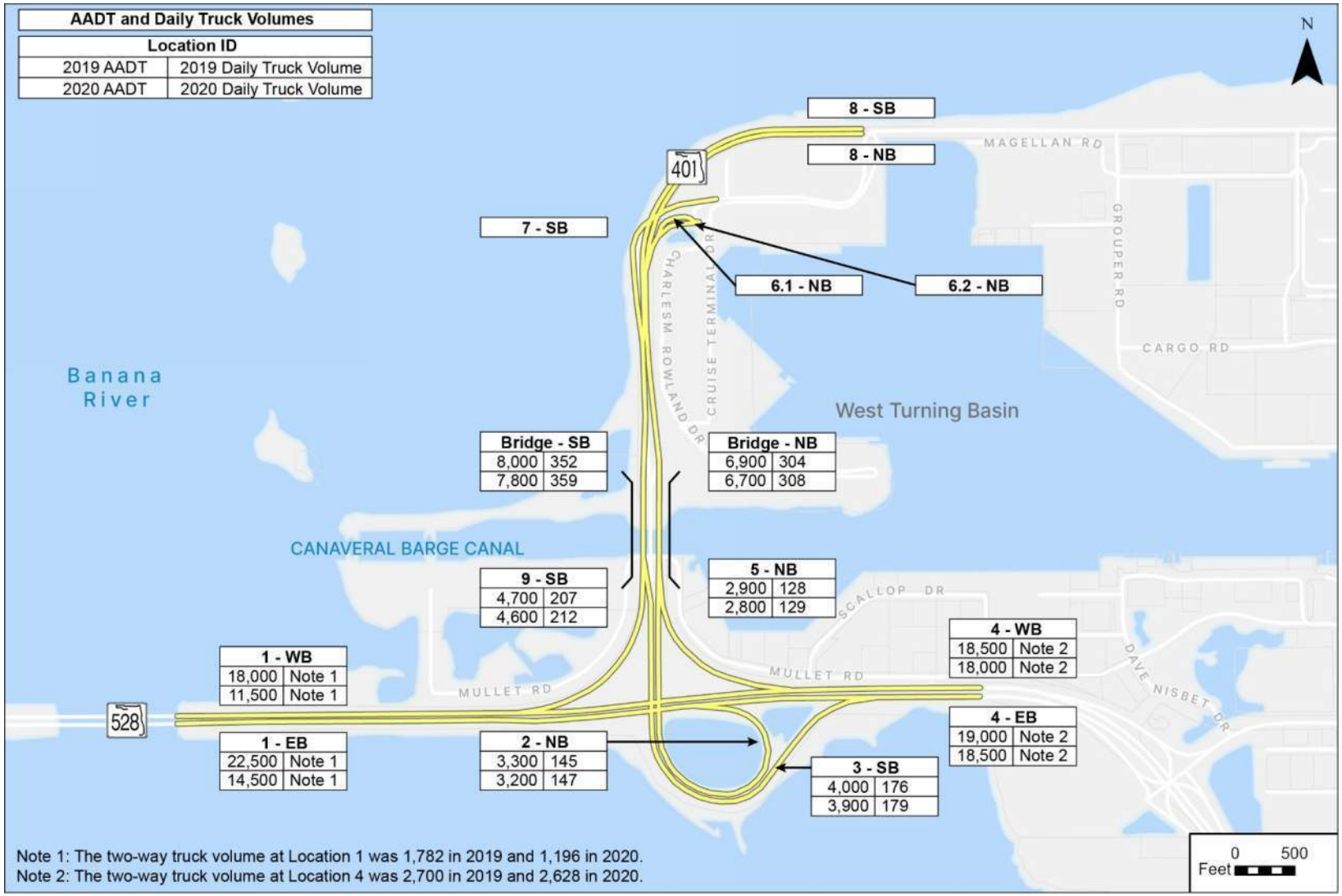
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Figure 1. Study Area Map and Traffic Count Locations



Note: Pink boxes indicate data collected September 8-10, 2021; white boxes indicate data collected September 22-24, 2021.

Figure 2. Available Recent (2019 and 2020) AADT in Study Area



Source: Florida Department of Transportation 2019 and 2020 Annual Average Daily Traffic Reports (Florida Traffic Online)

Forecast Volume Specifications

Study area volumes are forecast for the project opening year 2030, and design year 2050. Separate volume forecasts are prepared for port-related and non-port related activities and then added together, as will be discussed in the "Forecasting Approach" section below. The primary sources of information for the port-related trips are traffic counts, Canaveral Port Authority (CPA) provided information on past and present cruise ship and cargo activity, and information contained in the Canaveral Port Authority's *30 Year Strategic Vision Plan*. The Central Florida Regional Planning Model (CFRPM) v. 7.0 is a primary source for forecast weekday non-port-related volumes. It has a 2015 base year and planning horizons in five-year increments out to 2045. The 2030 project opening year forecast is rooted in the CFRPM 2030 forecast. The 2050 design year forecast volumes are prepared by trendline analysis of the CFRPM post-processed forecast volumes between its 2015 base year and 2045. The *2019 Project Traffic Forecasting Handbook* was followed, where applicable.

Volume forecasts are prepared for the segments in which traffic counts are collected. The ten locations are shown on **Figure 1** (numbered segments 1 through 9). In addition, forecasts are prepared for roadway segments located in-between the numbered segments. These include the critical SR 401 bascule bridge segment (each direction) and SR 528 between the SR 401 on- and off-ramps (each direction).

Forecasting Approach

In forecasting traffic on study area roadway segments—particularly when directly serving a special generator—it is vital to understand the underlying markets they serve. **Figures 3** and **4** illustrate the travel markets represented by traffic volumes on SR 401 and SR 528, respectively. Travel across the SR 401 bascule bridges constitute trips either having a trip end[1] in the North Port area—which includes cruise ship and cargo-related operations—or trips passing through the North Port area with a trip end (in the restricted access area to the east and north. The mix of traffic on SR 528 in the vicinity of the SR 401 interchange consists of trips either: crossing the SR 401 bascule bridges, entering/leaving the South Port area via George King Boulevard, or passing through the study area and staying on that facility.

[1] A trip end represents a trip origin or destination.

Figure 3. SR 401 Travel Markets

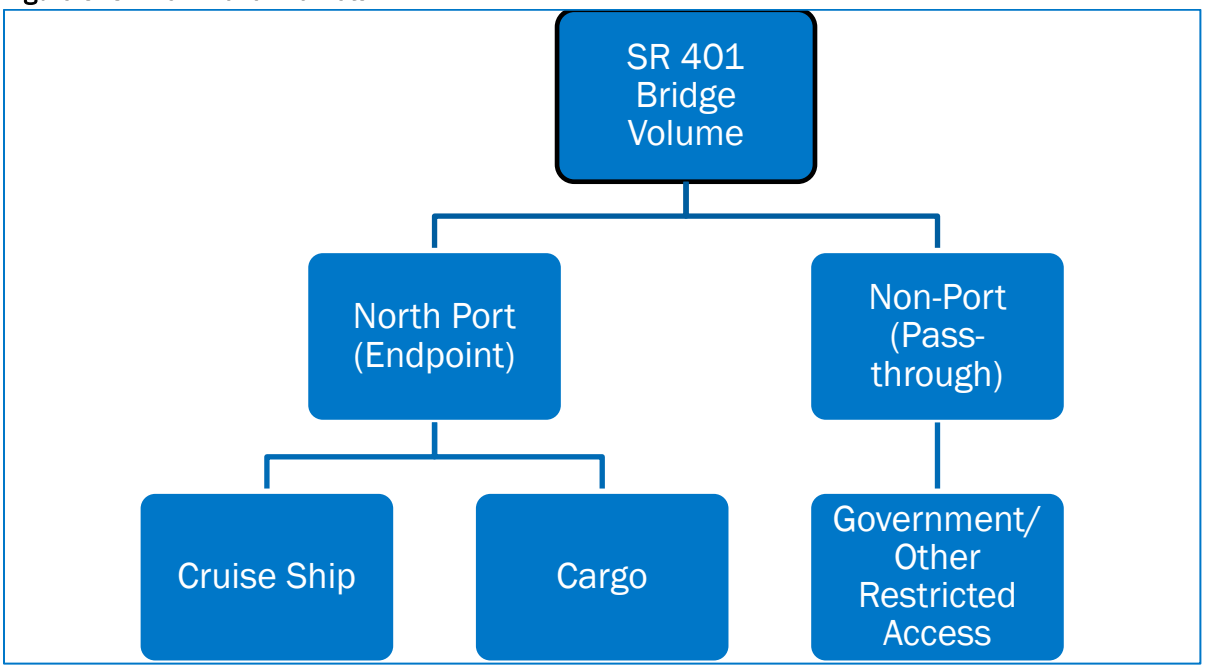
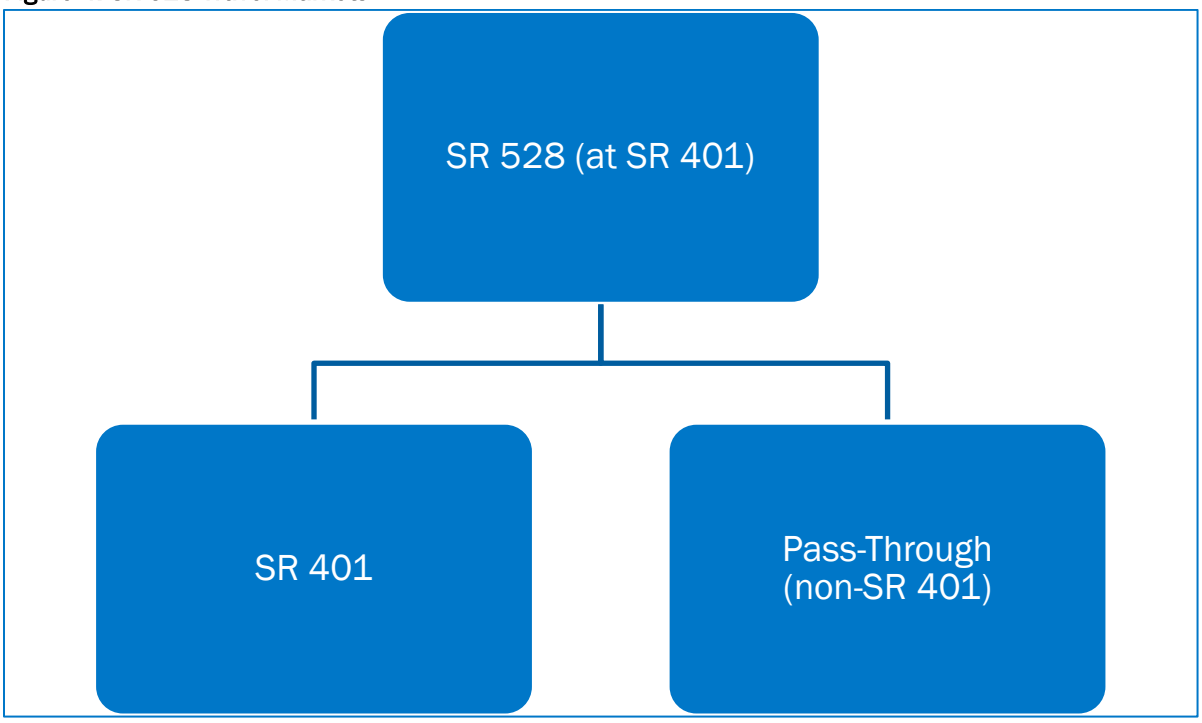


Figure 4. SR 528 Travel Markets



The proposed forecasting approach attempts to model and represent the individual travel markets by leveraging available data and information describing each market, both "now" and in the future. The appropriate market demands are then combined to yield a composite demand on the study area roadway segments for the desired horizon years.

Recognizing the resulting traffic forecasts are partly dependent on other forecasts such as cruise ship passenger activity and cargo tonnage, it was decided to automate the SR 401 traffic forecasting procedure as much as possible and thereby facilitating relatively quick testing of different component demand scenarios. For example, the size of the cruise ship passenger market in the 2050 design year will be dependent in part upon the size of the cruise ships (in terms of the maximum number of passengers they may transport) and the number of berths in active use representative of the design day. Proscribing an operations plan at the Port governing the cruise ship industry 30 years in the future is a tall order to say the least. Having a forecasting approach nimble enough to quickly test a multitude of operating scenarios allows the analyst to efficiently grasp how a range of cruise ship operating scenarios may impact traffic volumes on the SR 401 bridges. The automation was provided through use of Visual Basic scripting within Microsoft Excel workbooks.

The forecasting process is summarized in the following steps:

1. Data collection
    a. Conduct traffic counts (weekdays, September 2021).
    b. Gather and organize cruise ship-related activity by terminal coinciding with days traffic counts are collected, plus a representative day in March 2019 when cruise ship activity is robust.
        i. Passengers embarking
        ii. Passengers debarking
        iii. Parking garage counts (entering and leaving by time of day)
        iv. Ground transportation demand servicing the cruise ships
    c. Gather and organize cargo-related activity (number of trucks) by day
2. Develop 2021 weekday traffic volume control totals from traffic count data collected September 2021 (Step 1a).
    a. All roadway segments in study area
    b. By hour
    c. By vehicle classification
3. Leverage the 2019 cruise ship data (Step 1b) to estimate average vehicle occupancies among passenger cars utilizing the terminal garages plus the mix of vehicles comprising ground transportation. The 2019 data is thought to be more representative of ground transportation characteristics in the future, as the pandemic's impact on cruise passenger willingness to utilize public transport or the supply of such transport during the September 2021 data collection timeframe might have skewed the data.
4. Apply the average vehicle occupancy information (Step 3) along with the traffic counts (Step 1a) and known cruise ship activity (Step 1b) and cargo activity (Step 1c) on the day representing the control total to remove the Port North-related traffic volumes from the control totals (Step 2). The result is an assumed 2021 control total without cruise ship activity or cargo.
5. Convert the Step 4 result to a 2019 control total, without cruise ship activity or cargo, by adjusting the SR 528 mainline volumes based on published 2019 AADT information on either side of the SR 401 interchange.

6. Specify a set of future year cruise ship scenarios whereby the user indicates if the berth is active for the assumed design day and if so, the passenger carrying capacity of the ship. It is assumed each ship will operate at 97% of capacity, but this parameter can be adjusted. As a benchmark, ships homeporting at Port Canaveral averaged around 95% occupancy for the Port's last fiscal year prior to the pandemic[2]. The use of a slightly higher occupancy recognizes some daily (or monthly) variation from the annual average and is intended to represent a peak condition.

7. Compute the Port North-related future trips.

    a. For the cruise ship market, the number of future embarking and debarking passengers at each cruise terminal as represented by the various Step 6 scenarios are translated into vehicle trips by access mode assuming the ground transportation modal shares and vehicle occupancies remain unchanged from the 2019 data. This demand is distributed by time of day consistent with the observed passenger car entries/exits at the cruise terminal garages. Thus, it is assumed future cruise ship operations will have passenger unloading and loading times similar as existing operations.

    b. For the cargo market, the forecast increase in number of trucks is assumed proportional to the forecast increase in freight tonnage at the Port. The forecast truck demand is assumed to maintain the same hourly distribution observed during the September 2021 traffic counts (specifically, the vehicle classification counts for vehicle types 8-15, which are heavy trucks).

8. Compute the non-Port North-related future trips.

    a. The CFRPM v 7.0 was run for all forecast years, including a select zone assignment of the Port North area (the zone encompasses the entirety of Port North). This facilitated the separation of Port North trips from the non-Port trips to/from the secured area that pass-through the Port on SR 401 to access SR-528. This was done for both auto and truck classes within the CFRPM.

    b. The modeled growth in non-Port trips (auto and truck kept separate) are applied to the base year non-port trips using the Furness methods proscribed in the *FDOT Project Traffic Forecasting Handbook*, and then rebalanced as necessary to preserve volume continuity between adjacent segments.

    c. The resulting forecast non-Port trips are distributed by time of day using the hourly distributions associated with the 2019 control totals for non-Port trips.

9. Combine the Port North future trips (Step 7) with the non-Port North future trips (Step 8) to yield final volumes for all segments by vehicle class by hour for each scenario specified in Step 6.

[2] Source: Port Canaveral 2020 State of the Port presentation.

Data Collection and Analysis

The original intent of the traffic volume data collection program established for this study was to conduct traffic counts in the study area on September 8-10, 2021 (Wednesday through Friday). This three-day period included a day (Wednesday) when no cruise ship activity was scheduled at the Port and two days (Thursday and Friday) with passenger debarking and embarking activity. At the conclusion of the data collection period, it was discovered counters failed at four of the locations. These four locations were counted again two weeks later, on September 22-24. This three-day period was chosen because it represents the same days of week occurring shortly after the original data collection period and for which forecast cruise ship activity is similar. **Table 1** shows the cruise ship activity for each day of the two data collection periods. Note on Friday, September 24 there were two vessels being served, compared to a single vessel on the corresponding Friday from Group 1. The second ship docks at the Port South and therefore does not directly impact SR 401 volumes.

Table 1. Cruise Ship Activity on Days Traffic Count Data were Collected

Collection Period	Day	Date	Vessel	Cruise Terminal (CT)	Embarking Passengers	Debarking Passengers	Total Passengers
Group 1	Wed	9/8/2021	-	-	-	-	-
	Thu	9/9/2021	Carnival Magic	6	2,700	2,600	5,300
	Fri	9/10/2021	Disney Dream	8	1,300	1,300	2,600
Group 2	Wed	9/22/2021	Disney Fantasy	8	1,152	0	1,152
	Thu	9/23/2021	Carnival Magic	6	2,552	2,865	5,417
	Fri	9/24/2021	Disney Dream	8	1,167	1,203	2,370
	Fri	9/24/2021	Mariner of the Seas	1	1,022	1,643	2,665

Source: Canaveral Port Authority

Had the initial data collection program produced valid counts across all locations as originally designed, balancing the counted volumes on the road segments within the study area would have been straightforward. Given the two partial sets of three-day counts available for which cruise passenger demand (as well as normal background traffic) varies among the days, it became difficult to achieve balance for which there is a high degree of confidence.

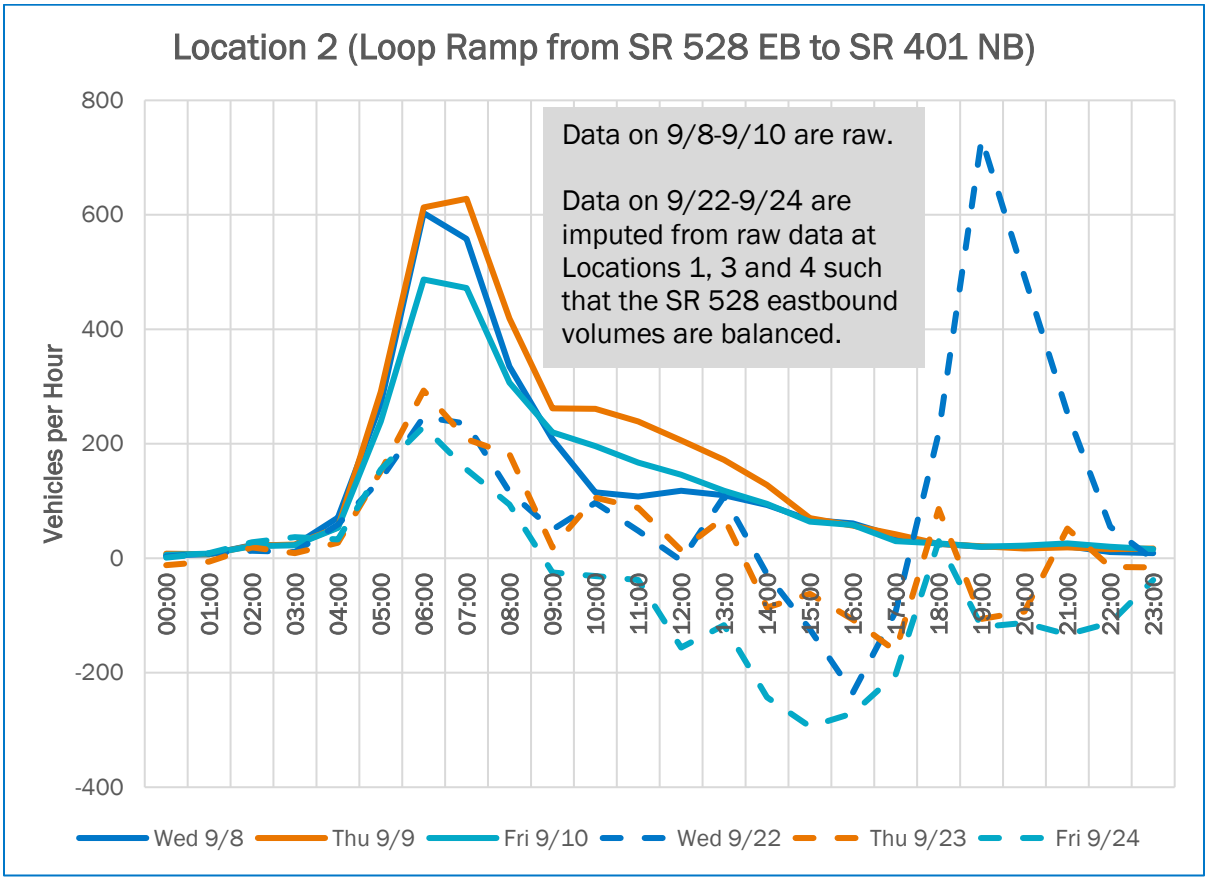
Compounding the issue was the quality of the count data on eastbound SR 528 through the interchange with SR 401. Locations 1 and 4 provide SR 528 traffic flows approaching and leaving the interchange, and Location 3 provides the on-ramp volumes from SR 401—all collected on the same days (Group 2). Location 2, which is the loop off-ramp to SR 401, was collected in the Group 1 dataset. Location 2 volumes for Group

2 may be directly imputed by the following computation utilizing the Group 2 dataset:

Location 2 = Location 1 + Location 3 – Location 4

The imputed Group 2 hourly counts at Location 2 are shown in **Figure 5**, along with the actual (Group 1) counts for Location 2 for comparison. Clearly, the imputed negative values indicate a problem with any of the three Group 2 count locations on or feeding into eastbound SR 528. Additionally, the spike exhibited on Wednesday, September 22 relative to the following two days suggests something atypical occurred. Attempting to correct for these concerns could introduce significant uncertainty into the overall volumes used in the analysis.

Figure 5. Count Location 2 Data: Group 1 Actual vs. Group 2 Imputed



Development of Control Totals

Because the study area traffic count data were collected over two separate three-day periods, it became necessary to balance the volumes among adjacent segments within the study area. The two data collection groupings were initially reviewed to ascertain whether the counts from one grouping's locations could be used to develop counts at the remaining locations. It was concluded this was not possible.

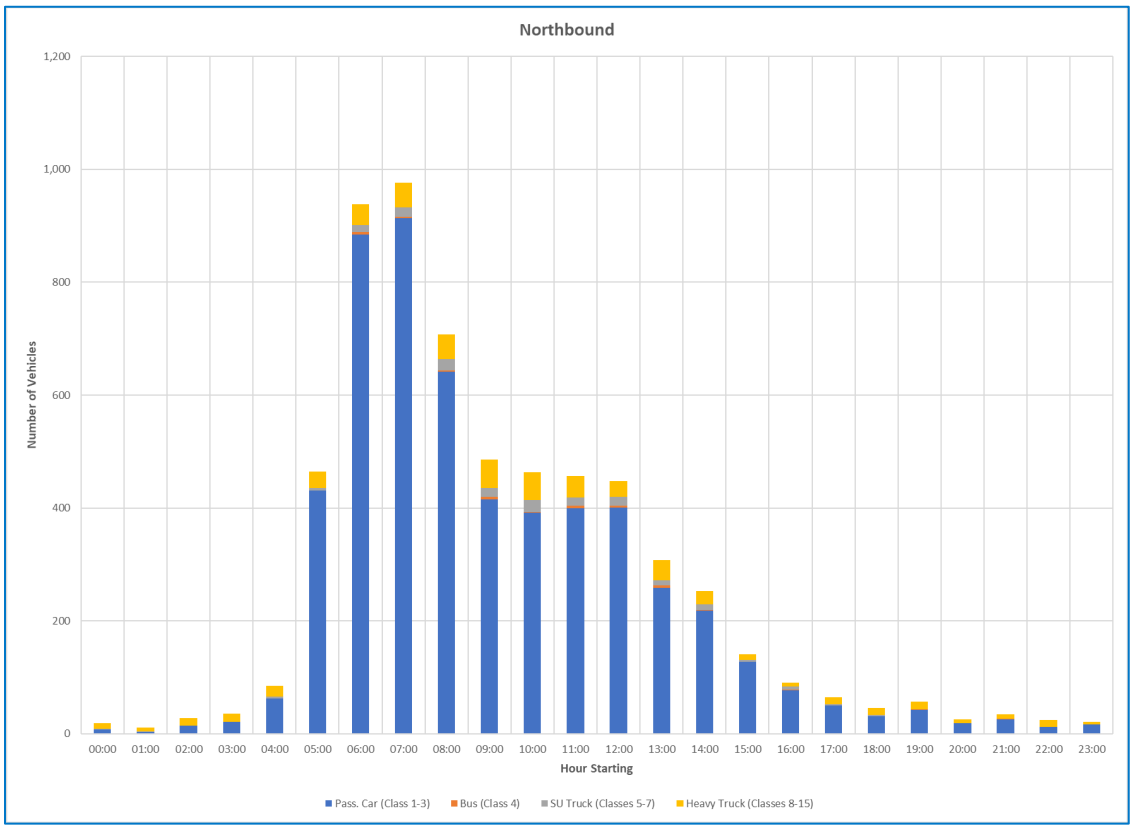
Accordingly, it was then decided to establish traffic volume control totals on the bascule bridges and adjust all volumes leading toward and exiting from these bridges (in each direction) such that they match the established control totals. The bascule bridges were chosen principally for three reasons: (1) they represent the focal point for the study, (2) accurate volumes across the bridges strengthens the vessel delay analysis, and (3) the Group 1 counts exhibited higher overall data quality than Group 2 and the Group 1 counts contribute more directly to the volume across the bridges. Control totals were established by hour of day and by FHWA vehicle class (aggregating some vehicle classes where data were either "thin", or the level of disaggregation was not otherwise beneficial to the study). **Table 2** presents the hourly directional control totals by vehicle type, while **Figure 6** illustrates the **Table 2** flows. **Table 3** shows how the different vehicle classes crossing the bascule bridges are distributed throughout the day.

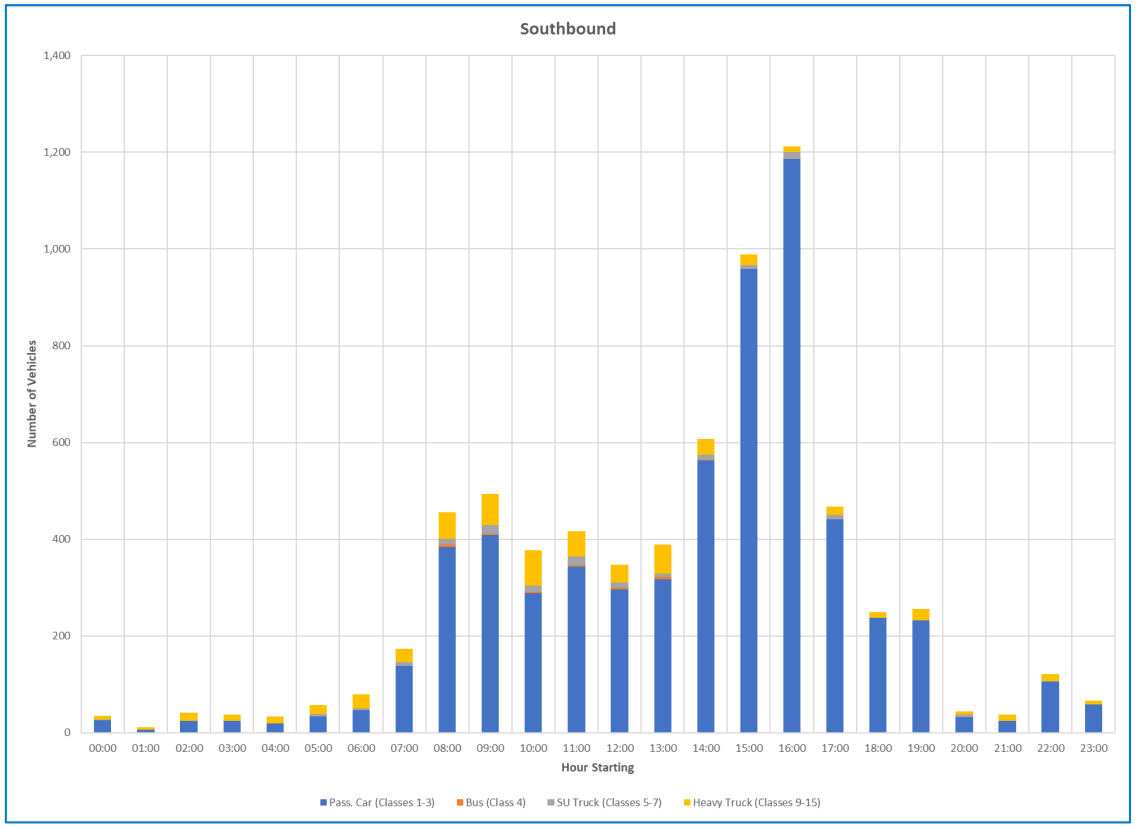
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Table 2. Hourly Vehicle Control Totals Across Bascule Bridges, by Vehicle Class, Thursday, September 9, 2021

Starting Hour	Northbound Vehicle Flow Across Bascule Bridge by Vehicle Class					Southbound Vehicle Flow Across Bascule Bridge by Vehicle Class				
	Classes 1-3 Pass. Car	Class 4 Bus	Classes 5-7 SU Truck	Classes 8-15 Hvy Truck	All Classes Total	Classes 1-3 Pass. Car	Class 4 Bus	Classes 5-7 SU Truck	Classes 8-15 Hvy Truck	All Classes Total
00:00	8	0	1	10	19	26	0	1	8	35
01:00	3	0	1	7	11	6	0	0	6	12
02:00	15	0	0	13	28	25	0	0	17	42
03:00	21	0	0	15	36	25	0	0	13	38
04:00	63	0	3	19	85	19	0	0	15	34
05:00	431	0	5	29	465	34	0	5	18	57
06:00	885	4	12	37	938	47	0	4	28	79
07:00	914	2	17	43	976	139	0	7	27	173
08:00	641	3	20	44	708	384	5	12	55	456
09:00	415	5	15	51	486	409	3	18	64	494
10:00	392	1	21	50	464	289	2	13	74	378
11:00	400	4	15	38	457	343	3	19	52	417
12:00	401	3	16	28	448	297	3	11	37	348
13:00	259	4	9	36	308	317	5	7	60	389
14:00	218	1	10	24	253	563	1	11	33	608
15:00	127	0	4	10	141	959	0	8	22	989
16:00	77	1	6	7	91	1,186	0	14	12	1,212
17:00	50	0	2	13	65	442	0	9	16	467
18:00	31	0	2	13	46	237	1	0	11	249
19:00	42	1	0	14	57	233	0	0	23	256
20:00	19	0	0	7	26	33	0	5	6	44
21:00	26	1	0	8	35	25	0	0	13	38
22:00	12	0	0	12	24	106	0	1	15	122
23:00	17	0	0	4	21	59	0	0	7	66
DAY TOTAL	5,467	30	159	532	6,188	6,203	23	145	632	7,003
DAY SHARE	88%	0%	3%	9%	100%	89%	0%	2%	9%	100%

Figure 6. Vehicle Control Totals Across Bascule Bridges, by Vehicle Class, September 9, 2021





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Table 3. Hourly Distribution Across Bascule Bridges, by Vehicle Class, Thursday, September 9, 2021

Starting Hour	Northbound Vehicle Flow Across Bascule Bridge by Vehicle Class					Southbound Vehicle Flow Across Bascule Bridge by Vehicle Class				
	Classes 1-3 Pass. Car	Class 4 Bus	Classes 5-7 SU Truck	Classes 8-15 Hvy Truck	All Classes Total	Classes 1-3 Pass. Car	Class 4 Bus	Classes 5-7 SU Truck	Classes 8-15 Hvy Truck	All Classes Total
00:00	0%	0%	1%	2%	0%	0%	0%	1%	1%	0%
01:00	0%	0%	1%	1%	0%	0%	0%	0%	1%	0%
02:00	0%	0%	0%	2%	0%	0%	0%	0%	3%	1%
03:00	0%	0%	0%	3%	1%	0%	0%	0%	2%	1%
04:00	1%	0%	2%	4%	1%	0%	0%	0%	2%	0%
05:00	8%	0%	3%	5%	8%	1%	0%	3%	3%	1%
06:00	16%	13%	8%	7%	15%	1%	0%	3%	4%	1%
07:00	17%	7%	11%	8%	16%	2%	0%	5%	4%	2%
08:00	12%	10%	13%	8%	11%	6%	22%	8%	9%	7%
09:00	8%	17%	9%	10%	8%	7%	13%	12%	10%	7%
10:00	7%	3%	13%	9%	7%	5%	9%	9%	12%	5%
11:00	7%	13%	9%	7%	7%	6%	13%	13%	8%	6%
12:00	7%	10%	10%	5%	7%	5%	13%	8%	6%	5%
13:00	5%	13%	6%	7%	5%	5%	22%	5%	9%	6%
14:00	4%	3%	6%	5%	4%	9%	4%	8%	5%	9%
15:00	2%	0%	3%	2%	2%	15%	0%	6%	3%	14%
16:00	1%	3%	4%	1%	1%	19%	0%	10%	2%	17%
17:00	1%	0%	1%	2%	1%	7%	0%	6%	3%	7%
18:00	1%	0%	1%	2%	1%	4%	4%	0%	2%	4%
19:00	1%	3%	0%	3%	1%	4%	0%	0%	4%	4%
20:00	0%	0%	0%	1%	0%	1%	0%	3%	1%	1%
21:00	0%	3%	0%	2%	1%	0%	0%	0%	2%	1%
22:00	0%	0%	0%	2%	0%	2%	0%	1%	2%	2%
23:00	0%	0%	0%	1%	0%	1%	0%	0%	1%	1%
DAY TOTAL	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

A review of the above tables and figure reveal the following:

- Passenger cars account for about 88% of traffic flowing across the bridges, with heavy trucks accounting for about 9%.
- Traffic volumes peak between 6:00-8:00 AM northbound and 3:00-5:00 PM southbound. These peaks are driven largely by passenger car demand. Truck volumes are a little more uniformly distributed within the 6:00 AM -3:00 PM timeframe, with the highest demands occurring between 8:00-11:00 AM in each direction.
- Single unit trucks (which presumably include provisioning vehicles servicing the cruise ships) and buses account for only 3% of the traffic flowing across the bridges. Their peaks coincide with cruise ship passenger activity.

It is important to keep in mind the above data and findings reflect a September 9, 2021 control date representing a weekday in which cruise ship activity is limited to a single terminal (CT 6) at the Port consisting of 2,600 passengers debarking and 2,700 passengers embarking the Carnival Magic—representing cruise ship activity well below pre-pandemic conditions. Accordingly, the cruise ship portion of the total demand across the bascule bridges is significantly smaller than is typical in pre-pandemic times.

The following generally describes the procedures used to develop the bascule bridge control totals from the count data. Note the calculations are performed by hour and aggregated vehicle class.

1. Leverage the Group 1 dataset to produce, where possible, count volumes at locations counted in Group 2. The only place this was possible was Location 8 northbound. A Group 1-equivalent count could be calculated at this location using the following equation utilizing Group 1 count locations exclusively:

   $$Location\ 8_{northbound} = Location\ 2 + Location\ 5 - Location\ 6.1 - Location\ 6.2$$

2. A Group 1-equivalent southbound count at Location 8 was computed by scaling the count in Step 1 by the ratio of actual southbound-to-northbound counts at Location 8 from Group 2, as follows:

   $$Location\ 8_{southbound} = Location\ 8_{northbound} * (Location\ 8_{southbound\text{-}Group2} / Location\ 8_{southbound\text{-}Group2})$$

3. At this point, the northbound control total volumes across the bascule bridge can be computed directly (sum of Locations 2 and 5). The southbound control total volumes across the bascule bridge may be established by either of the following equations:

   $$Bridge_{southbound} = Location\ 7 + Location\ 8_{imputed\ in\ Step\ 2},\ \text{or}$$

   $$Bridge_{southbound} = Location\ 9 + Location\ 3_{imputed}$$

The former equation was chosen as the latter must rely on Location 3 which could be contributing to the data quality issues on eastbound SR 528 discussed earlier.

At this point, the only count stations not reflected in the control totals are Locations 1, 3 and 4, which all were a part of the Group 2 dataset and directly speak to traffic on SR 528. Location 3 counts representing the control day were calculated by subtracting the Location 9 count data for the control day from the southbound bridge control total (Step 3). Locations 1 and 4 reflect a combination of traffic to/from SR 401 and through traffic on SR 528. While the SR 401 ramps component control totals (Locations 2, 3, 5 and 9) can be explicitly accounted for, the magnitude of SR 528 through traffic cannot, particularly given the uncertainty with the SR 528 counts. Hence, a second control total is needed on SR 528. It was decided to use the data at Location 4 for the control total on SR 528. Volumes at Location 1 were then adjusted based on the Location 4 control total and the volumes at the SR 401 ramp locations. **Table 4** presents the final set of control totaled counts at all the locations in the study area. **Attachment C** contains the **Table 4** information disaggregated by vehicle class.

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Table 4. Hourly Vehicle Control Totals at All Locations, Thursday, September 9, 2021

Starting Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Two-Way Volume		
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bascule	SR 528	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Bridges	West of SR 401	East of SR 401
00:00	97	159	8	11	19	0	0	19	34	1	35	24	11	113	159	54	256	272
01:00	77	59	7	4	11	0	0	11	11	1	12	0	12	70	67	23	144	129
02:00	56	58	22	6	28	0	0	28	42	0	42	7	35	41	87	70	143	99
03:00	49	75	24	12	36	0	0	36	36	2	38	18	20	43	83	74	132	118
04:00	134	111	54	31	85	9	2	74	33	1	34	5	29	85	109	119	243	196
05:00	538	378	291	174	465	34	38	393	52	5	57	9	48	256	252	522	790	634
06:00	1,192	862	613	325	938	51	29	858	72	7	79	27	52	606	589	1,017	1,781	1,468
07:00	1,630	1,066	628	348	976	31	34	911	116	57	173	42	131	1,044	849	1,149	2,479	2,110
08:00	1,380	1,089	419	289	708	33	78	597	155	301	456	126	330	1,087	1,130	1,164	2,510	2,176
09:00	1,105	929	262	224	486	31	67	388	152	342	494	197	297	1,040	1,002	980	2,107	1,969
10:00	1,104	985	261	203	464	24	104	336	225	153	378	158	220	1,001	1,002	842	2,106	1,986
11:00	1,165	1,047	239	218	457	34	88	335	278	139	417	211	206	1,137	1,035	874	2,200	2,184
12:00	1,137	1,021	206	242	448	22	79	347	232	116	348	192	156	1,123	935	796	2,072	2,144
13:00	949	934	172	136	308	15	65	228	307	82	389	174	215	951	1,013	697	1,962	1,885
14:00	880	995	128	125	253	13	22	218	467	141	608	306	302	1,058	1,172	861	2,052	2,053
15:00	805	1,161	70	71	141	14	18	109	848	141	989	454	535	1,189	1,625	1,130	2,430	2,350
16:00	662	1,293	57	34	91	0	8	83	1,127	85	1,212	685	527	1,290	1,786	1,303	2,448	2,583
17:00	1,036	1,095	42	23	65	1	3	61	455	12	467	214	253	1,208	1,325	532	2,361	2,303
18:00	754	735	25	21	46	0	1	45	241	8	249	98	151	827	865	295	1,619	1,562
19:00	469	671	21	36	57	2	2	53	253	3	256	196	60	644	695	313	1,164	1,315
20:00	437	501	17	9	26	0	0	26	43	1	44	16	28	436	520	70	957	937
21:00	269	373	19	16	35	0	0	35	37	1	38	16	22	266	379	73	648	639
22:00	201	243	16	8	24	0	0	24	121	1	122	77	45	262	280	146	481	505
23:00	142	151	17	4	21	0	0	21	65	1	66	41	25	166	172	87	314	317
DAY TOTAL	16,268	15,991	3,618	2,570	6,188	314	638	5,236	5,402	1,601	7,003	3,293	3,710	15,943	17,131	13,191	33,399	31,934

Development of Cruise Passenger-Related Vehicle Shares and Occupancies

To measure the impact of the cruise ship market—now and in the future—on SR 401 traffic volumes, it is necessary to understand the associated ground transportation characteristics such as mode of access and egress shares (private vehicle, bus, other shuttle service, etc.) and their average passenger occupancies, as well as the temporal distribution of these modes. The objective is to define these characteristics through observed data, recognizing the current conditions represent a ramp-up from the pandemic and potentially may be different than the pre-pandemic state. To this end, data were requested from the Canaveral Port Authority (CPA) for both pre-pandemic and current conditions. A spreadsheet-based model is developed that when calibrated, provides ground transportation occupancies that reasonably fit the supplied cruise passenger demand data. The occupancy information is assumed to be the same for the 2030 and 2050 planning horizons, although this may easily be changed if desired.

The CPA provided key cruise ship passenger demand data for a busy day in March 2019. This month was requested because it typically represents a peak month for cruise demand during pre-pandemic conditions. All four Port North berths were active on March 16, 2019. The desire for supplying data for a day in which there is significant cruise ship activity is driven by the realization the design day condition could mirror a busy day when there are a significant number of cruise passengers entering and leaving the North Port. That the day of week for which data were supplied was a Saturday is less critical. **Tables 5 and 6** summarize the passenger activity for this peak day.

Table 5. Cruise Ship Activity on Peak Day in March 2019

Day	Date	Vessel	Cruise Terminal (CT)	Embarking Passengers	Debarking Passengers	Total Passengers
Sat	3/16/2019	Carnival Sunshine	5	3,861	3,634	7,495
Sat	3/16/2019	Carnival Breeze	6	4,752	4,460	9,212
Sat	3/16/2019	Disney Fantasy	8	3,899	3,802	7,701
Sat	3/16/2019	Norwegian Epic	10	4,764	4,721	9,485
Sat	3/16/2021	Total	-	17,276	16,617	33,893

Source: Canaveral Port Authority

Table 6. Cruise Ship Terminal Parking Counts on Peak Day in March 2019

Day	Date	Vessel	Duration	Cruise Terminal (CT)	Vehicles In	Vehicles Out
Sat	3/16/2019	Carnival Sunshine	8 days	5	424	118
Sat	3/16/2019	Carnival Breeze	7 days	6	636	489
Sat	3/16/2019	Disney Fantasy	7 days	8	311	Not Available
Sat	3/16/2019	Norwegian Epic	7 days	10	1,193	1,096

Source: Canaveral Port Authority

In addition, the CPA indicated there were 1,691 ground transportation vehicles servicing the four ships that day. Of the 1,691-vehicle total, 252 were buses. A breakdown of the number of ground transportation vehicles serving each cruise terminal is not available.

The CPA also provided similar data coinciding to the initial September 2021 traffic count data collection dates. Passenger embarking and debarking counts for the traffic count collection days were previously shown in **Table 1**. **Table 7** summarizes the available parking garage data provided by CPA for the initial set of dates in September 2021.

Table 7. Cruise Ship Terminal Parking Counts for Select Dates in September 2021

Day	Date	Vessel	Duration	Cruise Terminal (CT)	Vehicles In	Vehicles Out
Wed	9/8/2021	-	-	8	8	422
Thu	9/9/2021	Carnival Magic	4 days	6	535	465
Fri	9/10/2021	Disney Dream	3 days	8	218	293

Source: Canaveral Port Authority

The CPA also provided ground transportation vehicle counts entering Port North, as follows:

- Wednesday, September 22, 2021 – 86 vehicles
- Thursday, September 23, 2021 – 293 vehicles
- Friday, September 24, 2021 – 148 vehicles

Further breakdown of these data by mode was not provided.

Prior to collecting the ground transportation data, it was uncertain whether passengers' choices concerning mode of arrival to Port Canaveral are affected by (1) the current state of the pandemic recovery and (2) cruise duration. For example, given reluctance by some to travel (by air) during the pandemic, there might be greater proportions of cruise passengers having local origins such that there is a greater likelihood of passengers parking their private automobiles at the cruise terminal garages. Also, the Port Canaveral ground transportation choices available to the cruise passengers (and the passengers' assessment of their utilities or "worth") during the pandemic recovery may not be the same as they were pre-pandemic. Lastly, cruise duration may affect choice of ground transportation to/from Port Canaveral, regardless of any pandemic influence, as private parking at the cruise terminal garages becomes a less attractive option to the cruise passenger as their days at sea lengthen, because the garage cost is per day. It was decided to try to leverage the March 2019 data to the greatest extent possible, thinking it is more representative of the future than current conditions.

Table 8 shows the ratio of cruise ship passengers to parking garage counts for the days these data are available.[3] This is intended only to inform as to the variability of the parking garage count data, or more specifically, how uniform is the share of parking private auto among all modal ground transportation options available to cruise passengers. Table 8 reveals a ratio generally ranging between 4.0 and 9.1. Two data points are outside this range: embarking on the Disney Fantasy and debarking the Carnival Sunshine, both from the 2019 data. The Disney Fantasy's 12.5 ratio is generally higher than the ratios of competing cruise lines recorded in 2019 and higher than Disney Dream's ratio recorded in 2021. That Disney has a high ratio in 2019 could be attributed to the "Disney experience" unique among its cruise peers with respect to bus service from Disney Resort properties. As for a higher ratio in 2019 than 2021, the longer cruise duration (7 days in 2019 vs. 3 days in 2021) and/or influence of the pandemic on ground transportation choices may explain the difference. The 2019 Carnival Sunshine's high ratio (30.8) for debarking passengers cannot be due to cruise duration, as the ship was on an 8-day schedule both arriving and departing that day and the embarking passenger ratio was 9.1. Driving the high ratio is the low number of vehicles exiting the terminal that day, despite having about the same number of passengers disembarking as embarking. It is unclear why the CT 5's exiting count was so low that day.

[3] A low ratio indicates garage parking receives a relatively high share of the ship's passengers, whereas a high share indicates garage parking is a less popular option.

Table 8. Ratio of Cruise Ship Passengers to Parking Counts

Day	Date	Vessel	Cruise Terminal (CT)	Ratio Entering Terminal	Ratio Exiting Terminal
Sat	3/16/2019	Carnival Sunshine	5	9.1	30.8
Sat	3/16/2019	Carnival Breeze	6	7.5	9.1
Sat	3/16/2019	Disney Fantasy	8	12.5	N/A
Sat	3/16/2019	Norwegian Epic	10	4.0	4.3
Thu	9/9/2021	Carnival Magic	6	5.0	5.6
Fri	9/10/2021	Disney Dream	8	6.0	4.4

As stated in the beginning of this section, the goal is to establish ground transportation occupancies that reasonably fit the supplied cruise passenger demand data. Additionally, it is desired to utilize the 2019 data to the greatest extent possible. The strategy going forward for establishing vehicle occupancies for the different ground transportation modes is as follows:

1. Accept the 2019 cruise passenger data—both embarking and debarking—at each cruise terminal as control totals. In other words, the average vehicle occupancies established must match the embarking and debarking passenger data at each terminal.
2. Try to keep the vehicle passenger occupancies constant across cruise terminals. It is reasonable to expect the passenger occupancies to be about the same across the different cruise ship operators.[4]
3. Establish combined terminal control totals for parking garage counts, both entering (embarking passengers) and exiting (debarking passengers) recognizing some of the individual parking count data for 2019 is either missing or suspect. Relationships present within the 2021 data were leveraged to shore-up weaknesses in the 2019 data. For example, the outbound vehicles exiting CT 8 in 2019 were estimated by applying the ratio of outbound-to-inbound vehicles at this terminal in 2021 to the 2019 inbound vehicle counts.
4. The vehicle passenger occupancies must satisfy the cruise passenger control totals (Item 1), while also satisfying the parking garage control totals (Item 3), the number of buses and the number of other ground transportation vehicles reported. Additionally, as a check, the resulting cruise ship passenger-to-parking count ratios at each terminal should be reasonable.

The following average occupancies were established to fit the available data discussed in Item 4:

- Passenger cars parking at terminal garages – 2.5 passengers per vehicle. This value was assumed for all cruise terminals and applied to both vehicles entering and exiting the garages.
- Buses serving the cruise terminals – between 52 and 55 passengers per bus. These are assumed to be over-the-road coaches with capacities upwards of 60 passengers.
- Other ground transportation – 3.7 cruise passengers per vehicle. This category comprises all ground transportation smaller than over-the-road coaches such as private shuttles, taxi, and transportation network companies.

The cruise ship passenger-to-parking count ratios are within and near the low end of the range cited earlier by the data, with the exception at CT 8. It is assumed buses are more attractive to Disney Cruise Line passengers than those on competing cruise operators, thereby resulting in ratios slightly higher than the upper end of the range.

[4] It may be asserted Disney cruise passenger occupancies for private transportation are slightly higher on grounds there is a greater likelihood of families with kids than on the other cruise lines. Lacking data to test this assertion and not knowing what the future holds, it is decided to keep the occupancies constant.

The passenger occupancies presented above for the different ground transportation modes are assumed to remain unchanged in the development of future vehicular demand stemming from cruise ship passengers. However, the user may try different occupancy assumptions as a sensitivity test.

Development of 2019 Control Totals (Without Port Activity)

The objective of this section is to adjust the control totals developed earlier (representing a September 9, 2021 control day in which a single berth in Port North was active) to a pre-pandemic 2019 control day stripped of all Port North activity. Removal of all Port-related activity to the control day in 2019 establishes a base condition upon which future Port activity scenarios characterized by cruise passenger and cargo truck demand may be added.

The following steps are employed to make the conversion from the September 9, 2021 control day to a 2019 control day void of any Port North activity:

1. Apply the vehicle passenger occupancies developed in the previous section to the Carnival Magic data for September 9, 2021 to isolate the cruise passenger contribution (in terms of vehicles) traversing the study area segments. Remove this cruise passenger contribution from the control totals.
2. Remove 419 cargo trucks across each direction of the SR 401 bridge from the control totals. This is the number of trucks in cargo operations that day, as provided by CPA. The removed trucks are distributed among the study area segments consistent with the proportions of heavy trucks on the affected segments as measured by the September 9 classification counts. An assumption is made that the 2021 cargo-related truck volumes are basically unchanged from 2019.
3. Completion of Steps 1 and 2 yield a set of 2021 control day segment volume without any Port North activity. Convert these segment volumes to a 2019 control total, without cruise ship activity or cargo, by adjusting the SR 528 mainline volumes based on published 2019 AADT information on either side of the SR 401 interchange. The result is a 2019 base year without any Port North activity.

Future Cruise Ship Operations Scenarios

Available information concerning future cruise ship passenger demand and number of port calls at Port Canaveral is expressed in annual terms. How this translates to a design weekday in the future is less certain. Berth utilization and ship size (in terms of passenger capacity) on a given day are key drivers in the development of a weekday forecast, and these may change over time. The forecasting approach accounts for a range of scenarios that would undoubtedly impact forecast cruise ship patronage, and in turn, vehicular demand across the SR 401 bridge.

The Canaveral Port Authority's *30 Year Strategic Vision Plan* indicates no new cruise terminals slated for Port North in its planning horizon[5]; all new terminals are planned for Port South. However, the *Plan* identifies remodeling terminals and berths to accommodate larger size ships. Specifically, the *Plan* suggests planning for ships in the 5,000 to 7,000 passenger range, recognizing the timing of this will be driven by the cruise ship industry. Most of the cruise ships currently homeporting at Port Canaveral have a capacity around 4,000 passengers.

For planning purposes, it is assumed cruise ships serving Port Canaveral will increase to 5,000-passenger capacity by 2030 and 7,000-passenger capacity by 2050. It is further assumed the ships will operate at 97% of capacity in the future. Ships homeporting at Port Canaveral averaged around 95% occupancy for the Port's last fiscal year prior to the pandemic. The use of a slightly higher occupancy recognizes some daily (or monthly) variation from the annual average and is intended to represent a peak condition in the future.

[5] The *Plan* does identify future construction of a new berth immediately south of Terminal 10 to support cargo and the Spaceport Program as well as working vessels and lay berths. This analysis assumes no future cruise passenger demand at this new berth.

The maximum number of ships actively using a Port North berth on a given day is four and, based on the *30 Year Strategic Vision Plan,* is assumed to remain unchanged in the future. Thus, the contribution from cruise ship passengers on SR 401 bridge volumes will be a function of the number of berths actively in use on the design day. Scenarios representing two, three and four ships utilizing the four available berths are modeled. **Table 9** summarizes the operating scenarios analyzed.

Table 9. Cruise Ship Operating Scenarios on a Given Future Weekday

Number of Ships Operating in Port North	2030				2050			
	CT 5	CT 6	CT 8	CT 10	CT 5	CT 6	CT 8	CT 10
2	-	5,000	5,000	-	-	7,000	7,000	-
3	-	5,000	5,000	5,000	-	7,000	7,000	7,000
4	5,000	5,000	5,000	5,000	7,000	7,000	7,000	7,000

Note: The number shown is the assumed maximum passenger capacity for the ship at a given terminal, while "-" indicates the berth does not have a ship actively discharging or receiving passengers on the design day. The choice of which terminals are active/inactive are meant to be illustrative and not suggestive of one terminal receiving priority over another.

Port North-Related Future Trips

Forecasts of vehicles entering and leaving the Port North area are developed for two markets—cruise ships and cargo. Three scenarios are analyzed for the cruise ship market in 2030 and another three for 2050, as presented in **Table 9**. For the cargo market, only one scenario is considered. The development of future year trips for these markets is discussed below.

For the cruise ship market, the number of future embarking and debarking passengers at each cruise terminal as represented by the Table 9 scenarios are translated into vehicle trips by access mode assuming the ground transportation modal shares and vehicle occupancies remain unchanged from the 2019 data. This demand is distributed by time of day consistent with the observed passenger car entries/exits at the cruise terminal garages. Thus, it is assumed future cruise ship operations will have passenger unloading and loading times similar as existing operations.

For the cargo market, the forecast increase in number of trucks is assumed proportional to the forecast increase in freight tonnage at the Port. Per the *30 Year Strategic Vision Plan*, Port cargo tonnage is forecast to increase from 4 million in 2015 to 25 million by 2045. This represents a 6.3% compound annual growth rate (CAGR). This growth rate is assumed to continue to 2050, resulting in 28.5 million tons of cargo forecast to be handled at the Port. The number of cargo-related trucks serving the Port on a day in the base year was obtained from CPA. That total, 419 trucks, was the increased proportional to the tonnage increase resulting in 1,592 trucks serving the Port North area by 2050.

The forecast truck demand is assumed to maintain the same hourly distribution observed during the September 2021 traffic counts (specifically, the vehicle classification counts for vehicle types 8-15, which are heavy trucks). The trucks are distributed throughout the study area roadway segments in proportion to the heavy truck counts.

Table 10 illustrates the Port-related forecast daily volumes by segment. Detailed volume forecasts by hour and vehicle class are included in an Excel workbook titled "*All_Count_Locations_with_Port_Trips_Updated_Final_Future.xlsx*" which is a companion to this memorandum. (Additional information about this workbook is found in **Table 13** under the Application of Forecasting Procedures section).

Non-Port North-Related Future Trips

Within the study area, non-Port North-related trips are those either traversing SR 401 and passing through the security gate or trips passing through on SR 528. The CFRPM v 7.0 was utilized to aid in the forecasting of non-Port North-related travel. Specifically,

1. The CFRPM v 7.0 was run for all forecast years, including a select zone assignment of the Port North area (the zone encompasses the entirety of Port North). This facilitated the separation of Port North trips from the non-Port trips to/from the secured area that pass-through the Port on SR 401 to access SR-528. This was done for both auto and truck classes within the CFRPM. The CFRPM assignment results, including the select zone assignment results, are summarized in the worksheet "Model_Forecasts_Select_Daily", which is located in the file "*Year_2015_2045_Segment_Volumes_By_Period_Final..xlsx*" and is a companion to this memorandum. (Additional information about this workbook is found in **Table 13** under the Application of Forecasting Procedures section). **Attachment D** provides the CFRPM v. 7.0 model plots and select zone plots.
2. The modeled growth in non-Port trips (auto and truck kept separate) are applied to the base year non-port trips using the Furness methods proscribed in the *FDOT Traffic Forecasting Handbook*, and then rebalanced as necessary to preserve volume continuity between adjacent segments.
3. The resulting forecast non-Port trips are distributed by time of day using the hourly distributions associated with the 2019 control totals for non-Port trips.

Table 11 summarizes the non-Port forecast daily volumes (post-processed) by segment. Detailed volume forecasts by hour appear in the file "*Year_2015_2045_Segment_Volumes_By_Period_Final_Model_Volumes_Postprocessed.xlsx*", which is a companion to this memorandum. (Additional information about this workbook is found in **Table 13** under the Application of Forecasting Procedures section).

Note the forecast daily non-Port two-way volumes on the SR 401 bridge decrease about 7% between the 2019 base year and 2050. The CAGR for non-Port trips on the SR 401 bridge is -0.1% out to 2045, which is the farthest horizon year in the CFRPM. This growth rate is extended to 2050. The socioeconomic data for the zone representing this traffic, which encompasses the restricted area to the north and east of the security gate, was examined. Housing and resident population remains essentially zero over the planning horizon and employment is unchanged. The decrease in volume generated may be attributable to the trip generation balancing procedures internal to the CFRPM, though this is not confirmed.

From the perspective of conducting a conservative analysis it is assumed the base year volume does not decline over time and instead remains constant. On SR 528, the CAGR is 0.5% and is assumed to continue beyond 2045 out to 2050 as well.

Final Forecast Volumes

The final step is to sum the component Port North and non-Port North future volumes for each scenario. This yields final daily volumes for all segments by vehicle class by hour for each scenario. **Table 12** summarizes the forecast daily volumes by scenario. Detailed volume forecasts by hour (between 6:00 AM to 6:00 PM) and vehicle class for each scenario are included in **Attachment E**. All hours of the day appear in the Excel workbook "Final_Postprocessed_Period_Volumes_with Port_Trips_2030_2050.xlsx", which is included as a companion to this memorandum. (Additional information about this workbook is found in **Table 13** under the Application of Forecasting Procedures section).

Looking at the two-way SR 401 bridge volumes in Table 12, there is about a 6,200 vehicle per day (vpd) difference in 2030 and an 8,800 vpd difference in 2050 between the 2-ship and 4-ship operating scenarios. Thus, the choice of Port North operating scenario has a measurable impact on the total demand across the SR 401 bridge.

The operating scenario also has an impact on hourly distributions of traffic in the study area and the determination of peak hours. **Figures 7 and 8** illustrate the hourly volume distributions both across the SR 401 bridge and entering the study area on SR 528 for both 2-ship and 4-ship operating scenarios for 2050. On future days when all four Port North berths are active, the cruise passenger demand accounts for a greater share of volume on both SR 401 and SR 528. This will, in effect, "push" the peak hour from a more typical 7:00-8:00 am timeframe to an 11:00 am-to-Noon period. (The typical AM peak period is still stronger than the typical PM peak period (4:00-5:00 pm) on grounds cruise passenger activity subsides later in the afternoon.

Figure 9 illustrates the average weekday volumes on all the roadway segments for the 2019 base year and the forecast 2030 and 2050 years for the different cruise passenger demand scenarios analyzed. The 2019 base year represents a scenario in which one cruise ship is active at a Port North berth on a weekday. A review of cruise ship operations in March 2019 (provided by the CPA) revealed of the 21 weekdays, nine of the days featured only 1 ship actively using a berth and four days in which two ships were present. The Port North area was without home port cruise ship activity on the remaining eight weekdays that month. **Figures 10 through 12** illustrate the segment volumes for AM, midday and PM peak hours for all the scenarios.

The AM peak hour (**Figure 10**) reveals relatively little growth northbound across the SR 401 bridge between 2030 and 2050 compared to southbound, as well as a markedly different directional split compared to the 2019 base year. This growth differences between the northbound and southbound directions reflect the travel orientation of cruise passengers at that time of day. Passengers are disembarking their ship and leaving the Port; embarking passengers have not yet arrived as boarding time is typically around mid-day at the earliest. The forecast years directional splits differ from the 2019 base year primarily because of the increase from one to four active berths, thereby magnifying the southbound vs. northbound travel imbalance in the AM peak hour.

The mid-day peak hour (**Figure 11**) exhibits significant growth in both 2030 and 2040, compared to 2019. The directional split noticeably changes between the forecast years and the 2019 base year, too. The significant mid-day growth in both directions across the bridge is due to the growth in active berths from one to four (i.e. there are four ships being served in the future rather than one ship in 2019). Cruise passengers arriving the port peaks around mid-day, while passenger activity exiting the port begins to wane, compared to earlier in the morning. As a result, the number of cruise passengers arriving the Port outpaces the number leaving the Port mid-day. This contributes to a higher directional split northbound with each additional berth utilized.

