



Truck and Freight Alternative Site Analysis Project Development and Environment (PD&E) Study

I-4 Corridor in Osceola, Orange, Seminole, and Volusia Counties, Florida

Final Project Traffic Analysis Report (PTAR)

FDOT Office
District Five

Authors
Vanasse Hangen Brustlin, Inc.

Date of Publication
September 2022

Financial Management No. 447724-1-22-01

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

Project Traffic Analysis Report (PTAR)

Florida Department of Transportation

District 5

Truck and Freight Alternative Site Analysis Project

Development and Environment (PD&E) Study

Limits of Project: I-4 Corridor

Osceola, Orange, Seminole, and Volusia Counties, Florida

Financial Management Number: 447724-1-22-01

ETDM Number: NA

Date: September 12, 2022

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Authorized Signature

Print/Type Name

Title

Address

Address

Seal

Quality Control Review

**Project Name: Truck and Freight Alternative Site Analysis Project
Development and Environment (PD&E) Study**

Report Name: Project Traffic Analysis Report (PTAR): 1st Draft – June 2022

Project #: 63640.05

	Initials	Date
ORIGINATOR (DOCUMENT PREPARER): Ready for QC (QC STAMP)	<i>SK/PR</i>	<i>06/02/2022</i>
QC Document Reviewer: Review Document	<i>BA</i>	<i>06/28/2022</i>
ORIGINATOR (DOCUMENT PREPARER): Address Comments	<i>SK/PR</i>	<i>06/29/2022</i>
QC Document Reviewer: verify changes	<i>RP</i>	<i>06/29/2022</i>
QA Reviewer: Assure quality	<i>SK</i>	<i>06/29/2022</i>
QUALITY MANAGER: Verify QC is complete	<i>BA</i>	<i>06/30/2022</i>
PROJECT MANAGER: Sign QC Certificate	<i>KF</i>	<i>06/30/2022</i>

Quality Control Review

**Project Name: Truck and Freight Alternative Site Analysis Project
Development and Environment (PD&E) Study**

Report Name: Project Traffic Analysis Report (PTAR): 2nd Draft - August 2022

Project #: 63640.05

	Initials	Date
ORIGINATOR (DOCUMENT PREPARER): Ready for QC (QC STAMP)	<i>SK/PR</i>	<i>08/15/2022</i>
QC Document Reviewer: Review Document	<i>BA</i>	<i>08/16/2022</i>
ORIGINATOR (DOCUMENT PREPARER): Address Comments	<i>SK/PR</i>	<i>08/17/2022</i>
QC Document Reviewer: verify changes	<i>RP</i>	<i>08/18/2022</i>
QA Reviewer: Assure quality	<i>SK</i>	<i>08/18/2022</i>
QUALITY MANAGER: Verify QC is complete	<i>BA</i>	<i>08/19/2022</i>
PROJECT MANAGER: Sign QC Certificate	<i>KF</i>	<i>08/19/2022</i>

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
PROJECT TRAFFIC ASSUMPTION FORM

650-050-39
 ENVIRONMENTAL
 MANAGEMENT
 06/17

Traffic forecast for the project was developed using:	
Travel Demand Model	Growth Rates
Type of Travel Demand Model Used: <input checked="" type="checkbox"/> Metropolitan Planning Model <input type="checkbox"/> Other Model (<i>specify</i>) <u>Central Florida Regional Planning Model Version 7 (CFRPM 7)</u>	Most of the future forecasts are from relevant previous reports, but any growth rates used are discussed in the PTAR
Is the travel demand model based on the latest adopted Long Range Transportation Plan?	
<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
<u>2021</u> Date when MPO adopted the latest Long Range Transportation Plan	Explain why
<u>2015</u> Base Year of Travel Demand Model	
<u>2045</u> Horizon Year of Travel Demand Model	
Long Range Transportation Plan documentation is available at (provide web address): _____	
Traffic Data and Factors	
Standard K = <u>9%</u> D Factor = <u>See PTAR</u> T _{Daily} = <u>See PTAR</u>	Data Collection Year = <u>2022</u> Opening Year = <u>2025</u> Interim Year = <u>Not Used</u> Design Year = <u>2045</u>
Discuss any changes in land use, economics, population and employment data since the model was built.	
Traffic Analysis Assumptions	
Discuss study area, data calibration/validation parameters, analysis tools, analysis periods and MOEs. Synchro 11 software was used to perform operational analysis. Existing and future intersection LOS results are based on Synchro for signals and HCM 6 th Edition methodology for stop-controlled intersections. HCS analysis was conducted for the freeway facility for the Volusia County Site. Intersection delays and LOS was used for intersections. Density and LOS are reported for the freeway facility.	

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1 Introduction

The trucking industry is indispensable to the American economy. Apart from many other roles and responsibilities, trucker drivers are responsible for delivering raw materials to where they will be manufactured and finished products to where they will be sold. Businesses both big and small depend on truck drivers to safely transport their items across the nation, while maintaining efficient delivery times. According to Trucker Path, 40% of truck drivers spend over an hour searching for a place to park. This equates to a \$5.1B loss in revenue annually, including wasted fuel, time lost, maintenance, and associated crashes.

Florida has experienced tremendous growth in people and goods over the last few decades and continued growth is expected. In 2018, FDOT conducted a statewide truck parking study to assess existing truck parking and future demand. The study found the Interstate 4 (I-4) corridor is the most critical corridor in the state, specifically between the Osceola/Polk County Line and Interstate 95, also known as I-95. Based on that study, the I-4 corridor within FDOT District 5 was found to need 481 truck parking spaces today, however, there are currently only 36 truck parking spaces available throughout the corridor and are located at the Longwood Truck Parking facility. The demand is anticipated to grow with the continued growth of population and as more facilities like the Amazon Fulfillment Center in Volusia County, the Northport Industrial Park in Seminole County, the Infinity Park in Orange County, and JELD-WEN (jelled-when) in Osceola County continue to be developed to better serve the region's population. Future parking demand is projected to grow to 750 spaces by 2025 and 883 spaces by 2040. This is why the region must work together to support our trucking industry and find ways to contribute to a solution.

This Project Development and Environment (PD&E) study is being conducted to evaluate freight parking sites along Interstate 4 (I-4) within Orange, Osceola, Seminole, and Volusia Counties. Preliminary alternatives screening for the PD&E Study focused on the critical Interstate 4 (I-4) urban freight corridor within Osceola, Orange, Seminole, and Volusia Counties. The study limits extend from Osceola County north to Volusia County encompassing a 75-mile-long project study area.

The study area for alternatives screening was approximately one mile from I-4 within the four counties. The study area was expanded to evaluate heavily industrialized areas approximately three to five miles from the I-4 corridor based on public and agency feedback. Initial study evaluations focused on alternatives screening to identify alternatives that met the purpose and need for the project. Initial alternatives were further screened to identify viable alternatives that minimized environmental and community impacts while addressing the purpose and need. As a result of the PD&E Study evaluations, the project involves six preferred truck parking site locations within the four-county area. The goal of the study was to identify at least one truck parking facility within each county to serve regional freight demand in Central Florida and balance the parking available throughout the I-4 corridor. The Preferred Alternative provides a total of approximately 1134 truck parking spaces to accommodate existing and future needs. One proposed site was identified in Osceola County (234 spaces), Seminole County (156 spaces) and Volusia County (528 spaces) and three proposed sites within Orange County (total of 216 spaces). All the sites are located within unincorporated areas except for the Volusia County site which is located within the City of Port Orange (I-4 eastbound) and the City of Daytona Beach (I-4 westbound).

1.1 Project Purpose and Need

1.1.1 Purpose

The purpose of the project is to provide needed truck parking facilities to serve regional freight parking demand within the I-4 corridor in the metropolitan area Osceola, Orange, Seminole, and Volusia Counties to address safety and mobility.

1.1.2 Need

The need for the project is to address existing truck parking deficiencies and accommodate future truck parking demand to better serve freight mobility and improve safety. The primary goal of the PD&E Study is to develop and evaluate viable truck parking sites to meet the future 2040 parking demand of 883 designated parking spaces.

Additional truck parking capacity was proposed to allow design flexibility for site design and to accommodate rapid freight growth in Central Florida. Without the appropriate freight parking facilities, drivers may be forced to spend unnecessary time searching for available parking, or they may be required to park in unsafe and/or improper locations due to unforeseen circumstances such as weather, congestion, and other traffic incidents.

1.2 Alternatives Analysis Summary

As part of the Freight Parking PD&E Study, more than 77,000 parcels were examined for their potential viability as freight parking sites for trucks traveling along I-4 within Osceola, Orange, Seminole, and Volusia counties. The methodology used criteria such as land use, zoning, parcel size, proximity to I-4, and access for identifying, analyzing, and refining down to potential sites. Based on the Freight Parking PD&E methodology, eleven (11) potential sites were identified for further review, analysis, and refinement.

After stakeholder/ public engagement and analysis of our evaluation matrix, six (6) of the eleven (11) potential sites were determined to be viable freight parking sites. These Preferred Alternatives are discussed in Section 1.3.

1.3 Preferred Alternatives

As mentioned above, six (6) preferred freight parking sites were identified - Site 1 within Osceola County, Sites 1, 2, 4 within Orange County, Site 1B within Seminole County, and Site 1 within Volusia County. The following sections describe the analysis conducted for each of these six (6) sites. All preferred sites will provide at a minimum, restroom facilities, vending, lighting, 24-hour security, landscaping buffer around the site, electrification to reduce the need to idle, and solar power for site amenities.

1.4 Report Purpose

As part of the Project Traffic Analysis Report (PTAR) completed for this PD&E Study, the objective is to evaluate operational and safety needs for the existing and future transportation demand near

the preferred parking sites. The goal of the traffic analysis is to evaluate the impacts of the trucks (generated by the potential truck parking sites), identify potential mitigation strategies (if needed) at the nearby study intersections, and provide the required turn lane lengths at the potential truck parking sites. This PTAR includes an existing operational analysis, five-year historical crash data review, future operational analysis for the opening year 2025 and the design year 2045, and the Highway Safety Manual (HSM) safety analysis for No Build and Build Conditions. The methodology used for the development of this PTAR is based on the Traffic Analysis Methodology (TAM) document approved in May 2022. A copy of this methodology document is included in **Appendix A**.

The PTAR is divided into six sections (one for each preferred site). Each section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis. This document is revised based on the comments received on the draft report, dated June 2022. The study area along with the preferred site locations are illustrated in **Figure 1**.

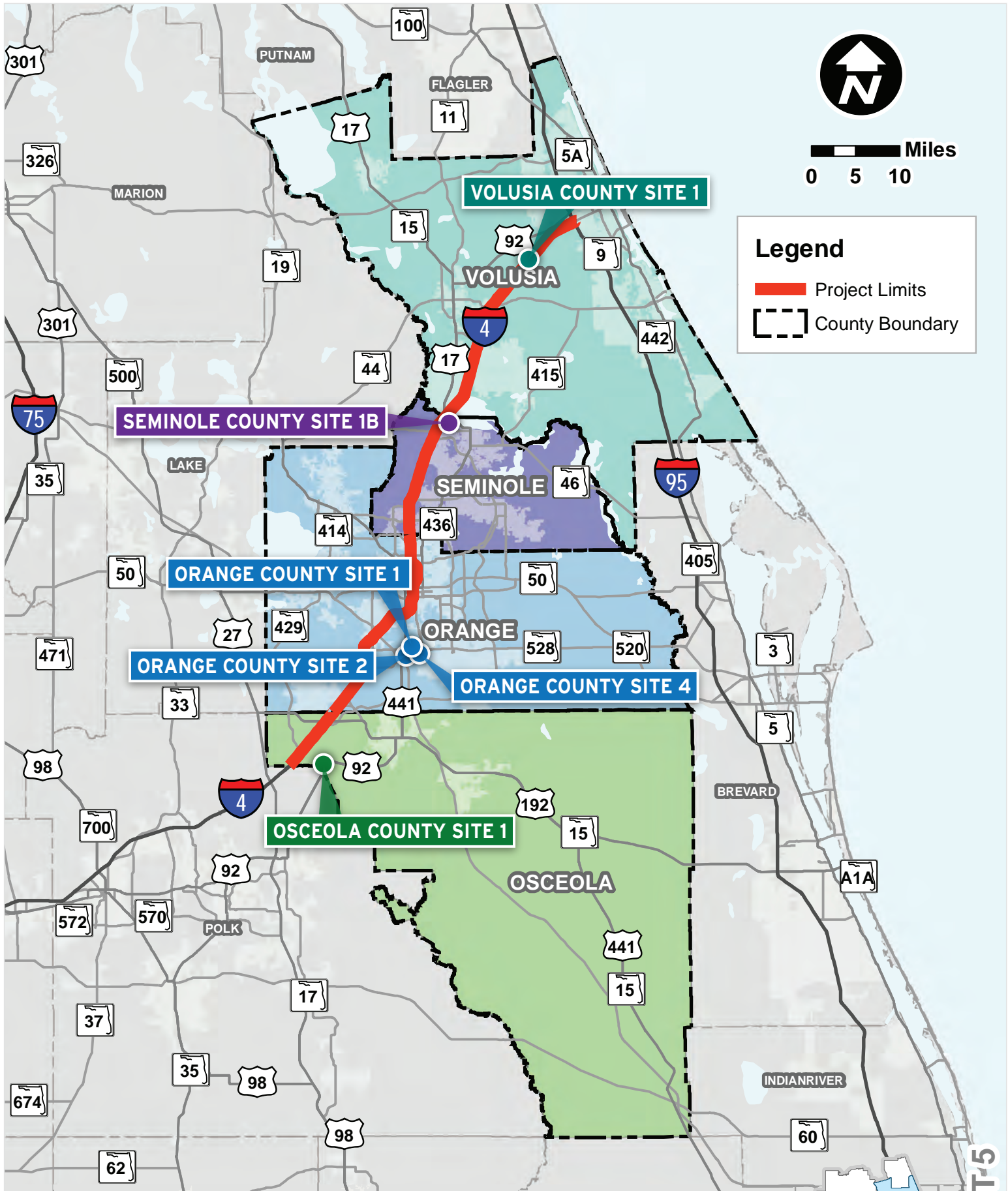
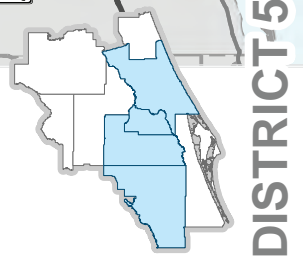


Figure-1
Project Location



2 Osceola County Site 1

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for the Osceola County site. Osceola County Site 1 is located approximately 3.87 miles east of the I-4 interchange along the south side of Osceola-Polk Line Road (CR 532). The proposed site is immediately east of the planned Poinciana Parkway Extension (PPE), which is currently in the design phase. The site is planned to be developed around a proposed pond for the PPE. There is a gas easement located on the western side of the site and it will be maintained. One full-access entrance to CR 532 is anticipated for the site. The proposed site will be approximately 40.1 acres, supplying 234 truck parking spaces. This site is illustrated in **Figure 2**.

Figure 2: Osceola County Site 1



2.1 Existing Analysis

For this site, the following data was collected:

- Turning Movement Counts (TMC) were collected for the existing study intersections listed in **Table 1** for AM (7-9 AM) and PM (4-6 PM) peak periods on May 4, 2022. The TMC was collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session (provided in **Appendix B-1**).
- Freight movement data or the number of trucks was extracted from the field-collected TMCs.
- 1/1/2015 – 12/31/2019 Crash data is extracted from Signal Four analytics.

Table 1: Existing and Future Study Intersections - Osceola County Site 1

County	Site#	Location	Study Intersection	Existing/ Future
Osceola	1	South of CR 532 and west of US 17-92	1-CR 532 at US 17-92	Existing/Future
			2-CR 532 at Potential Truck Stop	Future
			3-CR 532 at PPE Off-Ramp	Future

Note: PPE – Poinciana Parkway Extension

2.1.1 Year 2022 Intersection LOS Analysis

As mentioned in the approved TAM, Synchro 11 was used to perform the LOS operational analyses at the study intersection. The year 2022 AM and PM peak hour turning movement volumes (**Figure 3**) along with existing intersection geometry and signal timings provided by Osceola County were used in the intersection LOS analysis. The study intersection, CR 532 at US 17-92 was observed to operate at LOS C for both AM and PM peak hours. The AM and PM synchro outputs are included in **Appendix B-2**.

Table 2: Existing Intersections LOS Analysis - Osceola County Site 1

Study Intersection	2022 Conditions			
	AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS
1-CR 532 at US 17-92	23.0	C	28.6	C



Study Intersection



Traffic Movement

AM (PM)

Peak Hour Traffic Volumes



Figure 3

Existing Turning Movement Counts
Osceola County Site 1

2.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study intersection was extracted from the Signal Four Analytics. Based on the crash data obtained, a total of 64 crashes occurred within the last five years. The crash data for the CR 532 segment from Sandy Ridge Road to US 17-92 was also extracted and a total of 72 crashes occurred within the last five years. Raw crash data is included in **Appendix B-3**.

Intersection Crashes: As shown in **Table 3A**, Rear End crashes accounted for most crashes (42.2% of total) followed by Left Turn crashes (25.0% of total), Sideswipe crashes (10.9% of total), and Off-road crashes (10.9% of total). 34 of the reported crashes involved injury, zero involved fatalities, and 30 involved property damage only. There were no Pedestrian and Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for 21 crashes or 32.8% of crashes. Similarly, wet pavement conditions accounted for 7 crashes or 10.9% of crashes.

Segment Crashes: As shown in **Table 3B**, Rear End crashes accounted for most crashes (62.5% of total) followed by Sideswipe, Left Turn, and Off-road crashes (5.6% of total each). 25 of the reported crashes involved injury, one involved a fatality, and 46 involved property damage only. There was one Bike crash reported for this segment. Dark-not lighted condition crashes accounted for 14 crashes or 19.4% of crashes. Similarly, wet pavement conditions accounted for 18 crashes or 25.0% of crashes.

Table 3A: Crash Summary – CR 532 at US 17-92

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	5	5	2	5	10	27	42.2%
Head On	0	1	1	0	0	2	3.1%
Sideswipe	1	1	0	3	2	7	10.9%
Angle	0	0	0	2	0	2	3.1%
Left Turn	1	5	1	4	5	16	25.0%
Right Turn	0	0	0	0	1	1	1.6%
Off Road	1	1	1	1	3	7	10.9%
Animal	0	0	0	1	0	1	1.6%
Other	0	1	0	0	0	1	1.6%
Total	8	14	5	16	21	64	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	6	5	2	9	12	34	53.1%
Property Damage Only	2	9	3	7	9	30	46.9%
Total	8	14	5	16	21	64	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	5	0	1	1	7	10.9%
Dry	8	9	5	15	20	57	89.1%
Total	8	14	5	16	21	64	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	6	5	8	15	38	59.4%
Dusk	1	2	0	1	0	4	6.3%
Dawn	0	1	0	0	0	1	1.6%
Dark	3	5	0	7	6	21	32.8%
Total	8	14	5	16	21	64	100.0%

Table 3B: Crash Summary – CR 532 from Sandy Ridge Road to US 17-92

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	10	2	14	8	10	44	61.1%
Head On	0	0	0	0	1	1	1.4%
Sideswipe	0	0	1	1	2	4	5.6%
Rollover	2	0	0	0	0	2	2.8%
Left Turn	0	0	2	1	1	4	5.6%
Off Road	2	0	0	2	0	4	5.6%
Pedestrian & Bicycle	1	0	0	0	0	1	1.4%
Animal	0	0	0	1	1	2	2.8%
Other	4	2	1	2	1	10	13.9%
Total	19	4	18	15	16	72	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	1	1	1.4%
Injury	9	1	5	6	4	25	34.7%
Property Damage Only	10	3	13	9	11	46	63.9%
Total	19	4	18	15	16	72	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	1	3	8	6	18	25.0%
Dry	16	3	15	7	10	51	70.8%
Slippery	3	0	0	0	0	3	4.2%
Total	19	4	18	15	16	72	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	9	3	16	12	11	51	70.8%
Dusk	1	0	0	1	1	3	4.2%
Dawn	3	0	0	1	0	4	5.6%
Dark	6	1	2	1	4	14	19.4%
Total	19	4	18	15	16	72	100.0%

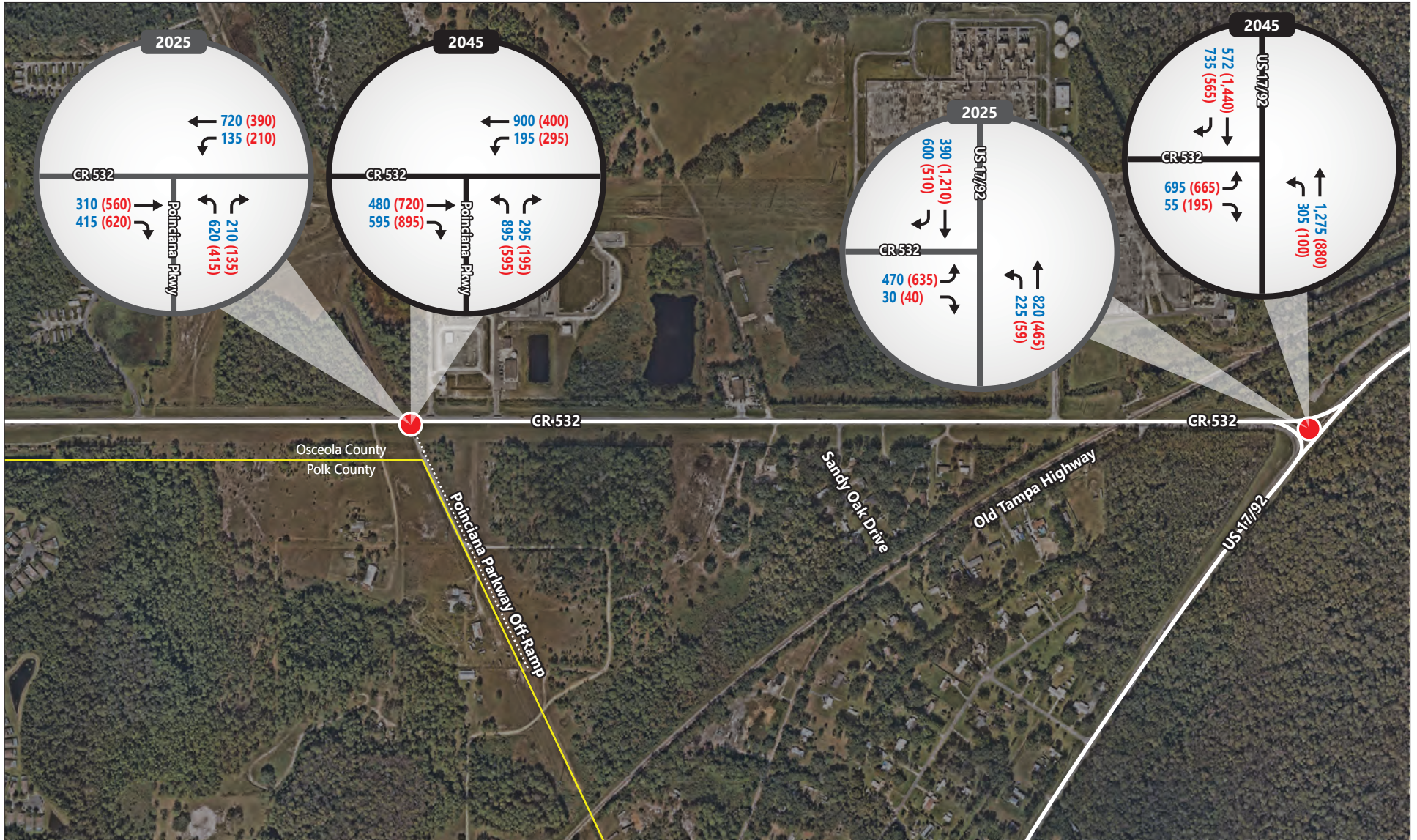
2.2 Future Volume Development

As mentioned in the TAM, future traffic forecasts from the previous study - Osceola-Polk Line Road (CR 532) Widening Design Traffic Analysis, dated November 2020 were used. For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. The future geometry for the study intersections CR 532 at US 17-92 and CR 532 at PPE Off-Ramp were obtained from the above-mentioned report. The recommended daily truck factors for CR 532 (11%) and PPE (4%) from the above-mentioned report were used in this study. Based on the latest FDOT's Project Traffic Forecasting Handbook (2019 PTFH) guidelines, half of the daily truck factors were used as the design hour truck factors.

No Build Volumes: The 2025 and 2045 Build AM and PM future volumes obtained from the above-mentioned Design Traffic Analysis report, provided in **Appendix B-4**, were considered as No Build volumes for this PTAR.

Build Volumes: As mentioned in the analysis methodology document, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the No Build volumes as project trips. The preliminary concept plan for this site is provided in **Appendix B-4**. To be conservative, the same number of truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for both No Build and Build conditions are shown in **Figures 4** and **5**. Future intersection geometry for the study intersections is depicted in **Figure 6**.



● Study Intersection

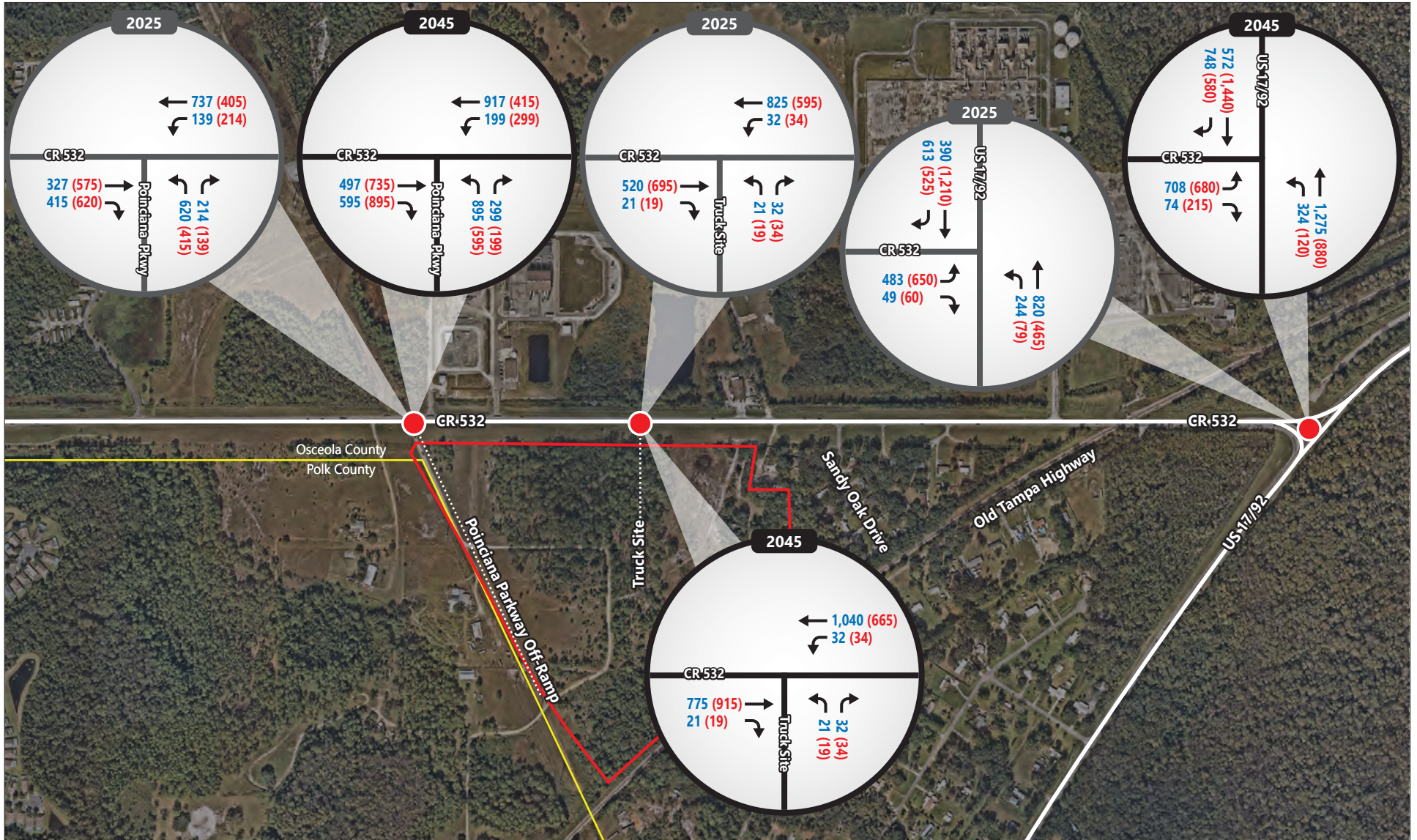
→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 4

Future No-Build Turning Movement Counts
Osceola County Site 1

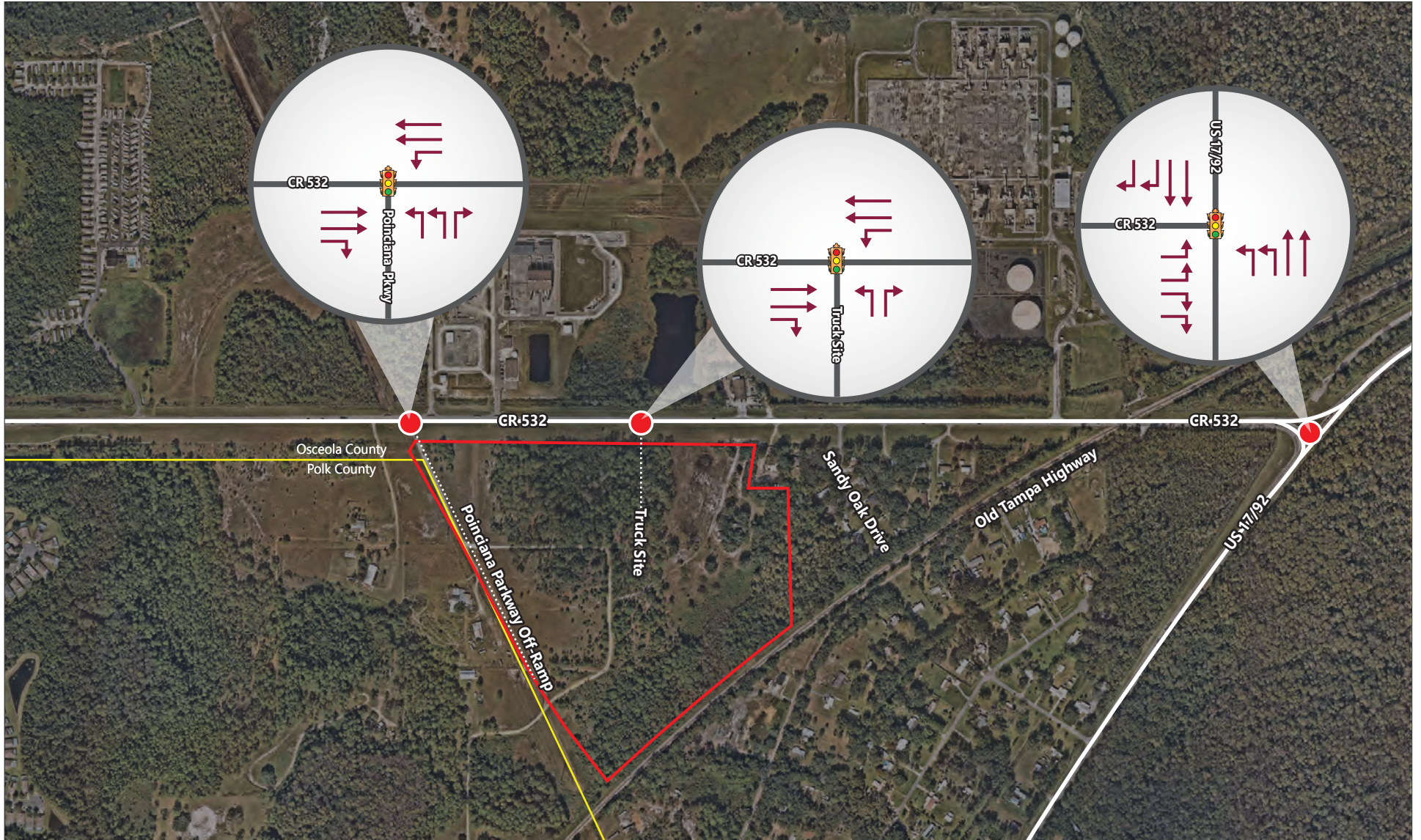


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 5

Future Build Turning Movement Counts
Osceola County Site 1



- Study Intersection
- Truck Site Location
- ➔ Future Lane Geometry



Figure 6
Future Build Geometry
Osceola County Site 1

2.3 Future Condition Analysis

2.3.1 No Build Intersection LOS Analysis

Table 4 shows the projected operations for the year 2025 and the year 2045. Both study intersections were projected to operate at LOS C or better through the design year 2045 No Build conditions. The No Build AM and PM synchro outputs are included in **Appendix B-5**.

Table 4: No Build Intersection LOS Analysis - Osceola County Site 1

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-CR 532 at US 17-92	22.7	C	22.2	C	28.0	C	24.5	C
3-CR 532 at PPE Off-Ramp	20.3	C	23.3	C	26.8	C	31.4	C

2.3.2 Build Intersection LOS Analysis

Table 5 shows the projected operations for the year 2025 and the year 2045. In the Build condition, the study intersections, CR 532 at US 17-92, and CR 532 at PPE Off-Ramp are projected to operate similar (LOS C) to No Build conditions with only a slight increase in overall intersection delays. A signal is recommended for the truck stop intersection on CR 532 because of the number of parking spaces, proximity to the proposed PPE Off-Ramp intersection, and future four-lane widening of CR 532. Also, with a stop-control at the proposed truck stop, the northbound left movement is expected to have high delays for the design year 2045. The Build AM and PM synchro outputs are included in **Appendix B-5**.

Table 5: Build Intersection LOS Analysis - Osceola County Site 1

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-CR 532 at US 17-92	22.8	C	24.1	C	28.4	C	25.1	C
2-CR 532 at Potential Truck Stop	5.7	A	4.6	A	5.8	A	7.1	A
3-CR 532 at PPE Off-Ramp	21.1	C	24.4	C	29.8	C	34.9	C

2.3.3 95th Queue Length Analysis

As mentioned in the approved TAM, the 95th percentile queues for the year 2045 at the study intersections were used to suggest required queue lengths. **Table 6** shows the recommended queue lengths for the 2045 conditions. . The actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 6: Recommended Queue Lengths for Turn Lanes - Osceola County Site 1

Intersections on CR 532	Turn Lane Queue Length (feet)							
	CR 532				Side Streets			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
1-CR 532 at US 17-92	425	100	-	-	225	600	775	175
2-CR 532 at Potential Truck Stop	-	100	100	-	100	100	-	-
3-CR 532 at PPE Off-Ramp	-	675	400	-	450	175	-	-

Note: A minimum queue length of 100 feet is assumed

2.4 Future Safety Analysis

An HSM safety analysis was conducted for the No Build and Build alternatives using predictive crash methods to quantify and compare the potential future crashes. The results of this analysis are presented in **Table 7**. The associated calculations and supporting documentation of this analysis are presented in **Appendix B-6**.

With the inclusion of truck site intersection in the Build alternative, the number of crashes in the year 2045 for the study corridor is expected to increase by 1 crash from roughly 11 to 12 crashes per year. As shown in **Table 7**, the difference in the number of crashes for the year 2045 between No Build and Build alternatives is anticipated to be not significant.

Table 7: Predicted Average Crash Frequency (Crashes/Year) for 2045 - Osceola County Site 1

Study Intersection	No Build	Build
1-CR 532 at US 17-92	5.9	6.0
2-CR 532 at Potential Truck Stop	-	1.3
3-CR 532 at PPE Off-Ramp	4.4	4.5
Total	10.4	11.8
Difference (Build minus No Build)	1.4	

3 Orange County Site 1

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for this Orange County site. Orange County Site 1 is located along Sand Lake Road approximately 2.90 miles east of I-4. The site is located immediately west of the limited-access facility - Florida's Turnpike (State Road 91). Right in - Right out access to John Young Parkway and to Sand Lake Road will be provided. The site is designed to stay out of the proposed Turnpike southbound interchange ramp and the existing flood plain compensation area on site. The proposed site is approximately 20.2 acres, accommodating 109 truck parking spaces (see **Figure 7**).

Figure 7: Orange County Site 1



3.1 Existing Analysis

For this site, the following data was collected:

- Turning Movement Counts (TMC) were collected for the existing study intersections listed in **Table 8** for AM (7-9 AM) and PM (4-6 PM) peak periods on May 4, 2022. The TMC was collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session (provided in **Appendix C-1**).

- Freight movement data or the number of trucks was extracted from the field-collected TMCs.
- 1/1/2015 – 12/31/2019 Crash data is extracted from Signal Four Analytics.

Table 8: Existing and Future Study Intersections - Orange County Site 1

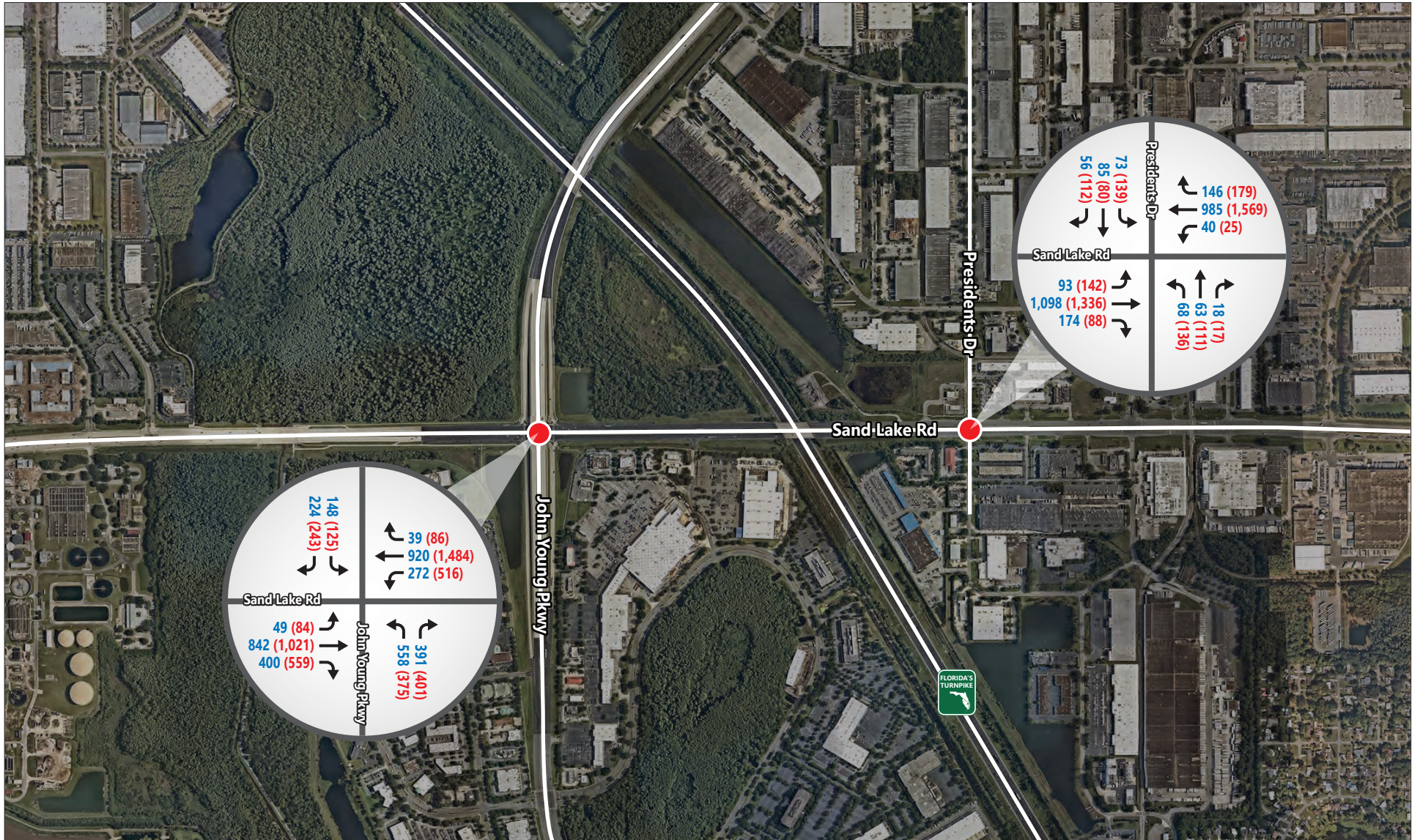
County	Site#	Location	Study Intersection	Existing/ Future
Orange	1	Northeast Quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by Florida's Turnpike	1-Sand Lake Road at John Young Parkway	Existing/Future
			2-Sand Lake Road at Potential Truck Stop	Future
			3-Sand Lake Road at Presidents Drive	Existing/Future
			4-Sand Lake Road at Turnpike SB Off-Ramp	Future
			5-Sand Lake Road at Turnpike NB Ramps	Future

3.1.1 Year 2022 Intersection LOS Analysis

As mentioned in the approved TAM, Synchro 11 was used to perform the LOS operational analyses at the study intersections. The year 2022 AM and PM peak hour turning movement volumes (**Figure 8**) along with existing intersection geometry and signal timings provided by Orange County were used in the intersection LOS analysis. As shown in **Table 9**, the study intersection, Sand Lake Road at John Young Parkway was observed to operate at LOS C in both AM and PM peak hours. Whereas, the study intersection, Sand Lake Road at Presidents Drive was observed to operate at LOS D and LOS E under AM and PM peak hours, respectively. The AM and PM Synchro outputs are included in **Appendix C-2**.

Table 9: Existing Intersections LOS Analysis - Orange County Site 1

Study Intersection	2022 Conditions			
	AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS
1-Sand Lake Road at John Young Parkway	33.0	C	34.6	C
3-Sand Lake Road at Presidents Drive	35.2	D	55.8	E



● Study Intersection

→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 8

Existing Turning Movement Counts
Orange County Site 1

3.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study intersections - Sand Lake Road at John Young Parkway and Sand Lake Road at Presidents Drive and study segment – Sand Lake Road from John Young Parkway to Presidents Drive was extracted from the Signal Four Analytics. Raw crash data is included in **Appendix C-3**.

Sand Lake Road at John Young Parkway Intersection Crashes: As shown in **Table 10A**, Rear End crashes accounted for most crashes (39.1% of total) followed by Left Turn crashes (24.5% of total), Sideswipe crashes (17.7% of total) and Angle crashes (8.1% of total). 241 of the reported crashes involved injury, one involved a fatality, and 453 involved property damage only. There were five Pedestrian and Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for 182 crashes or 26.2% of crashes. Wet pavement conditions accounted for 54 crashes or 7.8% of crashes. The most likely reason for the abrupt increase in crashes for 2018 and 2019 was the construction of the Single Point Urban Interchange (SPUI) (at this intersection) during this time. Based on a quick review of the data from Signal Four Analytics, the number of crashes has decreased in the years 2020 and 2021.

Sand Lake Road at Presidents Drive Intersection Crashes: As shown in **Table 10B**, Rear End crashes accounted for most crashes (53.2% of total) followed by Left Turn crashes (15.4% of total), and Sideswipe crashes (10.3% of total). 44 of the reported crashes involved injury, zero involved fatalities, and 112 involved property damage only. There were two Pedestrian and Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for 33 crashes or 21.2% of crashes. Wet pavement conditions accounted for 20 crashes or 12.8% of crashes.

Sand Lake Road from John Young parkway to Presidents Drive Segment Crashes: As shown in **Table 10C**, Rear End crashes accounted for most crashes (59.7% of total) followed by Sideswipe crashes (14.9% of total) and left turn crashes (6.0% of total). 14 of the reported crashes involved injury, zero involved fatalities, and 53 involved property damage only. There were no Pedestrian or Bike crashes reported for this segment. Dark-lighted condition crashes accounted for 14

crashes or 20.9% of crashes. Similarly, wet pavement conditions accounted for 10 crashes or 14.9% of crashes.

Table 10A: Crash Summary – Sand Lake Road at John Young Parkway

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	57	56	57	55	47	272	39.1%
Head On	1	0	0	0	1	2	0.3%
Sideswipe	11	22	26	36	28	123	17.7%
Angle	6	3	4	16	27	56	8.1%
Left Turn	5	5	4	84	72	170	24.5%
Right Turn	0	1	0	1	1	3	0.4%
Off Road	4	3	2	4	2	15	2.2%
Pedestrian & Bicycle	0	0	2	1	2	5	0.7%
Animal	0	0	0	1	0	1	0.1%
Other	9	7	8	11	13	48	6.9%
Total	93	97	103	209	193	695	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	1	0	1	0.1%
Injury	25	22	25	82	87	241	34.7%
Property Damage Only	68	75	78	126	106	453	65.2%
Total	93	97	103	209	193	695	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	12	3	7	22	10	54	7.8%
Dry	81	94	96	187	183	641	92.2%
Total	93	97	103	209	193	695	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	64	70	76	133	131	474	68.2%
Dusk	6	5	3	9	5	28	4.0%
Dawn	2	1	0	5	3	11	1.6%
Dark	21	21	24	62	54	182	26.2%
Total	93	97	103	209	193	695	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	2	0	2	5	0.7%
Drugs	0	0	1	1	0	2	0.3%
Total	1	0	3	1	2	7	1.0%

Table 10B: Crash Summary – Sand Lake Road at Presidents Drive

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	17	11	22	18	15	83	53.2%
Sideswipe	4	5	2	1	4	16	10.3%
Angle	1	2	1	2	2	8	5.1%
Left Turn	5	1	11	0	7	24	15.4%
Right Turn	2	1	1	2	0	6	3.8%
Off Road	0	2	0	1	0	3	1.9%
Pedestrian & Bicycle	0	0	1	0	1	2	1.3%
Other	4	2	2	1	5	14	9.0%
Total	33	24	40	25	34	156	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	8	4	13	8	11	44	28.2%
Property Damage Only	25	20	27	17	23	112	71.8%
Total	33	24	40	25	34	156	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	5	2	8	1	4	20	12.8%
Dry	28	22	32	24	30	136	87.2%
Total	33	24	40	25	34	156	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	23	12	28	18	28	109	69.9%
Dusk	2	4	2	3	2	13	8.3%
Dawn	0	1	0	0	0	1	0.6%
Dark	8	7	10	4	4	33	21.2%
Total	33	24	40	25	34	156	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	1	0	0	1	2	1.3%
Total	0	1	0	0	1	2	1.3%

Table 10C: Crash Summary – Sand Lake Road from John Young Parkway to Presidents Drive

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	2	10	11	12	5	40	59.7%
Sideswipe	0	3	3	1	3	10	14.9%
Angle	0	0	0	0	1	1	1.5%
Left Turn	0	0	0	0	4	4	6.0%
Right Turn	0	0	1	1	1	3	4.5%
Off Road	1	2	0	0	0	3	4.5%
Other	2	1	2	0	1	6	9.0%
Total	5	16	17	14	15	67	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	0	3	6	3	2	14	20.9%
Property Damage Only	5	13	11	11	13	53	79.1%
Total	5	16	17	14	15	67	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	2	4	2	1	10	14.9%
Dry	4	14	13	12	14	57	85.1%
Total	5	16	17	14	15	67	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	12	13	10	13	52	77.6%
Dusk	0	0	0	1	0	1	1.5%
Dark	1	4	4	3	2	14	20.9%
Total	5	16	17	14	15	67	100.0%

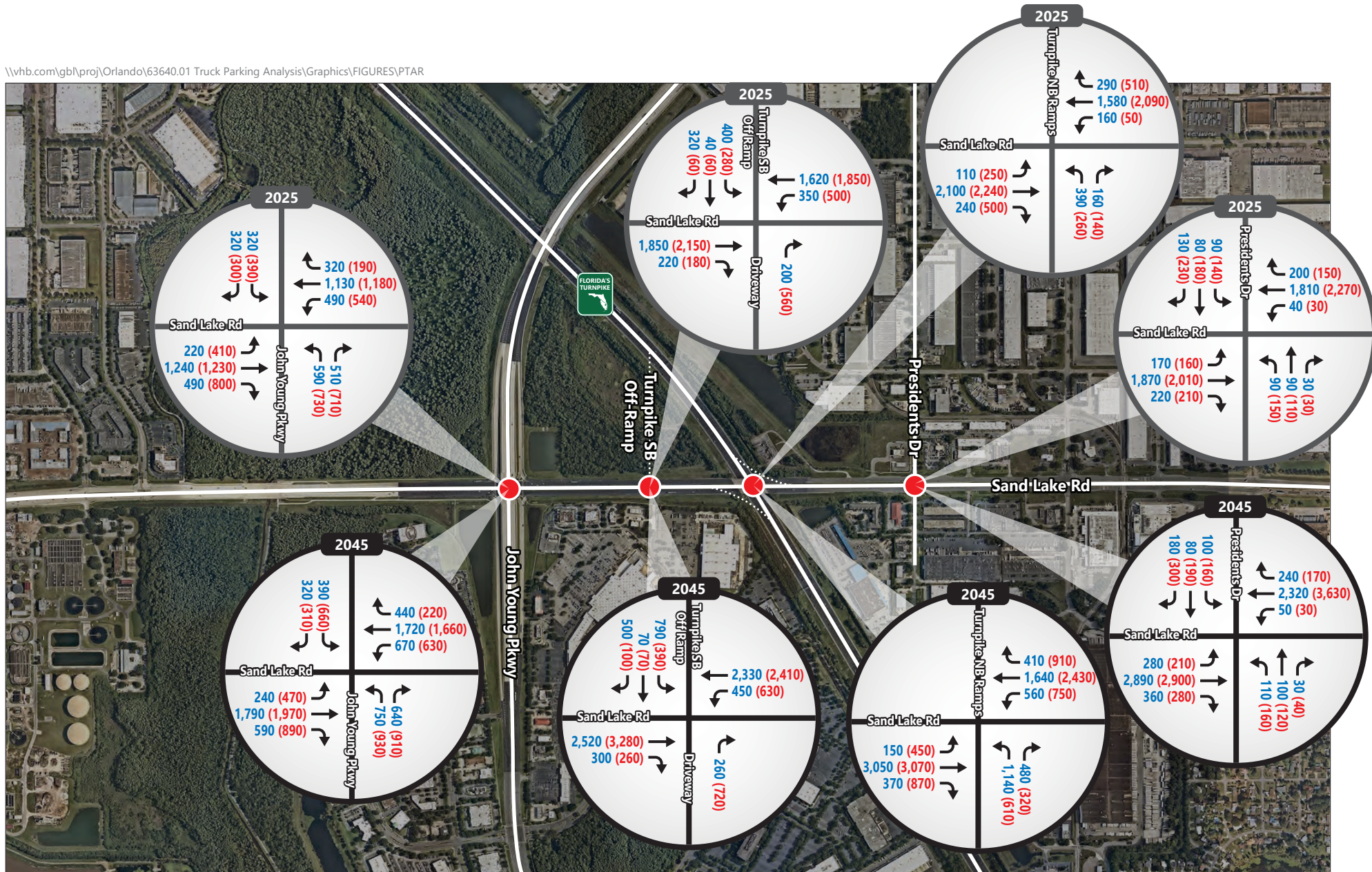
3.2 Future Volume Development

Future traffic forecasts (along with truck percentages) from the previous study - Orlando South Ultimate Interchange, Final System Interchange Justification Report (SIJR), dated March 2020 was used. For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. The future geometry for the study intersections along Sand Lake Road intersections was obtained from the above-mentioned report. The recommended daily and design hour truck factors for Sand Lake Road - 10% and 5%, respectively, and Florida's Turnpike - 16% and 8%, respectively from the SIJR were used in this study.

No Build Volumes: The 2025 and 2045 Build AM and PM future volumes obtained from the above-mentioned SIJR, provided in **Appendix C-4**, were considered as No Build volumes.

Build Volumes: As mentioned in the TAM, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the No Build volumes as project trips. The preliminary concept plan is provided in **Appendix C-4**. To be conservative, the same number of truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for both No Build and Build conditions are shown in **Figures 9** and **10**. Future intersection geometry for the study intersections is depicted in **Figure 11**.



- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes



Figure 9

Future No-Build Turning Movement Counts
Orange County Site 1

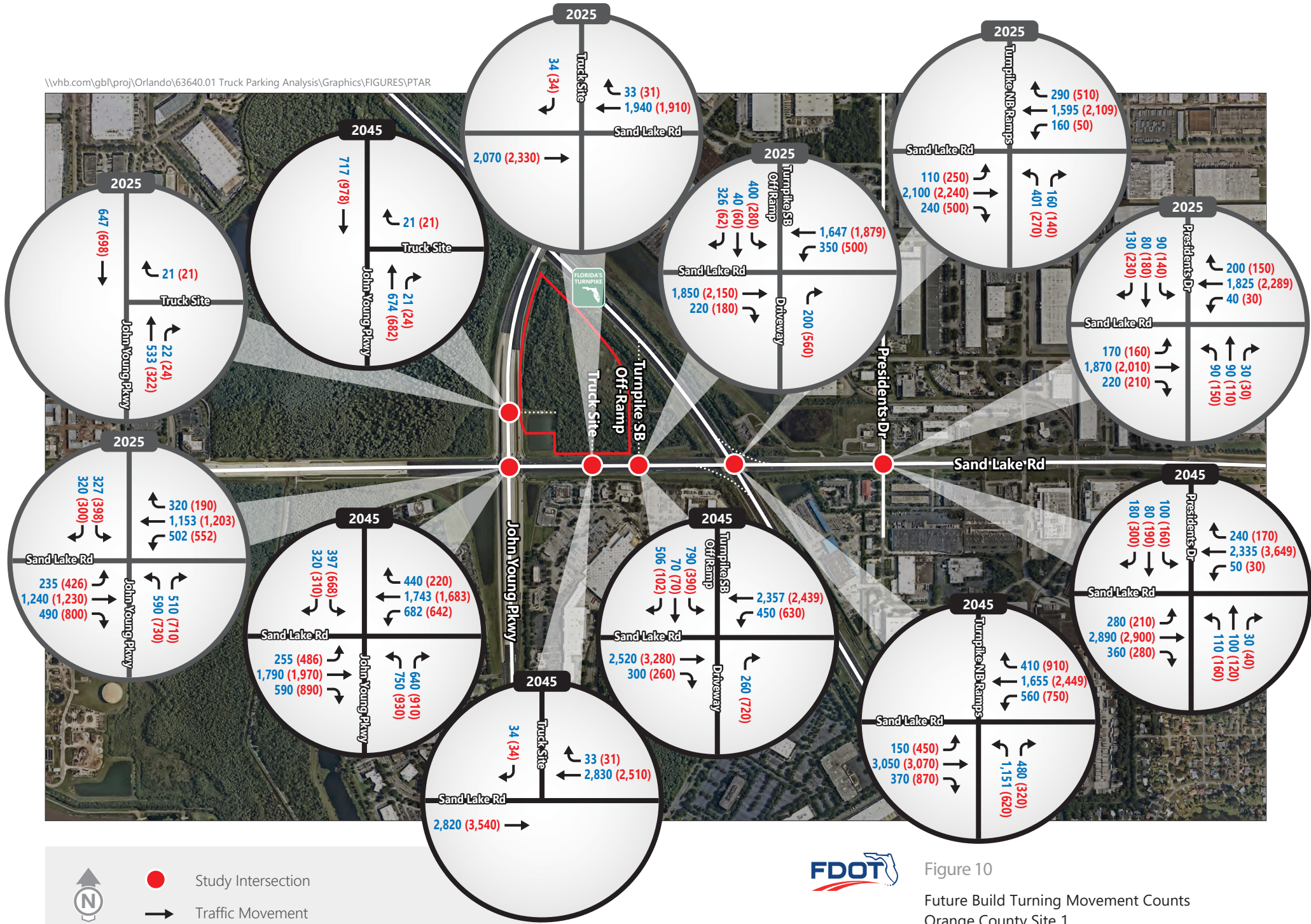


Figure 10

Future Build Turning Movement Counts
Orange County Site 1

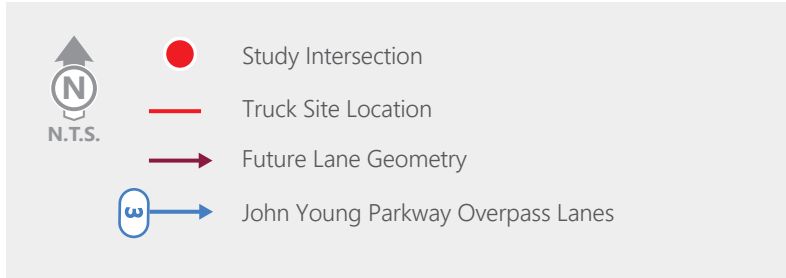
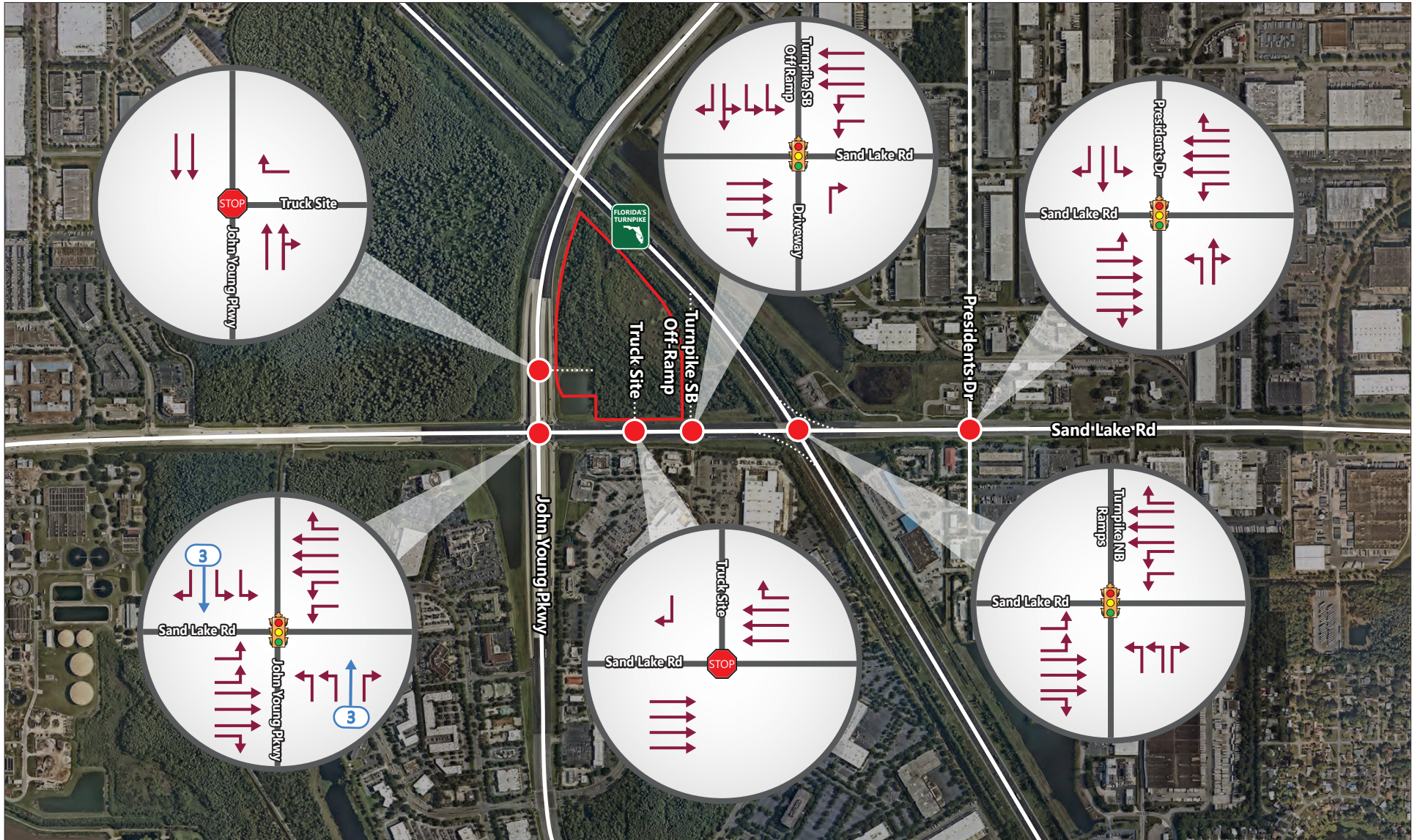


Figure 11
 Future Build Geometry
 Orange County Site 1

3.3 Future Condition Analysis

3.3.1 No Build Intersection LOS Analysis

Table 11 shows the projected operations for the year 2025 and the year 2045. It is observed that all the study intersections on Sand Lake Road are projected not to meet the target LOS D for the year 2045 No Build conditions. The No Build AM and PM synchro outputs are included in **Appendix C-5**.