The PM peak hour (**Figure 12**) shows little growth from the 2019 base year. Non-port trips are flat and cruise ship activity has largely subsided. Any growth is primarily cargo-related traffic plus some cruise ship provisioning-related traffic. There are a couple of locations that show a slight drop in volume; these are a result of the rounding and balancing procedures.

Table 10. Forecast Weekday Daily Segment Volumes by Scenario, All Classes (Port Trips Only)

Daily	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline				
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR528 - Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
Year 2030 - 2Ship	2,172	1,270	2,172	1,270	3,442	111	1,034	2,297	810	2,685	3,495	1,415	2,080	1,415	2,080	6,937	0	0
Year 2030 - 3Ship	3,097	1,962	3,097	1,962	5,059	111	2,651	2,297	810	4,213	5,023	2,128	2,894	2,128	2,894	10,082	0	0
Year 2030 - 4Ship	4,017	2,649	4,017	2,649	6,666	227	2,651	3,787	2,323	4,213	6,536	2,829	3,707	2,829	3,707	13,202	0	0
Year 2050 - 2Ship	3,406	1,872	3,406	1,872	5,278	157	1,441	3,679	1,592	3,759	5,351	2,100	3,251	2,100	3,251	10,629	0	0
Year 2050 - 3Ship	4,705	2,843	4,705	2,843	7,548	157	3,712	3,679	1,592	5,905	7,497	3,101	4,395	3,101	4,395	15,045	0	0
Year 2050 - 4Ship	5,996	3,808	5,996	3,808	9,804	322	3,712	5,770	3,718	5,905	9,622	4,086	5,537	4,086	5,537	19,426	0	0

Table 11. Forecast Weekday Daily Segment Volumes by Scenario, All Classes (Non-Port Trips Only)

Daily	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline				
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR528 - Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
Year 2030	22,882	19,169	2,761	2,064	4,825	228	525	4,072	4,389	1,325	5,714	2,773	2,924	22,895	20,029	10,539	20,121	17,105
Year 2050	25,003	21,024	2,780	1,776	4,556	219	502	3,835	4,238	1,276	5,514	2,564	2,878	24,787	22,126	10,070	22,223	19,248

Note: The number of active berths (ships unloading and loading cruise passengers) do not impact the non-Port trips.

Table 12. Forecast Weekday Daily Segment Volumes by Scenario, All Classes (Port & Non-Port Trips Combined)

Daily	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline				
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR528 - Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
Year 2030 - 2 Ship	25,008	20,394	4,933	3,293	8,226	470	1,528	6,228	5,199	3,974	9,173	4,151	5,022	24,226	22,123	17,399	20,075	17,101
Year 2030 - 3 Ship	25,929	21,087	5,858	3,986	9,844	360	3,150	6,334	5,199	5,500	10,699	4,863	5,836	24,934	22,937	20,543	20,071	17,101
Year 2030 - 4 Ship	26,848	21,770	6,776	4,677	11,453	643	3,150	7,660	6,715	5,500	12,215	5,567	6,648	25,639	23,741	23,668	20,072	17,093
Year 2050 - 2 Ship	28,360	22,850	6,181	3,605	9,786	542	1,920	7,324	5,826	5,004	10,830	4,630	6,200	26,809	25,445	20,616	22,179	19,245
Year 2050 - 3 Ship	29,657	23,822	7,485	4,580	12,065	397	4,182	7,486	5,826	7,149	12,975	5,630	7,345	27,802	26,587	25,040	22,172	19,242
Year 2050 - 4 Ship	30,951	24,788	8,769	5,551	14,320	798	4,182	9,340	7,953	7,149	15,102	6,614	8,488	28,796	27,725	29,422	22,182	19,237

Note: Tables 10 and 11 do not sum exactly to Table 12 because of rounding of individual trips at the vehicle class and hourly level of detail, and the need for balancing.

Figure 7. Hourly Volume Distributions for SR 401 and SR 528: 2050 Two-Active Berth Scenario

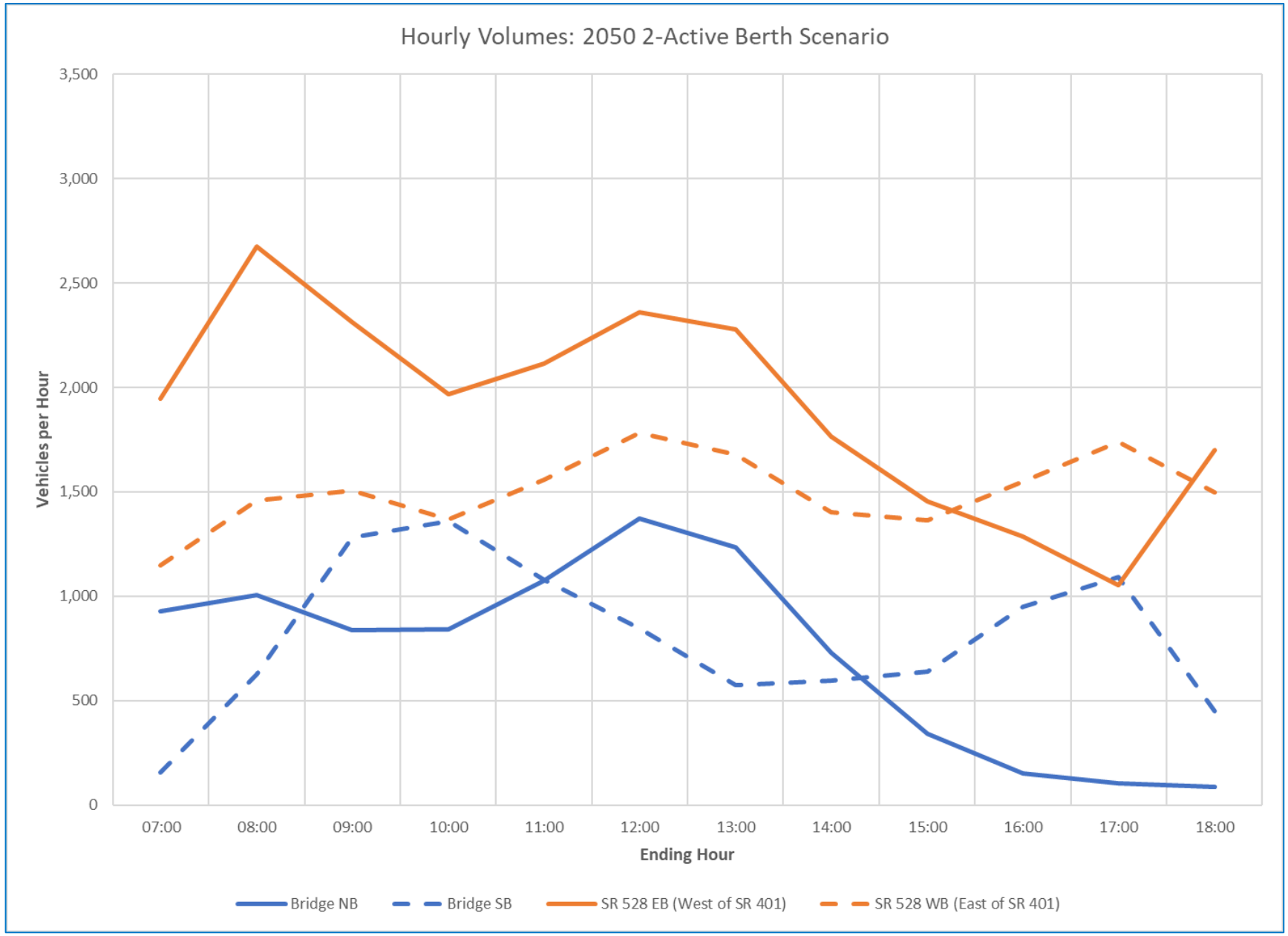


Figure 8. Hourly Volume Distributions for SR 401 and SR 528: 2050 Four-Active Berth Scenario

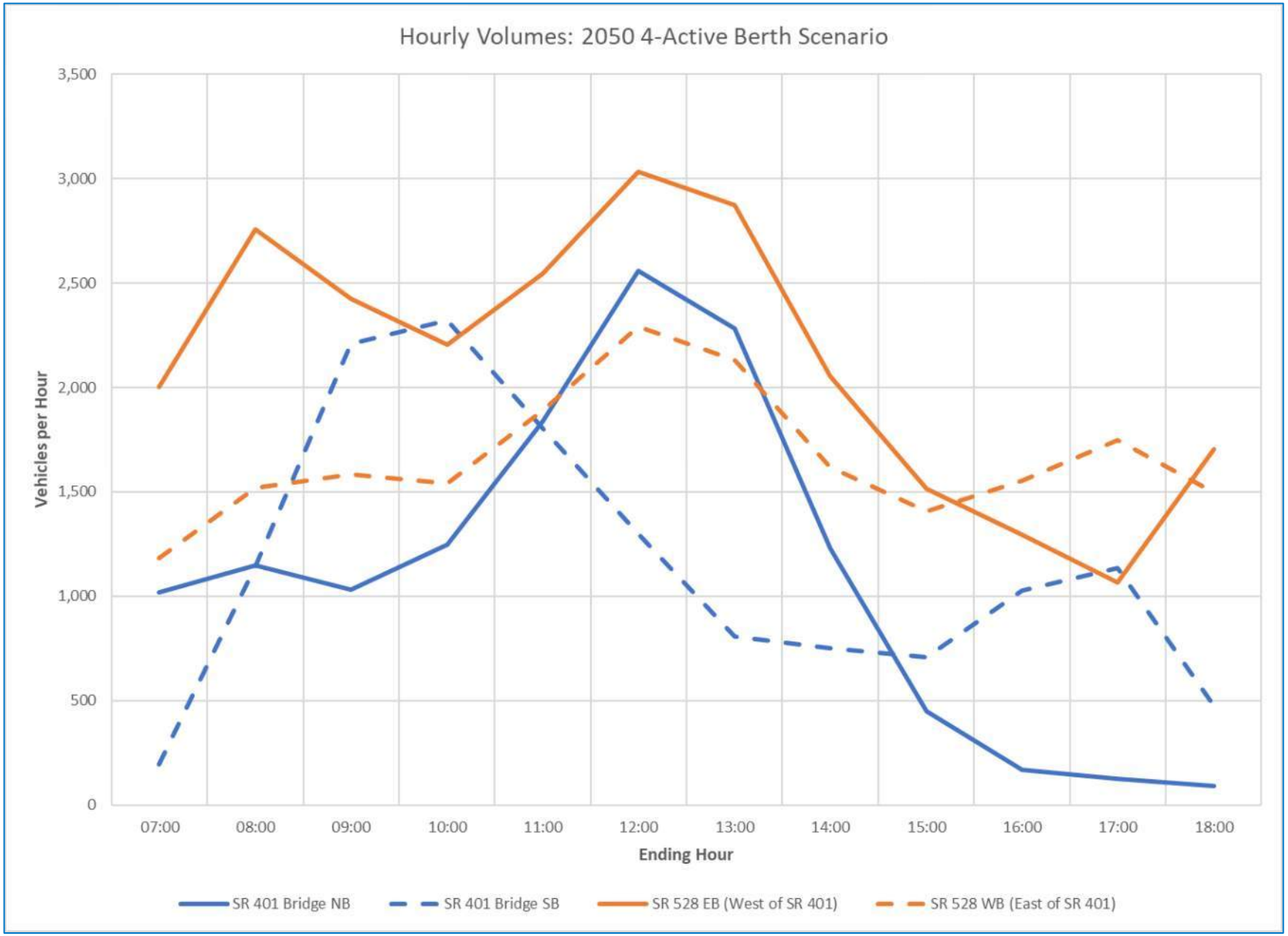


Figure 9. Weekday Daily Volumes

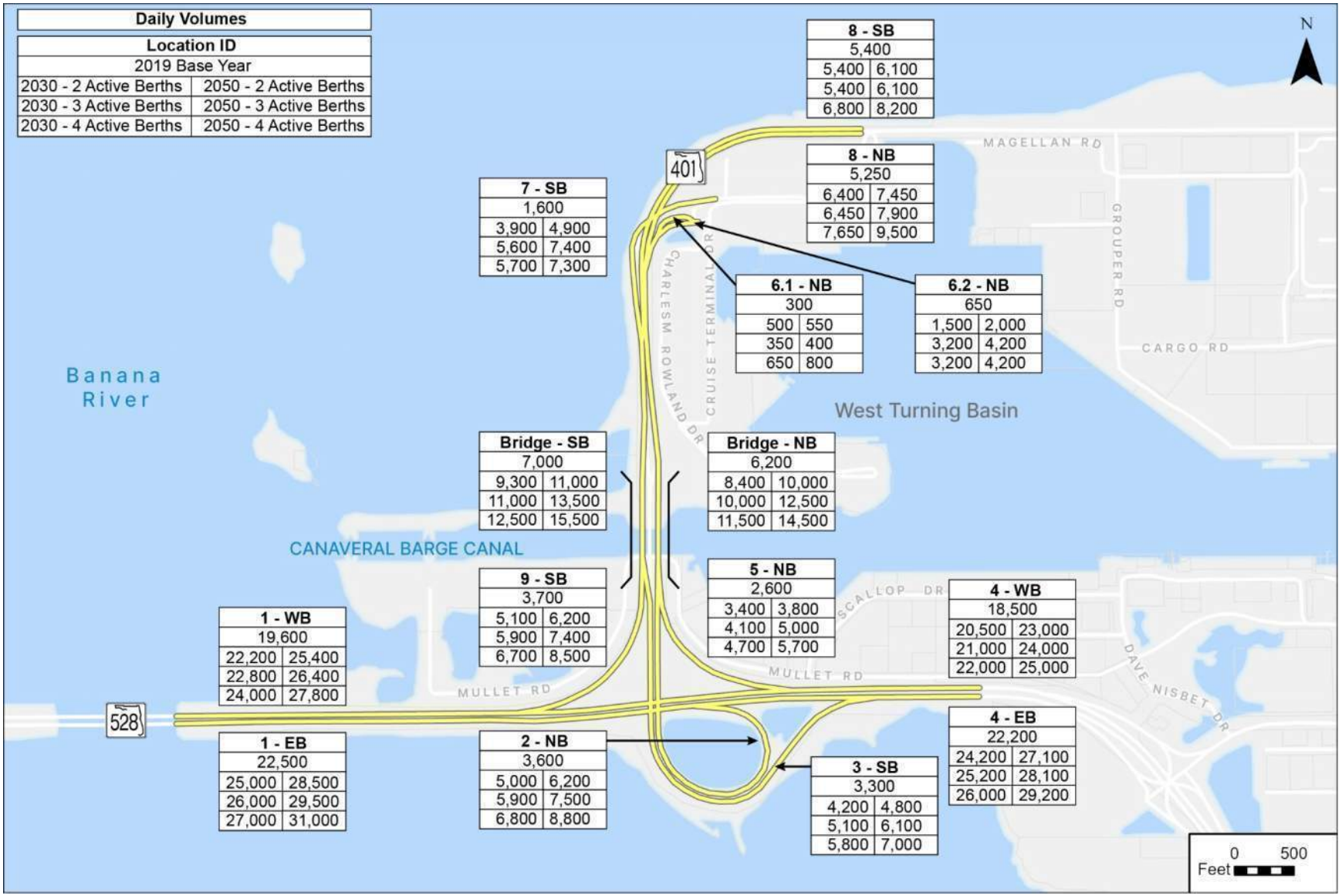


Figure 10. Weekday AM Peak Hour Volumes

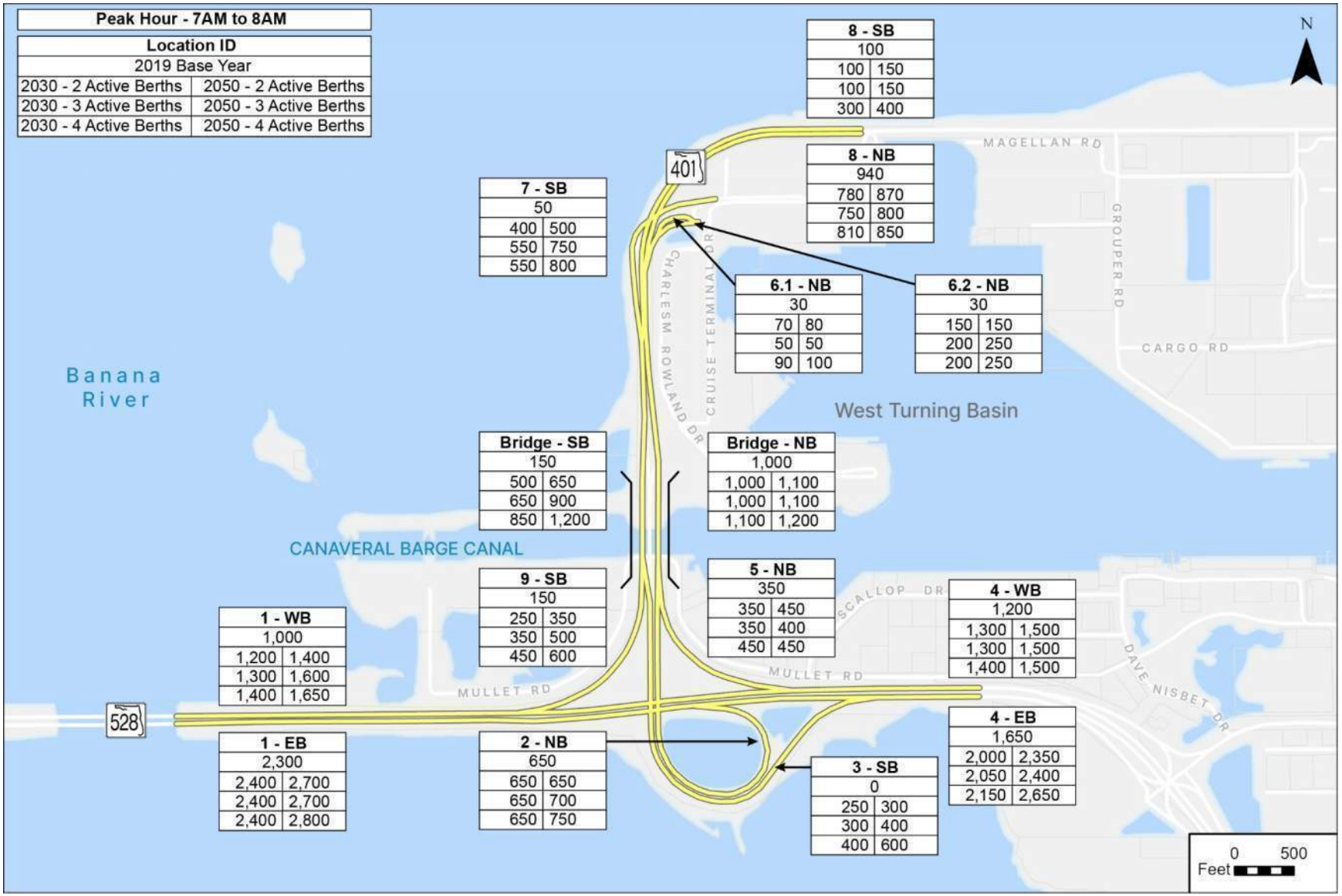


Figure 11. Weekday Midday Peak Hour Volumes

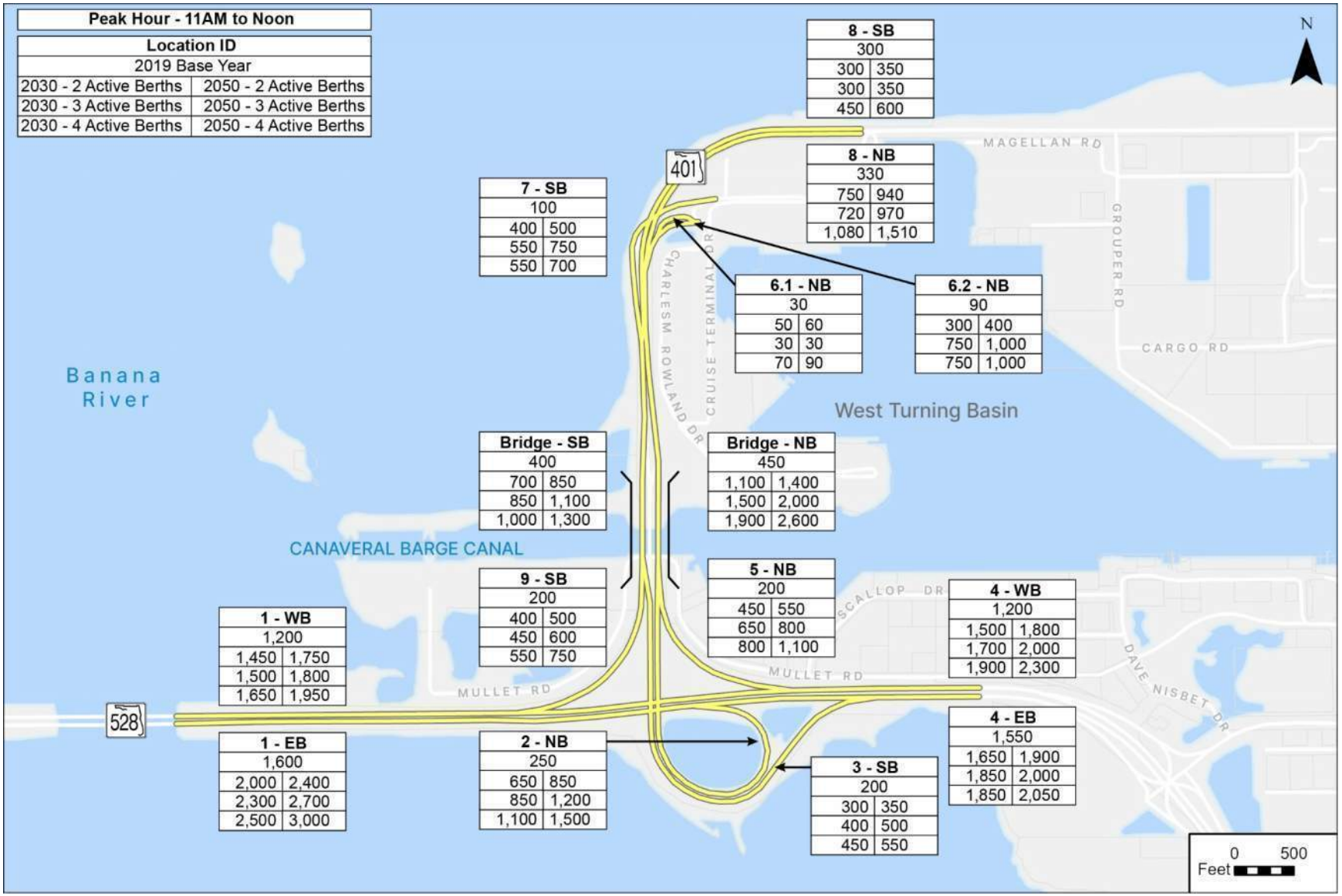
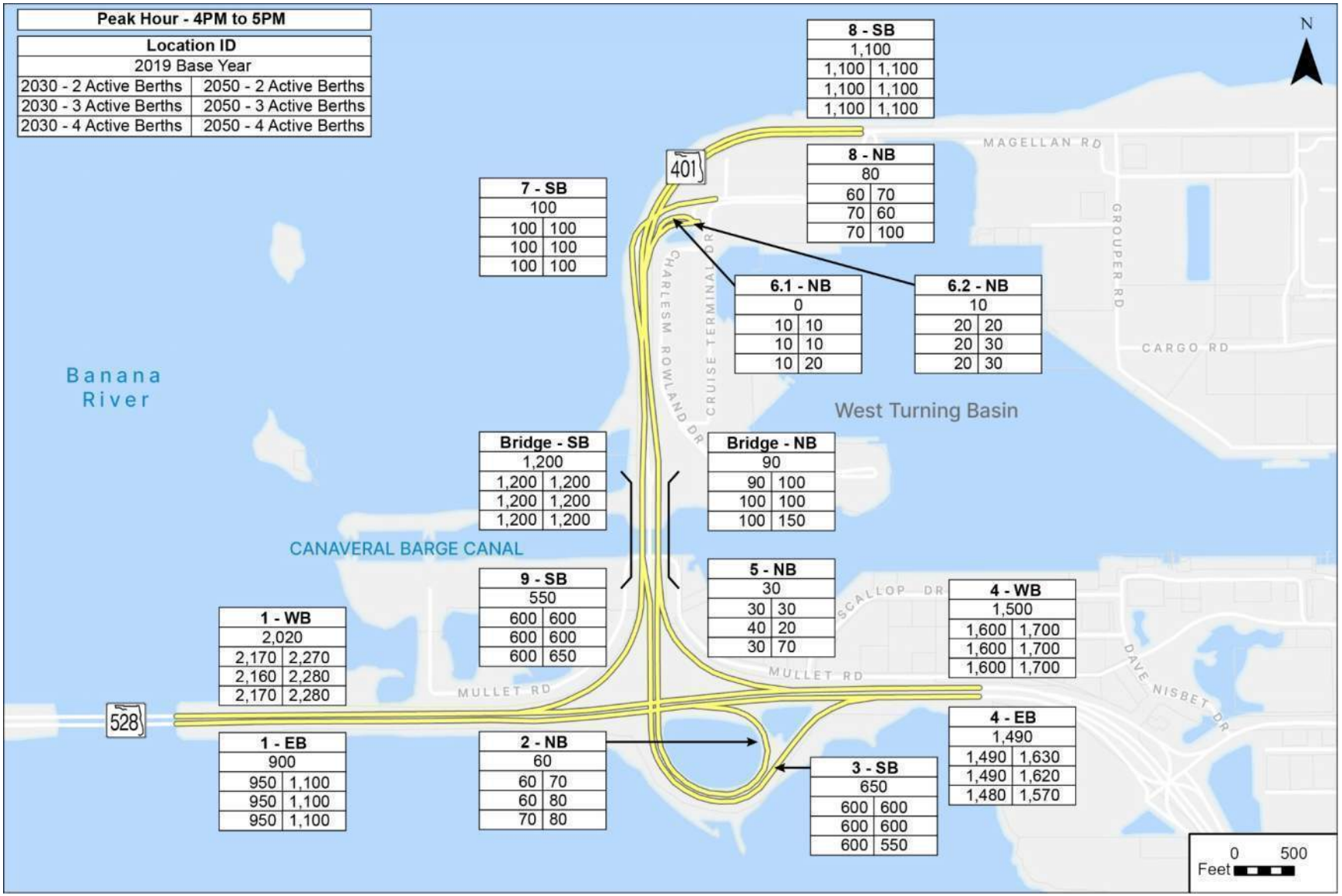


Figure 12. Weekday PM Peak Hour Volumes



Application of Forecasting Procedures

Port Canaveral is a special generator having multiple complex travel markets serving the study area. It would therefore be short-sighted to prepare a single traffic forecast based on one specific condition which may or may not be completely telling of future conditions. Instead, a range of operating assumptions are offered to provide a sensitivity test on various inputs. To facilitate efficient and accurate testing of different scenarios, the forecasting procedures have been automated through a series of three Visual Basic programs (macros) operating in Microsoft Excel. The user may change an input such as future cruise ship passenger capacity and have updated results within about 15 minutes.

The three Excel macros are stored in separate folders with their respective input and output files. The folder names are numbered sequentially to represent the order of execution (i.e. the macro in folder 1 is run, followed by the macro in folder 2 and finally the macro in folder 3). **Table 13** summarizes the folder names along with the input and output files associated with each macro.

Note the Excel workbooks and macros are designed to accommodate forecasts in 5-year increments. However, the current application focuses solely on 2030 and 2050 horizon years. And only the inputs for these two horizon years should be consulted at this time.

Table 13. File Structure for Generating Forecasts

Folder	File (M = macro, I = input, O = output)		Description
1_Base_Port_Trips_Final	M	Final_Counts_with_Port_Trips_Updated_Future.xlsm	Macro to process the input file and produce future year Port trip information, by segment, by hour and by vehicle class, for every scenario in the input file.
	I	All_Count_Locations_with_Port_Trips.xlsx	Includes worksheets that define the future Port North operating scenarios to be tested, input data used to "calibrate" the ground transportation vehicle passenger occupancies and mode shares, garage count parking distributions and 2021 and 2019 control total data by segment, by hour, by vehicle class.
	O	All_Count_Locations_with_Port_Trips_Updated_Final_Future.xlsx	A series of tables for each scenario displaying Port-related volumes by segment, by hour, by vehicle class, plus a scenario summary table of port trips expressed at a daily level for easy comparison among scenarios.
2_Model_Volumes_Results	M	Final_Model_Forecasts_without_Port_Trips_Updated_Future.xlsm	Macro to postprocess the future non-Port trips produced by mode and location.
	I	Year_2015_2045_Segment_Volumes_By_Period_Final.xlsx[1,2]	Contains the CFRPM link volumes for all available forecast years as well as the select zone-based volumes for selected years needed to isolate the non-Port trips represented by the CFRPM. Applies the Furness methods at the vehicle class level for the non-Port trips and rebalances to preserve volume continuity. Non-Port hourly control volumes for 2019 are also present for every segment in the study area. This hourly distribution is used to support the post-processing of non-Port trips at the hourly level.
	O	Year_2015_2045_Segment_Volumes_By_Period_Final_Model_Volumes_Postprocessed.xlsx	Post-processed non-Port trips by forecast year by segment by hour by vehicle class, including a summary table.
3_Final_Postprocessed_Volumes	M	Final_Postprocessed_Volumes_with_Port_Trips_Updated_Future.xlsm	Macro to combine the Port trip segment volumes with the post-processed non-Port trip segment volumes for all future scenarios, by vehicle class and by hour.
	I	All_Count_Locations_with_Port_Trips_Updated_Final_Future.xlsx	Contains the detailed summary segment volume tables by vehicle class and hour for each scenario. Port trips only.
	I	Year_2015_2045_Segment_Volumes_By_Period_Final_Model_Volumes_Postprocessed.xlsx	Contains the detailed summary segment (post-processed) volume tables by vehicle class and hour for each scenario. Non-Port trips only.
	O	Final_Postprocessed_Volumes_with Port_Trips_All_Years.xlsx	Contains the detailed summary segment volume tables by vehicle class and hour for the different scenarios. Port and non-Port trips are combined.
	O	Final_Postprocessed_Period_Volumes_with Port_Trips_2030_2050.xlsx	Like the above output file, except the hours shown are limited to 6AM-6PM.
	O	Final_Postprocessed_Rounded_Volumes_with Port_Trips_2030_2050.xlsx	Identical to "Final_Postprocessed_Volumes_with Port_Trips_All_Years.xlsx", except output is for 2030 and 2050 only and all volumes are rounded.
	O	Final_Postprocessed_Rounded_Hour_Volumes_with Port_Trips_2030_2050.xlsx	Identical to "Final_Postprocessed_Period_Volumes_with Port_Trips_2030_2050.xlsx", except all volumes are rounded.

[1]Prior to running macro, user must copy "Existing_Non_Port_Trips" tab from the output file in folder "1" to the "Control_Totals_woPort_Trips" tab in this workbook.

[2]Prior to running macro, user must copy "Controls_Totals" tab from the input file in folder "1" to the "Control_Totals_All_Trips" tab in this workbook.

Comparison with Initial Forecasts

The initial forecasts were generated using relatively little ground data and Port activity forecasts generated at the annual level that required a top-down approach to developing weekday daily and peak hour volumes. By contrast, the revised forecasts presented here are much more data-driven—utilizing 2021-collected traffic counts and CPA-provided Port-related demand data for representative days in both 2019 and 2021. This facilitated a bottom-up approach to forecasting cruise passenger demand. Furthermore, the revised forecasts provide some sensitivity by testing different Port North cruise ship operating scenarios. This facilitates producing a range of forecasts depending upon the scenario. The initial method is insensitive to different operating configurations.

Despite these differences, the two methods are remarkably similar. **Table 14** summarizes the two-way SR 401 bridge volumes for 2030 and 2050 produced by the two forecasting methods. It shows the initial forecast is within the range produced by the revised method for 2030, and slightly higher than the range produced for 2050. One contributing factor could be the forecast annual cruise passenger information published by the *Port Canaveral Strategic Vision Plan* is based on achieving cruise ship passenger capacities and berth occupancies like what was assumed in the revised methodology. While reasonably close to one another, the revised forecasts are recommended for two primary reasons: (1) higher quality data specific to the study area, which is more defensible, and (2) the flexibility to adjust the forecasts by varying one or more inputs as a further gauge on its validity.

Table 14. Initial and Revised Forecast Comparison at SR 401 Bridge, Weekday Two-Way

Forecasting Method	2030	2050
Initial	21,800	30,600
Revised[1]	17,700 – 24,000	21,000 – 30,000

[1]The lower end of the range shown represents a two active berth scenario while the upper end represents all four berths active.

Although the initial forecasts produced weekend volumes in addition to weekday, no judgment is rendered on whether the revised method would yield weekend volumes comparable with the initial method if so tested. As noted at the outset, in proceeding with the revised forecasting method, it was agreed upon to drop the forecasting of weekend volumes in recognition of project resource limitations.

As for the question of which of the scenarios under the revised forecasting methodology should serve as the basis for traffic operations and design, the answer depends in part on defining the design day. This would entail estimating the frequency distribution of two, three and four active berth weekdays over the course of the future year; not a straightforward task. Alternatively, the traffic operations' impacts of the four-active berth scenario could be analyzed first. If the impacts prove negligible, defining the design day becomes moot.

Final Recommendations and Conclusions

The following recommendations are made concerning the forecasts:

1. The revised forecasts should be used in lieu of the initial forecasts. The revised forecasts make greater use of observed data (current and past) within the study area and are more sensitive to inputs affecting vehicular demand.
2. The four active-berth scenario should be used for 2050 and 2030 too. Future cruise ship operations are difficult to forecast, the effects of the pandemic-recovery notwithstanding. Providing for all four Port North berths to be active in the future facilitates a conservative analysis with respect to analysis of the bridge alternatives.
3. The midday peak period (11:00 am – Noon) warrants analysis. Given the growth in cruise passenger demand in Port North, this period will by 2050 supplant the traditional AM peak as the highest one-hour volume at the SR 401 bridge. Any queuing analysis resulting from raising of the SR 401 bridge to accommodate vessel traffic should

consider the period of peak volume on the SR 401 bridge, which is forecast to be midday by 2050. It is recommended the two critical peak hours for analysis be 7:00-8:00 am and 11:00 am – Noon.

Based on these recommendations, the final weekday daily and peak hour volumes and truck percentages for the 2019 base year and 2030 and 2050 horizon years are illustrated on **Figures 13 through 16**. **Table 15** reports the compound annual growth rates (CAGR) at the SR 401 bridge and on SR 528 on each side of the SR 401 interchange. The CAGR are higher on the SR 401 bridge than on SR 528 because the base year volumes across the SR 401 bridge are lower than on SR 528 and so the forecast Port North trips across the bridge has a greater impact on the growth calculation, and because that growth is spread between either side of SR 528 at the SR 401 interchange, thereby somewhat diluting the growth on SR 528. That the 2030 CAGR is greater than the 2050 CAGR at the SR 401 bridge reflects the relatively sudden jump to a four-active berth weekday scenario by 2030 and with it, the sudden increase in cruise passengers. The growth in Port North-based trips between 2030 and 2050 results from additional cruise passengers by virtue of larger ships and an increase in cargo truck traffic. But these increases are not as impactful viewed over the additional twenty years.

Table 16 summarizes the truck percentages at the same locations reported in **Table 15**. The proportions of daily trucks in the traffic stream are generally greatest across the SR 401 bridge. This is because a great number of trucks serve the Port North cargo area and therefore must cross the SR 401 bridge. These trucks must also traverse SR 528, but there exists a greater amount of non-truck traffic on this facility, resulting in lower truck percentages. Truck shares are generally forecast to increase over the planning horizon for all time periods except the midday. Truck volumes increase over all periods; it is just the significant increase in cruise passenger activity is most felt during the midday and it outpaces the truck increase during this period, thereby resulting in lower truck shares from 2019 to 2030 midday. Truck shares increase from 2030 to 2050 as the increased cargo activity outpaces the incremental growth in cruise passenger ground transportation movement due to having larger ships available.

Figure 13. Recommended Weekday Daily Volumes



Figure 14. Recommended AM Peak Hour Volumes

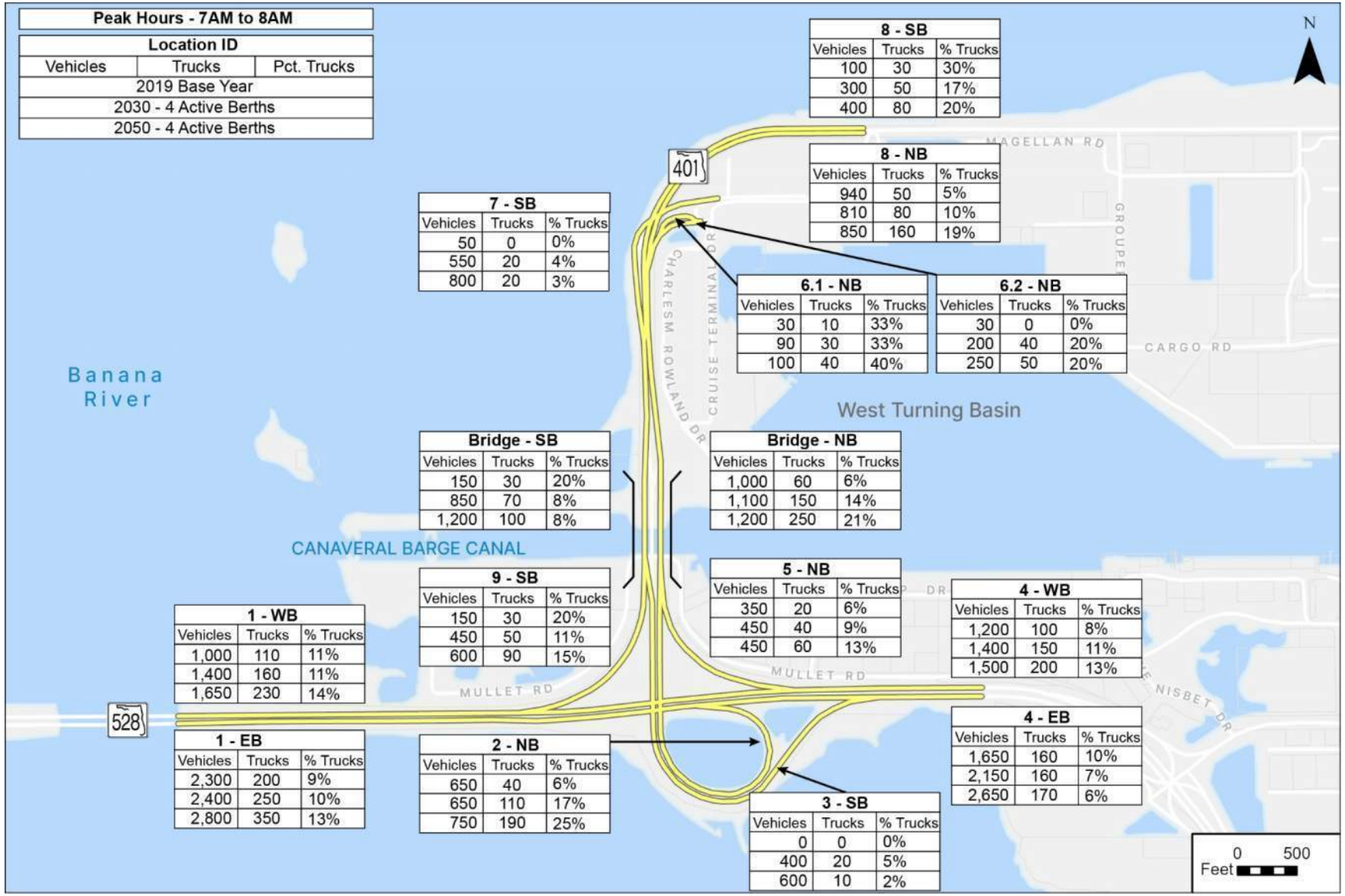


Figure 15. Recommended Midday Peak Hour Volumes



Figure 16. Recommended PM Peak Hour Volumes



Table 15. Compound Annual Growth Rates in Weekday Volume (with Respect to 2019 Base Year)

Scenario	SR 401 Bridge		SR 528 West of SR 401		SR 528 East of SR 401	
	NB	SB	EB	WB	EB	WB
2030 - 4 Ship	5.2%	5.8%	1.6%	1.7%	1.3%	1.5%
2050 - 4 Ship	2.5%	2.7%	1.0%	1.1%	0.9%	0.9%

Table 16. Percentage of Total Volume that is Trucks, by Time Period

Time Period and Scenario	SR 401 Bridge		SR 528 West of SR 401		SR 528 East of SR 401	
	NB	SB	EB	WB	EB	WB
Daily						
2019 Base Year	11.7%	11.4%	9.4%	9.8%	7.9%	8.1%
2030 - 4 Ship	14.6%	14.5%	10.8%	11.9%	7.9%	8.4%
2050 - 4 Ship	19.3%	19.0%	12.7%	13.9%	8.5%	9.2%
AM Pk Hr (7-8 AM)						
2019 Base Year	6.4%	19.7%	8.1%	11.7%	8.2%	8.2%
2030 - 4 Ship	13.7%	7.9%	10.9%	11.4%	7.8%	10.4%
2050 - 4 Ship	20.6%	9.5%	12.9%	11.8%	7.9%	11.5%
Midday Pk Hr (11 AM - Noon)						
2019 Base Year	12.5%	17.7%	13.1%	13.9%	11.6%	10.1%
2030 - 4 Ship	7.7%	18.3%	9.7%	15.4%	9.4%	7.7%
2050 - 4 Ship	9.3%	22.2%	10.8%	17.8%	10.0%	8.0%
PM Pk Hr (4-5 PM)						
2019 Base Year	15.4%	2.1%	8.9%	6.4%	4.9%	7.4%
2030 - 4 Ship	36.4%	5.7%	9.3%	7.7%	5.0%	7.6%
2050 - 4 Ship	48.0%	8.7%	10.6%	8.9%	5.8%	8.0%

Attachment A

Initial Forecast Memorandum

(July 31, 2021)

Date: July 31, 2021

To: Mary McGehee, AICP, FDOT Project Manager

From: Greg Gaides and Sathya Thyagaraj

Copies To: Odalys Delgado, Parsons Project Manager, Jason Learned, D5 Model Coordinator

Subject: SR 401 Bridge Replacement PD&E Study: Preliminary Traffic Forecasts (Draft)

Introduction

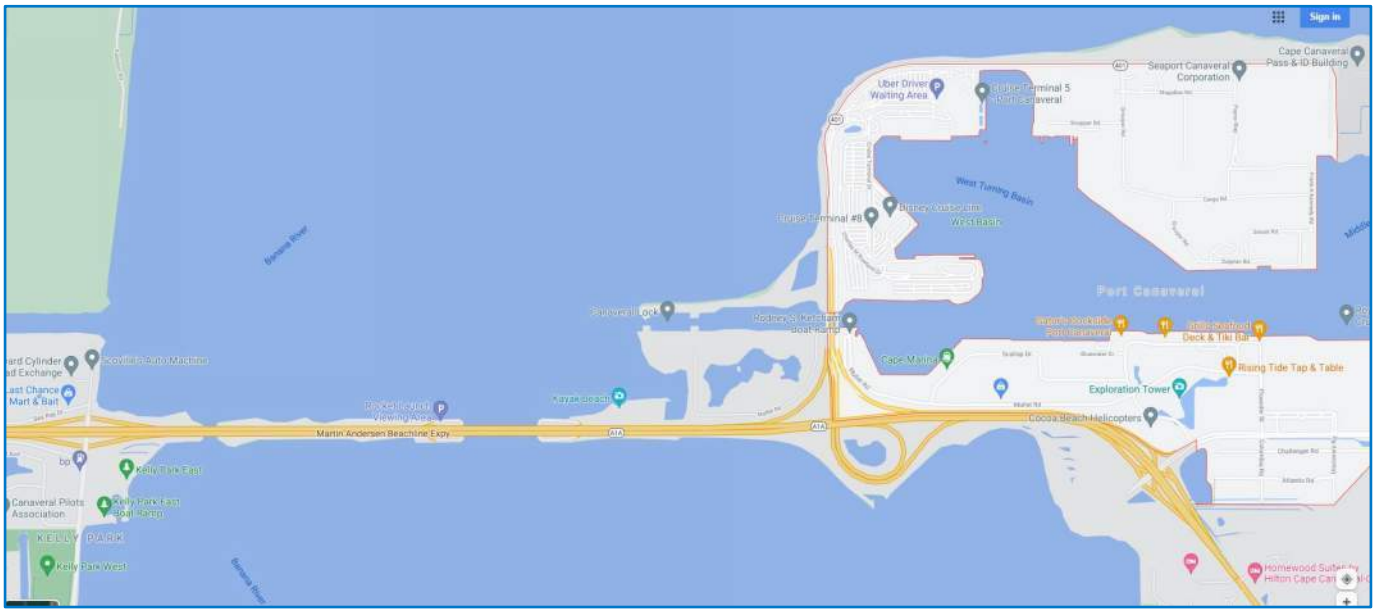
This memorandum provides an initial set of traffic forecasts in support of the evaluation of the three existing bascule bridges over the Canaveral Barge Canal for either retrofit improvements or replacement. Together, these bridges provide the only roadway connection between Port Canaveral (and Cape Canaveral Air Force Station) and the mainland. The proposed project has an estimated opening year of 2030 and a 2050 design year. Daily and peak hour traffic forecasts are prepared for both average weekday and weekend conditions given the high level of weekend activity associated with the cruise lines serving the Port.

These are initial forecasts and subject to modification as more information becomes available. The overall forecasting approach and methodology behind the forecasts are presented, including assumptions made so these may be re-examined as the study progresses.

Study Area

Figure 1 illustrates the study area over which traffic forecasts are prepared. The study area encompasses SR 401 between Charles Rowland Drive and SR 528, and SR 528 between Banana River Drive and George King Boulevard. This includes all ramp movements at SR 401/SR 528 as well as the westbound off- and eastbound on-ramp at Banana River Drive and eastbound off- and westbound on-ramp at George King Boulevard.

Figure 1. Study Area



Forecast Volume Specifications

Study area volumes are forecast for the project opening year, assumed to be 2030, and design year (2050). The Central Florida Regional Planning Model (CFRPM) is a primary source for forecast weekday volumes. It has a 2015 base year and planning horizons in five-year increments out to 2045. The 2030 project opening year forecast is rooted in the CFRPM 2030 forecast. The 2050 design year forecast volumes are prepared by trendline analysis of the CFRPM post-processed forecast volumes between its 2015 base year and 2045.

The significant cruise ship activity serving the Port, particularly on weekends, necessitates considering both weekday and weekend conditions in the forecast volume development. Furthermore, the nature of the cruise ship operations—passengers alighting the ships in the early morning and replaced by a nearly equal number of new passengers arriving in the late morning/early afternoon period—suggest two distinct directional peaks. Both weekday and weekend peak hours consider peak direction activity. For weekdays, the CFRPM drives the peak hour determination. On weekends, cruise ship activity is the primary driver of peak hour determination.

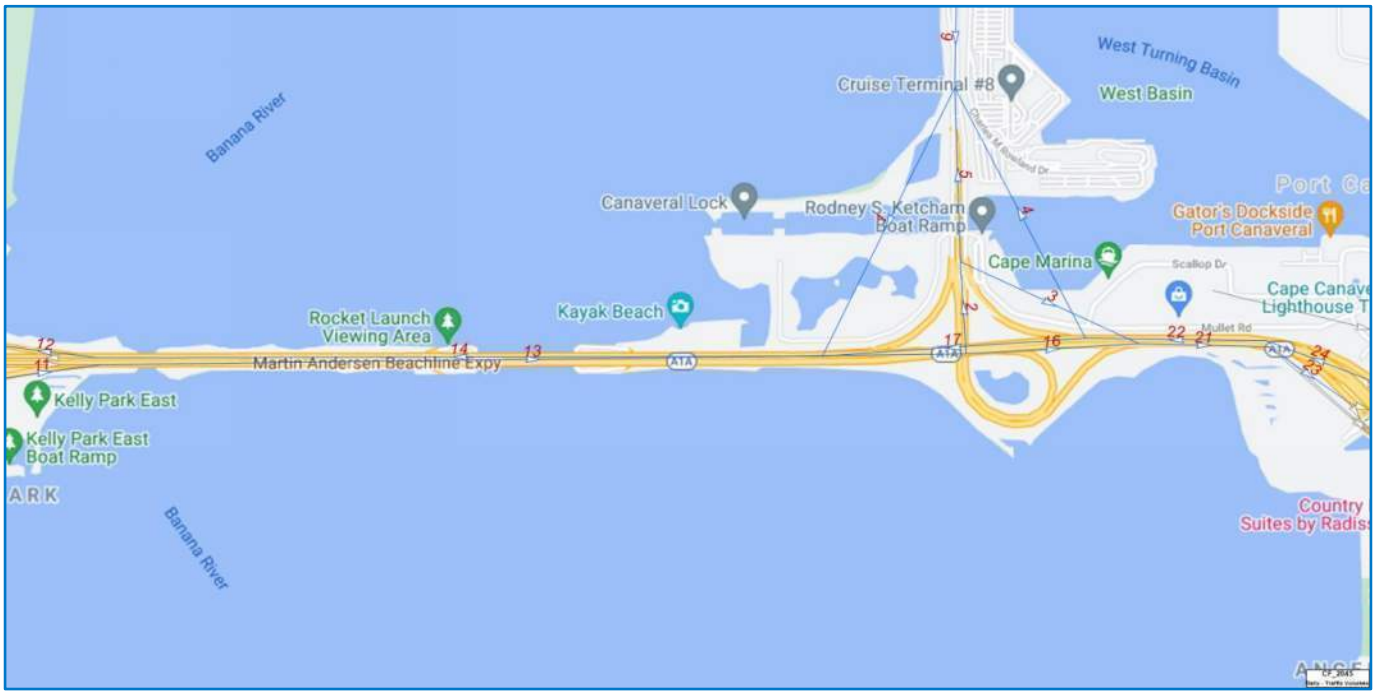
Weekday and weekend peak hour volumes are determined based on whether the trip serves the Port. For trips not serving the Port, the peak hour by direction is based on 2018-2019 data at the continuous count station located on SR 528 just east of US Highway 1. The count station data reveal the following peak hour shares (of daily directional traffic)

- Weekday peak hour eastbound – 9.1%
- Weekday peak hour westbound – 10.3%
- Weekend peak hour eastbound – 9.5%
- Weekend peak hour westbound – 7.5%

For trips serving the Port, both the weekday and weekend peak hour shares of the daily trips to the Port is assumed to be larger than a typical peak hour as most of the daily trips happen within a smaller two- or three-hour window. For automobiles, the peak hour share is assumed to be 45% of the daily auto traffic. The peak hour truck share is assumed to be 15% of the daily truck volume.

Figure 2 illustrates the CFRPM roadway network depiction (blue lines) overlayed on Google Maps. The mainline and ramp segments for which forecast volumes are prepared are numbered in red and further described in Table 1 below. The red numbers serve as link identifiers and are referenced throughout this document.

Figure 2. Forecast Roadway and Ramp Segments



Note: the numbered segments are discontinuous (i.e. there are no segments numbered 7 through 10, 15 or 18 through 20 shown on the figure).

Table 1. Forecast Roadway and Ramp Segments

Link ID	Segment Name	Direction	Orientation Toward North Side Port
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In
5	North of Bascule Bridge	NB	In
6	North of Bascule Bridge	SB	Out
11	EB SR 528 On-Ramp from Banana River	EB	In
12	WB SR 528 Off-Ramp to Banana River	WB	Out
13	EB SR 528 between Banana River and SR 401	EB	In
14	WB SR 528 between Banana River and SR 401	WB	Out
16	EB SR 528 between SR 401 Ramps	EB	Out
17	WB SR 528 between SR 401 Ramps	WB	Out
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In

Note: Link ID corresponds to red numbered segments in Figure 2.

General Forecasting Approach

There are four distinct travel markets utilizing the bascule bridges. Parsons' approach to forecasting traffic patterns across the SR 401 bridge involves analyzing each market separately to reflect the different weekday vs. weekend activity as well as differences in peak hours, and then combining the individual market forecasts. The following markets are identified:

- **Cruise Ships** – this market encompasses the cruise ship passenger operations including the passengers and their means of transportation to/from the cruise ship terminals, truck movements servicing the ships and terminal support employment. While the CFRPM does account for the Port Canaveral area as a special generator, the trip ends generated are not consistent with the Port Master Plan and do not directly account for truck movements. A more data-driven approach is used to estimate trip-ends associated with this market segment.
- **Port Employment** – This market represents employees who travel to/from the north side Port area to begin/end their workday and are captured by the CFRPM. It does not include cruise ship terminal support personnel or truck drivers engaging in drayage operations at any of the cargo-related facilities. These are accounted for under the cruise passengers and cargo operations markets, respectively.
- **Cargo Operations** – In 2019, there were more than 3,000 truck movements per week (on average) across the bascule bridges (each way) associated with the various cargo operations at the Port. Weekly truck movements by operator were provided by the Canaveral Port Authority and this activity was allocated to weekdays and weekends based on each company's operating hours. Horizon year truck activity is tied in part to the forecast growth in cargo tonnage represented by the Port Authority's Master Plan.
- **Other** – Access to the Cape Canaveral Air Force Station area is achieved via the SR 401 bascule bridges and require security clearance to enter the restricted area. No information about existing or future activity is readily available or verifiable. Weekday demand activity is sourced directly from the CFRPM. A review of available retail operations supporting personnel working in the restricted area indicate they are open weekdays only. Still, a nominal amount of activity to/from this area is assumed on the weekend.

Volume development is data driven to the extent possible, utilizing existing historical (2016-2020) FDOT weekday daily traffic count data to facilitate post-processing of CFRPM-produced volumes, a continuous traffic count station on SR 528 east of US Highway 1 to facilitate weekend-to-weekday ratios and time of day factors, ground transportation and parking data obtained from the Canaveral Port Authority, and Master Plan documents pertaining to future Port operations. Some assumptions are required to fill-in the data gaps; these are presented in the Initial Forecast Volumes section below.

The trips generated by the four travel market segments are distributed through the study area according to the distribution procedures contained within the CFRPM. The CFRPM's distribution of Port trips is largely controlled by the spatial orientation and magnitude of households and hotel rooms in the region. Resident-based Port Canaveral trips are distributed proportional to regional households whereas the visitor-based trips are allocated according to hotel rooms in the region.

A "select zone" assignment was performed for the model's base and horizon years. This procedure traces traffic volumes to and from the zone (in this case, the north side Port area) through the study area's roadway system, allowing the calculation of shares of north side Port trips arriving and departing by direction on the 16 links identified in Figure 2 and Table 1. These trips are therefore easily identifiable and are removed from the model-based volume forecasts for the 16 critical segments to create a temporary baseline without Port-based trips. The data-driven estimates of autos and trucks serving the Port are then added to the temporary baseline to yield the forecast volumes for each of the 16 identified links using the distributions produced by the "select zone" assignment.

The forecasts are prepared for autos and trucks separately, and then combined to provide "total" volume. The daily and peak hour forecast volumes presented in the body of this memo represent combined volumes (autos plus trucks). Appendix A provides additional tables which breakdown the combined daily volumes into autos and trucks separately, and Appendix B provides the breakdown of peak hour volumes. Post-processing of model-based volumes follows the procedures outlined in Chapter 3 of the *Project Traffic Forecasting Handbook*.

Initial Forecast Volumes and Associated Key Assumptions

Table 2 presents the 2030 opening year forecast weekday and weekend daily volumes in the study area for all vehicles combined while Table 3 provides similar information for the 2050 design year. Forecast weekday daily volumes on the SR 401 bridge (highlighted in tan in the tables) are around 78% higher compared to weekends in 2030 and about 50% higher in 2050. Forecast daily volumes on SR 528 are about 17% higher on weekdays than weekends in both 2030 and 2050.

Table 4 presents the 2030 opening year forecast weekday and weekend peak hour volumes in the study area for all vehicles combined while Table 5 provides similar information for the 2050 design year. Forecast weekday peak hour volumes on the SR 401 bridge are about 9% higher compared to weekends in 2030. In 2050, the SR 401 weekday peak hour bridge volumes are about 2% lower than weekends and southbound is about 5% higher on weekdays compared to weekends. Peak hour volumes on SR 528 are 20% higher on weekdays than weekends in 2030 and 14% higher in 2050.

Table 2. Forecast 2030 Weekday and Weekend Daily Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	2030 Weekday Daily	2030 Weekend Daily
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	7,257	3,508
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	6,269	3,266
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	4.585	2,074
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	3,885	2,147
5	North of Bascule Bridge	NB	In	10,157	5,413
6	North of Bascule Bridge	SB	Out	11,646	5,562
11	EB SR 528 On-Ramp from Banana River	EB	In	3,488	2,818
12	WB SR 528 Off-Ramp to Banana River	WB	Out	3,231	2,621
13	EB SR 528 between Banana River and SR 401	EB	In	44,722	37,658
14	WB SR 528 between Banana River and SR 401	WB	Out	43,737	36,866
16	EB SR 528 between SR 401 Ramps	EB	Out	39,235	33,350
17	WB SR 528 between SR 401 Ramps	WB	Out	36,446	30,979
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	43,825	37,319
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	40,337	34,400
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	6,290	5,334
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	6,253	5,301

Note: Link ID corresponds to red numbered segments in Figure 2.

Table 3. Forecast 2050 Weekday and Weekend Daily Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	2050 Weekday Daily	2050 Weekend Daily
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	10,727	5,678
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	9,491	5,372
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	5,600	2,872
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	4,911	2,986
5	North of Bascule Bridge	NB	In	14,436	8,361
6	North of Bascule Bridge	SB	Out	16,147	8,532
11	EB SR 528 On-Ramp from Banana River	EB	In	3,484	2,799
12	WB SR 528 Off-Ramp to Banana River	WB	Out	3,360	2,681
13	EB SR 528 between Banana River and SR 401	EB	In	51,363	42,619
14	WB SR 528 between Banana River and SR 401	WB	Out	50,516	41,891
16	EB SR 528 between SR 401 Ramps	EB	Out	42,386	36,028
17	WB SR 528 between SR 401 Ramps	WB	Out	39,550	33,617
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	48,003	40,869
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	44,491	37,877
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	7,342	6,154
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	7,305	6,123

Note: Link ID corresponds to red numbered segments in Figure 2.

Table 4. Forecast 2030 Weekday and Weekend Peak Hour Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	2030 Weekday Peak Hour	2030 Weekend Peak Hour
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	1,672	1,376
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	1,497	1,304
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	1,000	807
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	952	874
5	North of Bascule Bridge	NB	In	2,449	2,178
6	North of Bascule Bridge	SB	Out	2,652	2,182
11	EB SR 528 On-Ramp from Banana River	EB	In	349	290
12	WB SR 528 Off-Ramp to Banana River	WB	Out	384	251
13	EB SR 528 between Banana River and SR 401	EB	In	4,982	4,555
14	WB SR 528 between Banana River and SR 401	WB	Out	5,433	3,892
16	EB SR 528 between SR 401 Ramps	EB	Out	4,045	2,515
17	WB SR 528 between SR 401 Ramps	WB	Out	3,757	2,336
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	5,046	3,465
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	4,256	3,924
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	671	430
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	589	524

Note: Link ID corresponds to red numbered segments in Figure 2.

Table 5. Forecast 2050 Weekday and Weekend Peak Hour Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	2050 Weekday Peak Hour	2050 Weekend Peak Hour
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	2,678	2,284
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	2,462	2,191
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	1,340	1,155
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	1,309	1,241
5	North of Bascule Bridge	NB	In	3,774	3,432
6	North of Bascule Bridge	SB	Out	3,999	3,438
11	EB SR 528 On-Ramp from Banana River	EB	In	360	301
12	WB SR 528 Off-Ramp to Banana River	WB	Out	425	286
13	EB SR 528 between Banana River and SR 401	EB	In	6,258	5,713
14	WB SR 528 between Banana River and SR 401	WB	Out	6,780	5.015
16	EB SR 528 between SR 401 Ramps	EB	Out	4,370	2,717
17	WB SR 528 between SR 401 Ramps	WB	Out	4,077	2,535
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	5,711	4,020
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	4,896	4,539
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	792	501
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	697	610

Note: Link ID corresponds to red numbered segments in Figure 2.