Table 11: No Build Intersection LOS Analysis - Orange County Site 1

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-Sand Lake Road at John Young Parkway	45.3	D	56.3	E	53.0	D	82.3	F
3-Sand Lake Road at Presidents Drive	30.0	C	62.9	E	44.5	D	154.7	F
4-Sand Lake Road at Turnpike SB Off-Ramp	29.8	C	35.0	C	69.6	E	96.3	F
5-Sand Lake Road at Turnpike NB Ramps	21.0	C	15.5	B	134.9	F	81.4	F

3.3.2 Build Intersection LOS Analysis

Table 12 shows the projected operations for the year 2025 and the year 2045. It is to be noted that all the study intersections are projected to operate similar to the No Build conditions with only a slight increase in overall intersection delays, after introducing the potential truck stop intersection. The right-in right-out at Sand Lake Road and potential truck stop intersection is not expected to have significant movement delay for the southbound right movement by the year 2045.

The Build AM and PM synchro outputs are included in **Appendix C-5**.

Table 12: Build Intersection LOS Analysis - Orange County Site 1

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-Sand Lake Road at John Young Parkway	47.8	D	57.1	E	53.9	D	82.5	F
2-Sand Lake Road at Potential Truck Stop*	10.4/0.0	B/A	12.4/0.0	B/A	12.3/0.0	B/A	13.2/0.0	B/A
3-Sand Lake Road at Presidents Drive	35.4	D	64.0	E	46.0	D	155.2	F
4-Sand Lake Road at Turnpike SB Off-Ramp	32.9	C	37.2	D	72.0	E	96.5	F
5-Sand Lake Road at Turnpike NB Ramps	23.8	C	18.2	B	136.7	F	81.8	F
6-John Young Parkway at Potential Truck Stop*	12.8/0.0	B/A	11.3/0.0	B/A	14.1/0.0	B/A	14.2/0.0	B/A

Note: * Minor/major street worst delays are reported for the stop-control

3.3.3 95th Queue Length Analysis

As mentioned in the approved TAM, the 95th percentile queues for the year 2045 at the study intersections were used to suggest required queue lengths. **Table 13** shows the recommended queue lengths for the 2045 conditions. From the operational analysis results (intersection delays and 95th percentile queue lengths) combined with the short distance between signalized study intersections, possible heavy congestion is expected along Sand Lake Road by the year 2045. Moreover, some of the required queue lengths as shown here cannot be achieved in the field because of the short distance between study intersections. The actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 13: Recommended Queue Lengths for Turn Lanes - Orange County Site 1

Intersections on Sand Lake Road	Turn Lane Queue Length (feet)							
	Sand Lake Road				Side Streets			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
1-Sand Lake Road at John Young Parkway	450	100	575	100	925	1,625	550	350
2-Sand Lake Road at Potential Truck Stop	-	-	-	100	-	-	-	100
3-Sand Lake Road at Presidents Drive	425	-	150	150	500	-	450	350
4-Sand Lake Road at Turnpike SB Off-Ramp	-	150	450	-	-	1,525	475	1,025
5-Sand Lake Road at Turnpike NB Ramps	250	100	550	100	1,200	625	-	-

Note: A minimum queue length of 100 feet is assumed

3.4 Future Safety Analysis

An HSM Safety analysis was conducted for the No Build and Build alternatives using predictive crash methods to quantify and compare the potential future crashes. The results of this analysis are presented in **Table 14**. The associated calculations and supporting documentation of this analysis are presented in **Appendix C-6**.

- With the inclusion of truck site intersection in the Build alternative, the number of crashes in the year 2045 for the study corridor is expected to increase by 2 crashes from roughly 59 to 61 crashes per year. As shown in **Table 14**, the difference in the number of crashes for the year 2045 between No Build and Build alternatives is anticipated to be not significant.
- It should be noted both truck access driveways (on Sand Lake Road and on John Young Parkway On-Ramp) are right-in right-outs and may experience lower predicted crashes compared to what is shown in **Table 14**. The reason is that HSM safety methodology is not able to account for a right-in right-out stop-control intersections.

Table 14: Predicted Average Crash Frequency (Crashes/Year) for 2045 - Orange County Site 1

Study Intersection	No Build	Build
1-Sand Lake Road at John Young Parkway	12.1	12.2
2-Sand Lake Road at Potential Truck Stop	-	1.7
3-Sand Lake Road at Presidents Drive	12.0	12.0
4-Sand Lake Road at Turnpike SB Off-Ramp	18.3	18.3
5-Sand Lake Road at Turnpike NB Ramps	16.1	16.1
6-Truck Access on John Young Parkway On-Ramp	-	0.3
Total	58.5	60.6
Difference (Build minus No Build)	2.1	

4 Orange County Site 2

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for this Orange County site. Orange County Site 2 is located in a heavy industrial area along West Landstreet Road, adjacent to the State Road (SR) 528 interchange. The site is near several major freight corridors, including Florida's Turnpike, US 441, and SR 528. I-4 can be accessed via a nearby limited-access facility - Florida's Turnpike. Alternatively, I-4 can be accessed via Landstreet Road, US 441, and Sand Lake Road (approximately 5.50 miles). A full-access entrance to Landstreet Road is anticipated. The proposed site is approximately 6.8 acres, accommodating 59 truck parking spaces (see **Figure 12**).

Figure 12: Orange County Site 2



4.1 Existing Analysis

For this site, the following data was collected:

- Turning Movement Counts (TMC) were collected for the existing study intersections listed in **Table 15** for AM (7-9 AM) and PM (4-6 PM) peak periods on May 4th, 2022. The TMC was collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session (provided in **Appendix D-1**).
- Freight movement data or the number of trucks was extracted from the field-collected TMCs.
- 1/1/2015 – 12/31/2019 Crash data is extracted from Signal Four analytics.

Table 15: Existing and Future Study Intersections - Orange County Site 2

County	Site#	Location	Study Intersection	Existing/ Future
Orange	2	North of Landstreet Road, just west of the SR 528 interchange	1-Landstreet Road at SR 528 WB Off-Ramp	Existing
			2-Landstreet Road at US 441	Existing/Future
			3-Landstreet Road at Potential Truck Stop	Future
			4-Landstreet Road at SR 528 EB On-Ramp	Existing

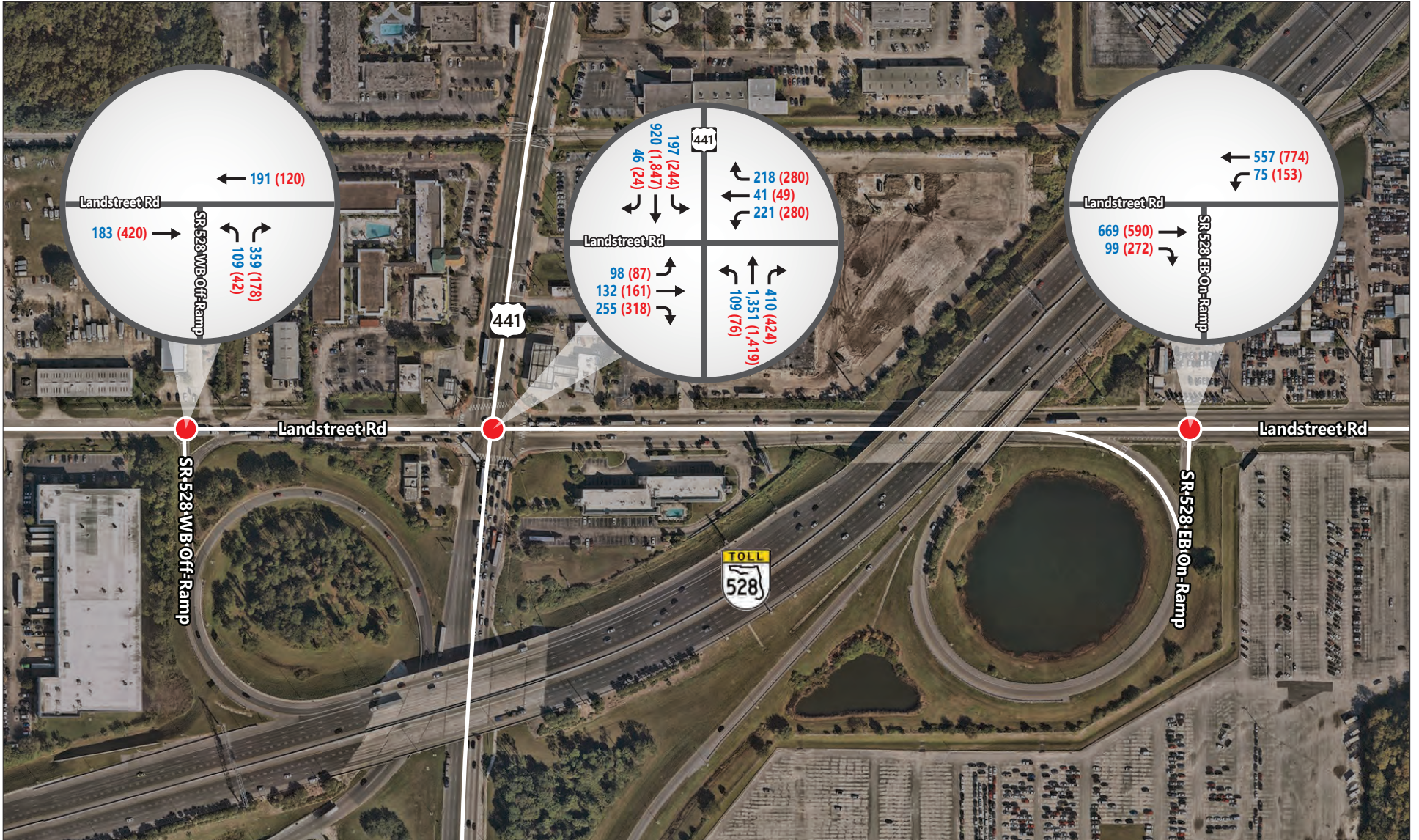
4.1.1 Year 2022 Intersection LOS Analysis

As mentioned in the approved TAM, Synchro 11 was used to perform the LOS operational analyses at the study intersections. The year 2022 AM and PM peak hour turning movement volumes (**Figure 13**) along with existing intersection geometry and signal timings provided by Orange County were used in the intersection LOS analysis. As shown in **Table 16**, the signalized intersection, Landstreet Road at US 441 was observed to operate at LOS E and LOS F in the AM and PM peak hours, respectively. Whereas the unsignalized intersection, Landstreet Road at SR 528 WB Off-Ramp was observed to operate at LOS B under both AM and PM peak hours. Since there is no traffic control at the intersection of Landstreet Road at SR 528 EB On-Ramp intersection and the westbound left movement is operated under yield conditions – no results are reported in Synchro. The AM and PM synchro outputs are included in **Appendix D-2**.

Table 16: Existing Intersections LOS Analysis - Orange County Site 2

Study Intersection	2022 Conditions			
	AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS
1-Landstreet Road at SR 528 WB Off-Ramp*	13.7/0.0	B/A	13.6/0.0	B/A
2-Landstreet Road at US 441	40.5	D	55.9	E

*Note: 1) * Minor/major street worst delays are reported for the stop-control; 2) Analysis results are not available for Landstreet Road and SR 528 EB On-Ramp because there is no stop control on the side street*



● Study Intersection

→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 13

Existing Turning Movement Counts
Orange County Site 2

4.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study intersections and study segment were extracted from the Signal Four Analytics. Raw crash data is included in **Appendix D-3**.

Landstreet Road at SR 528 WB Off-Ramp Intersection Crashes: As shown in **Table 17A**, Rear End crashes accounted for most crashes (33.3% of total) followed by Left Turn crashes (23.3% of total), and Sideswipe crashes (13.3% of total). Five of the reported crashes involved injury, zero involved fatalities, and 25 involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for six crashes or 20.0% of crashes. Wet pavement conditions accounted for three crashes or 10.0% of crashes.

Landstreet Road at US 441 Intersection Crashes: As shown in **Table 17B**, Rear End crashes accounted for most crashes (43.7% of total) followed by Sideswipe crashes (25.6% of total), and Left Turn crashes (7.7% of total). 77 of the reported crashes involved injury, zero involved fatalities, and 314 involved property damage only. There were six Pedestrian and Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for 65 crashes or 16.6% of crashes. Wet pavement conditions accounted for 25 crashes or 6.4% of crashes.

Landstreet Road at SR 528 EB-on ramp Intersection Crashes: As shown in **Table 17C**, Sideswipe crashes accounted for most crashes (66.7% of total) followed by Rear End crashes (16.7% of total). Three of the reported crashes involved injury, zero involved fatalities, and nine involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for two crashes or 16.7% of crashes. Wet pavement conditions accounted for zero crashes.

Landstreet Road from SR 528 WB Off-Ramp to SR 528 EB-on ramp Segment Crashes: As shown in **Table 17D**, Rear End crashes accounted for most crashes (35.9% of total) followed by Sideswipe crashes (23.1% of total) and Left Turn crashes (23.1% of total). Eight of the reported crashes involved injury, zero involved fatalities, and 31 involved property damage only. There were

no Pedestrian or Bike crashes reported for this segment. Dark-lighted condition crashes accounted for three crashes or 7.7% of crashes. Similarly, wet pavement conditions accounted for one crash or 2.6% of crashes.

Table 17A: Crash Summary – Landstreet Road at SR 528 WB-off ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	2	3	1	3	1	10	33.3%
Sideswipe	2	0	1	1	0	4	13.3%
Angle	1	0	0	0	0	1	3.3%
Left Turn	1	2	1	1	2	7	23.3%
Right Turn	0	0	0	0	1	1	3.3%
Off Road	2	0	0	1	0	3	10.0%
Other	1	1	2	0	0	4	13.3%
Total	9	6	5	6	4	30	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	1	1	1	0	2	5	16.7%
Property Damage Only	8	5	4	6	2	25	83.3%
Total	9	6	5	6	4	30	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	2	0	0	1	0	3	10.0%
Dry	7	6	5	5	4	27	90.0%
Total	9	6	5	6	4	30	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	7	4	3	5	4	23	76.7%
Dusk	1	0	0	0	0	1	3.3%
Dark	1	2	2	1	0	6	20.0%
Total	9	6	5	6	4	30	100.0%

Table 17B: Crash Summary – Landstreet Road at US 441

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	40	33	35	31	32	171	43.7%
Head On	1	0	0	1	0	2	0.5%
Sideswipe	21	14	19	15	31	100	25.6%
Angle	2	5	3	1	4	15	3.8%
Left Turn	8	6	8	5	3	30	7.7%
Right Turn	6	3	2	2	2	15	3.8%
Off Road	0	1	2	0	1	4	1.0%
Pedestrian & Bicycle	3	0	1	1	1	6	1.5%
Animal	1	0	0	0	0	1	0.3%
Other	11	9	5	10	12	47	12.0%
Total	93	71	75	66	86	391	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	17	14	16	13	17	77	19.7%
Property Damage Only	76	57	59	53	69	314	80.3%
Total	93	71	75	66	86	391	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	11	1	6	2	5	25	6.4%
Dry	82	70	69	64	81	366	93.6%
Total	93	71	75	66	86	391	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	75	56	56	58	69	314	80.3%
Dusk	0	1	4	2	3	10	2.6%
Dawn	0	1	1	0	0	2	0.5%
Dark	18	13	14	6	14	65	16.6%
Total	93	71	75	66	86	391	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	0	1	1	3	0.8%
Drugs	1	0	0	0	0	1	0.3%
Total	2	0	0	1	1	4	1.0%

Table 17C: Crash Summary – Landstreet Road at SR 528 EB On-Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	1	0	0	1	2	16.7%
Sideswipe	2	0	2	1	3	8	66.7%
Left Turn	0	0	1	0	0	1	8.3%
Off Road	1	0	0	0	0	1	8.3%
Total	3	1	3	1	4	12	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	0	0	0	1	2	3	25.0%
Property Damage Only	3	1	3	0	2	9	75.0%
Total	3	1	3	1	4	12	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Dry	3	1	3	1	4	12	100.0%
Total	3	1	3	1	4	12	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	1	3	1	3	10	83.3%
Dark	1	0	0	0	1	2	16.7%
Total	3	1	3	1	4	12	100.0%

Table 17D: Crash Summary – Landstreet Road from SR 528 WB-off ramp to SR 528 EB On-Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	3	3	2	2	4	14	35.9%
Sideswipe	0	4	2	1	2	9	23.1%
Left Turn	5	2	2	0	0	9	23.1%
Right Turn	4	0	0	1	0	5	12.8%
Other	1	0	0	1	0	2	5.1%
Total	13	9	6	5	6	39	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	2	1	1	2	2	8	20.5%
Property Damage Only	11	8	5	3	4	31	79.5%
Total	13	9	6	5	6	39	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	1	1	2.6%
Dry	13	9	6	5	5	38	97.4%
Total	13	9	6	5	6	39	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	12	8	5	5	4	34	87.2%
Dusk	1	1	0	0	0	2	5.1%
Dark	0	0	1	0	2	3	7.7%
Total	13	9	6	5	6	39	100.0%

4.2 Future Volume Development

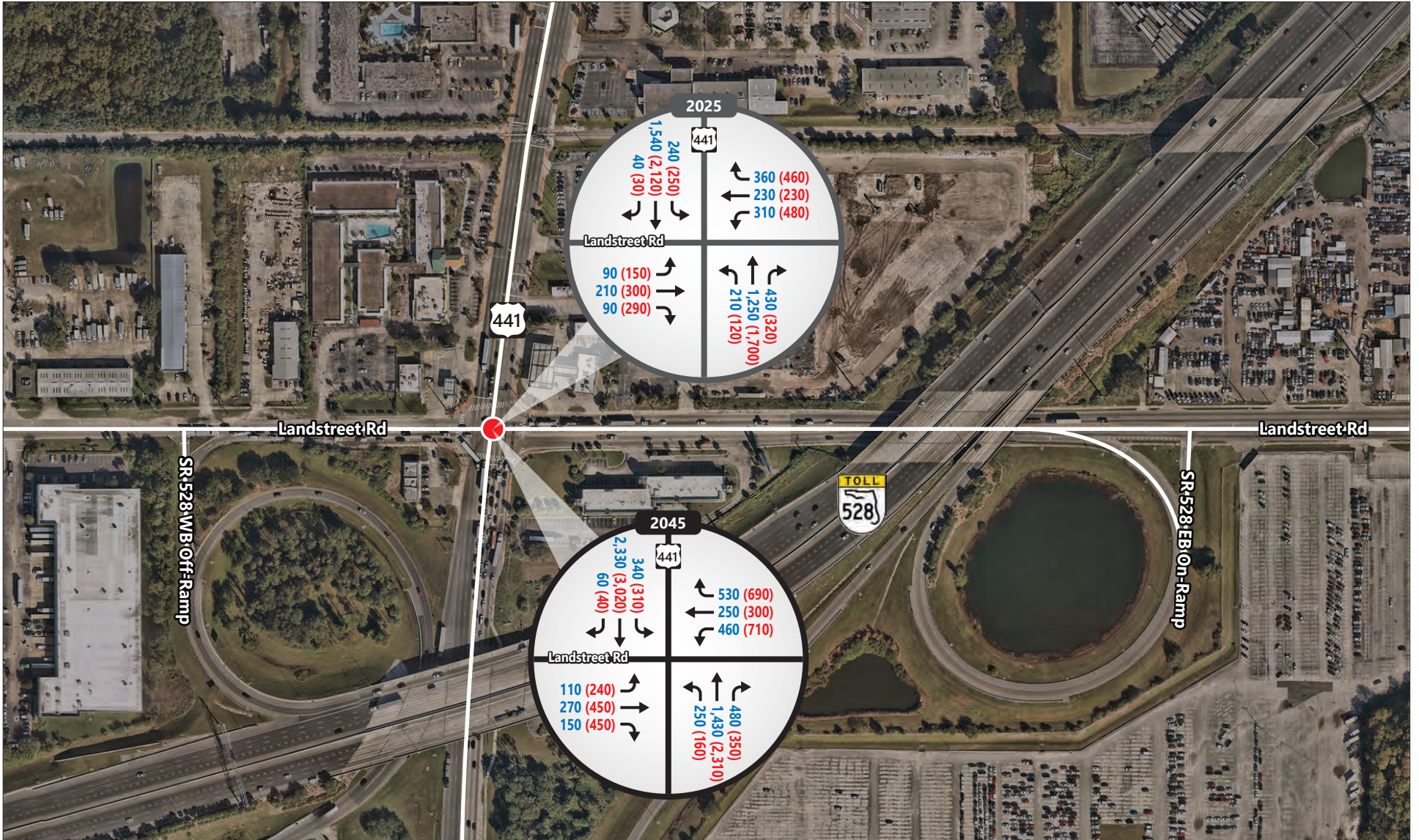
As mentioned in the analysis methodology document, future traffic forecasts (along with truck percentages) from the previous study - Orlando South Ultimate Interchange, Final System Interchange Justification Report (SIJR), dated March 2020 was used. For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. It should be noted that the existing SR 528 ramp intersections along Land Street Road will not exist in the future (source: SIJR). Because of these changes, a new reliever interchange is proposed at SR 528 and Voltaire Drive Extension, and this new extension will be extended to meet Land Street Road somewhere between the existing SR 528 EB On-Ramp and Parkers Landing/Winegard Road (source: SIJR).

The SIJR recommended daily and design truck factors for US 441 – 17% and 8%, respectively were used in this study. A daily truck percentage of 12% was used for Land Street Road based on the existing count data. A design truck factor of 6% (half of the daily factor) was used for Land Street Road based on guidance from the 2019 PTFH.

No Build Volumes: The 2025 and 2045 Build AM and PM future volumes obtained from the above-mentioned SIJR, provided in **Appendix D-4**, were considered as No Build volumes.

Build Volumes: As mentioned in the analysis methodology document, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the No Build volumes as project trips. The preliminary concept plan is provided in **Appendix D-4**. To be conservative, the same number of truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for both No Build and Build conditions are shown in **Figures 14** and **15**. Future intersection geometry for the study intersections is depicted in **Figure 16**.



● Study Intersection

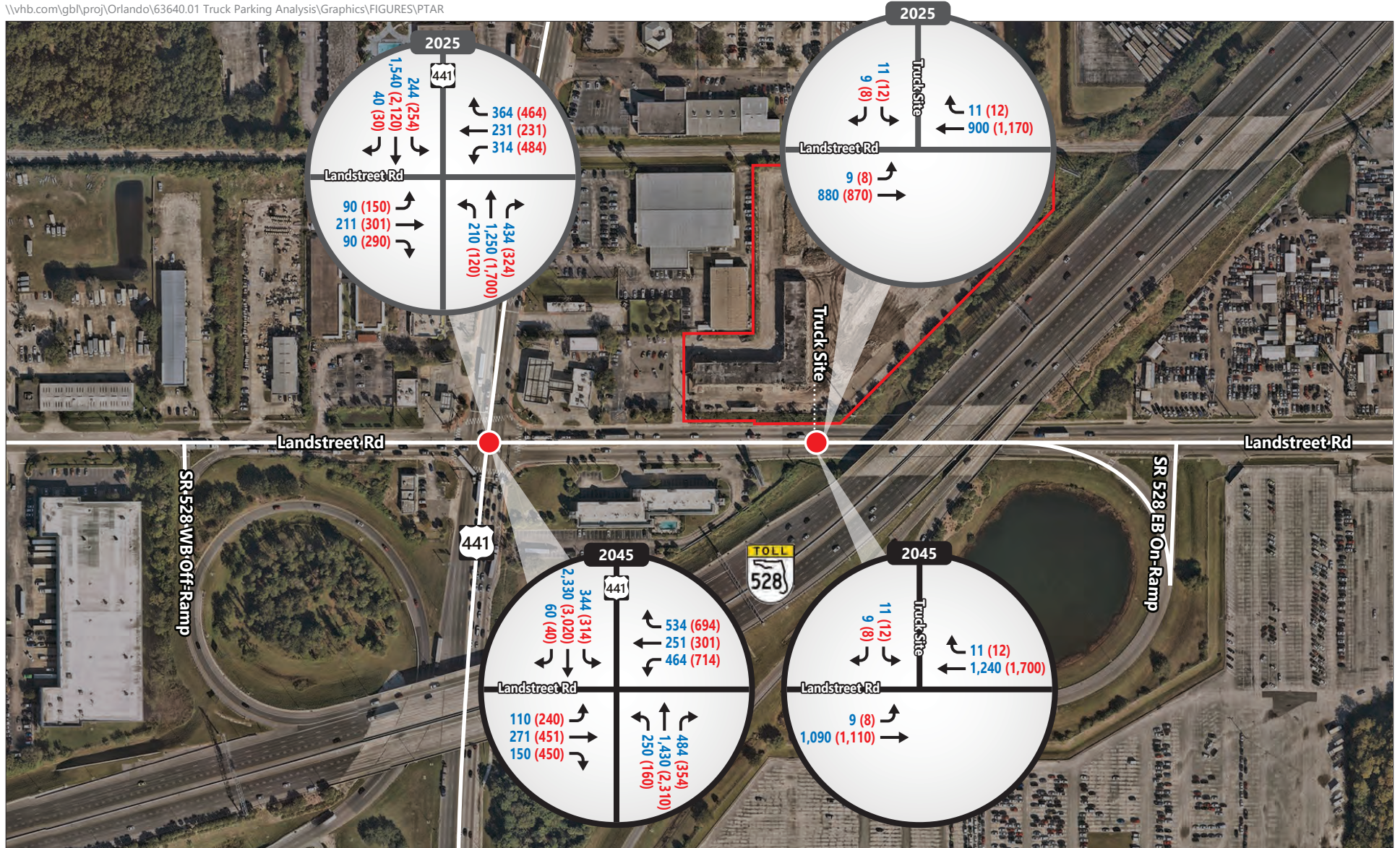
→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 14

Future No-Build Turning Movement Counts
Orange County Site 2

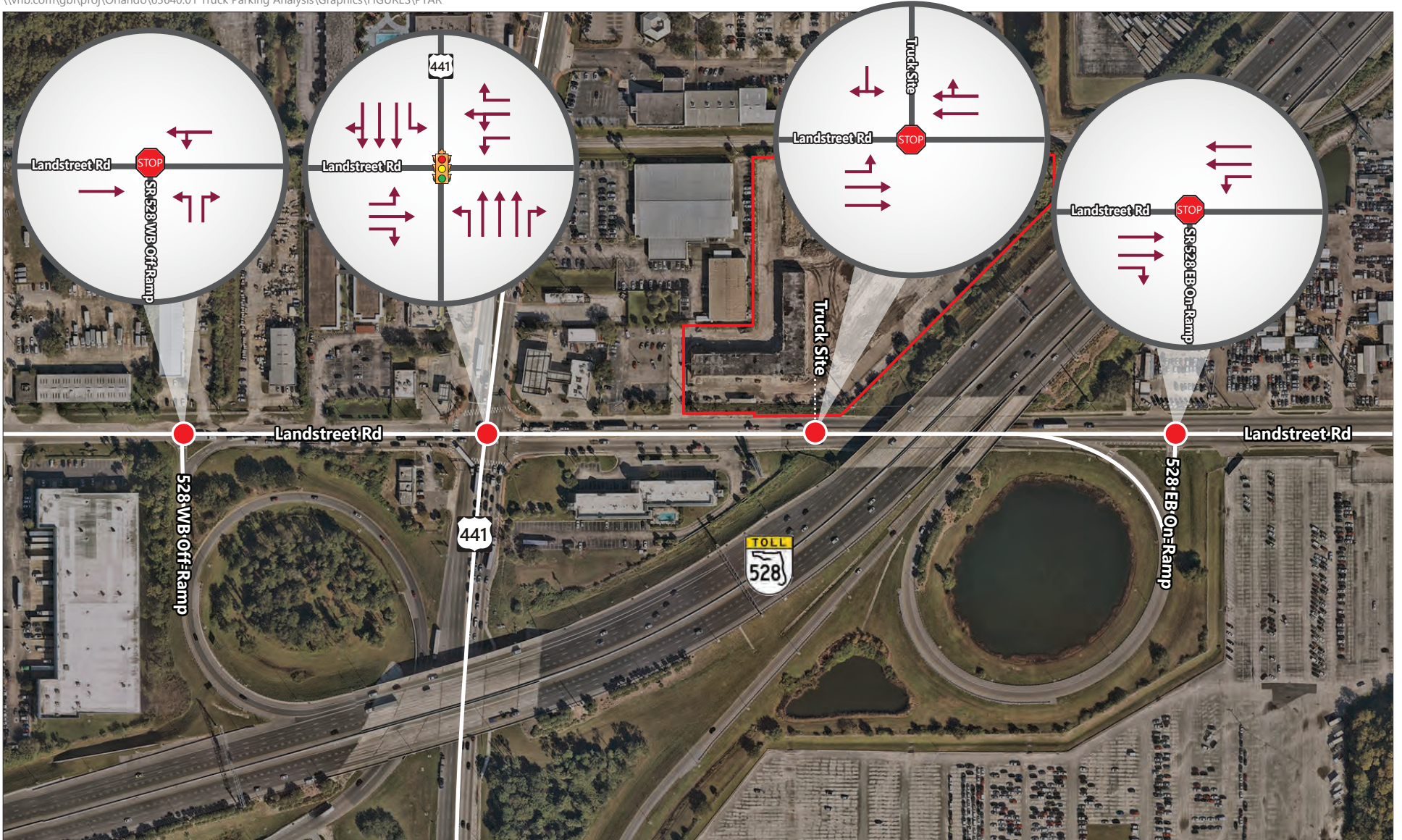


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 15

Future Build Turning Movement Counts
Orange County Site 2



- Study Intersection
- Truck Site Location
- ➔ Future Lane Geometry



Figure 16
Future Build Geometry
Orange County Site 2

4.3 Future Condition Analysis

4.3.1 No Build Intersection LOS Analysis

Table 18 shows the projected operations for the years 2025 and 2045. Landstreet Road at US 411 is projected to fail with LOS F in the design year 2045 No Build conditions. The minor street approach at Landstreet Road and SR 528 WB Off-Ramp is also projected to operate LOS F in the year 2045 No Build conditions. The No Build AM and PM synchro outputs are included in **Appendix D-5**.

Table 18: No Build Intersection LOS Analysis - Orange County Site 2

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
2-Landstreet Road at US 441	63.5	E	102.1	F	129.6	F	259.3	F

4.3.2 Build Intersection LOS Analysis

Table 19 shows the projected operations for the years 2025 and 2045. It is to be noted that all the study intersections are projected to operate similar to No Build conditions, with only a slight increase in intersection delays after introducing the potential truck stop intersection.

The stop control at Landstreet Road and the potential truck stop intersection is not expected to have significant movement delay for the southbound right movement by the year 2045. The Build AM and PM synchro outputs are included in **Appendix D-5**.

Table 19: Build Intersection LOS Analysis - Orange County Site 2

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
2-Landstreet Road at US 441	64.1	E	104.4	F	130.9	F	266.7	F
3-Landstreet Road at Truck Stop*	22.4/16.3	C/C	31.8/21.5	D/C	34.5/23.4	D/C	77.2/41.5	F/E

Note: * Minor/major street worst delays are reported for the stop-control

4.3.3 95th Queue Length Analysis

As mentioned in the approved TAM, the 95th percentile queues for the year 2045 at the study intersections were used to suggest required queue lengths. **Table 20** shows the recommended queue lengths for the 2045 conditions. The actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 20: Recommended Queue Lengths for Turn Lanes - Orange County Site 2

Intersections on Landstreet Road	Turn Lane Queue Length (feet)							
	Landstreet Road				Side Streets			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
2-Landstreet Road at US 441	525	750	1,125	1,200	625	450	800	-
3-Landstreet Road at Truck Stop	100	-	-	-	-	-	-	-

Note: A minimum queue length of 100 feet is assumed

4.4 Future Safety Analysis

An HSM Safety analysis was conducted for the No Build and Build alternatives using predictive crash methods to quantify and compare the potential future crashes. The results of this analysis are presented in **Table 21**. The associated calculations and supporting documentation of this analysis are presented in **Appendix D-6**.

With the inclusion of truck site intersection in the Build alternative, the number of crashes in the year 2045 for the study corridor is expected to increase by 1 crash from roughly 14 to 15 crashes per year. As shown in **Table 21**, the difference in the number of crashes for the year 2045 between No Build and Build alternatives is anticipated to be not significant.

Table 21: Predicted Average Crash Frequency (Crashes/Year) for 2045 - Orange County Site 2

Study Intersection	No Build	Build
2-Landstreet Road at US 441	13.8	13.8
3-Landstreet Road at Truck Stop	-	1.1
Total	13.8	14.9
Difference (Build minus No Build)	1.1	

5 Orange County Site 4

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for this Orange County site. Orange County Site 4 is in a heavy industrial area along the north side of West Landstreet Road, near the Trussway Boulevard intersection. I-4 can be accessed via Florida's Turnpike. Alternatively, access to I-4 is provided via Landstreet Road, US 441, and Sand Lake Road (approximately 6.84 miles). A full-access entrance to Landstreet Road is anticipated. The proposed site is approximately 4.9 acres, supplying 48 truck parking spaces (see **Figure 17**).

Figure 17: Orange County Site 4



5.1 Existing Analysis

For this site, the following data was collected:

- Turning Movement Counts (TMC) were collected for the existing study intersections listed in **Table 22** for AM (7-9 AM) and PM (4-6 PM) peak periods on May 4, 2022. The TMC was collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session (provided in **Appendix E-1**).

- Freight movement data or the number of trucks was extracted from the field-collected TMCs.
- 1/1/2015 – 12/31/2019 Crash data is extracted from Signal Four analytics.

Table 22: Existing and Future Study Intersections - Orange County Site 4

County	Site#	Location	Study Intersection	Existing/ Future
Orange	3	Across from the FDOT office located south of Landstreet Road near Parkers Landing	1-Land Street Road at Parkers Landing	Existing/Future
			2-Landstreet Road at Potential Truck Stop	Future
			3-Landstreet Road at Sidney Hayes Road	Existing/Future

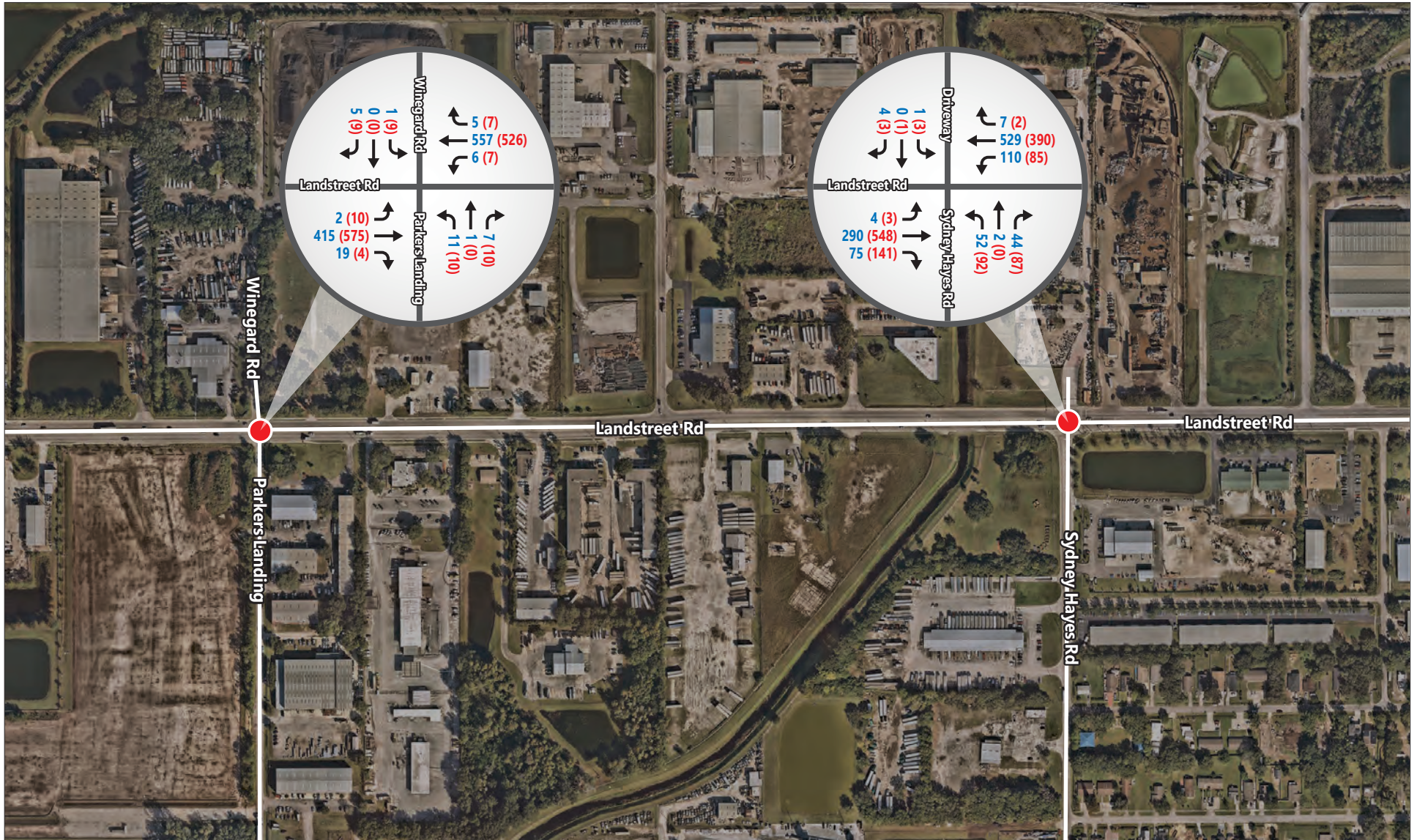
5.1.1 Year 2022 Intersection LOS Analysis

As mentioned in the approved TAM, Synchro 11 was used to perform the LOS operational analyses at the study intersections. The year 2022 AM and PM peak hour turning movement volumes (**Figure 18**) along with existing intersection geometry and signal timings provided by Orange County were used in the intersection LOS analysis. Both the study intersections were observed to operate at LOS B or better for both AM and PM conditions. The AM and PM synchro outputs are included in **Appendix E-2**.

Table 23: Existing Intersections LOS Analysis - Orange County Site 4

Study Intersection	2022 Conditions			
	AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS
1-Land Street Road at Parkers Landing*	16.3/8.9	C/A	19.5/12.4	C/B
3-Landstreet Road at Sidney Hayes Road	15.6	B	16.3	B

Note: * Minor/major street worst delays are reported for the stop-control



● Study Intersection

→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 18

Existing Turning Movement Counts
Orange County Site 4

5.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study intersections and study segment were extracted from the Signal Four Analytics. Raw crash data is included in **Appendix E-3**.

Landstreet Road at Parkers Landing Intersection Crashes: As shown in **Table 24A**, Rear End crashes accounted for most crashes (55.6% of total) followed by Left Turn, Head On, Sideswipe, and Off-Road crashes (11.1% of total each). Four of the reported crashes involved injury, zero involved fatalities, and five involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for one crash or 11.1% of crashes. Wet pavement conditions accounted for zero crashes.

Landstreet Road at Sidney Hayes Road Intersection Crashes: As shown in **Table 24B**, Left Turn crashes accounted for most crashes (33.3% of total) followed by Rear End crashes (27.8% of total). Six of the reported crashes involved injury, zero involved fatalities, and 12 involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for four crashes or 22.2% of crashes. Wet pavement conditions accounted for zero crashes.

Landstreet Road from Parkers Landing to Sidney Hayes Road Segment Crashes: As shown in **Table 24C**, Left Turn crashes accounted for most crashes (37.5% of total) followed by Sideswipe and Off-Road crashes (20.8% of total each). Eight of the reported crashes involved injury, zero involved fatalities, and 16 involved property damage only. There was one Bike crash reported for this segment. Dark-lighted condition crashes accounted for six crashes or 25.0% of crashes. Wet pavement conditions accounted for two crashes or 8.3% of crashes.

Table 24A: Crash Summary – Landstreet Road at Parkers Landing

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	2	2	1	5	55.6%
Head On	0	0	0	1	0	1	11.1%
Sideswipe	0	0	0	0	1	1	11.1%
Left Turn	0	0	0	0	1	1	11.1%
Other	1	0	0	0	0	1	11.1%
Total	1	0	2	3	3	9	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	0	0	1	2	1	4	44.4%
Property Damage Only	1	0	1	1	2	5	55.6%
Total	1	0	2	3	3	9	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Dry	1	0	2	3	3	9	100.0%
Total	1	0	2	3	3	9	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	1	0	1	3	2	7	77.8%
Dawn	0	0	0	0	1	1	11.1%
Dark	0	0	1	0	0	1	11.1%
Total	1	0	2	3	3	9	100.0%

Table 24B: Crash Summary – Landstreet Road at Sidney Hayes Road

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	0	2	0	2	5	27.8%
Head On	0	1	0	0	0	1	5.6%
Sideswipe	0	1	0	0	0	1	5.6%
Left Turn	3	2	0	0	1	6	33.3%
Off Road	0	1	0	0	0	1	5.6%
Other	0	1	0	2	1	4	22.2%
Total	4	6	2	2	4	18	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	0	3	1	2	0	6	33.3%
Property Damage Only	4	3	1	0	4	12	66.7%
Total	4	6	2	2	4	18	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Dry	4	6	2	2	4	18	100.0%
Total	4	6	2	2	4	18	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	5	0	1	4	14	77.8%
Dark	0	1	2	1	0	4	22.2%
Total	4	6	2	2	4	18	100.0%

Table 24C: Crash Summary – Landstreet Road from Parkers Landing to Sidney Hayes Road

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	0	0	1	1	4.2%
Sideswipe	2	1	1	1	0	5	20.8%
Left Turn	1	1	0	5	2	9	37.5%
Off Road	3	1	0	1	0	5	20.8%
Pedestrian & Bicycle	0	0	0	0	1	1	4.2%
Other	0	1	0	2	0	3	12.5%
Total	6	4	1	9	4	24	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	2	0	0	4	2	8	33.3%
Property Damage Only	4	4	1	5	2	16	66.7%
Total	6	4	1	9	4	24	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	1	1	2	8.3%
Dry	6	4	1	8	3	22	91.7%
Total	6	4	1	9	4	24	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	5	3	0	5	3	16	66.7%
Dusk	1	0	0	1	0	2	8.3%
Dark	0	1	1	3	1	6	25.0%
Total	6	4	1	9	4	24	100.0%

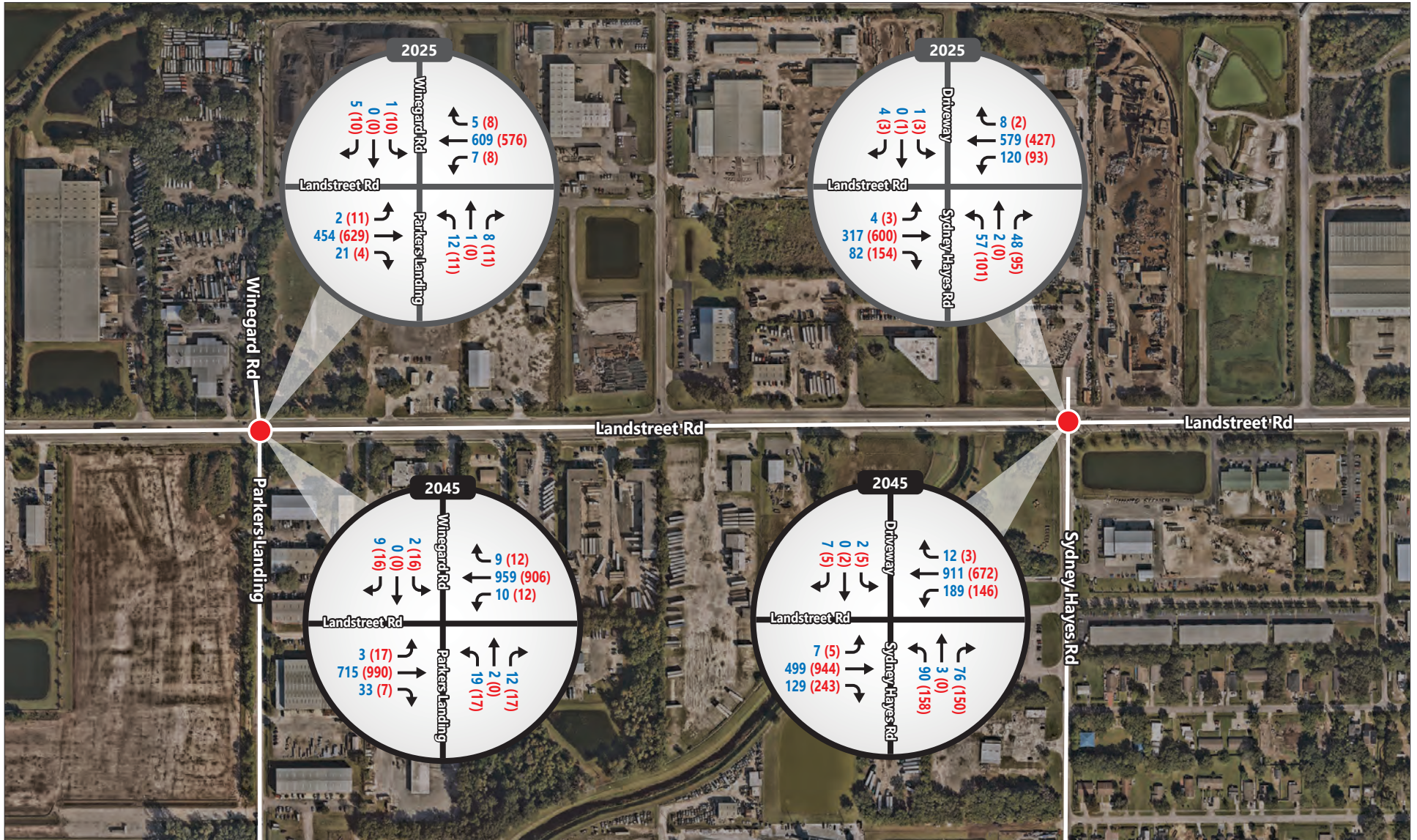
5.2 Future Volume Development

As mentioned in the analysis methodology document, Future traffic forecasts (along with truck percentages) from the previous study - Orlando South Ultimate Interchange, Final System Interchange Justification Report (SIJR), dated March 2020 was used. For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. A daily truck percentage of 12% was used for Land Street Road based on the existing count data. A design truck factor of 6% (half of the daily factor) was used for Land Street Road based on guidance from the 2019 PTFH.

No Build Volumes: The 2025 and the 2045 No Build AM and PM future volumes were forecasted from 2022 AM and PM volumes by using an annual growth rate of 3.1%. This growth rate of 3.1% is based on 2017 and 2045 traffic volumes on Landstreet Road east of US 441 obtained from the above-mentioned report.

Build Volumes: As mentioned in the analysis methodology document, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the No Build volumes as project trips. The preliminary concept plan is provided in **Appendix E-4**. To be conservative, the same number of truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for both No Build and Build conditions are shown in **Figures 19** and **20**. Future intersection geometry for the study intersections is depicted in **Figure 21**.



● Study Intersection

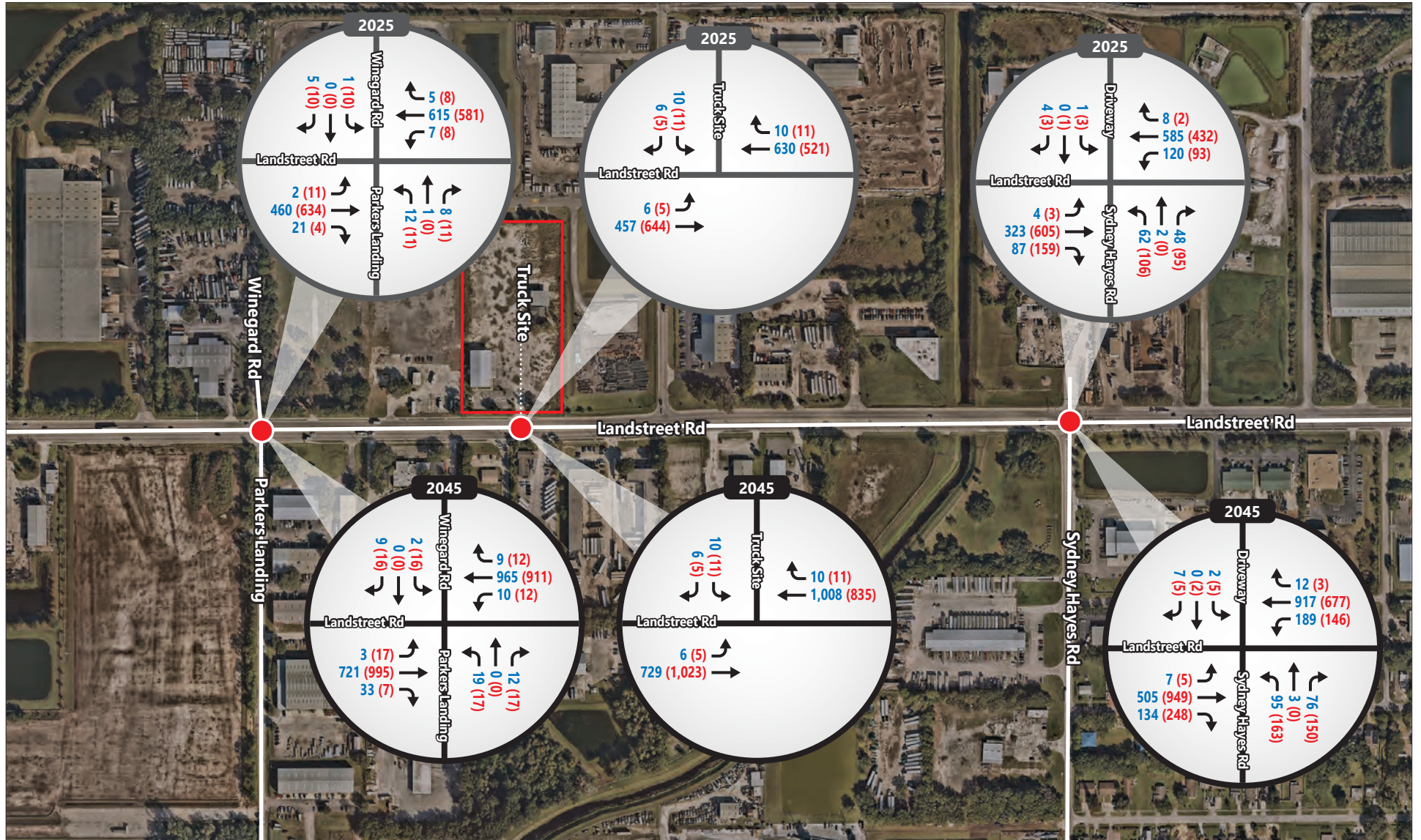
→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 19

Future No-Build Turning Movement Counts
Orange County Site 4

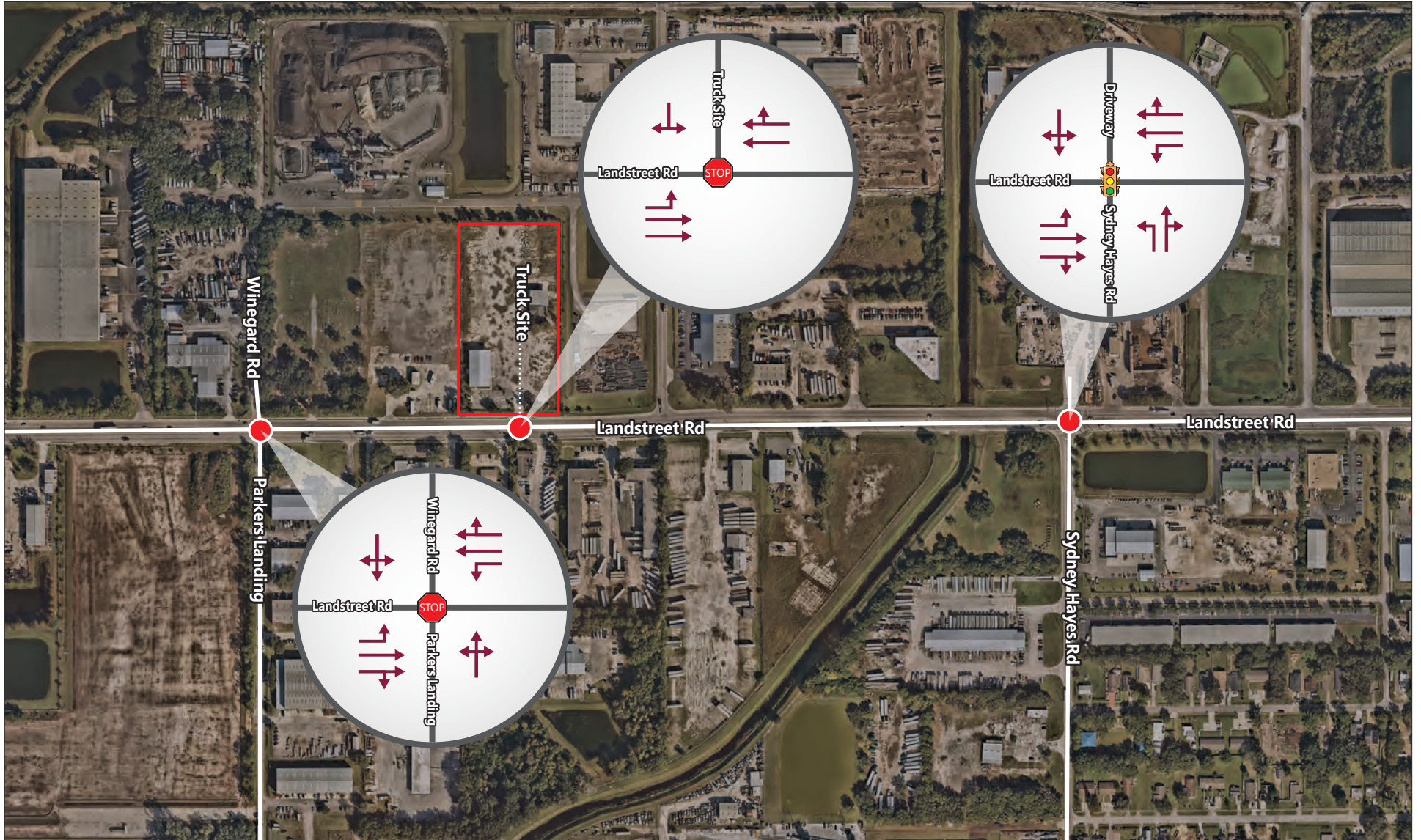


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 20

Future Build Turning Movement Counts
Orange County Site 4



- Study Intersection
- Truck Site Location
- ➔ Future Lane Geometry



Figure 21
 Future Build Geometry
 Orange County Site 4

5.3 Future Condition Analysis

5.3.1 No Build Intersection LOS Analysis

Table 25 shows the projected operations for the years 2025 and 2045. It is observed that both the study intersections were projected to operate at LOS B or better by the year 2045 No Build conditions. The No Build AM and PM synchro outputs are included in **Appendix E-5**.

Table 25: No Build Intersection LOS Analysis - Orange County Site 4

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-Land Street Road at Parkers Landing*	13.6/9.0	B/A	15.1/9.1	C/A	19.6/10.6	C/B	24.6/10.8	C/B
3-Landstreet Road at Sidney Hayes Road	14.5	B	16.7	B	18.1	B	25.6	C

Note: * Minor/major street worst delays are reported for the stop-control

5.3.2 Build Intersection LOS Analysis

Table 26 shows the projected operations for the year 2025 and the year 2045. It is to be noted that all the study intersections were projected to operate similar to the No Build conditions, after introducing the potential truck stop intersection. The stop-control at Landstreet Road at the potential truck stop intersection is not expected to significant delays with LOS C or better by the year 2045. The Build AM and PM synchro outputs are included in **Appendix E-5**.

Table 26: Build Intersection LOS Analysis - Orange County Site 4

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-Land Street Road at Parkers Landing*	13.7/9.0	B/A	15.2/9.1	C/A	19.7/10.6	C/B	24.7/10.8	C/B
2-Landstreet Road at Potential Truck Stop*	19.2/12.6	C/B	17.9/11.6	C/B	32.8/18.0	D/C	29.3/15.1	D/C
3-Landstreet Road at Sidney Hayes Road	15.0	B	17.4	B	18.6	B	26.7	C

Note: * Minor/major street worst delays are reported for the stop-control

5.3.3 95th Queue Length Analysis

As mentioned in the approved TAM, the 95th percentile queues for the year 2045 at the study intersections were used to suggest required queue lengths. **Table 27** shows the recommended queue lengths for the 2045 conditions. The actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 27: Recommended Queue Lengths for Turn Lanes - Orange County Site 4

Intersections on Landstreet Road	Turn Lane Queue Length (feet)							
	Landstreet Road				Side Streets			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
1-Land Street Road at Parkers Landing	100	-	100	-	-	-	-	-
2-Landstreet Road at Potential Truck Stop	100	-	-	-	-	0	-	-
3-Landstreet Road at Sidney Hayes Road	100	-	250	-	225	-	-	-

Note: A minimum queue length of 100 feet is assumed

5.4 Future Safety Analysis

An HSM Safety analysis was conducted for the No Build and Build alternatives using predictive crash methods to quantify and compare the potential future crashes. The results of this analysis are presented in **Table 28**. The associated calculations and supporting documentation of this analysis are presented in **Appendix E-6**.

With the inclusion of truck site intersection in the Build alternative, the number of crashes in the year 2045 for the study corridor is expected to increase by 1 crash from roughly 6 to 7 crashes per year. As shown in **Table 28**, the difference in the number of crashes for the year 2045 between No Build and Build alternatives is anticipated to be not significant.

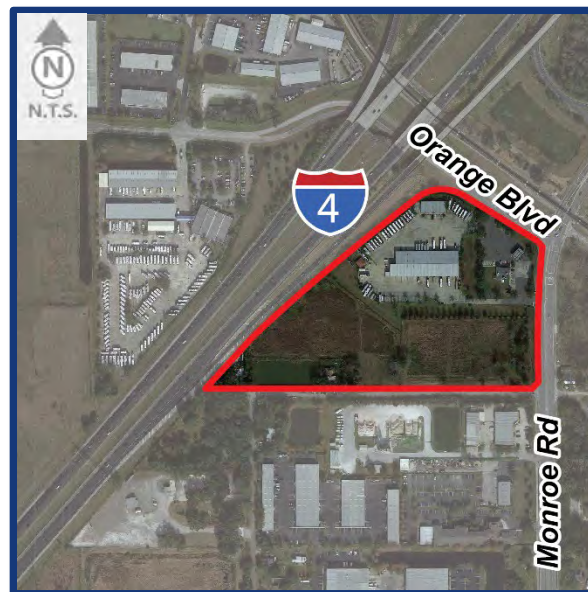
Table 28: Predicted Average Crash Frequency (Crashes/Year) for 2045 - Orange County Site 4

Study Intersection	No Build	Build
1-Land Street Road at Parkers Landing	1.6	1.6
2-Landstreet Road at Potential Truck Stop	-	0.7
3-Landstreet Road at Sidney Hayes Road	3.9	3.9
Total	5.5	6.2
Difference (Build minus No Build)	0.7	

6 Seminole County Site 1B

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for this Seminole County site. Seminole County Site 1B is located southeast of the I-4 and US 17-92 interchange. The site can be accessed by Interstate 4 via US 17-92 (0.45 miles) and via SR 46 (1.85 miles). Trucks leaving the site will be signed to make a left on School Street toward US 17-92, then make a right on US 17-92 to access the SR 46 interchange. This will reduce the conflicts and delay at the US 17-92 and School Street intersection making for a safer movement. The interchange of I-4 and US 17-92 is planned to be reconfigured by the *I-4 Beyond the Ultimate* (BtU) improvement by providing access to I-4 through a reconfigured ramp adjacent to the site. Following the I-4 BtU construction, the distance to I-4 via US 17-92 will be shortened to 0.25 miles. Once complete, this site will include one full-access, signalized entrance to School Street. Since funding for construction for I-4 BtU is not certain at this point, this study conducted a future year analysis for this site for both non-BtU (existing configuration) and BtU configurations of the realigned I-4 and US 17-92 interchange. The proposed site is approximately 18.5 acres, supporting 156 truck parking spaces (see **Figure 22**).

Figure 22: Seminole County Site 1B



6.1 Existing Analysis

For this site, the following data was collected:

- Turning Movement Counts (TMC) were collected for the existing study intersections listed in **Table 29** for AM (7-9 AM) and PM (4-6 PM) peak periods on May 4, 2022. The TMC was collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session (provided in **Appendix F-1**). It should be noted that existing TMC was not collected at US 17-92/Monroe Road at School Street. For future conditions, 5 vehicles for each of the side street movements were assumed.
- Freight movement data or the number of trucks was extracted from the field-collected TMCs.
- 1/1/2015 – 12/31/2019 Crash data is extracted from Signal Four analytics.