The following key assumptions are made in support of the forecast volume development:

- FDOT weekday daily counts for all 16 segment locations (2016-2020) are compiled, noting some count locations are derived from upstream and downstream counts. Truck percentages were assumed to be between 4.4% and 4.6% of the daily volumes, depending on year. The CFRPM-based forecast volumes are post-processed using these FDOT weekday daily counts, following the procedures outlined in Chapter 3 of the *Project Traffic Forecasting Handbook*. Weekend daily counts are not as readily available. Both 2018 and 2019 data at a continuous count station on SR 528 just east of US Highway 1 were reviewed and it was found the weekend volumes are 85% of the weekday volumes. Post-processed weekend volumes for the 16 segment locations were established at 85% of the post-processed weekday volumes.
- The calculation of vehicles associated with the cruise ship operations is based on annual passenger forecasts from the Canaveral Port Authority, converted to weekday and weekend. Key data and assumptions include:
    - 4,000,000 cruise ship passengers in 2015, rising to 8,600,000 passengers in 2045, per the Port Authority.
    - The number of port terminals on the north side will increase from four to five during this timeframe.
    - The capacities of the cruise ships are also increasing, from 4,000 passengers currently to over 6,000 passengers by 2045. The number of terminal-based service personnel (i.e., not employees based on the ships) needed to process passengers is assumed to be 200 per terminal currently and gradually increasing to 300 per terminal to service the larger ships.
    - The number of parking spaces on the north side of the Port are 6,004. The number of vehicles utilizing these spaces come directly from the transponder data provided by the Port. Additional parking is available off-site with shuttle buses transporting cruise ship passengers to/from the terminals. Transponder data provided by the Port Authority reveal demand from private auto and ground transportation modes separately. Separate average vehicle occupancies were applied to the two modes to convert vehicle trips to person trips matching the annual cruise ship passenger forecasts stated in the Port Master Plan.
    - The portion of annual cruise passenger demand (provided by the Port) allocated to the north side of the Port is based on the CFRPM zonal allocations of cruise trips. The zone representing the north side of the Port accounts for almost two-thirds of all cruise passenger demand at the Port, according to the CRFPM.
    - The weekday and weekend daily cruise passengers are converted to auto and bus person trips by applying mode shares, and the person trips are then converted to vehicle and bus trips by applying vehicle occupancy factors.
    - The trucks serving the Terminal primarily to service the cruise ships are assumed to be 40 per terminal for both existing conditions and the horizon years.
- Truck trips pertaining to the cargo operations was provided by the Port Authority, based on their transponder data. There are 640 truck trips in and out of the Port per week for 2019. This was adjusted to 553 trips per week to represent base year 2015 conditions. The adjustment factor was derived from the passenger growth between 2015 & 2019. The cargo tonnage handled by the port in 2015 was 4.185 million tons and is forecast to increase to 25 million tons by 2045. Truck trips are assumed to increase proportional to the overall tonnage increase.

Future Input Data Refinements

The forecasts prepared are dependent on many assumptions, noted above, and some more significant than others. The most critical assumptions driving the forecasts for which data are sparse include:

1. A lack of weekend count data throughout the study area, thereby relying on the SR 528 continuous count station information (indicating weekend counts are 85% of weekday counts) to uniformly apply to all segments in the study area, particularly those on SR 401. Supplemental tube counts (7-days) or big data sources could be utilized to shore up the gap in weekend count data.
2. Future year truck trips tied to cargo operations at the Port. It was assumed the number of cargo truck trips would increase proportional to the forecast cargo tonnage increase from 2015 to 2045.

Appendix A

Forecast Auto and Truck Volumes

2030 and 2050 Daily Weekday and Weekend

Table A-1. Forecast 2030 Weekday Daily Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	4,776	2,481
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	3,965	2,304
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	3,676	909
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	3,054	831
5	North of Bascule Bridge	NB	In	6,976	3,181
6	North of Bascule Bridge	SB	Out	8,207	3,438
11	EB SR 528 On-Ramp from Banana River	EB	In	3,123	365
12	WB SR 528 Off-Ramp to Banana River	WB	Out	2,875	356
13	EB SR 528 between Banana River and SR 401	EB	In	40,530	4,192
14	WB SR 528 between Banana River and SR 401	WB	Out	39,511	4,226
16	EB SR 528 between SR 401 Ramps	EB	Out	37,817	1,418
17	WB SR 528 between SR 401 Ramps	WB	Out	35,107	1,338
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	41,469	2,355
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	38,113	2,224
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	6,003	287
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	5,954	299

Note: Link ID corresponds to red numbered segments in Figure 2.

Table A-2. Forecast 2030 Weekend Daily Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	3,145	363
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	2,921	345
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	1,940	134
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	2,021	126
5	North of Bascule Bridge	NB	In	4,938	475
6	North of Bascule Bridge	SB	Out	5,061	501
11	EB SR 528 On-Ramp from Banana River	EB	In	2,672	146
12	WB SR 528 Off-Ramp to Banana River	WB	Out	2,483	138
13	EB SR 528 between Banana River and SR 401	EB	In	35,246	2,412
14	WB SR 528 between Banana River and SR 401	WB	Out	34,425	2,441
16	EB SR 528 between SR 401 Ramps	EB	Out	32,144	1,205
17	WB SR 528 between SR 401 Ramps	WB	Out	29,841	1,138
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	35,745	1,574
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	32,937	1,463
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	5,123	211
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	5,079	221

Note: Link ID corresponds to red numbered segments in Figure 2.

Table A-3. Forecast 2050 Weekday Daily Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	6,433	4,294
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	5,462	4,029
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	4,416	1,184
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	3,712	1,200
5	North of Bascule Bridge	NB	In	9,158	5,277
6	North of Bascule Bridge	SB	Out	10,614	5,533
11	EB SR 528 On-Ramp from Banana River	EB	In	3,095	389
12	WB SR 528 Off-Ramp to Banana River	WB	Out	2,909	451
13	EB SR 528 between Banana River and SR 401	EB	In	45,254	6,110
14	WB SR 528 between Banana River and SR 401	WB	Out	44,271	6,245
16	EB SR 528 between SR 401 Ramps	EB	Out	40,788	1,598
17	WB SR 528 between SR 401 Ramps	WB	Out	38,016	1,534
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	45,188	2,815
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	41,714	2,777
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	6,910	432
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	6,858	448

Note: Link ID corresponds to red numbered segments in Figure 2.

Table A-4. Forecast 2050 Weekend Daily Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	5,091	587
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	4,816	556
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	2,713	159
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	2,821	165
5	North of Bascule Bridge	NB	In	7,636	725
6	North of Bascule Bridge	SB	Out	7,781	751
11	EB SR 528 On-Ramp from Banana River	EB	In	2,658	141
12	WB SR 528 Off-Ramp to Banana River	WB	Out	2,534	146
13	EB SR 528 between Banana River and SR 401	EB	In	39,811	2,808
14	WB SR 528 between Banana River and SR 401	WB	Out	39,032	2,859
16	EB SR 528 between SR 401 Ramps	EB	Out	34,670	1,358
17	WB SR 528 between SR 401 Ramps	WB	Out	32,314	1,304
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	39,126	1,743
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	36,229	1,648
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	5,901	253
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	5,853	269

Note: Link ID corresponds to red numbered segments in Figure 2.

Appendix B

Forecast Auto and Truck Volumes

2030 and 2050 Peak Hour Weekday and Weekend

Table B-1. Forecast 2030 Weekday Peak Hour Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	1,337	335
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	1,188	309
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	877	123
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	840	113
5	North of Bascule Bridge	NB	In	2,024	426
6	North of Bascule Bridge	SB	Out	2,189	463
11	EB SR 528 On-Ramp from Banana River	EB	In	301	47
12	WB SR 528 Off-Ramp to Banana River	WB	Out	336	48
13	EB SR 528 between Banana River and SR 401	EB	In	4,502	480
14	WB SR 528 between Banana River and SR 401	WB	Out	4,918	515
16	EB SR 528 between SR 401 Ramps	EB	Out	3,899	146
17	WB SR 528 between SR 401 Ramps	WB	Out	3,619	138
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	4,773	272
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	4,017	239
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	640	32
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	559	30

Note: Link ID corresponds to red numbered segments in Figure 2.

Table B-2. Forecast 2030 Weekend Peak Hour Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	1,328	49
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	1,255	48
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	789	18
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	857	18
5	North of Bascule Bridge	NB	In	2,112	67
6	North of Bascule Bridge	SB	Out	2,115	67
11	EB SR 528 On-Ramp from Banana River	EB	In	274	16
12	WB SR 528 Off-Ramp to Banana River	WB	Out	238	13
13	EB SR 528 between Banana River and SR 401	EB	In	4,312	244
14	WB SR 528 between Banana River and SR 401	WB	Out	3,687	205
16	EB SR 528 between SR 401 Ramps	EB	Out	2,424	91
17	WB SR 528 between SR 401 Ramps	WB	Out	2,250	86
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	3,338	127
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	3,779	144
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	413	17
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	503	21

Note: Link ID corresponds to red numbered segments in Figure 2.

Table B-3. Forecast 2050 Weekday Peak Hour Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	2,072	606
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	1,896	566
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	1,175	165
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	1,140	169
5	North of Bascule Bridge	NB	In	3,035	739
6	North of Bascule Bridge	SB	Out	3,223	777
11	EB SR 528 On-Ramp from Banana River	EB	In	309	51
12	WB SR 528 Off-Ramp to Banana River	WB	Out	362	62
13	EB SR 528 between Banana River and SR 401	EB	In	5,503	755
14	WB SR 528 between Banana River and SR 401	WB	Out	5,973	807
16	EB SR 528 between SR 401 Ramps	EB	Out	4,205	165
17	WB SR 528 between SR 401 Ramps	WB	Out	3,919	158
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	5,378	333
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	4,585	312
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	739	52
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	647	50

Note: Link ID corresponds to red numbered segments in Figure 2.

Table B-4. Forecast 2050 Weekend Peak Hour Auto and Truck Volumes

Link ID	Segment Name	Dir.	Orientation Toward North Side Port	Autos	Trucks
1	SB to WB Off-Ramp (Outer Left Span) – 8D	SB	Out	2,202	82
2	EB to NB On-Ramp (Middle Span) – 8A	NB	In	2,112	80
3	SB to EB On-Ramp (Middle Span) – 8B	SB	Out	1,133	22
4	WB to NB On-Ramp (Outer Right Span) – 8C	NB	In	1,217	24
5	North of Bascule Bridge	NB	In	3,329	104
6	North of Bascule Bridge	SB	Out	3,334	104
11	EB SR 528 On-Ramp from Banana River	EB	In	285	15
12	WB SR 528 Off-Ramp to Banana River	WB	Out	272	15
13	EB SR 528 between Banana River and SR 401	EB	In	5,420	293
14	WB SR 528 between Banana River and SR 401	WB	Out	4,762	253
16	EB SR 528 between SR 401 Ramps	EB	Out	2,614	102
17	WB SR 528 between SR 401 Ramps	WB	Out	2,437	98
21	EB Hwy A1A between SR 401 and George King Boulevard	EB	Out	3,879	141
22	WB Hwy A1A between SR 401 and George King Boulevard	WB	In	4,376	164
23	EB Hwy A1A Off-Ramp to George King Boulevard	EB	Out	480	21
24	WB Hwy A1A On-Ramp from George King Boulevard	WB	In	584	27

Note: Link ID corresponds to red numbered segments in Figure 2.

Attachment B

Raw Traffic Count Data

SR 401 Bridge Replacement Project

		Peak Hour Factor							
	Peak	9/22/2021		9/23/2021		9/24/2021		Average	
Location	Hour	EB/NB	WB/SB	EB/NB	WB/SB	EB/NB	WB/SB	**EB/NB**	**WB/SB**
(1) SR 528 west of SR 401	7:00	0.88	0.94	0.85	0.76	0.85	0.87	**0.86**	**0.85**
	11:00	0.84	0.93	0.94	0.96	0.95	0.89	**0.91**	**0.93**
(2) SR 528 to SR 401 NB Ramp	7:00	0.92		0.92		0.83		**0.89**	
	11:00	0.96		0.88		0.89		**0.91**	
(3) SR 401 SB to SR 528 EB Ramp	7:00		0.79		0.60		0.70		**0.70**
	11:00		0.91		0.79		0.88		**0.86**
(4) SR 528, East of SR 401	7:00	0.75	0.96	0.75	0.91	0.77	0.79	**0.76**	**0.89**
	11:00	0.91	0.89	0.95	0.95	0.94	0.88	**0.93**	**0.91**
(5) SR 528 WB to SR 401 NB Ramp	7:00	0.94		0.81		0.93		**0.89**	
	11:00	0.72		0.87		0.78		**0.79**	
(6.1) Charles Rowland Dr NB (Single Lane)	7:00	0.63		0.70		0.38		**0.57**	
	11:00	0.38		0.61		0.50		**0.50**	
(6.2) Charles Rowland NB (X2 lane In & out)	7:00	0.50		0.65		0.63		**0.59**	
	11:00	0.47		0.81		0.81		**0.70**	
(7) Charles Rowland Dr SB (Ramp)	7:00		0.45		0.36		0.73		**0.51**
	11:00		0.73		0.94		0.83		**0.83**
(8) SR 401, North of Charles Rowland	7:00	0.96	0.85	0.93	0.92	0.82	0.80	**0.90**	**0.86**
	11:00	0.81	0.95	0.89	0.93	0.82	0.92	**0.84**	**0.93**
(9) SR 401 SB to SR 528 WB	7:00		0.61		0.47		0.72		**0.60**
	11:00		0.91		0.95		0.97		**0.94**

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	35	17	0	1	0	0	11	0	0	0	0	0	0	0	64
02:00	0	22	14	0	0	0	0	11	0	0	0	0	0	0	0	47
03:00	0	21	14	0	1	0	0	10	0	0	0	0	0	0	0	46
04:00	0	16	12	0	3	0	0	11	0	0	0	0	0	0	0	42
05:00	0	33	37	1	5	0	0	28	0	0	0	0	0	0	0	104
06:00	1	117	159	2	7	0	0	38	0	0	0	0	0	0	0	324
07:00	8	221	309	6	23	0	0	56	0	0	0	0	1	0	0	624
08:00	4	304	358	13	26	0	0	72	0	0	0	0	3	0	0	780
09:00	1	285	322	6	30	0	0	78	0	0	0	0	0	0	0	722
10:00	0	237	243	9	33	0	0	51	0	0	0	0	0	0	0	573
11:00	0	241	230	3	34	0	0	59	0	0	0	0	0	0	0	567
12:00	1	283	241	6	19	0	0	49	0	0	0	1	0	0	0	600
13:00	0	266	215	9	26	0	0	42	1	0	0	0	0	0	0	559
14:00	0	258	201	7	29	0	0	44	0	0	0	0	0	0	0	539
15:00	0	278	220	6	14	0	0	36	0	0	0	0	0	0	0	554
16:00	0	274	206	6	10	0	0	18	0	0	0	0	0	0	0	514
17:00	0	284	221	12	12	0	0	16	0	0	0	0	0	0	0	545
18:00	0	347	270	2	16	0	0	28	0	0	0	1	1	0	0	665
19:00	3	360	228	0	9	0	0	14	0	0	0	0	0	0	0	614
20:00	1	415	274	3	7	0	0	10	0	0	0	0	0	0	0	710
21:00	0	308	169	0	4	0	0	16	0	0	0	0	0	0	0	497
22:00	0	239	99	9	1	0	0	16	0	0	0	0	0	0	0	364
23:00	0	108	50	1	1	0	0	8	0	0	0	0	0	0	0	168
24:00	0	72	40	0	0	0	0	10	0	0	0	0	0	0	0	122
DAY TOTAL	19	5024	4149	101	311	0	0	732	1	0	0	2	5	0	0	10344
PERCENTS	0.2%	48.6%	40.2%	1.0%	3.0%	0.0%	0.0%	7.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 88.8% Trucks & Buses 11.1%

AM Times	06:15	07:30	07:00	07:15	09:30			07:00				11:15	07:15			07:00
AM Peaks	8	318	373	13	38			78				1	3			781
PM Times	18:15	19:00	19:00	16:45	13:15			12:30	12:15			16:45	16:45			19:00
PM Peaks	3	432	286	14	29			50	1			1	1			742

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	32	26	1	0	0	0	8	0	0	0	0	0	0	0	67
02:00	0	17	17	1	1	0	0	7	0	0	0	0	0	0	0	43
03:00	0	17	17	0	0	0	0	13	0	0	0	0	0	0	0	47
04:00	0	20	9	0	0	0	0	15	0	0	0	0	0	0	0	44
05:00	0	41	29	0	2	0	0	15	0	0	0	0	0	0	0	87
06:00	1	102	162	1	21	0	0	43	0	0	0	0	0	0	0	330
07:00	2	249	330	3	29	0	0	65	0	0	0	0	0	0	0	678
08:00	0	339	349	8	38	0	0	70	1	0	0	0	0	0	0	805
09:00	2	329	325	8	53	0	0	53	1	0	0	0	0	0	0	771
10:00	0	264	256	7	40	0	0	53	0	0	0	0	0	0	0	620
11:00	0	264	257	9	40	0	0	55	0	0	0	0	1	0	0	626
12:00	0	279	255	5	27	0	0	49	0	0	0	0	0	0	0	615
13:00	0	299	269	6	26	0	0	42	1	0	0	0	0	0	0	643
14:00	1	261	270	3	27	0	0	53	0	0	0	0	0	0	0	615
15:00	0	252	205	7	32	0	0	36	0	0	0	0	0	0	0	532
16:00	0	303	213	5	12	0	0	21	0	0	0	0	0	0	0	554
17:00	0	316	206	3	15	0	0	24	1	0	0	0	0	0	0	565
18:00	0	339	207	3	7	0	0	15	0	0	0	0	0	0	0	571
19:00	0	322	193	0	6	0	0	20	0	0	0	0	0	0	0	541
20:00	1	196	136	0	3	0	0	9	0	0	0	0	0	0	0	345
21:00	0	125	78	0	2	0	0	15	0	0	0	0	0	0	0	220
22:00	0	132	73	0	1	0	0	8	0	0	0	0	0	0	0	214
23:00	0	92	55	0	1	0	0	9	0	0	0	0	0	0	0	157
24:00	0	54	41	0	1	0	0	5	0	0	0	0	0	0	0	101
DAY TOTAL	7	4644	3978	70	384	0	0	703	4	0	0	0	1	0	0	9791
PERCENTS	0.1%	47.5%	40.7%	0.7%	3.9%	0.0%	0.0%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	88.1%							Trucks & Buses	11.8%							
AM Times	05:45	07:30	06:45	08:30	08:30			06:30	06:30				09:45			06:45
AM Peaks	3	362	400	10	54			75	1				1			837
PM Times	12:45	17:30	13:00	13:45	13:45			13:00	12:15							12:30
PM Peaks	1	347	278	8	41			55	1							653

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	38	28	0	2	0	0	11	0	0	0	0	0	0	0	79
02:00	0	32	21	0	1	0	0	9	0	0	0	0	0	0	0	63
03:00	0	33	14	0	0	0	0	11	0	0	0	0	0	0	0	58
04:00	0	31	27	0	1	0	0	13	0	0	0	0	0	0	0	72
05:00	0	39	38	1	3	0	0	15	0	0	0	0	0	0	0	96
06:00	1	123	149	1	15	0	0	38	0	0	0	0	0	0	0	327
07:00	2	219	308	9	37	0	0	70	0	0	0	0	0	0	0	645
08:00	2	315	331	18	32	0	1	54	0	0	1	0	1	0	0	755
09:00	1	342	299	7	38	0	0	64	0	0	1	1	0	0	0	753
10:00	0	260	248	7	43	0	0	66	1	0	0	0	0	0	0	625
11:00	0	246	281	11	40	0	0	52	0	0	0	0	0	0	0	630
12:00	2	332	252	6	32	0	0	70	0	0	0	0	0	0	0	694
13:00	0	325	282	9	32	0	0	50	0	1	0	0	0	0	0	699
14:00	3	298	298	6	21	0	0	52	0	0	1	0	0	0	0	679
15:00	0	284	251	3	21	0	0	36	0	0	0	0	0	0	0	595
16:00	0	286	227	1	10	0	0	30	0	0	0	0	0	0	0	554
17:00	1	291	216	0	13	0	0	28	0	0	0	0	1	0	0	550
18:00	3	319	216	4	15	0	0	26	0	0	0	0	0	0	0	583
19:00	0	309	202	1	13	0	0	22	0	0	0	0	0	0	0	547
20:00	2	189	154	1	3	0	0	10	0	0	0	0	0	0	0	359
21:00	2	118	101	2	3	0	0	16	0	0	0	0	0	0	0	242
22:00	1	86	73	0	4	0	0	5	0	0	0	0	0	0	0	169
23:00	0	69	55	2	1	0	0	4	0	0	0	0	0	0	0	131
24:00	0	40	39	0	1	0	0	6	0	0	0	0	0	0	0	86
DAY TOTAL	20	4624	4110	89	381	0	1	758	1	1	3	1	2	0	0	9991
PERCENTS	0.3%	46.3%	41.2%	0.9%	3.8%	0.0%	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	87.6%							Trucks & Buses	12.3%							
AM Times	07:00	08:00	06:45	07:00	10:00		06:45	06:15	08:45		06:45	08:15	07:15			06:45
AM Peaks	3	354	369	19	46		1	70	1		1	1	1			783
PM Times	13:15	12:30	12:45	12:30	12:15			13:00		12:15	12:30		16:15			12:30
PM Peaks	3	346	300	13	32			52		1	1		1			720

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	9	4	0	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	11	3	0	1	0	0	0	0	0	0	0	0	0	0	15
03:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	15
06:00	0	27	25	0	1	0	0	3	0	0	0	0	0	0	0	56
07:00	2	75	114	1	0	0	0	5	0	1	0	0	0	0	0	198
08:00	0	253	149	0	3	0	0	9	0	0	0	1	1	0	0	416
09:00	1	227	129	2	3	1	1	6	0	0	0	0	0	0	0	370
10:00	0	200	89	3	5	0	0	11	0	0	0	0	0	0	0	308
11:00	1	190	62	0	3	0	0	9	0	0	0	0	0	0	0	265
12:00	1	220	70	1	4	0	0	10	0	0	0	0	0	0	0	306
13:00	1	198	77	0	3	0	0	8	0	0	0	0	0	0	0	287
14:00	0	187	93	5	1	0	0	9	0	0	0	0	0	0	0	295
15:00	0	176	62	0	1	0	0	5	0	0	0	0	0	0	0	244
16:00	0	192	75	1	3	0	0	3	0	0	0	0	0	0	0	274
17:00	0	205	85	0	0	0	0	1	0	0	0	0	0	0	0	291
18:00	0	247	93	1	3	0	0	0	0	0	0	0	0	0	0	344
19:00	1	309	91	0	3	0	0	0	0	1	0	0	0	0	0	405
20:00	0	413	95	0	1	0	0	2	1	0	0	0	0	0	0	512
21:00	1	272	67	0	1	0	0	0	0	1	0	0	0	0	0	342
22:00	0	119	21	1	0	0	0	0	0	0	0	0	0	0	0	141
23:00	0	49	14	0	0	0	0	2	0	0	0	0	0	0	0	65
24:00	0	25	3	0	2	0	0	1	0	0	0	0	0	0	0	31
DAY TOTAL	8	3624	1422	15	38	1	1	84	1	3	0	1	1	0	0	5199
PERCENTS	0.2%	69.8%	27.4%	0.3%	0.7%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 97.2% Trucks & Buses 2.7%

AM Times	06:15	07:30	07:00	09:15	08:00	08:00	08:15	09:15		06:15		06:30	06:30			07:30
AM Peaks	2	274	156	3	6	1	1	11		1		1	1			437
PM Times	12:15	19:00	17:30	12:45	12:15			13:00	18:30	17:45						19:00
PM Peaks	1	414	102	5	3			10	1	1						519

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	17	5	0	0	0	0	0	0	0	0	0	0	0	0	22
02:00	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	12
06:00	1	33	26	0	5	0	0	3	0	0	0	0	0	0	0	68
07:00	1	89	101	0	3	0	0	4	1	0	0	0	0	0	0	199
08:00	1	225	140	1	3	0	1	10	1	0	0	0	0	0	0	382
09:00	0	218	130	1	14	2	0	11	0	0	0	0	0	0	0	376
10:00	0	190	90	1	12	0	0	2	0	0	0	0	0	0	0	295
11:00	0	180	93	0	15	0	0	10	0	0	0	0	0	0	0	298
12:00	0	180	78	1	14	0	0	7	0	0	0	0	0	0	0	280
13:00	1	210	66	0	7	0	0	9	0	0	0	0	0	0	0	293
14:00	0	180	78	0	6	0	0	6	0	0	0	0	0	0	0	270
15:00	0	189	72	1	5	0	0	3	0	0	0	0	0	0	0	270
16:00	0	191	55	0	5	0	0	3	0	0	0	0	0	0	0	254
17:00	2	247	86	1	4	0	0	2	0	0	0	0	0	0	0	342
18:00	0	221	78	0	0	0	0	0	0	0	0	0	0	0	0	299
19:00	0	203	67	1	0	0	1	2	0	0	0	0	0	0	0	274
20:00	0	112	42	0	0	0	0	1	0	0	0	0	0	0	0	155
21:00	0	80	19	0	1	0	0	0	0	0	0	0	0	0	0	100
22:00	0	67	13	0	0	0	0	1	0	0	0	0	0	0	0	81
23:00	0	34	10	0	0	0	0	2	0	0	0	0	0	0	0	46
24:00	0	17	5	0	0	0	0	0	0	0	0	0	0	0	0	22
DAY TOTAL	6	2909	1260	7	94	2	2	76	2	0	0	0	0	0	0	4358
PERCENTS	0.2%	66.8%	29.0%	0.2%	2.1%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 95.8% Trucks & Buses 4.1%

AM Times	05:45	08:00	07:00	06:30	10:00	07:30	07:15	10:30	05:30							07:45
AM Peaks	2	244	148	1	18	2	1	12	1							398
PM Times	15:45	16:15	16:15	14:15	12:30		17:45	12:15								16:15
PM Peaks	2	247	86	1	8		1	9								342

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	13	2	0	0	0	0	2	0	0	0	0	0	0	0	17
02:00	0	16	2	0	0	0	0	0	0	0	0	0	0	0	0	18
03:00	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
05:00	0	10	5	0	0	0	0	0	0	0	0	0	0	0	0	15
06:00	0	44	26	1	0	0	0	0	0	0	0	0	0	0	0	71
07:00	0	102	112	1	3	0	0	6	0	0	1	0	0	0	0	225
08:00	1	217	141	0	11	0	1	7	0	0	0	0	0	0	0	378
09:00	0	257	138	2	11	2	0	6	0	0	2	0	0	0	0	418
10:00	0	192	91	4	7	0	0	9	0	0	0	0	0	0	0	303
11:00	0	178	86	1	11	0	0	6	0	0	0	0	0	0	0	282
12:00	0	179	106	2	14	1	0	10	0	0	0	0	0	0	0	312
13:00	1	226	78	0	9	0	0	10	0	0	0	0	0	0	0	324
14:00	0	185	113	1	7	0	0	5	0	0	0	0	1	0	0	312
15:00	0	166	83	3	0	0	0	1	0	0	0	0	0	0	0	253
16:00	0	201	98	0	5	0	0	0	0	0	1	0	0	0	0	305
17:00	1	258	81	0	0	0	0	1	0	0	0	0	0	0	0	341
18:00	0	327	88	0	3	0	0	3	0	0	0	0	0	0	0	421
19:00	0	230	64	0	1	0	0	0	0	0	0	0	0	0	0	295
20:00	0	146	46	0	0	0	0	0	0	0	0	0	0	0	0	192
21:00	0	104	38	0	1	0	0	1	0	0	1	0	0	0	0	145
22:00	0	61	20	0	2	0	0	1	0	0	0	0	0	0	0	84
23:00	0	64	11	0	0	0	0	0	0	0	0	0	0	0	0	75
24:00	0	43	13	0	0	0	0	0	0	0	0	0	0	0	0	56
DAY TOTAL	3	3231	1445	15	85	3	1	68	0	0	5	0	1	0	0	4857
PERCENTS	0.1%	66.6%	29.8%	0.3%	1.7%	0.0%	0.0%	1.4%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		96.3%							Trucks & Buses		3.6%					
AM Times	07:00	08:00	08:00	08:45	07:45	07:45	07:15	09:30			08:00					08:00
AM Peaks	1	277	160	5	16	2	1	11			2					463
PM Times	12:15	17:00	13:15	14:15	12:15			12:15			15:00		13:15			17:00
PM Peaks	1	334	113	3	9			10			1		1			424

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 3

File: 401.prn
City:
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	16	5	0	0	0	0	1	0	0	0	0	0	0	0	22
02:00	0	7	1	0	0	0	0	1	0	0	0	0	0	0	0	9
03:00	0	18	3	0	0	0	0	0	0	0	0	0	0	0	0	21
04:00	0	14	3	0	0	0	0	1	0	0	0	0	0	0	0	18
05:00	0	12	4	0	0	0	0	1	0	0	0	0	0	0	0	17
06:00	0	30	27	0	2	0	0	1	0	0	0	0	0	0	0	60
07:00	0	106	52	2	3	0	0	0	0	0	0	0	0	0	0	163
08:00	0	180	81	0	3	0	0	2	0	0	0	0	0	0	0	266
09:00	0	220	94	1	4	0	0	7	0	0	0	0	0	0	0	326
10:00	0	173	73	0	2	0	0	3	0	0	0	0	0	0	0	251
11:00	0	129	81	0	4	0	0	5	0	0	0	0	0	0	0	219
12:00	0	132	89	0	5	0	0	7	0	0	0	0	0	0	0	233
13:00	0	177	112	1	5	0	0	3	1	0	0	0	0	0	0	299
14:00	0	215	102	0	9	0	0	3	0	0	0	0	0	0	0	329
15:00	0	244	129	0	3	0	0	8	0	0	0	0	0	0	0	384
16:00	3	291	195	1	7	0	0	6	1	0	0	0	0	0	0	504
17:00	1	324	199	2	13	0	0	6	0	0	0	0	0	0	0	545
18:00	0	243	154	2	5	0	0	2	0	0	0	0	0	0	0	406
19:00	0	169	97	2	5	0	0	0	0	0	0	0	0	0	0	273
20:00	0	116	47	0	1	0	0	0	0	0	0	0	0	0	0	164
21:00	0	121	32	0	1	0	0	0	0	0	0	0	0	0	0	154
22:00	0	65	12	0	0	0	0	1	0	0	0	0	0	0	0	78
23:00	0	52	19	0	0	0	0	0	0	0	0	0	0	0	0	71
24:00	0	34	13	0	0	0	0	0	0	0	0	0	0	0	0	47
DAY TOTAL	4	3088	1624	11	72	0	0	58	2	0	0	0	0	0	0	4859
PERCENTS	0.1%	63.6%	33.5%	0.3%	1.4%	0.0%	0.0%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		97.0%						Trucks & Buses		2.9%						
AM Times		08:15	11:00	06:15	08:00			10:45								08:15
AM Peaks		220	96	2	5			8								326
PM Times	15:15	16:30	15:45	16:30	16:15			14:30	12:15							16:30
PM Peaks	3	334	224	4	13			9	1							553

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 3

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	29	2	0	0	0	0	1	0	0	0	0	0	0	0	32
02:00	0	16	2	0	1	0	0	0	0	0	0	0	0	0	0	19
03:00	0	8	2	0	0	0	0	2	0	0	0	0	0	0	0	12
04:00	0	6	5	0	0	0	0	1	0	0	0	0	0	0	0	12
05:00	0	15	2	0	0	0	0	1	0	0	0	0	0	0	0	18
06:00	0	31	34	1	2	0	0	2	0	0	0	0	0	0	0	70
07:00	0	109	59	1	4	0	0	2	1	0	0	0	0	0	0	176
08:00	0	154	78	0	0	0	0	5	0	0	0	0	0	0	0	237
09:00	0	230	121	2	3	0	0	8	0	0	0	0	0	0	0	364
10:00	1	243	104	0	5	0	0	6	0	0	0	0	0	0	0	359
11:00	0	221	133	2	9	0	0	6	0	0	0	0	0	0	0	371
12:00	0	190	106	0	9	0	0	5	0	0	0	1	0	0	0	311
13:00	0	159	120	0	8	0	0	5	0	0	0	0	0	0	0	292
14:00	0	167	123	0	2	1	0	8	0	0	0	0	0	0	0	301
15:00	0	248	156	1	10	0	0	5	0	0	0	0	0	0	0	420
16:00	0	334	218	0	16	0	2	3	0	0	0	0	0	0	0	573
17:00	0	376	237	5	8	0	0	4	0	0	0	0	0	0	0	630
18:00	0	275	145	0	8	0	0	1	0	0	0	0	0	0	0	429
19:00	0	152	91	1	4	0	0	6	0	0	0	0	0	0	0	254
20:00	0	136	56	0	4	0	0	1	0	0	0	0	0	0	0	197
21:00	0	110	41	0	0	0	0	2	0	0	0	0	0	0	0	153
22:00	0	64	31	0	3	0	0	0	0	0	0	0	0	0	0	98
23:00	0	46	23	0	0	0	0	0	0	0	0	0	0	0	0	69
24:00	0	30	8	0	0	0	0	0	0	0	0	0	0	0	0	38
DAY TOTAL	1	3349	1897	13	96	1	2	74	1	0	0	1	0	0	0	5435
PERCENTS	0.1%	61.7%	35.0%	0.2%	1.7%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		96.5%						Trucks & Buses		3.4%						
AM Times	09:15	08:45	10:15	08:15	10:00			08:15	05:45			10:30				10:00
AM Peaks	1	258	133	2	11			8	1			1				396
PM Times		16:15	15:45	16:15	15:15	12:45	14:45	12:30								16:15
PM Peaks		376	245	5	16	1	2	8								630

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 3

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	24	6	0	0	0	0	1	0	0	0	0	0	0	0	31
02:00	0	17	4	0	0	0	0	0	0	0	0	0	0	0	0	21
03:00	0	6	7	0	0	0	0	0	0	0	0	0	0	0	0	13
04:00	0	25	5	0	0	0	0	0	0	0	0	0	0	0	0	30
05:00	0	7	10	0	0	0	0	1	0	0	0	0	0	0	0	18
06:00	0	29	11	0	1	0	0	2	0	0	0	0	0	0	0	43
07:00	0	83	55	0	2	0	0	1	0	0	0	0	0	0	0	141
08:00	0	145	67	0	3	0	0	1	0	0	0	0	0	0	0	216
09:00	0	210	130	1	2	0	0	7	0	0	0	0	0	0	0	350
10:00	0	234	144	1	4	0	0	7	0	0	1	0	0	0	0	391
11:00	0	204	109	0	9	0	0	6	0	0	0	0	0	0	0	328
12:00	1	226	128	4	2	0	0	6	0	0	0	0	0	0	0	367
13:00	0	255	129	2	9	0	0	16	0	0	0	0	0	0	0	411
14:00	0	255	145	2	14	0	0	6	0	0	0	0	0	0	0	422
15:00	0	302	189	3	7	1	0	7	0	0	0	0	0	0	0	509
16:00	0	347	221	2	7	0	0	3	0	0	0	0	0	0	0	580
17:00	2	318	183	4	10	0	0	7	0	0	0	0	0	0	0	524
18:00	0	289	137	0	6	0	0	2	0	0	0	0	0	0	0	434
19:00	0	188	86	1	5	0	0	2	0	0	0	0	0	0	0	282
20:00	0	165	92	1	2	0	0	5	0	0	0	0	0	0	0	265
21:00	0	134	56	0	2	0	0	0	0	0	0	0	0	0	0	192
22:00	0	98	46	0	0	0	0	1	0	0	0	0	0	0	0	145
23:00	0	70	31	0	2	0	0	0	0	0	0	0	0	0	0	103
24:00	0	54	23	0	0	0	0	0	0	0	0	0	0	0	0	77
DAY TOTAL	3	3685	2014	21	87	1	0	81	0	0	1	0	0	0	0	5893
PERCENTS	0.1%	62.6%	34.2%	0.4%	1.4%	0.0%	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles			96.7%							Trucks & Buses		3.2%				
AM Times	11:00	09:00	09:00	11:15	10:15			09:30			08:45					09:00
AM Peaks	1	249	149	4	9			8			1					410
PM Times	16:00	15:15	15:15	16:00	12:45	14:00		12:45								15:15
PM Peaks	2	347	221	4	16	1		17								580

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 4

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	37	9	0	0	1	0	2	3	0	0	0	0	0	0	52
02:00	0	28	6	0	1	0	0	7	7	0	0	0	0	0	0	49
03:00	0	38	1	0	0	0	0	6	5	0	0	0	0	0	0	50
04:00	2	41	6	0	0	0	0	4	7	0	0	0	0	0	0	60
05:00	1	39	22	0	0	2	0	4	10	0	0	0	0	0	0	78
06:00	0	92	53	1	0	0	0	8	14	0	0	0	0	0	0	168
07:00	1	211	73	0	3	2	3	12	27	1	0	0	0	0	0	333
08:00	0	288	91	0	2	4	0	17	20	4	0	0	0	0	0	426
09:00	1	369	118	7	8	13	3	23	31	2	0	0	0	0	0	575
10:00	1	299	125	13	13	11	1	20	46	1	0	0	0	0	0	530
11:00	0	290	124	4	13	11	0	20	39	1	0	0	0	0	0	502
12:00	3	279	136	2	13	7	1	18	40	1	0	0	0	0	0	500
13:00	3	300	141	3	12	10	3	17	37	3	0	0	0	0	0	529
14:00	2	324	147	1	9	6	1	19	30	0	0	0	0	0	0	539
15:00	2	367	168	0	10	7	1	13	44	0	0	0	0	0	0	612
16:00	2	499	285	4	11	7	0	16	26	0	0	0	1	0	0	851
17:00	0	608	256	10	6	3	0	9	24	0	0	0	0	0	0	916
18:00	5	513	213	0	7	2	0	9	18	1	0	0	0	0	0	768
19:00	1	385	147	0	1	0	0	14	9	0	0	0	0	0	0	557
20:00	2	281	95	1	2	1	0	6	7	0	0	0	0	0	0	395
21:00	0	213	84	0	1	0	0	6	11	0	0	0	0	0	0	315
22:00	0	165	43	1	2	0	0	5	5	0	0	0	0	0	0	221
23:00	0	121	32	0	0	0	0	6	6	0	0	0	0	0	0	165
24:00	0	71	18	0	1	0	0	2	6	0	0	0	0	0	0	98
DAY TOTAL	26	5858	2393	47	115	87	13	263	472	14	0	0	1	0	0	9289
PERCENTS	0.3%	63.1%	25.8%	0.6%	1.3%	0.9%	0.1%	2.8%	5.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		89.1%							Trucks & Buses		10.8%					
AM Times	11:15	08:15	11:15	09:30	09:45	09:45	06:15	08:45	09:45	07:15						08:15
AM Peaks	3	369	136	14	18	16	3	24	48	4						575
PM Times	17:15	16:45	15:45	16:15	12:30	12:15	12:15	12:45	14:15	12:15			15:00			16:15
PM Peaks	5	619	293	10	16	10	3	22	44	3			1			916

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 4

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	92	20	0	0	0	0	2	2	0	0	0	0	0	0	116
02:00	0	37	3	0	1	0	0	3	10	0	0	0	0	0	0	54
03:00	0	33	11	1	0	0	0	2	8	0	0	0	0	0	0	55
04:00	0	51	11	0	1	0	0	6	7	0	0	0	0	0	0	76
05:00	1	45	17	0	0	1	0	7	8	0	0	0	0	0	0	79
06:00	0	89	42	1	2	2	0	9	14	0	0	1	0	0	0	160
07:00	1	202	80	3	6	4	1	16	23	1	0	0	0	0	0	337
08:00	2	314	94	2	3	5	0	19	27	1	0	0	0	0	0	467
09:00	1	391	115	6	19	13	2	22	25	0	0	0	0	0	0	594
10:00	2	370	108	6	16	8	0	19	38	0	0	0	0	0	0	567
11:00	2	366	138	3	18	8	3	27	34	2	1	0	1	0	0	603
12:00	2	344	144	8	15	7	3	19	29	2	0	0	0	0	0	573
13:00	1	316	137	4	11	6	0	23	35	0	0	0	0	0	0	533
14:00	0	324	169	9	9	6	1	24	27	2	0	0	0	0	0	571
15:00	1	433	164	9	12	11	1	22	30	0	0	0	0	0	0	683
16:00	6	545	280	5	4	4	1	23	21	0	0	0	2	0	0	891
17:00	2	600	275	8	12	2	1	21	19	0	0	0	0	0	0	940
18:00	3	496	198	5	6	1	1	11	19	0	1	0	0	0	0	741
19:00	2	353	136	0	2	1	0	9	5	0	0	0	0	0	0	508
20:00	1	316	87	1	3	0	1	6	8	0	0	0	0	0	0	423
21:00	3	232	65	1	1	0	0	6	8	0	0	0	0	0	0	316
22:00	1	180	37	0	1	1	0	8	5	0	0	0	0	0	0	233
23:00	0	133	41	1	0	0	0	4	3	0	0	0	0	0	0	182
24:00	0	78	29	2	1	0	0	2	3	0	0	0	0	0	0	115
DAY TOTAL	31	6340	2401	75	143	80	15	310	408	8	2	1	3	0	0	9817
PERCENTS	0.4%	64.6%	24.5%	0.8%	1.5%	0.9%	0.1%	3.1%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		89.3%						Trucks & Buses		10.6%						
AM Times	11:00	09:45	10:30	08:45	08:15	08:15	10:00	08:30	09:00	06:30	09:30	05:15	09:45			10:00
AM Peaks	4	410	154	8	19	13	3	27	43	2	1	1	1			624
PM Times	15:15	16:30	15:30	13:15	14:30	14:15	13:45	14:30	12:15	13:15	16:45		14:45			16:00
PM Peaks	6	601	295	9	14	11	2	25	35	2	1		2			949

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401
Direction: WEST
Lane: 4

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	1	76	18	0	0	1	0	2	2	0	0	0	0	0	0	100
02:00	0	43	9	1	0	0	0	2	8	0	0	0	0	0	0	63
03:00	0	46	8	1	1	0	0	7	4	0	0	0	0	0	0	67
04:00	0	37	9	0	0	1	0	3	3	0	0	0	0	0	0	53
05:00	0	46	11	3	0	0	0	3	10	0	0	0	0	0	0	73
06:00	0	82	44	2	2	0	0	6	7	0	0	0	0	0	0	143
07:00	2	184	71	2	4	4	6	20	19	0	0	0	0	0	0	312
08:00	2	276	68	1	7	6	3	13	24	3	0	0	0	0	0	403
09:00	2	382	133	10	10	9	4	19	26	1	0	0	1	0	0	597
10:00	2	356	135	14	11	10	4	31	37	0	0	1	0	0	0	601
11:00	2	299	138	17	18	9	8	23	33	4	0	0	0	0	0	551
12:00	2	325	135	7	10	10	3	23	34	0	0	0	1	0	0	550
13:00	2	281	134	3	14	6	2	13	25	2	0	0	2	0	0	484
14:00	2	334	157	9	11	9	3	19	21	3	0	0	0	0	0	568
15:00	6	433	181	7	7	5	2	24	26	1	0	0	1	0	0	693
16:00	3	519	244	7	12	4	2	13	16	0	0	1	0	0	0	821
17:00	5	559	182	10	6	8	2	13	13	0	0	0	1	0	0	799
18:00	2	505	158	5	5	2	1	13	13	0	0	0	0	0	0	704
19:00	1	366	141	0	4	1	0	9	9	0	0	0	0	0	0	531
20:00	1	339	92	0	5	0	1	5	7	0	0	0	0	0	0	450
21:00	2	266	85	0	0	1	0	8	8	0	0	0	0	0	0	370
22:00	2	215	62	0	2	1	0	9	4	0	0	0	0	0	0	295
23:00	0	202	47	0	1	0	0	4	6	0	0	0	0	0	0	260
24:00	0	141	37	1	0	0	0	5	2	0	0	0	0	0	0	186
DAY TOTAL	39	6312	2299	100	130	87	41	287	357	14	0	2	6	0	0	9674
PERCENTS	0.5%	65.3%	23.8%	1.1%	1.4%	0.9%	0.4%	2.9%	3.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 89.4% Trucks & Buses 10.5%

AM Times	08:45	08:15	08:45	10:15	10:15	09:00	09:45	09:00	10:45	07:30		09:15	07:30			09:00
AM Peaks	4	382	145	17	18	11	8	31	42	4		1	1			626
PM Times	14:15	16:30	15:15	16:45	15:30	12:30	12:45	14:00	14:15	12:45		14:45	12:15			15:15
PM Peaks	6	581	244	13	15	11	4	31	26	4		1	2			821

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 WEST	4 WEST	Total
01:00	64	13	22	52	151
02:00	47	15	9	49	120
03:00	46	3	21	50	120
04:00	42	3	18	60	123
05:00	104	15	17	78	214
06:00	324	56	60	168	608
07:00	624	198	163	333	1318
08:00	780	416	266	426	1888
09:00	722	370	326	575	1993
10:00	573	308	251	530	1662
11:00	567	265	219	502	1553
12:00	600	306	233	500	1639
13:00	559	287	299	529	1674
14:00	539	295	329	539	1702
15:00	554	244	384	612	1794
16:00	514	274	504	851	2143
17:00	545	291	545	916	2297
18:00	665	344	406	768	2183
19:00	614	405	273	557	1849
20:00	710	512	164	395	1781
21:00	497	342	154	315	1308
22:00	364	141	78	221	804
23:00	168	65	71	165	469
24:00	122	31	47	98	298
DAY TOTAL	10344	5199	4859	9289	29691
PERCENTS	34.9%	17.6%	16.3%	31.2%	100%
AM Times	07:00	07:30	08:15	08:15	
AM Peaks	781	437	326	575	
PM Times	19:00	19:00	16:30	16:15	
PM Peaks	742	519	553	916	

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 WEST	4 WEST	Total
01:00	67	22	32	116	237
02:00	43	12	19	54	128
03:00	47	6	12	55	120
04:00	44	2	12	76	134
05:00	87	12	18	79	196
06:00	330	68	70	160	628
07:00	678	199	176	337	1390
08:00	805	382	237	467	1891
09:00	771	376	364	594	2105
10:00	620	295	359	567	1841
11:00	626	298	371	603	1898
12:00	615	280	311	573	1779
13:00	643	293	292	533	1761
14:00	615	270	301	571	1757
15:00	532	270	420	683	1905
16:00	554	254	573	891	2272
17:00	565	342	630	940	2477
18:00	571	299	429	741	2040
19:00	541	274	254	508	1577
20:00	345	155	197	423	1120
21:00	220	100	153	316	789
22:00	214	81	98	233	626
23:00	157	46	69	182	454
24:00	101	22	38	115	276
DAY TOTAL	9791	4358	5435	9817	29401
PERCENTS	33.4%	14.9%	18.4%	33.3%	100%
AM Times	06:45	07:45	10:00	10:00	
AM Peaks	837	398	396	624	
PM Times	12:30	16:15	16:15	16:00	
PM Peaks	653	342	630	949	

Site Reference: 000000000001
Site ID: 000000000001
Location: SR 528, West of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 WEST	4 WEST	Total
01:00	79	17	31	100	227
02:00	63	18	21	63	165
03:00	58	6	13	67	144
04:00	72	9	30	53	164
05:00	96	15	18	73	202
06:00	327	71	43	143	584
07:00	645	225	141	312	1323
08:00	755	378	216	403	1752
09:00	753	418	350	597	2118
10:00	625	303	391	601	1920
11:00	630	282	328	551	1791
12:00	694	312	367	550	1923
13:00	699	324	411	484	1918
14:00	679	312	422	568	1981
15:00	595	253	509	693	2050
16:00	554	305	580	821	2260
17:00	550	341	524	799	2214
18:00	583	421	434	704	2142
19:00	547	295	282	531	1655
20:00	359	192	265	450	1266
21:00	242	145	192	370	949
22:00	169	84	145	295	693
23:00	131	75	103	260	569
24:00	86	56	77	186	405
DAY TOTAL	9991	4857	5893	9674	30415
PERCENTS	32.9%	16.0%	19.3%	31.8%	100%
AM Times	06:45	08:00	09:00	09:00	
AM Peaks	783	463	410	626	
PM Times	12:30	17:00	15:15	15:15	
PM Peaks	720	424	580	821	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/8/2021

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	5
02:00	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	7
03:00	0	10	4	0	0	0	0	9	0	0	0	0	0	0	0	23
04:00	0	10	2	0	1	0	0	10	0	0	0	0	0	0	0	23
05:00	0	27	26	0	1	0	0	17	0	0	0	0	0	0	0	71
06:00	0	141	103	0	2	0	0	24	0	0	0	0	0	0	0	270
07:00	0	312	251	0	10	0	0	30	0	0	0	0	0	0	0	603
08:00	0	325	184	1	16	0	0	32	0	0	0	0	0	0	0	558
09:00	0	183	91	0	14	0	0	45	2	0	0	0	0	0	0	335
10:00	0	105	57	0	12	0	0	34	0	0	0	0	0	0	0	208
11:00	0	46	37	0	5	0	0	26	0	0	1	0	0	0	0	115
12:00	0	40	30	0	5	2	0	31	0	0	0	0	0	0	0	108
13:00	0	53	38	1	5	0	0	21	0	0	0	0	0	0	0	118
14:00	0	43	35	0	9	0	0	21	2	0	0	0	0	0	0	110
15:00	0	41	30	1	1	0	0	20	0	0	0	0	0	0	0	93
16:00	0	33	14	1	1	0	0	18	0	0	0	0	0	0	0	67
17:00	0	31	13	0	6	0	0	11	0	0	0	0	0	0	0	61
18:00	0	18	8	0	0	0	0	12	0	0	0	0	0	0	0	38
19:00	0	12	6	0	1	0	0	6	0	0	0	0	0	0	0	25
20:00	0	6	2	0	1	0	0	10	1	0	0	0	0	0	0	20
21:00	0	5	3	0	0	0	0	12	0	0	0	0	0	0	0	20
22:00	0	10	4	0	0	0	0	7	0	0	0	0	0	0	0	21
23:00	0	4	2	0	0	0	0	5	0	0	0	0	0	0	0	11
24:00	0	4	1	0	0	0	0	4	0	0	0	0	0	0	0	9
DAY TOTAL	0	1459	941	4	90	2	0	417	5	0	1	0	0	0	0	2919
PERCENTS	0.0%	50.0%	32.3%	0.2%	3.1%	0.1%	0.0%	14.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 82.2% Trucks & Buses 17.7%

AM Times	06:45	06:45	07:00	07:45	11:00			08:15	07:45		09:45					06:45
AM Peaks	370	269	1	19	2			45	2		1					681
PM Times	12:45	12:30	12:15	13:30				14:00	12:30							12:15
PM Peaks	54	41	1	10				27	2							118

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	1	0	1	0	0	6	0	0	0	0	0	0	0	8
02:00	0	0	1	0	1	0	0	5	0	0	0	0	0	0	0	7
03:00	0	8	3	0	0	0	0	11	0	0	0	0	0	0	0	22
04:00	0	12	4	0	0	0	0	8	0	0	0	0	0	0	0	24
05:00	0	15	22	0	3	0	0	14	0	0	0	0	0	0	0	54
06:00	0	159	105	0	1	0	0	25	1	0	0	0	0	0	0	291
07:00	1	334	231	3	11	0	0	32	0	0	0	0	1	0	0	613
08:00	0	378	203	1	11	0	0	35	0	0	0	0	0	0	0	628
09:00	0	244	127	2	11	0	0	34	0	0	1	0	0	0	0	419
10:00	0	133	75	3	7	0	1	42	1	0	0	0	0	0	0	262
11:00	0	143	67	1	11	0	0	39	0	0	0	0	0	0	0	261
12:00	0	139	58	3	8	1	0	26	4	0	0	0	0	0	0	239
13:00	0	119	56	3	9	0	0	19	0	0	0	0	0	0	0	206
14:00	0	86	50	4	5	0	0	26	1	0	0	0	0	0	0	172
15:00	0	63	39	1	8	0	0	16	0	0	1	0	0	0	0	128
16:00	0	35	27	0	0	0	0	8	0	0	0	0	0	0	0	70
17:00	0	32	13	1	5	0	0	6	0	0	0	0	0	0	0	57
18:00	0	19	10	0	1	0	0	10	2	0	0	0	0	0	0	42
19:00	0	11	2	0	1	0	0	11	0	0	0	0	0	0	0	25
20:00	0	9	0	0	0	0	0	12	0	0	0	0	0	0	0	21
21:00	0	4	6	0	0	0	0	7	0	0	0	0	0	0	0	17
22:00	0	10	3	1	0	0	0	5	0	0	0	0	0	0	0	19
23:00	0	2	3	0	0	0	0	11	0	0	0	0	0	0	0	16
24:00	0	11	2	0	0	0	0	3	1	0	0	0	0	0	0	17
DAY TOTAL	1	1966	1108	23	94	1	1	411	10	0	2	0	1	0	0	3618
PERCENTS	0.1%	54.4%	30.7%	0.7%	2.6%	0.0%	0.0%	11.3%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		85.9%						Trucks & Buses		15.0%						
AM Times	06:15	07:00	06:45	06:15	07:45	11:15	08:30	09:15	11:15		07:45		06:15			06:45
AM Peaks	1	400	257	3	15	1	1	42	4		1		1			702
PM Times		12:15	12:30	13:15	12:15			13:45	16:30		13:45					12:15
PM Peaks		119	62	4	9			27	2		1					206

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	6
02:00	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	8
03:00	0	10	1	0	0	0	0	10	0	0	0	0	0	0	0	21
04:00	0	9	6	0	0	0	0	8	0	0	0	0	0	0	0	23
05:00	0	21	18	0	2	0	0	11	1	0	0	0	0	0	0	53
06:00	0	128	89	0	1	0	0	20	1	0	0	0	0	0	0	239
07:00	0	254	201	4	5	0	0	23	0	0	0	0	0	0	0	487
08:00	0	273	162	6	9	0	0	22	0	0	0	0	0	0	0	472
09:00	2	166	87	2	10	0	0	35	2	0	0	1	2	0	0	307
10:00	0	113	61	2	10	0	0	34	0	0	0	0	0	0	0	220
11:00	0	89	68	1	12	0	0	26	0	0	0	0	0	0	0	196
12:00	0	81	46	3	9	0	0	26	2	0	0	0	0	0	0	167
13:00	0	81	34	2	7	0	0	22	0	0	0	0	0	0	0	146
14:00	0	62	30	3	4	0	0	19	0	0	0	0	0	0	0	118
15:00	0	48	20	2	5	0	0	20	0	0	0	0	0	0	0	95
16:00	0	25	28	1	3	0	0	7	0	0	0	0	0	0	0	64
17:00	0	23	18	0	4	0	0	13	0	0	0	0	0	0	0	58
18:00	0	13	7	0	0	0	0	10	0	0	0	0	0	0	0	30
19:00	0	11	3	1	0	0	0	11	0	0	0	0	0	0	0	26
20:00	0	11	2	0	0	0	0	6	1	0	0	0	0	0	0	20
21:00	0	10	5	0	0	0	0	7	0	0	0	0	0	0	0	22
22:00	0	13	3	0	1	0	0	9	0	0	0	0	0	0	0	26
23:00	0	7	2	0	1	0	0	10	0	0	0	0	0	0	0	20
24:00	0	6	1	0	0	0	0	8	1	0	0	0	0	0	0	16
DAY TOTAL	2	1456	892	27	83	0	0	369	8	0	0	1	2	0	0	2840
PERCENTS	0.1%	51.3%	31.5%	1.0%	3.0%	0.0%	0.0%	12.9%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		82.7%						Trucks & Buses		17.2%						
AM Times	07:45	06:45	06:45	06:30	08:30			08:30	04:30			07:45	07:45			06:45
AM Peaks	2	303	216	6	14			37	2			1	2			561
PM Times		12:15	12:15	13:15	12:15			13:00	18:45							12:15
PM Peaks		81	34	3	7			23	1							146

Traffic Engineering Data Solutions, Inc.
VOLUME SUMMARY
Wed 9/8/2021

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	Total
01:00	5	5
02:00	7	7
03:00	23	23
04:00	23	23
05:00	71	71
06:00	270	270
07:00	603	603
08:00	558	558
09:00	335	335
10:00	208	208
11:00	115	115
12:00	108	108
13:00	118	118
14:00	110	110
15:00	93	93
16:00	67	67
17:00	61	61
18:00	38	38
19:00	25	25
20:00	20	20
21:00	20	20
22:00	21	21
23:00	11	11
24:00	9	9
DAY TOTAL	2919	2919
PERCENTS	100.0%	100%
AM Times	06:45	
AM Peaks	681	
PM Times	12:15	
PM Peaks	118	

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	Total
01:00	8	8
02:00	7	7
03:00	22	22
04:00	24	24
05:00	54	54
06:00	291	291
07:00	613	613
08:00	628	628
09:00	419	419
10:00	262	262
11:00	261	261
12:00	239	239
13:00	206	206
14:00	172	172
15:00	128	128
16:00	70	70
17:00	57	57
18:00	42	42
19:00	25	25
20:00	21	21
21:00	17	17
22:00	19	19
23:00	16	16
24:00	17	17
DAY TOTAL	3618	3618
PERCENTS	100.0%	100%
AM Times	06:45	
AM Peaks	702	
PM Times	12:15	
PM Peaks	206	

Site Reference: 000000000002
Site ID: 000000000002
Location: SR 528 to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	Total
01:00	6	6
02:00	8	8
03:00	21	21
04:00	23	23
05:00	53	53
06:00	239	239
07:00	487	487
08:00	472	472
09:00	307	307
10:00	220	220
11:00	196	196
12:00	167	167
13:00	146	146
14:00	118	118
15:00	95	95
16:00	64	64
17:00	58	58
18:00	30	30
19:00	26	26
20:00	20	20
21:00	22	22
22:00	26	26
23:00	20	20
24:00	16	16
DAY TOTAL	2840	2840
PERCENTS	100.0%	100%
AM Times	06:45	
AM Peaks	561	
PM Times	12:15	
PM Peaks	146	

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 1

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	5	2	0	1	0	0	0	0	0	0	0	0	0	0	8
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
04:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	10
05:00	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	4
06:00	0	1	3	0	0	0	0	1	0	0	0	0	0	0	0	5
07:00	0	9	14	0	0	0	0	1	0	0	0	0	0	0	0	24
08:00	0	19	9	0	0	0	0	3	0	0	0	0	0	0	0	31
09:00	0	24	19	1	2	0	0	1	0	0	0	0	0	0	0	47
10:00	0	38	28	0	2	0	0	4	0	0	0	0	0	0	0	72
11:00	0	19	26	0	3	0	0	2	0	0	0	0	0	0	0	50
12:00	0	54	42	0	3	0	0	0	0	0	0	0	0	0	0	99
13:00	0	43	24	0	5	0	0	2	0	0	0	0	0	0	0	74
14:00	0	34	24	0	1	0	0	3	0	0	0	0	0	0	0	62
15:00	1	42	33	0	0	0	0	3	0	0	0	0	0	0	0	79
16:00	0	97	53	0	2	0	0	3	0	0	0	0	0	0	0	155
17:00	0	77	40	0	0	0	0	3	0	0	0	0	0	0	0	120
18:00	0	73	23	0	0	0	0	0	0	0	0	0	0	0	0	96
19:00	0	35	13	0	1	0	0	1	0	0	0	0	0	0	0	50
20:00	0	24	6	0	2	0	0	0	0	0	0	0	0	0	0	32
21:00	0	18	4	0	0	0	0	1	0	0	0	0	0	0	0	23
22:00	0	9	3	0	0	0	0	2	0	0	0	0	0	0	0	14
23:00	0	10	4	0	1	0	0	0	0	0	0	0	0	0	0	15
24:00	0	12	5	0	1	0	0	0	0	0	0	0	0	0	0	18
DAY TOTAL	1	655	382	1	24	0	0	31	0	0	0	0	0	0	0	1094
PERCENTS	0.1%	59.9%	35.0%	0.1%	2.1%	0.0%	0.0%	2.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	94.8%							Trucks & Buses	5.1%							
AM Times		11:15	11:15	08:00	10:45			09:15								11:15
AM Peaks		54	42	1	4			4								99
PM Times	14:00	15:15	15:30		12:15			13:45								15:15
PM Peaks	1	97	58		5			5								155