Table 29: Existing and Future Study Intersections - Seminole County Site 1B

County	Site#	Location	Study Intersection	Existing/ Future
Seminole	1	Along Monroe Road, south of Orange Boulevard, and is bounded by the I-4 corridor	1-US 17-92/Monroe Road at Seminole Boulevard	Existing/Future
			2-US 17-92/Monroe Road at I-4 EB On-Ramp	Existing/Future
			3-US 17-92/Monroe Road at Orange Boulevard	Existing/Future
			4-US 17-92/Monroe Road at School Street/Potential Truck Stop	Future

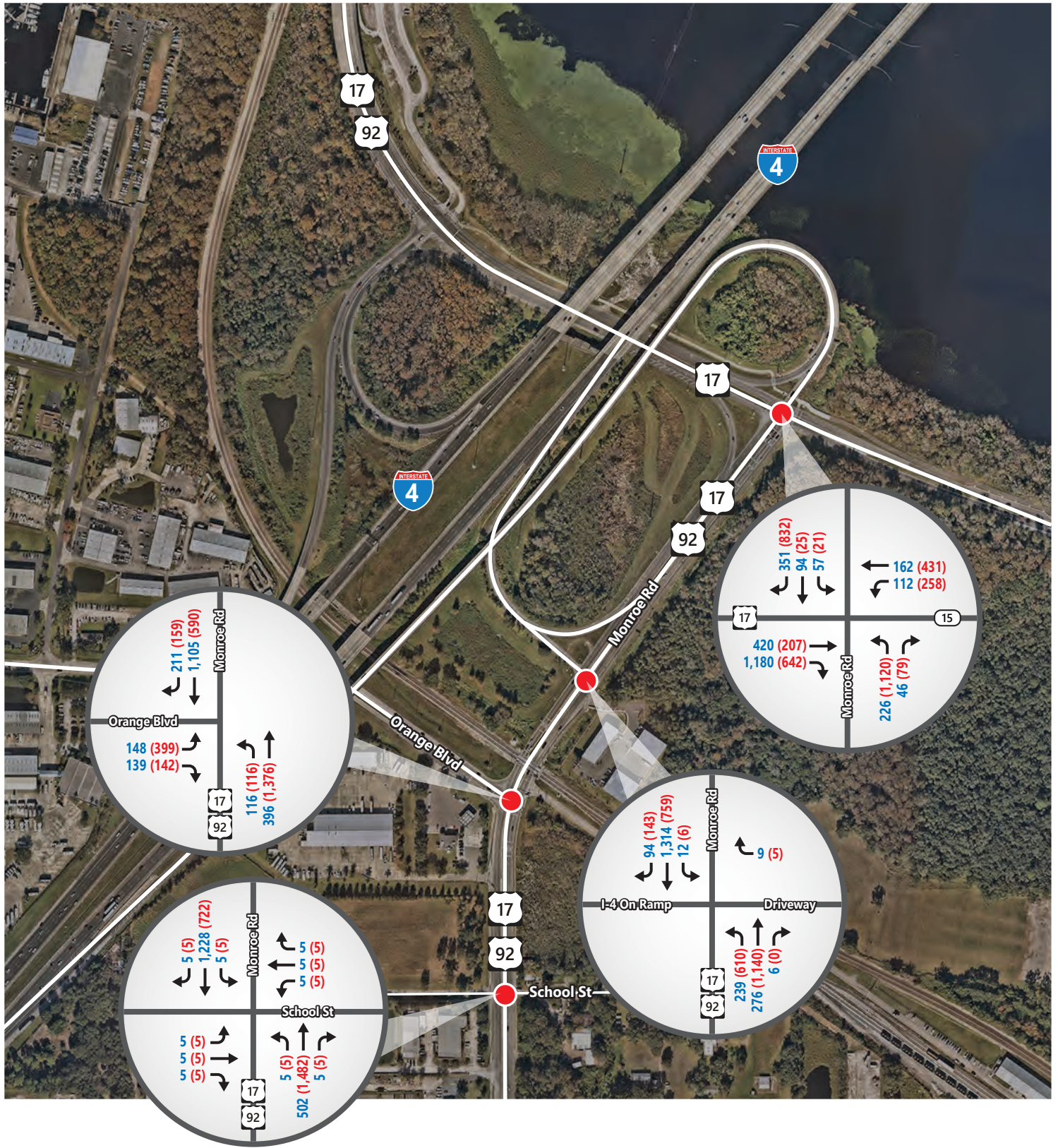
6.1.1 Year 2022 Intersection LOS Analysis

As mentioned in the approved TAM, Synchro 11 was used to perform the LOS operational analyses at the study intersections. The year 2022 AM and PM peak hour turning movement volumes (**Figure 23**) along with existing intersection geometry and signal timings provided by Seminole County were used in the intersection LOS analysis. All the study intersections were observed to operate at LOS D or better for both AM and PM conditions as shown in **Table 30**. The AM and PM synchro outputs are included in **Appendix F-2**.

Table 30: Existing Intersections LOS Analysis - Seminole County Site 1B

Study Intersection	2022 Conditions			
	AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS
1-US 17-92/Monroe Road at Orange Boulevard	22.0	C	30.2	C
3-US 17-92/Monroe Road at I-4 EB On-Ramp*	9.2/32.1	A/D	13.4/27.8	B/D
4-US 17-92/Monroe Road at Seminole Boulevard	16.9	B	28.0	C

Note: * Minor/major street worst delays are reported for the stop-control



- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes



Figure 23

Existing Turning Movement Counts
Seminole County Site 1B

6.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study intersections and study segments were extracted from the Signal Four Analytics. Raw crash data is included in **Appendix F-3**.

Monroe Street at Orange Boulevard Intersection Crashes: As shown in **Table 31A**, Rear End crashes accounted for most crashes (45.7% of total) followed by Sideswipe crashes (28.6% of total) and Angle crashes (17.1% of total). Eight of the reported crashes involved injury, zero involved fatalities, and 27 involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for one crash or 2.9% of crashes. Wet pavement conditions accounted for four crashes or 11.4% of crashes.

Monroe Street at I-4 EB On-Ramp Intersection Crashes: As shown in **Table 31B**, Rear End crashes accounted for most crashes (55.6% of total) followed by Angle crashes (22.2% of total) and Left Turn crashes (11.1% of total). Eight of the reported crashes involved injury, zero involved fatalities, and 10 involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for four crashes or 22.2% of crashes. Wet pavement conditions accounted for three crashes or 16.7% of crashes.

Monroe Street at to I-4/EB Off-Ramp/Seminole Boulevard Intersection Crashes: As shown in **Table 31C**, Rear End crashes accounted for most crashes (54.0% of total) followed by Angle crashes (17.2% of total) and Sideswipe crashes (10.3% of total). 22 of the reported crashes involved injury, zero involved fatalities, and 65 involved property damage only. There were no Pedestrian or Bike crashes reported for this intersection. Dark-lighted condition crashes accounted for 20 crashes or 23.0% of crashes. Wet pavement conditions accounted for 11 crashes or 12.6% of crashes.

Monroe Street from School Street to Orange Boulevard Segment Crashes: As shown in **Table 31D**, Rear End crashes accounted for most crashes (50.0% of total) followed by Angle crashes (33.3% of total) and Sideswipe crashes (16.7% of total). Three of the reported crashes involved injury, zero involved fatalities, and nine involved property damage only.

There were no Pedestrian or Bike crashes reported for this segment. Dark-lighted condition crashes accounted for two crashes or 16.7% of crashes. Wet pavement conditions accounted for three crashes or 25.0% of crashes.

Monroe Street from I-4 EB On-Ramp to I-4/EB Off-Ramp/Seminole Boulevard Segment

Crashes: As shown in **Table 31E**, Rear End crashes accounted for most crashes (66.7% of total) followed by Off Road crashes (33.7% of total). One of the reported crashes involved injury, zero involved fatalities, and two involved property damage only. There were no Pedestrian or Bike crashes reported for this segment. Dark-lighted condition crashes accounted for one crash or 33.3% of crashes. Wet pavement conditions accounted for zero crashes.

Table 31A: Crash Summary – Monroe Road at Orange Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	5	1	5	3	2	16	45.7%
Sideswipe	1	2	4	3	0	10	28.6%
Angle	1	1	2	1	1	6	17.1%
Other	0	2	0	1	0	3	8.6%
Total	7	6	11	8	3	35	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	1	3	2	1	1	8	22.9%
Property Damage Only	6	3	9	7	2	27	77.1%
Total	7	6	11	8	3	35	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	1	2	0	0	4	11.4%
Dry	6	5	9	8	3	31	88.6%
Total	7	6	11	8	3	35	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	5	5	11	8	2	31	88.6%
Dusk	1	0	0	0	1	2	5.7%
Dawn	1	0	0	0	0	1	2.9%
Dark	0	1	0	0	0	1	2.9%
Total	7	6	11	8	3	35	100.0%

Table 31B: Crash Summary – Monroe Road at I-4 EB On-Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	0	5	2	2	10	55.6%
Sideswipe	0	0	0	0	1	1	5.6%
Angle	2	0	2	0	0	4	22.2%
Left Turn	0	0	1	0	1	2	11.1%
Other	0	1	0	0	0	1	5.6%
Total	3	1	8	2	4	18	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	3	0	3	2	0	8	44.4%
Property Damage Only	0	1	5	0	4	10	55.6%
Total	3	1	8	2	4	18	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	2	1	3	16.7%
Dry	3	1	8	0	3	15	83.3%
Total	3	1	8	2	4	18	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	0	5	2	4	13	72.2%
Dawn	0	0	1	0	0	1	5.6%
Dark	1	1	2	0	0	4	22.2%
Total	3	1	8	2	4	18	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	1	1	0	0	2	11.1%
Total	0	1	1	0	0	2	11.1%

Table 31C: Crash Summary – Monroe Road at I-4 EB Off-Ramp/Seminole Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	8	9	10	13	7	47	54.0%
Sideswipe	0	2	2	4	1	9	10.3%
Angle	4	7	1	1	2	15	17.2%
Left Turn	0	1	0	1	0	2	2.3%
Other	4	4	2	3	1	14	16.1%
Total	16	23	15	22	11	87	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	6	5	3	5	3	22	25.3%
Property Damage Only	10	18	12	17	8	65	74.7%
Total	16	23	15	22	11	87	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	4	4	0	2	1	11	12.6%
Dry	12	19	15	20	10	76	87.4%
Total	16	23	15	22	11	87	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	7	18	10	18	7	60	69.0%
Dusk	4	1	0	0	2	7	8.0%
Dark	5	4	5	4	2	20	23.0%
Total	16	23	15	22	11	87	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	1	0	0	2	2.3%
Total	1	0	1	0	0	2	2.3%

Table 31D: Crash Summary – Monroe Road from School Street to Orange Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	2	0	3	0	6	50.0%
Sideswipe	0	0	0	2	0	2	16.7%
Angle	1	0	0	3	0	4	33.3%
Total	2	2	0	8	0	12	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	1	0	0	2	0	3	25.0%
Property Damage Only	1	2	0	6	0	9	75.0%
Total	2	2	0	8	0	12	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	0	0	2	0	3	25.0%
Dry	1	2	0	6	0	9	75.0%
Total	2	2	0	8	0	12	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	1	0	6	0	9	75.0%
Dusk	0	0	0	1	0	1	8.3%
Dark	0	1	0	1	0	2	16.7%
Total	2	2	0	8	0	12	100%

Table 31E: Crash Summary – Monroe Road from I-4 EB On-Ramp to I-4 EB Off-Ramp/Seminole Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	1	1	0	2	66.7%
Off Road	0	0	0	0	1	1	33.3%
Total	0	0	1	1	1	3	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Injury	0	0	0	0	1	1	33.3%
Property Damage Only	0	0	1	1	0	2	66.7%
Total	0	0	1	1	1	3	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Dry	0	0	1	1	1	3	100.0%
Total	0	0	1	1	1	3	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	0	0	1	1	0	2	66.7%
Dark	0	0	0	0	1	1	33.3%
Total	0	0	1	1	1	3	100.0%

6.2 Future Volume Development

As mentioned at the beginning of this section, two future scenarios were evaluated for this site – 1) with existing I-4 and US 17-92 interchange configuration (existing configuration scenario) and 2) with I-4 BtU configuration at the I-4 and US 17-92 interchange (I-4 BtU configuration scenario). For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. Daily truck percentages of 6% and 7% were used for US 17-92 and I-4 Ramps, respectively based on the Florida Traffic Online (FTO) count data. Design truck factors of 3% and 4% (half of the daily factors) were used for US 17-92 and I-4 Ramps, respectively based on guidance from the 2019 PTFH.

6.2.1 No Build Volumes

The year 2025 and year 2045 volumes No Build volumes were developed for the existing configuration and I-4 BtU configuration scenarios.

For the existing configuration scenario, Central Florida Regional Planning Model version 7 (CFRPM 7) along with BEBR population estimates for Seminole County were reviewed. Historical traffic trends were not used because of the decrease in traffic volumes in the last two years compared to previous years. In addition, growth rates used in the I-4 BtU study were also reviewed. **Table 32** shows the growth rate summary from these two sources. For the existing configuration scenario, an annual growth rate of 1.5% was used to grow the existing (the year 2022) turning movement volumes to the year 2025 and year 2045 turning movement volumes.

Table 32: Future Growth Rate Summary Table

Roadway Segment	Model-based Annual Growth Rate (2015-2045)	Seminole County BEBR	I-4 Btu Annual Growth Rate (2020-2040)
US 17-92 West of I-4	0.40%	0.78%	1.77%
US 17-92 East of I-4	0.72%		
I-4 Ramps	2.20%		
Average	~1.5% (recommended)		

For the I-4 BtU configuration scenario, future traffic forecasts from the previous study - I-4 BtU North Systems Access Modification Report, dated March 2017 were used. The I-4 BtU concept near the I-4 and US 17-92 Interchange is provided in **Appendix F-4**. As shown in this figure, future intersections will include US 17-92/Monroe Road at I-4 EB ramps, US 17-92/Monroe Road at I-4 WB Ramps, and US 17-92/Monroe Road at School Street/potential truck stop.

The year 2040 Build AM and PM future volumes obtained from the above-mentioned report, provided in **Appendix F-4**, were considered as No Build volumes. An annual growth rate of 0.50% (based on BEBR Medium population growth) was used to forecast 2045 No Build AM and PM future volumes for the study intersections. The year 2025 No Build volumes were interpolated between the 2020 Build (from the above-mentioned I-4 BtU report) and the 2045 No Build volumes.

6.2.2 Build Volumes

As mentioned in the analysis methodology document, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the No Build volumes for both the existing configuration and I-4 BtU configuration scenarios as project trips. As mentioned at the beginning of Section 6, trucks leaving the site will be signed to make a left on School Street toward US 17-92, then make a right on US 17-92 to access the SR 46 interchange. As such, the exiting trucks are assigned to the eastbound right turn movement in the Build condition. The preliminary concept plan is provided in **Appendix F-4**. To be conservative, the same number of truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for both No Build and Build conditions are shown in **Figures 24** through **27**. Future intersection geometry figures for the existing configuration and I-4 BtU configuration scenarios are depicted in **Figures 28** and **29**, respectively.

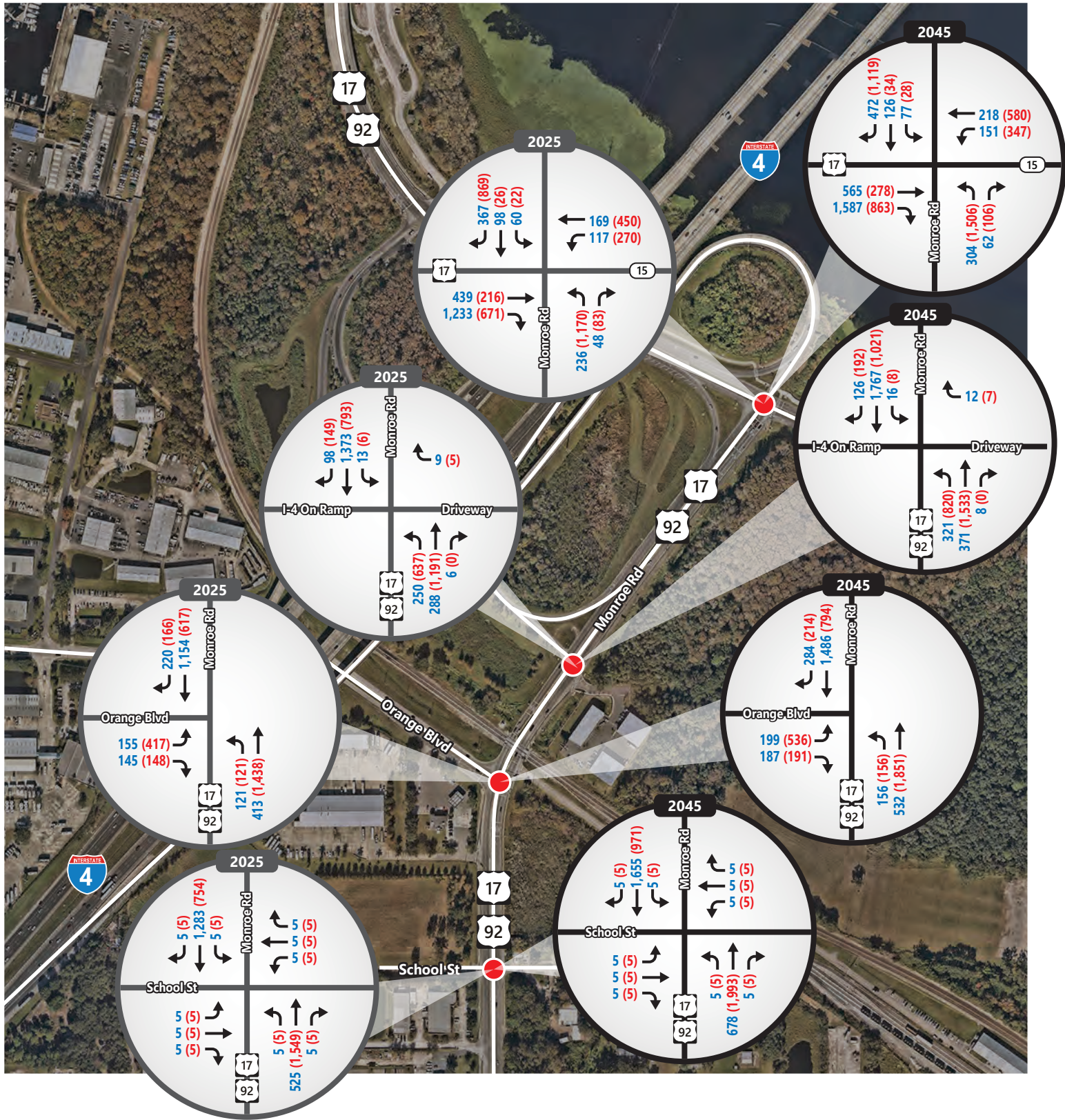
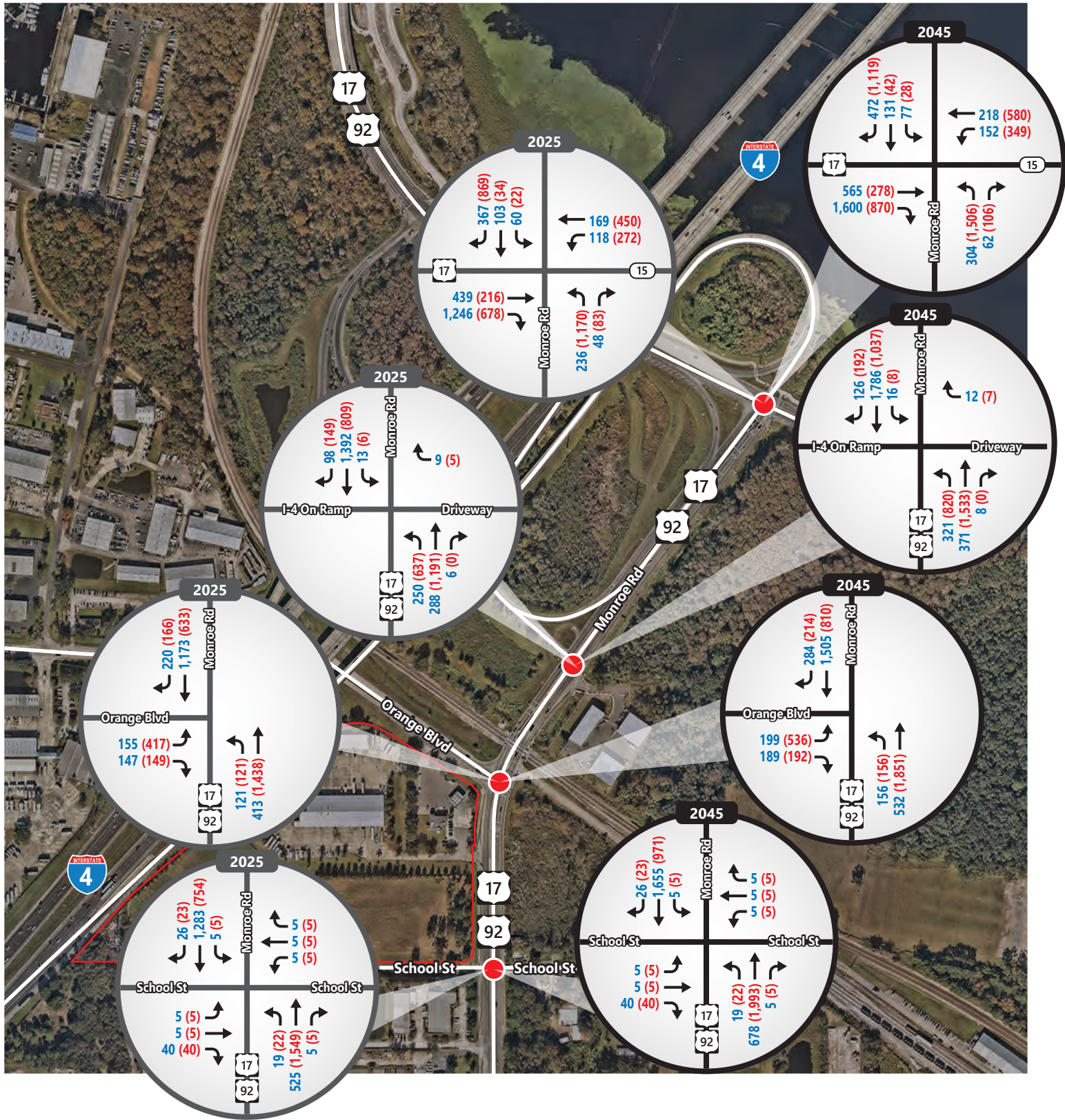


Figure 24

Future No-Build Turning Movement Counts (with Existing Configuration) Seminole County Site 1B

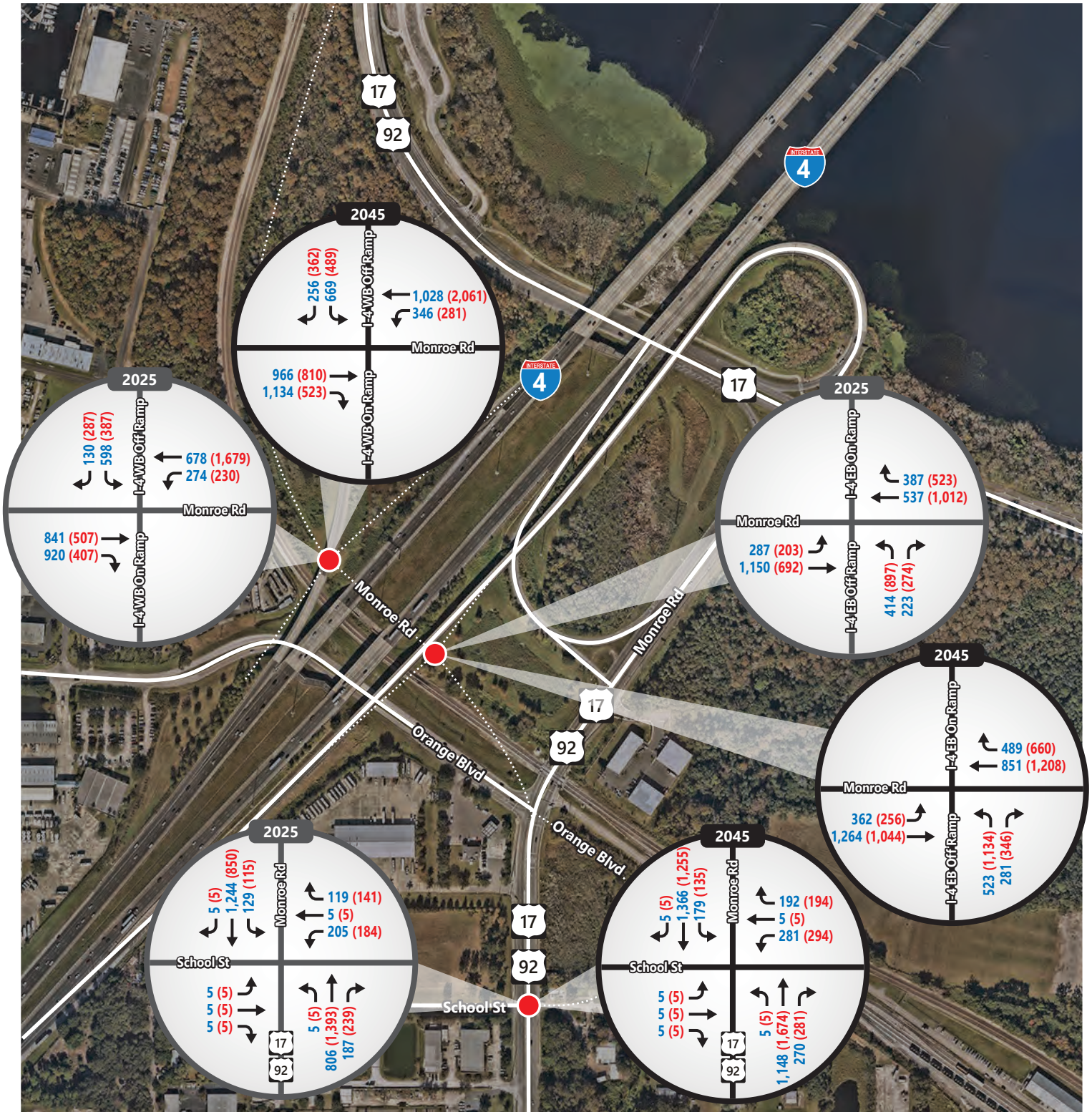


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 25

Future Build Turning Movement Counts (with Existing Configuration) Seminole County Site 1B

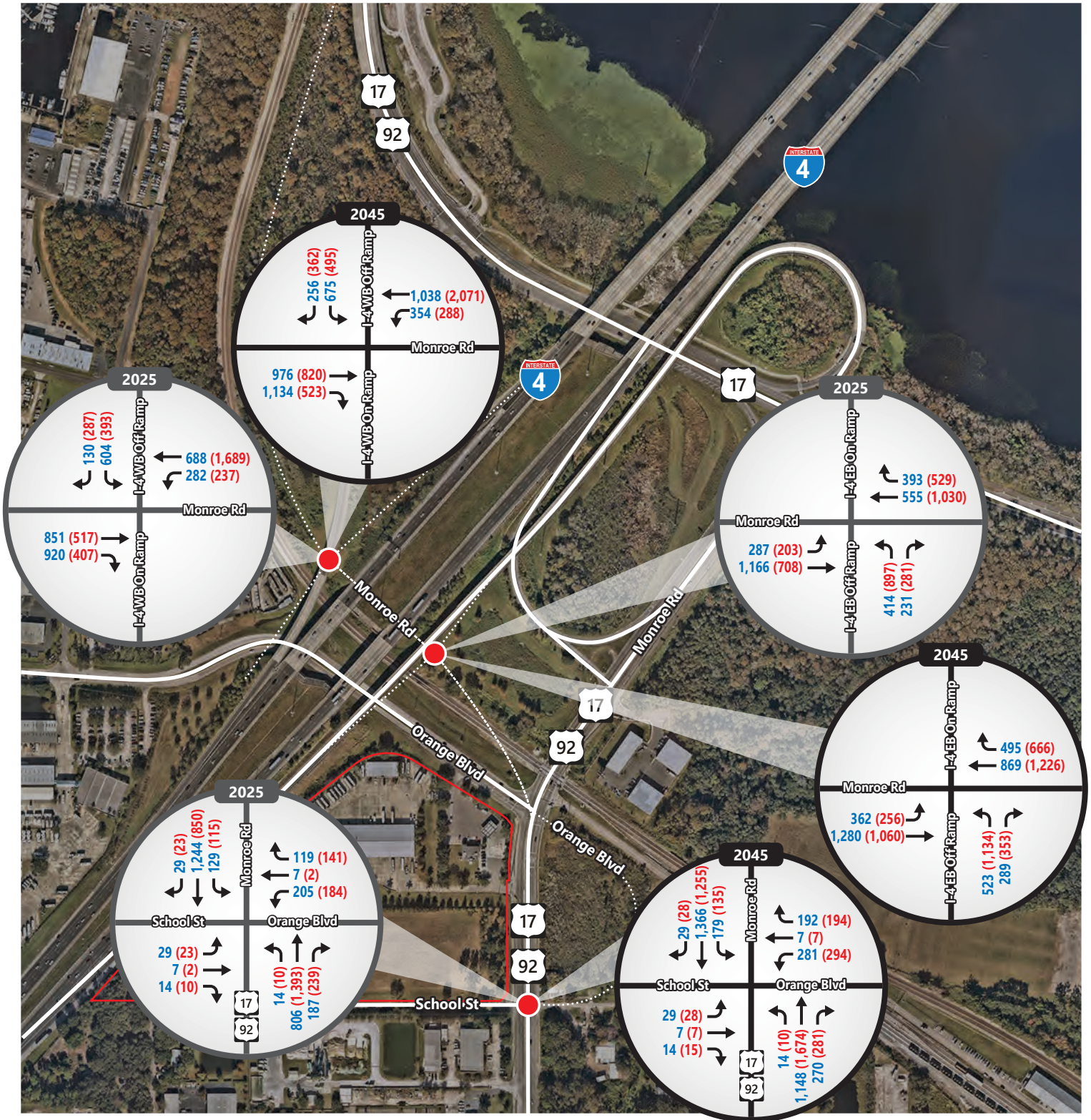


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes



Figure 26

Future No-Build Turning Movement Counts
(with I-4 BtU Configuration)
Seminole County Site 1B

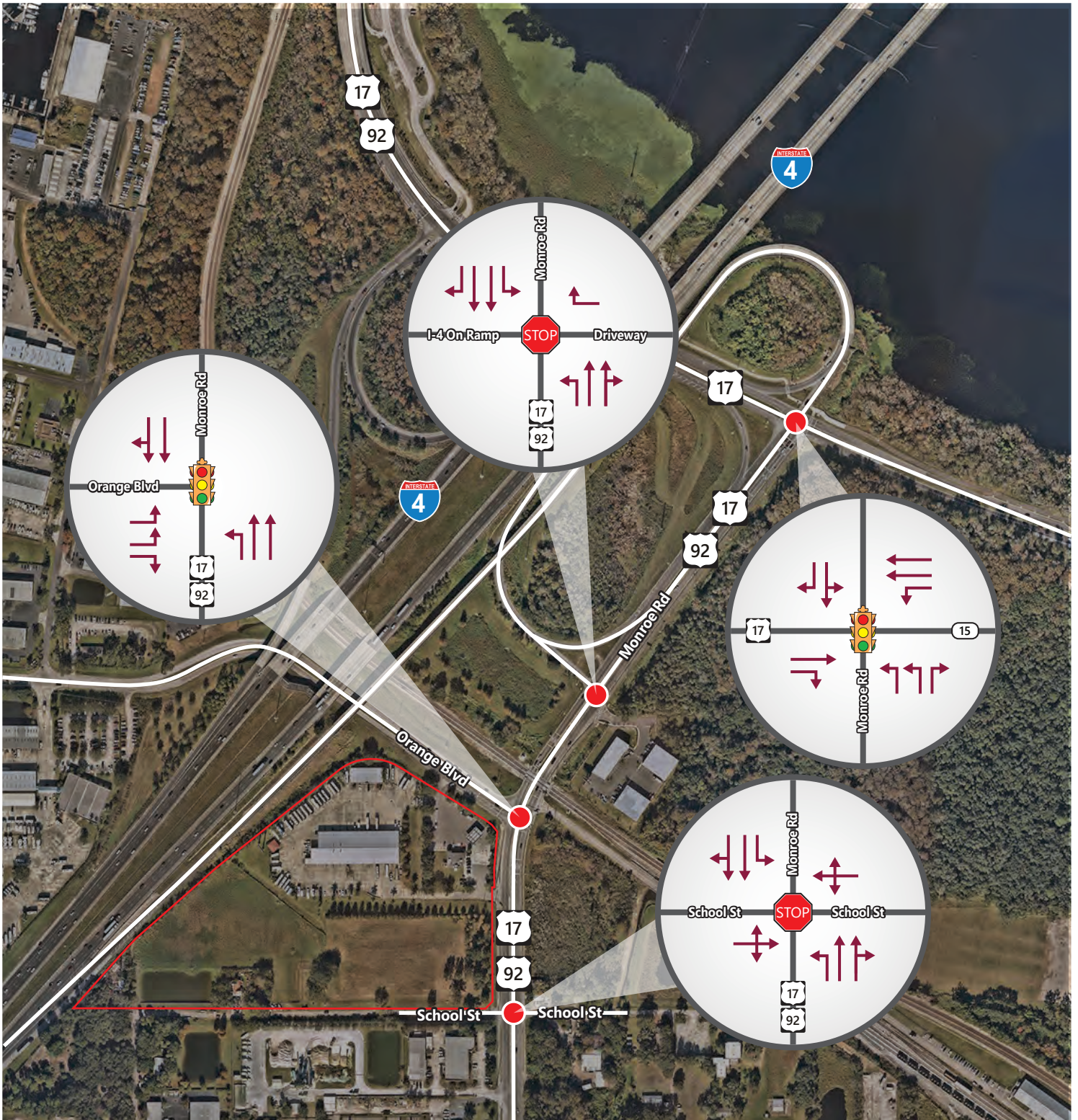


- Study Intersection
- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 27

Future Build Turning Movement Counts (with I-4 BtU Configuration) Seminole County Site 1B

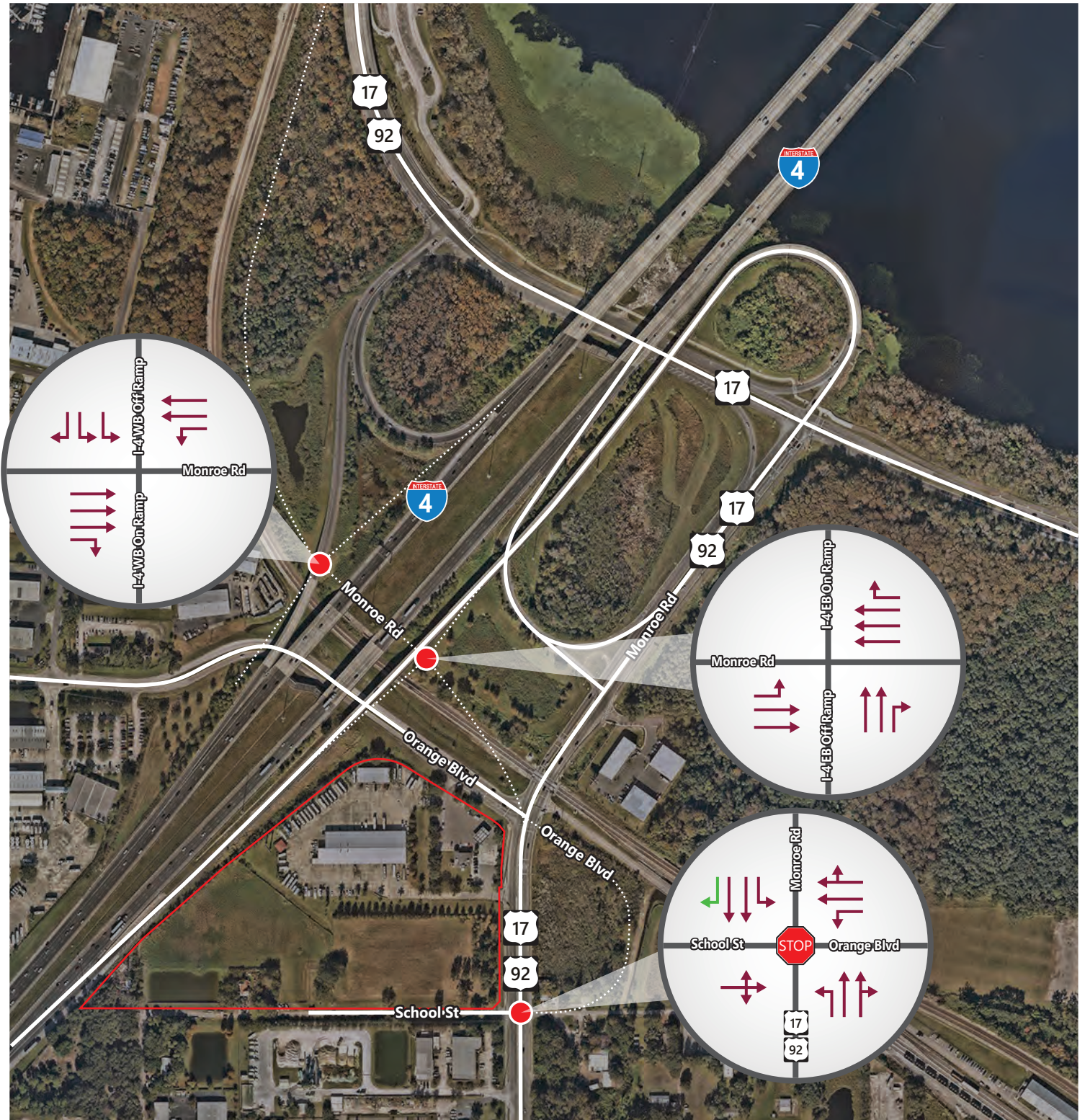


- Study Intersection
- Truck Site Location
- ➔ Future Lane Geometry



Figure 28

Future Geometry
(with Existing Configuration)
Seminole County Site 1B



- Study Intersection
- Truck Site Location
- ➔ Future Lane Geometry
- ➔ Future Lane Geometry - Build Only



Figure 29

Future Geometry
(with I-4 BtU Configuration)
Seminole County Site 1B

6.3 Future Condition Analysis

6.3.1 With Existing Configuration

No Build Intersection LOS Analysis

As shown in **Table 33**, both signalized study intersections were projected to operate at LOS D or better through the year 2045 conditions. The major street movement – northbound left at US 17-92/Monroe Road at I-4 EB On-Ramp intersection is projected to operate at LOS F in the year 2045 conditions. The minor street approach at US 17/Monroe Road at School Street is also projected to operate at LOS F in the year 2045 PM condition, but the delay is not significant. The No Build AM and PM Synchro outputs with existing configuration are included in **Appendix F-5**.

Table 33: No Build Intersection LOS Analysis (with Existing Configuration)- Seminole County Site 1B

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-US 17-92/Monroe Road at Seminole Boulevard	16.3	B	29.7	C	44.1	D	48.7	D
2-US 17-92/Monroe Road at I-4 EB On-Ramp*	9.2/22.8	C/A	13.5/29.6	B/D	9.5/106.5	A/F	16.2/189.0	B/F
3-US 17-92/Monroe Road at Orange Blvd	19.6	B	30.6	C	23.3	D	33.7	D
4-US 17-92/Monroe Road at School Street*	26.5/12.1	D/B	37.3/14.2	E/B	41.6/15.1	E/C	68.5/19.0	F/C

Note: * Minor/major street worst delays are reported for the stop-control

Build Intersection LOS Analysis

Table 34 shows the projected operations for the year 2025 and the year 2045. It is to be noted that all the study intersections were projected to operate the same as No Build conditions, with only a slight increase in delays after introducing the potential truck stop intersection. The Build AM and PM synchro outputs are included in **Appendix F-5**.

Table 34: Build Intersection LOS Analysis (with Existing Configuration)- Seminole County Site 1B

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-US 17-92/Monroe Road at Seminole Boulevard	16.9	B	30.5	C	47.2	D	50.0	D
2-US 17-92/Monroe Road at I-4 EB On-Ramp*	9.2/23.5	A/C	13.5/31.4	B/D	9.5/113.7	A/F	16.2/197.2	B/F
3-US 17-92/Monroe Road at Orange Blvd	19.9	B	30.7	C	24.7	C	33.9	C/F
4-US 17-92/Monroe Road at School Street*	30.0/26.2	D/D	40.9/14.7	E/B	52.7/44.4	E/D	78.8/19.0	F/C

Note: * Minor/major street worst delays are reported for the stop-control

6.3.2 With BtU Configuration

No Build Intersection LOS Analysis

As shown in **Table 35**, all the study intersections were projected to operate at LOS D or better by the year 2045 conditions. The No Build AM and PM synchro outputs are included in **Appendix F-5**.

Table 35: No Build Intersection LOS Analysis (with I-4 BtU Configuration) - Seminole County Site 1B

Study Intersection	2025 No Build				2045 No Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-US 17-92/Monroe Road at I-4 WB Ramps	27.7	C	38.0	D	33.1	C	54.5	D
2-US 17-92/Monroe Road at I-4 EB Ramps	21.1	C	47.8	D	23.5	C	49.4	D
3-US 17-92/Monroe Road at School Street	20.1	C	23.8	C	23.7	C	42.4	D

Note: A signal is recommended at the intersection of US 17-92/Monroe Road at School Street in the I-4 BtU Study

Build Intersection LOS Analysis

Table 36 shows the projected operations for the year 2025 and the year 2045. It is to be noted that all the study intersections were projected to operate the same as No Build conditions, with only a slight increase in delays after introducing the potential truck stop intersection. The Build AM and PM synchro outputs are included in **Appendix F-5**.

Table 36: Build Intersection LOS Analysis (with I-4 BtU Configuration) - Seminole County Site 1B

Study Intersection	2025 Build				2045 Build			
	AM Peak		PM Peak		AM Peak		PM Peak	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
1-US 17-92/Monroe Road at I-4 WB Ramps	30.3	C	40.1	D	33.7	C	54.7	D
2-US 17-92/Monroe Road at I-4 EB Ramps	21.7	C	47.9	D	24.0	C	49.7	D
3-US 17-92/Monroe Road at School Street (with potential Truck Stop)	21.8	C	24.3	C	26.0	C	43.9	D

Note: A signal is recommended at the intersection of US 17-92/Monroe Road at School Street in the I-4 BtU Study

6.3.3 95th Queue Length Analysis

As mentioned in the approved TAM, the 95th percentile queues for the year 2045 at the study intersections were used to suggest required queue lengths. **Tables 37** and **38** show the 2045 required queue lengths for the existing configuration and I-4 BtU configuration scenarios, respectively. The actual design and implementation of these queue length requirements will be a function of design and the physical practicality of their construction.

Table 37: Recommended Queue Lengths for Turn Lanes (with Existing Configuration) - Seminole County Site 1B

Intersections on US 17-92/Monroe Road	Turn Lane Queue Length (feet)							
	Side Streets				US 17-92/Monroe Road			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
1-US 17-92/Monroe Road at Seminole Boulevard	-	-	625	-	1,050	-	-	100
2-US 17-92/Monroe Road at I-4 EB On-Ramp	-	-	-	-	950	-	-	-
3-US 17-92/Monroe Road at Orange Blvd	350	100	-	-	250	-	-	-
4-US 17-92/Monroe Road at School Street (with potential Truck Stop)	-	-	-	-	100	-	100	-

Note: A minimum queue length of 100 feet is assumed

Table 38: Recommended Queue Lengths for Turn Lanes (with I-4 BtU Configuration) - Seminole County Site 1B

Intersections on US 17-92/Monroe Road	Turn Lane Queue Length (feet)							
	Side Streets				US 17-92/Monroe Road			
	EBL	EBR	WBL	WBR	NBL	NBR	SBL	SBR
1-US 17-92/Monroe Road at I-4 WB Ramps	-	-	425	500	425	-	-	100
2-US 17-92/Monroe Road at I-4 EB Ramps	475	325	-	-	-	100	475	-
3-US 17-92/Monroe Road at School Street (with potential Truck Stop)	-	-	475	200	100	-	275	100

Note: A minimum queue length of 100 feet is assumed

6.4 Future Safety Analysis

An HSM safety analysis was conducted for the No Build and Build alternatives using predictive crash methods for both existing configuration and I-4 BtU configuration scenarios to quantify and compare the potential future crashes. The results of this analysis are presented in **Tables 39** and **40**. The associated calculations and supporting documentation of this analysis are presented in **Appendix F-6**.

6.4.1 With Existing Configuration

With the existing configuration, the Build alternative resulted in a slight increase in crashes in the year 2045 for the study corridor. With the inclusion of truck site intersection, the number of crashes in the year 2045 for the study corridor is expected to increase by 1 crash from roughly 21 to 22 crashes per year. As shown in **Table 39**, the difference in the number of crashes for the year 2045 between No Build and Build alternatives is anticipated to be not significant.

Table 39: Predicted Average Crash Frequency (Crashes/Year) with Existing Configuration for 2045 - Seminole County Site 1B

Study Intersection	No Build	Build
1-US 17-92/Monroe Road at Seminole Boulevard	11.3	11.4
2-US 17-92/Monroe Road at I-4 EB On-Ramp	2.5	2.5
3-US 17-92/Monroe Road at Orange Blvd	5.6	5.6
4-US 17-92/Monroe Road at School Street	1.7	-
4-US 17-92/Monroe Road at School Street/potential Truck Stop	-	2.3
Total	21.1	21.8
Difference (Build minus No Build)	0.7	

6.4.2 With BtU Configuration

With the I-4 BtU configuration, the Build alternative resulted in a comparable number of crashes in the year 2045 for the study corridor compared to the No Build condition. As shown in **Table 40**, the decrease in the number of crashes for the year 2045 (in this case a decrease from 8.2 crashes/year to 7.9 crashes/year or 0.3 crashes/year between the two scenarios at US 17-92 and School Street/potential Truck Stop) is because the Build condition is not introducing a new

intersection and since an exclusive southbound right turn lane at US 17-92 and School Street is included in the Build condition.

Table 40: Predicted Average Crash Frequency (Crashes/Year) for 2045 with I-4 BtU Configuration - Seminole County Site 1B

Study Intersection	No Build	Build
1-US 17-92/Monroe Road at I-4 WB Ramps	7.8	7.8
2-US 17-92/Monroe Road at I-4 EB Ramps	8.5	8.6
3-US 17-92/Monroe Road at School Street	8.2	-
3-US 17-92/Monroe Road at School Street/potential Truck Stop	-	7.9
Total	24.5	24.3
Difference (Build minus No Build)	-0.2	

7 Volusia County Site 1

This section documents existing conditions analysis, historical crash analysis, future volume development, future condition analysis, and HSM safety analysis for this Volusia County site. Volusia County Site 1 is located along I-4 approximately 4.50 miles southwest of the I-95 interchange. One truck parking facility is provided in each direction, with immediate access to I-4 provided via on- and off-ramps. The I-4 Eastbound truck parking site is located at the previous Volusia County rest area, and is approximately 73.3 acres, accommodating 275 truck parking spaces. The I-4 Westbound site is 116.8 acres, supporting 253 truck parking spaces (see **Figure 30**).

Figure 30: Volusia County Site 1



7.1 Existing Analysis

For this site, the following data was collected:

- Florida Traffic Online (FTO) for I-4 north of SR 472 (provided in **Appendix G-1**). Based on the historic AADT volumes provided in the FTO, the year 2018 AADT volume of 65,500 was assumed for this study. The year 2019 volume was estimated and hence not used. The year

2020 volume was counted but because of COVID, it was not used in this study. The year 2021 AADT volume was estimated and is the same as the year 2020 AADT volume and so not used in this study.

- Freight movement data or the number of trucks was also collected from FTO.
- 1/1/2015 – 12/31/2019 Crash data is extracted from FDOT CARS.

7.1.1 Existing LOS Analysis

As mentioned in the approved TAM, HCS7 was used to evaluate the freeway segments for both AM and PM peak hour conditions along I-4. The peak directional volumes were derived using the existing AADT (65,500) and a Standard K of 9% and D factor of 58% based on information from the FTO for I-4 north of SR 472. The existing peak hour volumes on the I-4 mainline are shown in **Figure 31**. Density and estimated LOS based on HCM metrics are provided for the freeway segment analysis. The analysis indicates that all freeway segments operate at LOS B. The HCS7 freeway analysis reports are provided in **Appendix G-2**.

Table 41: Existing Freeway LOS Analysis - Volusia County Site 1

I-4 Segment	AM Peak Hour		PM Peak Hour	
	Density (pc/mi/h)	LOS	Density (pc/mi/h)	LOS
I-4 Eastbound	18.8	C	13.5	B
I-4 Westbound	13.5	B	18.8	C

7.1.2 Crash Analysis

The latest available five years of crash data from (January 1, 2015 to December 31, 2019) for the study segment (Roadway ID 79110000 MP 22 to MP 24) was extracted from the FDOT CARS. Based on the crash data obtained, a total of 166 crashes occurred within the last five years. Raw crash data is included in **Appendix G-3**.



→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 31

Existing Peak Hour Volumes
Volusia County Site 1

As shown in **Table 42**, Rear End crashes accounted for most crashes (35.5% of total) followed by Off Road crashes (27.1% of total). 61 of the reported crashes involved injury, one crash involved a fatality, and 104 crashes involved property damage only. There were no Pedestrian or Bike crashes reported for this segment. Dark-lighted condition crashes accounted for 41 crashes or 24.7% of crashes. Wet pavement conditions accounted for 56 crashes or 33.7% of crashes.

Table 42: Crash Summary – I-4 (Roadway ID 79110000 MP 22 to MP 24)

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	19	20	9	4	7	59	35.5%
Sideswipe	8	8	8	4	1	29	17.5%
Rollover	0	0	0	0	0	0	0.0%
Angle	1	5	0	0	1	7	4.2%
Left Turn	0	0	0	0	1	1	0.6%
Off Road	13	11	8	5	8	45	27.1%
Other	7	7	2	5	4	25	15.1%
Total	48	51	27	18	22	166	100.0%
Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	1	0	0	1	0.6%
Injury	18	22	11	2	8	61	36.7%
Property Damage Only	30	29	15	16	14	104	62.7%
Total	48	51	27	18	22	166	100.0%
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	12	12	12	9	11	56	33.7%
Dry	36	39	15	9	11	110	66.3%
Total	48	51	27	18	22	166	100.0%
Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	37	34	20	13	13	117	70.5%
Dusk	2	2	0	2	1	7	4.2%
Dawn	0	0	0	0	1	1	0.6%
Dark	9	15	7	3	7	41	24.7%
Total	48	51	27	18	22	166	100.0%
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	1	1	0	2	1.2%
Total	0	0	1	1	0	2	1.2%

7.2 Future Volume Development

Future traffic forecasts were estimated based on CFRPM 7 model-based growth rates between the base year 2015 and horizon year 2045 volumes. For this PTAR, the only difference between No Build and Build conditions will be the presence of the potential truck site. A daily truck percentage of 17% was used for I-4 mainline based on the Florida Traffic Online (FTO) count data. A design truck factor of 9% (half of the daily factor) was used for I-4 based on guidance from the 2019 PTFH.

No Build Volumes: An annual growth rate of 1.5% based on the CFRPM model was used to forecast the 2025 and 2045 No Build AADT volumes. Then these AADTs were converted to peak directional volumes using a Standard K of 9% and D factor of 58% based on information from the FTO for I-4 north of SR 472. The CFRPM plots are provided in **Appendix G-4**.

Build Volumes: As mentioned in the analysis methodology document, the peak hour truck trips from/to the truck site were determined using the FHWA model and then assigned to the ramps – entry/exit to the truck site. The concept plans for the two truck sites along I-4 (eastbound and westbound) are provided in **Appendix G-4**. Based on this concept, deceleration/acceleration lengths of around 2,000 feet are provided for off- and on-ramps at this truck site. To be conservative, the same truck trips were assumed for both 2025 and 2045 Build conditions.

The year 2025 and the year 2045 AM and PM future volumes for No Build are shown in **Figure 32** and the year 2025 and year 2045 AM and PM Build condition future volumes are shown in **Figures 33 and 34**, respectively.



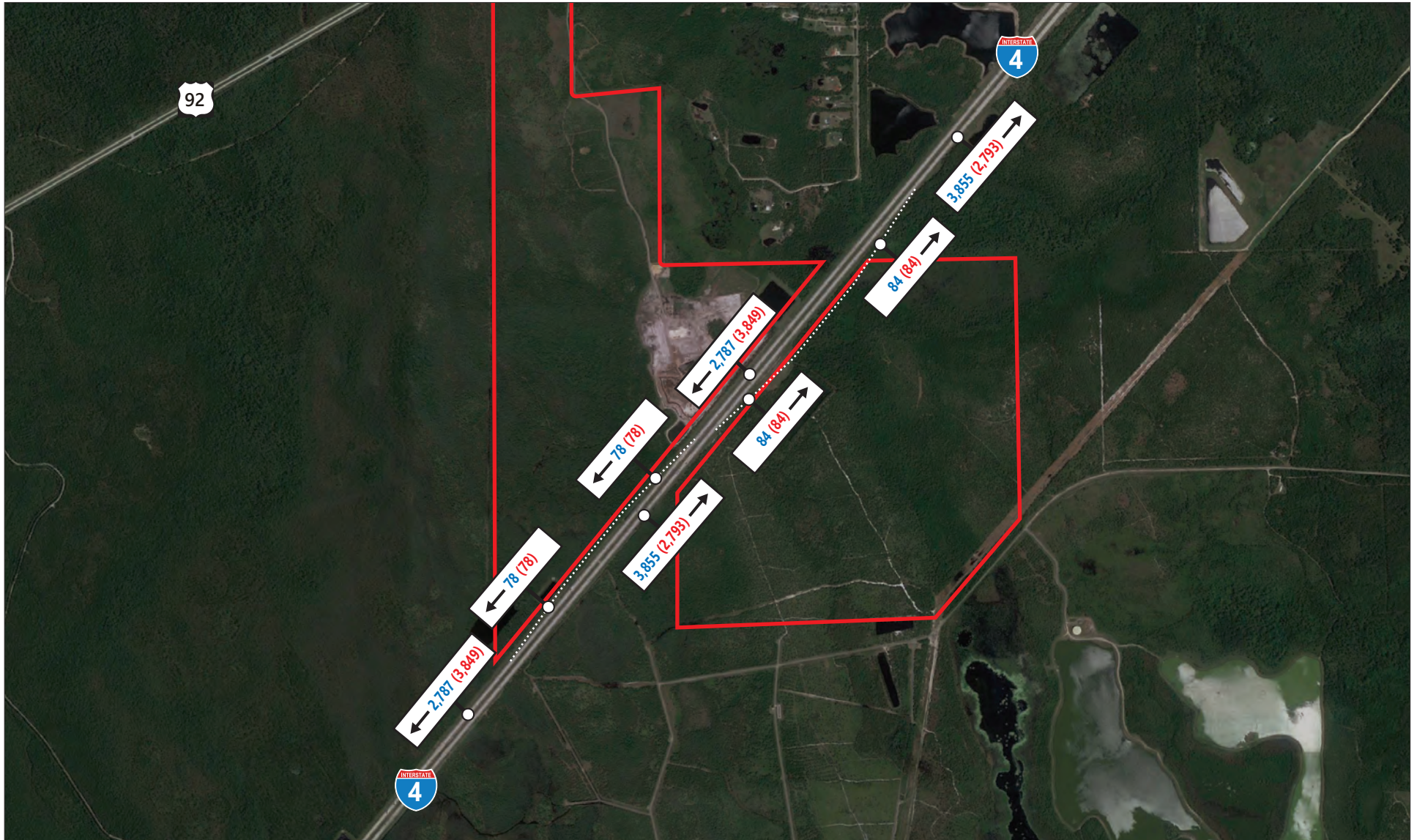
→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes



Figure 32

Future No Build Peak Hour Volumes
Volusia County Site 1

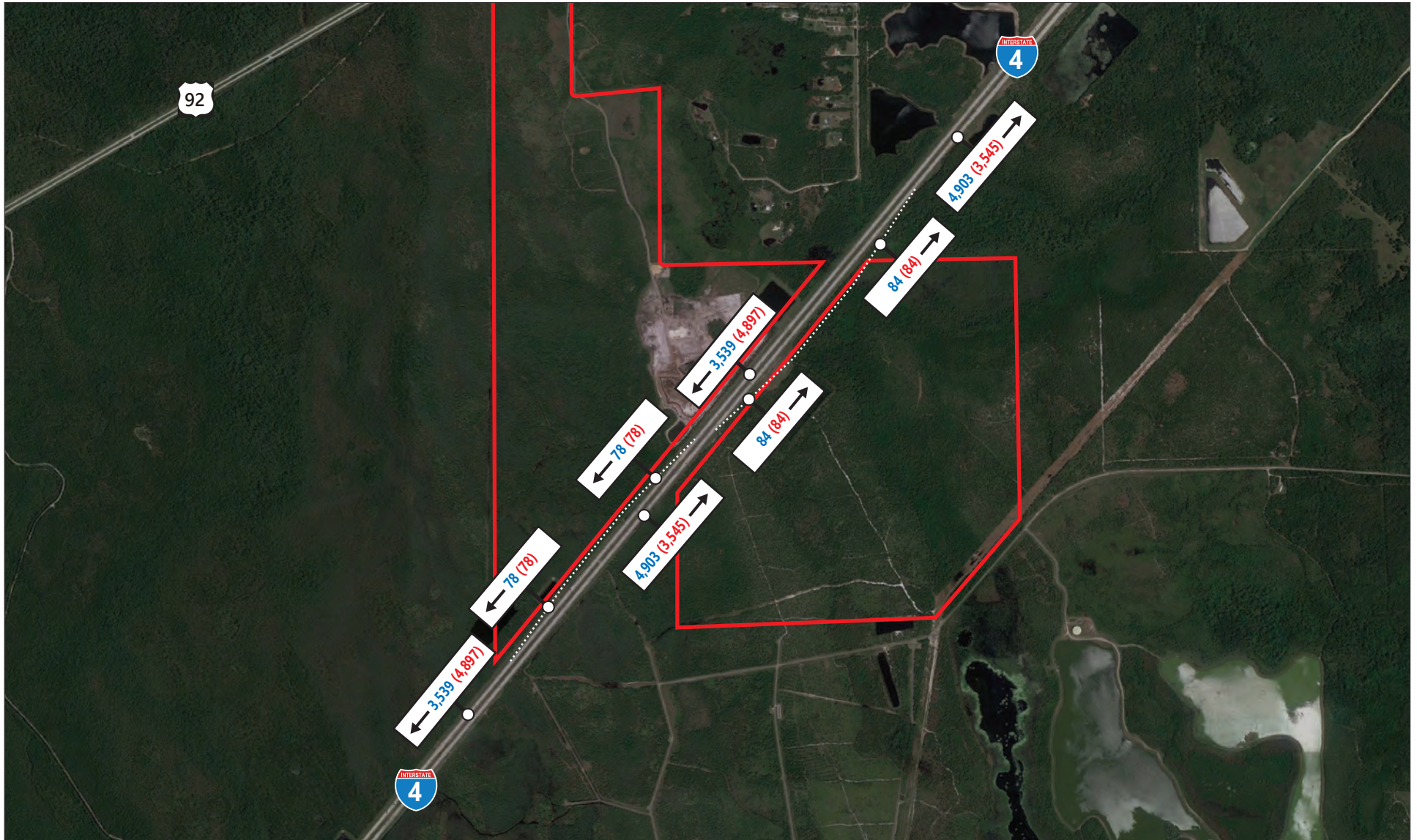


- Traffic Movement
- AM (PM) Peak Hour Traffic Volumes
- Truck Site Location



Figure 33

Future Year 2025 Build Peak Hour Volumes
Volusia County Site 1



→ Traffic Movement

AM (PM) Peak Hour Traffic Volumes

— Truck Site Location



Figure 34

Future Year 2045 Build Peak Hour Volumes
Volusia County Site 1

7.3 Future Condition Analysis

7.3.1 No Build LOS Analysis

Density and estimated LOS based on HCM metrics are provided for the freeway segment analysis. The analysis indicates that all freeway segments are expected to operate at LOS D or better through the year 2045 conditions. The HCS7 freeway analysis reports are provided in **Appendix G-5**.

Table 43: 2025 No Build Freeway LOS Analysis

I-4 Segment	AM Peak Hour		PM Peak Hour	
	Density (pc/mi/h)	LOS	Density (pc/mi/h)	LOS
I-4 Eastbound	20.8	C	14.8	B
I-4 Westbound	14.8	B	20.8	C

Table 44: 2045 No Build Freeway LOS Analysis

I-4 Segment	AM Peak Hour		PM Peak Hour	
	Density (pc/mi/h)	LOS	Density (pc/mi/h)	LOS
I-4 Eastbound	28.3	D	19.0	C
I-4 Westbound	19.0	C	28.3	D

7.3.2 Build LOS Analysis

Density and estimated LOS based on HCM metrics are provided for the freeway segment analysis. As part of the Build condition, an EB Off-Ramp to the truck site and a WB On-Ramp from the truck site will be added. The analysis indicates that all freeway segments are expected to operate at LOS D or better through the year 2045 conditions, similar to the No Build conditions. The HCS7 freeway analysis reports are provided in **Appendix G-5**. Based on the Build analysis, the assumed deceleration/acceleration lengths for the off- and on-ramps should be adequate for the year 2045 traffic conditions.

Table 45: 2025 Build Freeway LOS Analysis

Direction	Segment	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/h)	LOS	Density (pc/mi/h)	LOS
I-4 Eastbound	I-4 Btw SR 44 and EB Off-Ramp to Truck Site	21.8	C	15.6	B
	EB Off-Ramp to Truck Site (Diverge)	23.8	C	17.2	B
	I-4 Btw EB Off-Ramp to Truck Site to EB On-Ramp from Truck Site	21.2	C	15.1	B
	EB On-Ramp from Truck Site (Merge)	24.2	C	17.3	B
	I-4 Btw EB On-Ramp from Truck Site to US 92	21.8	C	15.6	B
I-4 Westbound	I-4 Btw US 92 44 and WB Off-Ramp to Truck Site	15.7	B	21.9	C
	WB Off-Ramp to Truck Site (Diverge)	17.4	B	24.0	C
	I-4 Btw WB Off-Ramp to Truck Site to WB On-Ramp from Truck Site	15.2	B	21.4	C
	WB On-Ramp from Truck Site (Merge)	17.4	B	24.4	C
	I-4 Btw WB On-Ramp from Truck Site to SR 44	15.7	B	21.9	C

Table 46: 2045 Build Freeway LOS Analysis

Direction	Segment	AM Peak Hour		PM Peak Hour	
		Density (pc/mi/h)	LOS	Density (pc/mi/h)	LOS
I-4 Eastbound	I-4 Btw SR 44 and EB Off-Ramp to Truck Site	29.6	D	19.8	C
	EB Off-Ramp to Truck Site (Diverge)	30.3	D	21.9	C
	I-4 Btw EB Off-Ramp to Truck Site to EB On-Ramp from Truck Site	28.8	D	19.3	C
	EB On-Ramp from Truck Site (Merge)	31.6	C	22.2	C
	I-4 Btw EB On-Ramp from Truck Site to US 92	29.6	D	19.8	C
I-4 Westbound	I-4 Btw US 92 44 and WB Off-Ramp to Truck Site	20.0	C	29.9	D
	WB Off-Ramp to Truck Site (Diverge)	22.0	C	30.6	D
	I-4 Btw WB Off-Ramp to Truck Site to WB On-Ramp from Truck Site	19.5	C	29.2	D
	WB On-Ramp from Truck Site (Merge)	22.3	C	31.9	D
	I-4 Btw WB On-Ramp from Truck Site to SR 44	20.0	C	29.9	D

7.4 Future Safety Analysis

An HSM Safety analysis was conducted for the No Build and Build alternatives using the Enhanced Interchange Safety Analysis Tool (ISATe) to quantify and compare the potential future crashes. ISATe was used for Volusia Site because the truck sites are along I-4 (freeway). The results of this analysis are presented in **Table 47**. In addition to the total crashes per year, the number of crashes per year for the year 2045 was broken by severity since an increase in the number of crashes is anticipated along I-4 with the inclusion of the truck sites. The intention is to show that the number of more severe crashes will not significantly increase in the Build condition (compared to the No Build alternative). The associated calculations and supporting documentation of this analysis are presented in **Appendix G-6**.

With the inclusion of the truck site in the Build alternative, crashes/year including fatal/injury and property-damage-only (PDO) in the year 2045 for the study corridor are expected to increase. However, fatal and incapacitating (KA) crashes are not anticipated to increase significantly. It should also be noted that because of the limitations of ISATe for the ramp deceleration and acceleration lengths (the sheet will not accept more than 1,600 feet), the number of crashes in the Build condition may be overestimated. Please note that sight distance and clearance are not safety issues in this segment. The concepts have considered acceleration lane distance for the on-ramp of more than 2,000 feet which will allow for a safe merge of the trucks. Adequate ramp segment lengths are also considered to make sure that the truck queues do not extend to the mainline. In addition, the latest MUTCD guidelines for proper signage must be followed during design to allow adequate time for the drivers to react to the truck stop.

Table 47: Predicted Average Crash Frequency (Crashes/Year) for 2045 - Volusia County Site 1

Study Intersection	Fatal/Injury (KA only)		All Severities (Including PDO)	
	No Build	Build	No Build	Build
I-4 Freeway Segments	1.4	2.0	54.2	73.8
I-4 Ramp Segments	-	-	-	0.5
Total	1.4	2.0	54.2	74.3
Difference (Build minus No Build)	0.6		20.1	

Notes: K- Fatal, A- Incapacitating

Appendices

Appendix A

Traffic Analysis Methodology

Final

Traffic Analysis Methodology

**Freight Parking Project Development &
Environment (PD&E) Study**

**Florida Department of Transportation (FDOT) District Five
Osceola, Orange, Seminole, and Volusia Counties**

FDOT District 5

Financial Project Number (FPID): 447724-1-22-01

May 2022



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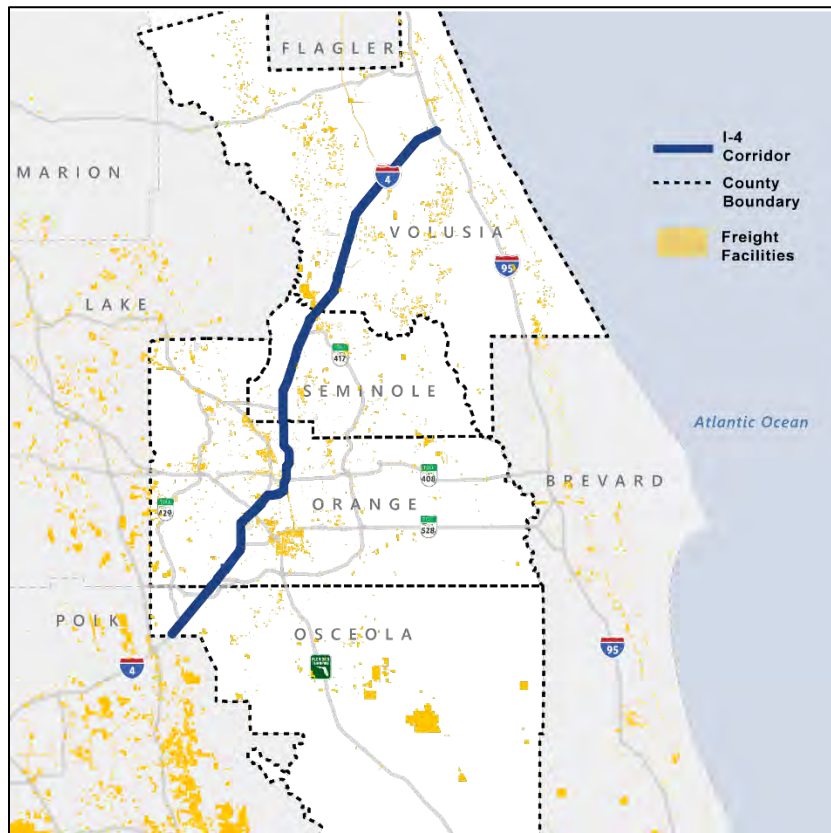
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1 Project Description

The Florida Department of Transportation (FDOT) District Five is conducting a Project Development and Environment (PD&E) study to review, refine, and recommend viable concept sites for truck and freight parking in Osceola, Orange, Seminole, and Volusia Counties. The study area is shown in **Figure 1**.

Figure 1: PD&E Study Area



To date, the six potential parking sites are identified – one within Osceola County, three within Orange County, one within Seminole County, and one within Volusia County. The details of these potential sites are illustrated in the next pages.

Osceola County:

- **Potential Site 1:** South of Osceola Polk County Line Road (CR 532) and west of US 17/92 (see Figure 2)

Figure 2: Osceola County Potential Site -1



Orange County:

- **Potential Site 1:** Northeast Quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by the Florida's Turnpike (see Figure 3)

Figure 3: Orange County Potential Site -1



- **Potential Site 2:** North of Landstreet Road, just west of the State Road 528 interchange (see Figure 4)

Figure 4: Orange County Potential Site -2



- **Potential Site 3:** Across from the FDOT office located south of Landstreet Road near Parkers Landing (see Figure 5)

Figure 5: Orange County Potential Site -3



Seminole County:

- **Potential Site 1:** Along Monroe Road, south of Orange Boulevard, and is bounded by the I-4 corridor (see Figure 6)

Figure 6: Seminole County Potential Site -1



Volusia County:

- **Potential Site 1:** Along I-4 near Mile Marker 127 (see Figure 7)

Figure 7: Volusia County Potential Site -1



As part of the project traffic analysis for this PD&E Study, the objective is to evaluate operational and safety needs for the existing and future transportation demand near the viable parking sites. The goal of the traffic analysis is to evaluate the impacts of the trucks (generated by the potential truck parking sites) and identify mitigation strategies at the nearby study intersections, and to provide the required turn lane lengths at the potential truck parking sites.

This document provides details of the technical approach for Task 4.5, Traffic Analysis of the Freight Parking PD&E Study and is revised based on FDOT's comments received on the Draft Traffic Analysis Methodology, dated April 2022. The responses to comments are provided in **Appendix A**. The traffic analysis will be conducted based on methods and procedures described in the *2020 FDOT PD&E Manual*, the *2021 FDOT Traffic Analysis Handbook*, and the *2019 FDOT Project Traffic Forecasting Handbook*. In addition, *Federal Highway Administration's (FHWA's) Report – Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002* was reviewed along with the *available count summaries provided by FDOT for rest area sites along I-4, I-75, and I-95 in District Five and I-75 and I-95 in District Two* were reviewed to generate truck trips for the potential sites. The traffic analysis results and recommendations will be documented in the Project Traffic Analysis Report (PTAR).

2 Study Intersections & Existing Traffic Data Collection

Based on the location of the potential sites, the study intersections – existing as well future, as shown in **Table 1** will be included in the PTAR. Please note that the conceptual site layouts have not been finalized yet, and as such, information about future locations are subject to change.

For the PTAR, the following existing traffic data will be collected. Turning movement counts (TMCs) will be collected during typical weekdays (Tuesday, Wednesday, and Thursday) while the schools are in session.

- Available Florida Traffic Online (FTO) classification/volume counts on the roadway segments near the six potential sites
- TMCs will be collected for the AM (7-9 AM) and PM (4-6 PM) peak periods to coincide with the adjacent (to the truck parking site) street(s) peak period traffic
 - The 11 existing study intersections listed in **Table 1**
- Pedestrian and bicycle data will be extracted from the field collected TMCs. Freight movement data or the number of trucks will be extracted from the available FTO count sites, field collected TMCs, and previous counts (if available).

To determine the impacts, if any, of the COVID-19 Pandemic and verify if adjustments will be needed, the year 2019 FTO counts and available previous will be reviewed as needed.

Table 1: Existing and Potential Future Study Intersections

County	Site#	Location	Study Intersection	Existing/ Future
Osceola	1	South of Osceola Polk County Line Road (CR 532) and west of US 17/92	1-CR 532 at US 17/92	Existing /Future
			2-CR 532 at Potential Truck Stop	Future
			3-CR 532 at PPE off-ramp	Future
Orange	1	Northeast Quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by the Florida's Turnpike	1-Sand Lake Road at John Young Parkway	Existing /Future
			2-Sand Lake Road at Potential Truck Stop	Future
			3-Sand Lake Road at Presidents Drive	Existing /Future
			4-Sand Lake Road at Turnpike SB Off-Ramp	Future
			5-Sand Lake Road at Turnpike NB Ramps	Future
	2	North of Landstreet Road, just west of the State Road 528 interchange	1-Landstreet Road at SR 528 WB off-ramp	Existing /Future
			2-Landstreet Road at US 441	Existing /Future
			3-Landstreet Road at Potential Truck Stop	Future
			4-Landstreet Road at SR 528 EB on-ramp	Existing /Future
	3	Across from the FDOT office located south of Landstreet Road near Parkers Landing	1-Land Street Road at Parkers Landing	Existing /Future
			2-Landstreet Road at Potential Truck Stop	Future
			3-Landstreet Road at Sidney Hayes Road	Existing /Future
Seminole	1	Along Monroe Road, south of Orange Boulevard, and is bounded by the I-4 corridor	1-US 17/Monroe Road at Orange Boulevard	Existing /Future
			2-US 17/Monroe Road at Potential Truck Stop	Future
			3-US 17/Monroe Road at I-4 EB On-Ramp	Existing /Future
			4-US 17/Monroe Road at Seminole Boulevard	Existing /Future
Volusia	1	Along I-4 near Mile Marker 127	1-I-4 EB Off-Ramp to Truck Stop	Future
			2-I-4 EB On-Ramp to Truck Stop	Future
			3-I-4 WB Off-Ramp to Truck Stop	Future
			4-I-4 WB On-Ramp to Truck Stop	Future

Note: Future locations are subject to change based on the site layout and other factors such as proposed interchanges/intersections near a potential site location

3 Project Assumptions

3.1 Analysis Years

The required traffic operational analysis will be conducted for the following analysis years:

- Existing Year: 2022
- Opening Year: 2025
- Design Year: 2045

FDOT's latest adopted regional travel demand model - Central Florida Regional Planning Model (CFRPM) version 7 will be used for the traffic forecasting purposes:

- Base Year: 2015
- Horizon Year: 2045

3.2 Project Alternatives

Travel Demand Modeling

For travel demand model forecasting, a single Build Alternative will be evaluated in the PTAR. The Build Alternative will include all the committed and cost-feasible intersection/roadway improvements as identified in the latest adopted Metropolitan Transportation Plan (MTP) from MetroPlan Orlando.

Operational Analysis

For operational analysis of the future conditions, a No-Build Alternative and a Build Alternative will be evaluated in the PTAR. The No-Build Alternative will include all the programmed/planned intersection/roadway improvements but without the potential truck parking locations.

The Build Alternative will include all the programmed/planned intersection/roadway improvements and the potential truck parking locations. It will be used to understand the impacts of the trucks that will be added to each study intersection/freeway facility because of the potential parking sites.

As such, each Build Alternative will include additional improvements, if needed, to mitigate the impacts of the additional trucks generated by a potential parking site. The turn lane length requirements as needed for the truck parking sites as well as the study intersections/freeway facilities will be provided.

3.3 Target Level of Service (LOS)

LOS targets per the State Highway System, Policy No. 000-525-006c, effective April 19, 2017, and adopted Comprehensive Plans for Osceola, Orange, Seminole, and Volusia counties are summarized below:

- Study intersections along state roadways: LOS D
- Study intersections along non-state (county) roadways: LOS E

3.4 Analysis Tool(s)

Synchro 11 will be used to conduct the LOS operational analysis of the study intersections. HCS 2022, which is based on the recently released 7th Edition of Highway Capacity Manual (HCM 7th Edition), will be used to conduct the freeway merge/diverge analysis for the Volusia County site.

3.5 Design Hour Traffic Factors for Future Analysis

- Peak Hour Factor (PHF)
 - 0.95
- Standard K Factor (proportion of the Annual Average Daily Traffic [AADT] that occurs during the design hour):
 - 9.0% for all study roadways (source: Project Traffic Forecasting Handbook)
- D Factor (percentage of the total, two-way design hour traffic traveling in the peak direction)
 - Will be determined in the PTAR based on sources including existing data collected in the field, historical data reported by FTO, and recommended ranges identified in the 2019 Project Traffic Forecasting Handbook

- T Factor (percentage of the AADT volume generated by trucks or commercial vehicles).
 - Background Condition (without the truck parking sites): Will be determined in the PTAR
 - Truck Parking Site Trip Generation: The number of truck trips generated by the potential parking sites: **See Section 4**

3.6 Study Measures of Effectiveness (MOEs)

The analysis results will include the following performance measures as shown in Table 2.

Table 2: Study MOEs

Configuration Type*	MOE
Signalized Intersection	<ul style="list-style-type: none"> ▪ Overall LOS & delay (seconds per vehicle) ▪ 95th percentile queues for turn lanes (for future storage length requirements)
Unsignalized Intersection	<ul style="list-style-type: none"> ▪ Worst movement LOS & delay (seconds per vehicle) ▪ 95th percentile queues for turn lanes (for future storage length requirements)
Freeway Segments (Basic/Merge/Diverge)	<ul style="list-style-type: none"> ▪ Density and LOS

Note: Roadway/intersection types shown in this table are anticipated to be evaluated as part of this study

3.7 Safety Analysis

Historical Crash Data: 2015-2019

Source:

- FDOT Crash Analysis Reporting System (CARS) database for state roadways
- Signal Four Analytics for non-state roadways

4 Future Traffic Development

The traffic forecasting methodology will be consistent with the procedures outlined in the 2019 FDOT Project Traffic Forecasting Handbook. This section discusses the detailed methodology for the future year traffic forecast development process for both No-Build and Build conditions.

4.1 Future Year Model Development

Before conducting the year 2045 CFRPM version 7 run, the roadway network (Cost Feasible 2045 network) will be reviewed and updated as needed. The future year travel demand model will consider programmed and planned improvements in the vicinity of the potential truck parking locations that are consistent with regional transportation plans including the following:

- FDOT Five Year Work Program
- FDOT Strategic Intermodal System (SIS) plans
- Committed improvements from local and private sources
- Adopted LRTPs and Comprehensive Plans

4.2 Future Traffic Forecasts

The design year 2045 traffic volumes will be estimated by using a recommended growth rate or rates. The rate(s) will be determined based on a review of the following sources:

- Growth rates based on historical traffic trends analysis for the last 10 years, if available.
- Travel demand model based growth rates between the base year 2015 and horizon year 2045 volumes from CFRPM version 7
- Growth rates based on the latest Bureau of Economics & Business Research [BEBR] low, medium, and high population estimates
- Previous Studies: Traffic forecasts from previous studies will be used directly or for comparison purposes
 - Osceola-Polk Line Road (CR 532) Widening Design Traffic Analysis, dated November 2020

- Florida's Turnpike and Sand Lake Road, Final Interchange Justification Report, dated February 2017
- I-4 Beyond the Ultimate (BtU) North Systems Access Modification Report, dated March 2017
- Additional previous studies provided by FDOT, and Osceola, Orange, Seminole and Volusia Counties

Should there be future traffic estimates that are not consistent with the historic trends or reasonable expectations for growth in the study corridor, these issues will be reviewed with the Department, and an acceptable solution will be reached on any revisions necessary.

The opening year 2025 traffic projections at the study intersections generally will be developed by the method of interpolation using the year 2022 (existing traffic volumes) and the year 2045 traffic volumes.

4.3 Design Hour Volumes

4.3.1 Background Volumes (or No-Build Alternative Volumes)

The background condition represents the traffic volumes without the potential truck parking sites. To derive the design hour volumes, forecasted volumes from previous reports will most likely be used. If a recommended growth rate are used for a site, then that growth rate will used to grow the existing volumes to derive the future volumes. The resulting volumes will be adjusted to account for reasonability and balancing purposes.

4.3.2 Trip Generation for the Truck Parking Sites

The public parking locations which will provide restrooms, vending machines and a place to park, and will not provide fueling positions. The parking locations are generally located within the urban area with access to other nearby private parking locations except for the Volusia County location that is along I-4.

Also, the peak truck traffic generally does not occur during the rush hour traffic along an arterial or a freeway. Because of these reasons, it is reasonable to believe that the number of trucks entering a public parking location will be lower than its parking capacity during the AM (7-9 AM) or PM (4-6 PM) peak hour conditions that are important for the study segments and intersections.

Having said that, two sources were reviewed, and data analyzed to estimate reasonable truck trips at the study truck parking locations. The two sources are:

FHWA’s Report – Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002

A corridor model was developed by FHWA that predicts truck parking demand for a highway segment based on total truck-hours of travel and the time and duration of stops. This approach is based on the theory that demand for parking is better explained by hours driving than by attributes of individual truck stops and rest areas. The model also considers the ratio of short-haul to long-haul trucks and the inclination to use public or private parking spaces for different parking purposes. Building the modeling framework around this system-level approach also provided a basis to examine the influences of hours-of-service (HOS) regulations as well as driving time and distance on parking demand.

Table 3: Data Requirements for FHWA’s Truck Parking Demand Model

Model Variable	Description
L	Length of highway segment (mile)
AADT	Annual average daily traffic (vehicles per day)
P _t	Percent of daily traffic consisting of commercial trucks
S	Speed limit of highway or average truck speed (mph)

Source: FHWA’s Report – Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002

Table 4: FHWA’s Truck Parking Demand Model Parameters

Model Variable	Description	Default Value
F _S	Seasonal peaking factor	1.15
D _{ST}	Short-term parking duration per hour traveled (min/hour)	5
T _{DRIVING}	Maximum hours driven per week	70
T _{LOAD/UNLOAD}	Average hours spent loading/unloading per week	15
T _{HOME}	Average hours spent at home per week	42
T _{SHIPPER/RECEIVER}	Average hours spent parking for rest at shipper/receiver per week	16
P _{RA}	Proportion of demand for rest area spaces	0.23
P _{TS}	Proportion of demand for truck stop spaces	0.77
P _{SH}	Proportion of total trucks that are short-haul	0.36 or 0.07*
P _{LH}	Proportion of total trucks that are long-haul	0.64 or 0.93*
PPF _{SH}	Peak-parking factor for short-haul trucks	0.02
PPF _{LH}	Peak-parking factor for long-haul trucks	0.09

Source: FHWA’s Report – Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002

This model will be used to estimate the demand for the study public parking locations. For this study, the calculated demand for each study location will be utilized as the number of trucks that enter a study site. The same number of trucks will be used that leave the facility for conservative purposes.

Available count summaries provided by FDOT for rest area sites along I-4, I-75, and I-95 in District Five and I-75 and I-95 in District Two

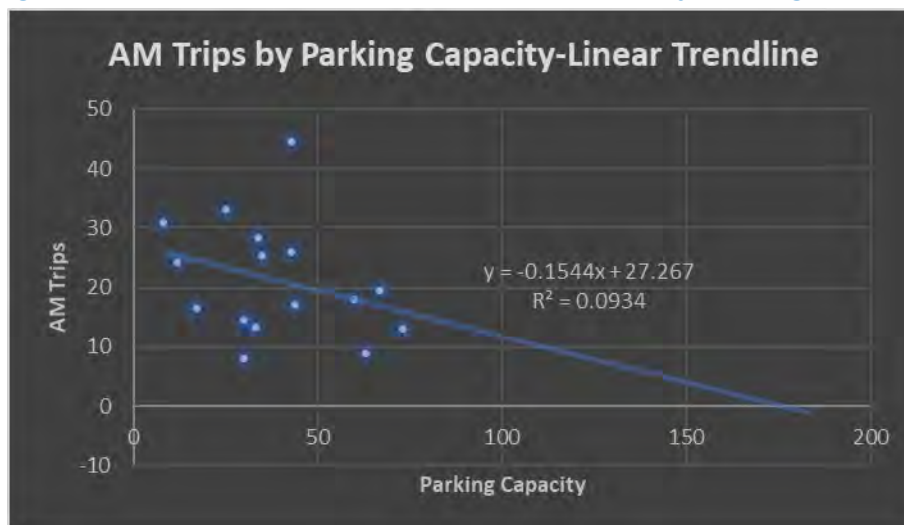
The Study Team collected and evaluated the AM (8-9 AM) and PM (5-6 PM) peak hour truck trips at available FTO rest area locations for the years 2015 through 2020 within FDOT Districts Five and Two. The 2020 counts were used if they were found to be reasonable compared to previous years. The FTO sites at the rest areas provided hourly all-vehicle trips for the AM and PM peak hours but did not provide truck trips separately for the peak hours. All the sites provided outbound (from the rest area to the freeway) counts. For this study, the daily truck percentage at each location was used to calculate the peak hour truck trips for these rest area sites. These truck trips are

assumed to be the outbound trips generated at each of these rest area locations. As with source one, the entering trips are assumed to be the same as leaving trips for each of locations.

As the second step, once the data was cleaned to get average (of all the available years) truck trips for each location, five different trendlines including Linear, Logarithmic, Polynomial (with order 2 to 5), Power, and Exponential were explored to determine the reliability of each of these trendlines. The parking capacities were obtained from the Truck Parking Locations Review web application developed for FDOT¹.

The trendlines were tested for the AM and PM trips separately and combined data as well. None of the trendlines had R-squared (R^2) values of more than 80%, which represents a poor fit of the base data. An example trendline plot is illustrated in **Figure 8**. As shown in **Figure 8**, the R^2 value is less than 10%. Therefore, an average trip rate for one truck parking spot was used instead. The average rate is defined as the number of truck trips generated by one parking spot. This is the general methodology followed for trip generation of a land-use. Based on available data, an average rate of 1.0 for entering plus exiting truck trips (or 0.5 for entering or exiting trips) per parking spot was calculated.

Figure 8: Example Linear Trendline for AM Trips by Parking Capacity



Notes:

- 1) The plot is based on FTO counts at rest areas along freeways (I-4, I-75, and I-95) in FDOT Districts' Two and Five.
- 2) The equation shown in this plot predicts truck trips (y) based on the independent variable – parking capacity (x)
- 3) R^2 represents the goodness-of-fit of the trendline

Conclusion

Based on coordination with FDOT (see **Appendix B** for details), it was decided to use the FHWA methodology to calculate the peak-hour truck trips that will be generated at each site. One of the main reasons for this decision was that the average rate uses a linear relationship between a dependent variable and an independent variable - the number of available parking spaces that are along freeways only and observed AM/PM peak hour truck trips. As such, the average rate does not take into account other factors that the FHWA methodology takes into consideration. In addition, considering the fact that the proposed parking locations are public and will only provide parking, restrooms, and vending machines – which will restrict the number of peak-hour (of the adjacent street[s]) truck trips to these locations.

The FHWA methodology takes into consideration the AADTs on the segments that have access to these sites, truck percentages, and other important factors such as driving time, parking time, the proportion of Short-haul and Long-haul trucks, etc. These factors used in the FHWA model were based on surveys conducted in several US states.

To conclude, peak hour truck trips (either entering or leaving a site) were calculated using the FHWA model as shown in **Table 5**. Also, an example is explained in this document for a potential site (#1) in Orange County. This site is in the northeast quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by the Florida's Turnpike. Based on a preliminary concept of this site, it is estimated to provide around 109 parking spaces and will also be directly accessed from Florida's Turnpike. There is a plan to construct a new interchange on Sand Lake Road with Florida's Turnpike. For the purpose of FHWA's model, three corridors were assumed to have access to the study parking site – 1) John Young Parkway, 2) Sand Lake Road, and 3) Florida's Turnpike. A corridor length of 5 miles for John Young Parkway and Sand Lake Road and a length of 10 miles for Florida's Turnpike was assumed based on the availability of the nearby private/public truck

parking locations. There are several private truck parking locations within a 5 to 10-mile range of the study location. The FHWA model calculations for all the sites are provided in **Appendix C**.

Table 5: Truck Trip Estimation for the Proposed Truck Parking Sites

County	Site Sl. No.	Site Description	Proposed Truck Parking Spaces	Estimated Truck Trips	
				In	Out
Osceola	1	South of Osceola Polk County Line Road (CR 532) and west of US 17/92	234	53	53
Orange	1	Northeast Quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by the Florida’s Turnpike	109	55	55
	2	North of Landstreet Road, just west of the State Road 528 interchange	59	20	20
	3	Across from the FDOT office located south of Landstreet Road near Parkers Landing	48	16	16
Seminole	1	Along Monroe Road, south of Orange Boulevard, and is bounded by the I-4 corridor	156	35	35
Volusia	1	Along I-4 EB near Mile Marker 127	275	84	84
	2	Along I-4 WB near Mile Marker 127	253	78	78

Note:

1) FHWA model provides parking demand for a public parking spot. This study assumes that this demand is the number of trucks that enter or exit a study site

Finally, to derive the truck trips for relevant movements at a study intersection, the following steps were followed:

- 1) Identify and allocate a recommended truck percentage for each impacted movement at a study intersection based on its location relative to the truck parking site. For example, if a study intersection is located west of a truck parking site, then the impacted movements will be eastbound through, northbound right, and southbound left turn movements at that study intersection. The recommended truck percentages will be either taken from FTO counts or previous studies

- 2) Calculate the weighted average based on future 2045 volumes (for the approach of the impacted movement[s]) and the allocated truck percentages (from step 1) for each impacted movement.
- 3) Use this weighted average to distribute the number of entering and exiting trucks for all impacted movements near a truck parking site.

4.3.3 Total Volumes (or Build Alternative Volumes)

The background volumes will be added to the truck trips (calculated for each study location) to derive the total volumes for the study intersections/freeway facilities.

5 Operational Analysis

5.1 Traffic Operational Analysis

Detailed operational analyses will be performed for all analysis years for both AM and PM peak hours. Analyses will be performed for the following scenarios at each study location:

- Existing Year 2022
- Opening Year 2025 (No-Build and Build)
- Design Year 2045 (No-Build and Build)

As mentioned before in Section 3, a No-Build Alternative and a Build Alternative will be evaluated in the PTAR. The No-Build Alternative will include all the programmed/planned intersection/roadway improvements but without the potential truck parking locations.

The Build Alternative will include all the programmed/planned intersection/roadway improvements and the potential truck parking locations. It will be used to understand the impacts of the trucks that will be added to each study intersection/freeway facility because of the potential parking sites. As such, each Build Alternative will include additional improvements, if needed, to mitigate the impacts of the additional trucks generated by a potential parking site. The turn lane length requirements as needed for the truck parking sites as well as the study intersections/freeway facilities will be provided. For example, the required acceleration and deceleration lengths based on the ramp merge/diverge analysis will be provided for the Volusia County site along I-4.

6 Safety Analysis

6.1 Crash Data Analysis

Detailed crash data within the study area will be analyzed and documented. Crash Analysis will summarize crash rates, location of crashes, crash types, contributing causes of these crashes, most common types of crashes, crash severity (fatal, injury and property damage only), critical crash rates, and safety ratios.

6.2 Safety Analysis

The safety analysis will be performed in accordance with Part 1, Chapter 2 of the PD&E Manual. Based on the information obtained from the crash data, the project safety needs associated with the existing and future conditions will be identified. Furthermore, No-Build and Build Highway Safety Manual (HSM) safety analysis will be conducted utilizing predictive crash methods to compare potential future crashes between alternatives. Crash Modification Factors (CMF's), if available, will be used for improvements at the study intersections under the Build Alternative.

7 Documentation

A PTAR will be prepared to document the data collection task, results of existing conditions analysis, development of future AADTs and design hour volumes, safety analysis, No-Build and Build alternative analysis results and study recommendations.

Appendix A

Responses to Comments

Responses to Comments

Draft Traffic Analysis Methodology, dated April 2022
Freight Parking Project Development & Environment (PD&E) Study
FDOT District Five
Osceola, Orange, Seminole, and Volusia Counties

1. Define acronyms, TMC, FTO, etc, when first appear and used acronyms afterward

Response: Comment noted. We will revise the document as needed.

2. First sentence, Page 18: Parking capacities for each location were not averages. Please delete as the last sentence of this paragraph explains where they were obtained.

Response: Comment noted. We will revise the document as needed.

3. Second paragraph is not clear. How was an average rate of 1 parking spot calculated? Also specify the unit of change. Consider revising to read "1 truck parking spot".

Response: The average rate is the number of trips generated by each truck parking spot. This will be clarified in the revised document. We will revise 1 parking truck spot to 1 truck parking spot.

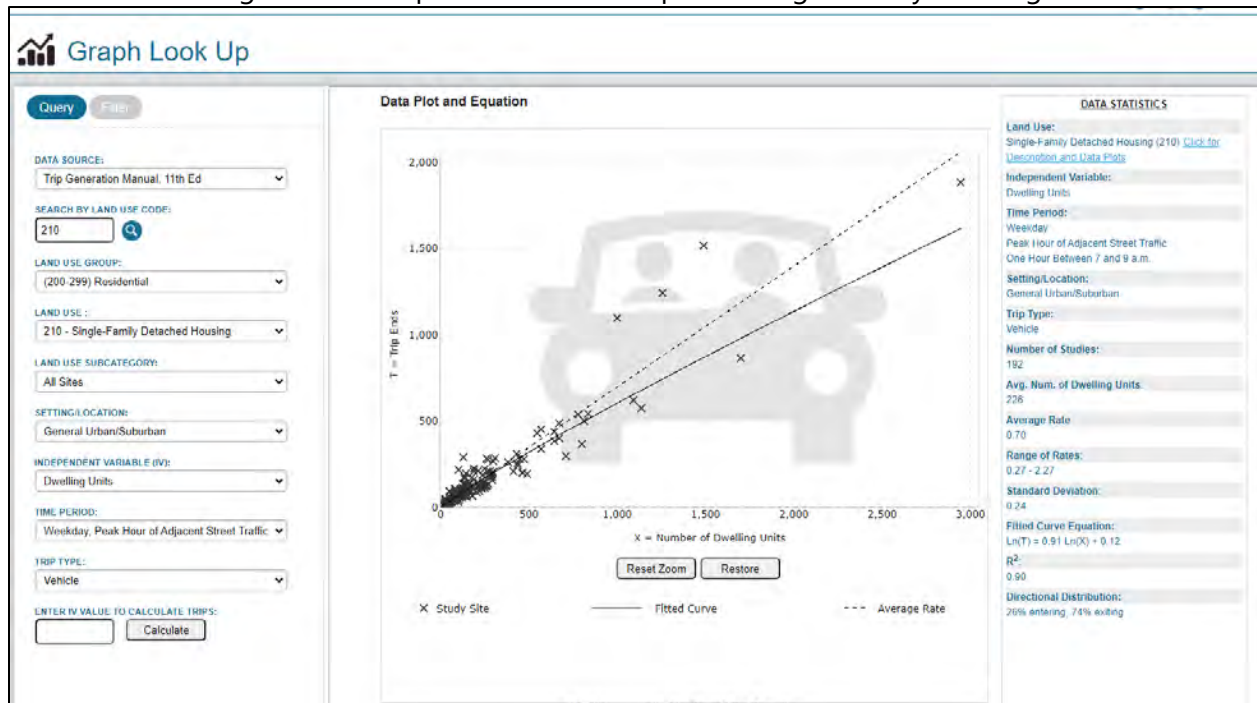
4. Page 18, Figure 8. Trend analysis is not clear. The example provided has at least four data points that show negative AM trips for various capacity values. Please verify this as they don't match the counts provided in the appendix. How was the poor fit trend used to estimate the rate of change of trips per available capacity?

Response: Comment noted. For some reason, the chart was not copied properly into the word document. We did not use the trendline to estimate the trips generated by a truck parking facility. The chart was provided as an example to show that when a scatter plot was created using parking capacity and AM (or PM) parking trips, the corresponding regression trendline had a poor fit (see R-square value) – which means that trendlines cannot be used to estimate truck trips. Therefore, an average trip rate was used instead. This is the general methodology followed for trip generation of a land-use.

5. Page 18, explain how average rate of 0.5 truck trip per location was derived. How does this relate to 1 truck parking spot—does it mean two trips would occupy one parking spot?

Response: The definition of average trip rate is how many potential trips a single entity (such as a parcel or in this case a parking spot - an independent variable) can generate during a peak hour. This rate is used to calculate the total estimated peak hour trips that a certain number of parking spots can generate. For example, 100 parking spots can generate 50 trucks during PM peak hour with an average rate of 0.5. Also, see below for an example from the ITE Trip Generation Manual. As seen in the below figure, a single-family house has an average trip rate of 0.70 during the AM peak hour.

Figure 1: ITE Trip Generation Example for Single-Family Housing



6. Page 19, the first paragraph states 110 spaces are estimated. The table in the example has 190 parking capacity.

Response: Comment noted. The first paragraph will be changed to 190 spaces.

7. Add caption to the Table on Page 19.

Response: Comment noted. A caption will be added to the table.

8. Truck percentages from FTO may not reflect revised patterns due to addition of a truck parking site. The percentages may need to be redistributed based on truck origin/destination and truck generator land uses (warehousing/distribution, port facilities, etc.)

Response: The challenge was to find a reasonably close source to estimate the number of trucks that the proposed public truck spots will be generating during peak hours (of the adjacent roadways). Please note that the proposed public parking spots are unique in the sense that each location will provide parking, restrooms, and vending machines, which most likely will restrict the amount truck trips generated. The FTO sites are probably the closest approximation of the proposed public truck parking locations. The FTO sites are rest areas where there is truck parking and provide restrooms and vending machines. The FTO sites did not exist at one point and trucks started going to these sites when the rest areas were built. Moreover, the proposed methodology will also use FHWA's model to account for other factors such as existing parking availability, truck travel times, short-haul vs long-haul etc. The trips generated by both will be compared and the highest estimate will be used in the study. In conclusion, given the uniqueness of the proposed truck parking spots, it would be unreasonable to assume that more than half of a truck parking lot will be empty during the peak hour.

9. Check if the demand for parking is anticipated to exceed capacity of potential sites as this will affect derivation of peak hour trips and turning movement counts. This issue is likely to occur in the PM period.

Response: Please see response to the above comment 8. To reiterate, based on the two sources used, the demand for parking is not anticipated to exceed. Below are the reasons:

- *The proposed parking spots are public (and not private) and will provide parking, restrooms, and vending machines and not provide fueling positions, which will minimize the number of short trips*
- *The PM peak is the peak hour for the adjacent roadways and not for the parking location itself (which most likely occurs during the off-peak period)*
- *There will be technology in place to inform drivers if a particular parking location is full*

10. The concept of short term and long term is generally explained. In Section 4.3.2 and 4.3.3, there should be some sort of 'profile' for each facility related to its users i.e. short term or long term parking. There are different characteristics to both. If short term there will be more ins-outs and long term there will be more intensive peaks.

Response: This comment is noted. However, as mentioned before, the challenge was to find a reasonably close source to estimate the number of trucks that the proposed public truck spots will be generating during peak hours (of the adjacent roadways). The two closest sources were the FHWA's model and FTO sites. Setting up profiles for short- and long-term parking needs will require field observations of similar sites, which again are not available in the State of Florida. Also, as mentioned before, because of the lack of fueling positions and that the majority of the proposed locations are in urban areas with other parking options, it is anticipated that the short-term trips will not be significant.

11. Section 5.1, delete "[if needed]" in the two instances.

Response: Comment noted.

12. Safety analysis proposes to use Crash Modification Factors (CMF). It is unclear how this method is used as there are no CMFs for truck parking.

Response: Comment noted. The CMFs (if available) will be for addition of turn lanes or other Build alternative improvements and not for the parking locations. This will be clarified in the revised document.

Follow-up Comment received on April 18, 2022 and resolved.

From: Muchuruza, Victor <Victor.Muchuruza@hdrinc.com>

Sent: Monday, April 18, 2022 4:14 PM

To: Trebitz, Mark <Mark.Trebitz@dot.state.fl.us>

Subject: RE: [External] FW: Truck Parking Traffic Methodology (447724-1)

Thanks Mark.

I have accepted all responses. However, they would still need to clarify one by revising the paragraph based on the response to comment #4. Simply they need to say “*Therefore, an average trip rate was used instead. This is the general methodology followed for trip generation of a land-use.*” At the end of the paragraph that ends with 10%.

Victor Muchuruza, PhD, PE, PTOE
D 407.420.4071 M 850.566.2087

hdrinc.com/follow-us

Appendix B

Coordination with FDOT

From: [Muchuruza, Victor](#)
To: [Kevin Freeman](#)
Cc: [Trebitz, Mark](#); [Demond Hazley](#); [Raja Pemmanaboina](#); [Srinivas Kandala](#)
Subject: [External] RE: Truck Analysis summary (2040) for the SLR Site
Date: Thursday, May 19, 2022 9:25:23 AM

Kevin,

I agree with the change. FHWA seems to be plausible. I did research of the trip rate methodology but could not find something to support that. You can modify the TAM as you proposed.

Regards,

Victor Muchuruza, PhD, PE, PTOE
 D 407.420.4071 M 850.566.2087

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From: Kevin Freeman <KFreeman@VHB.com>
Sent: Friday, May 13, 2022 3:07 PM
To: Muchuruza, Victor <victor.muchuruza@hdrinc.com>
Cc: Trebitz, Mark <Mark.Trebitz@dot.state.fl.us>; Demond Hazley <DHazley@VHB.com>; Pemmanaboina, Rajashekar <RPemmanaboina@VHB.com>; Kandala, Srinivas <SKandala@VHB.com>
Subject: Truck Analysis summary (2040) for the SLR Site
Importance: High

CAUTION: [EXTERNAL] This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Victor,

We wanted to reach out to you to highlight a change in the approved Traffic Analysis Methodology (TAM), dated April 2022, for the D5 Truck Parking Study PD&E. The TAM (section 4) suggested that the estimated peak-hour truck trips at each proposed site will be calculated based on two sources – 1) FHWA Methodology and 2) Average trip rate of 1 per one truck parking space (we assumed that a 50/50 split between the entering and exiting trips).

When we calculated the number of truck trips based on each methodology (see Table 1) after the number of parking spaces at each site was preliminarily finalized, we realized that the number of peak-hour truck trips generated at each site using the average rate is not reasonable compared to the FHWA methodology-based numbers.

One of the main reasons for this difference is that the average rate uses a linear relationship between a dependent variable and an independent variable - the number of available parking spaces that are along freeways only and observed AM/PM peak hour truck trips. As such, the average rate does not take into account other factors that the FHWA methodology is taking into consideration. In addition, we also have to consider the fact that the proposed parking locations are public and will only provide parking, restrooms, and vending machines – which will restrict the number of peak-hour (of the adjacent street[s]) truck trips to these locations.

The FHWA methodology takes into consideration the AADTs on the segments that have access to these sites, truck percentages, and other important factors such as driving time, parking time, the proportion of Short-haul and Long-haul trucks, etc. These factors used in the FHWA model were based on surveys conducted in several US states.

In conclusion, we recommend using the FHWA methodology-based peak hour truck trips for the PD&E Study. We will revise the TAM as needed once you are on board with this change.

County	Site Sl. No.	Site Description	Proposed Truck Parking Spaces	Estimated Truck Trips in adjacent street peak hour			
				Average Trip Rate = 1 ¹		FHWA Methodology	
				In	Out	In	Out
Osceola	1	South of Osceola Polk County Line Road (CR 532) and west of US 17/92	261	131	131	53	53
Orange	1	Northeast Quadrant of John Young Parkway and Sand Lake Road Intersection and is bounded by the Florida's Turnpike	109	55	55	55	55
	2	North of Landstreet Road, just west of the State Road 528 interchange	59	30	30	20	20
	3	Across from the FDOT office located south of Landstreet Road near Parkers Landing	48	24	24	16	16
Seminole	1	Along Monroe Road, south of Orange Boulevard, and is bounded by the I-4 corridor	166	83	83	35	35
Volusia	1	Along I-4 EB near Mile Marker 127	275	138	138	84	84
	2	Along I-4 WB near Mile Marker 127	253	127	127	78	78

Notes:

1. An average truck trip rate of 1 for entering plus exiting trips (or 0.5 for entering/exiting trips) was used based on the approved traffic analysis methodology

Thanks,

Kevin Freeman, PE
 Project Manager



225 E. Robinson Street, Suite 300
 Landmark Center Two
 Orlando, FL 32801-4326
 P 407.965.0500 | F 407.839.4008
kfreeman@vhb.com

Engineers | Scientists | Planners | Designers
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Appendix C

Peak Hour Truck Trip Rate Calculations for the Proposed Public Truck Parking Sites

Truck Parking Demand Estimation

FHWA's methodology outlined in the report "Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002"

Site: Orange County Potential Site #1

SandLake	$Vt = AADT * Pt * Fs$	AADT	71000	71000	Vt	8165
		Pt	0.1	10%		
AADT	Annual average daily traffic (vehicles/day)			7100		
Pt	percent of total traffic that is trucks					
Fs	1.15, seasonal peaking factor					
$TT = L/S$		L	5 miles		TT	0.11111 hours
L = analysis segment length (km)		S	45 mph			
S = speed limit or average truck speed (kph)						
Truck-hours of SH and LH travel: $THTSH = PSH \times Vt \times TT$	Psh	0.36			THTsh	326.6
$THTLH = PLH \times Vt \times TT$	Plh	0.64			THTlh	580.622
Truck-hrs of SH parking demand: $THPSH = THTSH / 12$					THPsh	27.2167
Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving time	0.7			THPlh	454.821
Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02			PHPsh	0.54433
Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09			PHPlh	40.9339
SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSI \times Pra$	Pra	0.23			PHP(sh,ra)	0.1252
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77			PHP(sh,ts)	0.41914
$PHP(LH,RA) = PRA \times PHPLH$					PHP(lh,ra)	9.41479
$PHP(LH,TS) = PTS \times PHPLH$					PHP(lh,ts)	31.5191
					Public Spot Demand	9.53999
					Private Spot Demand	31.9382
JYP	$Vt = AADT * Pt * Fs$	AADT	65000	65000	Vt	4485
		Pt	0.06	6%		
AADT	Annual average daily traffic (vehicles/day)			3900		
Pt	percent of total traffic that is trucks					
Fs	1.15, seasonal peaking factor					
$TT = L/S$		L	5 miles		TT	0.11111
L = analysis segment length (km)		S	45 mph			
S = speed limit or average truck speed (kph)						
Truck-hours of SH and LH travel: $THTSH = PSH \times Vt \times TT$	Psh	0.36			THTsh	179.4
$THTLH = PLH \times Vt \times TT$	Plh	0.64			THTlh	318.933
Truck-hrs of SH parking demand: $THPSH = THTSH / 12$					THPsh	14.95
Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving time	0.7			THPlh	249.831
Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02			PHPsh	0.299
Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09			PHPlh	22.4848
SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSI \times Pra$	Pra	0.23			PHP(sh,ra)	0.06877
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77			PHP(sh,ts)	0.23023
$PHP(LH,RA) = PRA \times PHPLH$					PHP(lh,ra)	5.1715
$PHP(LH,TS) = PTS \times PHPLH$					PHP(lh,ts)	17.3133
					Public Spot Demand	5.24027
					Private Spot Demand	17.5435

Turnpike		Vt = AADT*Pt*Fs	AADT	137000	137000	Vt	25208
			Pt	0.16	16%		
AADT	Annual average daily traffic (vehicles/day)				21920		
Pt	percent of total traffic that is trucks						
Fs	1.15, seasonal peaking factor						
TT=L/S			L	10 miles		TT	0.15385
L = analysis segment length (km)			S	65 mph			
S = speed limit or average truck speed (kph)							
Truck-hours of SH and LH travel: THTSH = PSH x Vt x TT	Psh	0.36				THTsh	1396.14
THTLH = PLH x Vt x TT	Plh	0.64				THTlh	2482.02
Truck-hrs of SH parking demand: THPSH = THTSH / 12						THPsh	116.345
Truck-hrs of LH parking demand: THPLH = Parking time/driving time x THTLH + THTLH / 12	Parking Time/driving	0.7				THPlh	1944.25
Peak-hour parking demand for SH: PHPSH = PPFSh x THPSH	PPFsh	0.02				PHPsh	2.32689
Peak-hour parking demand for LH: PHPLH = PPFLH x THPLH	PPFLH	0.09				PHPlh	174.982
SH and LH peak-hour parking demand by facility type: PHP(SH,RA) = PRA x PHPSI Pra		0.23				PHP(sh,ra)	0.53519
PHP(SH,TS) = PTS x PHPSH	Pts	0.77				PHP(sh,ts)	1.79171
PHP(LH,RA) = PRA x PHPLH						PHP(lh,ra)	40.2459
PHP(LH,TS) = PTS x PHPLH						PHP(lh,ts)	134.736
						Public Spot Demand	40.7811
						Private Spot Demand	136.528
						Total Public Spot Demand	55.5614

Truck Parking Demand Estimation

FHWA's methodology outlined in the report "Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002"

Site: Orange County Potential Sites #2 & #4

US 441	$Vt = AADT \times Pt \times Fs$	AADT	65300	65300	Vt	12015.2
		Pt	0.16	16%		
	AADT	Annual average daily traffic (vehicles/day)		10448		
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	10 miles		TT	0.25 hours
	L = analysis segment length (km)	S	40 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times Vt \times TT$	Psh	0.36		THTsh	1081.368
	$THTLH = PLH \times Vt \times TT$	Plh	0.64		THTlh	1922.432
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	90.114
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	1505.90507
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	1.80228
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	135.531456
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSI \times Pra$	Pra	0.23		PHP(sh,ra)	0.4145244
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	1.3877556	
$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	31.1722349	
$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	104.359221	
				Public Spot Demand	31.586759	
				Private Spot Demand	105.746977	
SR 528	$Vt = AADT \times Pt \times Fs$	AADT	10941	10941	Vt	754.929
		Pt	0.06	6%		
	AADT	Annual average daily traffic (vehicles/day)		656.46		
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	10 miles		TT	0.15384615
	L = analysis segment length (km)	S	65 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times Vt \times TT$	Psh	0.36		THTsh	41.8114523
	$THTLH = PLH \times Vt \times TT$	Plh	0.64		THTlh	74.3314708
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	3.48428769
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	58.2263188
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	0.06968575
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	5.24036869
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSI \times Pra$	Pra	0.23		PHP(sh,ra)	0.01602772
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	0.05365803	
$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	1.2052848	
$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	4.03508389	
				Public Spot Demand	1.2213125	
				Private Spot Demand	4.08874192	

Orange Ave	$V_t = AADT \cdot P_t \cdot F_s$	AADT	37000	37000	V_t	2553
		Pt	0.06	6%		
	AADT Annual average daily traffic (vehicles/day)			2220		
	Pt percent of total traffic that is trucks					
	Fs 1.15, seasonal peaking factor					
	$TT = L/S$	L	5 miles		TT	0.11111111
	L = analysis segment length (km)	S	45 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36		THTsh	102.12
	$THTLH = PLH \times V_t \times TT$	Plh	0.64		THTlh	181.546667
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	8.51
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	142.211556
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	0.1702
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	12.79904
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH$	Pra	0.23		PHP(sh,ra)	0.039146
	$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	0.131054
	$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	2.9437792
	$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	9.8552608
					Public Spot Demand	2.9829252
					Private Spot Demand	9.9863148
					Near SR 528	Near FDOT
					19.736	16.056
					20	16

Truck Parking Demand Estimation

FHWA's methodology outlined in the report "Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002"

Site: Osceola County Potential Site #1

I-4	$V_t = AADT \cdot P_t \cdot F_s$	AADT	195000	195000	Vt	30722.3
		Pt	0.137	14%		
	AADT	Annual average daily traffic (vehicles/day)				26715
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	10 miles		TT	0.14286 hours
	L = analysis segment length (km)	S	70 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36		THTsh	1580
	$THTLH = PLH \times V_t \times TT$	Plh	0.64		THTlh	2808.89
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	131.667
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	2200.3
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	2.63334
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	198.027
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH \cdot Pra$	Pra	0.23		PHP(sh,ra)	0.60567
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	2.02767	
$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	45.5462	
$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	152.481	
				Public Spot Demand	46.1518	
				Private Spot Demand	154.508	
US 17-92	$V_t = AADT \cdot P_t \cdot F_s$	AADT	38000	38000	Vt	4370
		Pt	0.1	10%		
	AADT	Annual average daily traffic (vehicles/day)				3800
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	5 miles		TT	0.11111
	L = analysis segment length (km)	S	45 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36		THTsh	174.8
	$THTLH = PLH \times V_t \times TT$	Plh	0.64		THTlh	310.756
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	14.5667
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	243.425
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	0.29133
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	21.9083
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH \cdot Pra$	Pra	0.23		PHP(sh,ra)	0.06701
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	0.22433	
$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	5.0389	
$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	16.8694	
				Public Spot Demand	5.10591	
				Private Spot Demand	17.0937	

PPE	$V_t = AADT \cdot P_t \cdot F_s$	AADT	18000	18000	V_t	828
		P_t	0.04	4%		
	AADT Annual average daily traffic (vehicles/day)			720		
	P_t percent of total traffic that is trucks					
	F_s 1.15, seasonal peaking factor					
	$TT = L/S$	L	10 miles		TT	0.14286
	L = analysis segment length (km)	S	70 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	P_{sh}	0.36		THTsh	42.5829
	$THTLH = PLH \times V_t \times TT$	P_{lh}	0.64		THTlh	75.7029
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	3.54857
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	59.3006
	Peak-hour parking demand for SH: $PHPSH = PPF_{SH} \times THPSH$	PPF_{sh}	0.02		PHPsh	0.07097
	Peak-hour parking demand for LH: $PHPLH = PPF_{LH} \times THPLH$	PPF_{lh}	0.09		PHPlh	5.33705
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH$	P_{ra}	0.23		$PHP(sh,ra)$	0.01632
	$PHP(SH,TS) = PTS \times PHPSH$	P_{ts}	0.77		$PHP(sh,ts)$	0.05465
	$PHP(LH,RA) = PRA \times PHPLH$				$PHP(lh,ra)$	1.22752
	$PHP(LH,TS) = PTS \times PHPLH$				$PHP(lh,ts)$	4.10953
					Public Spot Demand	1.24385
					Private Spot Demand	4.16418
					Total Public Spot Demand	52.5016

Truck Parking Demand Estimation

FHWA's methodology outlined in the report "Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002"

Site: Seminole County Potential Site #1B

I-4	$V_t = AADT \cdot P_t \cdot F_s$	AADT	195000	195000	Vt	13455
		Pt	0.06	6%		
	AADT	Annual average daily traffic (vehicles/day)		11700		
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	10 miles	TT	0.14286 hours	
	L = analysis segment length (km)	S	70 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36	THTsh	691.971	
	$THTLH = PLH \times V_t \times TT$	Plh	0.64	THTlh	1230.17	
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$			THPsh	57.6643	
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving time	0.7	THPlh	963.634	
	Peak-hour parking demand for SH: $PHPSH = PPFSH \times THPSH$	PPFsh	0.02	PHPsh	1.15329	
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09	PHPlh	86.7271	
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH \times Pra$	Pra	0.23	PHP(sh,ra)	0.26526	
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77	PHP(sh,ts)	0.88803		
$PHP(LH,RA) = PRA \times PHPLH$			PHP(lh,ra)	19.9472		
$PHP(LH,TS) = PTS \times PHPLH$			PHP(lh,ts)	66.7799		
			Public Spot Demand	20.2125		
			Private Spot Demand	67.6679		
US 17-92	$V_t = AADT \cdot P_t \cdot F_s$	AADT	39000	39000	Vt	4485
		Pt	0.1	10%		
	AADT	Annual average daily traffic (vehicles/day)		3900		
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	5 miles	TT	0.11111	
	L = analysis segment length (km)	S	45 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36	THTsh	179.4	
	$THTLH = PLH \times V_t \times TT$	Plh	0.64	THTlh	318.933	
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$			THPsh	14.95	
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving time	0.7	THPlh	249.831	
	Peak-hour parking demand for SH: $PHPSH = PPFSH \times THPSH$	PPFsh	0.02	PHPsh	0.299	
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09	PHPlh	22.4848	
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH \times Pra$	Pra	0.23	PHP(sh,ra)	0.06877	
$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77	PHP(sh,ts)	0.23023		
$PHP(LH,RA) = PRA \times PHPLH$			PHP(lh,ra)	5.1715		
$PHP(LH,TS) = PTS \times PHPLH$			PHP(lh,ts)	17.3133		
			Public Spot Demand	5.24027		
			Private Spot Demand	17.5435		

SR 46	$V_t = AADT \cdot P_t \cdot F_s$	AADT	65000	65000	V_t	7475
		P_t	0.1	10%		
	AADT Annual average daily traffic (vehicles/day)			6500		
	P_t percent of total traffic that is trucks					
	F_s 1.15, seasonal peaking factor					
	$TT = L/S$	L	5 miles		TT	0.11111
	L = analysis segment length (km)	S	45 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	P_{sh}	0.36		THTsh	299
	$THTLH = PLH \times V_t \times TT$	P_{lh}	0.64		THTlh	531.556
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	24.9167
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	416.385
	Peak-hour parking demand for SH: $PHPSH = PPF_{SH} \times THPSH$	PPF_{sh}	0.02		PHPsh	0.49833
	Peak-hour parking demand for LH: $PHPLH = PPF_{LH} \times THPLH$	PPF_{lh}	0.09		PHPlh	37.4747
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH$	P_{ra}	0.23		PHP(sh,ra)	0.11462
	$PHP(SH,TS) = PTS \times PHPSH$	P_{ts}	0.77		PHP(sh,ts)	0.38372
	$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	8.61917
	$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	28.8555
					Public Spot Demand	8.73379
					Private Spot Demand	29.2392
					Total Public Spot Demand	34.1865

Truck Parking Demand Estimation

FHWA's methodology outlined in the report "Model Development for National Assessment of Commercial Vehicle Parking, FHWA-RD-01-159, March 2002"

Site: Volusia County Potential Site #1

I-4	$V_t = AADT \cdot P_t \cdot F_s$	AADT	93000	93000	Vt	18181.5
		Pt	0.17	17%		
	AADT	Annual average daily traffic (vehicles/day)		15810		
	Pt	percent of total traffic that is trucks				
	Fs	1.15, seasonal peaking factor				
	$TT = L/S$	L	55 miles		TT	0.84615 hours
	L = analysis segment length (km)	S	65 mph			
	S = speed limit or average truck speed (kph)					
	Truck-hours of SH and LH travel: $THTSH = PSH \times V_t \times TT$	Psh	0.36		THTsh	5538.36
	$THTLH = PLH \times V_t \times TT$	Plh	0.64		THTlh	9845.98
	Truck-hrs of SH parking demand: $THPSH = THTSH / 12$				THPsh	461.53
	Truck-hrs of LH parking demand: $THPLH = \text{Parking time/driving time} \times THTLH + THTLH / 12$	Parking Time/driving	0.7		THPlh	7712.69
	Peak-hour parking demand for SH: $PHPSH = PPFSh \times THPSH$	PPFsh	0.02		PHPsh	9.23061
	Peak-hour parking demand for LH: $PHPLH = PPFLH \times THPLH$	PPFLH	0.09		PHPlh	694.142
	SH and LH peak-hour parking demand by facility type: $PHP(SH,RA) = PRA \times PHPSH$	Pra	0.23		PHP(sh,ra)	2.12304
	$PHP(SH,TS) = PTS \times PHPSH$	Pts	0.77		PHP(sh,ts)	7.10757
	$PHP(LH,RA) = PRA \times PHPLH$				PHP(lh,ra)	159.653
	$PHP(LH,TS) = PTS \times PHPLH$				PHP(lh,ts)	534.489
					Public Spot Demand	161.776
					Private Spot Demand	541.597
					EB	WB
					84.258	77.517
					84	78