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 1

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	3	2	0	1	0	0	1	0	0	0	0	0	0	0	7
02:00	0	1	3	0	1	0	0	0	0	0	0	0	0	0	0	5
03:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
04:00	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4
05:00	0	4	5	1	0	0	0	1	0	0	0	0	0	0	0	11
06:00	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	5
07:00	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	12
08:00	0	20	22	0	2	0	0	0	0	0	0	0	0	0	0	44
09:00	0	42	36	0	4	0	0	8	0	0	0	0	0	0	0	90
10:00	0	62	34	0	2	0	0	6	0	0	0	0	0	0	0	104
11:00	0	68	36	0	4	0	0	9	1	0	0	0	0	0	0	118
12:00	0	116	53	0	6	0	0	6	0	0	0	0	0	0	0	181
13:00	0	64	39	0	4	0	0	8	0	0	0	0	0	0	0	115
14:00	1	45	35	0	1	0	0	3	0	0	0	0	0	0	0	85
15:00	0	61	35	0	1	0	0	2	0	0	0	0	0	0	0	99
16:00	0	122	46	0	0	0	0	4	0	0	0	0	0	0	0	172
17:00	1	91	45	0	1	0	0	0	0	0	0	0	0	0	0	138
18:00	0	69	27	0	3	0	0	1	0	0	0	0	0	0	0	100
19:00	0	30	15	0	1	0	0	1	0	0	0	0	0	0	0	47
20:00	0	13	5	0	0	0	0	2	0	0	0	0	0	0	0	20
21:00	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	12
22:00	0	8	3	0	0	0	0	1	0	0	0	0	0	0	0	12
23:00	0	23	9	0	0	0	0	2	0	0	0	0	0	0	0	34
24:00	0	11	3	0	0	0	0	1	0	0	0	0	0	0	0	15
DAY TOTAL	2	878	462	1	31	0	0	58	1	0	0	0	0	0	0	1433
PERCENTS	0.2%	61.3%	32.3%	0.1%	2.1%	0.0%	0.0%	4.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	93.6%							Trucks & Buses	6.3%							
AM Times	11:15	11:15	03:45	11:00				10:30	09:45							11:15
AM Peaks	116	53	1	6				11	1							181
PM Times	12:45	15:15	16:00	12:15				12:15								15:15
PM Peaks	1	122	54	4				8								172

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 1

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	2	2	0	0	0	0	1	0	0	0	0	0	0	0	5
04:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7
07:00	0	5	8	0	0	0	0	1	0	0	0	0	0	0	0	14
08:00	0	16	23	0	1	0	0	2	0	0	0	0	0	0	0	42
09:00	0	29	30	0	4	0	0	3	0	0	0	0	0	0	0	66
10:00	0	41	30	0	1	0	0	1	0	0	0	0	0	0	0	73
11:00	0	58	26	1	2	0	0	3	0	0	0	0	0	0	0	90
12:00	0	62	39	0	4	0	0	5	0	0	0	0	0	0	0	110
13:00	0	50	31	1	1	0	0	1	0	0	0	0	0	0	0	84
14:00	0	31	24	0	4	0	0	2	0	0	0	0	0	0	0	61
15:00	0	55	24	0	2	0	0	2	0	0	0	0	0	0	0	83
16:00	0	96	44	0	4	0	0	2	0	0	0	0	0	0	0	146
17:00	0	82	34	0	1	0	0	2	0	0	0	0	0	0	0	119
18:00	0	36	11	0	0	0	0	0	0	0	0	0	0	0	0	47
19:00	0	36	4	0	0	0	0	2	0	0	0	0	0	0	0	42
20:00	0	14	6	0	0	0	0	0	0	0	0	0	0	0	0	20
21:00	0	8	3	0	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	4	2	0	0	0	0	1	0	0	0	0	0	0	0	7
23:00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	13
24:00	0	21	7	0	0	0	0	0	0	0	0	0	0	0	0	28
DAY TOTAL	0	671	358	2	24	0	0	28	0	0	0	0	0	0	0	1083
PERCENTS	0.0%	62.0%	33.1%	0.2%	2.2%	0.0%	0.0%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	95.0%							Trucks & Buses	4.9%							
AM Times	10:00	11:15	10:00	08:00				11:15								11:15
AM Peaks	65	39	1	4				5								110
PM Times	15:30	15:15	12:15	13:45				14:45								15:30
PM Peaks	102	44	1	5				3								150

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 2

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	3	2	0	0	0	0	1	0	0	0	0	0	0	0	6
02:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
03:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4
06:00	0	1	2	0	0	0	0	1	0	0	0	0	0	0	0	4
07:00	0	9	7	0	0	0	0	0	0	0	0	0	0	0	0	16
08:00	0	12	11	0	2	0	0	1	0	0	0	0	0	0	0	26
09:00	0	13	19	0	0	0	0	1	0	0	0	0	0	0	0	33
10:00	0	21	12	1	1	0	0	2	0	0	0	0	0	0	0	37
11:00	0	36	23	0	5	0	0	3	0	0	0	0	0	0	0	67
12:00	0	43	45	0	2	0	0	1	0	0	0	0	0	0	0	91
13:00	0	43	28	0	1	0	0	0	0	0	0	0	0	0	0	72
14:00	0	37	25	0	0	0	0	2	0	0	0	0	0	0	0	64
15:00	0	47	40	0	0	0	0	1	0	0	0	0	0	0	0	88
16:00	0	80	65	0	3	0	0	1	0	0	0	0	0	0	0	149
17:00	0	84	50	0	0	0	0	2	0	0	0	0	0	0	0	136
18:00	0	50	39	0	1	0	0	1	0	0	0	0	0	0	0	91
19:00	0	42	10	0	0	0	0	0	0	0	0	0	0	0	0	52
20:00	0	23	4	0	1	0	0	0	0	0	0	0	0	0	0	28
21:00	0	16	6	0	0	0	0	0	0	0	0	0	0	0	0	22
22:00	0	7	4	0	2	0	0	0	0	0	0	0	0	0	0	13
23:00	0	16	8	0	0	0	0	0	0	0	0	0	0	0	0	24
24:00	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	10
DAY TOTAL	0	600	407	1	19	0	0	17	0	0	0	0	0	0	0	1044
PERCENTS	0.0%	57.5%	39.0%	0.1%	1.8%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 96.4% Trucks & Buses 3.5%

AM Times	11:00	11:15	09:15	10:15	08:45											11:00
AM Peaks	44	45	1	5	3											92
PM Times	15:45	15:00	15:00	16:45	15:00											
PM Peaks	91	65	3	3	151											

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 2

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
02:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2
06:00	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	5
07:00	0	4	5	0	0	0	0	1	0	0	0	0	0	0	0	10
08:00	0	8	11	1	1	0	0	0	0	0	0	0	0	0	0	21
09:00	0	26	5	0	1	0	0	0	0	0	0	0	0	0	0	32
10:00	0	24	12	0	3	0	0	1	0	0	0	0	0	0	0	40
11:00	0	37	24	1	0	0	0	3	0	0	0	0	0	0	0	65
12:00	2	83	60	0	2	0	0	2	0	0	0	0	0	0	0	149
13:00	0	60	24	0	2	0	0	0	0	0	0	0	0	0	0	86
14:00	0	30	15	1	4	0	0	2	0	0	0	0	0	0	0	52
15:00	0	51	19	0	1	0	0	0	0	0	0	0	0	0	0	71
16:00	1	83	61	0	1	0	0	1	0	0	0	0	0	0	0	147
17:00	0	93	44	0	0	0	0	1	0	0	0	0	0	0	0	138
18:00	1	49	23	0	1	0	0	2	0	0	0	0	0	0	0	76
19:00	0	36	15	0	0	0	0	0	0	0	0	0	0	0	0	51
20:00	0	13	4	0	0	0	0	1	0	0	0	0	0	0	0	18
21:00	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	11
22:00	0	5	3	0	3	0	0	0	0	0	0	0	0	0	0	11
23:00	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	10
24:00	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	12
DAY TOTAL	4	644	335	4	19	0	0	16	0	0	0	0	0	0	0	1022
PERCENTS	0.4%	63.1%	32.8%	0.4%	1.8%	0.0%	0.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	96.1%							Trucks & Buses	3.8%							
AM Times	10:30	11:15	11:15	00:30	09:15			10:00								11:15
AM Peaks	2	83	60	1	3			3								149
PM Times	15:00	16:00	15:15	13:00	13:15			12:30								15:45
PM Peaks	1	98	61	1	4			2								155

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB
Direction: SOUTH
Lane: 2

File: EB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
03:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
07:00	0	11	5	0	0	0	0	0	0	0	0	0	0	0	0	16
08:00	0	7	12	1	0	0	0	2	0	0	0	0	0	0	0	22
09:00	1	11	12	0	0	0	0	0	0	0	0	0	0	0	0	24
10:00	0	12	10	0	0	0	0	2	0	0	0	0	0	0	0	24
11:00	0	24	29	0	3	0	0	1	0	0	0	0	0	0	0	57
12:00	0	57	24	0	4	0	0	1	0	0	0	0	0	0	0	86
13:00	0	43	26	0	3	0	0	2	0	0	0	0	0	0	0	74
14:00	0	31	30	0	0	0	0	1	0	0	0	0	0	0	0	62
15:00	0	54	33	1	1	0	0	0	0	0	0	0	0	0	0	89
16:00	0	58	50	0	1	0	0	2	0	0	0	0	0	0	0	111
17:00	0	39	31	0	2	0	0	1	0	0	0	0	0	0	0	73
18:00	0	25	4	0	2	0	0	0	0	0	0	0	0	0	0	31
19:00	0	18	3	0	1	0	0	1	0	0	0	0	0	0	0	23
20:00	0	12	5	1	0	0	0	0	0	0	0	0	0	0	0	18
21:00	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	10
22:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
24:00	0	6	3	0	1	0	0	0	0	0	0	0	0	0	0	10
DAY TOTAL	1	439	289	3	18	0	0	13	0	0	0	0	0	0	0	763
PERCENTS	0.2%	57.6%	37.9%	0.3%	2.3%	0.0%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 95.5% Trucks & Buses 4.4%

AM Times	08:00	11:15	11:00	07:15	11:15			07:15								11:15
AM Peaks	1	57	31	1	4			2								86
PM Times		15:00	15:00	14:00	12:15			12:15								15:00
PM Peaks		68	58	1	3			2								129

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB

File: EB.prn
City:
County:

TIME	1 SOUTH	2 SOUTH	Total
01:00	8	6	14
02:00	1	3	4
03:00	5	4	9
04:00	10	4	14
05:00	4	4	8
06:00	5	4	9
07:00	24	16	40
08:00	31	26	57
09:00	47	33	80
10:00	72	37	109
11:00	50	67	117
12:00	99	91	190
13:00	74	72	146
14:00	62	64	126
15:00	79	88	167
16:00	155	149	304
17:00	120	136	256
18:00	96	91	187
19:00	50	52	102
20:00	32	28	60
21:00	23	22	45
22:00	14	13	27
23:00	15	24	39
24:00	18	10	28
DAY TOTAL	1094	1044	2138
PERCENTS	51.2%	48.8%	100%
AM Times	11:15	11:00	
AM Peaks	99	92	
PM Times	15:15	15:00	
PM Peaks	155	151	

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB

File: EB.prn
City:
County:

TIME	1 SOUTH	2 SOUTH	Total
01:00	7	5	12
02:00	5	4	9
03:00	3	4	7
04:00	4	2	6
05:00	11	2	13
06:00	5	5	10
07:00	12	10	22
08:00	44	21	65
09:00	90	32	122
10:00	104	40	144
11:00	118	65	183
12:00	181	149	330
13:00	115	86	201
14:00	85	52	137
15:00	99	71	170
16:00	172	147	319
17:00	138	138	276
18:00	100	76	176
19:00	47	51	98
20:00	20	18	38
21:00	12	11	23
22:00	12	11	23
23:00	34	10	44
24:00	15	12	27
DAY TOTAL	1433	1022	2455
PERCENTS	58.4%	41.6%	100%
AM Times	11:15	11:15	
AM Peaks	181	149	
PM Times	15:15	15:45	
PM Peaks	172	155	

Site Reference: 000000000003
Site ID: 000000000003
Location: SR 401 SB to SR 528 EB

File: EB.prn
City:
County:

TIME	1 SOUTH	2 SOUTH	Total
01:00	6	1	7
02:00	1	2	3
03:00	5	6	11
04:00	7	2	9
05:00	1	1	2
06:00	7	5	12
07:00	14	16	30
08:00	42	22	64
09:00	66	24	90
10:00	73	24	97
11:00	90	57	147
12:00	110	86	196
13:00	84	74	158
14:00	61	62	123
15:00	83	89	172
16:00	146	111	257
17:00	119	73	192
18:00	47	31	78
19:00	42	23	65
20:00	20	18	38
21:00	11	10	21
22:00	7	5	12
23:00	13	11	24
24:00	28	10	38
DAY TOTAL	1083	763	1846
PERCENTS	58.7%	41.3%	100%
AM Times	11:15	11:15	
AM Peaks	110	86	
PM Times	15:30	15:00	
PM Peaks	150	129	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/22/2021

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	6	1	0	1	0	0	0	1	0	0	0	0	0	0	9
02:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	1	2	0	0	0	0	0	1	0	0	0	0	0	0	4
04:00	0	12	0	0	1	0	0	0	1	0	0	0	0	0	0	14
05:00	0	3	1	0	0	0	0	2	2	0	0	0	0	0	0	8
06:00	0	23	5	1	2	1	0	3	2	0	0	0	0	0	0	37
07:00	2	42	15	1	5	3	0	3	2	0	0	0	0	0	0	73
08:00	0	52	21	2	7	2	0	2	9	0	0	0	0	0	0	95
09:00	2	76	28	0	6	2	0	4	13	0	0	0	0	0	0	131
10:00	0	71	19	1	5	2	0	5	14	0	0	0	0	0	0	117
11:00	0	64	21	1	8	1	0	2	9	0	0	0	0	0	0	106
12:00	0	92	42	1	13	0	0	3	15	1	0	0	0	0	0	167
13:00	0	89	32	1	7	5	0	4	9	0	0	0	0	0	0	147
14:00	0	40	27	1	6	0	0	3	10	1	0	0	0	0	0	88
15:00	0	81	28	0	8	1	0	2	11	0	0	0	0	0	0	131
16:00	0	125	46	1	5	0	0	0	5	0	0	0	0	0	0	182
17:00	0	121	37	0	6	0	0	1	3	0	0	0	0	0	0	168
18:00	0	108	20	0	4	1	0	2	4	0	0	0	0	0	0	139
19:00	0	64	20	0	2	1	0	2	1	0	0	0	0	0	0	90
20:00	0	30	4	1	1	0	0	3	2	0	0	0	0	0	0	41
21:00	0	22	7	0	3	0	0	1	0	0	0	0	0	0	0	33
22:00	0	8	2	0	1	0	0	2	2	0	0	0	0	0	0	15
23:00	0	17	2	0	0	0	0	1	0	0	0	0	0	0	0	20
24:00	0	17	2	0	2	0	0	2	0	0	0	0	0	0	0	23
DAY TOTAL	4	1168	384	11	93	19	0	47	116	2	0	0	0	0	0	1844
PERCENTS	0.3%	63.4%	20.9%	0.6%	5.0%	1.0%	0.0%	2.5%	6.2%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		84.3%						Trucks & Buses		15.6%						
AM Times	05:45	11:00	11:00	05:45	11:00	05:45		09:15	08:30	10:45						11:00
AM Peaks	2	92	43	2	14	4		5	16	1						168
PM Times		16:30	15:15	13:00	13:45	12:15		12:30	14:00	12:45						15:15
PM Peaks		133	46	2	10	5		5	11	1						182

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	10	4	0	2	0	0	0	1	0	0	0	0	0	0	17
02:00	0	2	4	0	0	0	0	1	0	0	0	0	0	0	0	7
03:00	0	4	0	0	0	0	0	0	1	0	0	0	0	0	0	5
04:00	0	8	1	0	1	0	0	0	0	0	0	0	0	0	0	10
05:00	0	9	0	0	0	0	0	1	0	0	0	0	0	0	0	10
06:00	0	35	3	0	2	0	0	0	3	0	0	0	0	0	0	43
07:00	0	64	5	1	5	1	0	0	4	0	0	0	0	0	0	80
08:00	1	74	22	1	7	3	0	0	6	0	0	0	0	0	0	114
09:00	0	100	19	2	7	3	0	4	8	0	0	0	0	0	0	143
10:00	0	87	27	2	6	2	0	4	12	0	0	0	0	0	0	140
11:00	0	84	26	1	7	2	0	5	15	0	0	0	0	0	0	140
12:00	0	131	40	1	12	1	0	2	15	0	0	0	0	0	0	202
13:00	0	96	33	0	8	3	0	4	10	0	0	0	0	0	0	154
14:00	0	93	31	0	10	1	0	1	7	0	0	0	0	0	0	143
15:00	0	87	32	0	8	3	0	2	7	0	0	0	0	0	0	139
16:00	0	131	32	0	2	1	0	4	3	0	0	0	0	0	0	173
17:00	1	138	25	1	9	0	0	1	4	0	0	0	0	0	0	179
18:00	0	99	22	0	5	0	0	3	1	0	0	0	0	0	0	130
19:00	0	63	9	0	1	0	0	1	2	0	0	0	0	0	0	76
20:00	0	51	6	0	1	0	0	0	4	0	0	0	0	0	0	62
21:00	0	18	3	1	1	0	0	2	2	0	0	0	0	0	0	27
22:00	0	5	2	0	1	0	0	1	0	0	0	0	0	0	0	9
23:00	0	12	0	0	2	0	0	2	0	0	0	0	0	0	0	16
24:00	0	12	3	0	1	0	0	1	0	0	0	0	0	0	0	17
DAY TOTAL	2	1413	349	10	98	20	0	39	105	0	0	0	0	0	0	2036
PERCENTS	0.1%	69.5%	17.2%	0.5%	4.8%	0.9%	0.0%	1.9%	5.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		86.6%						Trucks & Buses		13.3%						
AM Times	06:45	11:15	11:15	08:45	11:15	07:30		09:00	10:30							11:15
AM Peaks	1	131	40	4	12	4		7	23							202
PM Times	16:00	15:45	14:45	15:45	12:30	14:00		12:15	12:15							15:30
PM Peaks	1	139	43	1	13	4		4	10							181

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 1

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	10	3	0	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	5	0	1	0	0	0	0	1	0	0	0	0	0	0	7
03:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
04:00	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	8
05:00	0	6	3	0	0	0	0	2	2	0	0	0	0	0	0	13
06:00	0	23	3	0	0	1	0	2	3	1	0	0	0	0	0	33
07:00	0	41	20	0	4	0	0	3	5	0	0	0	0	0	0	73
08:00	0	63	19	1	5	1	0	3	12	0	0	0	0	0	0	104
09:00	0	97	18	3	7	0	0	6	8	0	0	0	0	0	0	139
10:00	0	90	31	3	1	0	0	2	7	0	0	0	0	0	0	134
11:00	0	96	32	2	7	0	0	2	16	0	0	0	0	0	0	155
12:00	0	125	43	3	11	0	0	3	13	0	0	0	0	0	0	198
13:00	0	136	38	0	6	2	0	2	16	1	0	0	0	0	0	201
14:00	0	80	27	0	6	0	0	4	10	0	0	0	0	0	0	127
15:00	0	101	21	0	6	2	0	2	6	0	0	0	0	0	0	138
16:00	0	151	43	0	8	2	0	2	4	0	0	0	0	0	0	210
17:00	0	116	28	0	7	0	0	2	2	0	0	0	0	0	0	155
18:00	0	105	18	0	1	0	0	4	3	0	0	0	0	0	0	131
19:00	0	50	4	0	1	0	0	1	2	0	0	0	0	0	0	58
20:00	0	30	6	0	3	0	0	0	2	0	0	0	0	0	0	41
21:00	0	18	4	0	2	0	0	2	0	0	0	0	0	0	0	26
22:00	0	26	4	0	2	0	0	1	1	0	0	0	0	0	0	34
23:00	0	18	2	0	0	0	0	0	0	0	0	0	0	0	0	20
24:00	0	11	6	0	0	0	0	0	0	0	0	0	0	0	0	17
DAY TOTAL	0	1411	374	13	77	8	0	43	113	2	0	0	0	0	0	2041
PERCENTS	0.0%	69.2%	18.4%	0.7%	3.8%	0.3%	0.0%	2.1%	5.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 87.4% Trucks & Buses 12.5%

AM Times	11:15	11:00	08:30	11:15	04:45		08:15	10:45	04:45							11:15
AM Peaks	125	44	4	11	1		6	18	1							198
PM Times	15:15	15:15		16:00	14:30		13:45	12:30	12:15							15:15
PM Peaks	151	43		10	4		5	17	1							210

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	37	9	0	3	0	0	0	3	0	0	0	0	0	0	52
02:00	0	25	9	0	0	0	0	0	0	0	0	0	0	0	0	34
03:00	0	24	7	0	0	0	0	0	0	0	0	0	0	0	0	31
04:00	0	20	5	0	0	0	0	0	0	0	0	0	0	0	0	25
05:00	0	26	8	1	1	1	0	1	2	0	0	0	0	0	0	40
06:00	3	76	54	0	7	2	0	2	6	0	0	0	0	0	0	150
07:00	3	191	93	2	16	6	0	8	8	0	0	0	0	0	0	327
08:00	1	288	149	3	27	3	0	8	15	0	0	0	0	0	0	494
09:00	4	307	142	4	26	4	0	6	12	0	0	0	0	0	0	505
10:00	1	306	131	6	26	4	1	5	15	0	0	0	0	0	0	495
11:00	3	279	115	3	25	5	1	5	17	0	0	0	0	0	0	453
12:00	1	331	162	1	20	3	1	3	17	1	0	0	0	0	0	540
13:00	3	324	135	3	24	3	0	4	16	0	0	0	0	0	0	512
14:00	0	304	145	2	24	2	0	6	9	0	0	0	0	0	0	492
15:00	3	323	122	6	25	5	0	6	9	0	0	0	0	0	0	499
16:00	0	404	159	1	28	0	0	5	12	0	0	0	0	0	0	609
17:00	1	488	144	2	28	0	0	2	4	0	0	0	0	0	0	669
18:00	0	493	154	1	21	0	0	3	5	0	0	0	0	0	0	677
19:00	1	354	118	0	19	0	0	0	2	0	0	0	0	0	0	494
20:00	0	220	71	0	13	0	0	0	4	0	0	0	0	0	0	308
21:00	0	167	51	0	1	2	0	1	0	0	0	0	0	0	0	222
22:00	0	122	31	0	2	0	0	0	1	0	0	0	0	0	0	156
23:00	0	104	15	1	1	0	0	0	1	0	0	0	0	0	0	122
24:00	2	65	21	0	3	1	0	1	2	0	0	0	0	0	0	95
DAY TOTAL	26	5278	2050	36	340	41	3	66	160	1	0	0	0	0	0	8001
PERCENTS	0.4%	66.0%	25.7%	0.5%	4.2%	0.5%	0.0%	0.8%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	91.9%							Trucks & Buses	8.0%							
AM Times	07:45	11:15	07:45	09:00	10:00	06:15	10:30	06:30	08:45	11:00						08:00
AM Peaks	4	331	165	7	30	6	2	9	18	1						540
PM Times	12:15	17:00	16:45	13:45	16:30	12:45		13:00	12:30							17:00
PM Peaks	3	498	166	6	30	5		10	18							698

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	1	46	16	0	1	0	0	0	1	0	0	0	0	0	0	65
02:00	0	34	4	0	1	0	0	0	0	0	0	0	0	0	0	39
03:00	0	14	7	0	0	0	0	1	4	0	0	0	0	0	0	26
04:00	0	12	2	0	0	0	0	0	3	0	0	0	0	0	0	17
05:00	1	26	6	0	0	1	0	1	1	0	0	0	0	0	0	36
06:00	0	86	36	2	12	0	0	2	5	0	0	0	0	0	0	143
07:00	4	168	88	4	16	1	0	6	11	0	0	0	0	0	0	298
08:00	5	273	124	2	26	2	0	13	7	0	0	0	0	0	0	452
09:00	0	316	150	3	33	2	0	9	17	0	0	0	0	0	0	530
10:00	6	302	165	5	35	7	0	5	14	0	0	0	0	0	0	539
11:00	6	317	137	4	25	7	0	7	13	1	0	0	0	0	0	517
12:00	2	347	142	7	37	4	0	2	19	0	0	0	0	0	0	560
13:00	1	354	153	3	30	1	0	5	19	0	0	0	0	0	0	566
14:00	2	309	122	4	28	1	0	10	16	0	0	0	0	0	0	492
15:00	3	380	121	3	16	5	0	9	11	0	0	0	0	0	0	548
16:00	2	417	149	3	20	4	0	4	9	0	0	0	0	0	0	608
17:00	0	443	165	3	22	0	0	4	1	0	0	0	0	0	0	638
18:00	0	485	135	0	19	1	0	5	3	0	0	0	0	0	0	648
19:00	2	388	98	0	10	1	0	4	1	0	0	0	0	0	0	504
20:00	1	294	82	0	12	1	0	0	3	0	0	0	0	0	0	393
21:00	1	201	58	0	6	0	0	1	1	0	0	0	0	0	0	268
22:00	0	148	26	0	2	0	0	1	1	0	0	0	0	0	0	178
23:00	1	129	30	0	3	0	0	0	0	0	0	0	0	0	0	163
24:00	0	78	22	1	1	0	0	1	1	0	0	0	0	0	0	104
DAY TOTAL	38	5567	2038	44	355	38	0	90	161	1	0	0	0	0	0	8332
PERCENTS	0.5%	66.9%	24.5%	0.6%	4.2%	0.4%	0.0%	1.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles			91.7%						Trucks & Buses		8.2%					
AM Times	10:30	11:15	08:45	10:45	11:15	09:15		07:15	11:00	10:00						08:45
AM Peaks	7	347	183	8	37	7		13	19	1						568
PM Times	14:30	17:15	16:00	12:30	13:00	14:15		13:15	12:15							16:00
PM Peaks	4	485	167	6	32	5		10	19							670

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 2

File: 401.prn
City:
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	47	13	0	1	0	0	0	0	0	0	0	0	0	0	61
02:00	0	37	12	0	1	0	0	0	0	0	0	0	0	0	0	50
03:00	0	25	6	0	1	0	0	0	0	0	0	0	0	0	0	32
04:00	0	24	11	0	0	0	0	1	0	0	0	0	0	0	0	36
05:00	0	32	11	1	0	2	0	1	2	0	0	0	0	0	0	49
06:00	2	95	52	1	10	3	0	1	4	0	0	0	0	0	0	168
07:00	4	229	117	3	27	2	0	5	17	0	0	0	0	0	0	404
08:00	3	317	144	6	30	1	0	11	12	0	0	0	1	0	0	525
09:00	5	337	212	3	30	4	1	9	12	0	0	0	1	0	0	614
10:00	7	369	146	10	33	4	0	4	16	0	0	0	0	0	0	589
11:00	5	354	160	9	25	5	0	6	13	1	0	0	0	0	0	578
12:00	6	425	163	3	37	7	0	5	13	1	0	0	0	0	0	660
13:00	4	501	178	5	36	3	0	6	13	0	0	0	0	0	0	746
14:00	3	435	201	5	28	4	0	8	10	0	0	0	0	0	0	694
15:00	0	468	171	2	29	1	0	12	15	0	0	0	0	0	0	698
16:00	2	487	186	6	20	2	0	7	8	0	0	0	0	0	0	718
17:00	0	526	169	3	28	1	0	6	2	0	0	0	0	0	0	735
18:00	7	527	131	0	18	1	0	4	2	0	0	0	0	0	0	690
19:00	0	370	111	0	18	0	0	2	3	0	0	0	0	0	0	504
20:00	1	305	87	1	13	0	0	3	1	0	0	0	0	0	0	411
21:00	0	227	75	0	14	0	0	2	0	0	0	0	0	0	0	318
22:00	1	172	47	0	6	0	0	2	0	0	0	0	0	0	0	228
23:00	0	171	41	1	6	0	0	0	1	0	0	0	0	0	0	220
24:00	1	99	30	0	6	0	0	2	3	0	0	0	0	0	0	141
DAY TOTAL	51	6579	2474	59	417	40	1	97	147	2	0	0	2	0	0	9869
PERCENTS	0.6%	66.7%	25.1%	0.6%	4.3%	0.4%	0.0%	0.9%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		92.2%						Trucks & Buses		7.7%						
AM Times	08:30	11:15	08:15	09:30	09:45	11:15	07:30	07:00	09:00	10:45		06:45			11:15	
AM Peaks	7	425	212	12	37	7	1	12	18	2		1			660	
PM Times	17:15	16:30	13:15	14:45	12:30	13:15		14:00	14:15						15:45	
PM Peaks	7	535	201	6	41	4		14	15						757	

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 3

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	21	6	0	0	0	0	0	0	0	0	0	0	0	0	27
02:00	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	18
03:00	0	8	2	0	0	0	0	0	0	0	0	0	0	0	0	10
04:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
05:00	0	14	4	0	0	1	0	0	1	0	0	0	0	0	0	20
06:00	0	49	11	2	2	0	0	0	0	0	0	0	0	0	0	64
07:00	0	122	77	1	11	1	0	1	2	0	0	0	0	0	0	215
08:00	1	314	99	2	9	0	2	1	1	0	0	0	0	0	0	429
09:00	1	300	105	2	7	1	1	2	1	0	0	0	0	0	0	420
10:00	0	235	74	3	13	0	0	1	2	0	0	0	0	0	0	328
11:00	2	203	67	2	14	2	1	1	1	0	0	0	0	0	0	293
12:00	3	233	82	4	12	1	2	1	3	0	0	0	0	0	0	341
13:00	0	245	74	3	9	1	1	2	2	0	0	0	0	0	0	337
14:00	0	200	60	2	5	0	0	1	4	0	0	0	0	0	0	272
15:00	0	264	84	1	10	1	0	1	2	0	0	0	0	0	0	363
16:00	1	329	78	1	11	0	0	3	2	0	0	0	0	0	0	425
17:00	0	358	116	0	15	0	0	0	1	0	0	0	0	0	0	490
18:00	1	377	89	2	4	0	0	0	0	0	0	0	0	0	0	473
19:00	0	259	53	0	5	0	0	0	1	0	0	0	0	0	0	318
20:00	0	157	36	0	7	0	0	0	0	0	0	0	0	0	0	200
21:00	0	108	26	1	2	0	0	0	0	0	0	0	0	0	0	137
22:00	0	88	19	0	0	0	0	0	0	0	0	0	0	0	0	107
23:00	0	61	13	0	1	0	0	0	0	0	0	0	0	0	0	75
24:00	0	54	8	0	2	0	0	1	0	0	0	0	0	0	0	65
DAY TOTAL	9	4022	1187	26	139	8	7	15	23	0	0	0	0	0	0	5436
PERCENTS	0.2%	74.0%	21.9%	0.5%	2.6%	0.1%	0.1%	0.2%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		96.9%						Trucks & Buses		4.0%						
AM Times	10:30	07:45	08:00	08:30	11:00	10:15	07:15	07:30	11:15							07:45
AM Peaks	3	340	111	4	17	2	2	2	3							455
PM Times	15:15	17:00	16:15	12:30	14:45	12:15	12:15	15:00	13:00							17:00
PM Peaks	1	398	116	4	18	1	1	4	5							512

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 3

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	23	8	0	0	0	0	0	0	0	0	0	0	0	0	31
02:00	1	18	4	0	0	0	0	1	0	0	0	0	0	0	0	24
03:00	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	10
04:00	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	16
05:00	0	31	4	1	0	1	0	2	0	0	0	0	0	0	0	39
06:00	1	55	11	1	2	0	0	0	0	0	0	0	0	0	0	70
07:00	0	135	75	2	8	1	0	3	4	0	0	0	0	0	0	228
08:00	0	333	125	1	18	0	0	0	1	0	0	0	0	0	0	478
09:00	0	313	86	3	12	0	0	0	0	0	0	0	0	0	0	414
10:00	0	245	97	4	8	1	1	3	2	0	0	0	0	0	0	361
11:00	0	248	77	4	12	0	0	2	1	0	0	0	0	0	0	344
12:00	0	257	92	3	14	2	0	4	3	0	0	0	0	0	0	375
13:00	1	287	96	1	13	0	0	3	2	0	0	0	0	0	0	403
14:00	1	233	70	2	4	1	0	2	3	0	0	0	0	0	0	316
15:00	1	262	90	4	12	1	0	1	0	0	0	0	0	0	0	371
16:00	0	307	82	1	15	0	0	2	1	0	0	0	0	0	0	408
17:00	2	365	96	0	8	1	0	1	0	0	0	0	0	0	0	473
18:00	0	341	81	1	7	0	0	0	0	0	0	0	0	0	0	430
19:00	0	197	45	0	5	0	0	0	0	0	0	0	0	0	0	247
20:00	1	158	26	1	2	0	0	0	1	0	0	0	0	0	0	189
21:00	1	103	33	1	3	0	0	0	0	0	0	0	0	0	0	141
22:00	0	62	14	0	2	0	0	0	1	0	0	0	0	0	0	79
23:00	0	66	15	0	2	0	0	0	0	0	0	0	0	0	0	83
24:00	0	41	4	0	0	0	0	0	0	0	0	0	0	0	0	45
DAY TOTAL	9	4103	1234	30	147	8	1	24	19	0	0	0	0	0	0	5575
PERCENTS	0.2%	73.6%	22.2%	0.6%	2.6%	0.1%	0.0%	0.4%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 95.8% Trucks & Buses 4.1%

AM Times	01:00	07:45	07:15	08:45	07:45	10:45	08:45	11:15	06:15							07:45
AM Peaks	1	372	125	5	19	2	1	4	4							511
PM Times	12:30	16:30	16:00	13:30	14:45	12:30		12:15	12:30							16:30
PM Peaks	2	380	106	5	15	1		3	3							494

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: EAST
Lane: 3

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	24	3	0	1	0	0	0	0	0	0	0	0	0	0	28
02:00	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	18
03:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9
04:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
05:00	0	12	6	0	0	0	0	0	0	0	0	0	0	0	0	18
06:00	1	39	10	2	1	0	0	1	0	0	0	0	0	0	0	54
07:00	1	130	60	0	2	0	0	0	0	0	0	0	0	0	0	193
08:00	1	297	97	1	13	0	0	1	3	0	0	0	0	0	0	413
09:00	0	309	82	0	18	0	0	2	3	0	0	0	0	0	0	414
10:00	1	237	75	3	9	0	0	0	2	0	0	0	0	0	0	327
11:00	3	255	82	1	12	0	0	1	2	1	0	0	0	0	0	357
12:00	1	278	88	4	9	1	0	1	0	0	0	0	0	0	0	382
13:00	0	290	92	0	3	0	0	3	2	0	0	0	0	0	0	390
14:00	3	288	103	4	10	2	0	0	0	0	0	0	0	0	0	410
15:00	2	328	82	1	13	0	0	0	1	0	0	0	0	0	0	427
16:00	5	356	107	0	10	1	0	2	1	0	0	0	0	0	0	482
17:00	2	354	98	0	9	0	0	1	0	0	0	0	0	0	0	464
18:00	1	346	103	1	12	1	0	0	0	0	0	0	0	0	0	464
19:00	0	240	70	0	5	0	0	0	0	0	0	0	0	0	0	315
20:00	0	211	42	0	3	0	0	0	1	0	0	0	0	0	0	257
21:00	0	142	34	0	0	0	0	0	1	0	0	0	0	0	0	177
22:00	0	115	19	1	1	0	0	0	0	0	0	0	0	0	0	136
23:00	0	92	8	1	1	0	0	0	1	0	0	0	0	0	0	103
24:00	0	54	6	0	0	0	0	0	0	0	0	0	0	0	0	60
DAY TOTAL	21	4428	1272	19	132	5	0	12	17	1	0	0	0	0	0	5907
PERCENTS	0.4%	75.0%	21.6%	0.4%	2.2%	0.0%	0.0%	0.2%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles			96.8%						Trucks & Buses		3.1%					
AM Times	10:15	07:45	07:15	10:45	08:00	10:45		08:00	08:30	09:30						07:30
AM Peaks	3	318	97	4	20	1		2	4	1						429
PM Times	15:15	15:45	15:30	13:15	13:45	13:00		12:15	12:15							15:45
PM Peaks	5	375	110	4	13	2		3	2							501

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: WEST
Lane: 4

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	1	0	0	0	0	3	2	0	0	0	0	0	0	8
02:00	0	0	1	0	2	0	0	1	0	0	0	0	0	0	0	4
03:00	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	4
04:00	0	2	3	0	1	0	0	0	2	0	0	0	0	0	0	8
05:00	0	3	4	0	0	1	0	0	1	0	0	0	0	0	0	9
06:00	0	24	16	0	6	0	0	1	2	0	0	0	0	0	0	49
07:00	0	71	41	0	7	1	0	0	3	0	0	0	0	0	0	123
08:00	1	89	44	1	11	0	0	2	1	0	0	0	0	0	0	149
09:00	0	84	37	1	8	3	0	1	3	0	0	0	0	0	0	137
10:00	0	55	41	1	4	0	0	2	7	0	0	0	0	0	0	110
11:00	0	32	21	1	5	0	0	1	4	0	0	0	0	0	0	64
12:00	0	47	32	1	5	1	0	1	5	0	0	0	0	0	0	92
13:00	0	62	36	0	11	0	0	3	5	0	0	0	0	0	0	117
14:00	0	48	21	2	5	2	0	3	5	0	0	0	0	0	0	86
15:00	0	35	29	0	4	0	0	1	1	0	0	0	0	0	0	70
16:00	0	23	16	1	4	1	0	0	4	0	0	0	0	0	0	49
17:00	0	18	9	0	5	0	0	0	3	0	0	0	0	0	0	35
18:00	0	17	8	0	2	0	0	1	2	0	0	0	0	0	0	30
19:00	0	13	4	0	1	0	0	1	0	0	0	0	0	0	0	19
20:00	0	7	4	0	4	0	0	0	0	0	0	0	0	0	0	15
21:00	0	10	3	0	0	0	0	0	1	0	0	0	0	0	0	14
22:00	0	7	2	1	0	0	0	1	0	0	0	0	0	0	0	11
23:00	0	4	3	0	4	0	0	0	0	0	0	0	0	0	0	11
24:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
DAY TOTAL	1	657	377	9	91	9	0	22	51	0	0	0	0	0	0	1217
PERCENTS	0.1%	54.0%	31.0%	0.8%	7.5%	0.7%	0.0%	1.8%	4.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		85.0%						Trucks & Buses		14.9%						
AM Times	07:15	07:45	06:45	08:00	06:45	07:45		00:45	09:15							08:00
AM Peaks	1	101	56	2	12	3		4	7							155
PM Times		12:30	12:15	13:00	12:15	13:00		13:00	12:45							12:30
PM Peaks		71	36	2	11	2		4	7							123

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: WEST
Lane: 4

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	4	0	1	0	0	2	1	0	0	0	0	0	0	10
02:00	0	0	1	0	0	0	0	2	0	0	0	0	0	0	0	3
03:00	0	3	2	0	0	0	0	0	1	0	0	0	0	0	0	6
04:00	0	2	3	0	0	0	0	0	2	0	0	0	0	0	0	7
05:00	0	3	2	0	1	1	0	1	2	0	0	0	0	0	0	10
06:00	1	35	15	0	5	0	0	0	2	0	0	0	0	0	0	58
07:00	0	60	44	1	6	0	0	1	1	0	0	0	0	0	0	113
08:00	0	99	46	0	14	1	0	0	9	0	0	0	0	0	0	169
09:00	0	119	48	1	9	2	0	0	5	0	0	0	0	0	0	184
10:00	0	87	30	3	5	1	0	3	2	0	0	0	0	0	0	131
11:00	0	106	43	2	10	0	0	2	4	0	0	0	0	0	0	167
12:00	1	116	57	2	10	0	0	3	5	0	0	0	0	0	0	194
13:00	1	109	48	0	15	1	0	3	3	0	0	0	0	0	0	180
14:00	0	53	41	0	8	1	0	2	5	0	0	0	0	0	0	110
15:00	0	40	21	0	2	0	0	2	5	0	0	0	0	0	0	70
16:00	0	14	15	0	4	0	0	4	5	0	0	0	0	0	0	42
17:00	0	18	10	0	3	0	0	1	3	0	0	0	0	0	0	35
18:00	0	11	6	0	0	0	0	1	1	0	0	0	0	0	0	19
19:00	0	7	3	0	0	0	0	1	2	0	0	0	0	0	0	13
20:00	0	8	8	0	2	0	0	0	0	0	0	0	0	0	0	18
21:00	0	4	2	0	0	0	0	0	2	0	0	0	0	0	0	8
22:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
23:00	0	3	1	0	0	0	0	0	1	0	0	0	0	0	0	5
24:00	0	3	1	0	0	0	0	0	1	0	0	0	0	0	0	5
DAY TOTAL	3	908	454	9	95	7	0	28	62	0	0	0	0	0	0	1566
PERCENTS	0.2%	58.0%	29.0%	0.6%	6.1%	0.5%	0.0%	1.7%	3.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	87.1%							Trucks & Buses	12.8%							
AM Times	05:00	08:00	11:15	10:00	07:15	08:00		00:45	07:00							11:15
AM Peaks	1	126	57	5	14	2		4	10							194
PM Times	12:15	12:15	12:30		12:30	12:15		15:15	14:30							12:15
PM Peaks	1	109	53		17	1		4	7							180

Site Reference: 007003523631
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Location: SR 528, East of SR 401
Direction: WEST
Lane: 4

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	1	1	0	0	0	0	2	0	0	0	0	0	0	0	4
02:00	0	1	4	0	0	0	0	2	0	0	0	0	0	0	0	7
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	8	1	0	0	0	0	0	2	0	0	0	0	0	0	11
05:00	0	5	6	0	0	2	0	1	1	0	0	0	0	0	0	15
06:00	0	27	21	0	5	0	0	1	2	0	0	0	0	0	0	56
07:00	0	53	22	0	8	1	0	0	1	0	0	0	0	0	0	85
08:00	0	57	35	0	3	0	0	1	4	0	0	0	0	0	0	100
09:00	0	74	30	1	5	1	0	1	4	0	0	0	0	0	0	116
10:00	0	60	44	0	13	0	0	1	4	0	0	0	0	0	0	122
11:00	0	48	34	4	7	1	0	1	6	0	0	0	0	0	0	101
12:00	0	68	24	0	4	1	0	2	1	0	0	0	0	0	0	100
13:00	0	77	38	1	5	0	0	2	2	0	0	0	0	0	0	125
14:00	0	47	26	0	7	0	0	3	6	0	0	0	0	0	0	89
15:00	2	34	17	0	7	1	0	3	2	0	0	0	0	0	0	66
16:00	1	21	15	1	2	2	0	0	0	0	0	0	0	0	0	42
17:00	0	19	8	0	3	1	0	0	2	0	0	0	0	0	0	33
18:00	0	10	5	0	2	0	0	0	1	0	0	0	0	0	0	18
19:00	0	15	4	0	1	0	0	0	2	0	0	0	0	0	0	22
20:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	5	1	0	1	0	0	1	2	0	0	0	0	0	0	10
22:00	0	8	4	0	2	0	0	0	0	0	0	0	0	0	0	14
23:00	0	3	2	0	0	0	0	1	0	0	0	0	0	0	0	6
24:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
DAY TOTAL	3	649	346	7	75	10	0	22	42	0	0	0	0	0	0	1154
PERCENTS	0.3%	56.3%	30.0%	0.7%	6.4%	0.8%	0.0%	1.9%	3.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 86.4% Trucks & Buses 13.5%

AM Times	08:00	09:00	10:00	09:30	03:30		01:00	09:45								09:00
AM Peaks	81	45	4	15	2		4	6								130
PM Times	14:45	12:15	12:15	12:15	13:45	15:30	12:30	13:00								12:15
PM Peaks	3	77	38	1	8	3	4	6								125

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: WEST
Lane: 5

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	34	7	0	0	0	0	1	0	0	0	0	0	0	0	42
02:00	0	28	5	1	1	0	0	0	2	0	0	0	0	0	0	37
03:00	0	23	1	0	0	0	0	0	0	0	0	0	0	0	0	24
04:00	1	35	4	0	2	0	0	0	1	0	0	0	0	0	0	43
05:00	0	41	16	1	6	1	0	1	4	0	0	0	0	0	0	70
06:00	0	131	94	1	11	1	0	2	5	0	0	0	0	0	0	245
07:00	0	295	127	2	25	1	2	2	9	5	0	0	0	0	0	468
08:00	0	355	109	2	29	2	1	3	14	10	0	0	0	0	0	525
09:00	0	334	119	10	18	6	0	6	20	12	0	0	0	0	0	525
10:00	0	244	96	7	24	5	1	2	19	4	0	0	0	0	0	402
11:00	2	229	111	7	21	3	0	12	23	11	0	0	0	0	0	419
12:00	2	243	134	5	21	6	2	8	22	3	0	0	0	0	0	446
13:00	1	291	124	4	29	3	1	2	23	11	0	0	0	0	0	489
14:00	1	308	146	4	34	5	0	1	8	2	0	0	0	0	0	509
15:00	0	298	130	4	17	3	1	8	21	2	0	0	0	0	0	484
16:00	1	344	155	3	32	2	0	8	20	2	0	0	0	0	0	567
17:00	0	403	171	10	25	1	0	10	17	0	0	0	0	0	0	637
18:00	1	382	148	1	25	0	0	6	8	0	0	0	0	0	0	571
19:00	0	297	111	0	19	0	0	4	7	0	0	0	0	0	0	438
20:00	2	250	92	1	16	1	0	1	1	0	0	0	0	0	0	364
21:00	0	195	69	0	18	0	0	4	2	0	0	0	0	0	0	288
22:00	1	152	43	0	3	0	0	1	2	0	0	0	0	0	0	202
23:00	0	107	27	0	0	0	0	0	0	0	0	0	0	0	0	134
24:00	0	58	13	1	1	0	0	1	2	0	0	0	0	0	0	76
DAY TOTAL	12	5077	2052	64	377	40	8	83	230	62	0	0	0	0	0	8005
PERCENTS	0.2%	63.5%	25.7%	0.8%	4.8%	0.5%	0.0%	1.0%	2.8%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		89.2%						Trucks & Buses		10.7%						
AM Times	09:45	07:00	06:45	09:45	06:45	08:15	06:15	10:15	09:00	07:30						06:45
AM Peaks	2	359	141	12	36	6	2	12	23	12						556
PM Times	19:15	16:45	15:45	16:15	13:15	13:15	12:15	15:45	14:30	12:15						16:45
PM Peaks	2	448	171	10	34	5	1	11	25	11						669

Site Reference: 007003523631
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Direction: WEST
Lane: 5

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	94	17	0	1	0	0	1	0	0	0	0	0	0	0	113
02:00	0	38	5	0	0	0	0	0	0	0	0	0	0	0	0	43
03:00	0	24	10	1	0	0	0	0	1	0	0	0	0	0	0	36
04:00	0	40	9	0	4	0	0	0	0	0	0	0	0	0	0	53
05:00	0	55	18	0	1	2	0	1	2	0	0	0	0	0	0	79
06:00	1	126	78	3	14	2	0	1	7	0	0	0	0	0	0	232
07:00	1	304	134	2	29	2	4	2	6	3	0	0	0	0	0	487
08:00	1	387	105	2	25	1	0	6	15	7	0	0	0	0	0	549
09:00	1	350	110	9	17	5	3	13	13	4	0	0	0	0	0	525
10:00	0	288	92	9	22	3	1	4	21	6	0	0	0	0	0	446
11:00	0	273	117	4	26	3	3	10	24	8	0	0	0	0	0	468
12:00	0	325	119	2	25	3	3	7	19	8	0	0	0	0	0	511
13:00	1	287	139	3	28	1	0	4	26	6	0	0	0	0	0	495
14:00	1	275	135	7	27	3	1	12	11	8	0	0	0	0	0	480
15:00	1	334	140	6	19	7	0	4	19	3	0	0	0	0	0	533
16:00	2	373	163	3	38	3	0	9	15	1	0	0	0	0	0	607
17:00	1	443	170	12	30	2	0	7	15	0	0	0	0	0	0	680
18:00	2	396	144	3	19	1	1	3	10	0	0	0	0	0	0	579
19:00	1	288	116	0	14	0	0	4	3	0	0	0	0	0	0	426
20:00	1	284	100	1	10	0	0	0	0	1	0	0	0	0	0	397
21:00	0	225	74	2	9	0	0	1	3	0	0	0	0	0	0	314
22:00	0	173	46	0	5	0	0	0	0	0	0	0	0	0	0	224
23:00	0	113	38	0	6	0	0	0	0	0	0	0	0	0	0	157
24:00	1	74	19	0	3	0	0	1	3	0	0	0	0	0	0	101
DAY TOTAL	15	5569	2098	69	372	38	16	90	213	55	0	0	0	0	0	8535
PERCENTS	0.2%	65.3%	24.6%	0.9%	4.4%	0.5%	0.1%	1.0%	2.4%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 90.0% Trucks & Buses 9.9%

AM Times	06:45	07:30	06:15	08:45	06:45	08:15	06:15	08:15	10:00	09:45						07:30
AM Peaks	2	411	134	13	32	5	4	13	26	10						573
PM Times	16:45	16:45	16:00	16:15	15:15	14:15	13:15	13:00	12:15	12:45						16:30
PM Peaks	3	479	178	12	38	7	1	12	26	8						703

Site Reference: 007003523631
Site ID: 000000700352
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Direction: WEST
Lane: 5

File: 401.prn
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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	74	22	0	3	0	0	1	0	0	0	0	0	0	0	100
02:00	0	42	5	0	3	0	0	0	0	0	0	0	0	0	0	50
03:00	0	33	8	0	2	0	0	2	1	0	0	0	0	0	0	46
04:00	0	33	8	1	1	0	0	0	2	0	0	0	0	0	0	45
05:00	0	45	15	0	3	0	0	0	1	0	0	0	0	0	0	64
06:00	0	106	63	3	8	1	0	2	3	0	0	0	0	0	0	186
07:00	2	278	124	2	20	2	8	1	8	4	0	0	0	0	0	449
08:00	1	321	92	2	20	2	4	3	13	7	0	0	0	0	0	465
09:00	0	392	132	9	27	2	8	6	21	2	0	0	0	0	0	599
10:00	0	328	124	3	27	5	6	6	35	8	0	0	0	0	0	542
11:00	2	270	145	4	20	6	9	8	25	15	0	0	0	0	0	504
12:00	1	328	118	5	19	4	12	4	25	2	0	0	0	0	0	518
13:00	1	302	139	2	25	2	4	7	21	7	0	0	0	0	0	510
14:00	2	385	144	8	40	3	7	8	16	6	0	0	0	0	0	619
15:00	1	429	153	5	30	2	1	7	15	3	0	0	0	0	0	646
16:00	1	384	166	9	31	1	0	6	17	1	0	0	0	0	0	616
17:00	1	472	159	4	22	4	0	8	15	0	0	0	0	0	0	685
18:00	0	429	143	2	23	1	0	4	16	0	0	0	0	0	0	618
19:00	1	332	131	1	18	0	0	2	12	0	0	0	0	0	0	497
20:00	1	342	120	0	20	0	0	4	3	0	0	0	0	0	0	490
21:00	1	268	85	1	18	0	0	0	3	1	0	0	0	0	0	377
22:00	0	225	73	1	12	0	0	2	2	0	0	0	0	0	0	315
23:00	1	194	51	1	7	0	0	0	1	0	0	0	0	0	0	255
24:00	1	135	34	0	3	0	0	1	0	0	0	0	0	0	0	174
DAY TOTAL	17	6147	2254	63	402	35	59	82	255	56	0	0	0	0	0	9370
PERCENTS	0.2%	65.7%	24.1%	0.7%	4.3%	0.4%	0.6%	0.8%	2.7%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	89.8%							Trucks & Buses	10.1%							
AM Times	10:30	08:00	10:15	08:15	08:30	09:45	11:15	10:00	09:15	10:15						08:15
AM Peaks	3	395	145	9	29	7	12	8	35	15						599
PM Times	13:00	16:30	16:45	12:45	13:15	12:30	13:00	12:45	12:15	12:15						16:45
PM Peaks	2	480	173	9	40	4	8	13	21	7						697

Site Reference: 007003523631
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Direction: WEST
Lane: 6

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TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	15	5	0	0	0	0	0	0	0	0	0	0	0	0	20
02:00	0	7	2	0	0	0	0	0	1	0	0	0	0	0	0	10
03:00	0	18	3	0	0	0	0	0	0	0	0	0	0	0	0	21
04:00	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	15
05:00	0	21	3	0	0	0	0	0	0	0	0	0	0	0	0	24
06:00	0	58	28	3	2	0	0	1	0	0	0	0	0	0	0	92
07:00	1	169	50	3	9	0	0	0	1	0	0	0	0	0	0	233
08:00	0	261	72	0	9	0	0	0	1	0	0	0	0	0	0	343
09:00	0	303	89	1	10	0	0	0	1	0	0	0	0	0	0	404
10:00	0	217	56	0	3	0	0	0	2	0	0	0	0	0	0	278
11:00	0	188	64	1	13	2	0	0	3	0	0	0	0	0	0	271
12:00	2	166	72	0	11	0	0	2	3	0	0	0	0	0	0	256
13:00	1	227	84	3	12	0	0	2	0	0	0	0	0	0	0	329
14:00	1	244	69	0	17	2	0	2	2	0	0	0	0	0	0	337
15:00	1	290	86	1	7	0	0	3	2	0	0	0	0	0	0	390
16:00	1	338	127	2	11	0	0	2	1	0	0	0	0	0	0	482
17:00	1	380	107	2	18	1	0	2	0	0	0	0	0	0	0	511
18:00	0	352	101	1	21	0	0	1	3	0	0	0	0	0	0	479
19:00	0	240	70	2	11	0	0	0	0	0	0	0	0	0	0	323
20:00	0	163	41	0	1	0	0	0	0	0	0	0	0	0	0	205
21:00	0	155	34	0	5	0	0	0	0	0	0	0	0	0	0	194
22:00	1	96	12	0	1	0	0	0	0	0	0	0	0	0	0	110
23:00	0	66	14	0	2	0	0	0	0	0	0	0	0	0	0	82
24:00	0	45	10	0	0	0	0	0	0	0	0	0	0	0	0	55
DAY TOTAL	9	4033	1200	19	163	5	0	15	20	0	0	0	0	0	0	5464
PERCENTS	0.2%	73.9%	22.0%	0.4%	3.0%	0.0%	0.0%	0.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		95.9%						Trucks & Buses		4.0%						
AM Times	10:30	08:15	08:00	05:30	10:15	10:15		11:15	09:45							08:15
AM Peaks	2	303	89	4	13	2		2	3							404
PM Times	14:00	16:45	15:15	12:15	17:15	13:15		14:45	14:30							16:45
PM Peaks	2	405	127	3	21	2		4	3							541

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: WEST
Lane: 6

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	29	7	0	0	0	0	0	0	0	0	0	0	0	0	36
02:00	0	11	1	1	0	0	0	0	0	0	0	0	0	0	0	13
03:00	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	16
04:00	0	10	4	0	1	0	0	0	0	0	0	0	0	0	0	15
05:00	0	20	2	0	0	0	0	0	0	0	0	0	0	0	0	22
06:00	0	52	29	2	4	0	0	0	1	0	0	0	0	0	0	88
07:00	0	198	54	2	7	0	0	0	1	0	0	0	0	0	0	262
08:00	0	273	67	0	6	0	0	0	2	0	0	0	0	0	0	348
09:00	1	267	94	0	14	0	0	2	2	0	0	0	0	0	0	380
10:00	2	268	69	1	9	2	0	1	0	0	0	0	0	0	0	352
11:00	0	237	93	2	13	0	0	4	1	0	0	0	0	0	0	350
12:00	0	233	90	3	11	1	0	2	2	0	0	0	0	0	0	342
13:00	1	232	94	2	16	1	0	0	0	0	0	0	0	0	0	346
14:00	2	229	97	1	10	1	0	2	2	0	0	0	0	0	0	344
15:00	1	268	101	3	14	1	0	3	1	0	0	0	0	0	0	392
16:00	0	376	113	2	18	0	0	3	0	0	0	0	0	0	0	512
17:00	1	402	152	2	19	0	0	2	0	0	0	0	0	0	0	578
18:00	0	382	97	2	13	0	0	3	0	0	0	0	0	0	0	497
19:00	0	214	72	1	8	0	0	1	0	0	0	0	0	0	0	296
20:00	3	209	28	0	14	0	0	2	0	0	0	0	0	0	0	256
21:00	1	150	23	0	4	0	0	0	1	0	0	0	0	0	0	179
22:00	1	110	23	1	5	0	0	0	0	0	0	0	0	0	0	140
23:00	0	63	17	0	1	0	0	0	0	0	0	0	0	0	0	81
24:00	1	34	9	0	1	0	0	0	0	0	0	0	0	0	0	45
DAY TOTAL	14	4281	1338	25	188	6	0	25	13	0	0	0	0	0	0	5890
PERCENTS	0.3%	72.7%	22.8%	0.4%	3.1%	0.1%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	95.6%							Trucks & Buses	4.3%							
AM Times	08:30	07:30	08:15	06:00	08:00	09:15		09:45	06:45							08:45
AM Peaks	3	291	94	4	17	2		4	3							389
PM Times	19:15	16:45	16:15	14:30	14:45	12:15		15:00	12:45							16:30
PM Peaks	3	416	152	4	22	1		4	2							583

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401
Direction: WEST
Lane: 6

File: 401.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	31	5	0	0	0	0	0	0	0	0	0	0	0	0	36
02:00	0	19	6	1	0	0	0	0	0	0	0	0	0	0	0	26
03:00	0	15	4	0	1	0	0	0	0	0	0	0	0	0	0	20
04:00	0	20	5	0	0	0	0	0	0	0	0	0	0	0	0	25
05:00	0	15	11	0	0	0	0	0	0	0	0	0	0	0	0	26
06:00	0	43	20	1	1	0	0	0	0	0	0	0	0	0	0	65
07:00	0	169	54	0	8	0	0	0	0	0	0	0	0	0	0	231
08:00	0	244	51	1	14	0	1	1	1	0	0	0	0	0	0	313
09:00	0	303	94	1	17	1	0	0	0	0	0	0	0	0	0	416
10:00	1	281	93	1	12	0	2	1	3	0	0	0	0	0	0	394
11:00	0	264	73	2	20	0	1	1	2	0	0	0	0	0	0	363
12:00	1	260	108	2	14	1	0	1	1	0	0	0	0	0	0	388
13:00	3	261	83	3	15	1	0	3	2	0	0	0	0	0	0	371
14:00	1	289	100	4	22	2	0	6	2	0	0	0	0	0	0	426
15:00	2	331	129	2	12	1	0	1	2	0	0	0	0	0	0	480
16:00	2	422	139	3	18	0	0	2	2	0	0	0	0	0	0	588
17:00	1	425	126	2	23	0	0	2	2	0	0	0	0	0	0	581
18:00	0	388	98	1	19	0	0	0	2	0	0	0	0	0	0	508
19:00	1	288	76	2	10	1	0	1	0	0	0	0	0	0	0	379
20:00	0	217	59	1	12	0	0	0	1	0	0	0	0	0	0	290
21:00	0	193	56	0	4	0	0	0	0	0	0	0	0	0	0	253
22:00	0	136	33	0	3	0	0	1	0	0	0	0	0	0	0	173
23:00	0	114	31	0	3	0	0	0	1	0	0	0	0	0	0	149
24:00	0	72	24	0	1	0	0	0	0	0	0	0	0	0	0	97
DAY TOTAL	12	4800	1478	27	229	7	4	20	21	0	0	0	0	0	0	6598
PERCENTS	0.2%	72.8%	22.5%	0.4%	3.4%	0.1%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 95.3% Trucks & Buses 4.6%

AM Times	08:45	08:30	11:15	08:30	10:15	07:45	09:00	09:30	09:15							09:00
AM Peaks	1	309	108	2	20	1	2	2	3							423
PM Times	12:15	15:30	14:30	12:45	16:15	12:45		13:15	14:00							15:45
PM Peaks	3	429	147	6	23	3		6	4							597

Traffic Engineering Data Solutions, Inc.
VOLUME SUMMARY
Wed 9/22/2021

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 EAST	4 WEST	5 WEST	6 WEST	Total
01:00	9	52	27	8	42	20	158
02:00	6	34	18	4	37	10	109
03:00	4	31	10	4	24	21	94
04:00	14	25	9	8	43	15	114
05:00	8	40	20	9	70	24	171
06:00	37	150	64	49	245	92	637
07:00	73	327	215	123	468	233	1439
08:00	95	494	429	149	525	343	2035
09:00	131	505	420	137	525	404	2122
10:00	117	495	328	110	402	278	1730
11:00	106	453	293	64	419	271	1606
12:00	167	540	341	92	446	256	1842
13:00	147	512	337	117	489	329	1931
14:00	88	492	272	86	509	337	1784
15:00	131	499	363	70	484	390	1937
16:00	182	609	425	49	567	482	2314
17:00	168	669	490	35	637	511	2510
18:00	139	677	473	30	571	479	2369
19:00	90	494	318	19	438	323	1682
20:00	41	308	200	15	364	205	1133
21:00	33	222	137	14	288	194	888
22:00	15	156	107	11	202	110	601
23:00	20	122	75	11	134	82	444
24:00	23	95	65	3	76	55	317
DAY TOTAL	1844	8001	5436	1217	8005	5464	29967
PERCENTS	6.2%	26.7%	18.2%	4.0%	26.7%	18.2%	100%
AM Times	11:00	08:00	07:45	08:00	06:45	08:15	
AM Peaks	168	540	455	155	556	404	
PM Times	15:15	17:00	17:00	12:30	16:45	16:45	
PM Peaks	182	698	512	123	669	541	

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 EAST	4 WEST	5 WEST	6 WEST	Total
01:00	17	65	31	10	113	36	272
02:00	7	39	24	3	43	13	129
03:00	5	26	10	6	36	16	99
04:00	10	17	16	7	53	15	118
05:00	10	36	39	10	79	22	196
06:00	43	143	70	58	232	88	634
07:00	80	298	228	113	487	262	1468
08:00	114	452	478	169	549	348	2110
09:00	143	530	414	184	525	380	2176
10:00	140	539	361	131	446	352	1969
11:00	140	517	344	167	468	350	1986
12:00	202	560	375	194	511	342	2184
13:00	154	566	403	180	495	346	2144
14:00	143	492	316	110	480	344	1885
15:00	139	548	371	70	533	392	2053
16:00	173	608	408	42	607	512	2350
17:00	179	638	473	35	680	578	2583
18:00	130	648	430	19	579	497	2303
19:00	76	504	247	13	426	296	1562
20:00	62	393	189	18	397	256	1315
21:00	27	268	141	8	314	179	937
22:00	9	178	79	9	224	140	639
23:00	16	163	83	5	157	81	505
24:00	17	104	45	5	101	45	317
DAY TOTAL	2036	8332	5575	1566	8535	5890	31934
PERCENTS	6.4%	26.1%	17.5%	4.9%	26.7%	18.4%	100%
AM Times	11:15	08:45	07:45	11:15	07:30	08:45	
AM Peaks	202	568	511	194	573	389	
PM Times	15:30	16:00	16:30	12:15	16:30	16:30	
PM Peaks	181	670	494	180	703	583	

Site Reference: 007003523631
Site ID: 000000700352
Location: SR 528, East of SR 401

File: 401.prn
City:
County:

TIME	1 EAST	2 EAST	3 EAST	4 WEST	5 WEST	6 WEST	Total
01:00	13	61	28	4	100	36	242
02:00	7	50	18	7	50	26	158
03:00	6	32	9	2	46	20	115
04:00	8	36	9	11	45	25	134
05:00	13	49	18	15	64	26	185
06:00	33	168	54	56	186	65	562
07:00	73	404	193	85	449	231	1435
08:00	104	525	413	100	465	313	1920
09:00	139	614	414	116	599	416	2298
10:00	134	589	327	122	542	394	2108
11:00	155	578	357	101	504	363	2058
12:00	198	660	382	100	518	388	2246
13:00	201	746	390	125	510	371	2343
14:00	127	694	410	89	619	426	2365
15:00	138	698	427	66	646	480	2455
16:00	210	718	482	42	616	588	2656
17:00	155	735	464	33	685	581	2653
18:00	131	690	464	18	618	508	2429
19:00	58	504	315	22	497	379	1775
20:00	41	411	257	7	490	290	1496
21:00	26	318	177	10	377	253	1161
22:00	34	228	136	14	315	173	900
23:00	20	220	103	6	255	149	753
24:00	17	141	60	3	174	97	492
DAY TOTAL	2041	9869	5907	1154	9370	6598	34939
PERCENTS	5.9%	28.3%	16.9%	3.3%	26.8%	18.8%	100%
AM Times	11:15	11:15	07:30	09:00	08:15	09:00	
AM Peaks	198	660	429	130	599	423	
PM Times	15:15	15:45	15:45	12:15	16:45	15:45	
PM Peaks	210	757	501	125	697	597	

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
05:00	0	10	7	0	0	0	0	4	0	0	0	0	0	0	0	21
06:00	0	55	35	0	1	0	0	0	0	0	0	0	0	0	0	91
07:00	0	108	65	0	0	0	0	3	0	0	0	0	0	0	0	176
08:00	0	118	39	0	2	0	0	2	0	0	0	0	0	0	0	161
09:00	0	52	22	1	1	0	0	0	0	0	0	0	0	0	0	76
10:00	0	15	14	0	2	0	0	1	0	0	0	0	0	0	0	32
11:00	0	14	7	0	1	0	0	0	0	0	0	0	0	0	0	22
12:00	0	17	20	0	1	0	0	3	0	0	0	0	0	0	0	41
13:00	0	35	15	0	3	0	0	2	0	0	0	0	0	0	0	55
14:00	0	26	10	0	0	0	0	4	0	0	0	0	0	0	0	40
15:00	0	9	7	0	0	0	0	2	0	0	0	0	0	0	0	18
16:00	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	11
17:00	0	6	2	0	0	0	0	1	0	0	0	0	0	0	0	9
18:00	0	3	4	0	0	0	0	1	0	0	0	0	0	0	0	8
19:00	0	6	0	0	0	0	0	2	0	0	0	0	0	0	0	8
20:00	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	7	0	0	0	0	0	1	0	0	0	0	0	0	0	8
22:00	0	3	4	0	0	0	0	1	0	0	0	0	0	0	0	8
23:00	0	4	2	0	0	0	0	1	0	0	0	0	0	0	0	7
24:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
DAY TOTAL	0	504	261	1	11	0	0	31	0	0	0	0	0	0	0	808
PERCENTS	0.0%	62.4%	32.4%	0.1%	1.3%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 94.6% Trucks & Buses 5.3%

AM Times	06:45	06:15	07:30	07:15				04:00								06:30
AM Peaks	126	65	1	2				4								193
PM Times	12:15	12:30		12:15				13:00								12:15
PM Peaks	35	17		3				5								55

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	1	0	0	0	0	3	0	0	0	0	0	0	0	6
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	3
05:00	0	8	4	0	0	0	0	4	0	0	0	0	0	0	0	16
06:00	0	61	38	0	1	0	0	2	0	0	0	0	0	0	0	102
07:00	0	106	64	0	1	0	0	1	0	0	0	0	0	0	0	172
08:00	0	133	41	0	0	0	0	3	0	0	0	0	0	0	0	177
09:00	0	66	25	0	2	0	0	4	0	0	0	0	0	0	0	97
10:00	0	41	26	1	1	0	0	3	0	0	0	0	0	0	0	72
11:00	0	17	17	0	1	0	0	1	1	0	0	0	0	0	0	37
12:00	0	35	20	0	1	0	0	3	0	0	0	0	0	0	0	59
13:00	0	40	15	0	1	0	0	3	0	0	0	0	0	0	0	59
14:00	0	16	13	0	0	0	0	2	0	0	0	0	0	0	0	31
15:00	0	19	10	0	0	0	0	1	0	0	0	0	0	0	0	30
16:00	0	13	5	0	0	0	0	1	0	0	0	0	0	0	0	19
17:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
19:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7
20:00	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	14
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
23:00	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
24:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
DAY TOTAL	0	591	288	1	8	0	0	34	1	0	0	0	0	0	0	923
PERCENTS	0.0%	64.1%	31.3%	0.1%	0.8%	0.0%	0.0%	3.6%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		95.2%						Trucks & Buses		4.7%						
AM Times		07:15	06:15	09:00	08:00			08:45	09:45							06:30
AM Peaks		133	64	1	2			5	1							189
PM Times		12:15	12:15		12:15			12:15								12:15
PM Peaks		40	15		1			3								59

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 1

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	2	0	0	0	0	0	1	0	0	0	0	0	0	0	3
05:00	0	8	3	0	0	0	0	1	0	0	0	0	0	0	0	12
06:00	0	44	35	0	0	0	0	0	0	0	0	0	0	0	0	79
07:00	0	101	64	0	0	0	0	0	0	0	0	0	0	0	0	165
08:00	0	93	42	0	1	0	0	2	0	0	0	0	0	0	0	138
09:00	0	54	27	0	0	0	0	0	0	0	0	0	0	0	0	81
10:00	0	27	10	0	1	0	0	1	0	0	0	0	0	0	0	39
11:00	0	22	8	0	1	0	0	1	0	0	0	0	0	0	0	32
12:00	0	19	19	0	0	0	0	3	0	0	0	0	0	0	0	41
13:00	0	29	15	0	0	0	0	2	0	0	0	0	0	0	0	46
14:00	0	18	11	0	0	0	0	1	0	0	0	0	0	0	0	30
15:00	0	13	5	0	0	0	0	1	0	0	0	0	0	0	0	19
16:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
17:00	0	5	5	0	0	0	0	0	0	0	0	0	0	0	0	10
18:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
19:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
21:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
22:00	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4
23:00	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	6
24:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
DAY TOTAL	0	464	253	0	3	0	0	14	0	0	0	0	0	0	0	734
PERCENTS	0.0%	63.3%	34.4%	0.0%	0.4%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 97.6% Trucks & Buses 2.3%

AM Times	06:30	06:15	06:45	11:00												06:30
AM Peaks	119	64	1	3												183
PM Times	12:15	12:30		12:15												12:30
PM Peaks	29	17		2												47

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 2

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	1	2	0	0	0	0	2	0	0	0	0	0	0	0	5
02:00	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	4
03:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	0	3	0	0	0	0	4	0	0	0	0	0	0	0	7
05:00	0	3	6	1	0	0	0	2	0	0	0	0	0	0	0	12
06:00	1	44	31	0	4	0	0	1	0	0	0	0	0	0	0	81
07:00	1	60	62	0	3	0	0	4	0	0	0	0	0	0	0	130
08:00	0	60	46	0	5	0	0	3	0	0	0	0	0	0	0	114
09:00	1	71	36	0	3	0	0	3	0	0	0	0	0	0	0	114
10:00	0	48	27	0	3	0	0	2	0	0	0	0	0	0	0	80
11:00	0	49	34	0	6	0	0	3	0	0	0	0	0	0	0	92
12:00	0	38	39	1	2	0	0	6	0	0	0	0	0	0	0	86
13:00	0	75	40	0	5	0	0	6	0	0	0	0	0	0	0	126
14:00	0	43	34	0	0	0	0	7	0	0	0	0	0	0	0	84
15:00	0	27	27	1	3	0	0	7	0	0	0	0	0	0	0	65
16:00	0	24	7	1	0	0	0	4	0	0	0	0	0	0	0	36
17:00	0	13	17	0	1	0	0	1	0	0	0	0	0	0	0	32
18:00	0	11	3	0	0	0	0	3	0	0	0	0	0	0	0	17
19:00	0	14	9	0	0	0	0	0	0	0	0	0	0	0	0	23
20:00	0	8	6	0	1	0	0	3	0	0	0	0	0	0	0	18
21:00	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	9
22:00	0	11	2	1	1	0	0	1	0	0	0	0	0	0	0	16
23:00	0	2	6	0	0	0	0	3	0	0	0	0	0	0	0	11
24:00	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	4
DAY TOTAL	3	615	440	6	38	0	0	67	0	0	0	0	0	0	0	1169
PERCENTS	0.3%	52.7%	37.6%	0.5%	3.2%	0.0%	0.0%	5.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles			90.5%					Trucks & Buses			9.4%					
AM Times	05:45	08:15	06:30	03:30	07:30			11:15								06:30
AM Peaks	2	71	65	1	7			6								131
PM Times		12:15	12:15	13:30	12:15			13:00								12:15
PM Peaks		75	40	1	5			8								126

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 2

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	2	0	0	0	0	1	0	0	0	0	0	0	0	5
02:00	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	3
03:00	0	2	2	0	0	0	0	2	0	0	0	0	0	0	0	6
04:00	0	0	3	0	0	0	0	6	0	0	0	0	0	0	0	9
05:00	0	11	3	0	0	0	0	1	0	0	0	0	0	0	0	15
06:00	0	43	25	0	3	0	0	1	0	0	0	0	0	0	0	72
07:00	1	84	64	1	0	0	0	2	1	0	0	0	0	0	0	153
08:00	0	100	59	1	5	1	0	5	0	0	0	0	0	0	0	171
09:00	0	125	54	1	7	0	0	5	0	0	0	0	0	0	0	192
10:00	1	91	48	1	6	0	0	5	0	0	0	0	0	0	0	152
11:00	0	92	56	0	9	0	0	8	1	0	0	0	0	0	0	166
12:00	0	94	54	1	5	0	0	5	0	0	0	0	0	0	0	159
13:00	0	98	73	0	6	0	0	6	0	0	0	0	0	0	0	183
14:00	0	46	48	0	4	0	0	7	0	0	0	0	0	0	0	105
15:00	0	54	33	0	2	0	0	6	0	0	0	0	0	0	0	95
16:00	0	26	21	0	4	0	0	1	0	0	0	0	0	0	0	52
17:00	0	19	7	0	1	0	0	1	0	0	0	0	0	0	0	28
18:00	0	10	8	0	1	0	0	1	0	0	0	0	0	0	0	20
19:00	0	8	3	0	1	0	0	2	0	0	0	0	0	0	0	14
20:00	0	15	4	1	0	0	0	2	0	0	0	0	0	0	0	22
21:00	0	6	2	0	0	0	0	0	0	0	0	0	0	0	0	8
22:00	0	7	1	0	0	0	0	3	0	0	0	0	0	0	0	11
23:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
24:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
DAY TOTAL	2	936	575	6	54	1	0	71	2	0	0	0	0	0	0	1647
PERCENTS	0.2%	56.9%	35.0%	0.3%	3.2%	0.0%	0.0%	4.3%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		91.8%						Trucks & Buses		8.1%						
AM Times	06:00	08:00	06:30	07:00	08:30	07:15		10:00	06:15							08:30
AM Peaks	1	126	68	2	12	1		8	1							198
PM Times		12:15	12:15	19:15	12:15			12:30								12:15
PM Peaks		98	73	1	6			10								183

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB
Direction: NORTH
Lane: 2

File: NB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
02:00	0	1	1	0	0	0	0	1	0	0	0	0	0	0	0	3
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	3	0	0	0	0	2	0	0	0	0	0	0	0	6
05:00	0	11	6	0	1	0	0	0	0	0	0	0	0	0	0	18
06:00	0	37	24	0	4	0	0	0	0	0	0	0	0	0	0	65
07:00	1	67	33	0	2	0	0	4	0	0	0	0	0	0	0	107
08:00	0	77	51	0	6	0	0	3	0	0	0	0	0	0	0	137
09:00	0	67	44	2	7	0	0	2	0	0	0	0	0	0	0	122
10:00	0	77	47	2	4	0	0	4	1	0	0	0	0	0	0	135
11:00	0	59	53	1	5	0	0	3	0	0	0	0	0	0	0	121
12:00	0	49	49	0	7	0	0	6	0	0	0	0	0	0	0	111
13:00	0	108	47	0	5	0	0	10	0	0	0	0	0	0	0	170
14:00	0	56	33	0	4	0	0	6	0	0	0	0	0	0	0	99
15:00	0	40	22	0	4	0	0	2	0	0	0	0	0	0	0	68
16:00	0	21	19	1	0	0	0	3	0	0	0	0	0	0	0	44
17:00	0	27	10	0	0	0	0	1	0	0	0	0	0	0	0	38
18:00	0	14	6	0	0	0	0	0	0	0	0	0	0	0	0	20
19:00	0	14	10	0	0	0	0	0	0	0	0	0	0	0	0	24
20:00	0	11	4	0	0	0	0	0	0	0	0	0	0	0	0	15
21:00	0	3	5	0	0	0	0	1	0	0	0	0	0	0	0	9
22:00	0	9	0	1	0	0	0	1	0	0	0	0	0	0	0	11
23:00	0	3	3	0	1	0	0	1	0	0	0	0	0	0	0	8
24:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
DAY TOTAL	1	754	472	7	50	0	0	51	1	0	0	0	0	0	0	1336
PERCENTS	0.1%	56.5%	35.4%	0.5%	3.7%	0.0%	0.0%	3.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		91.8%						Trucks & Buses		8.1%						
AM Times	06:00	07:45	10:00	09:30	11:00			10:30	08:45							07:45
AM Peaks	1	88	60	3	8			6	1							148
PM Times		12:15	12:15	15:15	12:15			12:15								12:15
PM Peaks		108	47	1	5			10								170

Traffic Engineering Data Solutions, Inc.
VOLUME SUMMARY
Wed 9/8/2021

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	4	5	9
02:00	1	4	5
03:00	2	3	5
04:00	1	7	8
05:00	21	12	33
06:00	91	81	172
07:00	176	130	306
08:00	161	114	275
09:00	76	114	190
10:00	32	80	112
11:00	22	92	114
12:00	41	86	127
13:00	55	126	181
14:00	40	84	124
15:00	18	65	83
16:00	11	36	47
17:00	9	32	41
18:00	8	17	25
19:00	8	23	31
20:00	7	18	25
21:00	8	9	17
22:00	8	16	24
23:00	7	11	18
24:00	1	4	5
DAY TOTAL	808	1169	1977
PERCENTS	40.9%	59.1%	100%
AM Times	06:30	06:30	
AM Peaks	193	131	
PM Times	12:15	12:15	
PM Peaks	55	126	

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	6	5	11
02:00	1	3	4
03:00	0	6	6
04:00	3	9	12
05:00	16	15	31
06:00	102	72	174
07:00	172	153	325
08:00	177	171	348
09:00	97	192	289
10:00	72	152	224
11:00	37	166	203
12:00	59	159	218
13:00	59	183	242
14:00	31	105	136
15:00	30	95	125
16:00	19	52	71
17:00	6	28	34
18:00	3	20	23
19:00	7	14	21
20:00	14	22	36
21:00	1	8	9
22:00	5	11	16
23:00	4	4	8
24:00	2	2	4
DAY TOTAL	923	1647	2570
PERCENTS	36.0%	64.0%	100%
AM Times	06:30	08:30	
AM Peaks	189	198	
PM Times	12:15	12:15	
PM Peaks	59	183	

Site Reference: 000000000005
Site ID: 000000000005
Location: SR 528 WB to SR 401 NB

File: NB.prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	1	1	2
02:00	0	3	3
03:00	2	0	2
04:00	3	6	9
05:00	12	18	30
06:00	79	65	144
07:00	165	107	272
08:00	138	137	275
09:00	81	122	203
10:00	39	135	174
11:00	32	121	153
12:00	41	111	152
13:00	46	170	216
14:00	30	99	129
15:00	19	68	87
16:00	7	44	51
17:00	10	38	48
18:00	3	20	23
19:00	5	24	29
20:00	7	15	22
21:00	3	9	12
22:00	4	11	15
23:00	6	8	14
24:00	1	4	5
DAY TOTAL	734	1336	2070
PERCENTS	35.5%	64.5%	100%
AM Times	06:30	07:45	
AM Peaks	183	148	
PM Times	12:30	12:15	
PM Peaks	47	170	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/8/2021

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)
Direction: NORTH
Lane: 1

File: Lane).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:00	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
08:00	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
09:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
10:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
11:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
12:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
13:00	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	8
14:00	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
15:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
16:00	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	15	36	0	0	0	0	0	0	0	0	0	0	0	0	51
PERCENTS	0.0%	29.5%	70.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 100.0% Trucks & Buses 0.0%

AM Times	11:00	06:15	11:00
AM Peaks	5	7	8
PM Times	12:15	12:15	12:15
PM Peaks	3	5	8

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)
Direction: NORTH
Lane: 1

File: Lane).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
06:00	4	25	4	0	0	1	0	0	0	0	0	0	0	0	0	34
07:00	2	26	15	1	1	1	0	0	4	0	0	0	1	0	0	51
08:00	0	19	6	1	1	1	0	1	2	0	0	0	0	0	0	31
09:00	0	19	7	0	2	1	1	0	3	0	0	0	0	0	0	33
10:00	0	20	7	1	1	0	0	0	2	0	0	0	0	0	0	31
11:00	0	10	7	0	5	0	0	2	0	0	0	0	0	0	0	24
12:00	0	13	11	4	4	0	0	2	0	0	0	0	0	0	0	34
13:00	0	9	8	1	3	0	0	0	1	0	0	0	0	0	0	22
14:00	0	7	5	2	1	0	0	0	0	0	0	0	0	0	0	15
15:00	0	4	6	1	2	0	0	0	0	0	0	0	0	0	0	13
16:00	0	7	7	0	0	0	0	0	0	0	0	0	0	0	0	14
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	6	166	88	11	20	4	1	5	12	0	0	0	1	0	0	314
PERCENTS	2.0%	52.9%	28.1%	3.6%	6.3%	1.2%	0.3%	1.5%	3.8%	0.0%	0.0%	0.0%	0.3%	0.0%	0.0%	100%
Passenger Vehicles	82.8%							Trucks & Buses	17.1%							
AM Times	05:00	05:45	06:15	11:15	11:00	06:45	08:00	10:15	06:45				06:15			06:15
AM Peaks	4	31	15	4	7	2	1	2	5				1			51
PM Times		12:45	12:30	13:00	12:30				12:15							12:30
PM Peaks		12	9	3	4				1							25

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)
Direction: NORTH
Lane: 1

File: Lane).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
08:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
09:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
10:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
11:00	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
12:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
13:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
14:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
17:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	16	14	0	0	1	0	0	0	0	0	0	0	0	0	31
PERCENTS	0.0%	51.7%	45.1%	0.0%	0.0%	3.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 96.7% Trucks & Buses 3.2%

AM Times	08:45	07:00			10:15											07:00
AM Peaks	3	2			1											4
PM Times	12:15	12:30														12:30
PM Peaks	2	2														4

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)

File: Lane).prn
City:
County:

TIME	1 NORTH	Total
01:00	0	0
02:00	0	0
03:00	2	2
04:00	0	0
05:00	0	0
06:00	1	1
07:00	7	7
08:00	5	5
09:00	1	1
10:00	2	2
11:00	5	5
12:00	6	6
13:00	8	8
14:00	5	5
15:00	2	2
16:00	3	3
17:00	0	0
18:00	1	1
19:00	1	1
20:00	2	2
21:00	0	0
22:00	0	0
23:00	0	0
24:00	0	0
DAY TOTAL	51	51
PERCENTS	100.0%	100%
AM Times	11:00	
AM Peaks	8	
PM Times	12:15	
PM Peaks	8	

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)

File: Lane).prn
City:
County:

TIME	1 NORTH	Total
01:00	0	0
02:00	0	0
03:00	0	0
04:00	0	0
05:00	9	9
06:00	34	34
07:00	51	51
08:00	31	31
09:00	33	33
10:00	31	31
11:00	24	24
12:00	34	34
13:00	22	22
14:00	15	15
15:00	13	13
16:00	14	14
17:00	0	0
18:00	1	1
19:00	0	0
20:00	2	2
21:00	0	0
22:00	0	0
23:00	0	0
24:00	0	0
DAY TOTAL	314	314
PERCENTS	100.0%	100%
AM Times	06:15	
AM Peaks	51	
PM Times	12:30	
PM Peaks	25	

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland Dr NB (Single Lane)

File: Lane).prn
City:
County:

TIME	1 NORTH	Total
01:00	0	0
02:00	0	0
03:00	1	1
04:00	1	1
05:00	1	1
06:00	0	0
07:00	2	2
08:00	3	3
09:00	2	2
10:00	4	4
11:00	2	2
12:00	2	2
13:00	3	3
14:00	4	4
15:00	0	0
16:00	1	1
17:00	1	1
18:00	2	2
19:00	0	0
20:00	0	0
21:00	1	1
22:00	0	0
23:00	1	1
24:00	0	0
DAY TOTAL	31	31
PERCENTS	100.0%	100%
AM Times	07:00	
AM Peaks	4	
PM Times	12:30	
PM Peaks	4	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/8/2021

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 1

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	10	8	0	1	0	0	0	0	0	0	0	0	0	0	19
07:00	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	9
08:00	0	3	0	0	2	0	0	0	0	0	0	0	0	0	0	5
09:00	0	3	2	0	1	1	0	0	0	0	0	0	0	0	0	7
10:00	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	7
11:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
12:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
13:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
14:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
15:00	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	9
16:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
17:00	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	3
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	53	27	0	5	1	0	0	0	0	0	0	0	0	0	86
PERCENTS	0.0%	61.7%	31.4%	0.0%	5.8%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 93.0% Trucks & Buses 6.9%

AM Times	05:45	05:00		07:15	07:30											05:30
AM Peaks	13	8		2	1											21
PM Times	12:45	14:00		15:45												14:00
PM Peaks	4	6		1												10

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 1

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	8
07:00	0	3	3	1	0	0	0	0	0	0	0	0	0	0	0	7
08:00	0	1	4	0	0	0	0	0	1	0	0	0	0	0	0	6
09:00	0	17	6	0	1	1	0	1	0	0	0	0	0	0	0	26
10:00	0	19	7	0	1	1	0	1	1	0	0	0	0	0	0	30
11:00	0	21	7	0	0	0	2	0	0	0	0	0	0	0	0	30
12:00	0	21	6	0	0	0	0	0	0	0	0	0	0	0	0	27
13:00	0	18	8	0	0	0	0	0	0	0	0	0	0	0	0	26
14:00	0	9	8	1	1	0	0	0	0	0	0	0	0	0	0	19
15:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
16:00	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	3
17:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
18:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	124	55	2	4	2	2	2	2	0	0	0	0	0	0	193
PERCENTS	0.0%	64.3%	28.5%	1.1%	2.1%	1.0%	1.0%	1.0%	1.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 92.7% Trucks & Buses 7.2%

AM Times	08:45	10:00	05:45	08:30	07:30	09:30	07:30	07:15								09:45
AM Peaks	21	12	1	2	1	2	1	1								35
PM Times	12:15	12:45	12:45	13:15												12:45
PM Peaks	18	11	1	1												30

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 1

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
06:00	0	9	13	0	5	0	0	0	0	0	0	0	0	0	0	27
07:00	0	4	7	3	1	0	0	0	1	0	0	0	0	0	0	16
08:00	0	4	5	3	1	0	0	0	1	0	0	0	0	0	0	14
09:00	0	5	15	1	6	0	0	0	2	0	0	0	0	0	0	29
10:00	0	10	19	0	3	0	0	0	2	0	0	0	0	0	0	34
11:00	0	10	14	1	1	1	0	1	0	0	0	0	0	0	0	28
12:00	0	8	10	0	2	0	0	1	1	0	0	0	0	0	0	22
13:00	0	8	10	1	0	0	0	1	0	0	0	0	0	0	0	20
14:00	0	9	7	1	0	0	0	0	0	0	0	0	0	0	0	17
15:00	0	4	2	2	2	1	0	0	1	0	0	0	0	0	0	12
16:00	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	6
17:00	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	4
18:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
19:00	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	3
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
DAY TOTAL	0	80	114	12	23	2	0	3	9	0	0	0	0	0	0	243
PERCENTS	0.0%	33.0%	47.0%	4.9%	9.4%	0.8%	0.0%	1.2%	3.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 79.8% Trucks & Buses 20.1%

AM Times	09:30	09:00	06:00	08:15	10:00			10:30	06:30							09:00
AM Peaks	13	23	3	6	1			2	2							37
PM Times	13:15	12:15	13:45	14:15	13:45			12:15	13:30							12:15
PM Peaks	9	10	3	2	1			1	1							20

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 2

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:00	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	5
05:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
06:00	0	23	12	0	1	2	0	0	0	0	0	0	0	0	0	38
07:00	0	21	12	0	3	0	0	0	0	0	0	0	0	0	0	36
08:00	0	1	7	0	1	0	0	0	0	0	0	0	0	0	0	9
09:00	0	19	17	1	0	0	0	0	0	0	0	0	0	0	0	37
10:00	0	22	12	0	1	0	0	0	0	0	0	0	0	0	0	35
11:00	0	10	10	0	1	0	0	0	0	0	0	0	0	0	0	21
12:00	0	8	5	0	1	0	0	0	0	0	0	0	0	0	0	14
13:00	0	17	7	0	0	0	0	0	0	0	0	0	0	0	0	24
14:00	0	9	14	1	0	0	0	0	0	0	0	0	0	0	0	24
15:00	0	8	9	0	1	0	0	0	0	0	0	0	0	0	0	18
16:00	0	4	3	0	0	0	0	0	0	0	0	0	0	0	0	7
17:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
18:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	160	119	2	9	2	0	0	0	0	0	0	0	0	0	292
PERCENTS	0.0%	54.8%	40.8%	0.7%	3.1%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 95.5% Trucks & Buses 4.4%

AM Times	05:45	08:30	07:30	05:45	05:15	08:45
AM Peaks	26	21	1	3	2	45
PM Times	12:15	13:15	13:15	13:30		13:30
PM Peaks	17	14	1	1		27

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 2

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2
06:00	0	23	6	0	0	1	0	0	0	0	0	0	0	0	0	30
07:00	0	10	11	1	0	0	0	0	0	0	0	0	0	0	0	22
08:00	0	11	15	1	0	1	0	0	0	0	0	0	0	0	0	28
09:00	0	32	19	1	0	0	0	0	0	0	0	0	0	0	0	52
10:00	1	16	19	0	1	0	0	0	0	0	0	0	0	0	0	37
11:00	1	54	17	0	1	1	0	0	0	0	0	0	0	0	0	74
12:00	0	37	22	0	1	1	0	0	0	0	0	0	0	0	0	61
13:00	0	30	21	0	2	0	0	0	0	0	0	0	0	0	0	53
14:00	0	27	18	1	0	0	0	0	0	0	0	0	0	0	0	46
15:00	0	9	7	0	0	0	0	0	0	0	0	0	0	0	0	16
16:00	0	9	4	0	2	0	0	0	0	0	0	0	0	0	0	15
17:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
18:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
19:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
20:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	2	266	161	4	7	5	0	0	0	0	0	0	0	0	0	445
PERCENTS	0.5%	59.8%	36.2%	0.9%	1.5%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 96.4% Trucks & Buses 3.5%

AM Times	08:30	10:15	11:00	07:30	10:30	04:00										10:15
AM Peaks	1	54	26	2	2	1										74
PM Times		12:45	12:15	12:45	12:15											12:45
PM Peaks		36	21	1	2											54

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)
Direction: NORTH
Lane: 2

File: out).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00	0	10	6	0	0	0	0	0	0	0	0	0	0	0	0	16
06:00	0	40	17	0	0	0	0	0	0	0	0	0	0	0	0	57
07:00	2	30	9	2	0	0	0	0	1	0	0	0	0	0	0	44
08:00	1	18	19	4	3	0	0	1	0	0	0	0	0	0	0	46
09:00	2	30	32	2	2	1	0	3	1	0	0	0	0	0	0	73
10:00	0	63	31	2	4	0	0	2	1	0	0	0	0	0	0	103
11:00	0	67	45	1	3	0	0	0	1	0	0	0	0	0	0	117
12:00	0	69	29	2	2	0	0	2	1	0	0	0	0	0	0	105
13:00	0	64	26	0	3	0	0	2	0	0	0	0	0	0	0	95
14:00	2	28	18	2	3	1	0	0	0	0	0	0	0	0	0	54
15:00	1	29	11	0	2	1	0	0	0	0	0	0	0	0	0	44
16:00	0	8	7	1	0	0	0	0	0	0	0	0	0	0	0	16
17:00	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	6
18:00	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	4
19:00	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	6
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
24:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
DAY TOTAL	8	470	262	17	22	3	0	11	5	0	0	0	0	0	0	798
PERCENTS	1.1%	58.9%	32.9%	2.2%	2.7%	0.3%	0.0%	1.3%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	92.7%							Trucks & Buses	7.2%							
AM Times	06:00	09:45	10:30	07:00	09:00	07:30		08:30	06:00							10:30
AM Peaks	2	71	47	5	5	1		4	1							123
PM Times	13:30	12:15	12:15	13:00	12:15	13:30		12:15								12:15
PM Peaks	3	64	26	2	3	2		2								95

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)

File: out).prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	0	0	0
02:00	0	0	0
03:00	0	1	1
04:00	1	5	6
05:00	4	9	13
06:00	19	38	57
07:00	9	36	45
08:00	5	9	14
09:00	7	37	44
10:00	7	35	42
11:00	3	21	24
12:00	3	14	17
13:00	5	24	29
14:00	4	24	28
15:00	9	18	27
16:00	3	7	10
17:00	3	5	8
18:00	1	4	5
19:00	3	5	8
20:00	0	0	0
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
24:00	0	0	0
DAY TOTAL	86	292	378
PERCENTS	22.8%	77.2%	100%
AM Times	05:30	08:45	
AM Peaks	21	45	
PM Times	14:00	13:30	
PM Peaks	10	27	

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)

File: out).prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	0	0	0
05:00	0	2	2
06:00	8	30	38
07:00	7	22	29
08:00	6	28	34
09:00	26	52	78
10:00	30	37	67
11:00	30	74	104
12:00	27	61	88
13:00	26	53	79
14:00	19	46	65
15:00	6	16	22
16:00	3	15	18
17:00	3	5	8
18:00	1	2	3
19:00	0	1	1
20:00	1	1	2
21:00	0	0	0
22:00	0	0	0
23:00	0	0	0
24:00	0	0	0
DAY TOTAL	193	445	638
PERCENTS	30.3%	69.7%	100%
AM Times	09:45	10:15	
AM Peaks	35	74	
PM Times	12:45	12:45	
PM Peaks	30	54	

Site Reference: 000000000006
Site ID: 000000000006
Location: Charles Rowland NB (X2 lane In & out)

File: out).prn
City:
County:

TIME	1 NORTH	2 NORTH	Total
01:00	0	0	0
02:00	0	0	0
03:00	0	0	0
04:00	2	3	5
05:00	3	16	19
06:00	27	57	84
07:00	16	44	60
08:00	14	46	60
09:00	29	73	102
10:00	34	103	137
11:00	28	117	145
12:00	22	105	127
13:00	20	95	115
14:00	17	54	71
15:00	12	44	56
16:00	6	16	22
17:00	4	6	10
18:00	2	4	6
19:00	3	4	7
20:00	1	3	4
21:00	1	6	7
22:00	0	0	0
23:00	1	1	2
24:00	1	1	2
DAY TOTAL	243	798	1041
PERCENTS	23.4%	76.6%	100%
AM Times	09:00	10:30	
AM Peaks	37	123	
PM Times	12:15	12:15	
PM Peaks	20	95	

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)
Direction: SOUTH
Lane: 1

File: (Ramp).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	3
04:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	5
07:00	0	2	5	0	2	0	0	0	0	0	0	0	0	0	0	9
08:00	0	85	10	0	1	0	0	0	0	0	0	0	0	0	0	96
09:00	0	184	29	0	3	0	0	0	0	0	0	0	0	0	0	216
10:00	0	164	23	0	0	0	0	0	0	0	1	0	0	0	0	188
11:00	0	37	16	0	2	0	0	0	0	0	0	0	0	0	0	55
12:00	0	22	10	0	0	0	0	0	0	0	0	0	0	0	0	32
13:00	1	28	9	0	0	0	0	0	0	0	0	0	0	0	0	38
14:00	0	19	19	0	0	0	0	0	0	0	0	0	0	0	0	38
15:00	0	15	14	1	2	0	0	0	0	0	0	0	0	0	0	32
16:00	0	30	13	0	1	0	0	0	0	0	0	0	0	0	0	44
17:00	0	15	5	0	0	0	0	0	0	0	0	0	0	0	0	20
18:00	0	7	2	0	0	0	0	0	0	0	0	0	0	0	0	9
19:00	0	17	13	0	1	0	0	1	0	0	0	0	0	0	0	32
20:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
21:00	0	1	2	0	1	0	0	0	0	0	0	0	0	0	0	4
22:00	0	3	6	0	1	0	0	0	0	0	0	0	0	0	0	10
23:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
24:00	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
DAY TOTAL	1	638	183	1	17	0	0	1	0	0	1	0	0	0	0	842
PERCENTS	0.2%	75.8%	21.7%	0.1%	2.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		97.6%						Trucks & Buses		2.3%						
AM Times		08:00	08:30		06:00						09:15					08:15
AM Peaks		190	34		3						1					216
PM Times	12:15	15:15	13:00	13:45	14:30			17:45								15:15
PM Peaks	1	30	19	1	3			1								44

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)
Direction: SOUTH
Lane: 1

File: (Ramp).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
06:00	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	5
07:00	0	2	4	0	1	0	0	0	0	0	0	0	0	0	0	7
08:00	0	39	16	0	1	0	0	1	0	0	0	0	0	0	0	57
09:00	0	209	71	5	7	0	0	8	1	0	0	0	0	0	0	301
10:00	0	247	67	3	13	0	0	11	1	0	0	0	0	0	0	342
11:00	0	85	49	2	7	0	0	9	1	0	0	0	0	0	0	153
12:00	0	83	34	3	11	0	0	7	1	0	0	0	0	0	0	139
13:00	0	63	38	3	7	0	0	5	0	0	0	0	0	0	0	116
14:00	0	44	28	5	2	0	0	3	0	0	0	0	0	0	0	82
15:00	0	105	33	1	2	0	0	0	0	0	0	0	0	0	0	141
16:00	0	114	26	0	1	0	0	0	0	0	0	0	0	0	0	141
17:00	2	66	16	0	1	0	0	0	0	0	0	0	0	0	0	85
18:00	0	11	0	0	1	0	0	0	0	0	0	0	0	0	0	12
19:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	0	8
20:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
21:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
22:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
23:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
24:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
DAY TOTAL	2	1080	395	22	54	0	0	44	4	0	0	0	0	0	0	1601
PERCENTS	0.2%	67.5%	24.7%	1.4%	3.3%	0.0%	0.0%	2.7%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	92.2%							Trucks & Buses	7.7%							
AM Times	09:00	08:15	08:15	09:15				08:30	09:30							09:00
AM Peaks	265	71	5	13				14	2							355
PM Times	15:45	14:45	12:15	13:15	12:15			12:15								14:45
PM Peaks	2	140	38	5	7			5								175

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)
Direction: SOUTH
Lane: 1

File: (Ramp).prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
07:00	0	4	8	0	2	0	0	0	0	0	0	0	0	0	0	14
08:00	0	32	14	0	0	0	0	1	0	0	0	0	0	0	0	47
09:00	0	116	35	4	7	0	0	3	0	0	0	0	0	0	0	165
10:00	0	164	45	4	6	0	0	3	0	0	0	0	0	0	0	222
11:00	0	67	36	4	2	0	0	3	0	0	0	0	0	0	0	112
12:00	0	40	27	3	3	0	0	3	0	0	0	0	0	0	0	76
13:00	0	35	16	3	4	0	0	5	0	0	0	0	0	0	0	63
14:00	0	29	14	1	4	0	0	0	0	0	0	0	0	0	0	48
15:00	0	34	12	1	2	0	0	1	0	0	0	0	0	0	0	50
16:00	0	57	17	5	2	1	0	0	0	0	0	0	0	0	0	82
17:00	0	110	22	1	0	0	0	0	0	0	0	0	0	0	0	133
18:00	0	30	2	0	0	1	0	0	0	0	0	0	0	0	0	33
19:00	0	7	3	1	0	0	0	0	0	0	0	0	0	0	0	11
20:00	0	8	6	0	1	0	0	0	0	0	0	0	0	0	0	15
21:00	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	5
22:00	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	3
23:00	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	3
24:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAY TOTAL	0	744	264	27	33	2	0	19	0	0	0	0	0	0	0	1089
PERCENTS	0.0%	68.4%	24.3%	2.5%	3.0%	0.1%	0.0%	1.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 92.5% Trucks & Buses 7.4%

AM Times	09:15	09:30	08:45	08:30		10:00										09:15
AM Peaks	164	48	7	8		5										222
PM Times	16:15	16:15	14:45	13:00	14:30	12:15										16:15
PM Peaks	110	22	6	5	1	5										133

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)

File: (Ramp).prn
City:
County:

TIME	1 SOUTH	Total
01:00	0	0
02:00	1	1
03:00	3	3
04:00	1	1
05:00	0	0
06:00	5	5
07:00	9	9
08:00	96	96
09:00	216	216
10:00	188	188
11:00	55	55
12:00	32	32
13:00	38	38
14:00	38	38
15:00	32	32
16:00	44	44
17:00	20	20
18:00	9	9
19:00	32	32
20:00	5	5
21:00	4	4
22:00	10	10
23:00	3	3
24:00	1	1
DAY TOTAL	842	842
PERCENTS	100.0%	100%
AM Times	08:15	
AM Peaks	216	
PM Times	15:15	
PM Peaks	44	

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)

File: (Ramp).prn
City:
County:

TIME	1 SOUTH	Total
01:00	1	1
02:00	1	1
03:00	0	0
04:00	2	2
05:00	1	1
06:00	5	5
07:00	7	7
08:00	57	57
09:00	301	301
10:00	342	342
11:00	153	153
12:00	139	139
13:00	116	116
14:00	82	82
15:00	141	141
16:00	141	141
17:00	85	85
18:00	12	12
19:00	8	8
20:00	3	3
21:00	1	1
22:00	1	1
23:00	1	1
24:00	1	1
DAY TOTAL	1601	1601
PERCENTS	100.0%	100%
AM Times	09:00	
AM Peaks	355	
PM Times	14:45	
PM Peaks	175	

Site Reference: 000000000007
Site ID: 000000000007
Location: Charles Rowland Dr SB (Ramp)

File: (Ramp).prn
City:
County:

TIME	1 SOUTH	Total
01:00	0	0
02:00	0	0
03:00	0	0
04:00	0	0
05:00	4	4
06:00	3	3
07:00	14	14
08:00	47	47
09:00	165	165
10:00	222	222
11:00	112	112
12:00	76	76
13:00	63	63
14:00	48	48
15:00	50	50
16:00	82	82
17:00	133	133
18:00	33	33
19:00	11	11
20:00	15	15
21:00	5	5
22:00	3	3
23:00	3	3
24:00	0	0
DAY TOTAL	1089	1089
PERCENTS	100.0%	100%
AM Times	09:15	
AM Peaks	222	
PM Times	16:15	
PM Peaks	133	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/22/2021

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 1

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	4	0	0	0	0	14	0	0	0	0	0	0	0	20
02:00	0	1	0	0	0	0	0	9	0	0	0	0	0	0	0	10
03:00	0	5	12	0	1	0	0	11	0	0	0	0	0	0	0	29
04:00	0	2	3	0	0	0	0	13	0	0	0	0	0	0	0	18
05:00	0	11	12	0	4	0	0	14	0	0	0	0	0	0	0	41
06:00	1	67	123	1	11	0	0	33	0	0	0	0	0	0	0	236
07:00	0	125	229	0	30	0	0	37	0	0	0	0	0	0	0	421
08:00	0	149	228	0	28	1	1	34	0	0	0	0	0	0	0	441
09:00	0	78	164	2	30	0	0	26	0	0	0	0	0	0	0	300
10:00	0	47	99	4	21	0	0	34	0	0	0	0	0	0	0	205
11:00	0	25	64	5	22	0	0	29	0	0	0	0	0	0	0	145
12:00	0	21	93	4	12	0	0	29	0	0	0	0	0	0	0	159
13:00	0	45	111	2	21	0	0	27	0	0	0	0	0	0	0	206
14:00	0	23	70	2	19	0	0	19	0	0	0	0	0	0	0	133
15:00	0	23	52	1	8	0	0	16	0	0	0	0	0	0	0	100
16:00	0	15	49	0	8	0	0	11	0	0	0	0	0	0	0	83
17:00	0	2	17	0	8	0	0	11	0	0	0	0	0	0	0	38
18:00	0	6	35	1	3	0	0	10	0	0	0	0	0	0	0	55
19:00	0	6	19	0	2	0	0	14	0	0	0	0	0	0	0	41
20:00	0	9	13	0	4	0	0	12	0	0	0	0	0	0	0	38
21:00	0	4	11	2	0	0	0	9	0	0	0	0	0	0	0	26
22:00	0	6	7	0	1	0	0	7	0	0	0	0	0	0	0	21
23:00	0	2	5	0	0	0	0	9	0	0	0	0	0	0	0	16
24:00	0	4	5	0	1	0	0	8	0	0	0	0	0	0	0	18
DAY TOTAL	1	678	1425	24	234	1	1	436	0	0	0	0	0	0	0	2800
PERCENTS	0.1%	24.3%	50.9%	0.9%	8.3%	0.0%	0.0%	15.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		75.1%						Trucks & Buses		24.8%						
AM Times	05:15	07:00	06:30	10:00	06:45	07:00	06:45	07:00								06:45
AM Peaks	1	155	257	5	40	1	1	38								484
PM Times		12:30	12:15	12:45	12:15			12:30								12:15
PM Peaks		47	111	3	21			28								206

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 1

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	3	0	0	0	0	9	0	0	0	0	0	0	0	14
02:00	0	0	0	0	0	0	0	13	0	0	0	0	0	0	0	13
03:00	0	4	11	0	0	0	0	11	0	0	0	0	0	0	0	26
04:00	0	4	3	0	0	0	0	15	0	0	0	0	0	0	0	22
05:00	0	7	17	0	6	0	0	21	0	0	0	0	0	0	0	51
06:00	0	50	126	0	12	0	0	34	0	0	0	0	0	0	0	222
07:00	0	95	250	3	38	0	0	28	0	0	0	0	0	0	0	414
08:00	1	127	272	3	40	0	1	29	0	0	0	0	0	0	0	473
09:00	0	83	198	3	23	0	0	28	0	0	0	0	0	0	0	335
10:00	1	51	147	7	27	0	0	35	0	0	0	0	0	0	0	268
11:00	0	58	163	6	23	0	0	25	1	0	0	0	0	0	0	276
12:00	0	79	160	4	20	0	0	36	0	0	1	0	0	0	0	300
13:00	0	65	165	6	26	0	0	27	1	0	0	0	0	0	0	290
14:00	0	36	91	1	17	0	0	20	0	0	0	0	0	0	0	165
15:00	0	26	72	0	9	0	0	26	1	0	0	0	0	0	0	134
16:00	0	11	40	2	5	0	0	14	0	0	0	0	0	0	0	72
17:00	0	12	23	0	5	0	0	12	0	0	0	0	0	0	0	52
18:00	0	6	21	1	2	0	0	18	0	0	0	0	0	0	0	48
19:00	0	6	17	0	0	0	0	18	0	0	0	0	0	0	0	41
20:00	0	7	7	0	3	0	0	12	0	0	0	0	0	0	0	29
21:00	0	3	10	0	3	0	0	13	0	0	0	0	0	0	0	29
22:00	0	6	8	0	0	0	0	6	0	0	0	0	0	0	0	20
23:00	0	3	3	0	0	0	0	6	0	0	0	0	0	0	0	12
24:00	1	1	7	0	0	0	0	5	0	0	0	0	0	0	0	14
DAY TOTAL	3	742	1814	36	259	0	1	461	3	0	1	0	0	0	0	3320
PERCENTS	0.1%	22.4%	54.7%	1.1%	7.9%	0.0%	0.0%	13.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		77.0%						Trucks & Buses		22.9%						
AM Times	07:00	07:15	06:45	08:30	06:45			06:30	11:15	09:30	11:15					06:45
AM Peaks	1	127	293	7	48			1	36	1	1					482
PM Times	22:30	12:15	12:15	12:15	12:30			13:45	12:15							12:15
PM Peaks	1	65	165	6	28			30	1							290

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 1

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	2	0	0	0	0	8	0	0	0	0	0	0	0	12
02:00	0	1	4	0	0	0	0	10	0	0	0	0	0	0	0	15
03:00	0	3	7	0	0	0	0	8	0	0	0	0	0	0	0	18
04:00	0	4	7	0	0	0	0	13	0	0	0	0	0	0	0	24
05:00	0	7	18	1	6	0	0	14	0	0	0	0	0	0	0	46
06:00	0	35	99	0	15	0	0	31	0	0	0	0	0	0	0	180
07:00	0	84	215	1	28	0	0	26	0	0	0	0	0	0	0	354
08:00	0	79	200	2	19	0	0	29	0	0	0	0	0	0	0	329
09:00	0	53	112	1	22	0	0	33	0	0	0	0	0	0	0	221
10:00	0	25	80	2	13	0	0	30	0	0	0	0	0	0	0	150
11:00	0	27	88	5	17	0	0	17	0	0	0	0	0	0	0	154
12:00	0	16	72	1	11	0	0	18	0	0	0	0	0	0	0	118
13:00	0	37	74	0	17	0	0	33	0	0	0	0	0	0	0	161
14:00	0	31	81	1	9	0	0	23	0	0	0	0	0	0	0	145
15:00	0	16	49	2	7	0	0	12	0	0	0	0	0	0	0	86
16:00	0	9	34	3	4	0	0	7	0	0	0	0	0	0	0	57
17:00	0	5	12	1	2	0	0	16	0	0	0	0	0	0	0	36
18:00	0	8	24	0	6	0	0	8	0	0	0	0	0	0	0	46
19:00	0	12	9	0	1	0	0	12	0	0	0	0	0	0	0	34
20:00	0	5	9	0	0	0	0	9	0	0	0	0	0	0	0	23
21:00	0	3	2	1	0	0	0	17	0	0	0	0	0	0	0	23
22:00	0	4	11	0	0	0	0	8	0	0	0	0	0	0	0	23
23:00	0	2	3	0	0	0	0	7	0	0	0	0	0	0	0	12
24:00	0	0	5	0	1	0	0	8	0	0	0	0	0	0	0	14
DAY TOTAL	0	468	1217	21	178	0	0	397	0	0	0	0	0	0	0	2281
PERCENTS	0.0%	20.6%	53.3%	0.9%	7.8%	0.0%	0.0%	17.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles		73.8%						Trucks & Buses		26.1%						
AM Times		06:30	06:45	09:30	06:30			08:45								06:30
AM Peaks		96	241	5	31			38								391
PM Times		12:15	12:45	15:45	12:15			12:15								12:15
PM Peaks		37	87	4	17			33								161

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 2

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
04:00	0	4	3	0	0	0	0	1	0	0	0	0	0	0	0	8
05:00	0	11	19	0	0	0	0	0	0	0	0	0	0	0	0	30
06:00	0	82	110	0	9	0	0	0	0	0	5	2	1	0	0	209
07:00	0	175	257	3	7	0	0	0	1	0	10	2	1	0	0	456
08:00	0	212	158	2	3	0	0	1	0	0	3	2	0	0	0	381
09:00	0	114	78	0	0	0	0	4	0	0	5	2	0	0	0	203
10:00	0	43	38	1	0	0	0	0	0	0	4	0	1	0	0	87
11:00	0	21	21	0	1	0	0	2	0	0	2	0	0	0	0	47
12:00	0	35	16	0	0	0	0	1	0	0	4	1	0	0	0	57
13:00	0	41	20	0	0	0	0	0	1	0	1	1	1	0	0	65
14:00	0	26	21	0	3	0	0	2	0	0	1	0	0	0	0	53
15:00	0	23	16	0	0	0	0	0	0	0	0	0	0	0	0	39
16:00	0	21	16	0	0	0	0	0	0	0	0	0	0	0	0	37
17:00	0	5	4	0	0	0	0	0	0	0	0	0	0	0	0	9
18:00	0	12	10	0	0	0	0	0	0	0	0	0	0	0	0	22
19:00	0	6	2	0	0	0	0	1	0	0	0	0	0	0	0	9
20:00	0	5	3	0	0	0	0	1	0	0	0	0	0	0	0	9
21:00	0	6	2	0	1	0	0	1	0	0	0	0	0	0	0	10
22:00	0	6	4	0	0	0	0	1	0	0	0	0	0	0	0	11
23:00	0	4	2	0	0	0	0	1	0	0	0	0	0	0	0	7
24:00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
DAY TOTAL	0	855	805	6	24	0	0	18	2	0	35	10	4	0	0	1759
PERCENTS	0.0%	48.7%	45.8%	0.4%	1.4%	0.0%	0.0%	1.0%	0.1%	0.0%	1.9%	0.5%	0.2%	0.0%	0.0%	100%

Passenger Vehicles 94.3% Trucks & Buses 5.6%

AM Times	07:15	06:30	06:45	06:00				08:15	06:15		06:15	06:45	04:45			06:30
AM Peaks	212	267	4	11				4	1		10	4	1			476
PM Times	12:15	12:45		13:15				13:00	12:15		12:15	12:15	12:15			12:15
PM Peaks	41	22		3				2	1		1	1	1			65

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 2

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	3	3	0	0	0	0	1	0	0	0	0	0	0	0	7
05:00	0	16	17	0	0	0	0	0	0	0	0	0	0	0	0	33
06:00	0	123	92	2	1	0	0	0	0	0	6	0	0	0	0	224
07:00	0	207	191	0	3	1	0	0	0	0	6	2	3	0	0	413
08:00	0	229	146	3	2	0	0	1	4	0	9	3	3	0	0	400
09:00	0	118	62	1	0	0	0	1	1	0	2	2	0	0	0	187
10:00	0	52	31	0	2	0	0	4	0	0	4	0	0	0	0	93
11:00	0	37	7	0	0	0	0	4	2	0	4	0	0	0	0	54
12:00	0	33	36	1	0	0	0	0	0	0	3	1	1	0	0	75
13:00	0	51	20	0	2	0	0	2	2	0	0	1	2	0	0	80
14:00	0	32	13	1	0	0	0	3	0	0	1	0	0	0	0	50
15:00	0	19	12	1	2	0	0	3	1	0	0	0	0	0	0	38
16:00	0	14	10	0	0	0	0	1	0	0	0	0	0	0	0	25
17:00	0	4	3	0	0	0	0	0	0	0	1	0	0	0	0	8
18:00	0	5	6	0	0	0	0	0	0	0	0	0	0	0	0	11
19:00	0	4	2	0	0	0	0	1	0	0	0	0	0	0	0	7
20:00	0	1	3	0	0	0	0	1	0	0	0	0	0	0	0	5
21:00	0	7	1	0	0	0	0	1	0	0	0	0	0	0	0	9
22:00	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	10
23:00	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
24:00	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
DAY TOTAL	0	967	668	9	12	1	0	23	10	0	36	9	9	0	0	1744
PERCENTS	0.0%	55.5%	38.4%	0.6%	0.7%	0.0%	0.0%	1.3%	0.5%	0.0%	2.0%	0.5%	0.5%	0.0%	0.0%	100%

Passenger Vehicles 93.7% Trucks & Buses 6.2%

AM Times	06:45	06:30	07:15	06:00	06:00			08:30	07:15		06:45	07:00	06:30			06:45
AM Peaks	247	200	3	4	1			5	4		12	5	4			469
PM Times	12:15	12:15	14:00	12:15				13:00	12:15		13:15	12:15	12:15			12:15
PM Peaks	51	20	2	2				3	2		1	1	2			80

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: NORTH
Lane: 2

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
02:00	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
03:00	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	7
04:00	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4
05:00	0	11	11	0	2	0	0	2	0	0	0	0	0	0	0	26
06:00	0	66	77	0	0	0	0	0	0	0	4	1	0	0	0	148
07:00	0	166	138	0	2	0	0	0	1	0	9	2	0	0	0	318
08:00	0	137	86	0	3	0	0	0	3	0	7	1	0	0	0	237
09:00	0	68	52	3	2	0	0	3	0	0	0	0	0	0	0	128
10:00	0	21	20	1	7	0	0	3	1	0	3	1	0	0	0	57
11:00	0	31	17	1	1	0	0	4	0	0	0	0	0	0	0	54
12:00	0	32	6	0	1	0	0	3	0	0	1	0	0	0	0	43
13:00	0	32	15	0	1	0	0	0	0	0	0	0	0	0	0	48
14:00	0	37	9	0	1	0	0	1	0	0	1	0	0	0	0	49
15:00	0	15	15	0	0	0	0	0	0	0	1	0	0	0	0	31
16:00	0	16	9	0	4	0	0	1	0	0	0	0	1	0	0	31
17:00	0	8	5	0	0	0	0	1	0	0	0	0	0	0	0	14
18:00	0	4	4	0	0	0	0	0	0	0	0	0	0	0	0	8
19:00	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4
20:00	0	6	3	0	0	0	0	0	0	0	0	0	0	0	0	9
21:00	0	7	3	0	0	0	0	2	0	0	0	0	0	0	0	12
22:00	0	6	6	0	0	0	0	1	0	0	0	0	0	0	0	13
23:00	0	2	2	0	1	0	0	0	0	0	0	0	0	0	0	5
24:00	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	4
DAY TOTAL	0	679	483	5	25	0	0	23	5	0	26	5	1	0	0	1252
PERCENTS	0.0%	54.3%	38.6%	0.4%	2.0%	0.0%	0.0%	1.9%	0.4%	0.0%	2.1%	0.3%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 92.8% Trucks & Buses 7.1%

AM Times	06:30	06:15	07:45	09:30				09:30	07:15		06:30	06:45				06:30
AM Peaks	197	138	3	8				7	3		12	3				336
PM Times	12:45	14:30		15:15				15:30			12:45		15:15			13:15
PM Peaks	40	17		4				2			1		1			49

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 3

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	6	2	0	0	0	0	1	3	0	0	0	0	0	0	12
02:00	0	9	0	0	0	0	0	3	10	0	0	0	0	0	0	22
03:00	0	15	3	0	0	0	0	4	3	0	0	0	0	0	0	25
04:00	0	14	4	0	0	0	0	0	11	0	0	0	0	0	0	29
05:00	0	3	0	0	0	0	0	3	9	0	0	0	0	0	0	15
06:00	0	9	12	0	0	0	0	6	15	0	0	0	0	0	0	42
07:00	0	20	8	0	0	1	0	9	15	0	0	0	0	0	0	53
08:00	0	17	20	0	2	2	0	9	20	0	0	0	0	0	0	70
09:00	0	23	18	2	4	3	0	16	15	0	0	0	0	0	0	81
10:00	1	23	19	1	4	3	0	13	25	0	0	0	0	0	0	89
11:00	0	33	30	0	2	4	0	10	29	0	0	0	0	0	0	108
12:00	0	63	60	0	2	4	0	11	26	0	0	0	0	0	0	166
13:00	0	58	36	0	4	6	0	5	16	0	0	0	0	0	0	125
14:00	0	56	38	0	3	1	0	5	19	0	0	0	0	0	0	122
15:00	0	122	82	0	2	3	1	8	24	0	0	0	0	0	0	242
16:00	0	266	187	0	1	0	0	9	15	0	0	0	0	0	0	478
17:00	2	278	169	0	0	4	0	6	15	0	0	0	0	0	0	474
18:00	1	189	89	0	1	1	0	4	18	0	0	0	0	0	0	303
19:00	0	91	50	0	0	1	0	5	4	0	0	0	0	0	0	151
20:00	0	43	21	1	0	0	0	6	4	0	0	0	0	0	0	75
21:00	0	20	8	0	0	0	0	4	8	0	0	0	0	0	0	40
22:00	0	9	1	0	0	0	0	3	8	0	0	0	0	0	0	21
23:00	0	31	6	0	0	0	0	1	6	0	0	0	0	0	0	44
24:00	0	19	12	0	0	0	0	2	3	0	0	0	0	0	0	36
DAY TOTAL	4	1417	875	4	25	33	1	143	321	0	0	0	0	0	0	2823
PERCENTS	0.2%	50.2%	31.0%	0.2%	0.9%	1.2%	0.0%	5.0%	11.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	81.3%							Trucks & Buses	18.6%							
AM Times	08:45	11:15	11:15	08:30	09:00	09:45		08:15	09:45							11:15
AM Peaks	1	63	60	3	6	6		16	30							166
PM Times	15:30	15:45	15:45	18:45	12:30	12:15	14:15	15:45	14:45							15:45
PM Peaks	2	298	192	1	5	6	1	10	25							518

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 3

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	8	5	0	0	0	0	1	4	0	0	0	0	0	0	18
02:00	0	4	5	0	0	0	0	4	2	0	0	0	0	0	0	15
03:00	0	16	3	0	0	0	0	1	8	0	0	0	0	0	0	28
04:00	0	7	2	0	0	0	0	5	7	0	0	0	0	0	0	21
05:00	0	13	0	0	0	0	0	5	7	0	0	0	0	0	0	25
06:00	0	16	8	0	3	1	0	10	10	0	0	0	0	0	0	48
07:00	0	15	5	0	2	1	0	7	19	0	0	0	0	0	0	49
08:00	1	29	18	0	0	5	0	9	17	0	0	0	0	0	0	79
09:00	0	30	26	0	0	4	0	10	20	0	0	0	0	0	0	90
10:00	0	21	22	0	4	3	0	8	31	0	0	0	0	0	0	89
11:00	0	53	32	1	3	3	0	9	27	1	0	0	0	0	0	129
12:00	0	76	64	1	3	3	0	9	32	0	0	0	0	0	0	188
13:00	1	54	47	1	3	3	0	9	23	0	0	0	0	0	0	141
14:00	0	68	52	0	2	3	0	5	24	0	0	0	0	0	0	154
15:00	1	116	68	0	4	3	0	11	22	0	0	0	0	0	0	225
16:00	1	257	153	0	2	4	0	6	19	0	0	0	0	0	0	442
17:00	2	265	175	0	1	1	0	4	12	0	0	0	0	0	0	460
18:00	0	153	77	1	2	0	0	5	11	1	0	0	0	0	0	250
19:00	0	89	51	1	0	0	0	3	8	0	0	0	0	0	0	152
20:00	0	42	15	0	0	0	0	4	13	0	0	0	0	0	0	74
21:00	0	13	5	0	0	1	0	3	5	0	0	0	0	0	0	27
22:00	0	12	1	0	0	0	0	2	6	0	0	0	0	0	0	21
23:00	0	33	11	0	0	0	0	6	3	0	0	0	0	0	0	53
24:00	0	25	10	0	0	0	0	2	5	0	0	0	0	0	0	42
DAY TOTAL	6	1415	855	5	29	35	0	138	335	2	0	0	0	0	0	2820
PERCENTS	0.3%	50.2%	30.4%	0.2%	1.1%	1.2%	0.0%	4.8%	11.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%
Passenger Vehicles	80.7%							Trucks & Buses	19.2%							
AM Times	06:30	11:00	11:15	09:30	09:00	08:00		08:30	10:45	09:30						11:15
AM Peaks	1	76	64	1	4	7		12	34	1						188
PM Times	15:45	15:45	15:45	12:15	13:45	14:30		14:15	13:00	16:45						15:45
PM Peaks	3	280	188	1	5	5		11	25	1						495