Appendix B-1

Osceola County Site 1 - Existing Traffic Data

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Osceola **City** Kissimmee
Intersection -CR 532 **&** US 1792
Date May 4, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	22	229	0	0	134	101	91	0	8	0	0	0
7:15 AM - 7:30 AM	20	214	0	0	99	99	74	0	9	0	0	0
7:30 AM - 7:45 AM	19	218	0	0	142	105	76	0	8	0	0	0
7:45 AM - 8:00 AM	38	210	0	0	142	99	78	0	12	0	0	0
8:00 AM - 8:15 AM	34	170	0	0	128	112	65	0	8	0	0	0
8:15 AM - 8:30 AM	30	201	0	0	144	100	47	0	9	0	0	0
8:30 AM - 8:45 AM	30	215	0	0	128	102	60	0	12	0	0	0
8:45 AM - 9:00 AM	20	175	0	0	125	93	56	0	5	0	0	0
TOTAL	213	1,632	0	0	1,042	811	547	0	71	0	0	0
Peak Hour												
7:00 AM - 8:00 AM	99	871	0	0	517	404	319	0	37	0	0	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	18	127	0	0	207	99	101	0	20	0	0	0
4:15 PM - 4:30 PM	17	134	0	0	200	98	89	0	19	0	0	0
4:30 PM - 4:45 PM	12	135	0	0	220	110	77	0	21	0	0	0
4:45 PM - 5:00 PM	11	142	0	0	226	98	86	0	20	0	0	0
5:00 PM - 5:15 PM	17	147	0	0	220	96	82	0	15	0	0	0
5:15 PM - 5:30 PM	7	133	0	0	240	85	91	0	27	0	0	0
5:30 PM - 5:45 PM	11	164	0	0	213	101	95	0	14	0	0	0
5:45 PM - 6:00 PM	12	136	0	0	226	71	94	0	18	0	0	0
TOTAL	105	1,118	0	0	1,752	758	715	0	154	0	0	0
Peak Hour												
4:45 PM - 5:45 PM	46	586	0	0	899	380	354	0	76	0	0	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Osceola **City** Kissimmee
Intersection -CR 532 **&** US 1792
Date May 4, 2022 **Trucks**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	2	0	0	4	8	4	0	1	0	0	0
7:15 AM - 7:30 AM	0	8	0	0	1	1	5	0	1	0	0	0
7:30 AM - 7:45 AM	1	9	0	0	7	5	6	0	1	0	0	0
7:45 AM - 8:00 AM	1	11	0	0	7	2	6	0	1	0	0	0
8:00 AM - 8:15 AM	3	8	0	0	14	6	3	0	2	0	0	0
8:15 AM - 8:30 AM	0	9	0	0	7	2	9	0	3	0	0	0
8:30 AM - 8:45 AM	1	8	0	0	9	7	2	0	3	0	0	0
8:45 AM - 9:00 AM	2	11	0	0	8	10	9	0	0	0	0	0
TOTAL	8	66	0	0	57	41	44	0	12	0	0	0
Peak Hour												
7:00 AM - 8:00 AM	2	30	0	0	19	16	21	0	4	0	0	0
	2%	4%	0%	0%	4%	4%	7%	0%	12%	0%	0%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	8	0	0	5	3	6	0	2	0	0	0
4:15 PM - 4:30 PM	3	9	0	0	8	3	9	0	0	0	0	0
4:30 PM - 4:45 PM	3	8	0	0	8	3	12	0	0	0	0	0
4:45 PM - 5:00 PM	0	8	0	0	5	4	7	0	0	0	0	0
5:00 PM - 5:15 PM	1	6	0	0	3	2	9	0	0	0	0	0
5:15 PM - 5:30 PM	0	6	0	0	7	3	8	0	2	0	0	0
5:30 PM - 5:45 PM	1	5	0	0	7	5	3	0	1	0	0	0
5:45 PM - 6:00 PM	0	5	0	0	3	8	7	0	0	0	0	0
TOTAL	8	55	0	0	46	31	61	0	5	0	0	0
Peak Hour												
4:45 PM - 5:45 PM	2	25	0	0	22	14	27	0	3	0	0	0

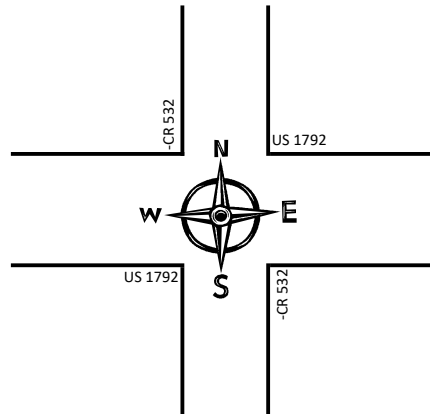
Pedestrian & Bicycle Summary

Project #: 63640.01
 Date: 5/4/2022

NB/SB: -CR 532
 EB/WB: US 1792

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	2	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	2	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0

Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
		1	2	3	4	5	6	7	8

Appendix B-2

Osceola County Site 1 - Existing Synchro Outputs

Queues
1: US 17/92 & CR 532

Existing AM
06/29/2022



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↖	↗	↙	↘	↖	↗
Traffic Volume (vph)	319	37	99	871	517	404
Future Volume (vph)	319	37	99	871	517	404
Satd. Flow (prot)	1687	1442	1770	1827	1827	1553
Flt Permitted	0.950		0.393			
Satd. Flow (perm)	1687	1442	732	1827	1827	1553
Satd. Flow (RTOR)		39				421
Lane Group Flow (vph)	332	39	103	907	539	421
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases		4	2			2
Total Split (s)	40.0	40.0	110.0	110.0	110.0	110.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Act Effct Green (s)	37.2	37.2	97.2	97.2	97.2	97.2
Actuated g/C Ratio	0.25	0.25	0.65	0.65	0.65	0.65
v/c Ratio	0.79	0.10	0.22	0.77	0.46	0.36
Control Delay	68.6	13.9	11.2	23.1	14.1	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.6	13.9	11.2	23.1	14.1	1.6
LOS	E	B	B	C	B	A
Approach Delay	62.9			21.9	8.7	
Approach LOS	E			C	A	
Queue Length 50th (ft)	320	0	35	527	224	0
Queue Length 95th (ft)	#507	33	63	693	295	33
Internal Link Dist (ft)	828			650	824	
Turn Bay Length (ft)	150		430			250
Base Capacity (vph)	418	387	498	1244	1244	1192
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.10	0.21	0.73	0.43	0.35

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 100 (67%), Referenced to phase 4:EBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.79
 Intersection Signal Delay: 23.0
 Intersection LOS: C
 Intersection Capacity Utilization 88.6%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 17/92 & CR 532



Queues
1: US 17/92 & CR 532

Existing PM
06/29/2022



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↖	↗	↖	↖	↖	↗
Traffic Volume (vph)	354	76	46	586	899	380
Future Volume (vph)	354	76	46	586	899	380
Satd. Flow (prot)	1671	1553	1719	1827	1845	1553
Flt Permitted	0.950		0.186			
Satd. Flow (perm)	1671	1553	337	1827	1845	1553
Satd. Flow (RTOR)		62				290
Lane Group Flow (vph)	361	78	47	598	917	388
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	2	
Permitted Phases		4	2			2
Total Split (s)	50.0	50.0	130.0	130.0	130.0	130.0
Total Lost Time (s)	7.8	7.8	7.8	7.8	7.8	7.8
Act Effct Green (s)	42.2	42.2	122.2	122.2	122.2	122.2
Actuated g/C Ratio	0.23	0.23	0.68	0.68	0.68	0.68
v/c Ratio	0.92	0.19	0.21	0.48	0.73	0.34
Control Delay	96.2	17.8	13.5	15.4	22.9	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.2	17.8	13.5	15.4	22.9	3.6
LOS	F	B	B	B	C	A
Approach Delay	82.3			15.3	17.1	
Approach LOS	F			B	B	
Queue Length 50th (ft)	422	15	20	320	656	38
Queue Length 95th (ft)	#624	64	42	409	833	81
Internal Link Dist (ft)	828			650	824	
Turn Bay Length (ft)	150		430			250
Base Capacity (vph)	391	411	228	1240	1252	1147
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.92	0.19	0.21	0.48	0.73	0.34

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 100 (56%), Referenced to phase 4:EBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 28.6
 Intersection LOS: C
 Intersection Capacity Utilization 79.9%
 ICU Level of Service D
 Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: US 17/92 & CR 532



Appendix B-3

Osceola County Site 1 – Crash Data

Crash Data Summary

No.	Crash ID	Date	Day	Time	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related		Contributing Cause
1	88102446	3/11/2019	Monday	2:14 PM	Left Turn	Injury	0	5	\$0	\$9,000	Daylight	Dry	N	0	N	0	NA
2	87283322	11/26/2018	Monday	8:00 PM	Angle	Injury	0	2	\$0	\$4,000	Dark - Not Lighted	Wet	N	0	N	0	NA
3	88117025	5/1/2019	Wednesday	1:54 PM	Left Turn	Injury	0	1	\$0	\$8,500	Daylight	Dry	N	0	N	0	NA
4	88184127	10/6/2019	Sunday	12:45 AM	Rear End	No Injury	0	0	\$0	\$1,000	Dark - Not Lighted	Dry	N	0	N	0	NA
5	87259976	7/10/2018	Tuesday	1:18 PM	Rear End	No Injury	0	0	\$0	\$10,200	Daylight	Dry	N	0	N	0	NA
6	88064184	2/8/2019	Friday	10:21 AM	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0	NA
7	87260188	8/4/2018	Saturday	10:00 AM	Sideswipe	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0	N	0	NA
8	87264338	9/12/2018	Wednesday	6:40 AM	Left Turn	Injury	0	2	\$0	\$9,000	Dark - Not Lighted	Dry	N	0	N	0	NA
9	88022804	11/9/2018	Friday	7:00 PM	Left Turn	Serious Injury	0	2	\$0	\$9,000	Dark - Not Lighted	Dry	N	0	N	0	NA
10	85585403	10/21/2017	Saturday	12:36 PM	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0	NA
11	88150247	7/16/2019	Tuesday	2:00 PM	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0	NA
12	87216947	5/24/2018	Thursday	8:25 AM	Sideswipe	Injury	0	1	\$0	\$7,000	Daylight	Dry	N	0	N	0	NA
13	88227248	10/11/2019	Friday	8:22 PM	Rear End	Injury	0	1	\$0	\$18,000	Dark - Not Lighted	Dry	N	0	N	0	NA
14	88221261	12/19/2019	Thursday	7:40 AM	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0	NA
15	85512600	4/24/2017	Monday	9:05 AM	Head On	Injury	0	4	\$0	\$18,500	Daylight	Dry	N	0	N	0	NA
16	87226104	6/18/2018	Monday	11:03 PM	Left Turn	Injury	0	2	\$0	\$12,000	Dark - Not Lighted	Dry	N	0	N	0	NA
17	88110413	3/21/2019	Thursday	9:18 AM	Rear End	Injury	0	1	\$0	\$200	Daylight	Dry	N	0	N	0	NA
18	88072360	2/8/2019	Friday	8:30 PM	Left Turn	Injury	0	2	\$0	\$11,800	Dark - Not Lighted	Dry	N	0	N	0	NA
19	85592369	11/7/2017	Tuesday	7:00 AM	Left Turn	No Injury	0	0	\$0	\$25,000	Daylight	Dry	N	0	N	0	NA
20	85565230	8/24/2017	Thursday	11:33 AM	Rear End	Injury	0	2	\$0	\$2,700	Daylight	Dry	N	0	N	0	NA
21	88086273	2/7/2019	Thursday	3:54 PM	Rear End	Injury	0	1	\$0	\$500	Daylight	Dry	N	0	N	0	NA
22	88063950	1/15/2019	Tuesday	5:35 PM	Off Road	Injury	0	1	\$0	\$2,500	Daylight	Dry	N	0	N	0	NA
23	87135777	1/22/2018	Monday	8:00 AM	Animal	Injury	0	2	\$0	\$18,000	Daylight	Dry	N	0	N	0	NA
24	87141588	12/19/2017	Tuesday	9:23 AM	Off Road	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0	NA
25	87251851	9/1/2018	Saturday	7:42 AM	Angle	Injury	0	5	\$0	\$5,500	Daylight	Dry	N	0	N	0	NA
26	87414270	1/12/2018	Friday	7:10 PM	Rear End	No Injury	0	0	\$0	\$1,100	Dark - Lighted	Dry	N	0	N	0	NA
27	87414343	1/31/2018	Wednesday	4:39 PM	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0	NA
28	87179926	2/15/2018	Thursday	5:50 AM	Left Turn	Injury	0	2	\$0	\$6,000	Dark - Not Lighted	Dry	N	0	N	0	NA
29	88017033	10/15/2018	Monday	7:10 PM	Sideswipe	No Injury	0	0	\$0	\$1,500	Dusk	Dry	N	0	N	0	NA
30	88009143	11/14/2018	Wednesday	12:43 PM	Rear End	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0	N	0	NA
31	88186645	8/29/2019	Thursday	3:35 PM	Rear End	Injury	0	1	\$0	\$8,500	Daylight	Dry	N	0	N	0	NA
32	88132259	5/31/2019	Friday	5:20 PM	Rear End	No Injury	0	0	\$0	\$3,900	Daylight	Dry	N	0	N	0	NA
33	88150814	6/21/2019	Friday	1:38 PM	Rear End	No Injury	0	0	\$0	\$5,300	Daylight	Dry	N	0	N	0	NA
34	88263791	12/31/2019	Tuesday	9:50 PM	Off Road	Injury	0	1	\$3,000	\$7,000	Dark - Lighted	Dry	N	0	N	0	NA
35	88207046	10/7/2019	Monday	1:35 PM	Sideswipe	Injury	0	1	\$0	\$6,000	Daylight	Dry	N	0	N	0	NA
36	88227776	12/31/2019	Tuesday	12:00 AM	Sideswipe	Injury	0	1	\$0	\$1,100	Daylight	Dry	N	0	N	0	NA
37	88225514	11/3/2019	Sunday	7:30 PM	Left Turn	Injury	0	2	\$0	\$10,000	Dark - Lighted	Dry	N	0	N	0	NA
38	88182711	8/3/2019	Saturday	12:22 AM	Off Road	No Injury	0	0	\$500	\$6,500	Dark - Not Lighted	Wet	N	0	N	0	NA
39	88202124	9/28/2019	Saturday	5:05 PM	Right Turn	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0	NA
40	85297424	3/24/2016	Thursday	7:05 PM	Rear End	Injury	0	1	\$0	\$24,000	Dusk	Wet	N	0	N	0	NA
41	85313238	5/25/2016	Wednesday	6:09 AM	Left Turn	Injury	0	1	\$0	\$10,000	Dawn	Dry	N	0	N	0	NA
42	88182115	8/2/2019	Friday	2:51 PM	Left Turn	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0	NA
43	85433607	12/25/2016	Sunday	2:26 AM	Left Turn	No Injury	0	0	\$0	\$6,000	Dark - Not Lighted	Dry	N	0	N	0	NA
44	85230272	12/4/2015	Friday	6:23 PM	Rear End	Injury	0	1	\$0	\$2,500	Dark - Not Lighted	Dry	N	0	N	0	NA
45	85369213	8/19/2016	Friday	12:35 AM	Left Turn	Injury	0	3	\$0	\$14,000	Dark - Not Lighted	Dry	N	0	N	0	NA
46	83385267	3/6/2015	Friday	10:07 AM	Sideswipe	No Injury	0	0	\$0	\$0	Daylight	Dry	N	0	N	0	NA
47	84878184	3/15/2015	Sunday	2:10 AM	Off Road	Serious Injury	0	2	\$0	\$2,500	Dark - Not Lighted	Dry	N	0	N	0	NA
48	85335536	6/5/2016	Sunday	1:20 AM	Left Turn	Injury	0	3	\$0	\$10,000	Dark - Not Lighted	Dry	N	0	N	0	NA
49	84868077	3/1/2015	Sunday	9:10 AM	Rear End	Injury	0	1	\$0	\$4,000	Daylight	Dry	N	0	N	0	NA
50	85340522	6/6/2016	Monday	3:15 PM	Rear End	No Injury	0	0	\$0	\$7,000	Daylight	Wet	N	0	N	0	NA
51	85347307	7/1/2016	Friday	6:03 PM	Unknown	No Injury	0	0	\$0	\$500	Daylight	Wet	N	0	N	0	NA
52	85290663	9/16/2016	Friday	7:19 PM	Rear End	No Injury	0	0	\$0	\$6,000	Dusk	Wet	N	0	N	0	NA
53	85241644	1/2/2016	Saturday	1:10 AM	Left Turn	Injury	0	4	\$0	\$20,000	Dark - Not Lighted	Dry	N	0	N	0	NA
54	85404586	11/27/2016	Sunday	4:08 PM	Sideswipe	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0	N	0	NA
55	84872388	3/31/2015	Tuesday	11:34 PM	Left Turn	No Injury	0	0	\$0	\$7,500	Dark - Not Lighted	Dry	N	0	N	0	NA
56	85329649	5/14/2016	Saturday	4:41 PM	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0	NA
57	85197121	11/4/2015	Wednesday	3:30 PM	Rear End	Injury	0	1	\$0	\$2,500	Daylight	Dry	N	0	N	0	NA
58	85244422	12/28/2015	Monday	11:41 AM	Rear End	Injury	0	5	\$0	\$12,000	Daylight	Dry	N	0	N	0	NA
59	85243185	1/1/2016	Friday	6:00 PM	Off Road	No Injury	0	0	\$0	\$5,000	Dark - Not Lighted	Dry	N	0	N	0	NA
60	85406512	10/27/2016	Thursday	2:30 PM	Head On	No Injury	0	0	\$0	\$5,850	Daylight	Dry	N	0	N	0	NA
61	85378393	9/1/2016	Thursday	8:01 AM	Rear End	No Injury	0	0	\$0	\$400	Daylight	Wet	N	0	N	0	NA
62	85195367	10/4/2015	Sunday	6:41 PM	Rear End	Injury	0	3	\$0	\$10,000	Dusk	Dry	N	0	N	0	NA
63	87201351	5/9/2018	Wednesday	7:20 AM	Rear End	No Injury	0	0	\$0	\$800	Daylight	Dry	N	0	N	0	NA
64	87230564	6/25/2018	Monday	5:13 AM	Off Road	Injury	0	1	\$0	\$2,000	Dark - Not Lighted	Dry	N	0	N	0	NA

CR 532 and US 17/92

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	5	5	2	5	10	27	42%
Head On	0	1	1	0	0	2	3%
Sideswipe	1	1	0	3	2	7	11%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	2	0	2	3%
Left Turn	1	5	1	4	5	16	25%
Right Turn	0	0	0	0	1	1	2%
Off Road	1	1	1	1	3	7	11%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	1	0	1	2%
Other	0	1	0	0	0	1	2%
Total	8	14	5	16	21	64	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	6	5	2	9	12	34	53%
Property Damage Only	2	9	3	7	9	30	47%
Total	8	14	5	16	21	64	100%

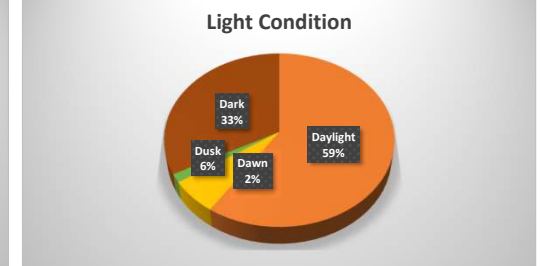
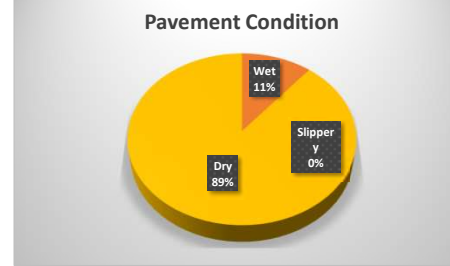
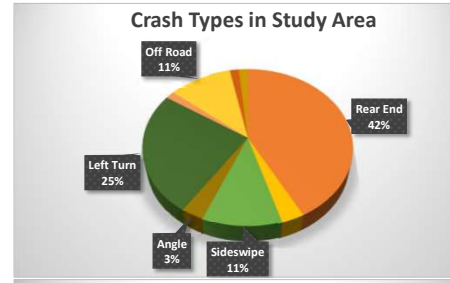
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	5	0	1	1	7	11%
Dry	8	9	5	15	20	57	89%
Slippery	0	0	0	0	0	0	0%
Total	8	14	5	16	21	64	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	6	5	8	15	38	59%
Dusk	1	2	0	1	0	4	6%
Dawn	0	1	0	0	0	1	2%
Dark	3	5	0	7	6	21	33%
Total	8	14	5	16	21	64	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	8	14	5	16	20	63	98%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	1	1	2%
Total	8	14	5	16	21	64	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	5	4	3	8	11	31	48%
\$5,001 - \$10,000	2	7	0	5	8	22	34%
\$10,000 - \$25,000	1	3	2	3	2	11	17%
\$25,001+	0	0	0	0	0	0	0%
Total	8	14	5	16	21	64	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related		Contributing Cause
66	85236086	1/5/2016	Tuesday	7:25 AM	Other	Injury	0	1	\$0	\$1,000	Daylight	Dry	N	0	N	0	NA
67	84559706	1/26/2015	Monday	11:31 PM	Bicycle	Serious Injury	0	1	\$80	\$830	Dark - Not Lighted	Dry	N	0	N	0	NA
68	87293174	10/2/2018	Tuesday	4:56 PM	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0	NA
69	88169501	7/21/2019	Sunday	2:36 PM	Rear End	No Injury	0	0	\$0	\$5,200	Daylight	Wet	N	0	N	0	NA
70	88061820	1/19/2019	Saturday	3:41 PM	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0	NA
71	86736496	1/6/2017	Friday	12:57 PM	Rear End	No Injury	0	0	\$0	\$0	Daylight	Dry	N	0	N	0	NA
72	85135983	7/27/2015	Monday	5:17 AM	Rollover	Injury	0	1	\$0	\$5,000	Dawn	ud, Dirt, Gra	N	0	N	0	NA

CR 532 from Sandy Ridge Drive to US 17/92

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	10	2	14	8	10	44	61%
Head On	0	0	0	0	1	1	1%
Sideswipe	0	0	1	1	2	4	6%
Rollover	2	0	0	0	0	2	3%
Angle	0	0	0	0	0	0	0%
Left Turn	0	0	2	1	1	4	6%
Right Turn	0	0	0	0	0	0	0%
Off Road	2	0	0	2	0	4	6%
Pedestrian & Bicycle	1	0	0	0	0	1	1%
Animal	0	0	0	1	1	2	3%
Other	4	2	1	2	1	10	14%
Total	19	4	18	15	16	72	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	1	1	1%
Injury	9	1	5	6	4	25	35%
Property Damage Only	10	3	13	9	11	46	64%
Total	19	4	18	15	16	72	100%

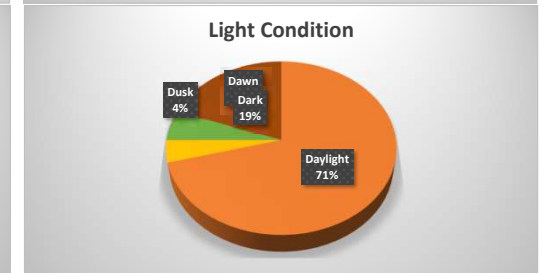
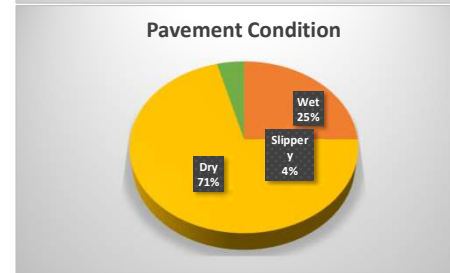
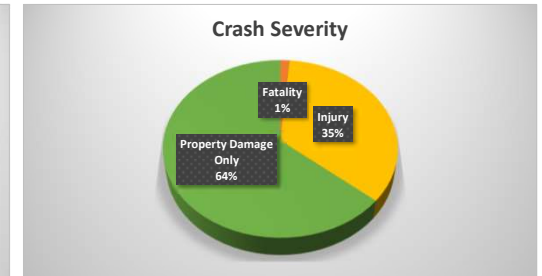
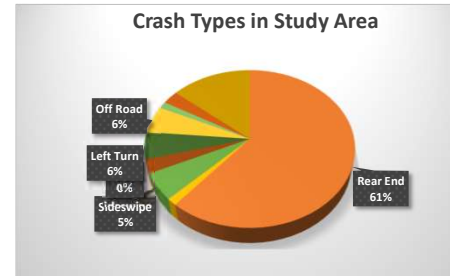
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	1	3	8	6	18	25%
Dry	16	3	15	7	10	51	71%
Slippery	3	0	0	0	0	3	4%
Total	19	4	18	15	16	72	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	9	3	16	12	11	51	71%
Dusk	1	0	0	1	1	3	4%
Dawn	3	0	0	1	0	4	6%
Dark	6	1	2	1	4	14	19%
Total	19	4	18	15	16	72	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	19	4	18	15	16	72	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	19	4	18	15	16	72	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	9	3	8	9	10	39	54%
\$5,001 - \$10,000	5	0	5	3	4	17	24%
\$10,000 - \$25,000	5	1	5	3	2	16	22%
\$25,001+	0	0	0	0	0	0	0%
Total	19	4	18	15	16	72	100%



Appendix B-4

Osceola County Site 1 – Future Volume Development

November 11, 2020

TO: Will Hawthorne, PE, CFX
Dana Chester, PE, CFX
Carnot Evans, PE, Dewberry
Scott Bickar, PE, Dewberry

FROM: Carleen Flynn, AICP, CDM Smith
Hugh Miller, PhD, PE, CDM Smith
Om Kanike, PE, CDM Smith



SUBJECT: Osceola-Polk Line Road (CR 532) Widening Design Traffic Analysis

Per your request, CDM Smith has completed a design traffic forecast for the widening of the Osceola-Polk Line Road (CR 532) between Old Lake Wilson Road/South Old Lake Wilson Road and South Orange Blossom Trail (US 17/92). The Osceola-Polk Line Road (CR 532) improvement is a 3-mile widening to four lanes through a partnership between CFX and Osceola County. The purpose of these forecasts is to establish the expected levels of traffic growth on this existing Osceola County facility. The traffic forecast will be used to account for the impacts of the planned extension of Poinciana Parkway and interchange east of Sandy Ridge Drive and will also provide the design traffic volumes necessary to complete roadway and intersection design for the widening project.

1. Project Background and Project Description

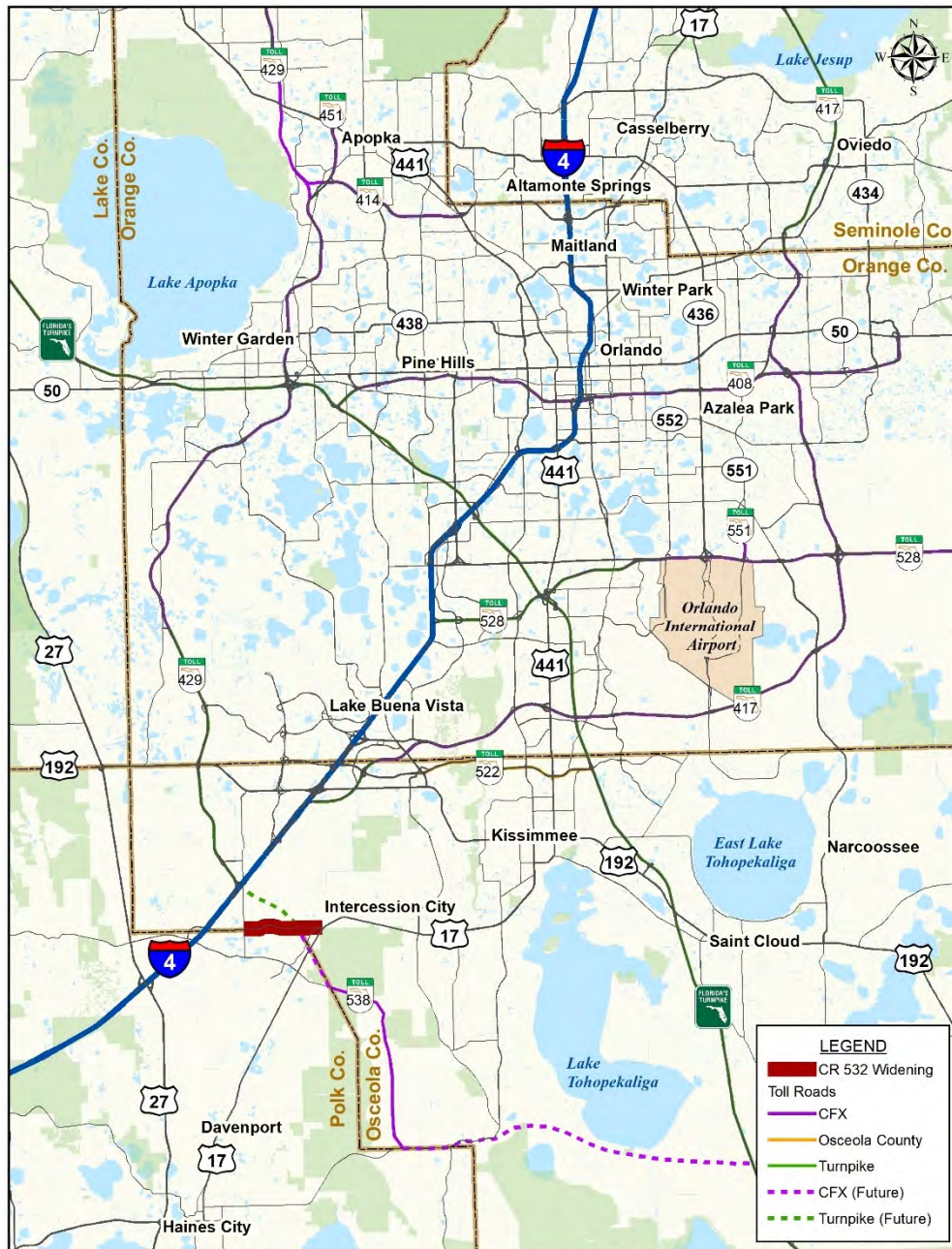
1.1. Background and Purpose of Design Traffic Technical Memorandum

As the General T&E Consultants, CDM Smith performed several traffic studies in the Poinciana area, of which the most recent two are described below to provide a historical context. Most recently, CDM Smith completed a design traffic report for the Poinciana Parkway (SR 538) widening project from Cypress Parkway to the end of the parkway near east end of Kinney Harmon Road. This project assumed the widening of the existing Poinciana Parkway from two lanes to four lanes and the addition of ramps to and from the south at Marigold Avenue. It considered the extension of Poinciana Parkway to CR 532, but also provided forecasts for a scenario that assumed the extension of the parkway to I-4 and the construction of the Southport Connector Expressway to Florida's Turnpike.

CDM Smith also completed a Project Traffic Analysis Report (PTAR) for the Poinciana Parkway Extension (PPE) from Kinney Harmon Road to Osceola-Polk Line Road (CR 532) in 2018. The PTAR included an analysis of the existing sections of the Poinciana Parkway and provided forecasts of traffic for the Poinciana Parkway as an improved four-lane section with an extension north to Osceola-Polk Line Road (CR 532). The design traffic forecasts included in that study provided forecasted volumes on the mainline and associated ramps for the extension as well as cross streets and interchange junction turning movements at US 17/92 and CR 532. The study assumed a 2025 opening year and 2045 design year. The Average Annual Daily Traffic (AADT) and Directional Design Hour Volumes (DDHV) were provided for 2025 and 2045 along with 2018 existing year AADT.

With the PPE and widening of the existing Poinciana Parkway moving forward into design phases and programmed for construction, Osceola County, in partnership with CFX, programmed a widening project of CR 532 from US 17/92 to Lake Wilson Road from two lanes to four lanes. A map depicting this project's study limits with the above-mentioned proposed projects is shown in **Figure 1-1**. The purpose of this design traffic report is to provide an analysis of existing and future traffic on CR 532 assuming the connection of the PPE.

Figure 1-1 Project Study Area



1.2 Project Description

Osceola-Polk Line Road (CR 532) is a minor arterial that connects US 17/92 to I-4 and terminates in Champions Gate development at Ronald Reagan Parkway. CR 532 west of South Old Lake Wilson Road is a four-lane divided, urban typical section with dedicated turn lanes at the intersections. East of South Old Lake Wilson Road, CR 532 is a two-lane undivided rural typical section with swale drainage. The widening project limits are from South Old Lake Wilson Road to west of US 17/92, as shown in **Figure 1-2**. The project is to widen CR 532 from two-lanes to four-lanes between South Old Lake Wilson Road to just west of US 17/92 for a continuous four-lane facility from I-4 to US 17/92.

Figure 1-2: Project Limits



CFX plans to build an extension of the Poinciana Parkway to CR 532, which is currently under design. The extension will intersect with CR 532 near the Polk County Line. This study will assume that the PPE is constructed and terminates at CR 532 with a half diamond interchange. A full diamond interchange is also assumed at US 17/92. The PPE is shown as a purple dashed line in Figure 1-2.

The functional classification of the roadway network in the study area is listed in **Table 1-1**. Osceola-Polk Line Road/CR 532 is a minor arterial, as well as South Old Lake Wilson Road, while US 17/92 is a principal arterial. Old Lake Wilson Road, south of CR 532, is classified as a major collector and Old Tampa Highway, Sullivan Road and Sandy Ridge Drive are local roads.

Table 1-1: Functional Classification

Facility	From	To	Lanes	Functional Class
Osceola-Polk Line Road/CR 532	I-4	Old Lake Wilson Rd	4	Minor Arterial
Osceola-Polk Line Road/CR 532	Old Lake Wilson Rd	US 17/92	2	Minor Arterial
US 17/92	Ronald Reagan Blvd	CR 532	2	Principal Arterial
US 17/92	CR 532	Old Tampa Hwy	2	Principal Arterial
South Old Lake Wilson Road	Sinclair Rd	CR 532	2	Minor Arterial
South Old Lake Wilson Road	CR 532	Ronald Reagan Blvd	2	Minor Arterial
Old Lake Wilson Rd	CR 532	Ronald Reagan Blvd	2	Major Collector
Old Tampa Hwy	CR 532	Ronald Reagan Blvd	2	Local Road
Sullivan Road	CR 532	Forehand Road	2	Local Road
Sandy Ridge Drive	CR 532	Royal Ridge Drive	2	Local Road

2. Design Traffic Estimation Methodology

2.1. Traffic Operational Analysis Methodology & Data Collection

Due to the impacts of the COVID-19 pandemic, traffic levels are down significantly, and travel patterns have been disrupted. This has put a constraint on data collection efforts for this study. In lieu of traditional data collection, CDM Smith assembled traffic counts from previous CFX studies and other traffic related studies from Osceola County. While this provided data including classification and turning movement counts (TMCs), several counts at cross streets were still missing. To account for cross street traffic and driveways, a trip generation procedure was completed. Using the ITE Trip Generation 8th Edition software, an estimate of average daily traffic for each cross street was generated assuming existing development conditions. Existing development conditions were documented using aerial photography and verified through Osceola County and Polk County Property Appraiser office database searches. With existing dwelling units confirmed, the trip generation procedure was performed for daily and peak hour trips. Peak hour turning movement counts were taken during June 2020 at Sullivan Street, on north side of CR 532, and Sandy Ridge Drive, on south side of CR 532, to determine directional splits of these cross streets. The directional splits were applied to the daily traffic volumes developed under the trip generation procedure in order to obtain estimated existing year TMCs. Using all of this information, a traffic profile for CR 532 was developed from South Old Lake Wilson Road to US 17/92, which included all of the cross streets. In this study, Level of Service (LOS) was determined, based on the assembled counts and traffic volumes developed using the trip generation procedure, with respect to the FDOT 2020 Generalized Service Volume Tables for interrupted flow facilities on signalized arterials, and interrupted flow facilities with non-state highway reductions for local collectors and local roads based on the roadway classification listed in Table 1-1.

Signalized intersection operational analysis was evaluated using Synchro Version 10. The results are based on the Highway Capacity Manual (HCM), V6.0, LOS and delay targets shown in **Table 2-1**. Unlike the HCM, Synchro has additional procedures for estimating control delay, including

estimation of right turn on red and queue delay associated with starvation and spillback. Thus, Synchro is felt to yield more reliable results than HCM because of these refinements.

Table 2-1: Level of Service (LOS) Criteria, Signalized Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	≤ 1.0	> 1.0
≤ 10	A	F
> 10 – 20	B	F
> 20 – 35	C	F
> 35 – 55	D	F
> 55 – 80	E	F
> 80	F	F

Source: **Highway Capacity Manual (HCM)**, V 6.0, Exhibit 19-8.

Notes: For approach-based and intersection wide assessments, LOS is defined solely by control delay. Control delay and volume-to-capacity ratio are used to characterize LOS for a lane group.

Unsignalized intersections were evaluated using the Highway Capacity Software (HCS) Version 7.6, using control delay thresholds in **Table 2-2**.

Table 2-2: Level of Service (LOS) Criteria, Unsignalized Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	≤ 1.0	> 1.0
≤ 10	A	F
> 10 – 15	B	F
> 15 – 25	C	F
> 25 – 35	D	F
> 35 – 50	E	F
> 50	F	F

Source: **Highway Capacity Manual (HCM)**, V6.0, Exhibit 20-2.

Notes: For approach-based and intersection wide assessments, LOS is defined solely by control delay. Control delay and volume-to-capacity ratio are used to characterize LOS for a lane group.

2.2 Design Traffic Estimation Methodology

The estimates of 2025 and 2045 design traffic were developed using the following methodology. First, an evaluation of historical counts in the project study area was conducted to estimate the historical growth rate. Using the existing (2019) traffic profile developed for the corridor, 2045 traffic was estimated considering growth from future land uses, background traffic growth on CR 532 and additional traffic from the PPE project. Growth from future land uses were determined using average build out of vacant parcels as well as traffic studies from approved developments. Average build out considered the dwelling units/acre in the study area and applied those averages to vacant parcels. The traffic growth was developed using the Trip Generation methodology described in Section 2.1 for these vacant parcels with a 15% internal capture rate, in addition to the traffic projections from the development traffic studies. Background traffic growth was considered in addition to future land use growth at approximately ½ percent per year, and finally the traffic

anticipated from the PPE project was added to the corridor. This traffic growth was balanced along the corridor in the AM and PM peak hours.

To cross check the 2045 traffic developed, the year 2045 Build scenario was run using the regional travel demand model, CFX Model 3.3. The CFX Model 3.3 is a project-specific model validated for the Poinciana Parkway Extension (PPE) Project Development and environment (PD&E) Study. Documentation for this model can be found in the PPE Project Traffic Analysis Report (July 2019). The Build scenarios performed using this model were compared against the year 2017 calibrated model assignment to estimate growth rates for the study period. Using 2025 and 2045 model volumes and the model growth rates the 2025 and 2045 design traffic was adjusted for reasonableness and applied to the traffic profile. The traffic profile of the 2045 Build scenario was developed, and the turning movements were balanced to estimate the intersection DDHVs. For this analysis the roadway assumptions, or number of lanes, by analysis year is shown in **Table 2-3**. This was based on the long-range transportation plans and transportation improvement plans for the study area.

Table 2-3: Model Segment Roadway Assumptions by Analysis Year

Roadway	2017	2025	2045
CR 532 W of US 17/92	2L	4L	4L
CR 532 W of South Old Lake Wilson Rd	4L	4L	4L
US 17/92 S of Ronald Reagan Pkwy	2L	2L	2L
US 17/92 Ronald Reagan Pkwy to CR 532	2L	2L	4L
US 17/92 N of CR 532	2L	2L	4L
Lake Wilson Rd S of CR 532	2L	4L	4L
South Old Lake Wilson Rd N of CR 532	2L	4L	4L
Poinciana Parkway Extension S of US 17/92	-	4L	4L
Poinciana Parkway Extension N of US 17/92	-	4L	4L
Poinciana Parkway N of Marigold Ave	2L	4L	4L
Poinciana Parkway N of Cypress Parkway	2L	4L	4L
Cypress Parkway E of Poinciana Parkway	2L	4L	4L
Cypress Parkway W of Poinciana Parkway	2L	2L	2L

Again, the LOS was determined with respect to the FDOT 2020 Generalized Service Volume Tables for interrupted flow facilities on signalized arterials, and interrupted flow facilities with non-state highway reductions for local collectors and local roads. Signalized intersections were evaluated using Synchro Version 10 and results were based on the HCM LOS and delay targets shown in Table 2-1. Unsignalized intersections were evaluated using the Highway Capacity Software (HCS) Version 7.6, using the control delay thresholds in Table 2-2.

3. Existing Conditions

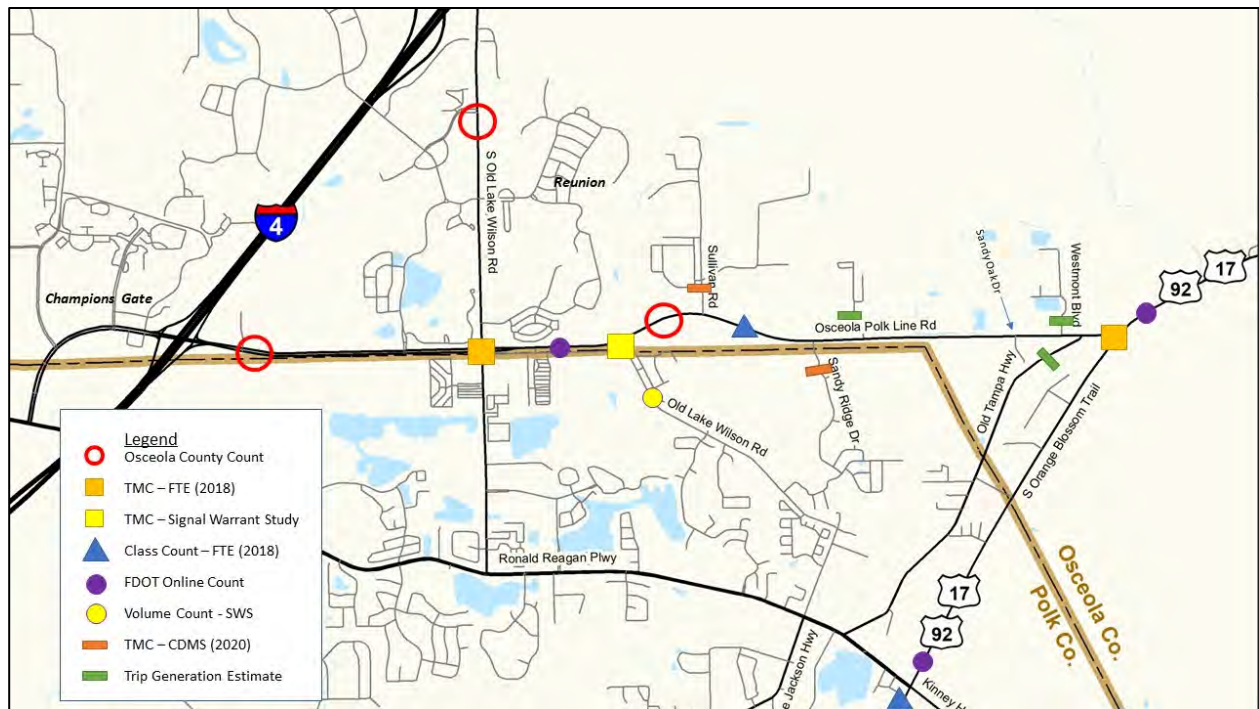
The existing 3.0-mile Osceola-Polk Lane Road (CR 532) is a two-lane facility between South Old Lake Wilson Road and US 17/92. The facility provides a local connection between Intercession City and Poinciana to I-4. There are two signalized intersections on either end of the study area: at South Old Lake Wilson Road and at US 17/92. With a concurrent PD&E study being completed on US 17/92, the signal at the US17/92 intersection will not be evaluated in this study. A signal warrant study was conducted in 2018 for Old Lake Wilson Road, and a new signal will be installed as part of the CR 532 widening project at the intersection of Old Lake Wilson Road and CR 532. Unsignalized intersections include Sullivan Road, Sandy Ridge Drive and Old Tampa Highway.

3.1. Data Collection Efforts

Existing traffic conditions were assessed for CR 532 and the surrounding roadway network, using historical count data, counts from online traffic databases, counts from local traffic studies and counts from PPE PD&E study, adjusted for 2019 conditions for consistency. As stated in Section 2.1, data collection efforts were challenging due to the impacts on traffic from the COVID-19 pandemic, so traditional data collection efforts had to be substituted for recent and readily available traffic data from a variety of sources.

The location and types of counts collected for the study are shown in **Figure 3-1**. Data was collected from the recently completed PPE PD&E, including classification counts and turning movement counts completed by Florida Transportation Engineers (FTE). 2019 AADT data was collected from the FDOT Traffic Online and Osceola County Traffic Counts online databases. Several

Figure 3-1: Traffic Count Locations



recent development driven traffic studies were gathered from Osceola County, specifically the Old Lake Wilson Road Signal Warrant Study and a Traffic Impact Analysis for the Retreat at Lake Wilson development. In addition, CDM Smith completed peak hour TMC at Sullivan Road and Sandy Ridge Drive on June 3, 2020 to determine a directional split for traffic entering and exiting the cross streets. While the volumes for these counts were not used directly due to COVID-19 impacts, the directional split data collected was applied to volumes developed using the trip generation methodology. **Table 3-1** includes a listing of the counts collected in the study area by station number and count type. The complete set of traffic count data can be found in **Appendix A**. The signal warrant study and traffic impact analysis studies can be found in **Appendix B**.

Table 3-1 Traffic Counts for Widening Project

Station	Count Location	From	To	Type of Count	Date of Count
101	Osceola-Polk Line Road	I-4	South Old Lake Wilson Road	Volume	2019
928076	Osceola-Polk Line Rd	South Old Lake Wilson Road	Old Lake Wilson Road	Volume	2019
PPE PD&E	Osceola-Polk Line Road	Sandy Ridge Drive	Sandy Oak Drive	Classification	2018
102	Osceola-Polk Line Rd	Old Lake Wilson Road	US 17/92	Volume	2019
Signal Warrant	Old Lake Wilson Road	CR 532	Ronald Reagan Blvd.	Volume	2016
103	Old Lake Wilson Rd	Sinclair Rd	Osceola-Polk Line Rd	Volume	2019
920029	US 17/92	Osceola-Polk Line Road	Old Tampa Highway	Volume & Classification	2019
920314	US 17/92	Ronald Reagan Pkwy	Osceola-Polk Line Rod	Volume & Classification	2019
PPE PD&E	Osceola-Polk Line Road	@ South Old Lake Wilson Road	--	Turning Movement Count	2018
PPE PD&E	Osceola-Polk Line Road	@ US 17/92	--	Turning Movement Count	2018
PPE PD&E	US 17/92	Ronald Reagan Pkwy	Ernie Cadwell Blvd	Classification	2018
Signal Warrant	Osceola-Polk Line Road	@ Old Lake Wilson Road	--	Turning Movement Count	2016
-	Sandy Ridge Drive	CR 532	Royal Ridge Drive	Turning Movement Count	2020
-	Sullivan Road	CR 532	Forehand Road	Turning Movement Count	2020

3.2. Existing AADT Volumes

Before being applied to the analysis, the count values were carefully checked against other count sources for their reasonableness and factored to 2019 levels. The 2019 AADT volumes are shown in **Table 3-2**. Once the AADT values were derived, they were used to balance the mainline counts

along the Osceola-Polk Line Road (CR 532), starting from Lake Wilson Road/South Old Lake Wilson Road to US 17/92.

Table 3-2: 2019 Annual Average Daily Traffic (AADT)

Station ID	Count Location	From	To	AADT (2019)
101	Osceola-Polk Line Rd	I-4	South Old Lake Wilson Road	29,600
102	Osceola-Polk Line Rd	South Old Lake Wilson Rd	Old Lake Wilson Road	17,140
102	Osceola-Polk Line Rd	Old Lake Wilson Road	US 17/92	17,140
Signal Warrant Study	Old Lake Wilson Road	CR 532	Ronald Reagan Blvd.	3,010
103	S Old Lake Wilson Rd	Sinclair Rd	Osceola-Polk Line Rd	20,100
910	US 17/92	Osceola-Polk Line Road	Old Tampa Highway	30,300

3.3. Historical Traffic Volumes

An indicator of growth in the study area is to evaluate historical counts on roadways near the project. CDM Smith collected historical count data from FDOT and Osceola County. The historical AADT volumes since 2016 and Compound Annual Growth Rates (CAGR) are presented in **Table 3-3**.

Table 3-3 Historical Traffic in Study Area

Count Station	Location			AADT				CAGR
	Description	From	To	2016	2017	2018	2019	
101	Osceola-Polk Line Road	I-4	South Old Lake Wilson Road	28,000	30,500	33,250	29,600	1.9%
102	Osceola-Polk Line Road	South Old Lake Wilson Rd	Old Lake Wilson Rd	16,600	19,540	18,400	17,140	1.1%
102	Osceola-Polk Line Road	Old Lake Wilson Rd	US 17/92	16,600	19,540	18,400	17,140	1.1%
103	Old Lake Wilson Road	Sinclair Rd	Osceola-Polk Line Rd	14,200	15,730	17,650	20,100	12.3%
910	US 17/92	Osceola-Polk Line Road	Old Tampa Highway	24,200	26,800	35,300	30,300	7.8%
920314	US 17/92	Ronald Regan Pkwy	Osceola-Polk Line Rd	10,500	13,600	15,000	16,400	16.0%

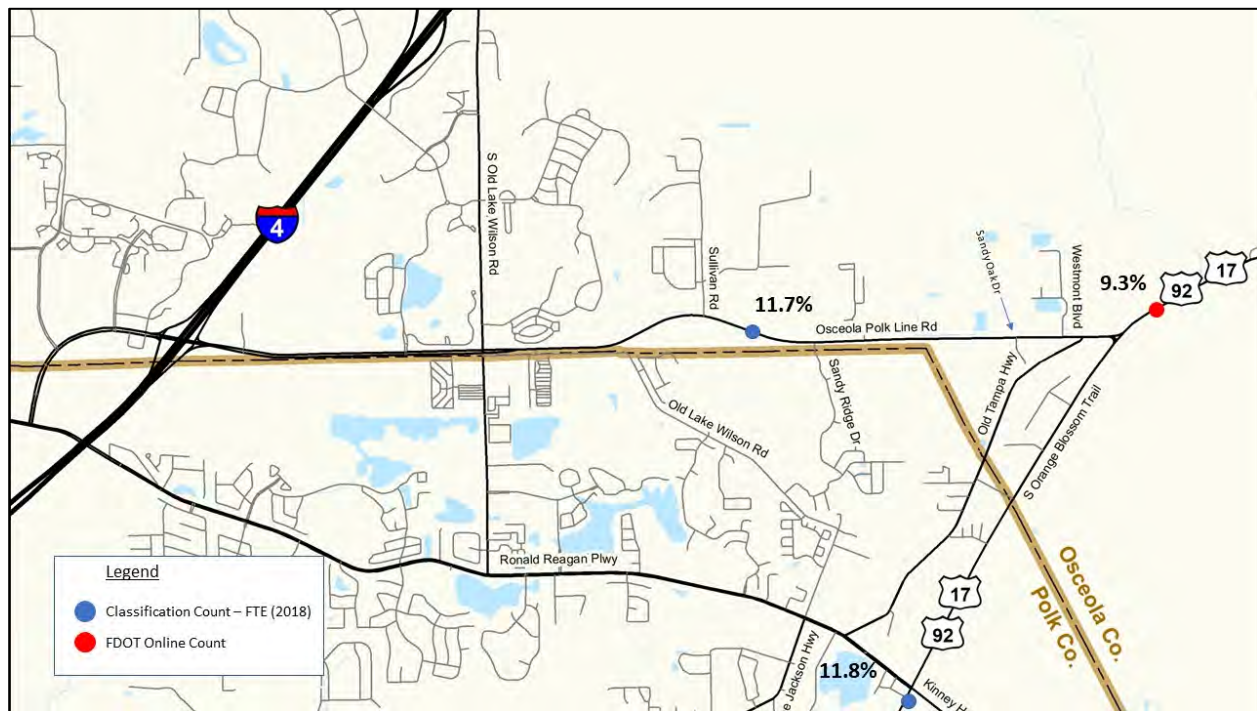
As provided in the table, traffic volumes within the study area have shown significant growth, evidenced by the 6.6 percent annual increase on CR 532 between 2016 and 2019, the 12.3 percent annual increase on South Old Lake Wilson Road, and the 16 percent growth on US 17/92 during the same time period. This growth is due to development in the surrounding areas of this portion of

Osceola and Polk Counties, as well as shifts in traffic due to the opening of the Poinciana Parkway in 2016.

3.4. Study Area Vehicle Class Distribution

Based on data from the two classification counts performed by Florida Traffic Engineers (FTE) in September 2018 and a classification count in the FDOT Online Traffic database, CDM Smith developed a summary of the percent of truck traffic within the study area. As shown in **Figure 3-2**, according to data from these counts, truck traffic on CR 532 near I-4 represents 11.7 percent of AADT volumes. This is approximately the same share as was observed on US 17/92 near the Ronald Regan Parkway, at 11.8 percent. According to a FDOT Classification count taken in 2019, truck traffic on US 17/92 north of CR 532 represents 9.3 percent of total traffic.

Figure 3-2: Average Daily Truck Percentages



Additional vehicle class distribution data are provided in **Table 3-4** for the three count locations. As shown in the table, passenger vehicles on CR 532 represent roughly 72 percent of total AADT, with the majority consisting of passenger cars. Truck traffic represents roughly 10 percent of total AADT on CR 532 / Osceola-Polk Line Road, with the majority of truck traffic consisting of Light Trucks. The relative distribution of truck traffic within the study area is of importance to the planning and design of the CR 532 widening given an anticipated increase in truck traffic with the future extension and connection of the Poinciana Parkway.

Table 3-4: Vehicle Class Distribution

Vehicle Classification Based on FDOT Guideline	CR-532 BT SANDY RIDGE & SANDY OAK		US-17/92 S/O RONALD REAGAN PKWY		US 17/92 0.2 MI S OF OLD TAMPA HWY	
	Daily	Peak	Daily	Peak	Daily	Peak
1- Passenger Vehicle	88.3%	93.1%	88.2%	93.4%	90.7%	-
2- Total Trucks	11.7%	6.9%	11.8%	5.3%	9.3%	-
3- Single Unit Trucks	5.6%	4.1%	8.0%	4.9%	4.5%	-
4- Combination Trailer Trucks	6.0%	2.8%	3.8%	1.6%	4.8%	-
5- Multi-Trailer Trucks	0.0%	0.0%	0.0%	0.0%	0.0%	-

Note: 1 - PASSENGER VEHICLES = VEHICLE CLASS 1-3, 14, 15; 2 - TOTAL TRUCKS = VEHICLE CLASS 4-13; 3 - SINGLE UNIT TRUCKS = VEHICLE CLASS 4-7; 4 - COMBINATION TRAILER TRUCKS = VEHICLE CLASS 8-10; 5 - MULTI TRAILER TRUCKS = VEHICLE CLASS 11-13

3.5. Traffic Directionality

Traffic directionality on Osceola-Polk Line Road/CR 532 in the study area was estimated using the FDOT count station #928076 located between South Old Lake Wilson Road and Old Lake Wilson Road. Plotting the hourly volumes by direction, as shown in **Figure 3-3**, the data indicates that the AM peak direction is westbound, toward I-4, and the PM peak direction is eastbound, from I-4. Using this same data, the existing year peak hour factors were calculated at 6.5 percent in PM peak hour with the peak directional split in the PM peak hour being eastbound at 52 percent.

Figure 3-3: Hourly Directionality at Osceola-Polk Line Rd, E of I-4

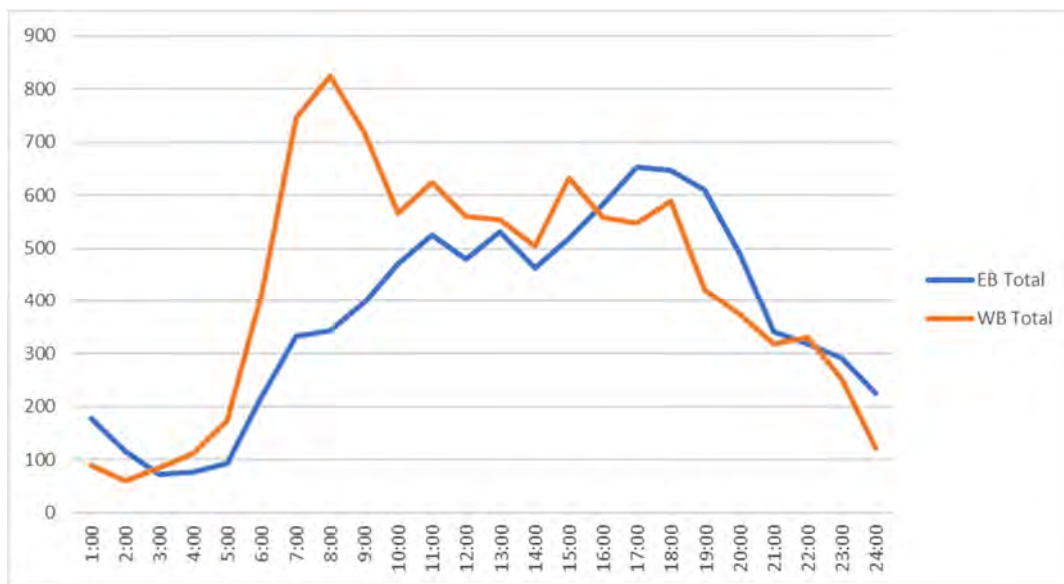
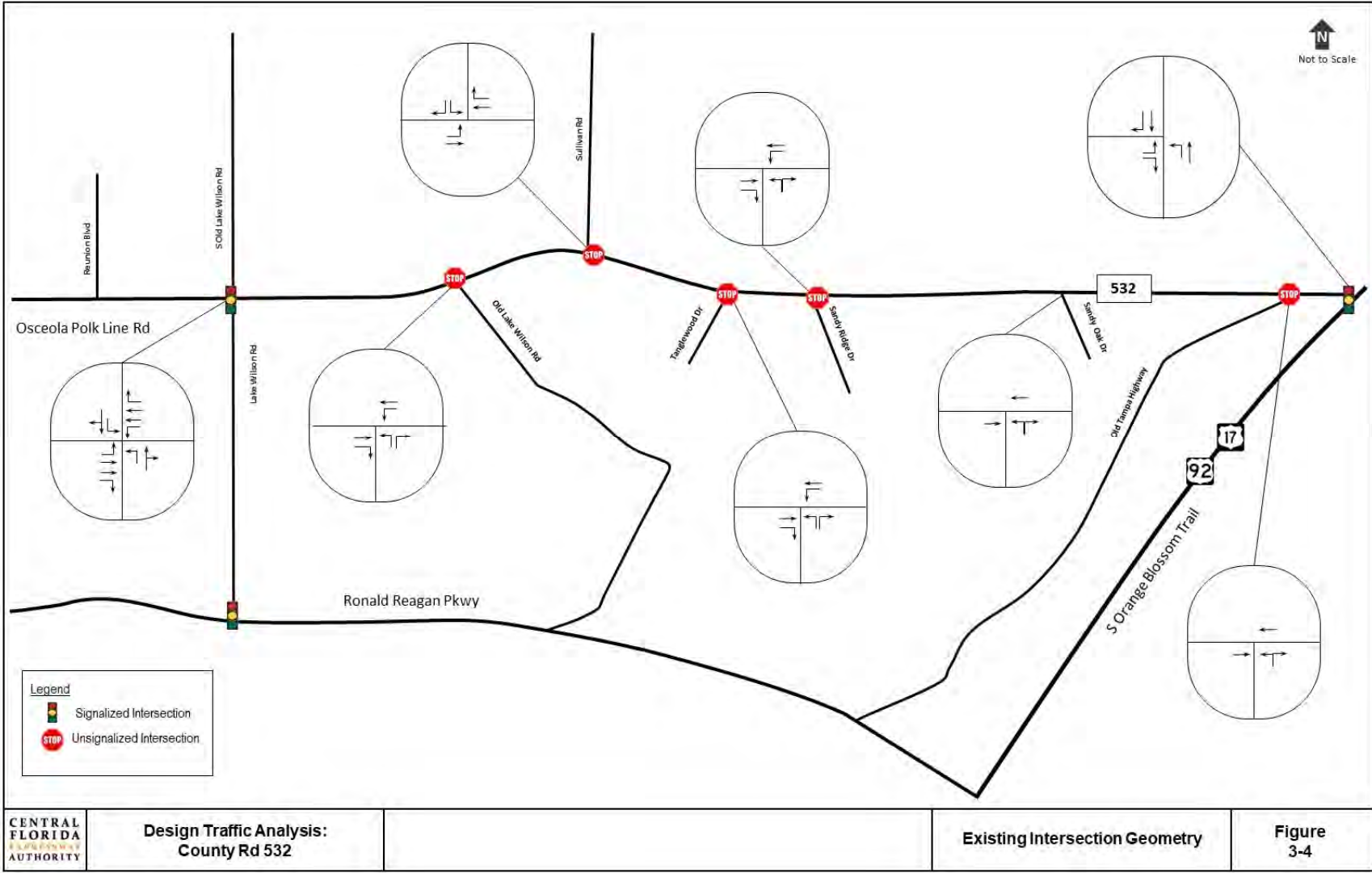


Table 3-5: Existing Peak Hour (K) and Directionality (D) factors

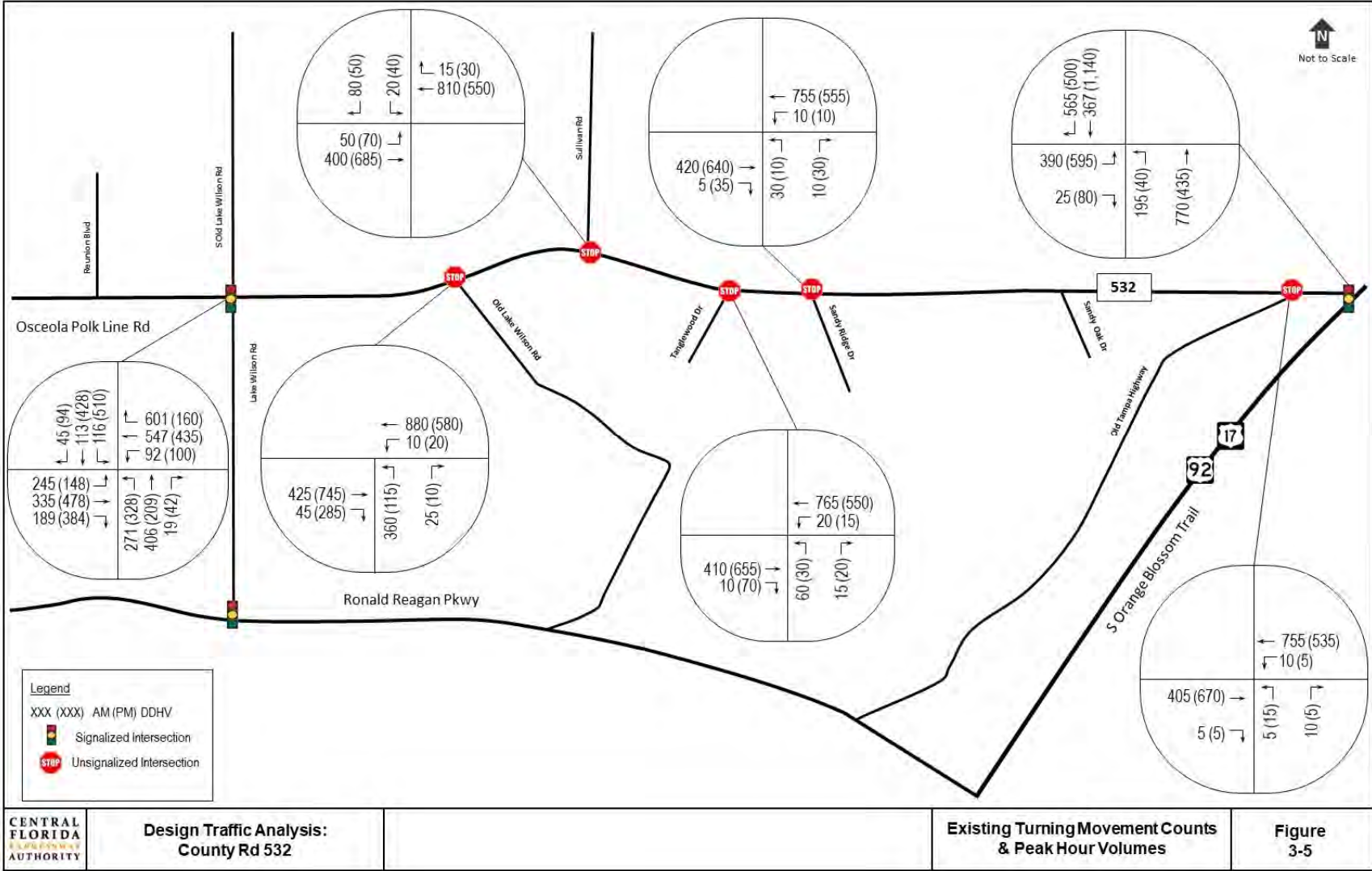
Direction	Peak Hour Traffic		Daily	D-Factor	
	AM	PM		AM	PM
EB	343	647	8,970	29%	52%
WB	825	588	10,169	71%	48%
Total	1,168	1,235	19,139		
K-Factor	6.10%	6.45%			

3.6. Turning Movement Counts

As the purpose of the study was to develop design traffic forecasts for the Osceola-Polk Line Road (CR 532) widening project, existing intersection geometry was obtained in 2020, turning movement data were obtained in 2018 and 2020 and calculated for driveways and intersections on the CR 532 corridor, including South Old Lake Wilson Road, Old Lake Wilson Road, Sullivan Road, Tanglewood Drive, Sandy Ridge Drive, Old Tampa Highway, and South Orange Blossom Trail (US 17/92). The counts were compiled by CDM Smith for the AM Peak Period (7:00am-9:00am) and PM Peak Period (4:00pm-6:00pm) from the best available data. **Figure 3-4** provides the existing intersection geometry and **Figure 3-5** provides a summary of the observed turning movements by location as well as the peak hour segment volumes. The AM Peak Period movements are shown first, followed by the PM Peak Period movements shown second in parentheses.