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 3

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	4	1	0	0	0	0	4	1	0	0	0	0	0	0	10
02:00	0	8	4	0	0	0	0	4	2	0	0	0	0	0	0	18
03:00	0	21	2	3	0	0	0	3	5	0	0	0	0	0	0	34
04:00	0	6	4	1	0	0	0	4	2	0	0	0	0	0	0	17
05:00	0	6	0	0	0	0	0	1	7	0	0	0	0	0	0	14
06:00	0	11	2	0	0	0	0	6	10	0	0	0	0	0	0	29
07:00	0	17	9	2	0	1	0	7	10	0	0	0	0	0	0	46
08:00	0	19	15	0	0	2	3	11	13	0	0	0	0	0	0	63
09:00	1	19	23	0	1	0	1	11	18	0	0	0	0	0	0	74
10:00	0	36	28	0	4	3	2	12	20	0	0	0	0	0	0	105
11:00	0	30	44	0	3	1	3	13	29	0	0	0	0	0	0	123
12:00	0	81	39	0	2	2	0	8	22	0	0	0	0	0	0	154
13:00	0	90	76	1	1	4	1	9	15	0	0	0	0	0	0	197
14:00	0	70	49	2	3	3	1	8	20	1	0	0	0	0	0	157
15:00	0	131	78	1	1	3	0	9	16	0	0	0	0	0	0	239
16:00	1	241	181	1	3	1	0	2	14	0	0	0	0	0	0	444
17:00	0	164	72	1	1	1	1	6	12	0	0	0	0	0	0	258
18:00	0	107	49	0	2	0	0	2	7	0	0	0	0	0	0	167
19:00	0	52	28	0	0	0	0	4	14	0	0	0	0	0	0	98
20:00	0	37	7	0	0	0	0	7	7	0	0	0	0	0	0	58
21:00	0	9	4	0	0	0	0	1	4	0	0	0	0	0	0	18
22:00	0	14	3	0	0	0	0	4	3	0	0	0	0	0	0	24
23:00	0	25	10	1	0	0	0	5	8	0	0	0	0	0	0	49
24:00	0	21	4	0	0	0	0	2	5	0	0	0	0	0	0	32
DAY TOTAL	2	1219	732	13	21	21	12	143	264	1	0	0	0	0	0	2428
PERCENTS	0.1%	50.3%	30.2%	0.6%	0.9%	0.9%	0.4%	5.8%	10.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 80.4% Trucks & Buses 19.5%

AM Times	08:15	11:15	10:30	02:00	09:15	09:00	07:00	10:00	10:00							11:15
AM Peaks	1	81	53	3	4	3	3	15	31							154
PM Times	15:00	15:00	15:15	13:00	12:30	12:15	12:15	13:30	13:30	13:15						15:00
PM Peaks	1	247	181	2	3	4	1	10	24	1						455

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 4

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	7
02:00	1	7	4	1	0	0	0	3	1	1	0	0	0	0	0	18
03:00	1	7	1	0	1	0	0	0	1	0	0	0	0	0	0	11
04:00	0	3	5	0	1	0	0	6	0	0	0	0	0	0	0	15
05:00	0	1	1	0	0	0	0	2	1	0	0	0	0	0	0	5
06:00	0	1	4	0	0	0	0	8	2	0	0	0	0	0	0	15
07:00	1	10	9	0	2	0	0	4	0	0	0	0	0	0	0	26
08:00	0	16	26	0	0	2	0	5	2	0	0	1	0	0	0	52
09:00	0	17	20	1	0	5	0	1	8	3	0	0	0	0	0	55
10:00	1	17	18	1	3	0	0	4	2	5	0	0	0	0	0	51
11:00	0	25	29	0	3	2	2	4	0	2	0	0	2	0	0	69
12:00	0	61	48	0	4	2	1	3	3	0	1	0	0	0	0	123
13:00	2	53	45	1	0	2	0	2	5	2	0	0	2	0	0	114
14:00	1	23	26	2	6	1	1	6	0	0	0	0	1	0	0	67
15:00	0	67	46	0	3	1	0	7	4	2	0	1	1	0	0	132
16:00	1	128	80	0	7	4	2	3	7	2	2	2	2	0	0	240
17:00	0	134	93	1	2	2	1	3	4	0	3	2	1	0	0	246
18:00	3	80	52	1	3	2	2	5	2	0	0	2	2	0	0	154
19:00	0	39	20	0	0	0	0	0	2	1	0	0	0	0	0	62
20:00	0	25	4	0	1	0	0	1	4	0	0	0	0	0	0	35
21:00	0	14	2	0	0	0	0	1	3	0	0	0	0	0	0	20
22:00	0	5	5	0	0	0	0	1	0	1	0	0	0	0	0	12
23:00	0	18	3	0	0	0	0	2	0	0	0	1	0	0	0	24
24:00	0	14	11	0	0	0	0	1	2	0	0	0	0	0	0	28
DAY TOTAL	11	770	552	8	36	23	9	74	53	19	6	9	11	0	0	1581
PERCENTS	0.7%	48.8%	35.0%	0.6%	2.3%	1.5%	0.6%	4.6%	3.3%	1.2%	0.3%	0.5%	0.6%	0.0%	0.0%	100%
Passenger Vehicles		84.3%							Trucks & Buses		15.6%					
AM Times	01:30	11:15	11:15	01:15	10:45	08:15	10:15	05:30	08:15	09:30	10:45	07:15	10:15			11:15
AM Peaks	2	61	48	1	5	5	2	10	8	6	1	1	2			123
PM Times	12:30	15:45	16:15	13:15	14:45	14:45	14:45	14:30	15:30	14:30	16:15	15:45	15:30			15:45
PM Peaks	3	149	93	2	7	5	2	9	11	3	3	4	3			259

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 4

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	5	4	0	0	0	0	2	0	0	0	0	0	0	0	11
02:00	0	2	2	0	0	0	0	1	3	0	0	0	0	0	0	8
03:00	0	13	3	0	0	0	0	2	1	2	0	0	0	0	0	21
04:00	0	2	3	0	0	0	0	1	0	0	0	0	0	0	0	6
05:00	1	2	3	0	0	0	0	2	2	1	0	0	0	0	0	11
06:00	0	4	3	0	0	1	0	1	3	1	0	0	0	0	0	13
07:00	1	6	10	0	0	1	0	4	1	0	0	0	0	0	0	23
08:00	0	17	11	1	2	0	1	4	3	0	0	0	0	0	0	39
09:00	0	14	19	0	3	1	0	4	4	0	0	1	0	0	0	46
10:00	0	16	23	0	3	1	1	5	3	1	0	0	0	0	0	53
11:00	2	28	34	0	3	0	0	3	6	1	0	1	0	0	0	78
12:00	0	48	52	0	3	1	0	6	0	2	0	0	2	0	0	114
13:00	0	48	42	0	2	2	0	1	5	2	0	0	1	0	0	103
14:00	1	58	49	0	3	2	0	2	5	1	0	0	1	0	0	122
15:00	0	62	48	0	5	1	0	1	4	2	0	1	1	0	0	125
16:00	2	113	101	0	3	1	0	1	3	0	1	1	0	0	0	226
17:00	2	108	119	0	2	6	1	1	0	0	2	1	2	0	0	244
18:00	1	78	47	0	2	4	0	2	1	1	1	0	0	0	0	137
19:00	0	60	21	0	0	1	0	3	1	0	0	0	0	0	0	86
20:00	0	41	11	0	1	0	0	2	1	0	0	0	1	0	0	57
21:00	2	14	1	1	3	0	0	2	2	0	0	0	0	0	0	25
22:00	0	5	4	0	0	0	0	1	1	0	0	0	0	0	0	11
23:00	0	20	6	0	0	0	0	1	3	0	1	1	0	0	0	32
24:00	0	7	2	0	1	0	0	0	0	0	0	0	0	0	0	10
DAY TOTAL	12	771	618	2	36	22	3	52	52	14	5	6	8	0	0	1601
PERCENTS	0.8%	48.2%	38.7%	0.2%	2.3%	1.4%	0.2%	3.2%	3.2%	0.8%	0.3%	0.3%	0.4%	0.0%	0.0%	100%
Passenger Vehicles		87.5%							Trucks & Buses		12.4%					
AM Times	10:00	11:15	11:15	07:00	09:45	04:30	06:30	10:45	07:45	02:15		08:15	11:15			11:15
AM Peaks	2	48	52	1	5	1	1	9	7	2		1	2			114
PM Times	15:45	15:45	16:00	20:15	13:30	16:30	15:30	18:00	12:30	12:15	15:30	15:30	13:00			15:45
PM Peaks	4	115	135	1	6	7	1	5	6	2	2	2	2			262

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr
Direction: SOUTH
Lane: 4

File: Rowland.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	4	3	0	0	0	0	1	1	0	0	0	0	0	0	9
02:00	0	2	1	0	0	0	0	1	1	0	0	0	0	0	0	5
03:00	0	8	6	0	0	0	0	2	2	0	0	0	0	0	0	18
04:00	1	1	1	0	1	0	0	1	2	0	0	0	1	0	0	8
05:00	0	3	2	0	0	0	0	4	1	1	0	0	0	0	0	11
06:00	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	4
07:00	0	8	14	0	0	0	0	6	1	0	0	0	0	0	0	29
08:00	1	16	14	0	1	1	1	4	1	0	0	0	1	0	0	40
09:00	0	19	22	0	5	0	0	7	0	1	0	0	0	0	0	54
10:00	3	26	16	1	2	2	1	6	2	0	0	3	0	0	0	62
11:00	0	40	35	0	2	0	1	0	4	0	1	0	1	0	0	84
12:00	1	49	56	1	2	1	0	4	3	1	0	1	1	0	0	120
13:00	1	74	37	0	8	2	2	3	0	3	0	1	2	0	0	133
14:00	3	41	34	0	4	0	0	4	0	0	0	0	0	0	0	86
15:00	1	70	59	1	1	1	0	2	5	0	1	0	0	0	0	141
16:00	0	104	96	0	3	5	3	6	0	1	1	0	1	0	0	220
17:00	1	65	51	0	1	0	0	1	1	2	1	1	1	0	0	125
18:00	0	43	35	0	2	0	0	2	0	1	0	1	0	0	0	84
19:00	0	36	13	0	1	0	0	4	1	1	0	0	0	0	0	56
20:00	1	23	10	1	0	0	0	1	3	1	0	0	0	0	0	40
21:00	0	12	2	0	0	0	0	2	2	0	0	0	0	0	0	18
22:00	0	21	11	0	1	0	0	1	4	0	0	0	0	0	0	38
23:00	0	23	5	0	1	0	0	3	4	0	0	0	0	0	0	36
24:00	0	12	8	0	0	0	0	3	0	0	0	0	0	0	0	23
DAY TOTAL	13	701	532	4	35	12	8	69	39	12	4	7	8	0	0	1444
PERCENTS	1.0%	48.6%	36.9%	0.3%	2.5%	0.9%	0.5%	4.7%	2.7%	0.8%	0.2%	0.4%	0.5%	0.0%	0.0%	100%
Passenger Vehicles		86.2%						Trucks & Buses		13.7%						
AM Times	09:00	11:15	11:15	08:45	08:15	09:00	09:30	08:30	10:30	04:00	09:45	09:15	03:15			11:15
AM Peaks	3	49	56	1	5	2	2	8	5	1	1	3	1			120
PM Times	13:15	15:00	15:00	14:15	12:30	14:30	15:15	13:45	20:45	12:15	13:30	16:30	12:15			15:00
PM Peaks	3	117	99	1	9	5	3	6	6	3	1	2	2			237

Traffic Engineering Data Solutions, Inc.
VOLUME SUMMARY
Wed 9/22/2021

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr

File: Rowland.prn
City:
County:

TIME	1 NORTH	2 NORTH	3 SOUTH	4 SOUTH	Total
01:00	20	1	12	7	40
02:00	10	1	22	18	51
03:00	29	4	25	11	69
04:00	18	8	29	15	70
05:00	41	30	15	5	91
06:00	236	209	42	15	502
07:00	421	456	53	26	956
08:00	441	381	70	52	944
09:00	300	203	81	55	639
10:00	205	87	89	51	432
11:00	145	47	108	69	369
12:00	159	57	166	123	505
13:00	206	65	125	114	510
14:00	133	53	122	67	375
15:00	100	39	242	132	513
16:00	83	37	478	240	838
17:00	38	9	474	246	767
18:00	55	22	303	154	534
19:00	41	9	151	62	263
20:00	38	9	75	35	157
21:00	26	10	40	20	96
22:00	21	11	21	12	65
23:00	16	7	44	24	91
24:00	18	4	36	28	86
DAY TOTAL	2800	1759	2823	1581	8963
PERCENTS	31.3%	19.7%	31.4%	17.6%	100%
AM Times	06:45	06:30	11:15	11:15	
AM Peaks	484	476	166	123	
PM Times	12:15	12:15	15:45	15:45	
PM Peaks	206	65	518	259	

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr

File: Rowland.prn
City:
County:

TIME	1 NORTH	2 NORTH	3 SOUTH	4 SOUTH	Total
01:00	14	2	18	11	45
02:00	13	0	15	8	36
03:00	26	7	28	21	82
04:00	22	7	21	6	56
05:00	51	33	25	11	120
06:00	222	224	48	13	507
07:00	414	413	49	23	899
08:00	473	400	79	39	991
09:00	335	187	90	46	658
10:00	268	93	89	53	503
11:00	276	54	129	78	537
12:00	300	75	188	114	677
13:00	290	80	141	103	614
14:00	165	50	154	122	491
15:00	134	38	225	125	522
16:00	72	25	442	226	765
17:00	52	8	460	244	764
18:00	48	11	250	137	446
19:00	41	7	152	86	286
20:00	29	5	74	57	165
21:00	29	9	27	25	90
22:00	20	10	21	11	62
23:00	12	2	53	32	99
24:00	14	4	42	10	70
DAY TOTAL	3320	1744	2820	1601	9485
PERCENTS	35.1%	18.4%	29.7%	16.8%	100%
AM Times	06:45	06:45	11:15	11:15	
AM Peaks	482	469	188	114	
PM Times	12:15	12:15	15:45	15:45	
PM Peaks	290	80	495	262	

Site Reference: 000000000008
Site ID: 000000000008
Location: SR 401, North of Charles Rowland Dr

File: Rowland.prn
City:
County:

TIME	1 NORTH	2 NORTH	3 SOUTH	4 SOUTH	Total
01:00	12	1	10	9	32
02:00	15	1	18	5	39
03:00	18	7	34	18	77
04:00	24	4	17	8	53
05:00	46	26	14	11	97
06:00	180	148	29	4	361
07:00	354	318	46	29	747
08:00	329	237	63	40	669
09:00	221	128	74	54	477
10:00	150	57	105	62	374
11:00	154	54	123	84	415
12:00	118	43	154	120	435
13:00	161	48	197	133	539
14:00	145	49	157	86	437
15:00	86	31	239	141	497
16:00	57	31	444	220	752
17:00	36	14	258	125	433
18:00	46	8	167	84	305
19:00	34	4	98	56	192
20:00	23	9	58	40	130
21:00	23	12	18	18	71
22:00	23	13	24	38	98
23:00	12	5	49	36	102
24:00	14	4	32	23	73
DAY TOTAL	2281	1252	2428	1444	7405
PERCENTS	30.9%	16.9%	32.7%	19.5%	100%
AM Times	06:30	06:30	11:15	11:15	
AM Peaks	391	336	154	120	
PM Times	12:15	13:15	15:00	15:00	
PM Peaks	161	49	455	237	

Traffic Engineering Data Solutions, Inc.
CLASSIFICATION SUMMARY
Wed 9/8/2021

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB
Direction: SOUTH
Lane: 1

File: WB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	5	2	0	0	0	0	1	2	2	0	0	0	0	0	12
02:00	1	5	0	0	0	0	0	2	9	2	0	0	0	0	0	19
03:00	1	15	4	0	0	0	0	1	4	2	0	0	0	0	0	27
04:00	0	13	4	0	1	0	2	3	6	1	0	0	0	0	0	30
05:00	0	4	0	0	0	0	0	2	5	5	0	1	0	0	0	17
06:00	0	10	7	0	0	0	0	7	10	3	0	0	0	0	0	37
07:00	0	20	10	0	0	1	2	6	11	7	0	0	0	0	0	57
08:00	0	142	31	0	0	2	3	6	12	8	0	0	0	0	0	204
09:00	0	171	29	1	1	7	2	5	16	9	0	0	0	0	0	241
10:00	0	146	33	1	3	3	0	5	17	12	0	1	2	0	0	223
11:00	0	39	32	0	1	5	4	11	19	6	0	0	0	0	0	117
12:00	0	55	44	0	2	5	0	5	25	5	0	0	1	0	0	142
13:00	3	70	41	0	2	8	0	6	11	3	0	0	0	0	0	144
14:00	0	52	41	0	5	2	0	7	15	4	0	0	2	0	0	128
15:00	0	134	81	0	5	3	1	4	26	3	0	0	0	0	0	257
16:00	1	310	192	0	6	1	2	7	17	2	0	0	0	0	0	538
17:00	0	296	185	0	2	5	1	5	13	2	0	0	0	0	0	509
18:00	2	186	88	0	1	2	1	4	16	4	0	0	0	0	0	304
19:00	0	94	53	0	2	1	0	4	3	3	0	0	0	0	0	160
20:00	0	33	21	0	0	0	0	2	5	3	0	0	0	0	0	64
21:00	0	15	5	0	0	0	0	1	9	4	0	0	0	0	0	34
22:00	0	11	5	0	0	0	0	2	7	3	0	0	0	0	0	28
23:00	0	24	7	0	0	0	1	0	5	1	0	0	0	0	0	38
24:00	0	13	10	0	0	0	0	0	2	1	0	0	0	0	0	26
DAY TOTAL	8	1863	925	2	31	45	19	96	265	95	0	2	5	0	0	3356
PERCENTS	0.3%	55.6%	27.6%	0.1%	1.0%	1.4%	0.5%	2.8%	7.8%	2.8%	0.0%	0.0%	0.1%	0.0%	0.0%	100%
Passenger Vehicles	83.3%								Trucks & Buses	16.6%						
AM Times	01:30	07:45	11:15	08:00	09:00	08:00	06:45	10:15	11:15	09:30		03:45	09:15			08:00
AM Peaks	2	201	44	1	3	7	4	11	25	13		1	2			267
PM Times	12:15	15:30	15:45		14:45	12:15	15:00	15:00	14:45	17:30			13:15			15:30
PM Peaks	3	334	208		8	8	2	9	28	6			2			576

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB
Direction: SOUTH
Lane: 1

File: WB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	6	0	0	0	0	1	0	2	2	0	0	0	0	0	11
02:00	0	4	2	0	0	0	0	0	4	2	0	0	0	0	0	12
03:00	0	21	4	0	0	0	0	2	5	3	0	0	0	0	0	35
04:00	0	5	2	0	0	0	0	1	9	3	0	0	0	0	0	20
05:00	1	13	0	0	0	0	0	2	11	2	0	0	0	0	0	29
06:00	0	16	9	0	3	2	0	1	13	4	0	0	0	0	0	48
07:00	0	15	5	0	1	1	2	7	11	9	0	1	0	0	0	52
08:00	1	67	30	0	2	3	2	4	14	8	0	0	0	0	0	131
09:00	1	211	69	3	3	4	3	8	18	10	0	0	0	0	0	330
10:00	0	180	57	2	6	6	5	5	27	9	0	0	0	0	0	297
11:00	0	100	68	2	4	6	3	4	17	14	0	0	2	0	0	220
12:00	0	96	50	2	8	3	8	6	22	10	0	0	1	0	0	206
13:00	0	59	57	3	4	2	3	1	18	9	0	0	0	0	0	156
14:00	2	103	68	3	2	2	3	4	18	8	0	0	2	0	0	215
15:00	0	177	83	1	5	3	1	5	20	7	0	0	0	0	0	302
16:00	3	326	176	0	4	2	2	5	14	1	0	0	2	0	0	535
17:00	5	304	199	0	5	1	1	2	10	0	0	0	0	0	0	527
18:00	0	156	78	0	2	1	1	4	10	1	0	0	0	0	0	253
19:00	0	88	51	1	0	0	0	1	7	3	0	0	0	0	0	151
20:00	0	38	7	0	0	0	0	5	6	4	0	0	0	0	0	60
21:00	0	13	4	0	2	1	2	0	3	3	0	0	0	0	0	28
22:00	0	12	2	0	0	0	0	2	3	3	0	0	0	0	0	22
23:00	0	28	9	0	0	0	1	1	3	3	0	0	0	0	0	45
24:00	0	13	5	0	0	0	0	1	5	1	0	0	0	0	0	25
DAY TOTAL	13	2051	1035	17	51	37	38	71	270	119	0	1	7	0	0	3710
PERCENTS	0.4%	55.3%	27.9%	0.5%	1.4%	1.0%	1.1%	1.9%	7.2%	3.2%	0.0%	0.0%	0.1%	0.0%	0.0%	100%
Passenger Vehicles	83.5%								Trucks & Buses	16.4%						
AM Times	04:00	09:00	08:00	09:30	11:15	09:30	11:15	08:00	09:15	10:00		06:15	09:30			08:30
AM Peaks	1	233	72	4	8	7	8	9	27	14		1	2			350
PM Times	15:45	15:45	15:45	13:00	15:45	14:30	12:15	14:30	13:30	13:00			12:30			15:45
PM Peaks	8	362	224	4	6	5	3	6	21	10			2			618

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB
Direction: SOUTH
Lane: 1

File: WB.prn
City:
County:

TIME	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
01:00	0	3	2	0	0	0	0	1	4	0	0	0	0	0	0	10
02:00	0	7	1	0	0	0	0	0	3	2	0	0	0	0	0	13
03:00	0	19	5	0	0	0	0	3	5	3	0	0	0	0	0	35
04:00	1	5	5	0	0	0	0	2	5	2	0	0	0	0	0	20
05:00	0	6	0	0	0	0	0	2	6	1	0	0	0	0	0	15
06:00	0	9	2	0	0	0	1	6	7	1	0	0	0	0	0	26
07:00	0	16	14	0	0	1	0	5	12	4	0	0	0	0	0	52
08:00	0	53	21	1	2	0	4	7	12	4	0	0	0	0	0	104
09:00	0	121	37	2	3	3	2	7	15	8	0	0	0	0	0	198
10:00	4	148	44	3	3	6	3	9	20	7	0	1	1	0	0	249
11:00	0	69	61	4	2	0	5	9	20	13	0	0	0	0	0	183
12:00	2	68	38	3	3	2	3	6	15	6	0	0	1	0	0	147
13:00	0	93	63	3	7	5	1	4	18	1	0	0	0	0	0	195
14:00	2	77	48	1	6	1	1	6	22	2	0	0	0	0	0	166
15:00	1	159	100	1	1	0	3	6	14	4	0	0	0	0	0	289
16:00	0	261	196	5	6	2	0	8	8	0	0	0	0	0	0	486
17:00	1	235	82	2	2	1	1	1	10	2	0	0	0	0	0	337
18:00	0	115	48	0	2	1	2	4	3	1	0	0	0	0	0	176
19:00	0	51	29	1	0	0	1	2	10	5	0	0	0	0	0	99
20:00	0	37	9	0	1	0	2	2	6	3	0	0	0	0	0	60
21:00	0	8	3	0	0	0	0	3	2	1	0	0	0	0	0	17
22:00	0	9	5	0	1	0	0	1	6	2	0	0	0	0	0	24
23:00	0	28	9	0	0	1	1	3	7	4	0	0	0	0	0	53
24:00	0	11	4	0	0	0	0	2	3	1	0	0	0	0	0	21
DAY TOTAL	11	1608	826	26	39	23	30	99	233	77	0	1	2	0	0	2975
PERCENTS	0.4%	54.1%	27.8%	0.9%	1.4%	0.8%	1.0%	3.3%	7.8%	2.5%	0.0%	0.0%	0.0%	0.0%	0.0%	100%

Passenger Vehicles 82.1% Trucks & Buses 17.8%

AM Times	09:00	09:00	10:30	08:30	08:00	08:45	10:30	10:00	08:45	10:00		08:45	09:00			09:15
AM Peaks	4	153	64	4	4	7	6	11	21	13		1	1			249
PM Times	13:15	15:00	15:00	14:45	12:30	12:15	14:15	14:45	13:30	18:45						15:00
PM Peaks	2	279	199	6	8	5	3	10	27	7						510

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB

File: WB.prn
City:
County:

TIME	1 SOUTH	Total
01:00	12	12
02:00	19	19
03:00	27	27
04:00	30	30
05:00	17	17
06:00	37	37
07:00	57	57
08:00	204	204
09:00	241	241
10:00	223	223
11:00	117	117
12:00	142	142
13:00	144	144
14:00	128	128
15:00	257	257
16:00	538	538
17:00	509	509
18:00	304	304
19:00	160	160
20:00	64	64
21:00	34	34
22:00	28	28
23:00	38	38
24:00	26	26
DAY TOTAL	3356	3356
PERCENTS	100.0%	100%
AM Times	08:00	
AM Peaks	267	
PM Times	15:30	
PM Peaks	576	

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB

File: WB.prn
City:
County:

TIME	1 SOUTH	Total
01:00	11	11
02:00	12	12
03:00	35	35
04:00	20	20
05:00	29	29
06:00	48	48
07:00	52	52
08:00	131	131
09:00	330	330
10:00	297	297
11:00	220	220
12:00	206	206
13:00	156	156
14:00	215	215
15:00	302	302
16:00	535	535
17:00	527	527
18:00	253	253
19:00	151	151
20:00	60	60
21:00	28	28
22:00	22	22
23:00	45	45
24:00	25	25
DAY TOTAL	3710	3710
PERCENTS	100.0%	100%
AM Times	08:30	
AM Peaks	350	
PM Times	15:45	
PM Peaks	618	

Site Reference: 000000000009
Site ID: 000000000009
Location: SR 401 SB to SR 528 WB

File: WB.prn
City:
County:

TIME	1 SOUTH	Total
01:00	10	10
02:00	13	13
03:00	35	35
04:00	20	20
05:00	15	15
06:00	26	26
07:00	52	52
08:00	104	104
09:00	198	198
10:00	249	249
11:00	183	183
12:00	147	147
13:00	195	195
14:00	166	166
15:00	289	289
16:00	486	486
17:00	337	337
18:00	176	176
19:00	99	99
20:00	60	60
21:00	17	17
22:00	24	24
23:00	53	53
24:00	21	21
DAY TOTAL	2975	2975
PERCENTS	100.0%	100%
AM Times	09:15	
AM Peaks	249	
PM Times	15:00	
PM Peaks	510	

Attachment C

Hourly Vehicle Control Totals by Vehicle Class

(September 9, 2021)

Vehicle Classes 1-3 (Passenger Cars)

Starting Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Two-Way Volume		
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bascule	SR 528	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Bridges	West of SR 401	East of SR 401
00:00	89	153	1	7	8	0	0	8	25	1	26	20	6	108	152	34	241	261
01:00	68	56	1	2	3	0	0	3	5	1	6	0	6	67	60	9	128	123
02:00	46	55	11	4	15	0	0	15	25	0	25	0	25	35	76	40	122	90
03:00	37	68	16	5	21	0	0	21	23	2	25	18	7	39	70	46	107	107
04:00	109	100	37	26	63	9	1	53	18	1	19	5	14	77	88	82	197	177
05:00	482	337	264	167	431	33	37	361	29	5	34	9	25	227	195	465	677	564
06:00	1,078	795	566	319	885	43	27	815	41	6	47	27	20	539	496	932	1,574	1,334
07:00	1,497	978	581	333	914	25	31	858	84	55	139	41	98	957	743	1,053	2,240	1,935
08:00	1,252	990	371	270	641	26	74	541	104	280	384	103	281	984	1,001	1,025	2,253	1,974
09:00	965	836	208	207	415	27	62	326	95	314	409	172	237	929	866	824	1,831	1,765
10:00	984	869	210	182	392	17	100	275	155	134	289	121	168	895	855	681	1,839	1,764
11:00	1,011	941	197	203	400	24	86	290	226	117	343	197	146	1,011	884	743	1,895	1,952
12:00	1,015	912	175	226	401	17	77	307	196	101	297	181	116	1,021	802	698	1,817	1,933
13:00	853	833	136	123	259	12	62	185	245	72	317	144	173	861	883	576	1,736	1,694
14:00	775	906	102	116	218	10	22	186	425	138	563	303	260	976	1,050	781	1,825	1,882
15:00	728	1,056	62	65	127	14	15	98	819	140	959	454	505	1,120	1,496	1,086	2,224	2,176
16:00	602	1,197	45	32	77	0	8	69	1,102	84	1,186	678	508	1,235	1,673	1,263	2,275	2,432
17:00	984	1,038	29	21	50	1	3	46	431	11	442	208	234	1,163	1,251	492	2,235	2,201
18:00	717	701	13	18	31	0	1	30	229	8	237	98	139	802	822	268	1,539	1,503
19:00	440	641	9	33	42	2	2	38	230	3	233	188	45	619	653	275	1,093	1,260
20:00	412	479	10	9	19	0	0	19	32	1	33	16	17	418	487	52	899	897
21:00	259	362	13	13	26	0	0	26	24	1	25	11	14	257	363	51	622	619
22:00	189	235	5	7	12	0	0	12	105	1	106	69	37	253	265	118	454	488
23:00	132	142	13	4	17	0	0	17	58	1	59	41	18	160	156	76	288	302
DAY TOTAL	14,724	14,680	3,075	2,392	5,467	260	608	4,599	4,726	1,477	6,203	3,104	3,099	14,753	15,387	11,670	30,111	29,433

Vehicle Class 4 (Buses)

Starting Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Two-Way Volume		
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bascule Bridges	SR 528	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB		West of SR 401	East of SR 401
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
02:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:00	3	5	0	0	0	0	0	0	0	0	0	0	0	3	5	0	8	8
06:00	10	5	3	1	4	1	2	1	0	0	0	0	0	7	4	4	14	12
07:00	5	2	1	1	2	1	1	0	0	0	0	0	0	4	1	2	6	6
08:00	8	10	2	1	3	0	1	2	0	5	5	2	3	8	12	8	20	18
09:00	13	13	3	2	5	1	0	4	0	3	3	1	2	11	13	8	26	24
10:00	10	8	1	0	1	0	0	1	0	2	2	0	2	9	10	3	20	17
11:00	13	7	3	1	4	4	0	0	0	3	3	1	2	11	8	7	21	18
12:00	7	5	3	0	3	1	0	2	0	3	3	0	3	4	8	6	15	9
13:00	8	8	4	0	4	2	2	0	0	5	5	2	3	6	11	9	19	14
14:00	8	9	1	0	1	1	0	0	0	1	1	0	1	7	10	2	18	16
15:00	4	5	0	0	0	0	0	0	0	0	0	0	0	4	5	0	9	9
16:00	5	14	1	0	1	0	0	1	0	0	0	0	0	4	14	1	19	18
17:00	1	5	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	6
18:00	0	1	0	0	0	0	0	0	1	0	1	0	1	0	2	1	2	1
19:00	1	1	0	1	1	0	0	1	0	0	0	0	0	1	0	1	1	2
20:00	2	2	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	4
21:00	1	1	1	0	1	0	0	1	0	0	0	0	0	0	1	1	2	1
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
DAY TOTAL	101	103	23	7	30	11	6	13	1	22	23	6	17	84	113	53	214	187

Vehicle Classes 5-7 (Single Unit Trucks, Including Provisioning Vehicles)

Starting Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Two-Way Volume		
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bascule Bridges	SR 528	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB		West of SR 401	East of SR 401
00:00	4	2	1	0	1	0	0	1	1	0	1	0	1	3	3	2	7	5
01:00	2	0	1	0	1	0	0	1	0	0	0	0	0	1	0	1	2	1
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	1	5	0	0	0	0	0	0	0	0	0	0	0	1	5	0	6	6
04:00	5	5	3	0	3	0	1	2	0	0	0	0	0	2	5	3	10	7
05:00	17	25	1	4	5	1	1	3	5	0	5	0	5	16	26	10	43	41
06:00	43	48	11	1	12	2	0	10	3	1	4	0	4	32	51	16	94	80
07:00	67	47	11	6	17	2	1	14	6	1	7	0	7	56	48	24	115	103
08:00	66	50	11	9	20	4	2	14	5	7	12	2	10	57	51	32	117	107
09:00	67	43	8	7	15	1	3	11	5	13	18	1	17	60	53	33	120	103
10:00	64	55	11	10	21	5	4	12	6	7	13	0	13	53	58	34	122	108
11:00	79	53	9	6	15	4	2	9	8	11	19	0	19	70	66	34	145	123
12:00	62	62	9	7	16	3	2	11	4	7	11	2	9	55	64	27	126	117
13:00	50	51	5	4	9	1	1	7	5	2	7	0	7	45	54	16	104	96
14:00	51	43	8	2	10	2	0	8	9	2	11	2	9	45	50	21	101	88
15:00	42	63	0	4	4	0	3	1	7	1	8	0	8	42	67	12	109	105
16:00	38	54	5	1	6	0	0	6	13	1	14	7	7	40	60	20	98	94
17:00	28	34	1	1	2	0	0	2	8	1	9	5	4	32	37	11	65	66
18:00	18	22	1	1	2	0	0	2	0	0	0	0	0	17	21	2	39	39
19:00	16	26	0	0	0	0	0	0	0	0	0	0	0	16	26	0	42	42
20:00	10	13	0	0	0	0	0	0	5	0	5	0	5	10	18	5	28	23
21:00	5	10	0	0	0	0	0	0	0	0	0	0	0	5	10	0	15	15
22:00	7	7	0	0	0	0	0	0	1	0	1	0	1	7	8	1	15	14
23:00	2	4	0	0	0	0	0	0	0	0	0	0	0	2	4	0	6	6
DAY TOTAL	744	722	96	63	159	25	20	114	91	54	145	19	126	667	785	304	1,529	1,389

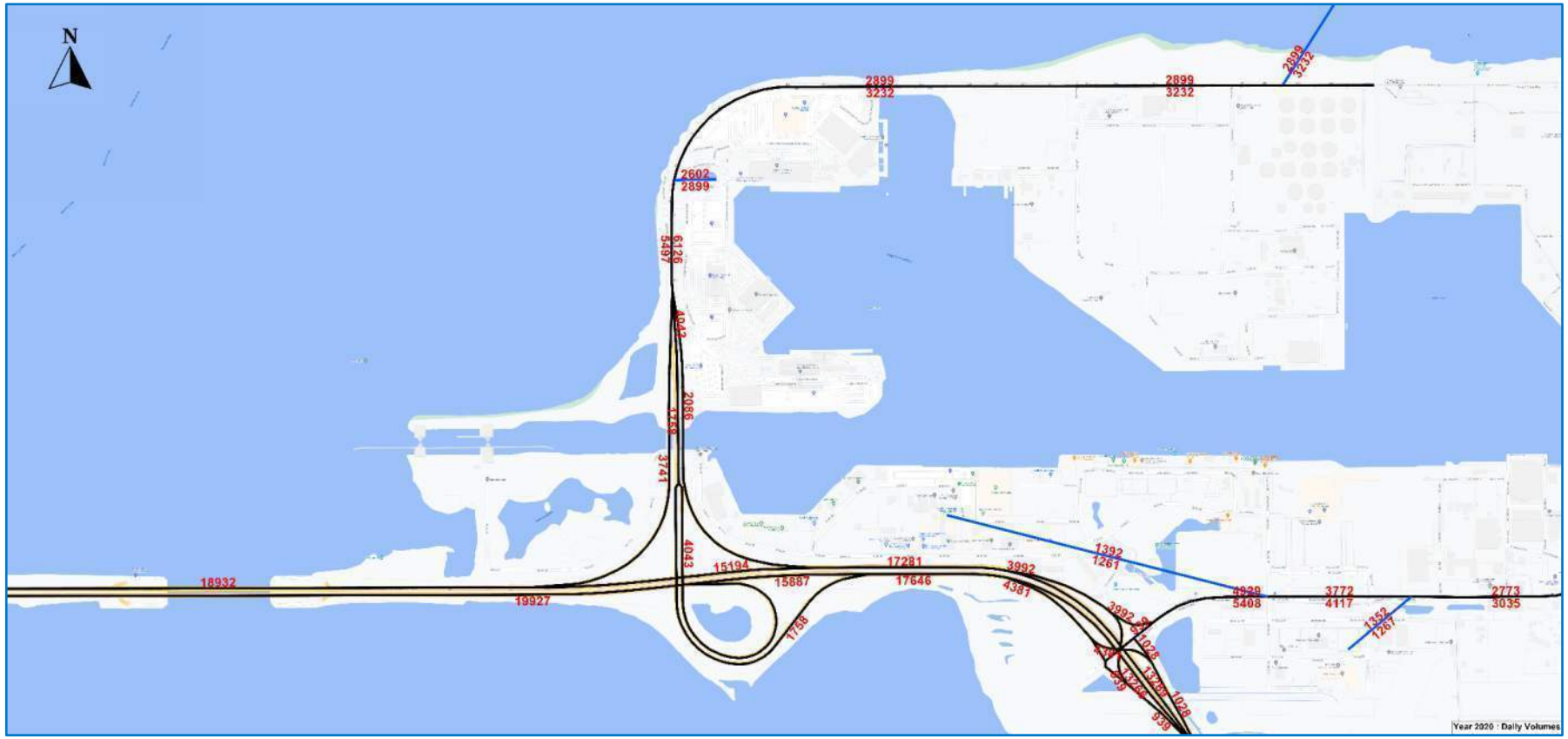
Vehicle Classes 8-15 (Heavy Trucks)

Starting Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Two-Way Volume		
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bascule Bridges	SR 528	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB		West of SR 401	East of SR 401
00:00	4	4	6	4	10	0	0	10	8	0	8	4	4	2	4	18	8	6
01:00	7	2	5	2	7	0	0	7	6	0	6	0	6	2	6	13	13	4
02:00	10	2	11	2	13	0	0	13	17	0	17	7	10	6	10	30	20	8
03:00	11	2	8	7	15	0	0	15	13	0	13	0	13	3	8	28	19	5
04:00	19	6	14	5	19	0	0	19	15	0	15	0	15	5	16	34	35	11
05:00	36	11	26	3	29	0	0	29	18	0	18	0	18	10	26	47	62	21
06:00	61	14	33	4	37	5	0	32	28	0	28	0	28	28	38	65	99	42
07:00	61	39	35	8	43	3	1	39	26	1	27	1	26	27	57	70	118	66
08:00	54	39	35	9	44	3	1	40	46	9	55	19	36	38	66	99	120	77
09:00	60	37	43	8	51	2	2	47	52	12	64	23	41	40	70	115	130	77
10:00	46	53	39	11	50	2	0	48	64	10	74	37	37	44	79	124	125	97
11:00	62	46	30	8	38	2	0	36	44	8	52	13	39	45	77	90	139	91
12:00	53	42	19	9	28	1	0	27	32	5	37	9	28	43	61	65	114	85
13:00	38	42	27	9	36	0	0	36	57	3	60	28	32	39	65	96	103	81
14:00	46	37	17	7	24	0	0	24	33	0	33	1	32	30	62	57	108	67
15:00	31	37	8	2	10	0	0	10	22	0	22	0	22	23	57	32	88	60
16:00	17	28	6	1	7	0	0	7	12	0	12	0	12	11	39	19	56	39
17:00	23	18	12	1	13	0	0	13	16	0	16	1	15	12	32	29	55	30
18:00	19	11	11	2	13	0	0	13	11	0	11	0	11	8	20	24	39	19
19:00	12	3	12	2	14	0	0	14	23	0	23	8	15	8	16	37	28	11
20:00	13	7	7	0	7	0	0	7	6	0	6	0	6	6	13	13	26	13
21:00	4	0	5	3	8	0	0	8	13	0	13	5	8	4	5	21	9	4
22:00	5	1	11	1	12	0	0	12	15	0	15	8	7	2	7	27	12	3
23:00	7	5	4	0	4	0	0	4	7	0	7	0	7	3	12	11	19	8
DAY TOTAL	699	486	424	108	532	18	4	510	584	48	632	164	468	439	846	1,164	1,545	925

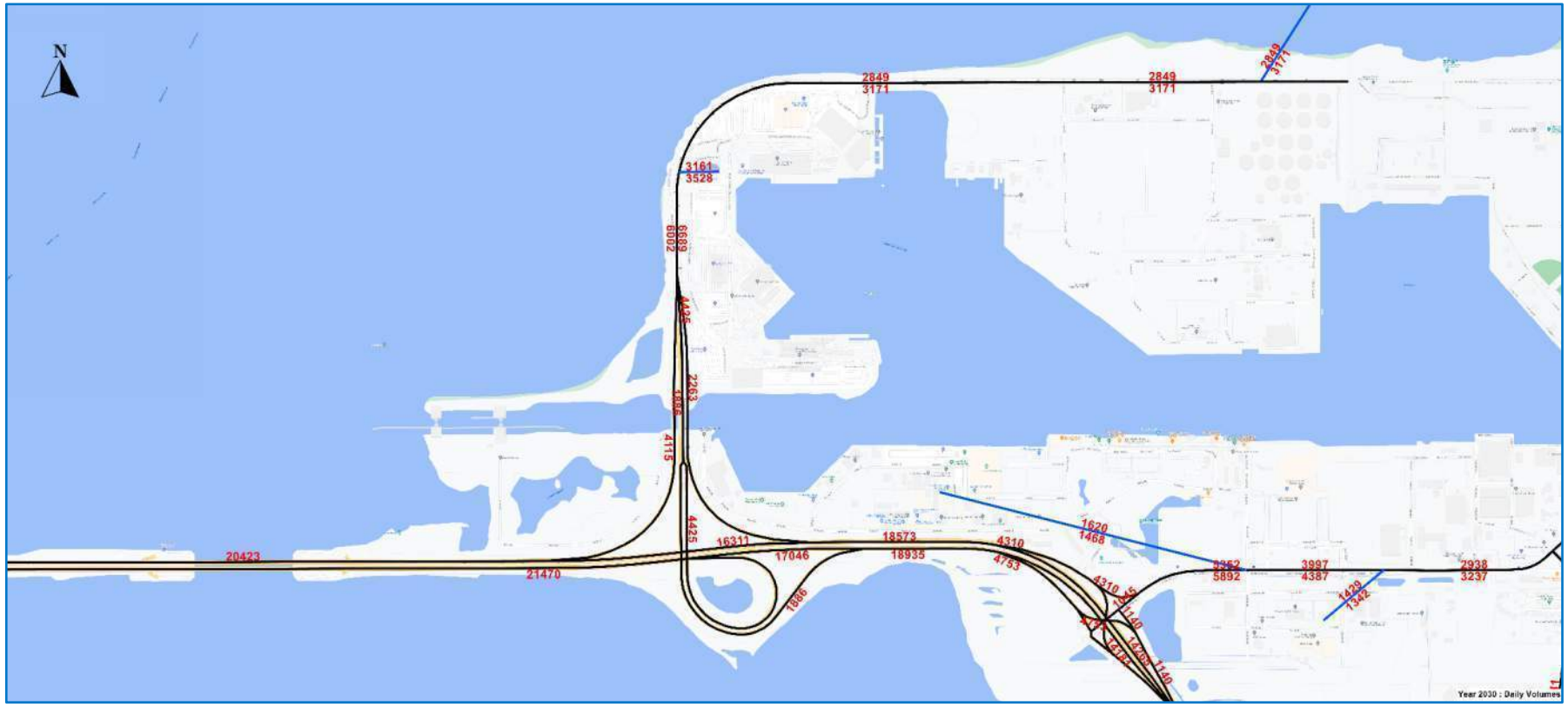
Attachment D

CFRPM v. 7.0 Model Plots and Select Zone Plots
2020, 2030 and 2045 Daily Volumes

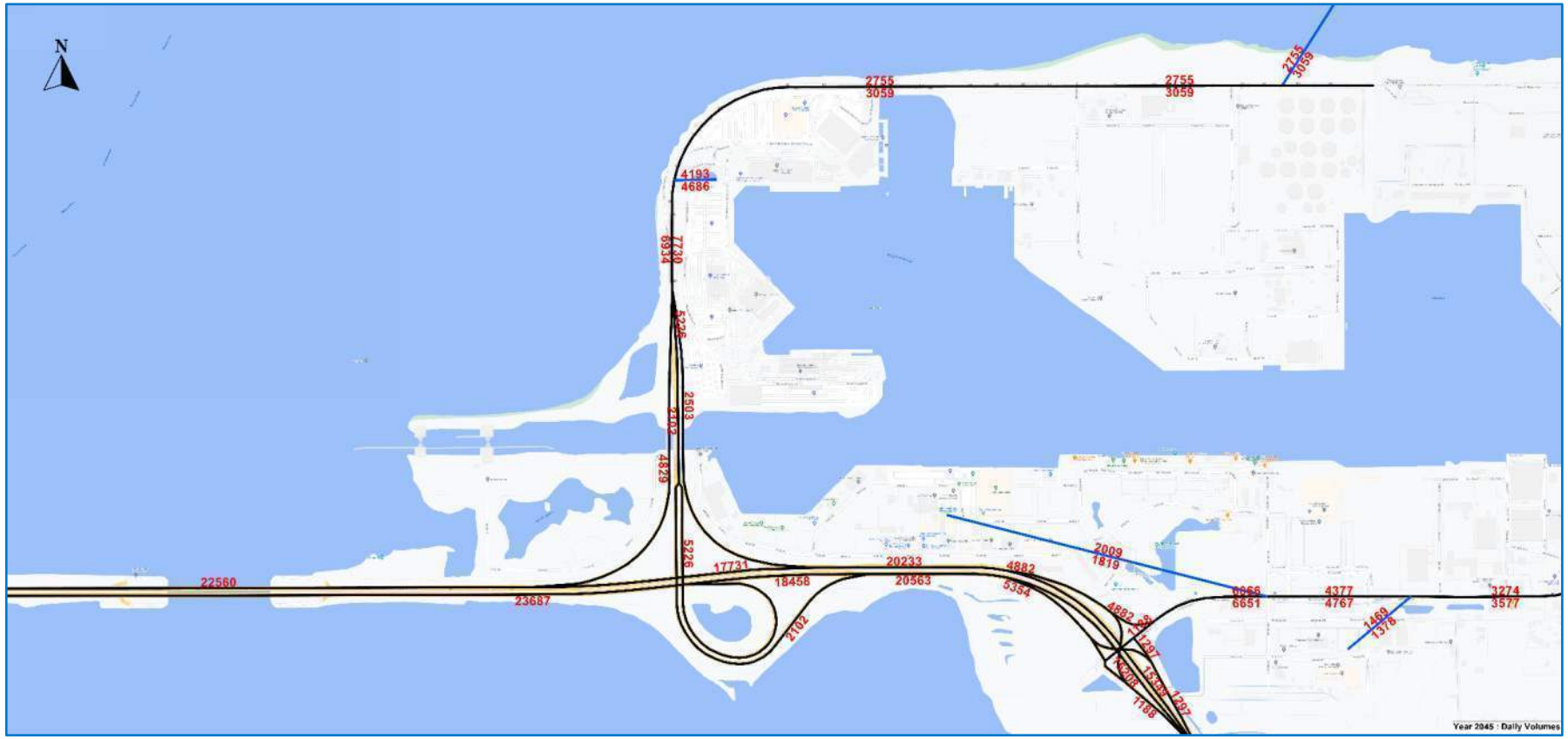
2020 Daily Volumes in Study Area



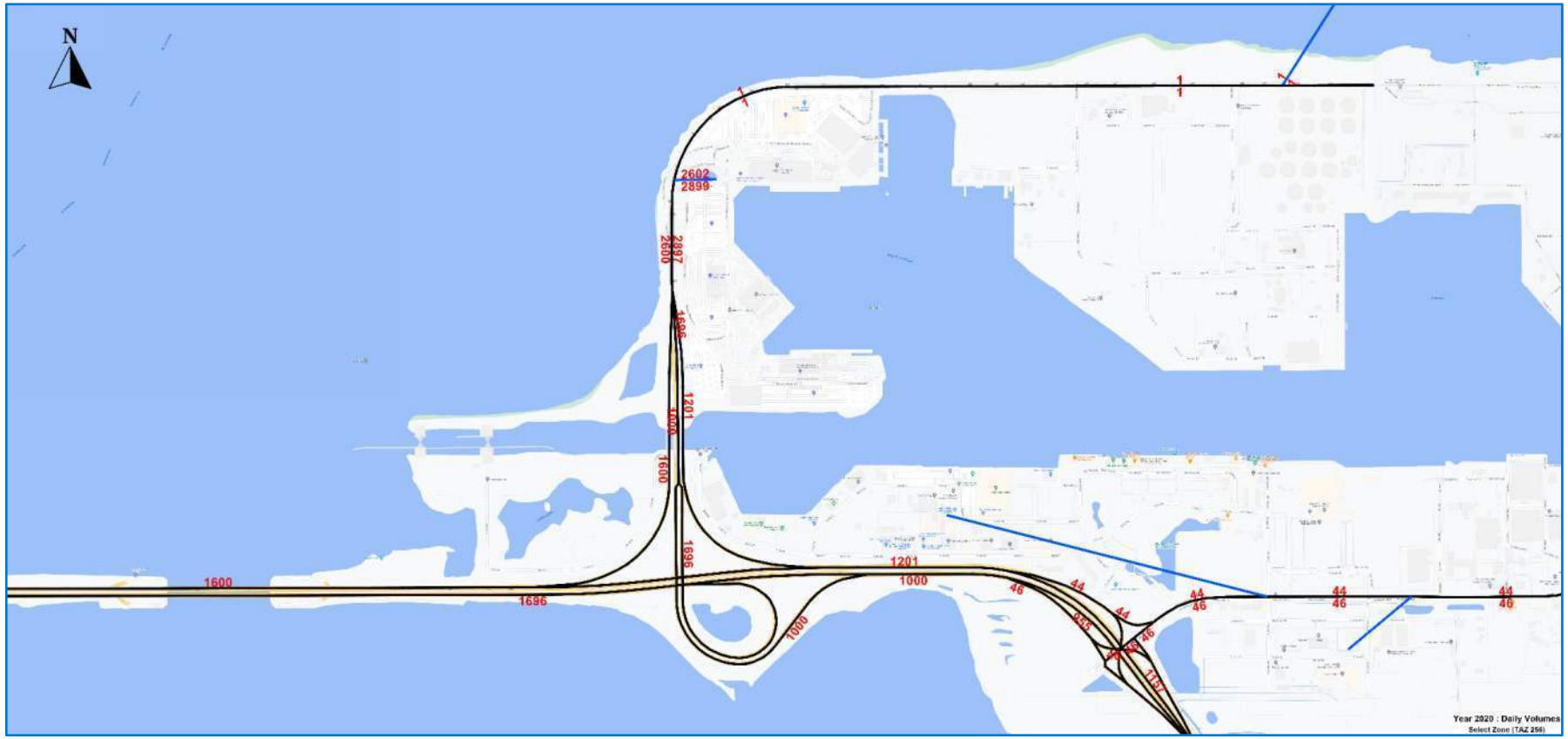
2030 Daily Volumes in Study Area



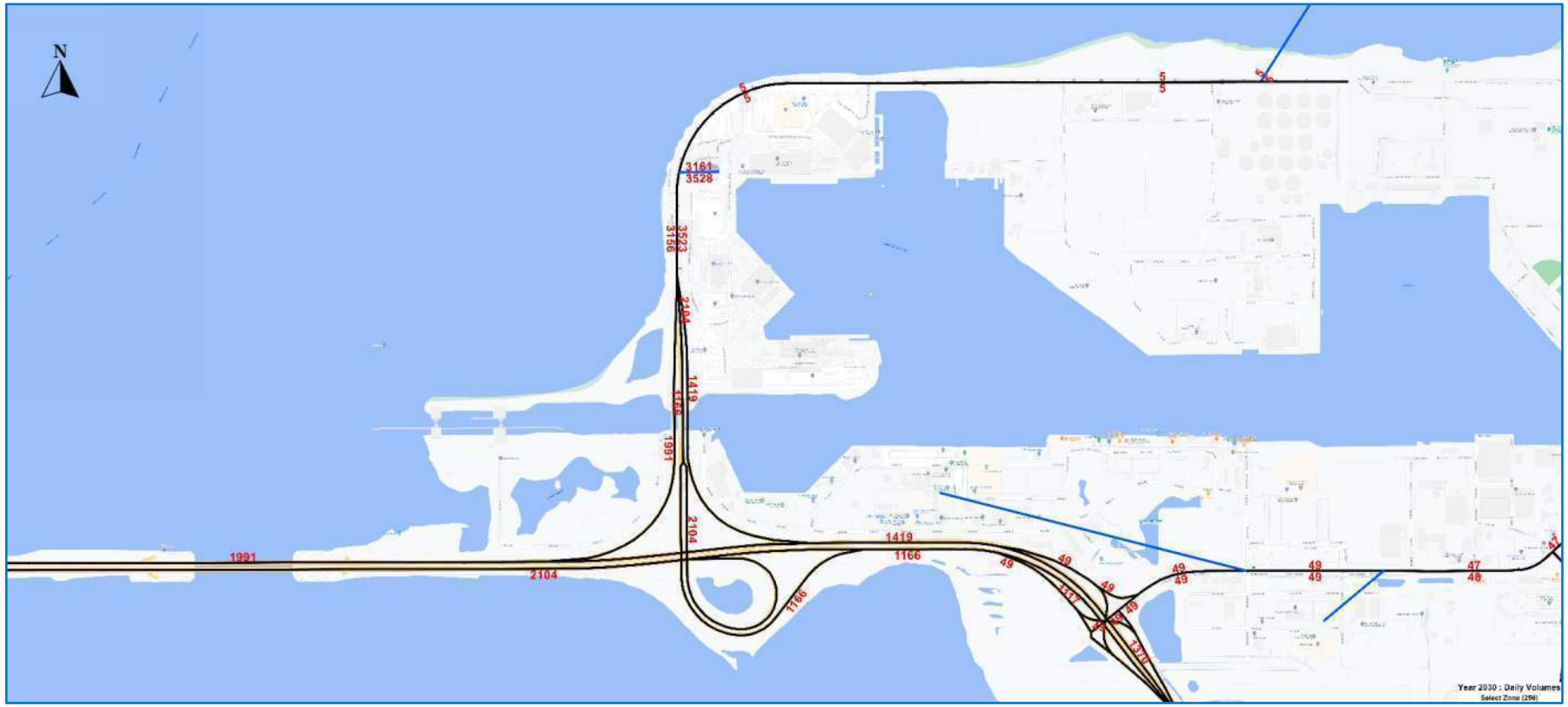
2045 Daily Volumes in Study Area



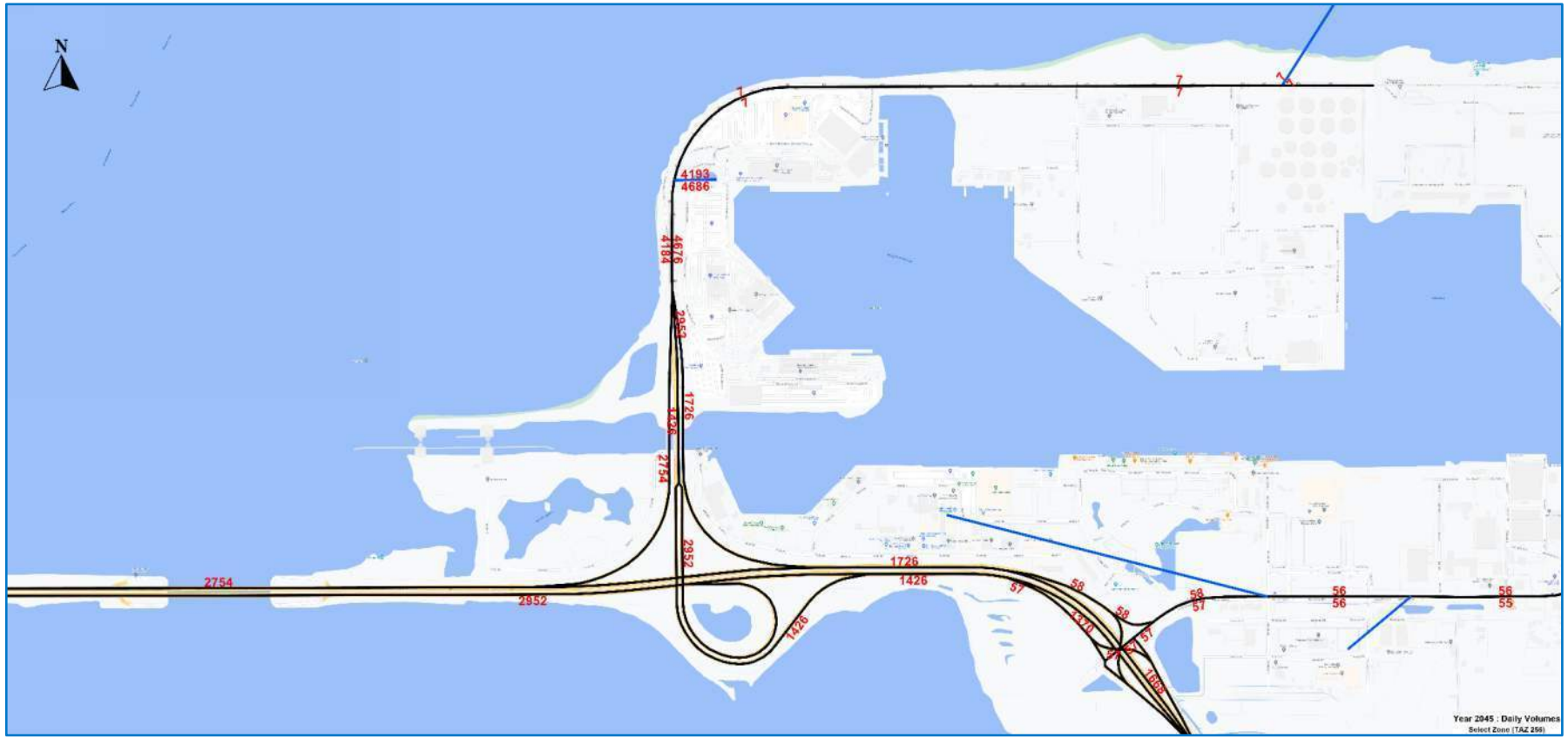
2020 Daily Volume Plot for Select Zone: TAZ 256 (Port Canaveral, North)


N
1
1
2602
2899
2897
2600
1696
1201
1000
1600
1696
1600
1696
1201
1000
1000
46
44
44
46
44
46
44
46

2030 Daily Volume Plot for Select Zone: TAZ 256 (Port Canaveral, North)



2045 Daily Volume Plot for Select Zone: TAZ 256 (Port Canaveral, North)



Attachment E

Detailed Volume Forecasts by Hour (6:00 AM to 6:00 PM) and Vehicle Class

2030 with 2 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,731	1,033	534	377	911	46	121	744	77	35	112	41	71	1,238	727	1,023	1,197	656
08:00	2,391	1,311	569	404	973	71	141	761	140	338	478	223	255	2,045	1,162	1,451	1,822	907
09:00	2,052	1,348	457	311	768	71	135	562	354	652	1,006	463	543	2,058	1,580	1,774	1,595	1,037
10:00	1,712	1,206	423	275	698	58	157	483	385	678	1,063	488	575	1,777	1,506	1,761	1,289	931
11:00	1,820	1,355	508	351	859	58	212	589	320	504	824	370	454	1,682	1,458	1,683	1,312	1,004
12:00	2,016	1,534	629	450	1,079	47	294	738	320	363	683	301	382	1,688	1,466	1,762	1,387	1,084
13:00	1,965	1,452	574	414	988	29	213	746	265	218	483	212	271	1,603	1,309	1,471	1,391	1,038
14:00	1,534	1,235	347	231	578	17	110	451	315	179	494	209	285	1,396	1,289	1,072	1,187	1,004
15:00	1,296	1,228	181	117	298	11	44	243	442	169	611	281	330	1,396	1,441	909	1,115	1,111
16:00	1,165	1,406	84	56	140	9	17	114	697	255	952	461	491	1,542	1,841	1,092	1,081	1,350
17:00	956	1,581	58	36	94	8	16	70	837	288	1,125	548	577	1,446	2,122	1,219	898	1,545
18:00	1,545	1,362	45	24	69	5	5	59	331	114	445	209	236	1,709	1,574	514	1,500	1,338
DAY TOTAL	25,008	20,394	4,989	3,365	8,354	476	1,542	6,336	5,296	4,002	9,298	4,239	5,059	24,258	22,088	17,652	20,019	17,029