<p>CENTRAL FLORIDA AUTHORITY</p>	<p>Design Traffic Analysis: County Rd 532</p>	<p>Existing Intersection Geometry</p>	<p>Figure 3-4</p>
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3.7. Establish K and D Factors

Based on the existing traffic data and FDOT standards for design traffic, a K-Factor of 9.0 percent and a D-Factor of 55.0 percent were assumed for the Osceola-Polk Line Road (CR 532) and other local road traffic analysis, as shown in **Table 3-6**. A T-Factor of 11 percent was assumed in this study given the truck traffic observed on Osceola-Polk Line Road (CR 532) and US 17/92. With the assumption that the PPE will be constructed by 2025, the K-factor of 11.0 percent, D-Factor of 60.0 percent and T-factor of 4 percent developed for the PPE PD&E traffic analysis were borrowed for this analysis.

Table 3-6 Recommended K, D and T Factors

Location	K Factor	D Factor	T Factor
Osceola-Polk Line Road and Local Roads	9.0%	55.0%	11%
Poinciana Parkway Extension	11.0%	60.0%	4%

3.8. Level of Service Analysis (2019)

An important component of this existing conditions analysis was the review of current LOS along roadways and at intersections within the study area. This section summarizes the AM and PM Peak Period LOS Analysis performed by CDM Smith for both roadway segments and intersections based on the 2019 AADT volumes.

Within the study area, LOS was estimated by using the FDOT 2020 Generalized Service Volume Tables for Interrupted Flow Facilities on State Signalized Arterials. CR 532 was treated as Class I State Signalized Arterials. Based on these assumptions, the estimated 2019 Peak Hour/Peak Direction LOS for CR 532 are provided in **Table 3-7**. As indicated in the table, CR 532/Osceola-Polk Line Road east of South Old Lake Wilson Road currently operates at failing conditions as two-lane facilities.

Table 3-7: 2019 Roadway Segment LOS

Segment	Number of Lanes by Direction	2019		
		Peak Hour Directional Volume	V/C Ratio	LOS
I-4 to S Old Lake Wilson Rd	2	821	0.41	C
S Old Lake Wilson Rd to Old Lake Wilson Rd	1	866	0.98	D
Old Lake Wilson Rd to Sullivan Rd	1	587	0.67	C
Sullivan Rd to Tanglewood Dr	1	430	0.49	C
Tanglewood Rd to Sandy Ridge Dr	1	425	0.48	C
Sandy Ridge Dr to East Sandy Ridge Drive	1	422	0.48	C
East Sandy Ridge to Old Tampa Hwy	1	338	0.38	C
Old Tampa Highway to US 17-92	1	347	0.39	C

The 2019 existing turning movement counts were utilized in performing the intersection level of service operations analysis using Synchro software for signalized intersections and HCS for unsignalized intersections. **Table 3-8 and 3-9** below provide a summary of the intersection LOS for the peak hour conditions (both AM and PM Peaks). Associated Synchro and HCS outputs are also provided in **Appendix C**.

Of the intersections evaluated, all intersections operate at LOS D or better in the AM Peak Hour, with exception of Old Lake Wilson Road, which has delays over 250 seconds, or LOS F. A signal warrant study has already been completed for this intersection and a new signal will be installed as part of this widening project. When considering individual turning movements, the eastbound, westbound and southbound left turning movement at the signalized intersection of CR 532 and South Old Lake Wilson Road operate at LOS E and below.

In the PM Peak Hour, the intersection at CR 532 and Old Lake Wilson Road operates at an overall LOS D, with the northbound left movement and southbound left and through movements failing. The intersection of US 17/92 operations at LOS E overall, with the EB and NB left movements and SB through movements operate at LOS F in the PM Peak Hour. All of the unsignalized intersections operate at a LOS D or better in the PM Peak hour.

Table 3-8: 2019 AM Peak Hour Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	81.6 F	35.4 D	31.7 C	73.7 E	42.0 D	175.9 F	43.6 D	0.0	65.9 E	60.8 E	0.0	62.4 E	77.2 E
Old Lake Wilson @ C.R. 532	Delay LOS													246.2 F
Sullivan Rd @ C.R. 532	Delay LOS													19.0 C
Tanglewood Dr @ C.R. 532	Delay LOS													18.7 C
Sandy Ridge Dr @ C.R. 532	Delay LOS													16.4 C
Westmont Blvd @ C.R. 532	Delay LOS													15.9 C
Old Tampa Hwy @ C.R. 532	Delay LOS													13.1 B
US 17-92 @ C.R. 532	Delay LOS	58.7 E						47.9 D	30.0 C		18.7 B	26.3 C		33.7 C

Table 3-9: 2019 PM Peak Hour Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	68.4 E	86.7 F	74.7 E	134.3 F	59.6 E	59.3 E	75.9 E	0.0	65.3 E	42.0 D	0.0	74.4 E	69.6 E
Old Lake Wilson @ C.R. 532	Delay LOS													28.2 D
Sullivan Rd @ C.R. 532	Delay LOS													17.1 C
Tanglewood Dr @ C.R. 532	Delay LOS													16.5 C
Sandy Ridge Dr @ C.R. 532	Delay LOS													14.6 B
Westmont Blvd @ C.R. 532	Delay LOS													15.9 C
Old Tampa Hwy @ C.R. 532	Delay LOS													16.7 C
US 17-92 @ C.R. 532	Delay LOS	126.9 F						255.4 F	19.4 B		90.7 F	23.2 C		77.2 E

4. Development of Future Year Traffic Forecast

4.1. Model Development & No-Build and Build Assumptions

A project-specific travel demand model, CFX Model 3.3, developed for the PPE PD&E Study was used for this design traffic analysis. The calibration of the travel demand model was performed for the base year 2018 and described in detail in the PPE PD&E Study PTAR, dated September 2019. Using the calibrated model, traffic forecasts were developed for the opening year of the project 2025 and design year 2045 for the Build conditions. The Build conditions include the widening of the existing Poinciana Parkway, the relocation of the southern terminus to Solivita Boulevard intersection, and the extension of the Poinciana Parkway to CR 532. An extension of the Poinciana Parkway to I-4 or the completion of the Southport Connector Expressway were not assumed under these scenarios. The Build networks will include the widening of CR 532 to four lanes.

The Poinciana Parkway was coded in the network with the current CFX toll schedule, and the PPE was coded with a toll rate of \$0.18 per mile in 2018 dollars, consistent with the average toll for all new CFX facilities. The toll rates were inflated to 2045 levels using a compounded annual growth rate of one and one-half percent (1.5%), in accordance with the CFX Customer First toll rate policy, adopted by the CFX Board in January 2017. Model volumes were converted from peak-season average weekday traffic (PSAWDT) to annual average daily traffic (AADT) using the model output conversion factor of 0.98.

4.2. Future Year Networks

The future year network in the model contained the transportation improvements identified in the CFX, FDOT and Osceola County five-year work programs, as well as the improvements included in the cost-feasible plan from the Metroplan Orlando Long-Range Transportation Plan (LRTP) for year 2040. Significant 2045 design network improvements included:

- The ten-lane Beyond the Ultimate section of I-4 from US 27 to Kirkman Road;
- The six-lane widening of John Young Parkway from Portage Road to Pleasant Hill Road;
- The four-lane widening of South Old Lake Wilson Road from Sinclair Road to CR 532;
- The four-lane widening of US 17/92 from Poinciana Blvd to Ronald Reagan Blvd; and
- The four-lane widening of Poinciana Parkway (and Extension) from Cypress Parkway to CR 532

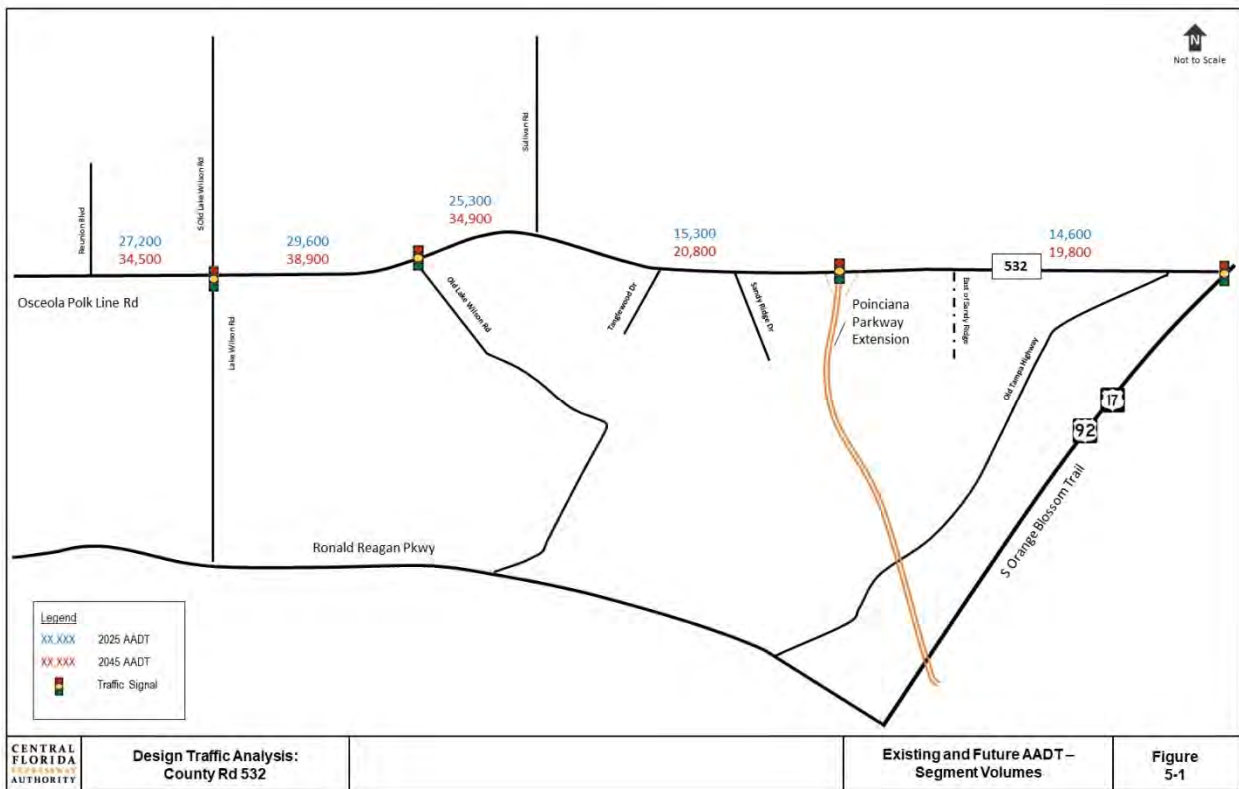
5. Future Year Forecasts

5.1. Daily Traffic Forecasts and LOS

As described in Section 2.2, design traffic was developed by growing the existing (2019) traffic profile to 2045 traffic using estimated growth from future land uses, background traffic growth on CR 532 and additional traffic from the PPE project. This traffic growth was balanced along the corridor in the AM and PM peak hours.

To cross check the 2045 traffic, a year 2045 Build scenario was run using the regional travel demand model, CFX Model 3.3. The 2045 design traffic was adjusted using the model results. Year 2025 design traffic was developed by interpolating the existing traffic and the 2045 traffic.

Figure 5-1 below provide AADT for the 2025 and 2045 Build conditions.



The daily roadway segment LOS analysis was conducted for the Build condition using the 2020 FDOT Quality and Level of Service Handbook tables. A summary of the Build daily LOS is provided in Table 5-1, for the years 2025 and 2045. As shown in the tables, all the roadway segments are projected to operate at LOS D or better in 2025 and 2045 except for the segment between South Old Lake Wilson Road and Old Lake Wilson Road in 2045. This is anticipated, as a majority of the traffic from the Poinciana Parkway Extension is headed to Interstate 4 and

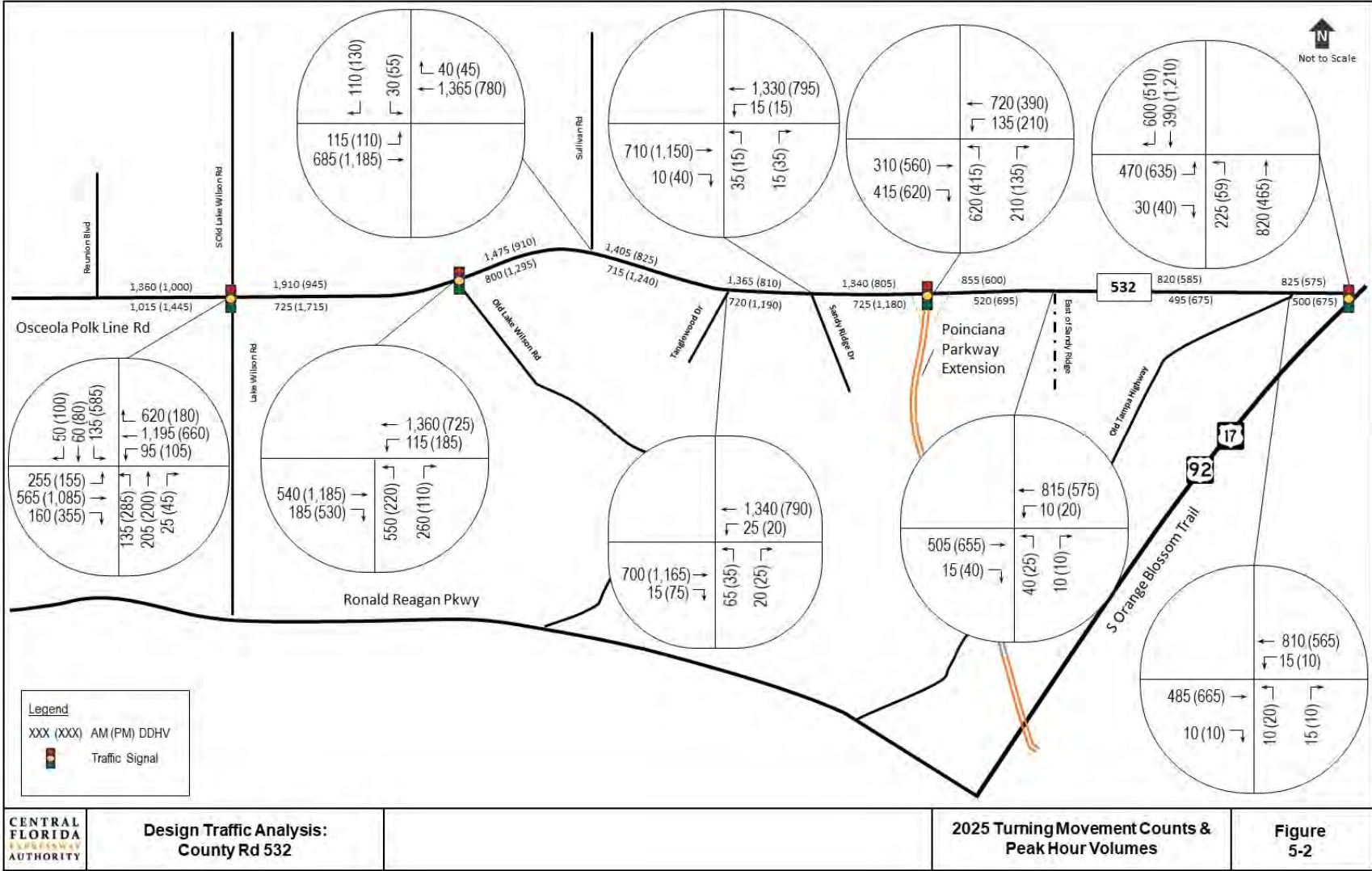
overloading this link. The next section of the Poinciana Parkway Extension is currently being evaluated in a PD&E study from CR 532 to I-4. When that section of the parkway is complete, it is anticipated the traffic will remain on the parkway and relieve the overburdened section of CR 532.

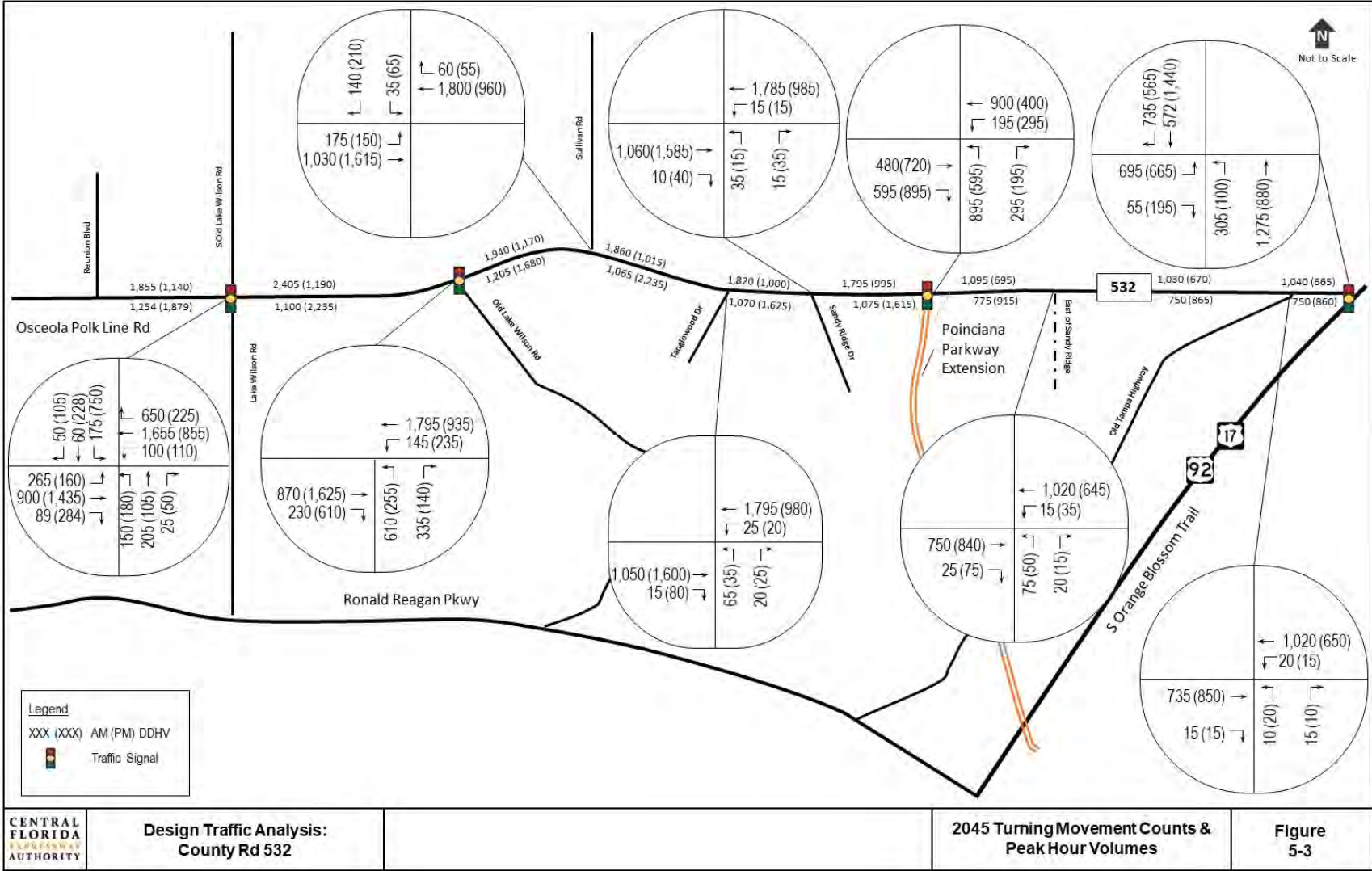
Table 5-1: 2025 2045 Build Daily Roadway Segment LOS

Segment	2025			2045		
	AADT	V/C Ratio	LOS	AADT	V/C Ratio	LOS
I-4 to S Old Lake Wilson Rd	27,200	0.68	C	36,300	0.91	C
S Old Lake Wilson Rd to Old Lake Wilson Rd	29,500	0.74	C	42,500	1.07	F
Old Lake Wilson Rd to Sullivan Rd	25,200	0.63	C	37,100	0.93	C
Sullivan Rd to Poinciana Pkwy Ext.	15,200	0.38	C	22,300	0.56	C
Poinciana Pkwy Ext to US 17-92	14,500	0.36	C	21,500	0.54	C

5.2. Directional Design-Hour Traffic Forecasts (DDHV) and LOS

The Directional Design Hour Volumes (DDHV) for the design traffic forecast year 2025 and 2045 were developed for the Build condition. DDHV were developed using the K and D factors applied to the forecasted balanced profile of the corridor. The DDHVs for 2025 and 2045 design year conditions are presented in **Figures 5-2** and **5-3**, respectively.





The Peak Hour Roadway Segment LOS analysis was conducted in the AM Peak and PM Peak hours for the Build condition using these DDHVs. A summary of Build Peak Hour Segment LOS is provided in **Table 5-3** for the year of 2025 and 2045.

Table 5-3: 2025 and 2045 Directional Design Hour Volume LOS

Segment	2025			2045		
	Peak Hour Directional Volume	V/C Ratio	LOS	Peak Hour Directional Volume	V/C Ratio	LOS
I-4 to S Old Lake Wilson Rd	1,445	0.72	C	1,879	0.94	C
S Old Lake Wilson Rd to Old Lake Wilson Rd	1,910	0.96	C	2,405	1.20	F
Old Lake Wilson Rd to Sullivan Rd	1,475	0.74	C	1,940	0.97	D
Sullivan Rd to Tanglewood Dr	1,405	0.70	C	1,860	0.93	C
Tanglewood Rd to Sandy Ridge Dr	1,365	0.68	C	1,820	0.91	C
Sandy Ridge Dr to Poinciana Parkway Ext.	1,340	0.67	C	1,795	0.90	C
Poinciana Pkwy Ext to East Sandy Ridge Drive	855	0.43	C	1,095	0.55	C
East Sandy Ridge to Old Tampa Hwy	820	0.41	C	1,030	0.52	C
Old Tampa Highway to US 17-92	825	0.41	C	1,040	0.52	C

Intersection LOS

The intersection LOS analysis was also conducted for the AM Peak and PM Peak hours for each turning movement. Summaries of the intersection LOS Analyses are provided in the following tables:

- **Table 5-4:** 2025 AM Peak Hour Intersection LOS
- **Table 5-5:** 2025 PM Peak Hour Intersection LOS
- **Table 5-6:** 2045 AM Peak Hour Intersection LOS
- **Table 5-7:** 2045 PM Peak Hour Intersection LOS
- **Table 5-8:** 95th Percentile Queue Lengths

The queue lengths for the 2045 Build AM and PM Peak conditions are presented in **Table 5-15**. Documentation of the Associated Synchro outputs are provided in Appendix C.

Table 5-4: 2025 AM Peak Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	65.3 E	21.0 C	19.5 B	69.4 E	32.3 C	28.5 C	76.9 E	64.8 E	65.1 E	76.9 E	56.1 E	58.9 E	39.0 D
Old Lake Wilson @ C.R. 532	Delay LOS		19.0 B	18.3 B	14.6 B	19.4 B		46.9 D		50.4 D				26.8 C
Sullivan Rd @ C.R. 532	Delay LOS													25.9 D
Tanglewood Dr @ C.R. 532	Delay LOS													23.4 C
Sandy Ridge Dr @ C.R. 532	Delay LOS													20.3 C
Poinciana Pkwy Ext @ C.R. 532	Delay LOS		33.7 C	47.7 D	24.4 C	24.9 C		41.6 D		39.5 D				35.5 D
East Sandy Ridge @ C.R. 532	Delay LOS													15.1 C
Old Tampa Hwy @ C.R. 532	Delay LOS													12.4 B
US 17-92 @ C.R. 532	Delay LOS	61.0 E		0.0				6.3 A	5.9 A		9.3 A	0.0		20.2 C

Table 5-5: 2025 PM Peak Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	76.6 E	46.5 D	39.2 D	77.6 E	31.5 C	9.9 A	69.8 E	75.8 E	77.2 E	62.2 E	46.7 D	51.4 D	49.8 D
Old Lake Wilson @ C.R. 532	Delay LOS		22.8 C	24.2 C	27.2 C	5.9 A		57.1 E		60.6 E				23.1 C
Sullivan Rd @ C.R. 532	Delay LOS													19.4 C
Tanglewood Dr @ C.R. 532	Delay LOS													24.2 C
Sandy Ridge Dr @ C.R. 532	Delay LOS													25.8 D
Poinciana Pkwy Ext @ C.R. 532	Delay LOS		26.1 C	46.4 D	17.8 B	10.5 B		58.6 E		56.6 E				35.7 D
East Sandy Ridge @ C.R. 532	Delay LOS													15.1 C
Old Tampa Hwy @ C.R. 532	Delay LOS													14.9 B
US 17-92 @ C.R. 532	Delay LOS	66.5 E		0.0				12.8 B	7.8 A		15.7 B	0.0		27.7 C

Table 5-6: 2045 AM Peak Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	87.6 F	21.2 C	15.7 B	73.1 E	36.5 D	20.9 C	95.7 F	73.6 E	74.0 E	87.1 F	58.0 E	61.3 E	41.2 D
Old Lake Wilson @ C.R. 532	Delay LOS		19.7 B	17.0 B	17.3 B	22.4 C		56.5 E		77.5 E				31.2 C
Sullivan Rd @ C.R. 532	Delay LOS													74.7 F
Tanglewood Dr @ C.R. 532	Delay LOS													43.2 E
Sandy Ridge Dr @ C.R. 532	Delay LOS													30.2 D
Poinciana Pkwy Ext @ C.R. 532	Delay LOS		58.6 E	11.9 B	38.1 D	36.7 D		36.7 D		33.3 C				35.2 D
East Sandy Ridge @ C.R. 532	Delay LOS													22.3 C
Old Tampa Hwy @ C.R. 532	Delay LOS													15.1 C
US 17-92 @ C.R. 532	Delay LOS	61.7 E		0.0				12.6 B	13.1 B		17.9 B	0.0		25.9 C

Table 5-7: 2045 PM Peak Intersection LOS

Intersection	Delay/ LOS	Eastbound			Westbound			Northbound			Southbound			Overall
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
S Old Lake Wilson @ C.R. 532	Delay LOS	74.1 E	68.2 E	30.6 C	158.0 F	35.9 D	10.8 B	73.9 E	66.4 E	67.7 E	94.1 F	44.9 D	64.0 E	62.0 E
Old Lake Wilson @ C.R. 532	Delay LOS		30.7 C	26.0 C	55.9 E	4.9 A		65.3 E		77.7 E				29.2 C
Sullivan Rd @ C.R. 532	Delay LOS													32.5 D
Tanglewood Dr @ C.R. 532	Delay LOS													44.1 E
Sandy Ridge Dr @ C.R. 532	Delay LOS													27.6 D
Poinciana Pkwy Ext @ C.R. 532	Delay LOS		27.4 C	138.4 F	50.6 D	10.1 B		67.0 E		62.5 E				69.2 E
East Sandy Ridge @ C.R. 532	Delay LOS													20.3 C
Old Tampa Hwy @ C.R. 532	Delay LOS													17.8 C
US 17-92 @ C.R. 532	Delay LOS	72.7 E		0.0				21.1 C	10.2 B		19.7 B	0.0		28.4 C

Table 5-8: 95th Percentile Queue Lengths for 2045

Intersection	Movement	AM Peak	PM Peak
South Old Lake Wilson Road and CR 532	EBL	#222	127
	EBT	360	#992
	EBR	27	55
	WBL	m132	#264
	WBT	896	373
	WBR	385	8
	NBL	#143	140
	NBT	169	99
	NBR		
	SBL	#153	#569
	SBT	54	143
SBR	13	50	
Old Lake Wilson @ CR 532	EBT	198	m377
	EBR	m38	m172
	WBL	80	#298
	WBT	835	157
	NBL	382	182
	NBR	238	67
Poinciana Parwkay Ext Ramps	EBT	347	550
	EBR	149	777
	WBL	212	#446
	WBT	519	194
	NBL	505	320
	NBR	57	51
US 17/92 @ CR 532	EBL	463	490
	EBR	27	233
	NEL	211	83
	NET	522	297
	SWT	285	851
	SWR	0	0

Note: “#” indicates 95th percentile volume exceeds capacity, queue may be longer, “m” indicates volume for 95th percentile queue is metered by upstream signal.

Conclusion

The 3-mile stretch of Osceola-Polk Line Road (CR 532) from South Old Lake Wilson Road to US 17/92 is being widened from two to four lanes through a partnership between CFX and Osceola County. This design traffic report considered the Osceola-Polk Line Road (CR 532) widening project as a four-lane divided facility under the Build Condition. For both the 2025 opening year

and 2045 design year, the background network included the widening of the Poinciana Parkway (SR 538) to four lanes, the Poinciana Parkway Extension project with a terminus at CR 532, the widening of US 17/92 to four lanes from Intercession City to Ronald Reagan Blvd, and the widening of South Old Lake Wilson Road to four lanes from Sinclair Road to CR 532. The PPE project includes completion of a full interchange at 17/92 and half interchange, to and from the south, at CR 532.

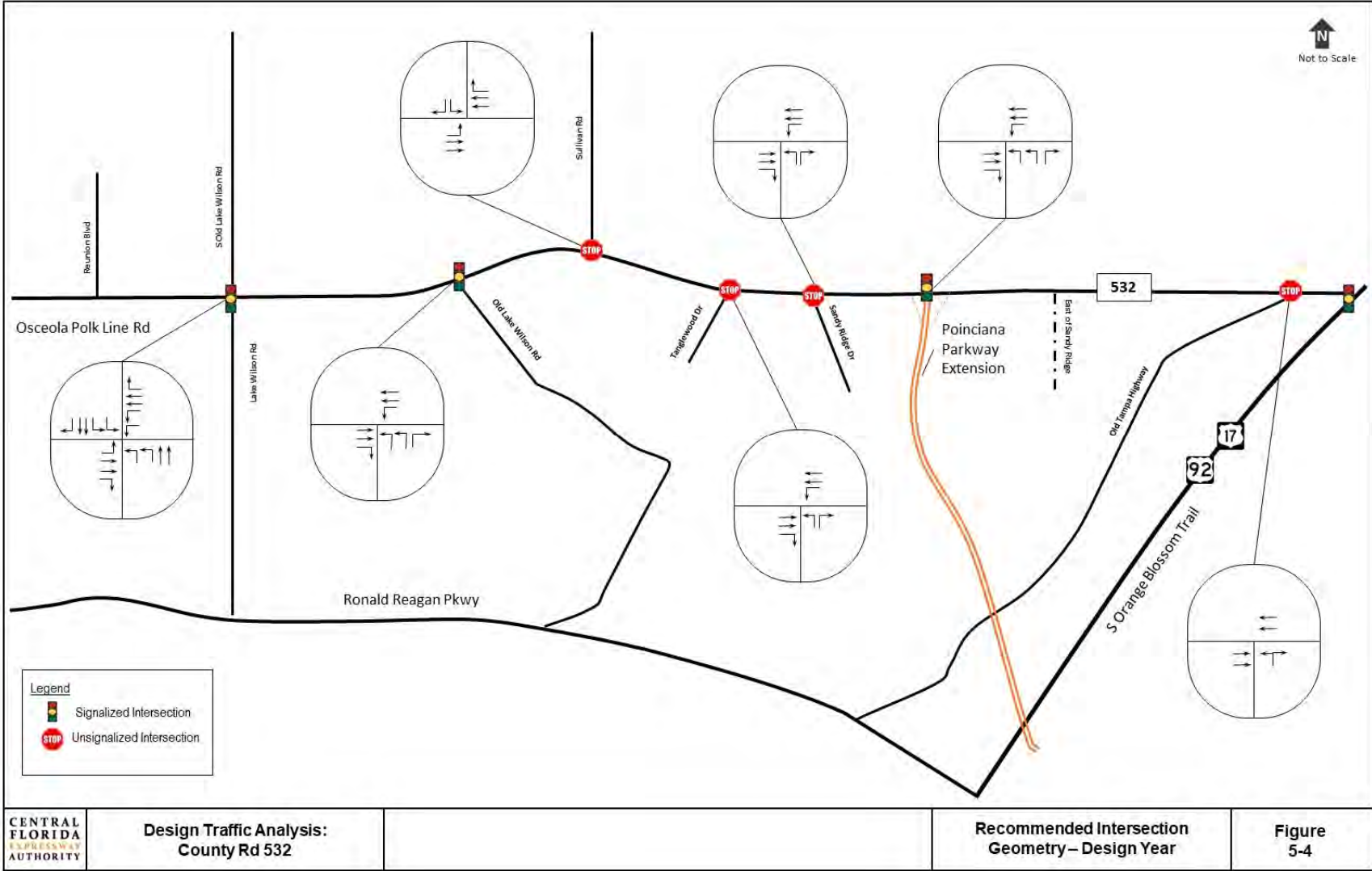
The report concludes that CR 532 operates at a LOS C or better in the opening year (2025), and LOS D or better in the design year (2045) except for the segment between South Old Lake Wilson Road and Old Lake Wilson Road, which fails in the design year. This condition was anticipated because the PPE project terminates a CR 532 and a majority of PPE traffic is expected to use CR 532 to access I-4. The next section of the Poinciana Parkway Extension is currently being evaluated in a PD&E study from CR 532 to I-4. When that section of the parkway is complete, it is anticipated the traffic will remain on the parkway and relieve the overburdened section of CR 532.

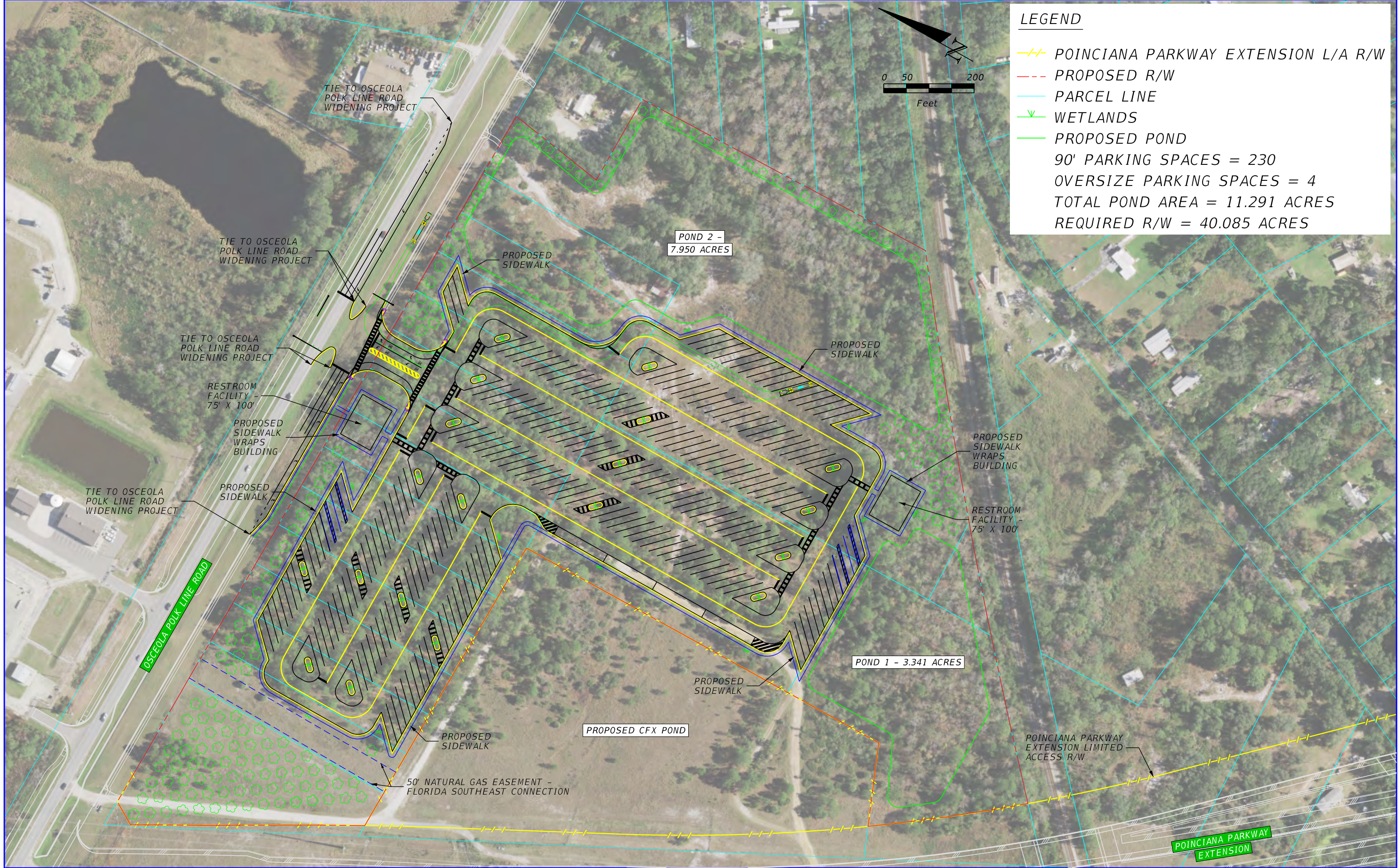
Intersection level of service analysis was completed for the 2025 and 2045 Build condition and the analysis shows that the intersection operations improve for 2025, but in 2045 PM conditions, South Old Lake Wilson and US 17/92 operate at LOS E. The US 17/92 intersection is being evaluated as part of the US 17/92 PD&E Study from CR 54 to Avenue A (FDID #437200-1-22-01), and any intersection improvements will be completed with the US 17/92 improvement project. Additionally, Sullivan Road, an unsignalized intersection, fails in the design year, based on the future land uses assumed in this study. This intersection will need to be considered with future land use development approvals. The following conditions should be noted:

The intersections within the study area were analyzed with the recommended intersection geometry shown in **Figure 5-4**, and includes:

1. South Old Lake Wilson Road be improved with dual SB and WB dedicated left turn lanes;
2. Old Lake Wilson Road intersection be signalized (already approved);
3. Poinciana Parkway Extension have dual NB dedicated left turn lanes and be signalized; and
4. Optimized Traffic Signal Timings.

The traffic analysis shows that the improvements to CR 532 will help traffic conditions in the study area in the Build condition over the No-Build condition. The Poinciana Parkway Extension improvement provides opportunity for high-speed travel between the Poinciana community across the Reedy Creek Mitigation Area to US 17/92 and CR 532. While there will be a significant amount of traffic from the PPE project in the interim, this traffic is expected to decrease with the construction of the PPE connector project, currently in the PD&E stage, located between CR 532 and I-4. The CR 532 improvement is part of an overall improvement to the roadway network in NW Osceola County and NE Polk County, including the Poinciana Parkway Extension, US 17/92 widening, and CR 532/I-4 Interchange, all of which will ultimately provide greater regional connectivity to Interstate 4 and SR 429 in this rapidly growing area of Central Florida.





LEGEND

- POINCIANA PARKWAY EXTENSION L/A R/W
- PROPOSED R/W
- PARCEL LINE
- WETLANDS
- PROPOSED POND

90' PARKING SPACES = 230
 OVERSIZE PARKING SPACES = 4
 TOTAL POND AREA = 11.291 ACRES
 REQUIRED R/W = 40.085 ACRES

REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	OSCEOLA COUNTY SITE 1 TRUCK PARKING CONCEPT	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION			
				CR 532 OSCEOLA 447724-1		

Appendix B-5

Osceola County Site 1 – Future Synchro Outputs

Queues
1: US 17/92 & CR 532

2025 No Build AM
06/29/2022

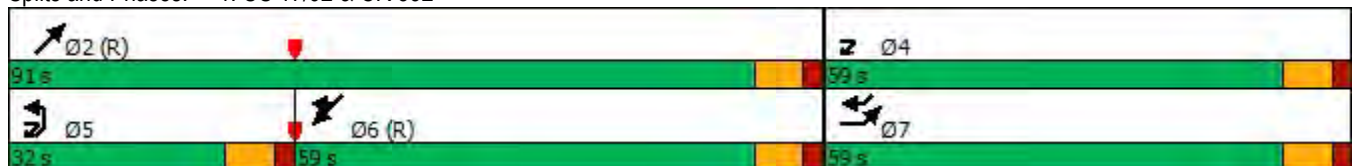


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↗	↖↗	↖↗	↕↕	↕↕	↖↗	
Traffic Volume (vph)	470	30	225	820	390	600	
Future Volume (vph)	470	30	225	820	390	600	
Satd. Flow (prot)	3303	2682	3303	3406	3406	2682	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3303	2682	3303	3406	3406	2682	
Satd. Flow (RTOR)		31				285	
Lane Group Flow (vph)	490	31	234	854	406	625	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	59.0		32.0	91.0	59.0		59.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	51.2	74.9	15.9	83.2	59.5	118.5	
Actuated g/C Ratio	0.34	0.50	0.11	0.55	0.40	0.79	
v/c Ratio	0.43	0.02	0.67	0.45	0.30	0.29	
Control Delay	20.4	0.0	73.8	20.8	32.3	2.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	20.4	0.0	73.8	20.8	32.3	2.6	
LOS	C	A	E	C	C	A	
Approach Delay	19.2			32.2	14.3		
Approach LOS	B			C	B		
Queue Length 50th (ft)	81	0	115	253	142	39	
Queue Length 95th (ft)	112	0	157	306	195	65	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	1127	1501	532	1889	1350	2178	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.43	0.02	0.44	0.45	0.30	0.29	

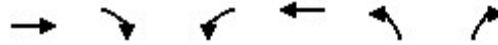
Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 129 (86%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 22.7
 Intersection Capacity Utilization 63.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	310	415	135	720	620	210
Future Volume (vph)	310	415	135	720	620	210
Satd. Flow (prot)	3406	1524	1703	3406	3433	1583
Flt Permitted			0.500		0.950	
Satd. Flow (perm)	3406	1524	896	3406	3433	1583
Satd. Flow (RTOR)		437				221
Lane Group Flow (vph)	326	437	142	758	653	221
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	51.0	69.0	30.0	81.0	69.0	30.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	45.0	114.0	75.0	75.0	63.0	93.0
Actuated g/C Ratio	0.30	0.76	0.50	0.50	0.42	0.62
v/c Ratio	0.32	0.35	0.25	0.45	0.45	0.21
Control Delay	41.7	1.2	17.1	17.6	32.4	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.7	1.2	17.1	17.6	32.4	1.8
LOS	D	A	B	B	C	A
Approach Delay	18.5			17.5	24.7	
Approach LOS	B			B	C	
Queue Length 50th (ft)	130	0	54	170	234	0
Queue Length 95th (ft)	175	24	84	203	289	32
Internal Link Dist (ft)	1424			4861	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1021	1263	577	1703	1441	1065
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.35	0.25	0.45	0.45	0.21

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 132 (88%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.45
 Intersection Signal Delay: 20.3
 Intersection Capacity Utilization 52.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Queues
1: US 17/92 & CR 532

2025 No Build PM
06/29/2022

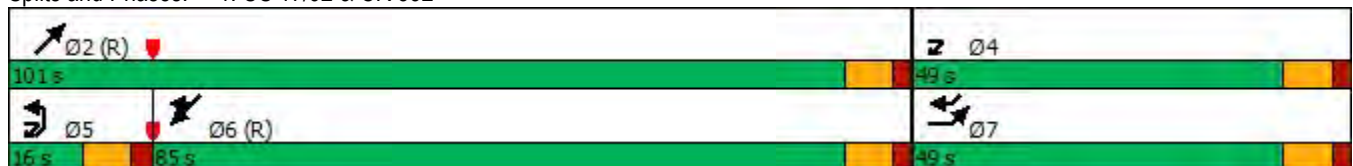


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations							
Traffic Volume (vph)	635	40	59	465	1210	510	
Future Volume (vph)	635	40	59	465	1210	510	
Satd. Flow (prot)	3303	2682	3303	3406	3406	2682	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3303	2682	3303	3406	3406	2682	
Satd. Flow (RTOR)		41				458	
Lane Group Flow (vph)	648	41	60	474	1235	520	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	49.0		16.0	101.0	85.0		49.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	41.2	56.5	7.5	93.2	80.6	131.2	
Actuated g/C Ratio	0.27	0.38	0.05	0.62	0.54	0.87	
v/c Ratio	0.71	0.04	0.36	0.22	0.67	0.22	
Control Delay	31.0	5.8	75.0	12.8	28.3	0.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.0	5.8	75.0	12.8	28.3	0.5	
LOS	C	A	E	B	C	A	
Approach Delay	29.5			19.8	20.1		
Approach LOS	C			B	C		
Queue Length 50th (ft)	309	9	29	102	472	4	
Queue Length 95th (ft)	382	14	55	131	556	13	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	907	1048	180	2116	1830	2403	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.71	0.04	0.33	0.22	0.67	0.22	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.71
 Intersection Signal Delay: 22.2
 Intersection LOS: C
 Intersection Capacity Utilization 64.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	560	620	210	390	415	135
Future Volume (vph)	560	620	210	390	415	135
Satd. Flow (prot)	3406	1524	1703	3406	3433	1583
Flt Permitted			0.284		0.950	
Satd. Flow (perm)	3406	1524	509	3406	3433	1583
Satd. Flow (RTOR)		396				66
Lane Group Flow (vph)	589	653	221	411	437	142
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	48.0	68.0	34.0	82.0	68.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	53.3	121.3	76.0	76.0	62.0	84.7
Actuated g/C Ratio	0.36	0.81	0.51	0.51	0.41	0.56
v/c Ratio	0.49	0.50	0.57	0.24	0.31	0.15
Control Delay	40.0	3.1	31.2	25.3	30.3	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.0	3.1	31.2	25.3	30.3	8.0
LOS	D	A	C	C	C	A
Approach Delay	20.6			27.3	24.9	
Approach LOS	C			C	C	
Queue Length 50th (ft)	235	48	132	127	146	33
Queue Length 95th (ft)	313	117	193	166	190	61
Internal Link Dist (ft)	1424			4861	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1211	1308	480	1725	1418	1036
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.50	0.46	0.24	0.31	0.14

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 23.3
 Intersection Capacity Utilization 60.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Queues
1: US 17/92 & CR 532

2045 No Build AM
06/29/2022

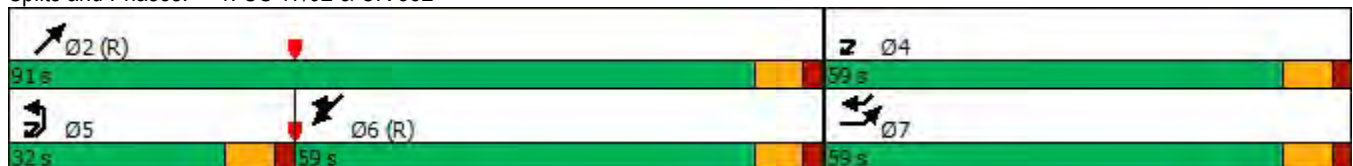


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↗	↖↗	↖↗	↕↕	↕↕	↖↗	
Traffic Volume (vph)	695	55	305	1275	572	735	
Future Volume (vph)	695	55	305	1275	572	735	
Satd. Flow (prot)	3303	2682	3303	3406	3406	2682	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3303	2682	3303	3406	3406	2682	
Satd. Flow (RTOR)		57				139	
Lane Group Flow (vph)	724	57	318	1328	596	766	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	59.0		32.0	91.0	59.0		59.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	51.2	78.6	19.6	83.2	55.8	114.8	
Actuated g/C Ratio	0.34	0.52	0.13	0.55	0.37	0.77	
v/c Ratio	0.64	0.04	0.74	0.70	0.47	0.37	
Control Delay	28.2	0.2	73.2	26.9	37.9	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.2	0.2	73.2	26.9	37.9	5.3	
LOS	C	A	E	C	D	A	
Approach Delay	26.2			35.9	19.6		
Approach LOS	C			D	B		
Queue Length 50th (ft)	157	0	156	483	233	96	
Queue Length 95th (ft)	185	0	204	567	306	145	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	1127	1513	532	1889	1267	2085	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	0.04	0.60	0.70	0.47	0.37	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 28.0
 Intersection LOS: C
 Intersection Capacity Utilization 72.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

2045 No Build AM
06/29/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	480	595	195	900	895	295
Future Volume (vph)	480	595	195	900	895	295
Satd. Flow (prot)	3406	1524	1703	3406	3433	1583
Flt Permitted			0.329		0.950	
Satd. Flow (perm)	3406	1524	590	3406	3433	1583
Satd. Flow (RTOR)		436				94
Lane Group Flow (vph)	505	626	205	947	942	311
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	47.0	70.0	33.0	80.0	70.0	33.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	51.8	121.8	74.0	74.0	64.0	86.2
Actuated g/C Ratio	0.35	0.81	0.49	0.49	0.43	0.57
v/c Ratio	0.43	0.47	0.50	0.56	0.64	0.33
Control Delay	39.9	2.5	30.7	30.5	36.5	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.9	2.5	30.7	30.5	36.5	11.8
LOS	D	A	C	C	D	B
Approach Delay	19.2			30.5	30.4	
Approach LOS	B			C	C	
Queue Length 50th (ft)	199	33	116	312	372	104
Queue Length 95th (ft)	271	84	189	409	445	146
Internal Link Dist (ft)	1424			4861	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1175	1319	491	1680	1464	1056
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.47	0.42	0.56	0.64	0.29

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 26.8
 Intersection Capacity Utilization 64.6%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532





Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↖	↖↖	↖↖	↑↑	↑↑	↖↖	
Traffic Volume (vph)	665	195	100	880	1440	565	
Future Volume (vph)	665	195	100	880	1440	565	
Satd. Flow (prot)	3303	2682	3303	3406	3406	2682	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3303	2682	3303	3406	3406	2682	
Satd. Flow (RTOR)		40				160	
Lane Group Flow (vph)	679	199	102	898	1469	577	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	49.0		16.0	101.0	85.0		49.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effect Green (s)	41.2	57.0	8.0	93.2	77.4	126.4	
Actuated g/C Ratio	0.27	0.38	0.05	0.62	0.52	0.84	
v/c Ratio	0.75	0.19	0.58	0.42	0.84	0.25	
Control Delay	26.9	5.1	82.9	15.4	36.4	1.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.9	5.1	82.9	15.4	36.4	1.9	
LOS	C	A	F	B	D	A	
Approach Delay	21.9			22.3	26.6		
Approach LOS	C			C	C		
Queue Length 50th (ft)	326	30	51	226	631	34	
Queue Length 95th (ft)	408	m32	84	272	736	47	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	907	1047	180	2116	1757	2284	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.75	0.19	0.57	0.42	0.84	0.25	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 24.5

Intersection LOS: C

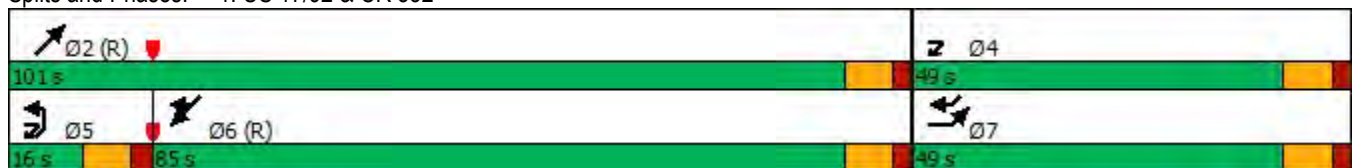
Intersection Capacity Utilization 74.8%

ICU Level of Service D

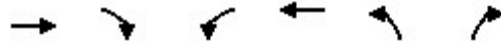
Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓↓	↑
Traffic Volume (vph)	720	895	295	400	595	195
Future Volume (vph)	720	895	295	400	595	195
Satd. Flow (prot)	3406	1524	1703	3406	3433	1583
Flt Permitted			0.158		0.950	
Satd. Flow (perm)	3406	1524	283	3406	3433	1583
Satd. Flow (RTOR)		200				28
Lane Group Flow (vph)	758	942	311	421	626	205
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	48.0	68.0	34.0	82.0	68.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	46.2	114.2	76.0	76.0	62.0	91.8
Actuated g/C Ratio	0.31	0.76	0.51	0.51	0.41	0.61
v/c Ratio	0.72	0.78	0.85	0.24	0.44	0.21
Control Delay	51.7	14.3	50.8	26.2	32.8	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.7	14.3	50.8	26.2	32.8	11.1
LOS	D	B	D	C	C	B
Approach Delay	31.0			36.6	27.5	
Approach LOS	C			D	C	
Queue Length 50th (ft)	355	407	205	136	224	70
Queue Length 95th (ft)	443	663	#317	176	279	105
Internal Link Dist (ft)	1424			4861	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1049	1208	408	1725	1418	1023
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.72	0.78	0.76	0.24	0.44	0.20

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 31.4
 Intersection LOS: C
 Intersection Capacity Utilization 81.8%
 ICU Level of Service D
 Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



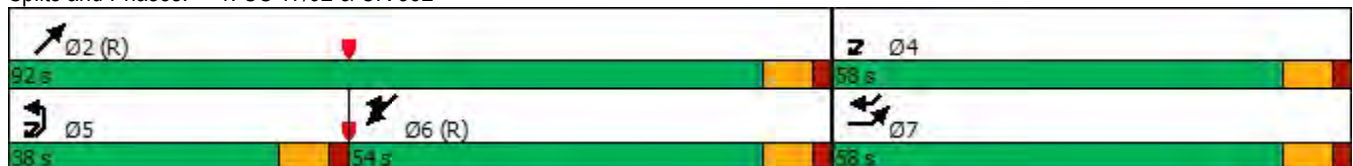


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↖	↖↖	↖↖	↕↕	↕↕	↖↖	
Traffic Volume (vph)	483	49	244	820	390	613	
Future Volume (vph)	483	49	244	820	390	613	
Satd. Flow (prot)	3273	2186	3303	3406	3406	2656	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3273	2186	3303	3406	3406	2656	
Satd. Flow (RTOR)		51				369	
Lane Group Flow (vph)	503	51	254	854	406	639	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	58.0		38.0	92.0	54.0		58.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	50.2	74.9	16.9	84.2	59.5	117.5	
Actuated g/C Ratio	0.33	0.50	0.11	0.56	0.40	0.78	
v/c Ratio	0.46	0.05	0.68	0.45	0.30	0.30	
Control Delay	22.1	5.3	73.4	20.2	32.3	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.1	5.3	73.4	20.2	32.3	2.2	
LOS	C	A	E	C	C	A	
Approach Delay	20.6			32.4	13.9		
Approach LOS	C			C	B		
Queue Length 50th (ft)	217	6	125	249	142	31	
Queue Length 95th (ft)	270	15	168	301	195	55	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	1095	1306	665	1911	1352	2161	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.46	0.04	0.38	0.45	0.30	0.30	

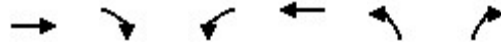
Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 22.8
 Intersection LOS: C
 Intersection Capacity Utilization 64.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

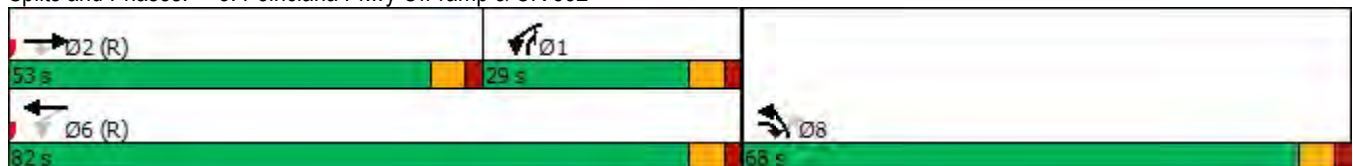


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	327	415	139	737	620	214
Future Volume (vph)	327	415	139	737	620	214
Satd. Flow (prot)	3312	1524	1687	3374	3433	1568
Flt Permitted			0.488		0.950	
Satd. Flow (perm)	3312	1524	867	3374	3433	1568
Satd. Flow (RTOR)		437				225
Lane Group Flow (vph)	344	437	146	776	653	225
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	53.0	68.0	29.0	82.0	68.0	29.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	47.0	115.0	76.0	76.0	62.0	91.0
Actuated g/C Ratio	0.31	0.77	0.51	0.51	0.41	0.61
v/c Ratio	0.33	0.34	0.26	0.45	0.46	0.22
Control Delay	40.6	1.1	19.6	19.2	33.2	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.6	1.1	19.6	19.2	33.2	1.9
LOS	D	A	B	B	C	A
Approach Delay	18.5			19.3	25.2	
Approach LOS	B			B	C	
Queue Length 50th (ft)	136	0	50	140	236	0
Queue Length 95th (ft)	181	23	91	198	292	34
Internal Link Dist (ft)	1424			2174	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1037	1270	565	1709	1418	1039
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.34	0.26	0.45	0.46	0.22

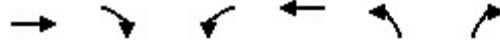
Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 120 (80%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 21.1
 Intersection Capacity Utilization 52.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Queues
8: Potential Truck Stop & CR 532

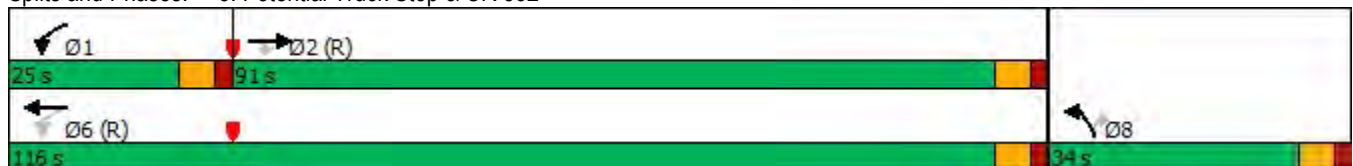


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↑
Traffic Volume (vph)	520	21	32	825	21	32
Future Volume (vph)	520	21	32	825	21	32
Satd. Flow (prot)	3406	808	902	3406	902	808
Flt Permitted			0.405		0.950	
Satd. Flow (perm)	3406	808	385	3406	902	808
Satd. Flow (RTOR)		22				34
Lane Group Flow (vph)	547	22	34	868	22	34
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Total Split (s)	91.0	91.0	25.0	116.0	34.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	99.2	99.2	110.0	110.0	28.0	28.0
Actuated g/C Ratio	0.66	0.66	0.73	0.73	0.19	0.19
v/c Ratio	0.24	0.04	0.11	0.35	0.13	0.19
Control Delay	4.1	0.1	4.7	5.2	53.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.1	0.1	4.7	5.2	53.3	17.9
LOS	A	A	A	A	D	B
Approach Delay	3.9			5.2	31.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	39	0	6	95	18	0
Queue Length 95th (ft)	51	0	13	112	46	33
Internal Link Dist (ft)	2174			2607	381	
Turn Bay Length (ft)		200	400			
Base Capacity (vph)	2252	541	347	2497	168	178
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.04	0.10	0.35	0.13	0.19

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 136 (91%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.35
 Intersection Signal Delay: 5.7
 Intersection Capacity Utilization 37.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 8: Potential Truck Stop & CR 532



Queues
1: US 17/92 & CR 532

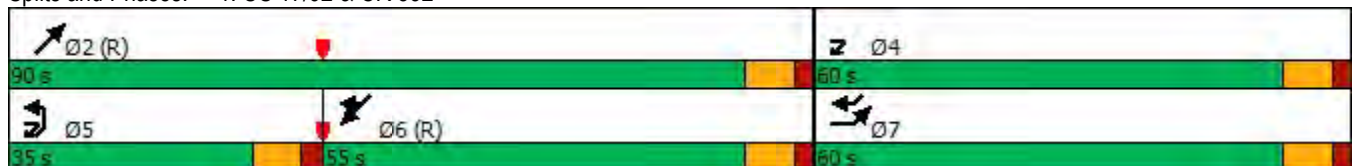


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↖	↖↖	↖↖	↗↗	↗↗	↖↖	
Traffic Volume (vph)	708	74	324	1275	572	748	
Future Volume (vph)	708	74	324	1275	572	748	
Satd. Flow (prot)	3273	2186	3303	3406	3406	2656	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3273	2186	3303	3406	3406	2656	
Satd. Flow (RTOR)		77				161	
Lane Group Flow (vph)	738	77	338	1328	596	779	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	60.0		35.0	90.0	55.0		60.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	52.2	80.6	20.6	82.2	53.8	113.8	
Actuated g/C Ratio	0.35	0.54	0.14	0.55	0.36	0.76	
v/c Ratio	0.65	0.06	0.75	0.71	0.49	0.38	
Control Delay	26.9	2.4	72.5	27.8	39.7	5.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.9	2.4	72.5	27.8	39.7	5.5	
LOS	C	A	E	C	D	A	
Approach Delay	24.5			36.9	20.3		
Approach LOS	C			D	C		
Queue Length 50th (ft)	324	9	166	492	238	98	
Queue Length 95th (ft)	408	2	213	577	314	151	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	1139	1303	598	1866	1221	2054	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.65	0.06	0.57	0.71	0.49	0.38	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 30 (20%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.75
 Intersection Signal Delay: 28.4
 Intersection Capacity Utilization 73.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	497	595	199	917	895	299
Future Volume (vph)	497	595	199	917	895	299
Satd. Flow (prot)	3312	1524	1687	3374	3433	1568
Flt Permitted			0.316		0.950	
Satd. Flow (perm)	3312	1524	561	3374	3433	1568
Satd. Flow (RTOR)		422				86
Lane Group Flow (vph)	523	626	209	965	942	315
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	47.0	70.0	33.0	80.0	70.0	33.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	51.4	121.4	74.0	74.0	64.0	86.6
Actuated g/C Ratio	0.34	0.81	0.49	0.49	0.43	0.58
v/c Ratio	0.46	0.48	0.52	0.58	0.64	0.33
Control Delay	40.8	2.6	37.8	38.9	36.5	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.8	2.6	37.8	38.9	36.5	12.2
LOS	D	A	D	D	D	B
Approach Delay	20.0			38.7	30.4	
Approach LOS	C			D	C	
Queue Length 50th (ft)	209	36	151	397	372	111
Queue Length 95th (ft)	284	93	239	476	445	152
Internal Link Dist (ft)	1424			2174	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1135	1314	479	1664	1464	1044
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.46	0.48	0.44	0.58	0.64	0.30

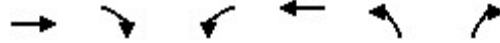
Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 29.8
 Intersection Capacity Utilization 65.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Queues
8: Potential Truck Stop & CR 532



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑	↓	↓
Traffic Volume (vph)	775	21	32	1040	21	32
Future Volume (vph)	775	21	32	1040	21	32
Satd. Flow (prot)	3406	808	902	3406	902	808
Flt Permitted			0.290		0.950	
Satd. Flow (perm)	3406	808	276	3406	902	808
Satd. Flow (RTOR)		22				34
Lane Group Flow (vph)	816	22	34	1095	22	34
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Total Split (s)	91.0	91.0	25.0	116.0	34.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	99.2	99.2	110.0	110.0	28.0	28.0
Actuated g/C Ratio	0.66	0.66	0.73	0.73	0.19	0.19
v/c Ratio	0.36	0.04	0.15	0.44	0.13	0.19
Control Delay	4.7	0.1	5.2	5.4	53.3	17.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.7	0.1	5.2	5.4	53.3	17.9
LOS	A	A	A	A	D	B
Approach Delay	4.6			5.4	31.8	
Approach LOS	A			A	C	
Queue Length 50th (ft)	56	0	6	123	18	0
Queue Length 95th (ft)	70	m0	m12	143	46	33
Internal Link Dist (ft)	2174			2607	381	
Turn Bay Length (ft)		200	400			
Base Capacity (vph)	2252	541	281	2497	168	178
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.04	0.12	0.44	0.13	0.19

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 37 (25%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.44
 Intersection Signal Delay: 5.8
 Intersection LOS: A
 Intersection Capacity Utilization 42.9%
 ICU Level of Service A
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Potential Truck Stop & CR 532



Queues
1: US 17/92 & CR 532

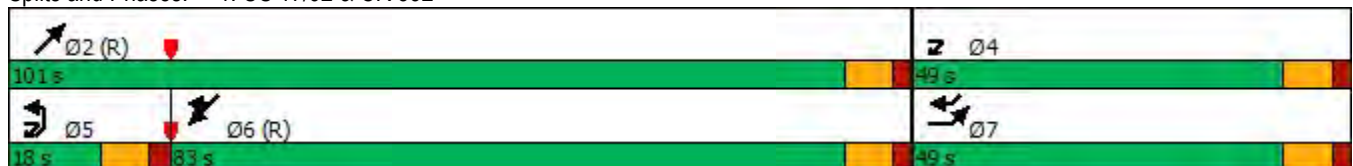


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↗	↖↗	↖↗	↕↕	↕↕	↖↗	
Traffic Volume (vph)	650	60	79	465	1210	525	
Future Volume (vph)	650	60	79	465	1210	525	
Satd. Flow (prot)	3242	2493	2993	3406	3406	2632	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3242	2493	2993	3406	3406	2632	
Satd. Flow (RTOR)		61				404	
Lane Group Flow (vph)	663	61	81	474	1235	536	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	49.0		18.0	101.0	83.0		49.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effct Green (s)	41.2	57.9	8.9	93.2	76.5	125.5	
Actuated g/C Ratio	0.27	0.39	0.06	0.62	0.51	0.84	
v/c Ratio	0.74	0.06	0.46	0.22	0.71	0.24	
Control Delay	32.9	5.5	76.2	12.8	31.4	0.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.9	5.5	76.2	12.8	31.4	0.8	
LOS	C	A	E	B	C	A	
Approach Delay	30.6			22.1	22.1		
Approach LOS	C			C	C		
Queue Length 50th (ft)	317	14	40	102	481	10	
Queue Length 95th (ft)	399	17	70	131	573	21	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	890	1020	203	2116	1736	2267	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.74	0.06	0.40	0.22	0.71	0.24	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 24.1
 Intersection Capacity Utilization 65.3%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	575	620	214	405	415	139
Future Volume (vph)	575	620	214	405	415	139
Satd. Flow (prot)	3374	1524	1687	3312	3433	1553
Flt Permitted			0.278		0.950	
Satd. Flow (perm)	3374	1524	494	3312	3433	1553
Satd. Flow (RTOR)		390				65
Lane Group Flow (vph)	605	653	225	426	437	146
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	49.0	67.0	34.0	83.0	67.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	54.1	121.1	77.0	77.0	61.0	83.9
Actuated g/C Ratio	0.36	0.81	0.51	0.51	0.41	0.56
v/c Ratio	0.50	0.50	0.58	0.25	0.31	0.16
Control Delay	39.7	3.2	41.0	25.3	31.0	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.7	3.2	41.0	25.3	31.0	8.5
LOS	D	A	D	C	C	A
Approach Delay	20.8			30.7	25.4	
Approach LOS	C			C	C	
Queue Length 50th (ft)	241	50	154	131	148	36
Queue Length 95th (ft)	321	121	246	168	192	65
Internal Link Dist (ft)	1424			2223	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1217	1305	476	1700	1396	1007
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.50	0.47	0.25	0.31	0.14

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 24.4
 Intersection Capacity Utilization 60.2%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Queues
8: Potential Truck Stop & CR 532

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘	↘
Traffic Volume (vph)	695	19	34	595	19	34
Future Volume (vph)	695	19	34	595	19	34
Satd. Flow (prot)	3406	808	902	3406	902	808
Flt Permitted			0.318		0.950	
Satd. Flow (perm)	3406	808	302	3406	902	808
Satd. Flow (RTOR)		21				37
Lane Group Flow (vph)	755	21	36	626	21	37
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Total Split (s)	95.0	95.0	24.0	119.0	31.0	31.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effct Green (s)	102.2	102.2	113.0	113.0	25.0	25.0
Actuated g/C Ratio	0.68	0.68	0.75	0.75	0.17	0.17
v/c Ratio	0.33	0.04	0.14	0.24	0.14	0.22
Control Delay	2.3	0.1	5.4	5.1	56.2	18.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	2.3	0.1	5.4	5.1	56.2	18.9
LOS	A	A	A	A	E	B
Approach Delay	2.2			5.1	32.4	
Approach LOS	A			A	C	
Queue Length 50th (ft)	28	0	7	74	18	0
Queue Length 95th (ft)	34	m0	16	92	46	35
Internal Link Dist (ft)	2223			2558	422	
Turn Bay Length (ft)		200	400			
Base Capacity (vph)	2321	557	299	2565	150	165
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.04	0.12	0.24	0.14	0.22

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 35 (23%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.33
 Intersection Signal Delay: 4.6
 Intersection LOS: A
 Intersection Capacity Utilization 42.4%
 ICU Level of Service A
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Potential Truck Stop & CR 532



Queues
1: US 17/92 & CR 532

2045 Build PM
06/29/2022

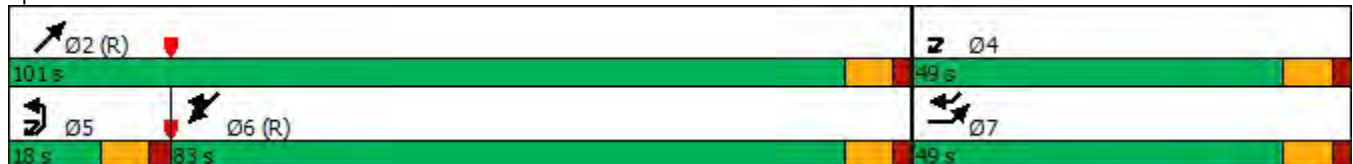


Lane Group	EBL	EBR	NEL	NET	SWT	SWR	Ø4
Lane Configurations	↖↗	↖↗	↖↗	↕↕	↕↕	↖↗	
Traffic Volume (vph)	680	215	120	880	1440	580	
Future Volume (vph)	680	215	120	880	1440	580	
Satd. Flow (prot)	3242	2493	2993	3406	3406	2632	
Flt Permitted	0.950		0.950				
Satd. Flow (perm)	3242	2493	2993	3406	3406	2632	
Satd. Flow (RTOR)		36				177	
Lane Group Flow (vph)	694	219	122	898	1469	592	
Turn Type	Prot	pt+ov	Prot	NA	NA	pt+ov	
Protected Phases	7	4 5	5	2	6	6 7	4
Permitted Phases							
Total Split (s)	49.0		18.0	101.0	83.0		49.0
Total Lost Time (s)	7.8		7.8	7.8	7.8		
Act Effect Green (s)	41.2	58.8	9.8	93.2	75.6	124.6	
Actuated g/C Ratio	0.27	0.39	0.07	0.62	0.50	0.83	
v/c Ratio	0.78	0.22	0.63	0.42	0.86	0.27	
Control Delay	25.1	3.5	83.0	15.4	38.8	2.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.1	3.5	83.0	15.4	38.8	2.2	
LOS	C	A	F	B	D	A	
Approach Delay	19.9			23.4	28.2		
Approach LOS	B			C	C		
Queue Length 50th (ft)	277	15	60	226	650	38	
Queue Length 95th (ft)	267	11	97	272	758	52	
Internal Link Dist (ft)	828			650	824		
Turn Bay Length (ft)	900		500			250	
Base Capacity (vph)	890	1005	203	2116	1717	2216	
Starvation Cap Reductn	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	
Reduced v/c Ratio	0.78	0.22	0.60	0.42	0.86	0.27	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:NET and 6:SWT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 25.1
 Intersection Capacity Utilization 82.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 1: US 17/92 & CR 532



Queues
3: Poinciana Pkwy Off-ramp & CR 532

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↘	↑↑	↘↘	↘
Traffic Volume (vph)	735	895	299	415	595	199
Future Volume (vph)	735	895	299	415	595	199
Satd. Flow (prot)	3374	1524	1687	3312	3433	1553
Flt Permitted			0.153		0.950	
Satd. Flow (perm)	3374	1524	272	3312	3433	1553
Satd. Flow (RTOR)		194				28
Lane Group Flow (vph)	774	942	315	437	626	209
Turn Type	NA	pm+ov	pm+pt	NA	Prot	pm+ov
Protected Phases	2	8	1	6	8	1
Permitted Phases		2	6			8
Total Split (s)	49.0	67.0	34.0	83.0	67.0	34.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Act Effect Green (s)	46.8	113.8	77.0	77.0	61.0	91.2
Actuated g/C Ratio	0.31	0.76	0.51	0.51	0.41	0.61
v/c Ratio	0.74	0.78	0.86	0.26	0.45	0.22
Control Delay	51.8	14.7	65.2	39.6	33.6	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	14.7	65.2	39.6	33.6	11.5
LOS	D	B	E	D	C	B
Approach Delay	31.4			50.4	28.1	
Approach LOS	C			D	C	
Queue Length 50th (ft)	365	421	269	186	227	72
Queue Length 95th (ft)	452	669	#383	238	282	110
Internal Link Dist (ft)	1424			2223	698	
Turn Bay Length (ft)		550	350		650	
Base Capacity (vph)	1053	1203	403	1700	1396	993
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.78	0.78	0.26	0.45	0.21

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 8 (5%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 34.9
 Intersection LOS: C
 Intersection Capacity Utilization 82.0%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Poinciana Pkwy Off-ramp & CR 532



Appendix B-6

Osceola County Site 1 – Future Safety Analysis

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	CR 532 No Build
Agency or Company	VHB	Intersection	US 17/92
Date Performed	06/17/22	Jurisdiction	Osceola County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	39,500
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	17,500
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			2
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	4
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.88	0.92	1.00	0.91	1.00	0.64

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	8.658	1.000	8.658	0.64	1.00	5.522
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	2.403	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.293	2.538	0.64	1.00	1.619
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	5.794	$(5)_{TOTAL}-(5)_{FI}$ 0.707	6.120	0.64	1.00	3.903

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.619	1.000	3.903	5.522
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.889	0.546	2.131	3.020
Head-on collision	0.038	0.062	0.020	0.078	0.140
Angle collision	0.280	0.453	0.204	0.796	1.249
Sideswipe	0.076	0.123	0.032	0.125	0.248
Other multiple-vehicle collision	0.057	0.092	0.198	0.773	0.865

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.513	1.000	0.513	0.64	1.00	0.327
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.148	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.306	0.157	0.64	1.00	0.100
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.335	$(5)_{TOTAL}-(5)_{FI}$ 0.694	0.356	0.64	1.00	0.227

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.100	1.000	0.227	0.327
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.066	0.895	0.203	0.269
Collision with other object	0.091	0.009	0.069	0.016	0.025
Other single-vehicle collision	0.045	0.005	0.018	0.004	0.009
Single-vehicle noncollision	0.209	0.021	0.014	0.003	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.004	1.00	1.00	0.004
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.004

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.522	0.327	5.849	0.011	1.00	0.064
Fatal and injury (FI)	--	--	--	--	1.00	0.064

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.889	2.131	3.020
Head-on collisions (from Worksheet 2D)	0.062	0.078	0.140
Angle collisions (from Worksheet 2D)	0.453	0.796	1.249
Sideswipe (from Worksheet 2D)	0.123	0.125	0.248
Other multiple-vehicle collision (from Worksheet 2D)	0.092	0.773	0.865
Subtotal	1.619	3.903	5.522
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.066	0.203	0.269
Collision with other object (from Worksheet 2F)	0.009	0.016	0.025
Other single-vehicle collision (from Worksheet 2F)	0.005	0.004	0.009
Single-vehicle noncollision (from Worksheet 2F)	0.021	0.003	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.004	0.000	0.004
Collision with bicycle (from Worksheet 2J)	0.064	0.000	0.064
Subtotal	0.168	0.227	0.395
Total	1.787	4.130	5.917

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	5.9
Fatal and injury (FI)	1.8
Property damage only (PDO)	4.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	CR 532 No Build
Agency or Company	VHB	Intersection	Poinciana Parkway Extension Ramps
Date Performed	06/17/22	Jurisdiction	Osceola County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	29,000
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	22,000
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF</i> 1i	<i>CMF</i> 2i	<i>CMF</i> 3i	<i>CMF</i> 4i	<i>CMF</i> 5i	<i>CMF</i> 6i	<i>CMF</i> COMB
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.80	0.93	0.92	1.00	0.91	1.00	0.62

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	6.521	1.000	6.521	0.62	1.00	4.074
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	1.823	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.295	1.921	0.62	1.00	1.201
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	4.363	$(5)_{TOTAL}-(5)_{FI}$ 0.705	4.599	0.62	1.00	2.874

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.201	1.000	2.874	4.074
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.659	0.546	1.569	2.228
Head-on collision	0.038	0.046	0.020	0.057	0.103
Angle collision	0.280	0.336	0.204	0.586	0.922
Sideswipe	0.076	0.091	0.032	0.092	0.183
Other multiple-vehicle collision	0.057	0.068	0.198	0.569	0.637

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.494	1.000	0.494	0.62	1.00	0.309
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.153	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.327	0.162	0.62	1.00	0.101
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.315	$(5)_{TOTAL}-(5)_{FI}$ 0.673	0.332	0.62	1.00	0.208

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.101	1.000	0.208	0.309
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.066	0.895	0.186	0.252
Collision with other object	0.091	0.009	0.069	0.014	0.024
Other single-vehicle collision	0.045	0.005	0.018	0.004	0.008
Single-vehicle noncollision	0.209	0.021	0.014	0.003	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.003	1.00	1.00	0.003
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.003

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	4.074	0.309	4.383	0.011	1.00	0.048
Fatal and injury (FI)	--	--	--	--	1.00	0.048

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.659	1.569	2.228
Head-on collisions (from Worksheet 2D)	0.046	0.057	0.103
Angle collisions (from Worksheet 2D)	0.336	0.586	0.922
Sideswipe (from Worksheet 2D)	0.091	0.092	0.183
Other multiple-vehicle collision (from Worksheet 2D)	0.068	0.569	0.637
Subtotal	1.201	2.874	4.074
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.066	0.186	0.252
Collision with other object (from Worksheet 2F)	0.009	0.014	0.024
Other single-vehicle collision (from Worksheet 2F)	0.005	0.004	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.021	0.003	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.003	0.000	0.003
Collision with bicycle (from Worksheet 2J)	0.048	0.000	0.048
Subtotal	0.153	0.208	0.360
Total	1.353	3.082	4.435

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	4.4
Fatal and injury (FI)	1.4
Property damage only (PDO)	3.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	CR 532 Build
Agency or Company	VHB	Intersection	US 17/92
Date Performed	06/17/22	Jurisdiction	Osceola County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	39,800
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	17,700
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			2
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	4
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF _{1i}	CMF _{2i}	CMF _{3i}	CMF _{4i}	CMF _{5i}	CMF _{6i}	CMF _{COMB}
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.88	0.92	1.00	0.91	1.00	0.64

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	8.757	1.000	8.757	0.64	1.00	5.585
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	2.426	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.293	2.563	0.64	1.00	1.634
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	5.864	$(5)_{TOTAL}-(5)_{FI}$ 0.707	6.194	0.64	1.00	3.951

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.634	1.000	3.951	5.585
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.897	0.546	2.157	3.054
Head-on collision	0.038	0.062	0.020	0.079	0.141
Angle collision	0.280	0.458	0.204	0.806	1.264
Sideswipe	0.076	0.124	0.032	0.126	0.251
Other multiple-vehicle collision	0.057	0.093	0.198	0.782	0.875

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.517	1.000	0.517	0.64	1.00	0.330
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.149	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.307	0.159	0.64	1.00	0.101
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.338	$(5)_{TOTAL}-(5)_{FI}$ 0.693	0.359	0.64	1.00	0.229

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.101	1.000	0.229	0.330
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.066	0.895	0.205	0.271
Collision with other object	0.091	0.009	0.069	0.016	0.025
Other single-vehicle collision	0.045	0.005	0.018	0.004	0.009
Single-vehicle noncollision	0.209	0.021	0.014	0.003	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.004	1.00	1.00	0.004
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.004

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.585	0.330	5.915	0.011	1.00	0.065
Fatal and injury (FI)	--	--	--	--	1.00	0.065

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.897	2.157	3.054
Head-on collisions (from Worksheet 2D)	0.062	0.079	0.141
Angle collisions (from Worksheet 2D)	0.458	0.806	1.264
Sideswipe (from Worksheet 2D)	0.124	0.126	0.251
Other multiple-vehicle collision (from Worksheet 2D)	0.093	0.782	0.875
Subtotal	1.634	3.951	5.585
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.066	0.205	0.271
Collision with other object (from Worksheet 2F)	0.009	0.016	0.025
Other single-vehicle collision (from Worksheet 2F)	0.005	0.004	0.009
Single-vehicle noncollision (from Worksheet 2F)	0.021	0.003	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.004	0.000	0.004
Collision with bicycle (from Worksheet 2J)	0.065	0.000	0.065
Subtotal	0.170	0.229	0.399
Total	1.804	4.179	5.984

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	6.0
Fatal and injury (FI)	1.8
Property damage only (PDO)	4.2

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	CR 532 Build
Agency or Company	VHB	Intersection	Poinciana Parkway Extension Ramps
Date Performed	06/17/22	Jurisdiction	Osceola County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	29,200
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	22,100
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	2
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.80	0.93	0.92	1.00	0.91	1.00	0.62

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N _{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N _{bimv}	(7) Combined CMFs	(8) Calibration Factor, C _i	(9) Predicted N _{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	6.578	1.000	6.578	0.62	1.00	4.111
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	1.837	(4) _{FI} /((4) _{FI} +(4) _{PDO}) 0.294	1.936	0.62	1.00	1.210
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	4.403	(5) _{TOTAL} -(5) _{FI} 0.706	4.642	0.62	1.00	2.901

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bimv (FI)} (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted N _{bimv (PDO)} (crashes/year)	(6) Predicted N _{bimv (TOTAL)} (crashes/year)
	from Table 12-11	(9) _{FI} from Worksheet 2C	from Table 12-11	(9) _{PDO} from Worksheet 2C	(9) _{PDO} from Worksheet 2C
Total	1.000	1.210	1.000	2.901	4.111
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Rear-end collision	0.549	0.664	0.546	1.584	2.248
Head-on collision	0.038	0.046	0.020	0.058	0.104
Angle collision	0.280	0.339	0.204	0.592	0.931
Sideswipe	0.076	0.092	0.032	0.093	0.185
Other multiple-vehicle collision	0.057	0.069	0.198	0.574	0.643

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N _{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N _{bimv}	(7) Combined CMFs	(8) Calibration Factor, C _i	(9) Predicted N _{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.496	1.000	0.496	0.62	1.00	0.310
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.154	(4) _{FI} /((4) _{FI} +(4) _{PDO}) 0.327	0.163	0.62	1.00	0.102
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.316	(5) _{TOTAL} -(5) _{FI} 0.673	0.334	0.62	1.00	0.209

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.102	1.000	0.209	0.310
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.066	0.895	0.187	0.253
Collision with other object	0.091	0.009	0.069	0.014	0.024
Other single-vehicle collision	0.045	0.005	0.018	0.004	0.008
Single-vehicle noncollision	0.209	0.021	0.014	0.003	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.003	1.00	1.00	0.003
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.003

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	4.111	0.310	4.421	0.011	1.00	0.049
Fatal and injury (FI)	--	--	--	--	1.00	0.049

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.664	1.584	2.248
Head-on collisions (from Worksheet 2D)	0.046	0.058	0.104
Angle collisions (from Worksheet 2D)	0.339	0.592	0.931
Sideswipe (from Worksheet 2D)	0.092	0.093	0.185
Other multiple-vehicle collision (from Worksheet 2D)	0.069	0.574	0.643
Subtotal	1.210	2.901	4.111
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.066	0.187	0.253
Collision with other object (from Worksheet 2F)	0.009	0.014	0.024
Other single-vehicle collision (from Worksheet 2F)	0.005	0.004	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.021	0.003	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.003	0.000	0.003
Collision with bicycle (from Worksheet 2J)	0.049	0.000	0.049
Subtotal	0.154	0.209	0.362
Total	1.364	3.109	4.473

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	4.5
Fatal and injury (FI)	1.4
Property damage only (PDO)	3.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	CR 532 Build
Agency or Company	VHB	Intersection	Potential Truck Stop
Date Performed	06/17/22	Jurisdiction	Osceola County
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	18,100
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	1,200
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Permissive / Protected
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.93	0.92	1.00	0.91	1.00	0.67

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs (7) from Worksheet 2B	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)			(6)*(7)*(8)
	a	b	c							
Total	-12.13	1.11	0.26	0.33	1.814	1.000	1.814	0.67	1.00	1.218
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	0.687	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.392	0.711	0.67	1.00	0.478
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	1.065	$(5)_{TOTAL}-(5)_{FI}$ 0.608	1.103	0.67	1.00	0.741

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.478	1.000	0.741	1.218
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.262	0.546	0.404	0.667
Head-on collision	0.038	0.018	0.020	0.015	0.033
Angle collision	0.280	0.134	0.204	0.151	0.285
Sideswipe	0.076	0.036	0.032	0.024	0.060
Other multiple-vehicle collision	0.057	0.027	0.198	0.147	0.174

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs (7) from Worksheet 2B	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)			(6)*(7)*(8)
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.127	1.000	0.127	0.67	1.00	0.085
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.031	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.239	0.030	0.67	1.00	0.020
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.097	$(5)_{TOTAL}-(5)_{FI}$ 0.761	0.096	0.67	1.00	0.065

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.020	1.000	0.065	0.085
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.000	0.000
Collision with fixed object	0.653	0.013	0.895	0.058	0.071
Collision with other object	0.091	0.002	0.069	0.004	0.006
Other single-vehicle collision	0.045	0.001	0.018	0.001	0.002
Single-vehicle noncollision	0.209	0.004	0.014	0.001	0.005

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.002	1.00	1.00	0.002
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.002

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.218	0.085	1.303	0.011	1.00	0.014
Fatal and injury (FI)	--	--	--	--	1.00	0.014

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.262	0.404	0.667
Head-on collisions (from Worksheet 2D)	0.018	0.015	0.033
Angle collisions (from Worksheet 2D)	0.134	0.151	0.285
Sideswipe (from Worksheet 2D)	0.036	0.024	0.060
Other multiple-vehicle collision (from Worksheet 2D)	0.027	0.147	0.174
Subtotal	0.478	0.741	1.218
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.013	0.058	0.071
Collision with other object (from Worksheet 2F)	0.002	0.004	0.006
Other single-vehicle collision (from Worksheet 2F)	0.001	0.001	0.002
Single-vehicle noncollision (from Worksheet 2F)	0.004	0.001	0.005
Collision with pedestrian (from Worksheet 2G or 2I)	0.002	0.000	0.002
Collision with bicycle (from Worksheet 2J)	0.014	0.000	0.014
Subtotal	0.036	0.065	0.101
Total	0.514	0.805	1.320

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.3
Fatal and injury (FI)	0.5
Property damage only (PDO)	0.8

Appendix C-1

Orange County Site 1 - Existing Traffic Data

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Sand Lake Road **&** John Young Parkway
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	27	0	47	0	140	54	67	297	0
7:15 AM - 7:30 AM	0	0	0	32	0	45	0	195	49	80	268	0
7:30 AM - 7:45 AM	0	0	0	25	0	58	1	220	69	73	295	0
7:45 AM - 8:00 AM	0	0	0	52	0	46	0	227	64	90	322	0
8:00 AM - 8:15 AM	0	0	0	32	0	46	1	213	81	71	326	0
8:15 AM - 8:30 AM	0	0	0	33	0	53	1	186	113	68	314	0
8:30 AM - 8:45 AM	0	0	0	41	0	61	1	215	99	66	316	0
8:45 AM - 9:00 AM	0	0	0	42	0	64	1	228	107	67	308	0
TOTAL	0	0	0	284	0	420	5	1,624	636	582	2,446	0
Peak Hour												
8:00 AM - 9:00 AM	0	0	0	148	0	224	4	842	400	272	1,264	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	28	0	55	0	253	121	120	373	0
4:15 PM - 4:30 PM	0	0	0	41	0	55	1	295	178	118	376	0
4:30 PM - 4:45 PM	0	0	0	39	0	52	0	295	135	90	318	0
4:45 PM - 5:00 PM	0	0	0	23	0	56	0	270	127	116	401	0
5:00 PM - 5:15 PM	0	0	0	29	0	60	0	240	164	142	415	0
5:15 PM - 5:30 PM	0	0	0	29	0	55	1	249	133	150	378	0
5:30 PM - 5:45 PM	0	0	0	44	0	72	2	262	135	108	393	0
5:45 PM - 6:00 PM	0	0	0	36	0	66	1	298	111	99	362	0
TOTAL	0	0	0	269	0	471	5	2,162	1,104	943	3,016	0
Peak Hour												
4:45 PM - 5:45 PM	0	0	0	125	0	243	3	1,021	559	516	1,587	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
Intersection -Sand Lake Road
Date May 5, 2022

City Orlando
& John Young Parkway

Trucks
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	2	0	5	0	3	2	9	15	0
7:15 AM - 7:30 AM	0	0	0	2	0	1	0	15	2	8	10	0
7:30 AM - 7:45 AM	0	0	0	3	0	1	0	9	3	10	18	0
7:45 AM - 8:00 AM	0	0	0	1	0	1	0	8	0	9	14	0
8:00 AM - 8:15 AM	0	0	0	3	0	2	0	17	7	9	22	0
8:15 AM - 8:30 AM	0	0	0	0	0	5	0	13	4	5	19	0
8:30 AM - 8:45 AM	0	0	0	3	0	6	0	8	7	5	24	0
8:45 AM - 9:00 AM	0	0	0	2	0	3	0	9	4	4	17	0
TOTAL	0	0	0	16	0	24	0	82	29	59	139	0
Peak Hour 8:00 AM - 9:00 AM	0	0	0	8	0	16	0	47	22	23	82	0
	0%	0%	0%	6%	0%	12%	0%	6%	8%	9%	7%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour 11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	2	0	3	0	18	2	1	16	0
4:15 PM - 4:30 PM	0	0	0	1	0	1	0	15	1	4	11	0
4:30 PM - 4:45 PM	0	0	0	1	0	0	0	17	2	4	5	0
4:45 PM - 5:00 PM	0	0	0	0	0	1	0	13	3	5	8	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	9	3	4	11	0
5:15 PM - 5:30 PM	0	0	0	1	0	1	0	8	1	3	6	0
5:30 PM - 5:45 PM	0	0	0	0	0	4	0	5	2	1	0	0
5:45 PM - 6:00 PM	0	0	0	3	0	1	0	7	1	4	3	0
TOTAL	0	0	0	8	0	11	0	92	15	26	60	0
Peak Hour 4:45 PM - 5:45 PM	0	0	0	1	0	6	0	35	9	13	25	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
Intersection -Sand Lake Road
Date May 5, 2022

City Orlando
& John Young Parkway

U-Turns & RTOR
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	28	0	0	23	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	35	0	0	31	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	34	1	0	23	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	29	0	0	26	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	21	1	0	9	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	9	1	0	43	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	23	1	0	28	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	23	1	0	30	0	0	0
TOTAL	0	0	0	0	0	202	5	0	213	0	0	0
Peak Hour												
7:00 AM - 8:00 AM	0	0	0	0	0	126	1	0	103	0	0	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	32	0	0	31	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	25	1	0	63	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	30	0	0	44	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	31	0	0	38	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	41	0	0	82	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	22	1	0	53	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	33	2	0	59	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	38	1	0	33	0	0	0
TOTAL	0	0	0	0	0	252	5	0	403	0	0	0
Peak Hour												
5:00 PM - 6:00 PM	0	0	0	0	0	134	4	0	227	0	0	0

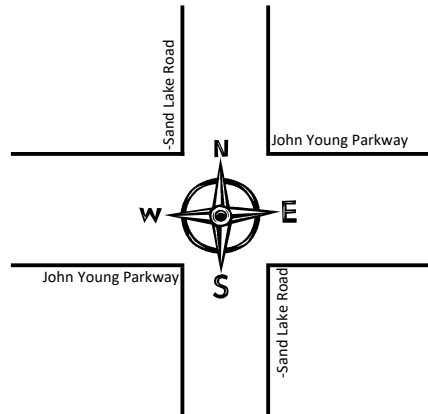
Pedestrian & Bicycle Summary

Project #: 63640.01
 Date: 5/5/2022

NB/SB: -Sand Lake Road
 EB/WB: John Young Parkway

		Hour									
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00		
		1	2	3	4	5	6	7	8		
Eastbound	▶ Bike	1	0	0	0	0	0	0	0	1	
	Ped	0	0	0	0	0	0	2	0	2	
Westbound	◀ Bike	0	0	0	0	0	0	0	1	1	
	Ped	0	0	0	0	0	0	0	0	0	

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	1	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	1	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00	0	0	0	0
2 8:00	0	0	0	0
3 11:00	0	0	0	0
4 12:00	0	0	0	0
5 14:00	0	0	0	0
6 15:00	0	0	0	0
7 16:00	0	0	0	0
8 17:00	0	0	0	0
	0	0	0	0

Eastbound	▶ Bike	0	0	0	0	0	0	1	0	1	
	Ped	1	0	0	0	0	0	1	0	2	
Westbound	◀ Bike	0	0	0	0	0	0	1	0	1	
	Ped	2	0	0	0	0	0	0	0	2	
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00		
		1	2	3	4	5	6	7	8		

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
Intersection -Sand Lake Road
Date May 5, 2022

City Orlando
& John Young Parkway

All Vehicles

VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	96	0	75	0	0	0	9	145	0	0	250	6
7:15 AM - 7:30 AM	99	0	92	0	0	0	13	162	0	0	214	12
7:30 AM - 7:45 AM	131	0	78	0	0	0	13	155	0	0	237	17
7:45 AM - 8:00 AM	113	0	130	0	0	0	16	198	0	0	261	15
8:00 AM - 8:15 AM	145	0	108	0	0	0	9	244	0	0	233	5
8:15 AM - 8:30 AM	130	0	76	0	0	0	16	186	0	0	240	10
8:30 AM - 8:45 AM	137	0	94	0	0	0	14	225	0	1	241	14
8:45 AM - 9:00 AM	146	0	113	0	0	0	10	278	0	0	206	10
TOTAL	997	0	766	0	0	0	100	1,593	0	1	1,882	89
Peak Hour												
8:00 AM - 9:00 AM	558	0	391	0	0	0	49	933	0	1	920	39

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	95	0	116	0	0	0	13	211	0	0	356	26
4:15 PM - 4:30 PM	85	0	86	0	0	0	16	285	0	0	330	25
4:30 PM - 4:45 PM	91	0	115	0	0	0	26	288	0	0	264	22
4:45 PM - 5:00 PM	80	0	89	0	0	0	25	222	0	0	391	27
5:00 PM - 5:15 PM	83	0	112	0	0	0	26	249	0	0	367	24
5:15 PM - 5:30 PM	98	0	86	0	0	0	17	290	0	0	377	18
5:30 PM - 5:45 PM	114	0	114	0	0	0	16	313	0	0	349	17
5:45 PM - 6:00 PM	116	0	101	0	0	0	19	279	0	0	256	21
TOTAL	762	0	819	0	0	0	158	2,137	0	0	2,690	180
Peak Hour												
4:45 PM - 5:45 PM	375	0	401	0	0	0	84	1,074	0	0	1,484	86

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
Intersection -Sand Lake Road
Date May 5, 2022

City Orlando
& John Young Parkway

Trucks
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	2	0	4	0	0	0	1	3	0	0	12	0
7:15 AM - 7:30 AM	2	0	3	0	0	0	1	16	0	0	0	0
7:30 AM - 7:45 AM	3	0	1	0	0	0	2	7	0	0	24	2
7:45 AM - 8:00 AM	5	0	3	0	0	0	0	9	0	0	14	0
8:00 AM - 8:15 AM	4	0	4	0	0	0	4	13	0	0	28	0
8:15 AM - 8:30 AM	5	0	2	0	0	0	3	7	0	0	20	0
8:30 AM - 8:45 AM	3	0	1	0	0	0	1	8	0	0	27	0
8:45 AM - 9:00 AM	4	0	9	0	0	0	1	9	0	0	16	0
TOTAL	28	0	27	0	0	0	13	72	0	0	141	2
Peak Hour 8:00 AM - 9:00 AM	16	0	16	0	0	0	9	37	0	0	91	0
	3%	0%	9%	0%	0%	0%	23%	4%	0%	0%	11%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour 11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	6	0	11	0	0	0	4	10	0	0	10	4
4:15 PM - 4:30 PM	2	0	2	0	0	0	3	16	0	0	13	0
4:30 PM - 4:45 PM	4	0	5	0	0	0	1	13	0	0	8	0
4:45 PM - 5:00 PM	1	0	2	0	0	0	2	8	0	0	12	0
5:00 PM - 5:15 PM	5	0	7	0	0	0	3	3	0	0	12	0
5:15 PM - 5:30 PM	1	0	6	0	0	0	3	6	0	0	5	0
5:30 PM - 5:45 PM	0	0	3	0	0	0	2	4	0	0	1	0
5:45 PM - 6:00 PM	1	0	5	0	0	0	0	7	0	0	6	0
TOTAL	20	0	41	0	0	0	18	67	0	0	67	4
Peak Hour 4:45 PM - 5:45 PM	7	0	18	0	0	0	10	21	0	0	30	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
 Intersection -Sand Lake Road
 Date May 5, 2022

City Orlando
 & Presidents Drive

All Vehicles

VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	12	8	3	20	9	11	41	195	22	7	247	31
7:15 AM - 7:30 AM	19	17	7	18	12	13	27	247	32	7	262	42
7:30 AM - 7:45 AM	19	11	4	15	22	20	36	263	32	15	263	45
7:45 AM - 8:00 AM	25	21	2	27	14	19	31	298	53	10	243	40
8:00 AM - 8:15 AM	20	13	3	23	16	23	27	270	37	7	256	36
8:15 AM - 8:30 AM	17	14	4	15	13	15	23	261	45	10	222	38
8:30 AM - 8:45 AM	17	20	9	17	26	9	16	249	47	13	266	36
8:45 AM - 9:00 AM	14	16	2	18	30	9	27	318	45	10	241	36
TOTAL	143	120	34	153	142	119	228	2,101	313	79	2,000	304
Peak Hour												
8:00 AM - 9:00 AM	68	63	18	73	85	56	93	1,098	174	40	985	146

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	38	16	11	35	11	30	37	323	28	7	382	40
4:15 PM - 4:30 PM	21	16	5	28	17	22	28	318	31	9	400	57
4:30 PM - 4:45 PM	31	12	4	16	26	26	54	191	35	6	215	24
4:45 PM - 5:00 PM	31	23	5	33	24	29	62	382	22	4	488	56
5:00 PM - 5:15 PM	42	32	4	25	27	32	28	306	17	14	353	28
5:15 PM - 5:30 PM	43	35	3	43	14	21	24	289	22	2	382	44
5:30 PM - 5:45 PM	20	21	5	38	15	30	28	359	27	5	346	51
5:45 PM - 6:00 PM	19	12	2	35	18	23	28	332	30	9	258	29
TOTAL	245	167	39	253	152	213	289	2,500	212	56	2,824	329
Peak Hour												
4:45 PM - 5:45 PM	136	111	17	139	80	112	142	1,336	88	25	1,569	179

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
 Intersection -Sand Lake Road
 Date May 5, 2022

City Orlando
 & Presidents Drive

Trucks
 VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	3	2	0	8	2	3	2	7	0	0	13	2
7:15 AM - 7:30 AM	3	1	0	3	1	5	2	20	1	0	13	4
7:30 AM - 7:45 AM	5	2	1	5	2	3	1	14	2	0	22	5
7:45 AM - 8:00 AM	4	5	1	2	2	1	2	13	1	0	17	0
8:00 AM - 8:15 AM	3	1	0	3	4	3	2	15	3	1	20	2
8:15 AM - 8:30 AM	3	3	0	4	2	2	1	14	0	0	12	5
8:30 AM - 8:45 AM	5	4	2	5	7	0	0	9	3	0	23	6
8:45 AM - 9:00 AM	2	4	1	4	3	1	2	13	3	2	12	4
TOTAL	28	22	5	34	23	18	12	105	13	3	132	28
Peak Hour												
7:15 AM - 8:15 AM	15	9	2	13	9	12	7	62	7	1	72	11
	22%	17%	17%	19%	16%	29%	7%	6%	7%	4%	8%	8%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	1	2	1	1	1	2	2	11	7	0	7	1
4:15 PM - 4:30 PM	1	2	0	2	1	3	1	5	8	2	12	3
4:30 PM - 4:45 PM	2	4	0	0	3	2	0	9	6	0	7	3
4:45 PM - 5:00 PM	2	0	0	4	3	0	2	17	3	0	12	4
5:00 PM - 5:15 PM	0	1	0	1	1	1	1	6	2	1	6	1
5:15 PM - 5:30 PM	1	4	0	2	0	0	1	8	1	0	3	3
5:30 PM - 5:45 PM	0	2	0	1	0	0	0	8	1	0	3	2
5:45 PM - 6:00 PM	0	1	0	2	3	0	0	10	2	0	5	0
TOTAL	7	16	1	13	12	8	7	74	30	3	55	17
Peak Hour												
4:45 PM - 5:45 PM	3	7	0	8	4	1	4	39	7	1	24	10

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange
 Intersection -Sand Lake Road
 Date May 5, 2022

City Orlando
 & Presidents Drive

U-Turns & RTOR
 VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	3	4	0	1	0	0	4
7:15 AM - 7:30 AM	0	0	2	0	0	4	2	0	8	1	0	5
7:30 AM - 7:45 AM	0	0	0	0	0	4	8	0	15	5	0	4
7:45 AM - 8:00 AM	0	0	0	0	0	7	4	0	19	2	0	1
8:00 AM - 8:15 AM	0	0	0	0	0	7	4	0	8	2	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	4	0	14	3	0	1
8:30 AM - 8:45 AM	0	0	0	0	0	2	7	0	8	5	0	3
8:45 AM - 9:00 AM	0	0	0	0	0	2	2	0	7	3	0	1
TOTAL	0	0	2	0	0	29	35	0	80	21	0	19
Peak Hour												
7:15 AM - 8:15 AM	0	0	2	0	0	22	18	0	50	10	0	10

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	4	0	0	6	9	0	4	2	0	12
4:15 PM - 4:30 PM	0	0	1	0	0	11	8	0	7	5	0	10
4:30 PM - 4:45 PM	0	0	1	0	0	3	13	0	8	2	0	4
4:45 PM - 5:00 PM	0	0	1	0	0	3	13	0	7	0	0	3
5:00 PM - 5:15 PM	0	0	0	0	0	2	11	0	2	3	0	3
5:15 PM - 5:30 PM	0	0	0	0	0	6	6	0	5	1	0	5
5:30 PM - 5:45 PM	0	0	1	0	0	6	10	0	5	1	0	6
5:45 PM - 6:00 PM	0	0	0	0	0	12	8	0	10	2	0	7
TOTAL	0	0	8	0	0	49	78	0	48	16	0	50
Peak Hour												
4:00 PM - 5:00 PM	0	0	7	0	0	23	43	0	26	9	0	29

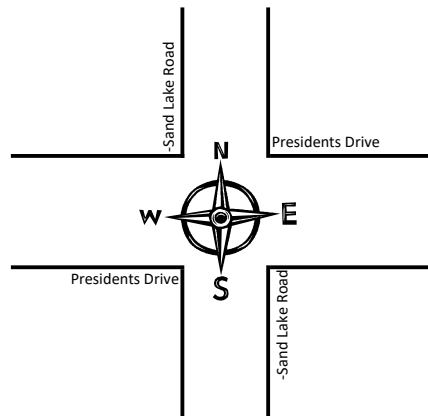
Pedestrian & Bicycle Summary

Project #: 63640.01
Date: 5/5/2022

NB/SB: -Sand Lake Road
EB/WB: Presidents Drive

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	2	0	0	0	0	0	0	2
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	1	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	1	0	0	0
17:00	2	0	0	0
	4	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0

Eastbound	Bike	0	0	0	0	0	0	0	1	1
	Ped	0	1	0	0	0	0	0	2	3
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	2	0	0	0	0	0	0	0	2

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
		1	2	3	4	5	6	7	8

Appendix C-2

Orange County Site 1 - Existing Synchro Outputs

Queues

Existing AM

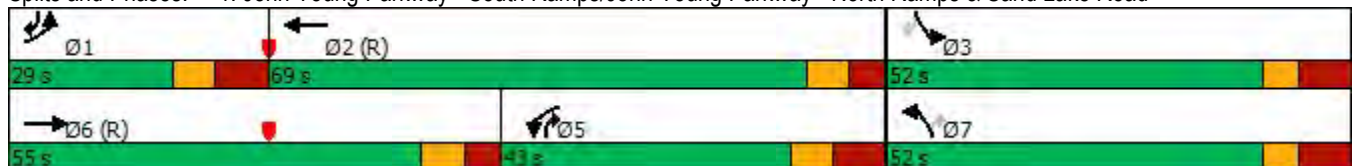
1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	842	400	272	920	39	558	0	391	148	0	224
Future Volume (vph)	49	842	400	272	920	39	558	0	391	148	0	224
Satd. Flow (prot)	2847	4893	1495	3213	4673	1615	3400	0	1482	3303	0	1442
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	2847	4893	1495	3213	4673	1615	3400	0	1482	3303	0	1442
Satd. Flow (RTOR)			417			273			122			122
Lane Group Flow (vph)	51	877	417	283	958	41	581	0	407	154	0	233
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1
Permitted Phases			Free			Free			7			3
Total Split (s)	29.0	55.0		43.0	69.0		52.0		43.0	52.0		29.0
Total Lost Time (s)	10.8	9.0		10.8	9.0		10.0		10.8	10.0		10.8
Act Effct Green (s)	6.4	58.6	150.0	32.2	84.4	150.0	29.4		71.6	29.4		45.8
Actuated g/C Ratio	0.04	0.39	1.00	0.21	0.56	1.00	0.20		0.48	0.20		0.31
v/c Ratio	0.42	0.46	0.28	0.41	0.36	0.03	0.87		0.53	0.24		0.44
Control Delay	80.3	35.6	0.5	52.9	19.2	0.0	72.7		20.5	50.7		20.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	80.3	35.6	0.5	52.9	19.2	0.0	72.7		20.5	50.7		20.9
LOS	F	D	A	D	B	A	E		C	D		C
Approach Delay		26.4			26.1			51.2				32.7
Approach LOS		C			C			D				C
Queue Length 50th (ft)	25	232	0	124	182	0	287		190	65		84
Queue Length 95th (ft)	49	295	0	171	245	0	339		266	95		152
Internal Link Dist (ft)		2910			761			2992				387
Turn Bay Length (ft)	750		750	550		550			600			600
Base Capacity (vph)	345	1911	1495	689	2629	1615	952		771	924		628
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.15	0.46	0.28	0.41	0.36	0.03	0.61		0.53	0.17		0.37

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 33.0
 Intersection LOS: C
 Intersection Capacity Utilization 67.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Queues

Existing AM

3: Presidents Dr & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	1098	174	40	985	146	68	63	18	73	85	56
Future Volume (vph)	93	1098	174	40	985	146	68	63	18	73	85	56
Satd. Flow (prot)	1687	4893	1509	1736	4803	1495	0	1533	0	1517	1474	0
Flt Permitted	0.950			0.950				0.978		0.950		
Satd. Flow (perm)	1687	4893	1509	1736	4803	1495	0	1533	0	1517	1474	0
Satd. Flow (RTOR)			152			152		4			19	
Lane Group Flow (vph)	98	1156	183	42	1037	154	0	157	0	77	148	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6			2						
Total Split (s)	26.0	64.0	64.0	18.0	56.0	56.0	34.0	34.0		34.0	34.0	
Total Lost Time (s)	8.2	6.8	6.8	8.1	6.8	6.8		7.9		7.9	7.9	
Act Effct Green (s)	12.1	79.4	79.4	7.4	71.9	71.9		18.4		16.7	16.7	
Actuated g/C Ratio	0.08	0.53	0.53	0.05	0.48	0.48		0.12		0.11	0.11	
v/c Ratio	0.72	0.45	0.21	0.49	0.45	0.19		0.82		0.46	0.82	
Control Delay	94.7	25.3	6.7	88.3	29.2	5.3		92.4		69.4	87.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	94.7	25.3	6.7	88.3	29.2	5.3		92.4		69.4	87.9	
LOS	F	C	A	F	C	A		F		E	F	
Approach Delay		27.7			28.2			92.4			81.5	
Approach LOS		C			C			F			F	
Queue Length 50th (ft)	95	258	15	41	243	1		148		72	126	
Queue Length 95th (ft)	155	381	73	83	364	52		220		121	196	
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400		200	400		150						
Base Capacity (vph)	200	2589	870	116	2303	795		270		263	272	
Starvation Cap Reductn	0	0	0	0	0	0		0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0		0		0	0	
Storage Cap Reductn	0	0	0	0	0	0		0		0	0	
Reduced v/c Ratio	0.49	0.45	0.21	0.36	0.45	0.19		0.58		0.29	0.54	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 35.2
 Intersection LOS: D
 Intersection Capacity Utilization 67.0%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Queues

Existing PM

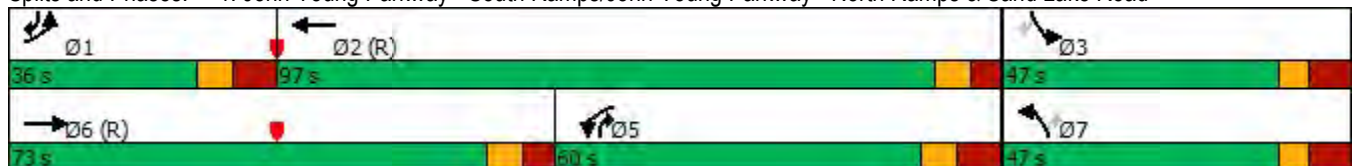
1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖↗	↑↑↑	↖	↖↗	↑↑↑	↖	↖↗		↖	↖↗		↖
Traffic Volume (vph)	84	1021	559	516	1484	86	375	0	401	125	0	243
Future Volume (vph)	84	1021	559	516	1484	86	375	0	401	125	0	243
Satd. Flow (prot)	3072	4988	1568	3400	5085	1615	3433	0	1509	3467	0	1538
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3072	4988	1568	3400	5085	1615	3433	0	1509	3467	0	1538
Satd. Flow (RTOR)			582			228			102			102
Lane Group Flow (vph)	88	1064	582	538	1546	90	391	0	418	130	0	253
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1
Permitted Phases			Free			Free			7			3
Total Split (s)	36.0	73.0		60.0	97.0		47.0		60.0	47.0		36.0
Total Lost Time (s)	10.8	9.0		10.8	9.0		10.0		10.8	10.0		10.8
Act Effct Green (s)	8.6	77.0	180.0	49.2	117.6	180.0	24.0		83.2	24.0		42.6
Actuated g/C Ratio	0.05	0.43	1.00	0.27	0.65	1.00	0.13		0.46	0.13		0.24
v/c Ratio	0.60	0.50	0.37	0.58	0.47	0.06	0.85		0.56	0.28		0.57
Control Delay	100.5	39.0	0.7	59.4	16.7	0.1	93.8		28.3	70.8		39.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	100.5	39.0	0.7	59.4	16.7	0.1	93.8		28.3	70.8		39.7
LOS	F	D	A	E	B	A	F		C	E		D
Approach Delay		29.3			26.6			60.0				50.2
Approach LOS		C			C			E				D
Queue Length 50th (ft)	53	334	0	285	319	0	236		270	72		160
Queue Length 95th (ft)	85	402	0	351	407	0	289		358	105		245
Internal Link Dist (ft)		2910			761			2992				387
Turn Bay Length (ft)	750		750	550		550			600			600
Base Capacity (vph)	430	2132	1568	929	3321	1615	705		752	712		574
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.20	0.50	0.37	0.58	0.47	0.06	0.55		0.56	0.18		0.44

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 34.6
 Intersection LOS: C
 Intersection Capacity Utilization 74.3%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Queues
3: Presidents Dr & Sand Lake Road

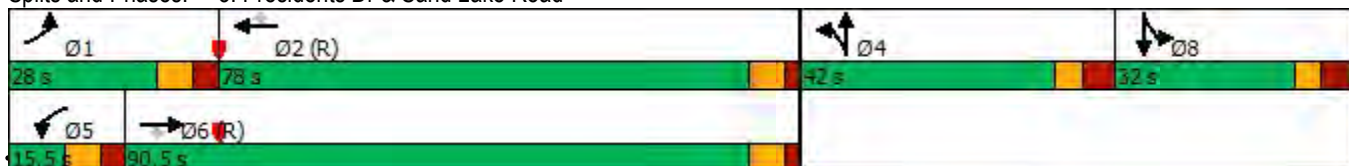
Existing PM
06/29/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	142	1336	88	25	1569	179	136	111	17	139	80	112
Future Volume (vph)	142	1336	88	25	1569	179	136	111	17	139	80	112
Satd. Flow (prot)	1736	5036	1455	1719	5085	1509	0	1766	0	1703	1688	0
Flt Permitted	0.950			0.950				0.975		0.950		
Satd. Flow (perm)	1736	5036	1455	1719	5085	1509	0	1766	0	1703	1688	0
Satd. Flow (RTOR)			127			176		2			32	
Lane Group Flow (vph)	167	1572	104	29	1846	211	0	311	0	164	226	0
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases			6			2						
Total Split (s)	28.0	90.5	90.5	15.5	78.0	78.0	42.0	42.0		32.0	32.0	
Total Lost Time (s)	8.2	6.8	6.8	8.1	6.8	6.8		7.9		7.9	7.9	
Act Effct Green (s)	18.8	90.1	90.1	6.3	74.9	74.9		32.9		22.6	22.6	
Actuated g/C Ratio	0.10	0.50	0.50	0.04	0.42	0.42		0.18		0.13	0.13	
v/c Ratio	0.92	0.62	0.13	0.49	0.87	0.29		0.96		0.77	0.95	
Control Delay	127.4	35.3	2.2	111.3	54.4	8.5		111.5		98.9	110.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0		0.0	0.0	
Total Delay	127.4	35.3	2.2	111.3	54.4	8.5		111.5		98.9	110.8	
LOS	F	D	A	F	D	A		F		F	F	
Approach Delay		41.7			50.6			111.5			105.8	
Approach LOS		D			D			F			F	
Queue Length 50th (ft)	198	519	0	34	758	26		364		189	232	
Queue Length 95th (ft)	#312	530	16	71	753	73		#505		262	#355	
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400		200	400		150						
Base Capacity (vph)	190	2521	792	70	2115	730		336		228	253	
Starvation Cap Reductn	0	0	0	0	0	0		0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0		0		0	0	
Storage Cap Reductn	0	0	0	0	0	0		0		0	0	
Reduced v/c Ratio	0.88	0.62	0.13	0.41	0.87	0.29		0.93		0.72	0.89	

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 55.8
 Intersection LOS: E
 Intersection Capacity Utilization 89.3%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Scenario 1 4:56 pm 05/02/2022 Existing PM