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,517	947	454	352	806	38	95	673	32	28	60	30	30	1,093	625	866	1,063	595
08:00	2,143	1,182	483	376	859	57	118	684	96	326	422	211	211	1,871	1,017	1,281	1,660	806
09:00	1,824	1,215	361	280	641	55	105	481	265	594	859	429	430	1,892	1,365	1,500	1,463	935
10:00	1,490	1,084	314	243	557	47	124	386	282	623	905	453	452	1,629	1,293	1,462	1,176	841
11:00	1,627	1,214	413	320	733	43	189	501	200	466	666	333	333	1,547	1,227	1,399	1,214	894
12:00	1,797	1,398	544	423	967	37	265	665	236	306	542	271	271	1,524	1,246	1,509	1,253	975
13:00	1,764	1,329	504	392	896	16	187	693	205	176	381	190	191	1,450	1,128	1,277	1,260	937
14:00	1,369	1,117	270	209	479	10	87	382	218	130	348	174	174	1,273	1,082	827	1,099	908
15:00	1,142	1,117	133	102	235	2	32	201	388	142	530	265	265	1,274	1,280	765	1,009	1,015
16:00	1,057	1,290	66	51	117	6	14	97	661	241	902	451	451	1,442	1,690	1,019	991	1,239
17:00	873	1,465	38	30	68	3	8	57	818	263	1,081	540	541	1,375	1,976	1,149	835	1,435
18:00	1,432	1,271	25	19	44	3	4	37	305	98	403	201	202	1,608	1,454	447	1,407	1,252
DAY TOTAL	22,331	18,673	3,952	3,062	7,014	348	1,292	5,374	4,276	3,575	7,851	3,920	3,931	22,299	19,542	14,865	18,379	15,611

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	25	11	17	5	22	0	15	7	0	0	0	0	0	8	6	22	8	6
08:00	20	9	9	2	11	1	7	3	0	0	0	0	0	11	7	11	11	7
09:00	22	11	14	3	17	1	11	5	0	36	36	9	27	17	35	53	8	8
10:00	29	12	22	6	28	0	19	9	0	22	22	5	17	12	23	50	7	6
11:00	11	7	4	1	5	1	3	1	0	14	14	3	11	10	17	19	7	6
12:00	25	12	17	5	22	0	15	7	0	22	22	5	17	13	24	44	8	7
13:00	20	10	14	3	17	1	11	5	0	22	22	5	17	11	24	39	6	7
14:00	23	11	17	5	22	0	15	7	0	36	36	9	27	15	33	58	6	6
15:00	10	8	4	1	5	1	3	1	0	7	7	1	6	7	13	12	6	7
16:00	5	8	0	0	0	0	0	0	0	0	0	0	0	5	8	0	5	8
17:00	9	10	4	1	5	1	3	1	0	0	0	0	0	5	9	5	5	9
18:00	7	7	0	0	0	0	0	0	0	0	0	0	0	7	7	0	7	7
DAY TOTAL	232	139	130	34	164	8	108	48	0	166	166	38	128	140	233	330	102	105

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	81	50	12	7	19	8	11	0	0	7	7	0	7	69	50	26	69	43
08:00	114	64	17	11	28	12	16	0	0	12	12	1	11	98	64	40	97	53
09:00	102	67	20	13	33	14	19	0	0	21	21	2	19	84	73	54	82	54
10:00	78	55	15	9	24	10	14	0	0	32	32	4	28	67	74	56	63	46
11:00	86	61	21	13	34	14	20	0	0	23	23	3	20	68	68	57	65	48
12:00	81	61	15	9	24	10	14	0	0	34	34	4	30	70	82	58	66	52
13:00	83	60	16	10	26	11	15	0	0	20	20	2	18	69	68	46	67	50
14:00	65	51	9	5	14	6	8	0	0	12	12	1	11	57	57	26	56	46
15:00	61	56	10	6	16	7	9	0	0	20	20	2	18	53	68	36	51	50
16:00	52	61	4	2	6	3	3	0	0	14	14	1	13	49	72	20	48	59
17:00	46	70	6	3	9	4	5	0	0	25	25	3	22	43	89	34	40	67
18:00	67	59	2	1	3	2	1	0	0	16	16	2	14	67	72	19	65	58
DAY TOTAL	1,119	902	159	94	253	111	142	0	0	256	256	27	229	987	1,037	509	960	808

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	108	25	51	13	64	0	0	64	45	0	45	11	34	68	46	109	57	12
08:00	114	56	60	15	75	1	0	74	44	0	44	11	33	65	74	119	54	41
09:00	104	55	62	15	77	1	0	76	89	1	90	23	67	65	107	167	42	40
10:00	115	55	72	17	89	1	0	88	103	1	104	26	78	69	116	193	43	38
11:00	96	73	70	17	87	0	0	87	120	1	121	31	90	57	146	208	26	56
12:00	113	63	53	13	66	0	0	66	84	1	85	21	64	81	114	151	60	50
13:00	98	53	40	9	49	1	0	48	60	0	60	15	45	73	89	109	58	44
14:00	77	56	51	12	63	1	0	62	97	1	98	25	73	51	117	161	26	44
15:00	83	47	34	8	42	1	0	41	54	0	54	13	41	62	80	96	49	39
16:00	51	47	14	3	17	0	0	17	36	0	36	9	27	46	71	53	37	44
17:00	28	36	10	2	12	0	0	12	19	0	19	5	14	23	48	31	18	34
18:00	39	25	18	4	22	0	0	22	26	0	26	6	20	27	41	48	21	21
DAY TOTAL	1,326	680	748	175	923	9	0	914	1,020	5	1,025	254	771	832	1,276	1,948	578	505

2030 with 3 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,750	1,044	553	390	943	46	153	744	77	49	126	47	79	1,244	733	1,069	1,197	654
08:00	2,419	1,331	599	424	1,023	50	212	761	140	523	663	314	349	2,134	1,256	1,686	1,820	907
09:00	2,091	1,376	496	340	836	38	236	562	354	985	1,339	623	716	2,218	1,752	2,175	1,595	1,036
10:00	1,796	1,269	507	337	844	25	336	483	385	1,024	1,409	654	755	1,943	1,687	2,253	1,289	932
11:00	1,975	1,473	662	470	1,132	29	514	589	319	765	1,084	496	588	1,809	1,591	2,216	1,313	1,003
12:00	2,256	1,719	871	634	1,505	25	742	738	320	525	845	376	469	1,761	1,554	2,350	1,385	1,085
13:00	2,179	1,616	786	577	1,363	40	511	812	265	301	566	250	316	1,643	1,355	1,929	1,393	1,039
14:00	1,637	1,313	450	309	759	26	241	492	315	235	550	232	318	1,419	1,322	1,309	1,187	1,004
15:00	1,317	1,243	202	133	335	19	73	243	442	191	633	290	343	1,405	1,453	968	1,115	1,110
16:00	1,169	1,409	88	58	146	8	24	114	697	282	979	473	506	1,554	1,857	1,125	1,081	1,351
17:00	959	1,584	63	38	101	8	23	70	836	303	1,139	552	587	1,448	2,133	1,240	896	1,546
18:00	1,546	1,362	46	24	70	4	7	59	331	122	453	210	243	1,710	1,581	523	1,500	1,338
DAY TOTAL	25,929	21,087	5,918	4,057	9,975	367	3,165	6,443	5,295	5,529	10,824	4,955	5,869	24,966	22,899	20,799	20,011	17,030

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,526	954	462	360	822	37	112	673	32	39	71	35	36	1,099	630	893	1,064	594
08:00	2,162	1,197	503	391	894	36	174	684	96	506	602	301	301	1,960	1,107	1,496	1,659	806
09:00	1,852	1,237	389	302	691	23	187	481	265	905	1,170	585	585	2,048	1,520	1,861	1,463	935
10:00	1,561	1,140	385	299	684	14	284	386	282	949	1,231	616	615	1,792	1,456	1,915	1,176	841
11:00	1,772	1,326	557	433	990	13	476	501	199	713	912	456	456	1,671	1,349	1,902	1,215	893
12:00	2,026	1,577	774	601	1,375	14	696	665	236	447	683	342	341	1,594	1,317	2,058	1,252	976
13:00	1,967	1,487	707	549	1,256	28	469	759	205	245	450	225	225	1,485	1,163	1,706	1,260	938
14:00	1,462	1,190	364	282	646	18	205	423	218	168	386	193	193	1,291	1,101	1,032	1,098	908
15:00	1,158	1,129	148	115	263	10	52	201	388	155	543	272	271	1,282	1,285	806	1,010	1,014
16:00	1,059	1,292	68	52	120	5	18	97	661	262	923	462	461	1,453	1,701	1,043	991	1,240
17:00	873	1,466	39	30	69	3	9	57	817	268	1,085	543	542	1,377	1,978	1,154	834	1,436
18:00	1,432	1,271	25	19	44	3	4	37	305	100	405	202	203	1,609	1,455	449	1,407	1,252
DAY TOTAL	23,149	19,312	4,773	3,700	8,473	240	2,752	5,481	4,275	4,944	9,219	4,608	4,611	22,984	20,223	17,692	18,376	15,612

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	31	12	23	7	30	1	22	7	0	0	0	0	0	8	5	30	8	5
08:00	22	10	12	3	15	1	11	3	0	0	0	0	0	10	7	15	10	7
09:00	26	12	17	5	22	0	17	5	0	49	49	12	37	21	44	71	9	7
10:00	36	15	29	8	37	0	28	9	0	29	29	7	22	14	29	66	7	7
11:00	13	8	6	1	7	1	5	1	0	19	19	5	14	12	21	26	7	7
12:00	30	14	23	7	30	1	22	7	0	29	29	7	22	14	29	59	7	7
13:00	25	12	17	5	22	0	17	5	0	29	29	7	22	15	29	51	8	7
14:00	29	13	23	7	30	1	22	7	0	49	49	12	37	18	43	79	6	6
15:00	11	8	6	1	7	1	5	1	0	9	9	2	7	7	14	16	5	7
16:00	5	8	0	0	0	0	0	0	0	0	0	0	0	5	8	0	5	8
17:00	10	10	6	1	7	1	5	1	0	0	0	0	0	4	9	7	4	9
18:00	7	7	0	0	0	0	0	0	0	0	0	0	0	7	7	0	7	7
DAY TOTAL	274	152	174	47	221	9	164	48	0	222	222	54	168	154	273	443	100	105

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	85	53	17	10	27	8	19	0	0	10	10	1	9	69	52	37	68	43
08:00	121	68	24	15	39	12	27	0	0	17	17	2	15	99	68	56	97	53
09:00	109	72	28	18	46	14	32	0	0	30	30	3	27	84	81	76	81	54
10:00	84	59	21	13	34	10	24	0	0	45	45	5	40	68	86	79	63	46
11:00	94	66	29	19	48	15	33	0	0	32	32	4	28	69	75	80	65	47
12:00	87	65	21	13	34	10	24	0	0	48	48	6	42	72	94	82	66	52
13:00	89	64	22	14	36	11	25	0	0	27	27	3	24	70	74	63	67	50
14:00	69	54	12	8	20	6	14	0	0	17	17	2	15	59	61	37	57	46
15:00	65	59	14	9	23	7	16	0	0	27	27	3	24	54	74	50	51	50
16:00	54	62	6	3	9	3	6	0	0	20	20	2	18	50	77	29	48	59
17:00	48	72	8	5	13	4	9	0	0	35	35	4	31	44	98	48	40	67
18:00	68	59	3	1	4	1	3	0	0	22	22	2	20	67	78	26	65	58
DAY TOTAL	1,180	943	223	135	358	109	249	0	0	358	358	39	319	996	1,127	716	957	808

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	108	25	51	13	64	0	0	64	45	0	45	11	34	68	46	109	57	12
08:00	114	56	60	15	75	1	0	74	44	0	44	11	33	65	74	119	54	41
09:00	104	55	62	15	77	1	0	76	89	1	90	23	67	65	107	167	42	40
10:00	115	55	72	17	89	1	0	88	103	1	104	26	78	69	116	193	43	38
11:00	96	73	70	17	87	0	0	87	120	1	121	31	90	57	146	208	26	56
12:00	113	63	53	13	66	0	0	66	84	1	85	21	64	81	114	151	60	50
13:00	98	53	40	9	49	1	0	48	60	0	60	15	45	73	89	109	58	44
14:00	77	56	51	12	63	1	0	62	97	1	98	25	73	51	117	161	26	44
15:00	83	47	34	8	42	1	0	41	54	0	54	13	41	62	80	96	49	39
16:00	51	47	14	3	17	0	0	17	36	0	36	9	27	46	71	53	37	44
17:00	28	36	10	2	12	0	0	12	19	0	19	5	14	23	48	31	18	34
18:00	39	25	18	4	22	0	0	22	26	0	26	6	20	27	41	48	21	21
DAY TOTAL	1,326	680	748	175	923	9	0	914	1,020	5	1,025	254	771	832	1,276	1,948	578	505

2030 with 4 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,770	1,057	574	402	976	56	153	767	91	49	140	53	87	1,249	742	1,116	1,196	655
08:00	2,448	1,352	627	445	1,072	90	212	770	323	523	846	403	443	2,224	1,350	1,918	1,821	907
09:00	2,132	1,405	536	369	905	95	236	574	681	985	1,666	781	885	2,377	1,921	2,571	1,596	1,036
10:00	1,880	1,329	591	399	990	83	336	571	726	1,024	1,750	817	933	2,106	1,863	2,740	1,289	930
11:00	2,127	1,590	814	588	1,402	86	514	802	576	765	1,341	619	722	1,932	1,724	2,743	1,313	1,002
12:00	2,495	1,899	1,108	816	1,924	67	742	1,115	481	525	1,006	449	557	1,836	1,640	2,930	1,387	1,083
13:00	2,389	1,776	997	738	1,735	40	511	1,184	348	301	649	286	363	1,678	1,401	2,384	1,392	1,038
14:00	1,740	1,388	553	384	937	25	241	671	370	235	605	254	351	1,441	1,355	1,542	1,187	1,004
15:00	1,338	1,259	223	149	372	25	73	274	467	191	658	298	360	1,413	1,470	1,030	1,115	1,110
16:00	1,172	1,411	92	61	153	13	24	116	724	282	1,006	484	522	1,564	1,872	1,159	1,080	1,350
17:00	963	1,587	67	41	108	13	23	72	852	303	1,155	556	599	1,452	2,145	1,263	896	1,546
18:00	1,547	1,363	47	25	72	6	7	59	341	122	463	212	251	1,712	1,589	535	1,500	1,338
DAY TOTAL	26,848	21,770	6,832	4,752	11,584	652	3,165	7,767	6,813	5,529	12,342	5,655	6,687	25,671	23,705	23,926	20,016	17,018

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,535	961	472	367	839	38	112	689	43	39	82	41	41	1,104	635	921	1,063	594
08:00	2,181	1,212	522	406	928	65	174	689	273	506	779	389	390	2,048	1,196	1,707	1,659	806
09:00	1,879	1,258	416	324	740	66	187	487	570	905	1,475	738	737	2,201	1,671	2,215	1,463	934
10:00	1,631	1,194	455	354	809	60	284	465	601	949	1,550	775	775	1,951	1,615	2,359	1,176	840
11:00	1,914	1,437	699	544	1,243	55	476	712	440	713	1,153	577	576	1,792	1,469	2,396	1,215	893
12:00	2,252	1,752	999	777	1,776	45	696	1,035	375	447	822	411	411	1,664	1,386	2,598	1,253	975
13:00	2,166	1,641	906	704	1,610	16	469	1,125	272	245	517	258	259	1,518	1,196	2,127	1,260	937
14:00	1,555	1,261	456	354	810	10	205	595	255	168	423	211	212	1,310	1,119	1,233	1,099	907
15:00	1,173	1,141	164	127	291	9	52	230	401	155	556	278	278	1,287	1,292	847	1,009	1,014
16:00	1,061	1,293	70	54	124	7	18	99	682	262	944	472	472	1,463	1,711	1,068	991	1,239
17:00	873	1,466	39	30	69	3	9	57	822	268	1,090	545	545	1,379	1,981	1,159	834	1,436
18:00	1,432	1,271	25	19	44	3	4	37	307	100	407	203	204	1,610	1,456	451	1,407	1,252
DAY TOTAL	23,954	19,935	5,576	4,331	9,907	406	2,752	6,749	5,618	4,944	10,562	5,276	5,286	23,654	20,890	20,469	18,378	15,604

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	36	14	29	8	37	1	22	14	0	0	0	0	0	7	6	37	7	6
08:00	25	11	14	4	18	0	11	7	0	0	0	0	0	11	7	18	11	7
09:00	31	14	22	6	28	0	17	11	12	49	61	15	46	24	54	89	9	8
10:00	43	17	37	10	47	1	28	18	7	29	36	9	27	15	34	83	6	7
11:00	14	8	7	2	9	1	5	3	5	19	24	6	18	13	24	33	7	6
12:00	36	15	29	8	37	1	22	14	7	29	36	9	27	16	34	73	7	7
13:00	29	13	22	6	28	0	17	11	7	29	36	9	27	16	34	64	7	7
14:00	35	15	29	8	37	1	22	14	12	49	61	15	46	21	53	98	6	7
15:00	13	9	7	2	9	1	5	3	3	9	12	3	9	9	16	21	6	7
16:00	5	8	0	0	0	0	0	0	0	0	0	0	0	5	8	0	5	8
17:00	11	11	7	2	9	1	5	3	0	0	0	0	0	4	9	9	4	9
18:00	7	7	0	0	0	0	0	0	0	0	0	0	0	7	7	0	7	7
DAY TOTAL	317	166	217	60	277	9	164	104	56	222	278	69	209	169	315	555	100	106

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	91	57	22	14	36	17	19	0	3	10	13	1	12	70	55	49	69	43
08:00	128	73	31	20	51	24	27	0	6	17	23	3	20	100	73	74	97	53
09:00	118	78	36	24	60	28	32	0	10	30	40	5	35	87	89	100	82	54
10:00	91	63	27	18	45	21	24	0	15	45	60	7	53	71	98	105	64	45
11:00	103	72	38	25	63	30	33	0	11	32	43	5	38	70	85	106	65	47
12:00	94	69	27	18	45	21	24	0	15	48	63	8	55	75	106	108	67	51
13:00	96	69	29	19	48	23	25	0	9	27	36	4	32	71	82	84	67	50
14:00	73	56	17	10	27	13	14	0	6	17	23	3	20	59	66	50	56	46
15:00	69	62	18	12	30	14	16	0	9	27	36	4	32	55	82	66	51	50
16:00	55	63	8	4	12	6	6	0	6	20	26	3	23	50	82	38	47	59
17:00	51	74	11	7	18	9	9	0	11	35	46	6	40	46	107	64	40	67
18:00	69	60	4	2	6	3	3	0	8	22	30	3	27	68	85	36	65	58
DAY TOTAL	1,251	989	291	186	477	228	249	0	119	358	477	56	421	1,016	1,224	954	960	803

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	108	25	51	13	64	0	0	64	45	0	45	11	34	68	46	109	57	12
08:00	114	56	60	15	75	1	0	74	44	0	44	11	33	65	74	119	54	41
09:00	104	55	62	15	77	1	0	76	89	1	90	23	67	65	107	167	42	40
10:00	115	55	72	17	89	1	0	88	103	1	104	26	78	69	116	193	43	38
11:00	96	73	70	17	87	0	0	87	120	1	121	31	90	57	146	208	26	56
12:00	113	63	53	13	66	0	0	66	84	1	85	21	64	81	114	151	60	50
13:00	98	53	40	9	49	1	0	48	60	0	60	15	45	73	89	109	58	44
14:00	77	56	51	12	63	1	0	62	97	1	98	25	73	51	117	161	26	44
15:00	83	47	34	8	42	1	0	41	54	0	54	13	41	62	80	96	49	39
16:00	51	47	14	3	17	0	0	17	36	0	36	9	27	46	71	53	37	44
17:00	28	36	10	2	12	0	0	12	19	0	19	5	14	23	48	31	18	34
18:00	39	25	18	4	22	0	0	22	26	0	26	6	20	27	41	48	21	21
DAY TOTAL	1,326	680	748	175	923	9	0	914	1,020	5	1,025	254	771	832	1,276	1,948	578	505

2050 with 2 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,945	1,148	595	399	994	50	135	809	113	45	158	54	104	1,404	853	1,152	1,350	749
08:00	2,674	1,460	643	430	1,073	81	162	830	174	461	635	292	343	2,323	1,373	1,708	2,031	1,030
09:00	2,311	1,505	539	344	883	87	164	632	422	881	1,303	589	714	2,361	1,875	2,186	1,772	1,161
10:00	1,969	1,368	540	332	872	73	203	596	466	915	1,381	621	760	2,050	1,796	2,253	1,429	1,036
11:00	2,116	1,558	665	440	1,105	75	281	749	412	683	1,095	477	618	1,928	1,736	2,200	1,451	1,118
12:00	2,361	1,780	827	574	1,401	59	395	947	386	478	864	369	495	1,903	1,701	2,265	1,534	1,206
13:00	2,279	1,679	740	524	1,264	33	282	949	311	281	592	251	341	1,790	1,496	1,856	1,539	1,155
14:00	1,766	1,402	457	291	748	19	145	584	390	224	614	245	369	1,554	1,480	1,362	1,309	1,111
15:00	1,454	1,363	225	135	360	20	54	286	483	189	672	298	374	1,527	1,602	1,032	1,229	1,228
16:00	1,286	1,547	99	61	160	10	20	130	724	275	999	476	523	1,663	2,009	1,159	1,187	1,486
17:00	1,055	1,738	71	40	111	9	21	81	852	301	1,153	554	599	1,538	2,297	1,264	984	1,698
18:00	1,702	1,497	62	28	90	5	6	79	351	122	473	216	257	1,856	1,726	563	1,640	1,469
DAY TOTAL	28,360	22,850	6,236	3,965	10,201	565	1,956	7,680	6,090	5,078	11,168	4,929	6,239	27,053	25,124	21,369	22,124	18,885

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,659	1,040	459	357	816	38	98	680	32	35	67	33	34	1,233	717	883	1,200	683
08:00	2,347	1,301	495	385	880	64	130	686	96	444	540	270	270	2,122	1,186	1,420	1,852	916
09:00	2,003	1,340	378	293	671	66	122	483	264	799	1,063	532	531	2,157	1,578	1,734	1,625	1,047
10:00	1,659	1,213	357	277	634	59	157	418	282	837	1,119	560	559	1,862	1,495	1,753	1,302	936
11:00	1,843	1,381	500	388	888	54	248	586	200	628	828	414	414	1,757	1,407	1,716	1,343	993
12:00	2,067	1,613	683	530	1,213	45	354	814	237	398	635	317	318	1,701	1,401	1,848	1,384	1,083
13:00	2,019	1,528	626	487	1,113	16	245	852	205	221	426	213	213	1,606	1,254	1,539	1,393	1,041
14:00	1,537	1,256	327	253	580	10	112	458	218	155	373	186	187	1,396	1,190	953	1,210	1,003
15:00	1,253	1,229	142	110	252	9	36	207	388	151	539	269	270	1,380	1,389	791	1,111	1,119
16:00	1,154	1,414	67	52	119	6	15	98	661	255	916	458	458	1,545	1,820	1,035	1,087	1,362
17:00	953	1,605	39	30	69	4	8	57	818	266	1,084	542	542	1,456	2,117	1,153	914	1,575
18:00	1,562	1,392	25	19	44	3	4	37	305	99	404	202	202	1,739	1,575	448	1,537	1,373
DAY TOTAL	24,746	20,742	4,447	3,447	7,894	403	1,593	5,898	4,277	4,473	8,750	4,371	4,379	24,670	21,674	16,644	20,299	17,295

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	33	13	24	7	31	0	21	10	0	0	0	0	0	9	6	31	9	6
08:00	24	11	12	3	15	0	10	5	0	0	0	0	0	12	8	15	12	8
09:00	28	13	18	5	23	0	16	7	0	51	51	13	38	23	46	74	10	8
10:00	38	16	30	9	39	0	26	13	0	31	31	8	23	16	30	70	8	7
11:00	14	9	6	1	7	0	5	2	0	20	20	5	15	13	23	27	8	8
12:00	32	15	24	7	31	0	21	10	0	31	31	8	23	16	31	62	8	8
13:00	26	13	18	5	23	0	16	7	0	31	31	8	23	16	31	54	8	8
14:00	31	14	24	7	31	0	21	10	0	51	51	13	38	20	45	82	7	7
15:00	12	9	6	1	7	0	5	2	0	10	10	2	8	8	16	17	6	8
16:00	6	8	0	0	0	0	0	0	0	0	0	0	0	6	8	0	6	8
17:00	11	11	6	1	7	0	5	2	0	0	0	0	0	5	10	7	5	10
18:00	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	0	8	8
DAY TOTAL	294	165	180	48	228	0	156	72	0	235	235	59	176	173	293	463	114	117

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	92	57	16	11	27	11	16	0	0	10	10	1	9	77	55	37	76	46
08:00	130	73	24	15	39	17	22	0	0	17	17	2	15	108	73	56	106	58
09:00	117	77	28	18	46	20	26	0	0	30	30	4	26	93	85	76	89	59
10:00	90	63	21	13	34	14	20	0	0	46	46	6	40	75	90	80	69	50
11:00	100	71	29	19	48	20	28	0	0	33	33	4	29	75	81	81	71	52
12:00	94	70	21	13	34	14	20	0	0	48	48	6	42	79	99	82	73	57
13:00	95	69	23	14	37	16	21	0	0	28	28	3	25	75	80	65	72	55
14:00	74	58	12	8	20	8	12	0	0	17	17	2	15	64	65	37	62	50
15:00	70	64	14	9	23	10	13	0	0	28	28	3	25	59	80	51	56	55
16:00	58	68	6	3	9	4	5	0	0	20	20	2	18	54	83	29	52	65
17:00	52	78	8	5	13	5	8	0	0	35	35	4	31	48	104	48	44	73
18:00	74	65	3	1	4	2	2	0	0	23	23	3	20	74	84	27	71	64
DAY TOTAL	1,272	1,022	223	136	359	152	207	0	0	363	363	42	321	1,091	1,207	722	1,049	886

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1	Bridge	SR 528 Btw. Ramps	
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	161	38	96	24	120	1	0	119	81	0	81	20	61	85	75	201	65	14
08:00	173	75	112	27	139	0	0	139	78	0	78	20	58	81	106	217	61	48
09:00	163	75	115	28	143	1	0	142	158	1	159	40	119	88	166	302	48	47
10:00	182	76	132	33	165	0	0	165	184	1	185	47	138	97	181	350	50	43
11:00	159	97	130	32	162	1	0	161	212	2	214	54	160	83	225	376	29	65
12:00	168	82	99	24	123	0	0	123	149	1	150	38	112	107	170	273	69	58
13:00	139	69	73	18	91	1	0	90	106	1	107	27	80	93	131	198	66	51
14:00	124	74	94	23	117	1	0	116	172	1	173	44	129	74	180	290	30	51
15:00	119	61	63	15	78	1	0	77	95	0	95	24	71	80	117	173	56	46
16:00	68	57	26	6	32	0	0	32	63	0	63	16	47	58	98	95	42	51
17:00	39	44	18	4	22	0	0	22	34	0	34	8	26	29	66	56	21	40
18:00	58	32	34	8	42	0	0	42	46	0	46	11	35	35	59	88	24	24
DAY TOTAL	2,048	921	1,386	334	1,720	10	0	1,710	1,813	7	1,820	457	1,363	1,119	1,950	3,540	662	587

2050 with 3 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,973	1,166	624	415	1,039	50	180	809	114	64	178	62	116	1,411	867	1,217	1,349	751
08:00	2,714	1,489	686	458	1,144	54	260	830	174	722	896	420	476	2,448	1,507	2,040	2,028	1,031
09:00	2,367	1,545	595	384	979	43	304	632	423	1,347	1,770	813	957	2,585	2,118	2,749	1,772	1,161
10:00	2,087	1,455	658	419	1,077	27	454	596	466	1,401	1,867	854	1,013	2,283	2,049	2,944	1,429	1,036
11:00	2,332	1,724	882	607	1,489	35	705	749	411	1,049	1,460	654	806	2,104	1,923	2,949	1,450	1,117
12:00	2,699	2,038	1,165	833	1,998	29	1,022	947	385	706	1,091	473	618	2,007	1,823	3,089	1,534	1,205
13:00	2,579	1,907	1,038	753	1,791	47	701	1,043	310	399	709	303	406	1,844	1,560	2,500	1,541	1,154
14:00	1,911	1,510	603	399	1,002	31	329	642	390	301	691	277	414	1,585	1,525	1,693	1,308	1,111
15:00	1,484	1,384	256	156	412	24	93	295	483	221	704	311	393	1,539	1,621	1,116	1,228	1,228
16:00	1,291	1,550	103	65	168	9	29	130	724	313	1,037	492	545	1,680	2,030	1,205	1,188	1,485
17:00	1,060	1,741	77	43	120	10	29	81	851	322	1,173	559	614	1,542	2,312	1,293	983	1,698
18:00	1,703	1,498	63	29	92	5	8	79	351	134	485	218	267	1,858	1,736	577	1,640	1,469
DAY TOTAL	29,657	23,822	7,537	4,941	12,478	417	4,220	7,841	6,088	7,225	13,313	5,930	7,383	28,050	26,264	25,791	22,120	18,881

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,672	1,050	472	367	839	37	122	680	33	50	83	41	42	1,241	725	922	1,200	683
08:00	2,374	1,323	523	406	929	36	207	686	96	698	794	397	397	2,248	1,314	1,723	1,851	917
09:00	2,042	1,371	417	324	741	22	236	483	265	1,236	1,501	751	750	2,376	1,797	2,242	1,625	1,047
10:00	1,759	1,291	457	355	812	12	382	418	282	1,295	1,577	789	788	2,091	1,724	2,389	1,302	936
11:00	2,046	1,539	703	546	1,249	12	651	586	199	974	1,173	587	586	1,930	1,579	2,422	1,343	993
12:00	2,389	1,864	1,004	781	1,785	13	958	814	236	597	833	417	416	1,802	1,499	2,618	1,385	1,083
13:00	2,304	1,749	910	708	1,618	30	642	946	204	318	522	261	261	1,655	1,302	2,140	1,394	1,041
14:00	1,669	1,359	458	356	814	20	278	516	218	208	426	213	213	1,424	1,216	1,240	1,211	1,003
15:00	1,276	1,246	165	127	292	12	64	216	388	169	557	279	278	1,390	1,397	849	1,111	1,119
16:00	1,157	1,416	70	54	124	6	20	98	661	285	946	473	473	1,560	1,835	1,070	1,087	1,362
17:00	953	1,605	39	30	69	3	9	57	817	273	1,090	545	545	1,459	2,120	1,159	914	1,575
18:00	1,562	1,392	25	19	44	3	4	37	305	102	407	203	204	1,740	1,577	451	1,537	1,373
DAY TOTAL	25,897	21,640	5,596	4,344	9,940	241	3,640	6,059	4,275	6,398	10,673	5,335	5,338	25,636	22,634	20,613	20,301	17,296

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	41	16	33	9	42	1	31	10	0	0	0	0	0	8	7	42	8	7
08:00	28	12	17	4	21	1	15	5	0	0	0	0	0	11	8	21	11	8
09:00	34	15	24	7	31	1	23	7	0	68	68	17	51	27	59	99	10	8
10:00	48	19	40	12	52	0	39	13	0	41	41	10	31	18	38	93	8	7
11:00	16	9	8	2	10	1	7	2	0	27	27	7	20	15	27	37	8	7
12:00	40	17	33	9	42	1	31	10	0	41	41	10	31	17	39	83	7	8
13:00	32	14	24	7	31	1	23	7	0	41	41	10	31	18	38	72	8	7
14:00	39	16	33	9	42	1	31	10	0	68	68	17	51	23	58	110	6	7
15:00	14	10	8	2	10	1	7	2	0	13	13	3	10	9	18	23	6	8
16:00	6	8	0	0	0	0	0	0	0	0	0	0	0	6	8	0	6	8
17:00	13	12	8	2	10	1	7	2	0	0	0	0	0	5	10	10	5	10
18:00	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	0	8	8
DAY TOTAL	354	182	244	67	311	11	228	72	0	312	312	77	235	187	350	623	110	115

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	99	62	23	15	38	11	27	0	0	14	14	1	13	77	60	52	76	47
08:00	139	79	34	21	55	17	38	0	0	24	24	3	21	108	79	79	105	58
09:00	128	84	39	25	64	19	45	0	0	42	42	5	37	94	96	106	89	59
10:00	98	69	29	19	48	15	33	0	0	64	64	8	56	77	106	112	69	50
11:00	111	79	41	27	68	21	47	0	0	46	46	6	40	76	92	114	70	52
12:00	102	75	29	19	48	15	33	0	0	67	67	8	59	81	115	115	73	56
13:00	104	75	31	20	51	15	36	0	0	39	39	5	34	78	89	90	73	55
14:00	79	61	18	11	29	9	20	0	0	24	24	3	21	64	71	53	61	50
15:00	75	67	20	12	32	10	22	0	0	39	39	5	34	60	89	71	55	55
16:00	60	69	7	5	12	3	9	0	0	28	28	3	25	56	89	40	53	64
17:00	55	80	12	7	19	6	13	0	0	49	49	6	43	49	116	68	43	73
18:00	75	66	4	2	6	2	4	0	0	32	32	4	28	75	92	38	71	64
DAY TOTAL	1,358	1,079	311	196	507	155	352	0	0	508	508	61	447	1,108	1,330	1,015	1,047	883

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	161	38	96	24	120	1	0	119	81	0	81	20	61	85	75	201	65	14
08:00	173	75	112	27	139	0	0	139	78	0	78	20	58	81	106	217	61	48
09:00	163	75	115	28	143	1	0	142	158	1	159	40	119	88	166	302	48	47
10:00	182	76	132	33	165	0	0	165	184	1	185	47	138	97	181	350	50	43
11:00	159	97	130	32	162	1	0	161	212	2	214	54	160	83	225	376	29	65
12:00	168	82	99	24	123	0	0	123	149	1	150	38	112	107	170	273	69	58
13:00	139	69	73	18	91	1	0	90	106	1	107	27	80	93	131	198	66	51
14:00	124	74	94	23	117	1	0	116	172	1	173	44	129	74	180	290	30	51
15:00	119	61	63	15	78	1	0	77	95	0	95	24	71	80	117	173	56	46
16:00	68	57	26	6	32	0	0	32	63	0	63	16	47	58	98	95	42	51
17:00	39	44	18	4	22	0	0	22	34	0	34	8	26	29	66	56	21	40
18:00	58	32	34	8	42	0	0	42	46	0	46	11	35	35	59	88	24	24
DAY TOTAL	2,048	921	1,386	334	1,720	10	0	1,710	1,813	7	1,820	457	1,363	1,119	1,950	3,540	662	587

2050 with 4 Active Berths

All Vehicle Classes

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	2,001	1,183	652	433	1,085	63	180	842	133	64	197	71	126	1,420	876	1,282	1,349	750
08:00	2,756	1,519	725	488	1,213	110	260	843	430	722	1,152	545	607	2,576	1,638	2,365	2,031	1,031
09:00	2,425	1,585	654	424	1,078	126	304	648	882	1,347	2,229	1,034	1,195	2,805	2,356	3,307	1,771	1,161
10:00	2,205	1,540	777	504	1,281	108	454	719	944	1,401	2,345	1,084	1,261	2,512	2,297	3,626	1,428	1,036
11:00	2,547	1,888	1,097	771	1,868	114	705	1,049	772	1,049	1,821	826	995	2,276	2,112	3,689	1,450	1,117
12:00	3,033	2,293	1,499	1,088	2,587	89	1,022	1,476	612	706	1,318	576	742	2,110	1,947	3,905	1,534	1,205
13:00	2,874	2,132	1,334	979	2,313	50	701	1,562	427	399	826	354	472	1,894	1,625	3,139	1,540	1,153
14:00	2,053	1,617	745	506	1,251	30	329	892	467	301	768	309	459	1,617	1,570	2,019	1,308	1,111
15:00	1,515	1,405	285	179	464	31	93	340	517	221	738	322	416	1,552	1,642	1,202	1,230	1,226
16:00	1,296	1,554	109	68	177	15	29	133	762	313	1,075	508	567	1,695	2,053	1,252	1,187	1,486
17:00	1,066	1,746	83	47	130	17	29	84	874	322	1,196	565	631	1,548	2,330	1,326	983	1,699
18:00	1,705	1,498	64	30	94	7	8	79	364	134	498	221	277	1,862	1,745	592	1,641	1,468
DAY TOTAL	30,951	24,788	8,827	5,908	14,735	817	4,220	9,698	8,216	7,225	15,441	6,915	8,526	29,039	27,406	30,176	22,124	18,880

Vehicle Classses 1-3 (Passenger Cars)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	1,685	1,060	485	377	862	37	122	703	48	50	98	49	49	1,249	732	960	1,200	683
08:00	2,401	1,344	549	427	976	75	207	694	344	698	1,042	521	521	2,373	1,438	2,018	1,852	917
09:00	2,081	1,401	457	354	811	84	236	491	693	1,236	1,929	965	964	2,589	2,011	2,740	1,624	1,047
10:00	1,857	1,367	556	431	987	77	382	528	730	1,295	2,025	1,013	1,012	2,314	1,948	3,012	1,301	936
11:00	2,245	1,694	903	701	1,604	70	651	883	538	974	1,512	756	756	2,098	1,749	3,116	1,342	993
12:00	2,706	2,110	1,321	1,027	2,348	57	958	1,333	431	597	1,028	514	514	1,899	1,597	3,376	1,385	1,083
13:00	2,583	1,966	1,190	925	2,115	16	642	1,457	299	318	617	308	309	1,701	1,350	2,732	1,393	1,041
14:00	1,798	1,459	588	456	1,044	10	278	756	270	208	478	239	239	1,449	1,242	1,522	1,210	1,003
15:00	1,298	1,263	186	145	331	9	64	258	406	169	575	288	287	1,400	1,405	906	1,112	1,118
16:00	1,159	1,418	72	56	128	7	20	101	690	285	975	488	487	1,575	1,849	1,103	1,087	1,362
17:00	953	1,606	40	30	70	4	9	57	824	273	1,097	549	548	1,462	2,124	1,167	913	1,576
18:00	1,562	1,392	25	19	44	3	4	37	308	102	410	205	205	1,742	1,578	454	1,537	1,373
DAY TOTAL	27,028	22,519	6,730	5,223	11,953	476	3,640	7,837	6,160	6,398	12,558	6,277	6,281	26,575	23,577	24,511	20,298	17,296

Vehicle Class 4 (Buses)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	49	18	40	12	52	1	31	20	0	0	0	0	0	9	6	52	9	6
08:00	32	14	20	6	26	1	15	10	0	0	0	0	0	12	8	26	12	8
09:00	40	17	30	9	39	1	23	15	17	68	85	22	63	32	71	124	10	8
10:00	58	22	50	15	65	0	39	26	10	41	51	13	38	21	45	116	8	7
11:00	18	10	10	3	13	1	7	5	7	27	34	8	26	16	33	47	8	7
12:00	48	20	40	12	52	1	31	20	10	41	51	13	38	21	46	103	8	8
13:00	38	16	30	9	39	1	23	15	10	41	51	13	38	21	45	90	8	7
14:00	47	19	40	12	52	1	31	20	17	68	85	22	63	29	70	137	7	7
15:00	16	10	10	3	13	1	7	5	4	13	17	4	13	10	20	30	6	7
16:00	6	8	0	0	0	0	0	0	0	0	0	0	0	6	8	0	6	8
17:00	15	13	10	3	13	1	7	5	0	0	0	0	0	5	10	13	5	10
18:00	8	8	0	0	0	0	0	0	0	0	0	0	0	8	8	0	8	8
DAY TOTAL	414	203	300	90	390	11	228	151	79	312	391	99	292	213	405	781	114	113

Vehicle Classes 5-7 (Single-Unit Trucks...Likely Provisioning Vehicles)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	106	67	31	20	51	24	27	0	4	14	18	2	16	77	63	69	75	47
08:00	150	86	44	28	72	34	38	0	8	24	32	4	28	110	86	104	106	58
09:00	141	92	52	33	85	40	45	0	14	42	56	7	49	96	108	141	89	59
10:00	108	75	39	25	64	31	33	0	20	64	84	11	73	80	123	148	69	50
11:00	125	87	54	35	89	42	47	0	15	46	61	8	53	79	105	150	71	52
12:00	111	81	39	25	64	31	33	0	22	67	89	11	78	83	134	153	72	56
13:00	114	81	41	27	68	32	36	0	12	39	51	6	45	79	99	119	73	54
14:00	84	65	23	15	38	18	20	0	8	24	32	4	28	65	78	70	61	50
15:00	82	71	26	16	42	20	22	0	12	39	51	6	45	62	100	93	56	55
16:00	63	71	11	6	17	8	9	0	9	28	37	4	33	56	98	54	52	65
17:00	59	83	15	10	25	12	13	0	16	49	65	8	57	52	130	90	44	73
18:00	77	66	5	3	8	4	4	0	10	32	42	5	37	77	100	50	72	63
DAY TOTAL	1,461	1,145	411	261	672	320	352	0	164	508	672	82	590	1,132	1,474	1,344	1,050	884

Vehicle Classes 8-15 (Heavy Trucks)

Ending Hour	SR 528 Mainline		Northbound Movement Across Bascule Bridge						Southbound Movement Across Bascule Bridge					SR 528 Mainline		Bridge	SR 528 Btw. Ramps	
	1	4	2	5	Bridge	6.1	6.2	8	8	7	Bridge	3	9	4	1			
	EB	WB	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB (to EB)	SB (to WB)	EB	WB	Two-Way	EB	WB
07:00	161	38	96	24	120	1	0	119	81	0	81	20	61	85	75	201	65	14
08:00	173	75	112	27	139	0	0	139	78	0	78	20	58	81	106	217	61	48
09:00	163	75	115	28	143	1	0	142	158	1	159	40	119	88	166	302	48	47
10:00	182	76	132	33	165	0	0	165	184	1	185	47	138	97	181	350	50	43
11:00	159	97	130	32	162	1	0	161	212	2	214	54	160	83	225	376	29	65
12:00	168	82	99	24	123	0	0	123	149	1	150	38	112	107	170	273	69	58
13:00	139	69	73	18	91	1	0	90	106	1	107	27	80	93	131	198	66	51
14:00	124	74	94	23	117	1	0	116	172	1	173	44	129	74	180	290	30	51
15:00	119	61	63	15	78	1	0	77	95	0	95	24	71	80	117	173	56	46
16:00	68	57	26	6	32	0	0	32	63	0	63	16	47	58	98	95	42	51
17:00	39	44	18	4	22	0	0	22	34	0	34	8	26	29	66	56	21	40
18:00	58	32	34	8	42	0	0	42	46	0	46	11	35	35	59	88	24	24
DAY TOTAL	2,048	921	1,386	334	1,720	10	0	1,710	1,813	7	1,820	457	1,363	1,119	1,950	3,540	662	587

APPENDIX C

Existing HCS Analysis

HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2300	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor (PHF)	0.86	Flow Rate (v_p), pc/h/ln	1458
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-12 PM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1600	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	994
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2300	650
Peak Hour Factor (PHF)	0.86	0.89
Total Trucks, %	9.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.943
Flow Rate (v_i), pc/h	2916	774
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.39

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.498
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.0
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2916	Ramp Junction Speed (S), mi/h	51.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.6
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.4

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11 AM- 12 PM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1600	250
Peak Hour Factor (PHF)	0.91	0.91
Total Trucks, %	13.00	16.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.862
Flow Rate (v_i), pc/h	1987	319
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.43	0.16

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.457
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1987	Ramp Junction Speed (S), mi/h	51.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.2
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	18.5

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1650	1
Peak Hour Factor (PHF)	0.76	0.70
Total Trucks, %	9.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	1.000
Flow Rate (v_i), pc/h	2368	1
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.52	0.00

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.309
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	2368	Ramp Junction Speed (S), mi/h	54.4

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2369	Average Density (D), pc/mi/ln	21.8
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	19.3

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1350	200
Peak Hour Factor (PHF)	0.91	0.86
Total Trucks, %	13.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.952
Flow Rate (v_i), pc/h	1676	244
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.42	0.12

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.294
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1676	Ramp Junction Speed (S), mi/h	54.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1920	Average Density (D), pc/mi/ln	17.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	15.6

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1650	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.76	Flow Rate (v_p), pc/h/ln	1194
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1550	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	925
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.89	Flow Rate (v_p), pc/h/ln	728
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.1
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11:00 AM - 12:00 PM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	712
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1200	350
Peak Hour Factor (PHF)	0.89	0.89
Total Trucks, %	8.00	6.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.943
Flow Rate (v_i), pc/h	1456	417
Capacity (c_{md}), pc/h	4600	4000
Adjusted Capacity (c_{md}), pc/h	4600	4000
Volume-to-Capacity Ratio (v/c)	0.32	0.10

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.466
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1456	Ramp Junction Speed (S), mi/h	51.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	14.1
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.3

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1200	200
Peak Hour Factor (PHF)	0.91	0.79
Total Trucks, %	8.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.909
Flow Rate (v_i), pc/h	1424	279
Capacity (c_{md}), pc/h	4600	4000
Adjusted Capacity (c_{md}), pc/h	4600	4000
Volume-to-Capacity Ratio (v/c)	0.31	0.07

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.453
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1424	Ramp Junction Speed (S), mi/h	51.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.7
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.0

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	850	150
Peak Hour Factor (PHF)	0.89	0.60
Total Trucks, %	8.00	20.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.833
Flow Rate (v_i), pc/h	1031	300
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.29	0.15

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.297
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1031	Ramp Junction Speed (S), mi/h	54.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1331	Average Density (D), pc/mi/ln	12.2
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	12.3

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11 AM- 12 PM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1000	200
Peak Hour Factor (PHF)	0.91	0.94
Total Trucks, %	8.00	30.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.769
Flow Rate (v_i), pc/h	1187	277
Capacity (c_{md}), pc/h	4600	2000
Adjusted Capacity (c_{md}), pc/h	4600	2000
Volume-to-Capacity Ratio (v/c)	0.32	0.14

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.299
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1187	Ramp Junction Speed (S), mi/h	54.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1464	Average Density (D), pc/mi/ln	13.4
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	13.4

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1000	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.85	Flow Rate (v_p), pc/h/ln	653
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.9
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11:00 AM 0 12:00 PM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.893
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	722
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1000	60
Peak Hour Factor (PHF)	0.90	0.57
Total Trucks, %	6.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.943	0.752
Flow Rate (v_i), pc/h	1178	140
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.26	0.04

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.441
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	43.7
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1178	Ramp Junction Speed (S), mi/h	43.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.9

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-!2PM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	450	120
Peak Hour Factor (PHF)	0.84	0.50
Total Trucks, %	13.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.752
Flow Rate (v_i), pc/h	605	319
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.13	0.08

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.457
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	43.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	605	Ramp Junction Speed (S), mi/h	43.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	6.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.0

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	100	50
Peak Hour Factor (PHF)	0.86	0.51
Total Trucks, %	30.00	0.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.769	1.000
Flow Rate (v_i), pc/h	151	98
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.06	0.05

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.261
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	44.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	151	Ramp Junction Speed (S), mi/h	44.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	249	Average Density (D), pc/mi/ln	2.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	1.6

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	300	100
Peak Hour Factor (PHF)	0.93	0.83
Total Trucks, %	17.00	20.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.855	0.833
Flow Rate (v_i), pc/h	377	145
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.12	0.07

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.263
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	44.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	377	Ramp Junction Speed (S), mi/h	44.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	522	Average Density (D), pc/mi/ln	5.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.8

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1000	Heavy Vehicle Adjustment Factor (f_{HV})	0.943
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	393
Total Trucks, %	6.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.21

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	150	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	70
Total Trucks, %	20.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	1.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	370	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	3.75
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	D

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	450	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	202
Total Trucks, %	13.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	4.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	400	Heavy Vehicle Adjustment Factor (f_{HV})	0.847
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	169
Total Trucks, %	18.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.09

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	3.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	179	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	940	Heavy Vehicle Adjustment Factor (f_{HV})	0.952
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	548
Total Trucks, %	5.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.9
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	100	Heavy Vehicle Adjustment Factor (f_{HV})	0.769
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	76
Total Trucks, %	30.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.04

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	1.8
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	522	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	Existing
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	330	Heavy Vehicle Adjustment Factor (f_{HV})	0.870
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	226
Total Trucks, %	15.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.12

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	5.3
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data

Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	300	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	188
Total Trucks, %	17.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.10

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	4.4
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (v_{OL}), veh/h	196	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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APPENDIX D

Alternatives Layouts

EXISTING BRIDGE

0 1 2
Feet

LEGEND

PROPOSED BRIDGE

PROPOSED ROADWAY

EXIST LA R/W LINE

EXIST R/W LINE

LIFTBRIDGE ALTERNATIVE

0 1 2
Feet

LEGEND

PROPOSED BRIDGE

PROPOSED ROADWAY

EXIST LA R/W LINE

EXIST R/W LINE

FIXED BRIDGE ALTERNATIVE

0 1 2
Feet

LEGEND

PROPOSED BRIDGE

PROPOSED ROADWAY

EXIST LA R/W LINE

EXIST R/W LINE

DRAWBRIDGE ALTERNATIVE

0 1 2
Feet

LEGEND

PROPOSED BRIDGE

PROPOSED ROADWAY

EXIST LA R/W LINE

EXIST R/W LINE

STATE OF FLORIDA

DEPARTMENT OF TRANSPORTATION

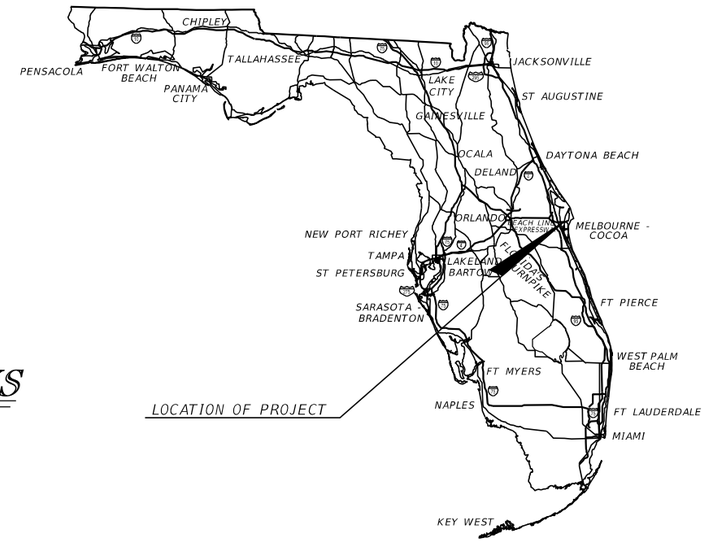
CONTRACT PLANS

FINANCIAL PROJECT ID 407402-4-52-01

BREVARD COUNTY (70070/70080)

STATE ROAD NO. 528

SIGNING AND PAVEMENT MARKING PLANS



INDEX OF SIGNING AND PAVEMENT MARKING PLANS

SHEET NO.	SHEET DESCRIPTION
S-1	KEY SHEET
S-2	SIGNATURE SHEET
S-3 - S-18	TABULATION OF QUANTITIES
S-19	GENERAL NOTES
S-20 -S-24	SIGNING AND PAVEMENT MARKING PROJECT LAYOUT
S-25 - S-76	SIGNING AND PAVEMENT MARKING PLAN
S-77 - S-87	GUIDE SIGN WORKSHEET

NOTE TO REVIEWERS:

PHASE II DESIGN AND PLANS WERE DEVELOPED, THEN PLACED ON HOLD PER DEPARTMENT DIRECTION SINCE APRIL 30, 2020. THESE PLANS WERE NOT PREVIOUSLY REVIEWED. RECENTLY, THE DEPARTMENT HAS DECIDED TO MOVE FORWARD WITH PERMITTING OF THE PROJECT THAT REQUIRES SUBMITTAL AND REVIEW OF PHASE II PLANS INCLUDING ALL PLAN COMPONENTS.

SIGNING AND PAVEMENT MARKING PLANS ENGINEER OF RECORD:

OLGA P. MENDOZA, P.E. NO. 87335
RS&H, INC.
301 E. PINE ST., SUITE 350
ORLANDO, FLORIDA 32801
(407) 893-5800
CONTRACT NO. C-8Q05
VENDOR ID NO. 59-2986466-002
CERTIFICATE OF AUTHORIZATION NO. 00005620

FDOT PROJECT MANAGER:

TALEB SHAMS, P.,E.

PHASE II SUBMITTAL
APRIL 30, 2020

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
	N/A	S-1

REMOVE
700-1-60
1 AS

MULLET RD.

W4-1R
48"X48"
STA 1757+80
(GRADE SEPARATED
BARRIER MOUNTED)
700-1-32
1 AS

REMOVE
700-1-60
1 AS

SIGN #122
4'-0"X1'-6"
STA 510+13
700-1-12
1 AS

FLORIDA SCENIC HIGHWAY
INDIAN RIVER LAGOON

US NAVY
FBM OTSU II
PORT CANAVERAL

EXIST. L.A. R/W

TYPE B FENCE

℄ BACK OF SIDEWALK 5

EXIST. L.A. R/W

6" WHITE (PERM. TAPE)
W/ W/R RPMS @ 40' O.C.

℄ RAMP E

SHARED USE PATH

6" WHITE (10'-30' SKIP)
6" BLACK (10'-30' SKIP)
(PERMANENT TAPE) WITH
W/R RPMS @ 40' O.C.

REMOVE
700-2-60
1 AS

END CONCRETE PAVEMENT
BEGIN ASPHALT PAVEMENT
℄ CONST. SR 528 STA 1755+98.32 =
℄ RAMP E STA 506+91.21, 15.00' RT

6" WHITE (THERMO) W/
W/R RPMS @ 40' O.C.

6" YELLOW (THERMO) W/
Y/R RPMS @ 40' O.C.

TALL GRADE
SEPARATED BARRIER

℄ SURVEY SR 528

12" WHITE (PERM. TAPE)
WITH W/R RPMS 20' O.C.

RAMP E

6" YELLOW (PERM. TAPE)

6" WHITE (PERM. TAPE)

℄ CONST. SR 528

38" MEDIAN BARRIER

6" WHITE (PERM. TAPE)

6" WHITE (10'-30' SKIP)
6" BLACK (10'-30' SKIP)
(PERMANENT TAPE) WITH
W/R RPMS @ 40' O.C.

BANANA RIVER

MATCHLINE STA. 1753+00.00

MATCHLINE STA. 1760+00.00

0 10 50
Feet

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

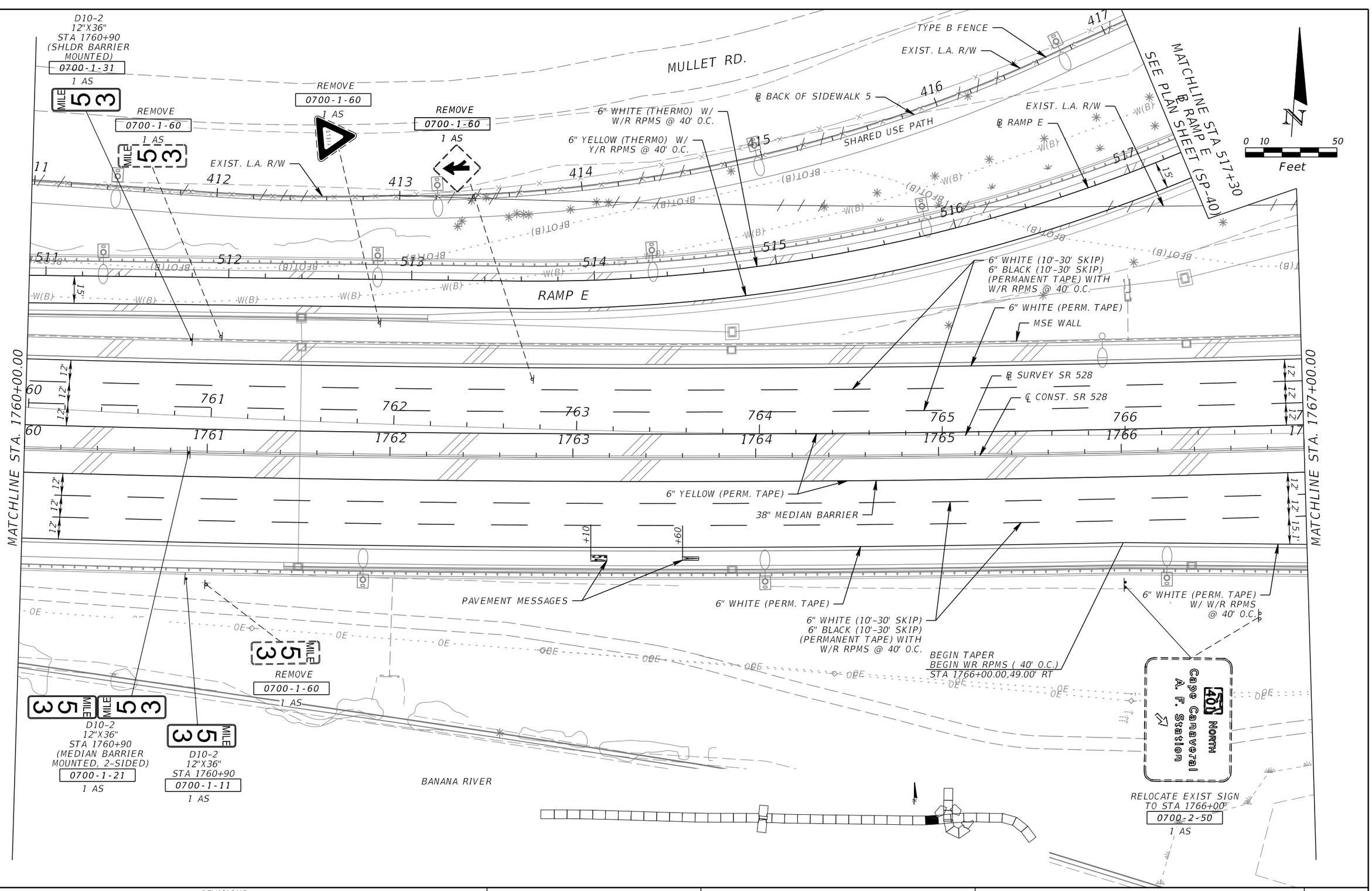
OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
RS&H INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-30)

SHEET NO.
S-54



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
RS&H INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-31)

SHEET NO. S-55

MATCHLINE SEE PLAN SHEET (SP-40)

POND 12A

℄ SURVEY SR 401

EXIST. L.A. R/W

REMOVE
0700-1-60
1 AS

FTP-SCENICHWY
26.75"x38"
I-3
36"x18"
D6-4A
24"x12"
STA 1769+00
(SHLDR BARRIER MOUNTED)
0700-1-32
1 AS

6" WHITE (PERM. TAPE)

6" WHITE (10'-30' SKIP)
6" BLACK (10'-30' SKIP)
(PERMANENT TAPE) WITH
W/R RPMS @ 40' O.C.

MSE WALL

SB SR 401 TO EB SR A1A

NB SR 401 FROM EB SR A1A

EXIST. L.A. R/W

POND 12B

MSE WALL

END CONCRETE PAVEMENT
BEGIN ASPHALT PAVEMENT
℄ CONST. SR 528
STA.1773+90.24, 49.00' LT

0 10 50
Feet

N

MATCHLINE STA. 1767+00.00

MATCHLINE STA. 1774+00.00

℄ SURVEY SR 528

℄ CONST. SR 528

6" YELLOW (PERM. TAPE)

67 768 769 770 771 772 773

1768 1769 1770 1771 1772 1773

12' 12' 12' 15.9'

38" MEDIAN BARRIER

38" SHLDR BARRIER

BEGIN BRIDGE
STA 1771+25.00

END BRIDGE
STA 1773+55.00

12' 12' 12' 12'

6" WHITE (PERM. TAPE) W/
W/R RPMS @ 40' O.C.

6" WHITE (10'-30' SKIP)
6" BLACK (10'-30' SKIP)
(PERMANENT TAPE) WITH
W/R RPMS @ 40' O.C.

END TAPER
STA 1769+00.00, 61.00' RT

6" WHITE (3'-9' SKIP)
6" BLACK (3'-9' SKIP)
(PERMANENT TAPE)
WITH W/R RPMS @ 12" O.C.

BEGIN ℄ SURVEY SR 401
POT STA. 0+00.00 =
STA.1771+76.39,7.00' LT
℄ SURVEY SR 528

END CONCRETE PAVEMENT
BEGIN ASPHALT PAVEMENT
℄ CONST. SR 528
STA. 1773+78.74, 61.00' RT

℄ SR 401

MATCHLINE SEE PLAN SHEET (SP-45)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
RS&H INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-32)

SHEET NO.
S-56

N

0 10 50
Feet

POND 12B

MATCHLINE STA. 1774+00.00

MATCHLINE STA. 1781+00.00

MATCHLINE STA. 810+80
℄ RAMP H
SEE PLAN SHEET (SP-41)

6" WHITE (THERMO) (10'-30' SKIP)
WITH W/R RPMS @ 40' O.C.

6" YELLOW (THERMO)
WITH Y/R RPMS 40' O.C.

℄ RAMP H

6" WHITE (THERMO)
WITH W/R RPMS 40' O.C.

TYPE B FENCE

RELOCATED SIGN
FROM STA 1781+53

EXIT 54 A

EXIST. L.A. R/W

L.A. R/W LINE

RAMP H

811

812

813

12'

EXIST. L.A. R/W

12" WHITE (THERMO) WITH
W/R RPMS @ 20' O.C.

6" WHITE (THERMO) (10'-30' SKIP)
WITH W/R RPMS @ 40' O.C.

MSE WALL

6" WHITE (THERMO) (3'-9' SKIP)
WITH W/R RPMS @ 12' O.C.

6" WHITE (THERMO)

℄ CONST. SR 528

38" MEDIAN BARRIER

18" WHITE (THERMO)
@60' O.C.

6" WHITE (THERMO) WITH
W/R RPMS @ 60' O.C.

6" WHITE (THERMO) (10'-30' SKIP)
WITH W/R RPMS @ 40' O.C.

℄ SURVEY SR 528

6" YELLOW (THERMO)

+21

774
775
776
777
778
779
780

1774
1775
1776
1777
1778
1779
1780

12' 12' 12' 12'

+26

+90

+77

+34

600
601
602
603

RAMP G1

BEGIN ℄ RAMP G1
PC STA. 600+00.00 =
STA. 1777+38.70, 61.00' RT
℄ SURVEY SR 528

EXIST. L.A. R/W

12" WHITE (THERMO)
WITH W/R RPMS @ 20' O.C.

EXIT 30 MPH

W13-2
48"X60"
STA 1774+40
0700-1-12
1 AS

EXIT 30 MPH

REMOVE
0700-1-60
1 AS

OT-1
STA 1774+50
700-4-114
1 AS

SIGN #E-54B
11'-6" X 2'-6"
SIGN# 111
26'-6" X 10'-6"
700-3-208
1 EA

SIGN #E-54A
11'-6" X 2'-6"
SIGN# 112
26'-6" X 8'-0"
700-3-207
1 EA

B Terminals 1-3
South Cargo Piers
Jetty Park
1/2 MILE
EXIT 54 B

A Terminals 5-10
North Cargo Piers
EXIT 54 A

B Terminals 1-3
South Cargo Piers
Jetty Park
3/4 MILE
EXIT 54 B

A Terminals 5-10
North Cargo Piers
EXIT 54 A

REMOVE EXIST.
STRUCTURE
STA 1775+78
700-4-620
1 AS

REMOVE
EXIST. SIGN
700-3-607 1 AS
700-3-608 1 AS

EXIT 54 A

REMOVE
0700-2-60
1 AS

GM-4
SIGN #119
E5-1a
9'-0"x5'-0"
STA 1779+51
0700-2-14
1 AS

EXIT 54 A

6" WHITE (THERMO) WITH
W/R RPMS @ 60' O.C.

18" WHITE (THERMO)
@ 60.C.

EXIST. L.A. R/W

6" WHITE (THERMO) WITH
W/R RPMS @ 40' O.C.

6" YELLOW (THERMO) WITH
Y/R RPMS @ 40' O.C.

℄ RAMP G1

15

MATCHLINE STA 603+70
℄ RAMP G1
SEE PLAN
SHEET (SP-42)

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

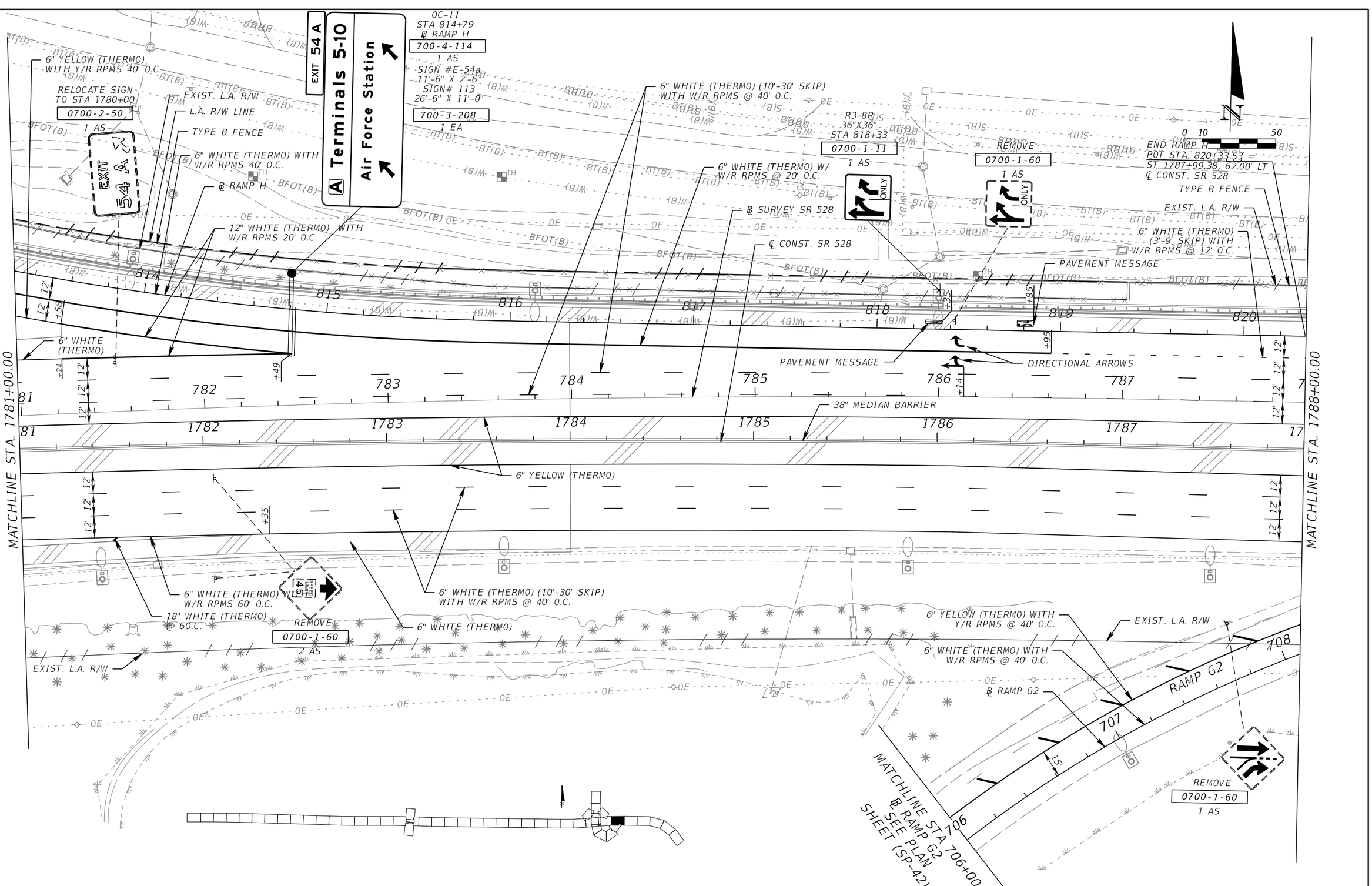
OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
RS&H INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-33)

SHEET NO. S-57



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
RS&H INC.
301 E. PINE ST, SUITE 350
ORLANDO, FLORIDA 32801
CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-34)

SHEET NO. S-58

EXIT 54A
A Terminals 5-10
Air Force Station
EXIT ONLY

REMOVE EXIST. STRUCTURE STA 1789+33
700-4-610
1 AS

REMOVE EXIST. SIGN
700-3-608
1 EA

W13-2 48"X60" STA 1790+00
0700-1-12
1 AS

REMOVE
0700-1-60
1 AS

R3-8R 36"X36" STA 1792+71
0700-1-11
1 AS

REMOVE
0700-1-60
1 AS

N

0 10 50 Feet

TYPE B FENCE

EXIST. L.A. R/W

6" WHITE (THERMO) WITH W/R RPMS @ 40' O.C.

6" WHITE (THERMO) (10'-30' SKIP) WITH W/R RPMS @ 40' O.C.

6" WHITE (THERMO) (3'-9' SKIP) WITH W/R RPMS @ 12' O.C.

℄ SURVEY SR 528

℄ CONST. SR 528

BEGIN TAPER STA 1793+00.85, 62.00' LT

DIRECTIONAL ARROWS

MATCHLINE STA. 1788+00.00

MATCHLINE STA. 1795+00.00

88 789 790 791 792 793 794

88 1789 1790 1791 1792 1793 1794

12' 12' 12' +95 +83 12' 12' 12' 12' 4.4'

6" WHITE (THERMO)

6" YELLOW (THERMO)

12' 12' 12' +40 +92 +92 +52 12' 12' 12' 12'

709 710

12" WHITE (THERMO) WITH W/R RPMS @ 20' O.C.

℄ RAMP G2

REMOVE
0700-1-60
1 AS

W4-1R 48"X48" STA 1788+21
700-1-12
1 AS

6" YELLOW (THERMO) WITH Y/R RPMS @ 40' O.C.

END RAMP G2 1 AS
POT STA. 710+76.84 =
STA. 1790+62.00, 61.19' RT
℄ CONST. SR 528

R2-1 36"x48" STA 1792+00 (MEDIAN BARRIER MOUNTED)
700-1-22
1 AS

R2-1 48"x60" STA 1792+00
700-1-12
1 AS

R3-8R 36"X36" STA 1792+61
0700-1-11
1 AS

REMOVE
0700-1-60
1 AS

EXIST. L.A. R/W

REMOVE
0700-1-60
1 AS

BANANA RIVER

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

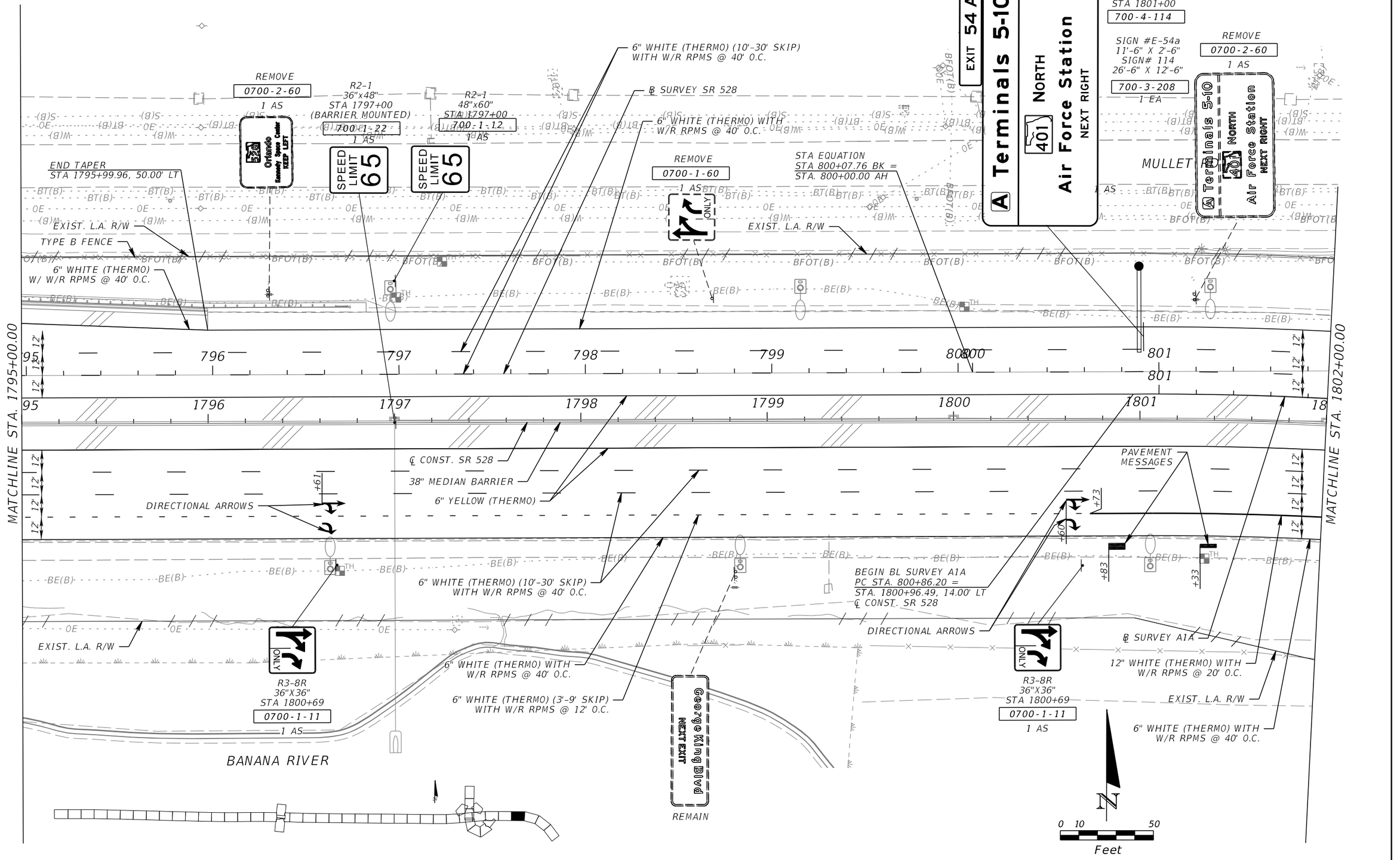
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-35)

SHEET NO. S-59



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

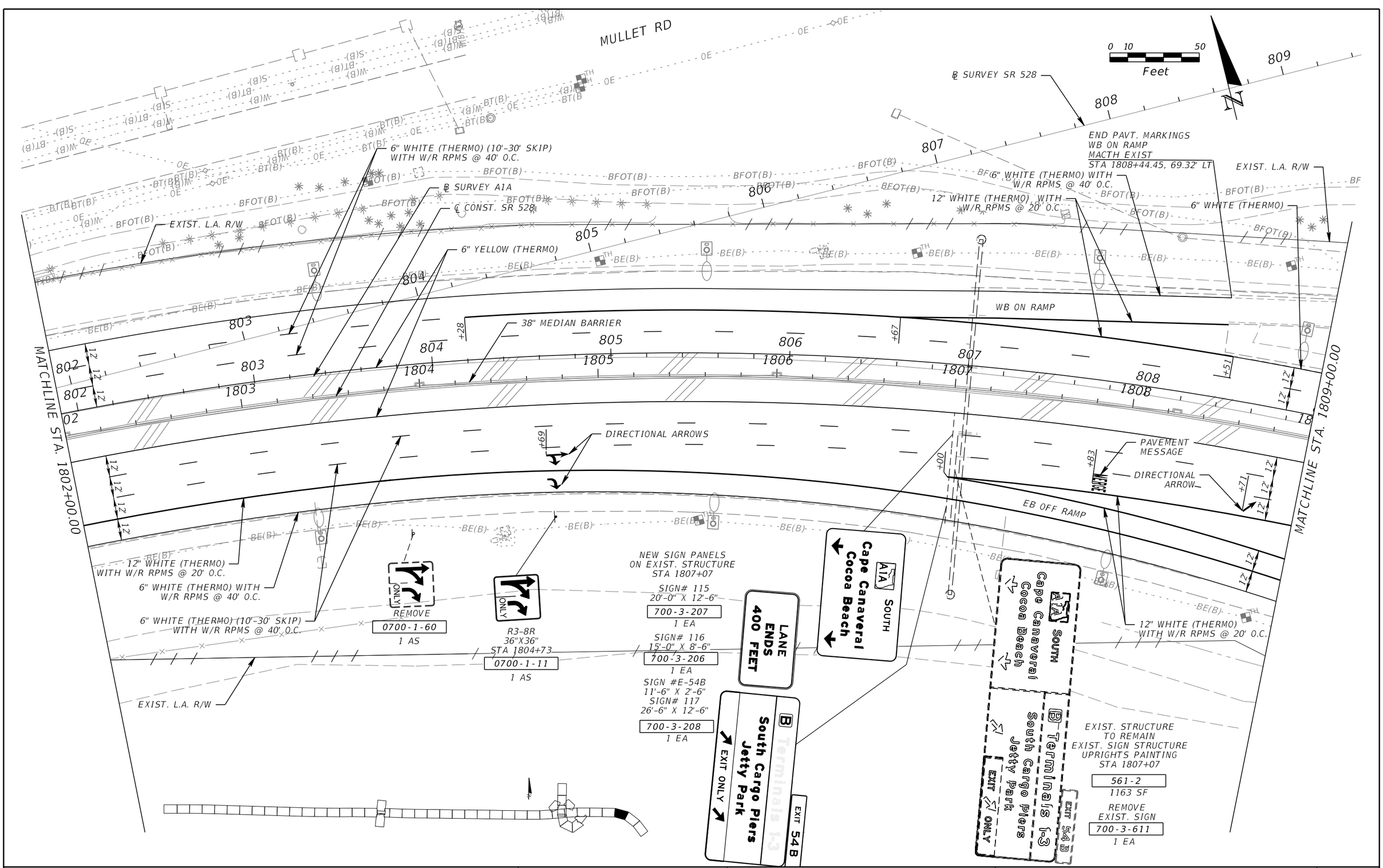
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STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-36)

SHEET NO. S-60



REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

OLGA P. MENDOZA, P.E.
P.E. LICENSE NUMBER 87335
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301 E. PINE ST, SUITE 350
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CERTIFICATE OF AUTHORIZATION 5620

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
528	BREVARD	407402-4-52-01

SIGNING AND PAVEMENT MARKING PLAN (SP-37)

SHEET NO. S-61

APPENDIX E

2030 No Build/Build HCS Analysis

HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2400	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.86	Flow Rate (v_p), pc/h/ln	1023
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-12 PM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2500	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	1007
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2400	650
Peak Hour Factor (PHF)	0.86	0.89
Total Trucks, %	10.00	17.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.855
Flow Rate (v_i), pc/h	3070	854
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.44	0.43

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	7822.1	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	1400	Speed Index (D_S)	0.505
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	789
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.644	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2281	Ramp Junction Speed (S), mi/h	54.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.0
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.0

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11 AM-12 PM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2500	1100
Peak Hour Factor (PHF)	0.91	0.91
Total Trucks, %	10.00	10.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.909
Flow Rate (v_i), pc/h	3022	1330
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.44	0.67

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	60011.2	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	1400	Speed Index (D_S)	0.548
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	638
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.623	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2384	Ramp Junction Speed (S), mi/h	52.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	19.1
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	21.9

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1750	400
Peak Hour Factor (PHF)	0.86	0.70
Total Trucks, %	10.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.952
Flow Rate (v_i), pc/h	2239	600
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.41	0.30

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	4054.1	Flow Outer Lanes (v_{OA}), pc/h/ln	685
Distance to Downstream Ramp (L_{DOWN}), ft	1400	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.694	Outer Lanes Freeway Speed (S_O), mi/h	59.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	1554	Ramp Junction Speed (S), mi/h	55.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2154	Average Density (D), pc/mi/ln	17.0
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	17.3

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1400	450
Peak Hour Factor (PHF)	0.91	0.86
Total Trucks, %	10.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.901
Flow Rate (v_i), pc/h	1692	581
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.33	0.29

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.287
Downstream Equilibrium Distance (L_{EQ}), ft	1670.9	Flow Outer Lanes (v_{OA}), pc/h/ln	662
Distance to Downstream Ramp (L_{DOWN}), ft	1400	On-Ramp Influence Area Speed (S_R), mi/h	54.8
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.609	Outer Lanes Freeway Speed (S_O), mi/h	59.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1030	Ramp Junction Speed (S), mi/h	56.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1611	Average Density (D), pc/mi/ln	13.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	13.1

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2150	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor (PHF)	0.76	Flow Rate (v_p), pc/h/ln	1009
Total Trucks, %	7.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1850	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	729
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1400	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.89	Flow Rate (v_p), pc/h/ln	582
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.7
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11:00 AM - 12:00 PM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1900	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	752
Total Trucks, %	8.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1400	450
Peak Hour Factor (PHF)	0.89	0.89
Total Trucks, %	11.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.901	0.917
Flow Rate (v_i), pc/h	1746	551
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.25	0.28

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	12023.3	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	2200	Speed Index (D_S)	0.478
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	369
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.691	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1377	Ramp Junction Speed (S), mi/h	53.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	10.8
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.6

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1900	800
Peak Hour Factor (PHF)	0.91	0.79
Total Trucks, %	8.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.952
Flow Rate (v_i), pc/h	2255	1064
Capacity (c_{md}), pc/h	6900	4000
Adjusted Capacity (c_{md}), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.33	0.27

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	2200	Speed Index (D_S)	0.524
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	655
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1600	Ramp Junction Speed (S), mi/h	54.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	13.9
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	4.5

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	950	450
Peak Hour Factor (PHF)	0.89	0.60
Total Trucks, %	11.00	11.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.901	0.901
Flow Rate (v_i), pc/h	1185	832
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.29	0.42

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.301
Downstream Equilibrium Distance (L_{EQ}), ft	3271.0	Flow Outer Lanes (v_{OA}), pc/h/ln	456
Distance to Downstream Ramp (L_{DOWN}), ft	2200	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.615	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	729	Ramp Junction Speed (S), mi/h	55.7

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1561	Average Density (D), pc/mi/ln	12.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	13.9

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11 AM-12 PM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1100	550
Peak Hour Factor (PHF)	0.91	0.94
Total Trucks, %	8.00	27.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.787
Flow Rate (v_i), pc/h	1305	743
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.30	0.37

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.302
Downstream Equilibrium Distance (L_{EQ}), ft	6310.5	Flow Outer Lanes (v_{OA}), pc/h/ln	423
Distance to Downstream Ramp (L_{DOWN}), ft	2200	On-Ramp Influence Area Speed (S_R), mi/h	54.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.676	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	882	Ramp Junction Speed (S), mi/h	55.6

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1625	Average Density (D), pc/mi/ln	12.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	14.4

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1400	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor (PHF)	0.85	Flow Rate (v_p), pc/h/ln	609
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.2
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11:00 AM 0 12:00 PM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1650	Heavy Vehicle Adjustment Factor (f_{HV})	0.862
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	686
Total Trucks, %	16.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1100	290
Peak Hour Factor (PHF)	0.90	0.57
Total Trucks, %	14.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.877	0.752
Flow Rate (v_i), pc/h	1394	677
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.31	0.17

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.489
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	43.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1394	Ramp Junction Speed (S), mi/h	43.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	16.0
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	2.7

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-!2PM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1900	820
Peak Hour Factor (PHF)	0.84	0.50
Total Trucks, %	8.00	29.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.926	0.775
Flow Rate (v_i), pc/h	2443	2116
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.54	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.618
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	43.1
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	2443	Ramp Junction Speed (S), mi/h	43.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	28.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.8

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	300	550
Peak Hour Factor (PHF)	0.86	0.51
Total Trucks, %	17.00	4.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.855	0.962
Flow Rate (v_i), pc/h	408	1121
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.34	0.56

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.274
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	On-Ramp Influence Area Speed (S_R), mi/h	44.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	408	Ramp Junction Speed (S), mi/h	44.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1529	Average Density (D), pc/mi/ln	17.3
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	11.2

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	450	550
Peak Hour Factor (PHF)	0.93	0.83
Total Trucks, %	27.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.787	0.870
Flow Rate (v_i), pc/h	615	762
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.31	0.38

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.272
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	44.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	615	Ramp Junction Speed (S), mi/h	44.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1377	Average Density (D), pc/mi/ln	15.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	10.1

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1100	Heavy Vehicle Adjustment Factor (f_{HV})	0.877
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	465
Total Trucks, %	14.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	850	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	356
Total Trucks, %	8.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.19

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	407	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1900	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	814
Total Trucks, %	8.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	18.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1000	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	430
Total Trucks, %	20.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	9.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	754	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	810	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	495
Total Trucks, %	10.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.6
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	300	Heavy Vehicle Adjustment Factor (f_{HV})	0.855
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	204
Total Trucks, %	17.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.11

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	4.8
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	450	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2030
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1080	Heavy Vehicle Adjustment Factor (f_{HV})	0.935
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	688
Total Trucks, %	7.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	16.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	450	Heavy Vehicle Adjustment Factor (f_{HV})	0.787
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	308
Total Trucks, %	27.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.16

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	7.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	643	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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APPENDIX F

2050 No Build/Build HCS Analysis

HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2800	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor (PHF)	0.86	Flow Rate (v_p), pc/h/ln	1226
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.4
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-12 PM
Project Description	SR 528 EB from N. Banana River Dr to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	3000	Heavy Vehicle Adjustment Factor (f_{HV})	0.893
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	1231
Total Trucks, %	12.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2800	750
Peak Hour Factor (PHF)	0.86	0.89
Total Trucks, %	13.00	25.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.800
Flow Rate (v_i), pc/h	3679	1053
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.53	0.53

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	11562.5	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	1400	Speed Index (D_S)	0.523
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	998
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	50.6
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.620	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2681	Ramp Junction Speed (S), mi/h	54.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	22.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	24.4

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11 AM-12 PM
Project Description	SR 528 EB to SR 401 NB off Loop Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	320
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	3000	1500
Peak Hour Factor (PHF)	0.91	0.91
Total Trucks, %	12.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.893	0.885
Flow Rate (v_i), pc/h	3692	1863
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.54	0.93

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	182998.3	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	1400	Speed Index (D_S)	0.596
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	765
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	49.3
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.582	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2927	Ramp Junction Speed (S), mi/h	52.0

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	23.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	26.5

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	2050	600
Peak Hour Factor (PHF)	0.86	0.70
Total Trucks, %	13.00	2.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.980
Flow Rate (v_i), pc/h	2693	875
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.52	0.44

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.338
Downstream Equilibrium Distance (L_{EQ}), ft	5515.4	Flow Outer Lanes (v_{OA}), pc/h/ln	684
Distance to Downstream Ramp (L_{DOWN}), ft	1400	On-Ramp Influence Area Speed (S_R), mi/h	53.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.746	Outer Lanes Freeway Speed (S_O), mi/h	59.3
Flow in Lanes 1 and 2 (v_{12}), pc/h	2009	Ramp Junction Speed (S), mi/h	54.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2884	Average Density (D), pc/mi/ln	21.7
Level of Service (LOS)	C	Density in Ramp Influence Area (D_R), pc/mi/ln	22.9

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SB 401 SB On Ramp to EB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	760
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1500	550
Peak Hour Factor (PHF)	0.91	0.86
Total Trucks, %	12.00	9.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.893	0.917
Flow Rate (v_i), pc/h	1846	697
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.37	0.35

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.309
Downstream Equilibrium Distance (L_{EQ}), ft	9758.0	Flow Outer Lanes (v_{OA}), pc/h/ln	188
Distance to Downstream Ramp (L_{DOWN}), ft	1400	On-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.898	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	1658	Ramp Junction Speed (S), mi/h	54.8

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2355	Average Density (D), pc/mi/ln	15.5
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	18.8

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2650	Heavy Vehicle Adjustment Factor (f_{HV})	0.943
Peak Hour Factor (PHF)	0.76	Flow Rate (v_p), pc/h/ln	1233
Total Trucks, %	6.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11:00 AM- 12:00 PM
Project Description	SR 528 EB from SR 401 to George King Blvd	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2050	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	808
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1500	Heavy Vehicle Adjustment Factor (f_{HV})	0.885
Peak Hour Factor (PHF)	0.89	Flow Rate (v_p), pc/h/ln	635
Total Trucks, %	13.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	10.6
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11:00 AM - 12:00 PM
Project Description	SR 528 WB from George King Blvd to SR 401	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	2300	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor (PHF)	0.91	Flow Rate (v_p), pc/h/ln	919
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information

Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity

Demand Volume (V_i), veh/h	1500	450
Peak Hour Factor (PHF)	0.89	0.89
Total Trucks, %	13.00	13.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.885
Flow Rate (v_i), pc/h	1904	571
Capacity (c_{md}), pc/h	6900	4000
Adjusted Capacity (c_{md}), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.28	0.14

Speed and Density

Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	2200	Speed Index (D_S)	0.479
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	733
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	51.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	1171	Ramp Junction Speed (S), mi/h	56.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	11.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	0.8

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 528 WB to SR 401 NB off Ramp	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	2
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2300	1100
Peak Hour Factor (PHF)	0.91	0.79
Total Trucks, %	9.00	5.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.952
Flow Rate (v_i), pc/h	2756	1463
Capacity (c_{md}), pc/h	6900	4000
Adjusted Capacity (c_{md}), pc/h	6900	4000
Volume-to-Capacity Ratio (v/c)	0.40	0.37

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	2200	Speed Index (D_S)	0.560
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	711
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	49.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	0.450	Outer Lanes Freeway Speed (S_O), mi/h	65.8
Flow in Lanes 1 and 2 (v_{12}), pc/h	2045	Ramp Junction Speed (S), mi/h	53.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	17.3
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	8.3

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1050	600
Peak Hour Factor (PHF)	0.89	0.60
Total Trucks, %	13.00	15.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.885	0.870
Flow Rate (v_i), pc/h	1333	1149
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.36	0.57

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	1
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (M_S)	0.310
Downstream Equilibrium Distance (L_{EQ}), ft	3389.7	Flow Outer Lanes (v_{OA}), pc/h/ln	511
Distance to Downstream Ramp (L_{DOWN}), ft	2200	On-Ramp Influence Area Speed (S_R), mi/h	54.4
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	0.617	Outer Lanes Freeway Speed (S_O), mi/h	60.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	822	Ramp Junction Speed (S), mi/h	55.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1971	Average Density (D), pc/mi/ln	14.9
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.9

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11 AM-12 PM
Project Description	SB 401 SB On Ramp to WB SR 528	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	60.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	550
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	1200	750
Peak Hour Factor (PHF)	0.91	0.94
Total Trucks, %	9.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.917	0.752
Flow Rate (v_i), pc/h	1438	1061
Capacity (c_{md}), pc/h	6900	2000
Adjusted Capacity (c_{md}), pc/h	6900	2000
Volume-to-Capacity Ratio (v/c)	0.36	0.53

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.314
Downstream Equilibrium Distance (LEQ), ft	8679.1	Flow Outer Lanes (vOA), pc/h/ln	398
Distance to Downstream Ramp (LDOWN), ft	2200	On-Ramp Influence Area Speed (SR), mi/h	54.3
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.723	Outer Lanes Freeway Speed (SO), mi/h	60.0
Flow in Lanes 1 and 2 (v12), pc/h	1040	Ramp Junction Speed (S), mi/h	55.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2101	Average Density (D), pc/mi/ln	15.1
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	18.0

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1650	Heavy Vehicle Adjustment Factor (f_{HV})	0.877
Peak Hour Factor (PHF)	0.85	Flow Rate (v_p), pc/h/ln	738
Total Trucks, %	14.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	12.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Basic Freeway Report

Project Information

Analyst	HA	Date	6/13/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11:00 AM 0 12:00 PM
Project Description	SR 528 WB from SR 401 to N. Banana River Dr	Units	U.S. Customary

Geometric Data

Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	60.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Demand Adjustment Factor (DAF)	1.000
Incident Type	No Incident	Capacity Adjustment Factor (CAF)	1.000
Proportion of CAVs in Traffic Stream	1	Capacity Adj. Factor for CAVs, CAF_{CAV}	1.001

Demand and Capacity

Demand Volume (V), veh/h	1950	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor (PHF)	0.93	Flow Rate (v_p), pc/h/ln	839
Total Trucks, %	20.00	Capacity (c), pc/h/ln	2300
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2302
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36
Passenger Car Equivalent (E_T)	2.00		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	60.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	60.0		

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	1200	350
Peak Hour Factor (PHF)	0.90	0.57
Total Trucks, %	14.00	40.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.877	0.714
Flow Rate (v_i), pc/h	1520	860
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.34	0.22

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.505
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	43.5
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	1520	Ramp Junction Speed (S), mi/h	43.5

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	17.5
Level of Service (LOS)	A	Density in Ramp Influence Area (D_R), pc/mi/ln	3.8

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HCS Freeway Diverge Report

Project Information			
Analyst	HA	Date	6/16/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-!2PM
Project Description	SR 401 NB off Ramp to Charles	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	2
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Deceleration Length (LD), ft	1500	1500
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided Two-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor (CAF)	1.000	1.000
Capacity Adj. Factor for CAVs, CAF_{CAV}	1.000	-

Demand and Capacity		
Demand Volume (V_i), veh/h	2600	1090
Peak Hour Factor (PHF)	0.84	0.50
Total Trucks, %	10.00	33.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.909	0.752
Flow Rate (v_i), pc/h	3405	2899
Capacity (c_{md}), pc/h	4500	4000
Adjusted Capacity (c_{md}), pc/h	4500	4000
Volume-to-Capacity Ratio (v/c)	0.76	0.72

Speed and Density			
Upstream Equilibrium Distance (L_{EQ}), ft	-	Number of Outer Lanes on Freeway (N_O), ln	0
Distance to Upstream Ramp (L_{UP}), ft	-	Speed Index (D_S)	0.689
Downstream Equilibrium Distance (L_{EQ}), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (L_{DOWN}), ft	-	Off-Ramp Influence Area Speed (S_R), mi/h	42.9
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FD})	1.000	Outer Lanes Freeway Speed (S_O), mi/h	49.4
Flow in Lanes 1 and 2 (v_{12}), pc/h	3405	Ramp Junction Speed (S), mi/h	42.9

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	-	Average Density (D), pc/mi/ln	39.7
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	20.0

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	400	800
Peak Hour Factor (PHF)	0.86	0.51
Total Trucks, %	20.00	3.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.833	0.971
Flow Rate (v_i), pc/h	558	1615
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.48	0.81

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.291
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	44.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	1.000	Outer Lanes Freeway Speed (SO), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	558	Ramp Junction Speed (S), mi/h	44.1

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	2173	Average Density (D), pc/mi/ln	24.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	16.0

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HCS Freeway Merge Report

Project Information			
Analyst	HA	Date	6/14/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	Charles SB on Ramp to SB SR 401	Units	U.S. Customary

Geometric Data		
	Freeway	Ramp
Number of Lanes (N), ln	2	1
Free-Flow Speed (FFS), mi/h	45.0	35.0
Segment Length (L) / Acceleration Length (LA), ft	1500	925
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Type	Freeway	Right-Sided One-Lane

Adjustment Factors		
Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Proportion of CAVs in Traffic Stream	0	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000
Capacity Adjustment Factor for CAVs, CAF_{CAV}	1.000	-
Final Capacity Adjustment Factor (CAF)	1.000	1.000

Demand and Capacity		
Demand Volume (V_i), veh/h	600	700
Peak Hour Factor (PHF)	0.93	0.83
Total Trucks, %	33.00	14.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (f_{HV})	0.752	0.877
Flow Rate (v_i), pc/h	858	962
Capacity (c_{md}), pc/h	4500	2000
Adjusted Capacity (c_{md}), pc/h	4500	2000
Volume-to-Capacity Ratio (v/c)	0.40	0.48

Speed and Density			
Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO), ln	0
Distance to Upstream Ramp (LUP), ft	-	Speed Index (MS)	0.280
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (v_{OA}), pc/h/ln	-
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	44.2
Prop. Freeway Vehicles in Lane 1 and 2 (P_{FM})	1.000	Outer Lanes Freeway Speed (SO), mi/h	45.0
Flow in Lanes 1 and 2 (v_{12}), pc/h	858	Ramp Junction Speed (S), mi/h	44.2

Flow Entering Ramp-Infl. Area (v_{R12}), pc/h	1820	Average Density (D), pc/mi/ln	20.6
Level of Service (LOS)	B	Density in Ramp Influence Area (D_R), pc/mi/ln	13.5

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.826
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	538
Total Trucks, %	21.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1200	Heavy Vehicle Adjustment Factor (f_{HV})	0.926
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	502
Total Trucks, %	8.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	444	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from SR 528 to Charles M Rowland Dr	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.3		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2600	Heavy Vehicle Adjustment Factor (f_{HV})	0.909
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	1135
Total Trucks, %	10.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.2
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	25.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	3	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	2.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Divided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	44.5		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1300	Heavy Vehicle Adjustment Factor (f_{HV})	0.813
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	573
Total Trucks, %	23.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.5
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.5		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	1032	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	7-8 AM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	850	Heavy Vehicle Adjustment Factor (f_{HV})	0.840
Peak Hour Factor	0.90	Flow Rate (V_p), pc/h/ln	562
Total Trucks, %	19.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	13.2
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	400	Heavy Vehicle Adjustment Factor (f_{HV})	0.833
Peak Hour Factor	0.86	Flow Rate (V_p), pc/h/ln	279
Total Trucks, %	20.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.15

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	6.5
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	472	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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HCS Multilane Highway Report

Project Information

Analyst	HA	Date	6/17/2022
Agency	FDOT	Analysis Year	2050
Jurisdiction		Time Analyzed	11AM-12PM
Project Description	SR 401 from Charles M Rowland Dr To North	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	NB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1510	Heavy Vehicle Adjustment Factor (f_{HV})	0.901
Peak Hour Factor	0.84	Flow Rate (V_p), pc/h/ln	998
Total Trucks, %	11.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	23.4
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Geometric Data			
Direction 2	SB		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	5280	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	45.0	Access Point Density, pts/mi	3.0
Lane Width, ft	12	Left-Side Lateral Clearance (LC_R), ft	6
Median Type	Undivided	Total Lateral Clearance (TLC), ft	12
Free-Flow Speed (FFS), mi/h	42.7		

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	600	Heavy Vehicle Adjustment Factor (f_{HV})	0.752
Peak Hour Factor	0.93	Flow Rate (V_p), pc/h/ln	429
Total Trucks, %	33.00	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	42.6
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.1
Median Type Adjustment (f_M)	1.6	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	0.8		

Direction 2 Bicycle LOS			
Flow Rate in Outside Lane (v_{OL}), veh/h	899	Effective Speed Factor (S_t)	4.62
Effective Width of Volume (W_v), ft	18	Bicyle LOS Score (BLOS)	-
Average Effective Width (W_e), ft	24	Bicycle Level of Service (LOS)	F

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APPENDIX G

Crash Analysis

FLORIDA DEPARTMENT OF TRANSPORTATION

COLLISION SUMMARY

Section: 70070000 / 70080000 **State Road:** 528 **County:** Brevard

Intersecting route: S.R. 401 **Milepost:** **Data by:** TSH

Study period: 1/1/2016 - 12/31/2020 **Date:** 6/29/2021

NO.	DATE	DAY	TIME	FATAL	INJURY	INJURY SEVERITY	PROPERTY DAMAGE	HARMFUL EVENT	DUI	DAY / NIGHT	WET / DRY	CONTRIBUTING CAUSE
1	01/09/17	Monday	15:19	0	0	1-None	$1,000	Side-Swipe	No	Day	Dry	Improper Lane Change
2	01/14/17	Saturday	10:06	0	2	2-Possible	$3,000	Rear-End	No	Day	Dry	Careless Driving
3	04/12/17	Wednesday	13:16	0	0	1-None	$3,100	Rear-End	No	Day	Dry	Disregarded Traffic Control
4	01/03/18	Wednesday	2:15	0	1	2-Possible	$24,470	Off-Road	No	Night	Wet	Medical
5	01/03/18	Wednesday	2:37	0	0	1-None	$500	Object-in-Road	No	Night	Wet	Careless Driving
6	02/01/18	Thursday	12:41	0	0	1-None	$5,000	Rear-End	No	Day	Dry	Careless Driving
7	05/18/19	Saturday	15:53	0	0	1-None	$2,500	Fixed-Object	No	Day	Dry	Careless Driving
8	06/18/19	Tuesday	11:08	0	0	1-None	$11,000	Fixed-Object	No	Day	Dry	Disregarded Traffic Control
9	08/07/19	Wednesday	23:11	0	0	1-None	$8,000	Object-in-Road	No	Night	Dry	Careless Driving
10	08/09/19	Friday	17:23	0	0	1-None	$500	Fixed-Object	No	Day	Wet	Disregarded Traffic Control
11	09/18/19	Wednesday	11:07	0	1	3-Non-Incapacitating	$1,000	Fixed-Object	No	Day	Wet	Lost Control
12	07/11/20	Saturday	14:45	0	0	1-None	$8,350	Fixed-Object	No	Day	Wet	Lost Control
13	11/04/20	Wednesday	8:22	0	0	1-None	$500	Rear-End	No	Day	Dry	Careless Driving
TOTAL				**0**	**4**		**$68,920**					

TOTAL NO.	Injury Severity				Fixed-Object	Side-Swipe	Object-in-Road		Rear-End	Off-Road				
	Property Damage Only	Injury	Fatality											
13	10	3	0	0	5	1	2		4	1	0	0	0	0
Percent	77%	23%	0%	0%	38%	8%	15%		31%	8%	0%	0%	0%	0%

CONTRIB-CAUSE	Time of Day		Pavement Cond.		Improper Lane Change	Disregarded Traffic Control	Careless Driving	Medical	Lost Control					
	Day	Night	Dry	Wet										
Total	10	3	8	5	0	1	3	6	1	2	0	0	0	0	0
Percent	77%	23%	62%	38%	0%	8%	23%	46%	8%	15%	0%	0%	0%	0%	0%



SYMBOLS:

○ PERSONAL INJURY ⊗ FATALITY

(25) CRASH #

- ALL OTHER COLLISION
- BACKED INTO COLLISION
- PEDESTRIAN COLLISION
- BICYCLE COLLISION
- ANGLE COLLISION
- LEFT TURN COLLISION
- SIDE SWIPE COLLISION
- RIGHT TURN COLLISION
- REAR END COLLISION
- HEAD-ON COLLISION
- FIXED-OBJECT COLLISION
- OVERTURNED VEHICLE
- OFFROAD COLLISION

Traffic Engineering Data Solutions, Inc.
80 Spring Vista Drive DeBary, FL 32713
Phone: 386.753.0558 Fax: 386.753.0778

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

COLLISION DIAGRAM
(1/1/16 TO 12/31/20)
PAGE 1 OF 2

PAGE NO.
1

MATCHLINE A



SYMBOLS:

○ PERSONAL INJURY ⊗ FATALITY

(25) CRASH #

- ALL OTHER COLLISION
- BACKED INTO COLLISION
- PEDESTRIAN COLLISION
- BICYCLE COLLISION
- ANGLE COLLISION
- LEFT TURN COLLISION
- SIDE SWIPE COLLISION
- RIGHT TURN COLLISION
- REAR END COLLISION
- HEAD-ON COLLISION
- FIXED-OBJECT COLLISION
- OVERTURNED VEHICLE
- OFFROAD COLLISION

Traffic Engineering Data Solutions, Inc.
80 Spring Vista Drive DeBary, FL 32713
Phone: 386.753.0558 Fax: 386.753.0778

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

COLLISION DIAGRAM
(1/1/16 TO 12/31/20)
PAGE 2 OF 2

PAGE NO.
2

Calculations:

Provide Lighting:
# of crashes reduced per year = (1 – CMF) * # of crashes per year
# of crashes reduced per year = (1 – 0.68) * (3/5)
# of crashes reduced per year = 0.19

Positive Grade Change:
# of crashes reduced per year = $(100 * \left(1 - e^{(-0.0535*(G_2 - G_1))}\right)$ * # of crashes per year
# of crashes reduced per year = $(100 * \left(1 - e^{(-0.0535*(0.06 - 0.04))}\right)$ * (6/5)
# of crashes reduced per year = 0.13

Negative Grade Change:
# of crashes reduced per year = $(100 * \left(1 - e^{(-0.0396*(G_2 - G_1))}\right)$ * # of crashes per year
# of crashes reduced per year = $(100 * \left(1 - e^{(-0.0396*(0.04 - 0.06))}\right)$ * (1/5)
# of crashes reduced per year = -0.02

CMF / CRF Details

CMF ID: 7776

Install lighting

Description:

Prior Condition: Roadways without street lighting

Category: Highway lighting

Study: *Validation and Application of Highway Safety Manual (Part D) in Florida*, Abdel-Aty et al., 2014

Star Quality Rating:	★★★★☆ [View score details]

Crash Modification Factor (CMF)	
Value:	0.68
Adjusted Standard Error:	
Unadjusted Standard Error:	0.09

Crash Reduction Factor (CRF)	
Value:	32 *(This value indicates a **decrease** in crashes)*
Adjusted Standard Error:	

Unadjusted Standard Error:	9

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Number of Lanes:	
Road Division Type:	All
Speed Limit:	
Area Type:	All
Traffic Volume:	
Time of Day:	Night

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	2006 to 2010
Municipality:	
State:	FL

Country:	USA
Type of Methodology Used:	2
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Mar-08-2016
Comments:	CMFs of adding lighting on all roads types with all number of lanes. The number of crashes in the after period were not reported in this study, however, they have been recorded as 300 to give 10 points as a beneift of doubt for one or more of the following: (1) number of miles/sites in the reference/treatment group, (2) number of crashes in the references/treatment group, (3) reporting AADTs for the aggregate dataset but not for the disaggragate dataset used for CMF development.

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.

CMF / CRF Details

CMF ID: 7565

Change positive vertical grade from G1 to G2

Description: Change positive vertical grade from G1 to G2 in percent.

Prior Condition: ***No Prior Condition(s)***

Category: Alignment

Study: ***Development of Crash Modification Factors of Alignment Elements and Safety Countermeasures for Korean Freeways*****, Choi et al., 2015**

Star Quality Rating:	★★★★☆ [View score details]

Crash Modification Factor (CMF)	
Value:	$CMF = e^{(-0.0535*(G2-G1))}$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)

Value:	$CRF = 100 * (1 - e^{(-0.0535*(G2-G1))})$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other Freeways and Expressways
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	
Traffic Volume:	4263 to 57699 *Annual Average Daily Traffic (AADT)*
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

Date Range of Data Used:	2001 to 2005
Municipality:	
State:	
Country:	Korea
Type of Methodology Used:	7
Sample Size Used:	

Other Details

Included in Highway Safety Manual?	No
Date Added to Clearinghouse:	Nov-01-2015
Comments:	

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CMF / CRF Details

CMF ID: 7564

Change negative vertical grade from G1 to G2

Description: Change negative vertical grade from G1 to G2 in percent.

Prior Condition: ***No Prior Condition(s)***

Category: Alignment

Study: ***Development of Crash Modification Factors of Alignment Elements and Safety Countermeasures for Korean Freeways*****, Choi et al., 2015**

Star Quality Rating:	★★★★☆ [View score details]

Crash Modification Factor (CMF)	
Value:	$CMF = e^{(-0.0396*(G2-G1))}$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Crash Reduction Factor (CRF)

Value:	$CRF = 100 * (1 - e^{(-0.0396*(G2-G1))})$
Adjusted Standard Error:	
Unadjusted Standard Error:	

Applicability

Crash Type:	All
Crash Severity:	All
Roadway Types:	Principal Arterial Other Freeways and Expressways
Number of Lanes:	
Road Division Type:	
Speed Limit:	
Area Type:	
Traffic Volume:	4263 to 57699 *Annual Average Daily Traffic (AADT)*
Time of Day:	

If countermeasure is intersection-based

Intersection Type:	
Intersection Geometry:	
Traffic Control:	
Major Road Traffic Volume:	
Minor Road Traffic Volume:	

Development Details

APPENDIX H

FDOT Comment-Responses

Submittal Report

Financial Project:	444787-1-22-01	Submittal Type:	OTHER
Submittal Phase:	PD&E	Submittal Staff Type:	CONSULTANT
Received Date:	4/29/2022	Response Due Date:	5/20/2022
Grace Period:	0	District:	FIFTH
Status:	OPEN	Create Date:	4/29/2022
Create User Id:	EN501MM	Last Update:	4/29/2022
		Last Update User Id:	EN501MM

Description:

SR 401 PD&E Study (FM #444787-1) DRAFT Project Traffic Analysis Report (April 2022)

Threads:

Name	Assignment	Due Date	Status	Comments
Catherine Bradley	LEAD REVIEWER	5/13/2022	ACTIVE	0

Name	Assignment	Due Date	Status	Comments
Denise Rach	LEAD REVIEWER	5/13/2022	ACTIVE	0*

Name	Assignment	Due Date	Status	Comments
Hari Salkapuram	REVIEWER	5/13/2022	ACTIVE	9

No	Status	Current Holder	Reference	Categories
1	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Title/Cover Page	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. Change the project title on the cover page to be consistent with the report footer.
b. Please include Technical Report Cover Page (Form No. 650-050-38) and Project Traffic Assumption Form (Form No. 650-050-39) with a sign and seal consistent with FDOT PTAR requirements.

a. Title will be changed from SR 401 PD&E Study to SR 401 Bridge Replacement Project
b. Technical Report Cover Page (Form No. 650-050-38) will be included. Project Traffic Assumption Form (Form No. 650-050-39) with a sign and seal consistent will be included.

No	Status	Current Holder	Reference	Categories
2	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Executive Summary	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. Change terminology for LOS standard to Target throughout the report consistent with FDOT Policy # 000-525-006c.
b. The approved Traffic Analysis Methodology included analysis for AM and PM peak hours. However, PTAR provides results for AM and MD for typical weekday. Please compare volumes between MD and PM peak hours to demonstrate the need for this deviation.
c. It is stated that SR 528 will be improved from four lanes to six lanes. Please include FM # and funding years for this improvement.

a. Terminology for LOS standard will be changed to LOS targets.
b. Correct. This statement was provided in the body of the report to explain the need for the MD and the PM deviation and it was provided in the approved Forecast Memo: "The afternoon (PM) volumes were less than the MD that is why the analysis included the MD peak as provided in the Approved Forecast Memorandum. The approved Traffic Analysis Methodology included analysis for AM and PM peak hours."
c. Correct It is stated that SR 528 will be improved from four lanes to six lanes and will include FM #407402-4-52-01 and funding years was not determined yet for this improvement.

No	Status	Current Holder	Reference	Categories
3	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	General	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. Include “FDOT” and publication year for all FDOT documents referenced in this PTAR.
b. Observation: The approved Traffic Methodology indicated the use of the latest HCS. It is noted that the operational analysis was performed using HCS 2010 which was not the latest version at the time of approved methodology.

a. “FDOT” will be included for the referenced documents. Years are included under section 2.
b. The latest HCS 2022 will be used.

No	Status	Current Holder	Reference	Categories
4	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Introduction	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

Introduction, first paragraph, last sentence – It is stated that “the methodology is included in Section 7….”. Please update this reference as appropriate.

Section 7 will be revised to Section 6.

No	Status	Current Holder	Reference	Categories
5	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Section 6	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

The third paragraph states that the Traffic Forecasting Memorandum is approved by FDOT. Consider changing this to “approved by FDOT D5” unless it was also approved by “FDOT CO OEM”?

D5 will be included after FDOT. However, D5 PM conferred with OEM staff who indicated they did not need to review the methodology

No	Status	Current Holder	Reference	Categories
6	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	MOEs	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

Please provide all MOEs, including V/C ratios and travel speed, as discussed in the approved methodology.

It was shown in the methodology because it was anticipated to do on intersection analysis and that intersection was later not included so no V/C ratio and no travel speed for the analysis are provided. The language will be removed from the report.

No	Status	Current Holder	Reference	Categories
7	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Table 7-1	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. Consider adding “location ID” matching volumes figures next to the location in Table 7-1 and Tables 8-1 through 8-4.
b. Separate freeway/ramp analysis from multilane analysis in the table as HCSM uses different procedures.

a. “location ID” will be added on in Table 7-1 and Tables 8-1 through 8-4.
b. Freeway/ramp analysis will be in one table and multilane analysis will be in one table.

No	Status	Current Holder	Reference	Categories
8	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Section 8 Future	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. Please discuss considered alternatives and document methods used to select the Build Alternative in detail.
b. Tables 8-1 through 8-4 show an improvement along SR 528 between the Build and the No-Build alternatives due to the bridge project. It is noted that HCS analysis includes six lanes in the Build Alternative and four lanes in the No-Build. SR 528 should have the same number of lanes for the two alternatives. Please update the analysis for both 2030 and 2050 No-Build analysis to include cost feasible SR 528 improvements.
c. Table 8-2 and Table 8-4: Multilane segment analysis results for the Build Alternative for both 2030 and 2050 analysis years couldn’t be verified as they are not included in the appendices.
d. Please include AM/MD in all columns in Table 7-1 and Tables 8-1 through 8-4.

a. Considered alternatives and methods used to select the Build Alternative will be documented in more detail.
b. This indicates that the improvements for SR 528 will be implemented by 2030 that is why this comment indicate that the 2030 and 2050 analysis build and no build will be the same considering the improvements to SR 528 was the only difference in the analysis. Tables will be revised accordingly.
c. The results for build and no build are the same no changes to geometry along SR 401 for the analysis. Copies will be included for the Multilane segment analysis results for the Build Alternative for both 2030 and 2050 analysis years in the appendices.
d. AM/MD is included in the title of the each table as " Year 2050 Build AM/MD HCS Summary" in Table 7-1 and Tables 8-1 through 8-4. So it is assumed no need to do so unless the department wants that.

No	Status	Current Holder	Reference	Categories
9	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Appendices/HCS	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Hari Salkapuram	5/13/2022	1	

a. FFS is assumed to be the same as speed limit. Please update FFS consistent with the HCM methodology.
b. PHF of 0.94 was used for freeway/ramp analysis and 0.92 for multilane lane analysis. Please discuss the basis for PHFs.
c. Access points per mile input is assumed as “zero” for all multilane segments. Please update this value per the HCM methodology.
d. Review the input for “Type of adjacent ramp.” For example, SR 401 NB off Loop Ramp includes an off-ramp for this input. Should this be on-ramp as opposed to off-ramp? Please review all inputs and update as needed. Also, provide a source for George King Blvd ramp volumes used for adjacent ramp inputs.

a. FFS will be revised to be 5 mph over the advisory speed which will be 60 mph based on the "Estimation Based" on the Posted Speed Limits in the HCM.
b. These values were the default from the HCS. We will calculate the PHF for existing (each segment) and weigh the appropriateness of carrying those PHF forward to the 2030 and 2050 analyses given the expected changes in traffic composition.
c. Access points per mile input will be revised to include a value for all multilane segments.
d. Review will be made for the input for “Type of adjacent ramp.” and revised accordingly. This location was the only one to be updated "SR 401 NB off Loop Ramp." No volume is available for George King Blvd as it was not used for adjacent ramp inputs.

Name	Assignment	Due Date	Status	Comments
Jason Learned	LEAD REVIEWER	5/13/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Jeanette Maldonado	LEAD REVIEWER	5/13/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Mary McGehee	IN-HOUSE PROJECT MANAGER	5/13/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Mike Pennington	LEAD REVIEWER	5/13/2022	ACTIVE	1

No	Status	Current Holder	Reference	Categories
10	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	PTAR	ENVIRONMENTAL MANAGEMENT OFF.

Created By	Created On	Version	Delegate For
Mike Pennington	5/13/2022	1	

Please see attachment for OEM comments.

See responses in email:

Name	Assignment	Due Date	Status	Comments
ODALYS DELGADO	CONSULTANT PROJECT MANAGER	5/20/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Suraj Pamulapati	LEAD REVIEWER	5/13/2022	ACTIVE	0

Submittal Report

Financial Project:	444787-1-22-01	Submittal Type:	OTHER
Submittal Phase:	PD&E	Submittal Staff Type:	CONSULTANT
Received Date:	7/1/2022	Response Due Date:	7/29/2022
Grace Period:	0	District:	FIFTH
Status:	OPEN	Create Date:	7/1/2022
Create User Id:	EN501TM	Last Update:	7/1/2022
		Last Update User Id:	EN501TM

Description:

444787-1-22-01 -- SR 401 Bridge Replacement PD&E:
Review of the Draft Project Traffic Analysis Report (PTAR)

Threads:

Name	Assignment	Due Date	Status	Comments
Hari Salkapuram	LEAD REVIEWER	7/22/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Jason Learned	LEAD REVIEWER	7/22/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Mark Trebitz	IN-HOUSE PROJECT MANAGER AST.	7/22/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Mary McGehee	IN-HOUSE PROJECT MANAGER	7/22/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
ODALYS DELGADO	CONSULTANT PROJECT MANAGER	7/29/2022	ACTIVE	0
Name	**Assignment**	**Due Date**	**Status**	**Comments**
Suraj Pamulapati	LEAD REVIEWER	7/22/2022	ACTIVE	19

No	Status	Current Holder	Reference	Categories
1	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Project Traffic	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

93% D factor shown is inconsistent with the recent submittal. Please review the information and update it appropriately.

Response: 93% D factor will be changed to 66.67% from the recent submittal.

No	Status	Current Holder	Reference	Categories
2	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Section 9	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

1. The first paragraph appears to stop abruptly. Please review and update.
2. Consider summarizing safety benefits in a tabular format and provide calculations in appendices.
3. High-Level Fixed Span Bridge Alternative: Clarify if the grade change CMF applied for each approach in both directions? Or one-directional only?

Response:
1.Will revised the first paragraph accordingly.
2.The requested tabular summary and calculations will be provided in the revised document.
3.Yes, grade change CMF applies to each approach in both directions.

No	Status	Current Holder	Reference	Categories
3	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Appendix F	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Please review FFS values of 54.2 and 39.2 mph for freeway segments and update the analysis as needed.

Response: FFS will be revised to 60 mph and 45 mph at some locations .

No	Status	Current Holder	Reference	Categories
4	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 1 of 375	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Place NEPA Assignment language on the cover of the report (first page)

Response: This will be added to the first page: The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out
by FDOT pursuant to 23 U.S.C. & 327 and Memorandum of Understanding dated May 26, 2022 and executed by FHWA and FDOT.

No	Status	Current Holder	Reference	Categories
5	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 2	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Update the MOU date in the NEPA Assignment to May 26, 2022

Response: This date will be revised to May 26, 2022.

No	Status	Current Holder	Reference	Categories
6	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 3, Traffic Data &	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Add "N/A" under Interim Year

Response: N/A will be provided.

No	Status	Current Holder	Reference	Categories
7	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 7, 2nd sentence	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Reference FDOT LOS Procedure on LOS targets

Response: the sentence will be revised to read "The acceptable FDOT LOS Procedure on LOS targets for the study is 'LOS D'. "

No	Status	Current Holder	Reference	Categories
8	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 8, 2nd paragraph	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Add the version of the HCM. There at least two more instances this comment applies in the PTAR

Response: HCM 7th edition will be added in the PTAR.

No	Status	Current Holder	Reference	Categories
9	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 8, 4th paragraph	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Delete matrix from "evaluation matrix metrics"

Response: Matrix will be deleted from "evaluation matrix metrics"

No	Status	Current Holder	Reference	Categories
10	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Section 4 Heading	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Delete "Anticipated"

Response:Anticipated will be deleted.

11	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 11, 1st paragraph	TRAFFIC ANALYSIS
	Created By	**Created On**	**Version**	**Delegate For**
	Suraj Pamulapati	7/11/2022	1	

Delete "proposed" from the sentence that start with "Figure 2-1 shows the project location and proposed area...

Response: proposed will be deleted.

12	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Fig 6-1 thru 6-3	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Removed "Recommended" from the caption

Response: Recommended will be deleted from figures.

No	Status	Current Holder	Reference	Categories
13	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 20	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Delete "control" from …control density results...

Response: Control will be deleted.

No	Status	Current Holder	Reference	Categories
14	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 21	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Delete preferred in the opening sentence. Preferred has different connotation in the PD&E process.

Response: preferred in the opening sentence will be deleted.

No	Status	Current Holder	Reference	Categories
15	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 21	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

It appears the first paragraph attempted to summarized how the "preferred" build alternative was derived. However, it is confusing and seems out of place in the context of future operational analysis. Since PTAR presents operational analysis of the HLFS bridge against no-build, this discussion should be placed on separate heading/subheading in the PTAR. Alternatively the discussion may be merged with the Appendix that presents the three build concepts.

Response: will revised and include under a .subsecyion 8.1 Alternative Analysis.

16	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 26, 1st Paragraph	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Replace "and other crash reduction calculations for this unique section including the bridge" with "for replacing drawbridges or bridge replacements"

Response: The requested change will be made.

No	Status	Current Holder	Reference	Categories
17	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Section 9	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

Similar to what was done in operational analysis, only HLFS bridge against no-build would need to be reported here.

Response: Other alternatives will be taken out. Only HLFS bridge alternativewill be included in the safety analysis

No	Status	Current Holder	Reference	Categories
18	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Pg 17, 1st paragraph	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

7 crashes occurred along the grade portion of the roadway. However the estimated CRF was applied to only 5 crashes (3 on the positive and 2 on the negative)

Response:The analysis will be updated based on 7 crashes.

No	Status	Current Holder	Reference	Categories
19	COMMENT SUBMITTED FOR RESPONSE	ODALYS DELGADO	Conclusion	TRAFFIC ANALYSIS

Created By	Created On	Version	Delegate For
Suraj Pamulapati	7/11/2022	1	

The ES states that funding for FPID 407402-4 improvements are not determined yet. However the conclusion states that these improvements will be implemented by 2030. Please verify and update accordingly.

Response:Conclusion will be revised to .The year for these improvemnts along SR 528 has not been determined yet.

Name	Assignment	Due Date	Status	Comments
Victor Muchuruza	LEAD REVIEWER	7/22/2022	ACTIVE	0