Appendix C-3

Orange County Site 1 – Crash Data

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
1	88097534	3/12/2019	Tuesday	6:06 PM	18	2019	Left Turn	Injury	0	3	\$0	\$10,500	Daylight	Dry	N	0
2	88097541	3/14/2019	Thursday	8:20 PM	20	2019	Rear End	No Injury	0	0	\$0	\$1,600	Dark - Not Lighted	Dry	N	0
3	88081339	1/28/2019	Monday	12:41 PM	12	2019	Left Turn	Injury	0	1	\$0	\$17,000	Daylight	Dry	N	0
4	88228539	11/2/2019	Saturday	6:05 PM	18	2019	Left Turn	Injury	0	1	\$0	\$8,000	Daylight	Dry	N	0
5	88239621	10/29/2019	Tuesday	11:15 AM	11	2019	Left Turn	Injury	0	4	\$0	\$4,000	Daylight	Dry	N	0
6	88099441	3/9/2019	Saturday	4:40 PM	16	2019	Left Turn	Injury	0	2	\$0	\$29,500	Daylight	Dry	N	0
7	88096479	3/5/2019	Tuesday	9:12 AM	09	2019	Rear End	No Injury	0	0	\$0	\$50	Daylight	Wet	N	0
8	88221884	10/18/2019	Friday	4:09 AM	04	2019	Left Turn	Injury	0	1	\$0	\$7,300	Dark - Lighted	Dry	N	0
9	88109113	3/26/2019	Tuesday	11:47 AM	11	2019	Left Turn	No Injury	0	0	\$0	\$20,000	Daylight	Dry	N	0
10	88046908	12/13/2018	Thursday	6:50 AM	06	2018	Rear End	Injury	0	2	\$0	\$12,000	Daylight	Dry	N	0
11	88046927	12/22/2018	Saturday	10:15 AM	10	2018	Left Turn	No Injury	0	0	\$0	\$10,000	Daylight	Dry	N	0
12	88212201	10/3/2019	Thursday	1:05 PM	13	2019	Angle	Injury	0	3	\$0	\$8,000	Daylight	Dry	N	0
13	88099411	2/24/2019	Sunday	12:13 PM	12	2019	Left Turn	Injury	0	5	\$0	\$29,000	Daylight	Dry	N	0
14	88096506	3/14/2019	Thursday	4:12 PM	16	2019	Sideswipe	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0
15	88096507	3/14/2019	Thursday	5:09 PM	17	2019	Angle	No Injury	0	0	\$0	\$1,400	Daylight	Dry	N	0
16	88127533	6/30/2019	Sunday	9:24 PM	21	2019	Sideswipe	Injury	0	3	\$0	\$3,800	Dark - Lighted	Dry	N	0
17	88115936	5/8/2019	Wednesday	9:29 PM	21	2019	Sideswipe	No Injury	0	0	\$0	\$850	Dark - Lighted	Dry	N	0
18	88127569	4/19/2019	Friday	2:00 AM	02	2019	Off Road	No Injury	0	1	\$0	\$1,500	Dark - Lighted	Dry	Y	1
19	88135145	5/25/2019	Saturday	6:30 PM	18	2019	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
20	88235874	10/24/2019	Thursday	1:14 AM	01	2019	Rear End	No Injury	0	0	\$0	\$1,900	Dark - Lighted	Dry	N	0
21	88121928	4/25/2019	Thursday	5:05 PM	17	2019	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0
22	88151266	6/4/2019	Tuesday	5:43 PM	17	2019	Sideswipe	Injury	0	1	\$0	\$4,850	Daylight	Dry	N	0
23	88156253	7/10/2019	Wednesday	9:34 PM	21	2019	Left Turn	Injury	0	2	\$0	\$9,000	Dark - Lighted	Dry	N	0
24	88189649	8/20/2019	Tuesday	6:35 PM	18	2019	Left Turn	Injury	0	2	\$0	\$15,000	Daylight	Dry	N	0
25	88127584	4/26/2019	Friday	9:10 PM	21	2019	Angle	Injury	0	1	\$0	\$9,000	Dark - Lighted	Dry	N	0
26	88161940	6/28/2019	Friday	8:13 PM	20	2019	Left Turn	No Injury	0	0	\$0	\$7,000	Dark - Lighted	Dry	N	0
27	88184565	9/8/2019	Sunday	5:54 AM	05	2019	Left Turn	Injury	0	3	\$0	\$3,000	Dark - Not Lighted	Dry	N	0
28	88184567	9/8/2019	Sunday	11:54 AM	11	2019	Left Turn	Injury	0	3	\$0	\$14,000	Daylight	Dry	N	0
29	88132178	5/8/2019	Wednesday	7:50 PM	19	2019	Angle	Injury	0	3	\$0	\$8,000	Dark - Lighted	Dry	N	0
30	88238155	12/11/2019	Wednesday	10:26 AM	10	2019	Angle	Injury	0	2	\$0	\$6,800	Daylight	Dry	N	0
31	88118114	4/15/2019	Monday	6:55 PM	18	2019	Angle	Injury	0	1	\$0	\$3,800	Daylight	Dry	N	0
32	88068024	1/24/2019	Thursday	11:21 AM	11	2019	Left Turn	Injury	0	1	\$0	\$8,000	Daylight	Dry	N	0
33	88068043	2/2/2019	Saturday	8:19 AM	08	2019	Left Turn	Injury	0	3	\$0	\$10,000	Daylight	Dry	N	0
34	88116965	4/15/2019	Monday	7:50 AM	07	2019	Sideswipe	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0
35	88134806	6/17/2019	Monday	10:12 PM	22	2019	Sideswipe	No Injury	0	0	\$0	\$3,050	Dark - Not Lighted	Wet	N	0
36	88086914	2/18/2019	Monday	4:58 PM	16	2019	Rear End	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0
37	88086915	2/18/2019	Monday	6:49 PM	18	2019	Angle	No Injury	0	0	\$0	\$11,000	Dusk	Dry	N	0
38	88100412	3/18/2019	Monday	6:30 PM	18	2019	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
39	87106515	11/17/2017	Friday	6:40 PM	18	2017	Rear End	No Injury	0	0	\$0	\$14,000	Dark - Not Lighted	Dry	N	0
40	88149606	5/31/2019	Friday	8:08 AM	08	2019	Left Turn	Serious Injury	0	3	\$0	\$12,000	Daylight	Dry	N	0
41	88149614	6/4/2019	Tuesday	8:29 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$900	Daylight	Dry	N	0
42	88149624	6/11/2019	Tuesday	8:27 AM	08	2019	Rear End	Injury	0	1	\$0	\$10,000	Daylight	Dry	N	0
43	88149625	6/11/2019	Tuesday	8:43 AM	08	2019	Rear End	Injury	0	1	\$0	\$2,495	Daylight	Dry	N	0
44	88149626	6/11/2019	Tuesday	7:01 AM	07	2019	Head On	Serious Injury	0	3	\$0	\$24,000	Daylight	Dry	N	0
45	88125446	4/23/2019	Tuesday	4:20 PM	16	2019	Rear End	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0
46	87273094	8/15/2018	Wednesday	6:27 PM	18	2018	Left Turn	Injury	0	2	\$0	\$4,000	Daylight	Dry	N	0
47	87219631	7/10/2018	Tuesday	1:21 PM	13	2018	Left Turn	Injury	0	2	\$0	\$30,000	Daylight	Dry	N	0
48	88214138	9/24/2019	Tuesday	11:40 AM	11	2019	Left Turn	Injury	0	2	\$0	\$11,000	Daylight	Dry	N	0
49	88204763	9/4/2019	Wednesday	6:25 PM	18	2019	Angle	Injury	0	1	\$0	\$8,000	Daylight	Dry	N	0
50	88214145	9/30/2019	Monday	10:02 AM	10	2019	Other	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0
51	88149244	6/17/2019	Monday	2:00 PM	14	2019	Rear End	Injury	0	3	\$0	\$9,000	Daylight	Wet	N	0
52	88149229	6/6/2019	Thursday	8:48 PM	20	2019	Pedestrian	Injury	0	2	\$0	\$25,000	Dark - Lighted	Dry	N	0
53	88151286	6/15/2019	Saturday	1:37 PM	13	2019	Left Turn	Injury	0	3	\$0	\$16,000	Daylight	Dry	N	0
54	88128010	5/16/2019	Thursday	2:02 PM	14	2019	Left Turn	Injury	0	2	\$0	\$2,400	Daylight	Dry	N	0
55	87211587	5/28/2018	Monday	12:04 AM	00	2018	Left Turn	Injury	0	1	\$0	\$9,500	Dark - Not Lighted	Wet	N	0
56	88033983	11/4/2018	Sunday	6:14 PM	18	2018	Angle	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
57	88033996	11/11/2018	Sunday	4:25 PM	16	2018	Left Turn	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
58	88204769	9/7/2019	Saturday	9:20 PM	21	2019	Angle	No Injury	0	0	\$0	\$7,000	Dark - Lighted	Dry	N	0
59	88076795	3/5/2019	Tuesday	11:02 AM	11	2019	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0
60	88157773	6/14/2019	Friday	1:00 PM	13	2019	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0
61	87131021	11/29/2017	Wednesday	12:05 PM	12	2017	Pedestrian	Serious Injury	0	1	\$0	\$0	Daylight	Dry	N	0
62	85455240	1/13/2017	Friday	5:00 PM	17	2017	Rear End	No Injury	0	0	\$0	\$500	Daylight	Wet	N	0
63	88124889	4/30/2019	Tuesday	3:46 PM	15	2019	Rear End	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0
64	88149665	7/12/2019	Friday	10:17 AM	10	2019	Left Turn	Injury	0	5	\$0	\$20,100	Daylight	Dry	N	0
65	88116757	5/24/2019	Friday	8:20 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
66	88206882	9/2/2019	Monday	1:40 PM	13	2019	Left Turn	Injury	0	1	\$0	\$9,000	Daylight	Wet	N	0	N	0
67	88165500	7/8/2019	Monday	7:20 PM	19	2019	Left Turn	Injury	0	2	\$0	\$18,000	Daylight	Dry	N	0	N	0
68	88261067	12/22/2019	Sunday	5:40 PM	17	2019	Left Turn	No Injury	0	0	\$0	\$1,500	Daylight	Wet	N	0	N	0
69	88261068	12/22/2019	Sunday	11:31 PM	23	2019	Unknown	No Injury	0	0	\$0	\$500	Dark - Not Lighted	Wet	N	0	N	0
70	87232578	6/9/2018	Saturday	8:09 AM	08	2018	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
71	88189083	8/3/2019	Saturday	8:56 PM	20	2019	Angle	Serious Injury	0	1	\$0	\$38,000	Dark - Lighted	Dry	N	0	N	0
72	88206933	9/27/2019	Friday	8:30 PM	20	2019	Sideswipe	Injury	0	5	\$0	\$2,000	Dark - Not Lighted	Dry	N	0	N	0
73	88132692	6/7/2019	Friday	10:24 PM	22	2019	Rear End	No Injury	0	0	\$0	\$800	Dark - Lighted	Dry	N	0	N	0
74	88022910	10/22/2018	Monday	12:51 PM	12	2018	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
75	88189129	8/31/2019	Saturday	9:34 PM	21	2019	Unknown	Injury	0	1	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
76	88262121	12/27/2019	Friday	12:25 PM	12	2019	Sideswipe	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0
77	88030235	11/18/2018	Sunday	11:03 AM	11	2018	Left Turn	Injury	0	1	\$0	\$5,500	Daylight	Dry	N	0	N	0
78	87262533	8/9/2018	Thursday	9:00 AM	09	2018	Left Turn	Injury	0	2	\$0	\$9,000	Daylight	Dry	N	0	N	0
79	87156633	1/19/2018	Friday	6:25 PM	18	2018	Angle	No Injury	0	0	\$0	\$2,400	Daylight	Dry	N	0	N	0
80	88219049	9/26/2019	Thursday	2:30 AM	02	2019	Angle	No Injury	0	0	\$0	\$6,000	Dark - Not Lighted	Dry	N	0	N	0
81	88121527	4/9/2019	Tuesday	9:10 PM	21	2019	Rear End	No Injury	0	0	\$0	\$600	Dark - Lighted	Dry	N	0	N	0
82	88121531	4/11/2019	Thursday	9:30 PM	21	2019	Angle	No Injury	0	0	\$0	\$2,500	Dark - Lighted	Dry	N	0	N	0
83	88254620	12/3/2019	Tuesday	9:57 AM	09	2019	Unknown	No Injury	0	0	\$0	\$14,000	Daylight	Dry	N	0	N	0
84	88031964	11/7/2018	Wednesday	6:59 PM	18	2018	Rear End	Injury	0	2	\$0	\$6,000	Dusk	Dry	N	0	N	0
85	87117404	11/24/2017	Friday	11:45 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$4,400	Daylight	Dry	N	0	N	0
86	87117406	11/26/2017	Sunday	8:00 AM	08	2017	Sideswipe	Injury	0	1	\$0	\$8,800	Daylight	Dry	N	0	N	0
87	88204811	9/29/2019	Sunday	8:30 PM	20	2019	Rear End	No Injury	0	0	\$0	\$6,000	Dark - Lighted	Dry	N	0	N	0
88	87265096	7/24/2018	Tuesday	3:35 PM	15	2018	Left Turn	No Injury	0	0	\$0	\$14,500	Daylight	Dry	N	0	N	0
89	87152070	3/1/2018	Thursday	1:26 AM	01	2018	Rear End	No Injury	0	0	\$0	\$1,650	Dark - Not Lighted	Dry	N	0	N	0
90	87262469	7/12/2018	Thursday	11:40 AM	11	2018	Sideswipe	No Injury	0	0	\$0	\$550	Daylight	Dry	N	0	N	0
91	88067056	1/31/2019	Thursday	7:12 AM	07	2019	Left Turn	Injury	0	3	\$0	\$10,000	Daylight	Dry	N	0	N	0
92	85577402	8/21/2017	Monday	9:30 PM	21	2017	Rear End	No Injury	0	0	\$0	\$1,000	Dark - Not Lighted	Dry	N	0	N	0
93	87152583	2/13/2018	Tuesday	3:09 PM	15	2018	Sideswipe	No Injury	0	0	\$0	\$50	Daylight	Wet	N	0	N	0
94	88210226	10/8/2019	Tuesday	11:55 AM	11	2019	Left Turn	No Injury	0	0	\$0	\$3,500	Daylight	Wet	N	0	N	0
95	85606949	10/24/2017	Tuesday	5:11 PM	17	2017	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
96	85453294	1/21/2017	Saturday	9:21 AM	09	2017	Left Turn	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
97	87272855	8/4/2018	Saturday	9:44 PM	21	2018	Sideswipe	No Injury	0	0	\$0	\$400	Dark - Lighted	Dry	N	0	N	0
98	87187962	3/21/2018	Wednesday	10:13 AM	10	2018	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
99	88026625	11/6/2018	Tuesday	1:09 PM	13	2018	Sideswipe	No Injury	0	0	\$0	\$1,700	Daylight	Dry	N	0	N	0
100	87272864	8/10/2018	Friday	8:31 PM	20	2018	Rear End	No Injury	0	0	\$0	\$200	Dark - Not Lighted	Dry	N	0	N	0
101	88082567	2/15/2019	Friday	12:16 PM	12	2019	Left Turn	No Injury	0	0	\$0	\$7,500	Daylight	Dry	N	0	N	0
102	87187323	4/3/2018	Tuesday	3:06 PM	15	2018	Sideswipe	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
103	88132965	5/27/2019	Monday	7:45 AM	07	2019	Left Turn	Injury	0	1	\$0	\$12,000	Daylight	Dry	N	0	N	0
104	87292085	12/19/2018	Wednesday	10:12 AM	10	2018	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
105	85511498	4/8/2017	Saturday	11:26 PM	23	2017	Rear End	Injury	0	2	\$0	\$20,200	Dark - Not Lighted	Dry	N	0	N	0
106	88132986	6/7/2019	Friday	9:00 AM	09	2019	Rear End	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
107	87289674	10/9/2018	Tuesday	9:05 PM	21	2018	Left Turn	No Injury	0	0	\$0	\$7,300	Dark - Not Lighted	Dry	N	0	N	0
108	87248170	6/17/2018	Sunday	4:25 AM	04	2018	Rear End	No Injury	0	0	\$0	\$2,500	Dark - Lighted	Dry	N	0	N	0
109	88004276	10/19/2018	Friday	11:08 AM	11	2018	Left Turn	Injury	0	2	\$0	\$35,000	Daylight	Dry	N	0	N	0
110	87187920	3/7/2018	Wednesday	8:07 AM	08	2018	Rear End	Injury	0	1	\$0	\$500	Daylight	Dry	N	0	N	0
111	87248173	6/18/2018	Monday	11:36 PM	23	2018	Left Turn	No Injury	0	0	\$0	\$1,500	Dark - Lighted	Dry	N	0	N	0
112	87248176	6/22/2018	Friday	11:13 PM	23	2018	Left Turn	Injury	0	4	\$0	\$4,000	Dark - Lighted	Dry	N	0	N	0
113	88077738	2/8/2019	Friday	6:30 AM	06	2019	Rear End	No Injury	0	0	\$0	\$5,500	Daylight	Dry	N	0	N	0
114	88249965	11/30/2019	Saturday	12:25 PM	12	2019	Left Turn	Injury	0	5	\$0	\$21,000	Daylight	Dry	N	0	N	0
115	88068512	1/6/2019	Sunday	10:41 AM	10	2019	Left Turn	Injury	0	3	\$0	\$6,000	Daylight	Dry	N	0	N	0
116	87187299	3/23/2018	Friday	9:06 PM	21	2018	Rear End	No Injury	0	0	\$0	\$2,300	Dark - Lighted	Dry	N	0	N	0
117	88064198	12/23/2018	Sunday	11:40 PM	23	2018	Rear End	No Injury	0	0	\$0	\$1,750	Dark - Lighted	Dry	N	0	N	0
118	88242873	11/14/2019	Thursday	11:34 AM	11	2019	Rear End	Injury	0	2	\$0	\$1,600	Daylight	Dry	N	0	N	0
119	88104593	3/13/2019	Wednesday	8:15 PM	20	2019	Left Turn	Injury	0	3	\$0	\$6,500	Dark - Lighted	Dry	N	0	N	0
120	87248985	6/29/2018	Friday	11:00 AM	11	2018	Rear End	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
121	87211550	4/17/2018	Tuesday	8:53 PM	20	2018	Left Turn	Injury	0	1	\$0	\$18,000	Dark - Not Lighted	Dry	N	0	N	0
122	87195570	4/12/2018	Thursday	8:25 PM	20	2018	Rear End	No Injury	0	0	\$0	\$5,000	Dark - Not Lighted	Dry	N	0	N	0
123	85582277	8/29/2017	Tuesday	7:20 PM	19	2017	Sideswipe	No Injury	0	0	\$0	\$2,500	Dark - Lighted	Dry	N	0	N	0
124	88023537	10/20/2018	Saturday	11:04 AM	11	2018	Angle	Serious Injury	0	2	\$0	\$35,000	Daylight	Dry	N	0	N	0
125	88023601	11/28/2018	Wednesday	9:43 PM	21	2018	Left Turn	Injury	0	3	\$0	\$35,000	Dark - Lighted	Dry	N	0	N	0
126	88023562	11/3/2018	Saturday	7:30 PM	19	2018	Rear End	Injury	0	1	\$0	\$2,400	Dark - Not Lighted	Dry	N	0	N	0
127	88163517	6/22/2019	Saturday	9:40 AM	09	2019	Angle	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
128	88163527	6/24/2019	Monday	11:15 AM	11	2019	Left Turn	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
129	88028282	10/25/2018	Thursday	8:54 PM	20	2018	Left Turn	No Injury	0	0	\$0	\$4,500	Dark - Lighted	Dry	N	0	N	0
130	88025207	10/24/2018	Wednesday	5:25 PM	17	2018	Rear End	No Injury	0	0	\$0	\$1,700	Daylight	Dry	N	0	N	0
131	88025213	10/26/2018	Friday	1:30 PM	13	2018	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related		
132	88024339	10/18/2018	Thursday	8:55 PM	20	2018	Left Turn	No Injury	0	0	\$0	\$15,000	Dark - Lighted	Dry	N	0	N	0
133	88047495	12/18/2018	Tuesday	9:28 AM	09	2018	Left Turn	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0
134	88025241	11/7/2018	Wednesday	12:50 PM	12	2018	Left Turn	Injury	0	1	\$0	\$6,500	Daylight	Dry	N	0	N	0
135	88068536	1/21/2019	Monday	8:38 AM	08	2019	Left Turn	Injury	0	2	\$0	\$30,000	Daylight	Dry	N	0	N	0
136	88210122	9/29/2019	Sunday	8:18 PM	20	2019	Rear End	No Injury	0	0	\$0	\$600	Dark - Lighted	Dry	N	0	N	0
137	87162871	1/17/2018	Wednesday	6:48 PM	18	2018	Rear End	No Injury	0	0	\$0	\$2,400	Dusk	Dry	N	0	N	0
138	88135116	5/14/2019	Tuesday	9:51 PM	21	2019	Unknown	No Injury	0	0	\$0	\$5,200	Dark - Lighted	Dry	N	0	N	0
139	88135139	5/24/2019	Friday	3:49 PM	15	2019	Sideswipe	No Injury	0	0	\$0	\$1,400	Daylight	Dry	N	0	N	0
140	87131993	2/13/2018	Tuesday	9:01 AM	09	2018	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
141	88045348	12/18/2018	Tuesday	9:44 PM	21	2018	Rear End	Injury	0	2	\$0	\$21,000	Dark - Lighted	Dry	N	0	N	0
142	87262518	8/2/2018	Thursday	12:30 PM	12	2018	Left Turn	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
143	88002355	9/7/2018	Friday	6:18 PM	18	2018	Left Turn	Injury	0	1	\$0	\$5,000	Dark - Not Lighted	Dry	N	0	N	0
144	88041696	12/14/2018	Friday	1:00 PM	13	2018	Left Turn	Injury	0	1	\$0	\$12,500	Daylight	Wet	N	0	N	0
145	88083820	1/28/2019	Monday	12:29 PM	12	2019	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
146	88223403	10/8/2019	Tuesday	6:40 PM	18	2019	Left Turn	Injury	0	2	\$0	\$21,000	Dusk	Dry	N	0	N	0
147	88223427	10/17/2019	Thursday	7:50 PM	19	2019	Angle	Injury	0	3	\$0	\$9,000	Dark - Lighted	Dry	N	0	N	0
148	87107205	10/18/2017	Wednesday	1:10 PM	13	2017	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
149	88118136	4/24/2019	Wednesday	8:43 PM	20	2019	Left Turn	No Injury	0	2	\$0	\$28,000	Dark - Not Lighted	Dry	N	0	N	0
150	88168042	7/12/2019	Friday	11:15 AM	11	2019	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
151	88168054	7/28/2019	Sunday	1:15 PM	13	2019	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
152	88003618	9/22/2018	Saturday	3:41 PM	15	2018	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
153	88003619	9/22/2018	Saturday	8:15 PM	20	2018	Angle	No Injury	0	0	\$0	\$13,000	Dark - Not Lighted	Dry	N	0	N	0
154	87172309	3/13/2018	Tuesday	8:30 AM	08	2018	Sideswipe	No Injury	0	0	\$0	\$4,700	Daylight	Dry	N	0	N	0
155	88261768	11/29/2019	Friday	1:40 PM	13	2019	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
156	87198976	4/14/2018	Saturday	1:32 PM	13	2018	Right Turn	No Injury	0	0	\$0	\$3,800	Daylight	Dry	N	0	N	0
157	88149941	6/24/2019	Monday	8:32 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
158	88149950	7/1/2019	Monday	7:28 AM	07	2019	Sideswipe	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
159	88041715	12/24/2018	Monday	8:35 AM	08	2018	Left Turn	Injury	0	2	\$0	\$15,800	Daylight	Dry	N	0	N	0
160	88041720	12/26/2018	Wednesday	7:00 AM	07	2018	Left Turn	Injury	0	4	\$0	\$25,000	Daylight	Dry	N	0	N	0
161	88041408	12/8/2018	Saturday	2:30 PM	14	2018	Left Turn	Injury	0	5	\$0	\$12,500	Daylight	Dry	N	0	N	0
162	88041409	12/8/2018	Saturday	5:50 PM	17	2018	Other	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
163	88209352	9/21/2019	Saturday	5:38 AM	05	2019	Angle	No Injury	0	0	\$0	\$8,000	Dark - Lighted	Dry	N	0	N	0
164	88192413	11/29/2019	Friday	9:00 PM	21	2019	Left Turn	No Injury	0	0	\$0	\$12,000	Dark - Lighted	Dry	N	0	N	0
165	88117084	4/2/2019	Tuesday	1:10 PM	13	2019	Angle	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
166	88103058	4/13/2019	Saturday	3:50 PM	15	2019	Rear End	Injury	0	1	\$0	\$4,500	Daylight	Dry	N	0	N	0
167	85582309	9/13/2017	Wednesday	7:55 AM	07	2017	Rear End	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
168	85546007	7/6/2017	Thursday	9:06 AM	09	2017	Rear End	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
169	85453291	1/20/2017	Friday	9:10 AM	09	2017	Rear End	No Injury	0	0	\$0	\$3,700	Daylight	Dry	N	0	N	0
170	88074445	2/26/2019	Tuesday	10:54 AM	10	2019	Left Turn	Serious Injury	0	4	\$0	\$8,000	Daylight	Dry	N	0	N	0
171	87213185	5/24/2018	Thursday	12:00 AM	00	2018	Animal	No Injury	0	0	\$0	\$5,500	Dark - Not Lighted	Dry	N	0	N	0
172	87213136	4/18/2018	Wednesday	12:00 PM	12	2018	Sideswipe	No Injury	0	0	\$0	\$800	Daylight	Dry	N	0	N	0
173	87213163	5/13/2018	Sunday	7:35 AM	07	2018	Left Turn	Injury	0	3	\$0	\$25,000	Daylight	Dry	N	0	N	0
174	87213164	5/13/2018	Sunday	12:00 PM	12	2018	Left Turn	Injury	0	1	\$1,000	\$7,700	Daylight	Dry	N	0	N	0
175	85527667	5/10/2017	Wednesday	3:12 PM	15	2017	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
176	85528718	6/13/2017	Tuesday	5:01 PM	17	2017	Rear End	No Injury	0	0	\$0	\$3,250	Daylight	Wet	N	0	N	0
177	85529187	6/5/2017	Monday	11:20 AM	11	2017	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
178	85494426	3/27/2017	Monday	2:19 PM	14	2017	Sideswipe	No Injury	0	0	\$0	\$1,010	Daylight	Dry	N	0	N	0
179	85571326	8/6/2017	Sunday	4:15 PM	16	2017	Sideswipe	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
180	85514787	5/2/2017	Tuesday	9:48 AM	09	2017	Sideswipe	No Injury	0	0	\$0	\$2,200	Daylight	Wet	N	0	N	0
181	85519595	5/25/2017	Thursday	5:00 PM	17	2017	Rear End	Serious Injury	0	1	\$0	\$200	Daylight	Dry	N	0	N	0
182	85570208	8/4/2017	Friday	12:00 AM	00	2017	Sideswipe	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
183	85527405	5/31/2017	Wednesday	5:20 PM	17	2017	Rear End	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
184	85552643	6/23/2017	Friday	2:29 PM	14	2017	Rear End	Injury	0	2	\$0	\$1,750	Daylight	Dry	N	0	N	0
185	85544936	9/1/2017	Friday	9:07 PM	21	2017	Rear End	No Injury	0	0	\$0	\$2,000	Dark - Not Lighted	Wet	N	0	N	0
186	88070742	1/8/2019	Tuesday	6:45 PM	18	2019	Rear End	No Injury	0	0	\$0	\$1,600	Dark - Lighted	Dry	N	0	N	0
187	87216399	6/15/2018	Friday	11:50 PM	23	2018	Left Turn	Injury	0	3	\$1,500	\$21,500	Dark - Not Lighted	Dry	N	0	N	0
188	87216411	6/22/2018	Friday	11:13 PM	23	2018	Left Turn	No Injury	0	0	\$0	\$20,000	Dark - Lighted	Dry	N	0	N	0
189	85584178	9/13/2017	Wednesday	9:15 AM	09	2017	Rear End	Injury	0	2	\$0	\$300	Daylight	Dry	N	0	N	0
190	85583525	9/5/2017	Tuesday	10:18 AM	10	2017	Sideswipe	Injury	0	1	\$0	\$8,200	Daylight	Dry	N	0	N	0
191	85583539	9/20/2017	Wednesday	11:31 AM	11	2017	Rear End	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
192	85584156	8/29/2017	Tuesday	11:37 AM	11	2017	Rear End	No Injury	0	0	\$0	\$2,600	Daylight	Dry	N	0	N	0
193	85596307	9/27/2017	Wednesday	8:27 AM	08	2017	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
194	85601575	11/6/2017	Monday	3:20 PM	15	2017	Left Turn	Injury	0	2	\$0	\$22,000	Daylight	Dry	Y	1	Y	1
195	88030206	11/3/2018	Saturday	8:17 AM	08	2018	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0
196	87217777	5/16/2018	Wednesday	8:50 PM	20	2018	Left Turn	Injury	0	2	\$0	\$14,000	Dark - Lighted	Wet	N	0	N	0
197	87182982	5/18/2018	Friday	2:42 PM	14	2018	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related		
198	87182974	5/12/2018	Saturday	10:01 PM	22	2018	Sideswipe	No Injury	0	0	\$0	\$1,500	Dark - Not Lighted	Dry	N	0	N	0
199	88117107	4/10/2019	Wednesday	8:45 PM	20	2019	Angle	No Injury	0	0	\$0	\$10,000	Dark - Lighted	Dry	N	0	N	0
200	87103097	11/3/2017	Friday	12:55 PM	12	2017	Rear End	Injury	0	2	\$0	\$4,000	Daylight	Dry	N	0	N	0
201	87184818	5/3/2018	Thursday	8:06 AM	08	2018	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
202	87217753	5/6/2018	Sunday	1:30 AM	01	2018	Pedestrian	Injury	0	1	\$0	\$7,750	Dark - Not Lighted	Dry	N	0	N	0
203	87172993	8/7/2018	Tuesday	9:20 AM	09	2018	Left Turn	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
204	87168503	5/17/2018	Thursday	7:10 PM	19	2018	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Wet	N	0	N	0
205	87218356	5/24/2018	Thursday	6:33 PM	18	2018	Left Turn	No Injury	0	0	\$0	\$6,500	Daylight	Dry	N	0	N	0
206	88180051	8/19/2019	Monday	7:34 AM	07	2019	Other	Injury	0	1	\$0	\$2,000	Daylight	Dry	N	0	N	0
207	87102327	10/31/2017	Tuesday	9:37 AM	09	2017	Rear End	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
208	88093243	3/9/2019	Saturday	1:57 AM	01	2019	Rear End	No Injury	0	4	\$0	\$17,000	Dark - Lighted	Dry	N	0	N	0
209	87133570	12/12/2017	Tuesday	3:39 AM	03	2017	Left Turn	Injury	0	1	\$0	\$500	Dark - Lighted	Dry	N	0	N	0
210	85494392	3/10/2017	Friday	6:05 PM	18	2017	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
211	85494382	3/8/2017	Wednesday	1:25 PM	13	2017	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
212	88061903	12/22/2018	Saturday	1:25 PM	13	2018	Other	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
213	88081603	2/21/2019	Thursday	8:23 PM	20	2019	Left Turn	Injury	0	4	\$0	\$10,200	Dark - Lighted	Dry	N	0	N	0
214	87132338	12/21/2017	Thursday	2:00 AM	02	2017	Sideswipe	No Injury	0	0	\$0	\$1,100	Dark - Not Lighted	Dry	N	0	N	0
215	88015316	10/29/2018	Monday	10:44 PM	22	2018	Sideswipe	No Injury	0	0	\$0	\$400	Dark - Not Lighted	Dry	N	0	N	0
216	87151937	2/10/2018	Saturday	10:57 AM	10	2018	Rear End	Injury	0	2	\$0	\$4,000	Daylight	Dry	N	0	N	0
217	88046537	1/9/2019	Wednesday	10:02 AM	10	2019	Rear End	No Injury	0	0	\$0	\$80	Daylight	Dry	N	0	N	0
218	85438760	6/10/2017	Saturday	10:08 PM	22	2017	Sideswipe	No Injury	0	0	\$0	\$2,000	Dark - Not Lighted	Dry	N	0	N	0
219	85466360	2/15/2017	Wednesday	4:35 PM	16	2017	Other	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
220	85466320	1/21/2017	Saturday	1:06 PM	13	2017	Sideswipe	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
221	85466824	1/28/2017	Saturday	6:55 PM	18	2017	Rear End	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0	N	0
222	85463901	1/12/2017	Thursday	8:30 PM	20	2017	Sideswipe	Injury	0	1	\$0	\$5,000	Dark - Not Lighted	Dry	N	0	N	0
223	85466334	3/23/2017	Friday	6:16 PM	18	2017	Rear End	No Injury	0	0	\$0	\$800	Dusk	Dry	N	0	N	0
224	85463032	3/27/2017	Monday	11:43 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
225	88151318	6/30/2019	Sunday	3:10 PM	15	2019	Left Turn	Injury	0	4	\$0	\$22,000	Daylight	Dry	N	0	N	0
226	85467774	3/11/2017	Saturday	10:30 PM	22	2017	Rear End	No Injury	0	0	\$0	\$3,200	Dark - Not Lighted	Dry	N	0	N	0
227	85459325	2/5/2017	Sunday	9:03 AM	09	2017	Rear End	Serious Injury	0	1	\$0	\$100	Daylight	Dry	N	0	N	0
228	85481686	3/6/2017	Monday	12:49 AM	00	2017	Unknown	Injury	0	2	\$0	\$19,500	Dark - Not Lighted	Dry	N	0	N	0
229	85477988	2/12/2017	Sunday	12:35 PM	12	2017	Other	No Injury	0	0	\$0	\$2,010	Daylight	Dry	N	0	N	0
230	85477799	3/14/2017	Tuesday	2:48 PM	14	2017	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
231	85490501	4/7/2017	Friday	6:54 AM	06	2017	Pedestrian	Injury	0	1	\$0	\$0	Dusk	Dry	N	0	N	0
232	85477594	3/21/2017	Tuesday	8:00 AM	08	2017	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
233	85453765	1/27/2017	Friday	6:23 PM	18	2017	Rear End	Injury	0	1	\$0	\$1,300	Daylight	Dry	N	0	N	0
234	85508525	4/24/2017	Monday	3:19 PM	15	2017	Angle	Injury	0	2	\$0	\$13,000	Daylight	Dry	N	0	N	0
235	85517347	4/13/2017	Thursday	1:52 PM	13	2017	Rear End	Injury	0	2	\$0	\$30	Daylight	Dry	N	0	N	0
236	85444641	1/10/2017	Tuesday	10:43 AM	10	2017	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
237	85517045	5/12/2017	Friday	10:12 AM	10	2017	Sideswipe	No Injury	0	0	\$0	\$5	Daylight	Dry	N	0	N	0
238	85517051	6/2/2017	Friday	6:04 AM	06	2017	Rear End	Injury	0	2	\$0	\$19,500	Dark - Lighted	Dry	N	0	N	0
239	85517373	4/23/2017	Sunday	3:32 PM	15	2017	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
240	85516697	5/17/2017	Wednesday	10:00 PM	22	2017	Sideswipe	No Injury	0	0	\$0	\$1,850	Dark - Lighted	Dry	N	0	N	0
241	85597554	10/10/2017	Tuesday	10:05 AM	10	2017	Rear End	No Injury	0	0	\$0	\$5,300	Daylight	Dry	N	0	N	0
242	85597559	10/16/2017	Monday	12:55 PM	12	2017	Angle	No Injury	0	0	\$0	\$2,100	Daylight	Dry	N	0	N	0
243	85606947	10/20/2017	Friday	8:00 PM	20	2017	Unknown	No Injury	0	0	\$0	\$2,500	Dusk	Dry	N	0	N	0
244	85605092	10/1/2017	Sunday	6:00 PM	18	2017	Unknown	No Injury	0	0	\$0	\$880	Daylight	Dry	N	0	N	0
245	85600114	10/6/2017	Friday	11:50 PM	23	2017	Rear End	No Injury	0	0	\$0	\$3,025	Dark - Lighted	Dry	N	0	N	0
246	85596275	9/7/2017	Thursday	12:15 PM	12	2017	Rear End	No Injury	0	0	\$0	\$3,300	Daylight	Dry	N	0	N	0
247	88047830	12/21/2018	Friday	1:30 PM	13	2018	Unknown	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
248	88048497	12/27/2018	Thursday	9:35 PM	21	2018	Left Turn	Injury	0	1	\$0	\$2,600	Dark - Not Lighted	Dry	N	0	N	0
249	88240908	11/1/2019	Friday	2:45 PM	14	2019	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
250	85594452	9/20/2017	Wednesday	2:10 PM	14	2017	Sideswipe	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
251	85594455	9/20/2017	Wednesday	7:00 PM	19	2017	Sideswipe	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
252	85507536	4/18/2017	Tuesday	8:52 PM	20	2017	Other	No Injury	0	0	\$0	\$100	Dark - Lighted	Dry	N	0	N	0
253	88046516	12/7/2018	Friday	11:10 AM	11	2018	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
254	88179401	9/9/2019	Monday	8:00 AM	08	2019	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
255	85592075	10/1/2017	Sunday	12:05 PM	12	2017	Angle	No Injury	0	0	\$3,000	\$6,000	Daylight	Dry	N	0	N	0
256	85592840	10/2/2017	Monday	2:58 AM	02	2017	Off Road	No Injury	0	0	\$1,000	\$11,000	Dark - Lighted	Dry	N	0	N	0
257	85522205	5/31/2017	Wednesday	7:32 AM	07	2017	Sideswipe	No Injury	0	0	\$0	\$250	Daylight	Dry	N	0	N	0
258	85522619	5/26/2017	Friday	1:55 PM	13	2017	Rear End	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
259	85560551	7/7/2017	Friday	8:47 AM	08	2017	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
260	85558804	7/18/2017	Tuesday	10:10 AM	10	2017	Unknown	Injury	0	3	\$0	\$4,000	Daylight	Dry	N	0	N	0
261	85575913	10/15/2017	Sunday	1:06 PM	13	2017	Other	No Injury	0	0	\$0	\$990	Daylight	Dry	N	0	N	0
262	85565541	7/14/2017	Friday	12:45 PM	12	2017	Rear End	No Injury	0	0	\$0	\$250	Daylight	Dry	N	0	N	0
263	85558810	7/22/2017	Saturday	2:42 PM	14	2017	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Wet	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
264	8558827	7/28/2017	Friday	11:47 AM	11	2017	Off Road	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0
265	85567656	8/11/2017	Friday	8:14 AM	08	2017	Sideswipe	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0
266	85563488	8/11/2017	Friday	8:27 AM	08	2017	Rear End	No Injury	0	0	\$0	\$125	Daylight	Dry	N	0
267	85575870	9/22/2017	Friday	5:00 PM	17	2017	Rear End	Injury	0	1	\$0	\$5,000	Daylight	Dry	N	0
268	87219605	6/26/2018	Tuesday	3:05 PM	15	2018	Angle	Fatality	1	2	\$0	\$51,900	Daylight	Dry	N	0
269	87219853	5/22/2018	Tuesday	2:00 PM	14	2018	Rear End	No Injury	0	0	\$0	\$9,100	Daylight	Dry	N	0
270	88179328	9/1/2019	Sunday	1:23 PM	13	2019	Angle	Serious Injury	0	4	\$0	\$12,000	Daylight	Dry	N	0
271	88179329	9/1/2019	Sunday	4:34 PM	16	2019	Left Turn	No Injury	0	0	\$0	\$1,300	Daylight	Dry	N	0
272	88040134	11/19/2018	Monday	3:01 PM	15	2018	Angle	Injury	0	2	\$0	\$30,000	Daylight	Dry	N	0
273	88040156	11/29/2018	Thursday	1:31 PM	13	2018	Left Turn	No Injury	0	0	\$0	\$5,600	Daylight	Dry	N	0
274	88040159	12/6/2018	Thursday	8:47 PM	20	2018	Other	No Injury	0	0	\$0	\$15,000	Dark - Lighted	Dry	N	0
275	88179590	8/11/2019	Sunday	1:24 PM	13	2019	Sideswipe	No Injury	0	0	\$0	\$850	Daylight	Dry	N	0
276	88042801	11/20/2018	Tuesday	4:05 PM	16	2018	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
277	88044522	12/20/2018	Thursday	3:25 PM	15	2018	Angle	No Injury	0	0	\$0	\$4,500	Daylight	Wet	N	0
278	88063169	12/24/2018	Monday	12:53 PM	12	2018	Angle	Injury	0	1	\$0	\$6,500	Daylight	Dry	N	0
279	88261814	12/16/2019	Monday	5:38 PM	17	2019	Rear End	No Injury	0	0	\$0	\$3,000	Dusk	Dry	N	0
280	87220253	6/14/2018	Thursday	10:32 PM	22	2018	Sideswipe	No Injury	0	0	\$0	\$2,300	Dark - Lighted	Dry	N	0
281	88004232	9/25/2018	Tuesday	7:38 PM	19	2018	Rear End	Injury	0	6	\$0	\$9,000	Dusk	Dry	N	0
282	87108265	10/17/2017	Tuesday	1:55 PM	13	2017	Sideswipe	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0
283	87108273	10/19/2017	Thursday	12:19 PM	12	2017	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0
284	87220270	6/22/2018	Friday	4:53 AM	04	2018	Rear End	No Injury	0	0	\$0	\$800	Dark - Lighted	Dry	N	0
285	88004259	10/9/2018	Tuesday	10:32 AM	10	2018	Left Turn	Injury	0	3	\$0	\$34,000	Daylight	Dry	N	0
286	87188024	7/31/2018	Tuesday	9:40 PM	21	2018	Rear End	No Injury	0	0	\$0	\$50	Dark - Lighted	Dry	N	0
287	87109954	11/24/2017	Friday	4:19 PM	16	2017	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0
288	87117387	11/15/2017	Wednesday	10:35 AM	10	2017	Sideswipe	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0
289	87130583	12/22/2017	Friday	1:35 PM	13	2017	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0
290	87266934	8/23/2018	Thursday	12:10 PM	12	2018	Left Turn	No Injury	0	0	\$0	\$13,000	Daylight	Dry	N	0
291	87269239	7/29/2018	Sunday	2:45 PM	14	2018	Rear End	Injury	0	2	\$0	\$6,500	Daylight	Dry	N	0
292	87269245	8/3/2018	Friday	6:55 PM	18	2018	Unknown	Injury	0	7	\$250	\$25,750	Daylight	Dry	N	0
293	87149475	1/11/2018	Thursday	5:02 PM	17	2018	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
294	87159403	1/17/2018	Wednesday	11:16 AM	11	2018	Rear End	Injury	0	2	\$0	\$300	Daylight	Dry	N	0
295	87159432	2/1/2018	Thursday	5:45 AM	05	2018	Rear End	No Injury	0	0	\$0	\$100	Dark - Not Lighted	Dry	N	0
296	87221939	5/7/2018	Monday	7:54 AM	07	2018	Other	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0
297	87113616	11/3/2017	Friday	8:47 PM	20	2017	Sideswipe	No Injury	0	0	\$0	\$300	Dark - Lighted	Dry	Y	1
298	87113626	11/10/2017	Friday	2:00 AM	02	2017	Left Turn	Injury	0	1	\$0	\$20,000	Dark - Lighted	Dry	N	0
299	87269278	8/22/2018	Wednesday	8:59 PM	20	2018	Angle	Injury	0	3	\$0	\$7,000	Dark - Not Lighted	Dry	N	0
300	87224344	5/14/2018	Monday	3:55 PM	15	2018	Rear End	Injury	0	1	\$0	\$3,500	Daylight	Wet	N	0
301	87224364	5/19/2018	Saturday	8:15 PM	20	2018	Left Turn	No Injury	0	0	\$0	\$10,000	Dark - Lighted	Wet	N	0
302	87223816	5/14/2018	Monday	7:48 PM	19	2018	Left Turn	Serious Injury	0	4	\$0	\$6,000	Dusk	Wet	N	0
303	87129829	11/16/2017	Thursday	5:00 PM	17	2017	Rear End	Injury	0	1	\$0	\$1,000	Daylight	Dry	N	0
304	87129642	12/9/2017	Saturday	9:53 AM	09	2017	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Wet	N	0
305	87237659	7/4/2018	Wednesday	2:20 PM	14	2018	Left Turn	No Injury	0	0	\$0	\$19,500	Daylight	Dry	N	0
306	87237662	7/5/2018	Thursday	12:43 PM	12	2018	Rear End	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0
307	87129947	12/8/2017	Friday	2:20 PM	14	2017	Rear End	No Injury	0	0	\$0	\$5,250	Daylight	Dry	N	0
308	87268817	8/16/2018	Thursday	11:50 PM	23	2018	Sideswipe	No Injury	0	0	\$0	\$2,500	Dark - Lighted	Wet	N	0
309	88102648	3/10/2019	Sunday	3:30 AM	03	2019	Rear End	No Injury	0	0	\$0	\$5,000	Dark - Not Lighted	Dry	N	0
310	87127318	12/29/2017	Friday	9:15 AM	09	2017	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0
311	87134840	2/5/2018	Monday	6:40 AM	06	2018	Left Turn	No Injury	0	0	\$0	\$3,000	Dark - Lighted	Wet	N	0
312	87266958	9/6/2018	Thursday	8:52 PM	20	2018	Left Turn	No Injury	0	0	\$0	\$12,000	Dark - Not Lighted	Dry	N	0
313	87266959	9/6/2018	Thursday	9:32 PM	21	2018	Left Turn	Injury	0	2	\$0	\$16,000	Dark - Not Lighted	Dry	N	0
314	87142042	12/17/2017	Sunday	12:37 AM	00	2017	Rear End	No Injury	0	0	\$0	\$6,500	Dark - Lighted	Dry	N	0
315	87129629	12/3/2017	Sunday	8:00 AM	08	2017	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0
316	87134825	1/17/2018	Wednesday	11:22 AM	11	2018	Sideswipe	No Injury	0	0	\$0	\$0	Daylight	Dry	N	0
317	87134826	1/18/2018	Thursday	6:21 AM	06	2018	Rear End	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0
318	88052402	12/30/2018	Sunday	4:35 PM	16	2018	Angle	No Injury	0	0	\$0	\$7,000	Dark - Lighted	Dry	N	0
319	83672373	8/16/2018	Thursday	10:35 AM	10	2018	Left Turn	Injury	0	3	\$0	\$4,000	Daylight	Dry	N	0
320	87285707	8/18/2018	Saturday	2:08 AM	02	2018	Sideswipe	No Injury	0	0	\$0	\$700	Dawn	Dry	N	0
321	87230899	5/23/2018	Wednesday	2:56 AM	02	2018	Left Turn	Injury	0	1	\$0	\$12,000	Dark - Lighted	Dry	N	0
322	87285732	9/1/2018	Saturday	1:17 AM	01	2018	Sideswipe	Injury	0	1	\$0	\$2,000	Dark - Not Lighted	Dry	N	0
323	87285741	9/7/2018	Friday	8:36 AM	08	2018	Sideswipe	No Injury	0	0	\$0	\$1,350	Daylight	Dry	N	0
324	87285748	9/10/2018	Monday	6:41 AM	06	2018	Left Turn	No Injury	0	4	\$0	\$6,000	Daylight	Dry	N	0
325	87291349	9/1/2018	Saturday	7:20 AM	07	2018	Left Turn	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0
326	87299167	10/3/2018	Wednesday	12:40 PM	12	2018	Sideswipe	No Injury	0	0	\$0	\$1,800	Daylight	Dry	N	0
327	87299168	10/3/2018	Wednesday	3:00 PM	15	2018	Off Road	No Injury	0	0	\$1,500	\$4,500	Daylight	Dry	N	0
328	87290953	9/23/2018	Sunday	3:00 PM	15	2018	Rear End	Injury	0	1	\$0	\$2,700	Daylight	Dry	N	0
329	87231447	6/26/2018	Tuesday	5:55 PM	17	2018	Rear End	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
660	85410349	11/23/2016	Wednesday	8:08 AM	08	2016	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
661	85430095	12/26/2016	Monday	8:44 PM	20	2016	Sideswipe	No Injury	0	0	\$0	\$5,000	Dark - Lighted	Dry	N	0	N	0
662	85432858	11/23/2016	Wednesday	11:00 AM	11	2016	Angle	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
663	85415689	11/23/2016	Wednesday	10:42 PM	22	2016	Rear End	Injury	0	2	\$0	\$7,000	Dark - Not Lighted	Dry	N	0	N	0
664	85424674	11/16/2016	Wednesday	6:33 AM	06	2016	Unknown	Injury	0	1	\$0	\$11,400	Dusk	Dry	N	0	N	0
665	85385911	10/3/2016	Monday	12:27 AM	00	2016	Rear End	No Injury	0	0	\$0	\$4,000	Dark - Lighted	Wet	N	0	N	0
666	85404457	9/29/2016	Thursday	11:43 AM	11	2016	Sideswipe	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0	N	0
667	85407019	10/17/2016	Monday	5:48 PM	17	2016	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
668	85394179	9/17/2016	Saturday	5:37 PM	17	2016	Rear End	No Injury	0	0	\$0	\$6,010	Daylight	Dry	N	0	N	0
669	85182827	9/16/2015	Wednesday	4:00 PM	16	2015	Angle	Injury	0	4	\$0	\$22,500	Daylight	Dry	N	0	N	0
670	85182834	9/22/2015	Tuesday	4:20 PM	16	2015	Rear End	No Injury	0	0	\$0	\$1,400	Daylight	Dry	N	0	N	0
671	85183296	8/26/2015	Wednesday	1:58 PM	13	2015	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
672	85195417	9/4/2015	Friday	7:52 AM	07	2015	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
673	85364848	8/27/2016	Saturday	3:25 AM	03	2016	Rear End	Injury	0	1	\$0	\$19,000	Dark - Not Lighted	Dry	N	0	N	0
674	85360408	6/27/2016	Monday	8:47 PM	20	2016	Sideswipe	No Injury	0	0	\$0	\$1,000	Dark - Not Lighted	Dry	N	0	N	0
675	85404454	11/13/2016	Sunday	8:20 PM	20	2016	Sideswipe	No Injury	0	0	\$0	\$2,400	Dark - Lighted	Dry	N	0	N	0
676	85409942	11/21/2016	Monday	12:25 PM	12	2016	Rear End	Injury	0	1	\$0	\$800	Daylight	Dry	N	0	N	0
677	85570230	1/10/2018	Wednesday	8:30 PM	20	2018	Sideswipe	No Injury	0	0	\$0	\$3,000	Dark - Lighted	Dry	N	0	N	0
678	85606984	2/3/2018	Saturday	8:16 AM	08	2018	Rear End	No Injury	0	0	\$0	\$10,000	Dark - Not Lighted	Dry	N	0	N	0
679	82265577	11/3/2016	Thursday	2:49 PM	14	2016	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
680	87208737	5/2/2018	Wednesday	12:15 PM	12	2018	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
681	87206778	5/9/2018	Wednesday	10:05 AM	10	2018	Left Turn	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
682	87205639	5/6/2018	Sunday	10:40 AM	10	2018	Sideswipe	No Injury	0	0	\$0	\$1,400	Dark - Not Lighted	Dry	N	0	N	0
683	87205646	5/10/2018	Thursday	11:52 PM	23	2018	Rear End	No Injury	0	0	\$0	\$20,000	Dark - Not Lighted	Dry	N	0	N	0
684	87205725	5/1/2018	Tuesday	4:07 PM	16	2018	Angle	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
685	84561691	2/6/2015	Friday	3:26 PM	15	2015	Rear End	Serious Injury	0	3	\$0	\$3,500	Daylight	Dry	N	0	N	0
686	85492380	8/8/2018	Wednesday	3:20 PM	15	2018	Sideswipe	No Injury	0	0	\$0	\$1,250	Daylight	Dry	N	0	N	0
687	84546585	1/6/2015	Tuesday	6:57 PM	18	2015	Other	No Injury	0	0	\$0	\$700	Dark - Lighted	Dry	N	0	N	0
688	88130808	6/1/2019	Saturday	8:29 PM	20	2019	Angle	No Injury	0	0	\$0	\$1,200	Dawn	Dry	N	0	N	0
689	88171879	7/20/2019	Saturday	8:17 AM	08	2019	Left Turn	No Injury	0	0	\$0	\$20,000	Daylight	Dry	N	0	N	0
690	88126028	5/10/2019	Friday	7:02 AM	07	2019	Left Turn	Injury	0	3	\$0	\$17,500	Daylight	Dry	N	0	N	0
691	88172612	7/11/2019	Thursday	3:42 AM	03	2019	Rear End	Injury	0	2	\$0	\$8,000	Dark - Lighted	Dry	Y	1	N	0
692	88267663	12/24/2019	Tuesday	9:28 PM	21	2019	Sideswipe	No Injury	0	0	\$0	\$1,500	Dark - Lighted	Dry	N	0	N	0
693	88205390	9/29/2019	Sunday	5:58 PM	17	2019	Left Turn	Injury	0	1	\$0	\$3,000	Daylight	Dry	N	0	N	0
694	88026009	10/30/2018	Tuesday	6:09 AM	06	2018	Left Turn	Injury	0	1	\$0	\$5,500	Dawn	Dry	N	0	N	0
695	85316525	5/6/2016	Friday	2:39 PM	14	2016	Sideswipe	Injury	0	1	\$0	\$700	Daylight	Dry	N	0	N	0

Sand Lake Road and John Young Parkway

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	57	56	57	55	47	272	39%
Head On	1	0	0	0	1	2	0%
Sideswipe	11	22	26	36	28	123	18%
Rollover	0	0	0	0	0	0	0%
Angle	6	3	4	16	27	56	8%
Left Turn	5	5	4	84	72	170	24%
Right Turn	0	1	0	1	1	3	0%
Off Road	4	3	2	4	2	15	2%
Pedestrian & Bicycle	0	0	2	1	2	5	1%
Animal	0	0	0	1	0	1	0%
Other	9	7	8	11	13	48	7%
Total	93	97	103	209	193	695	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	1	0	1	0%
Injury	25	22	25	82	87	241	35%
Property Damage Only	68	75	78	126	106	453	65%
Total	93	97	103	209	193	695	100%

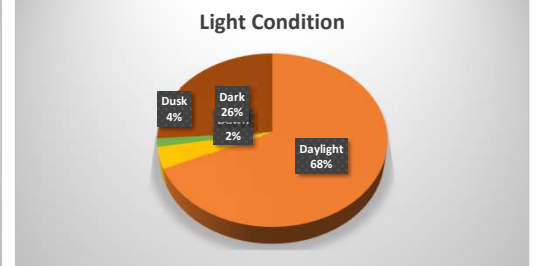
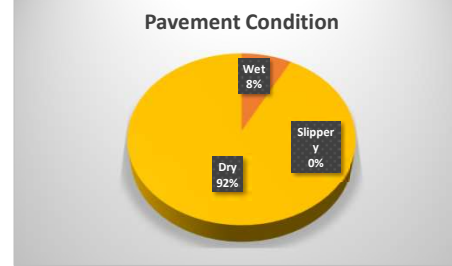
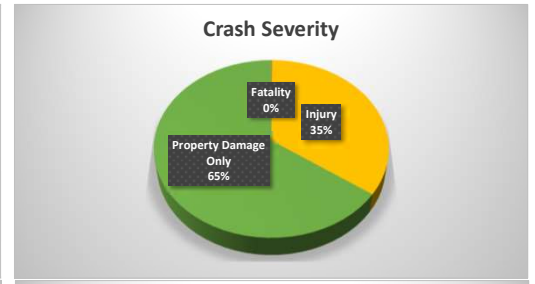
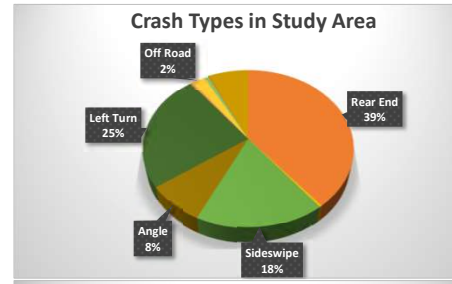
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	12	3	7	22	10	54	8%
Dry	81	94	96	187	183	641	92%
Slippery	0	0	0	0	0	0	0%
Total	93	97	103	209	193	695	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	64	70	76	133	131	474	68%
Dusk	6	5	3	9	5	28	4%
Dawn	2	1	0	5	3	11	2%
Dark	21	21	24	62	54	182	26%
Total	93	97	103	209	193	695	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	2	0	2	5	1%
Drugs	0	0	1	1	0	2	0%
Total	1	0	3	1	2	7	1%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	91	95	101	203	193	683	98%
\$501 - \$1,000	2	1	1	4	0	8	1%
\$1,001 - \$2,500	0	0	0	2	0	2	0%
\$2,501+	0	1	1	0	0	2	0%
Total	93	97	103	209	193	695	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	71	69	84	115	101	440	63%
\$5,001 - \$10,000	10	19	9	44	44	126	18%
\$10,000 - \$25,000	12	9	9	38	38	106	15%
\$25,001+	0	0	1	12	10	23	3%
Total	93	97	103	209	193	695	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
132	85256466	1/8/2016	Friday	7:45 PM	19	2016	Rear End	No Injury	0	0	\$0	\$150	Dark - Lighted	Dry	N	0	N	0
133	85378063	9/7/2016	Wednesday	9:55 PM	21	2016	Off Road	No Injury	0	0	\$1,500	\$7,500	Dark - Not Lighted	Dry	N	0	N	0
134	84883410	4/13/2015	Monday	1:55 PM	13	2015	Rear End	Serious Injury	0	1	\$0	\$4,500	Daylight	Dry	N	0	N	0
135	85352658	6/21/2016	Tuesday	4:45 PM	16	2016	Rear End	No Injury	0	0	\$0	\$4,800	Daylight	Dry	N	0	N	0
136	84873004	3/13/2015	Friday	3:59 PM	15	2015	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
137	84563395	2/5/2015	Thursday	2:40 AM	02	2015	Right Turn	No Injury	0	0	\$0	\$6,000	Dark - Not Lighted	Wet	N	0	N	0
138	85416022	11/12/2016	Saturday	7:04 PM	19	2016	Right Turn	No Injury	0	0	\$0	\$1,500	Dusk	Dry	N	0	N	0
139	85442824	12/28/2016	Wednesday	8:48 PM	20	2016	Rear End	Injury	0	4	\$1,000	\$19,000	Dark - Not Lighted	Dry	Y	1	N	0
140	85389222	9/17/2016	Saturday	8:04 PM	20	2016	Rear End	Injury	0	2	\$0	\$8,000	Dark - Lighted	Dry	N	0	N	0
141	85231233	12/13/2015	Sunday	5:21 PM	17	2015	Left Turn	Injury	0	4	\$0	\$20,000	Dusk	Dry	N	0	N	0
142	85396539	10/6/2016	Thursday	7:55 AM	07	2016	Other	No Injury	0	0	\$0	\$2,700	Daylight	Wet	N	0	N	0
143	85256505	1/28/2016	Thursday	5:35 PM	17	2016	Sideswipe	No Injury	0	0	\$0	\$1,400	Dusk	Wet	N	0	N	0
144	85400054	10/3/2016	Monday	5:00 PM	17	2016	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
145	85417968	11/22/2016	Tuesday	11:24 PM	23	2016	Sideswipe	No Injury	0	0	\$0	\$15,000	Dark - Lighted	Dry	N	0	N	0
146	85396614	9/30/2016	Friday	12:36 PM	12	2016	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
147	85408511	10/19/2016	Wednesday	5:00 PM	17	2016	Rear End	Injury	0	2	\$0	\$4,300	Daylight	Dry	N	0	N	0
148	85407002	10/9/2016	Sunday	6:44 PM	18	2016	Left Turn	No Injury	0	0	\$0	\$3,000	Dawn	Dry	N	0	N	0
149	87202026	4/16/2018	Monday	6:00 PM	18	2018	Rear End	Injury	0	1	\$0	\$700	Daylight	Dry	N	0	N	0
150	87202031	4/23/2018	Monday	5:40 PM	17	2018	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
151	85165879	7/25/2018	Wednesday	2:03 PM	14	2018	Rear End	No Injury	0	0	\$0	\$2,600	Daylight	Dry	N	0	N	0
152	88132485	7/26/2019	Friday	12:53 PM	12	2019	Other	No Injury	0	0	\$0	\$110	Daylight	Dry	N	0	N	0
153	88169344	7/12/2019	Friday	12:09 PM	12	2019	Rear End	Injury	0	2	\$0	\$4,000	Daylight	Dry	N	0	N	0
154	85552658	6/27/2017	Tuesday	5:32 PM	17	2017	Left Turn	Injury	0	1	\$0	\$6,000	Daylight	Wet	N	0	N	0
155	87278717	9/13/2018	Thursday	10:00 PM	22	2018	Sideswipe	Serious Injury	0	1	\$0	\$1,000	Dark - Lighted	Wet	N	0	N	0
156	84882132	4/14/2015	Tuesday	5:52 PM	17	2015	Rear End	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0

Sand Lake Road and Presidents Drive

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	17	11	22	18	15	83	53%
Head On	0	0	0	0	0	0	0%
Sideswipe	4	5	2	1	4	16	10%
Rollover	0	0	0	0	0	0	0%
Angle	1	2	1	2	2	8	5%
Left Turn	5	1	11	0	7	24	15%
Right Turn	2	1	1	2	0	6	4%
Off Road	0	2	0	1	0	3	2%
Pedestrian & Bicycle	0	0	1	0	1	2	1%
Animal	0	0	0	0	0	0	0%
Other	4	2	2	1	5	14	9%
Total	33	24	40	25	34	156	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	8	4	13	8	11	44	28%
Property Damage Only	25	20	27	17	23	112	72%
Total	33	24	40	25	34	156	100%

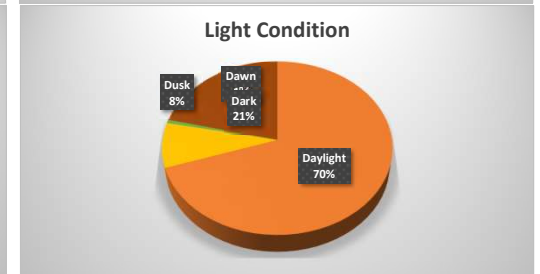
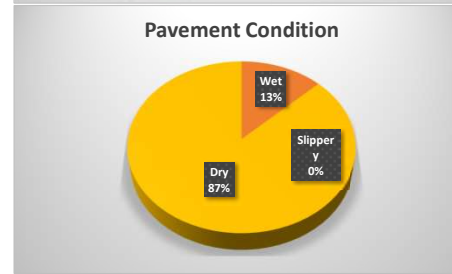
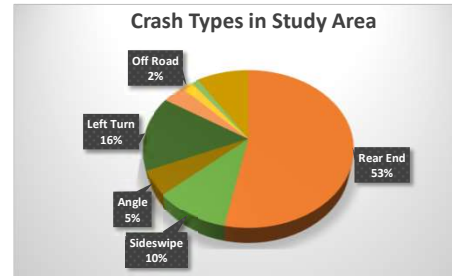
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	5	2	8	1	4	20	13%
Dry	28	22	32	24	30	136	87%
Slippery	0	0	0	0	0	0	0%
Total	33	24	40	25	34	156	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	23	12	28	18	28	109	70%
Dusk	2	4	2	3	2	13	8%
Dawn	0	1	0	0	0	1	1%
Dark	8	7	10	4	4	33	21%
Total	33	24	40	25	34	156	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	1	0	0	1	2	1%
Drugs	0	0	0	0	0	0	0%
Total	0	1	0	0	1	2	1%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	32	22	40	25	34	153	98%
\$501 - \$1,000	0	1	0	0	0	1	1%
\$1,001 - \$2,500	0	1	0	0	0	1	1%
\$2,501+	1	0	0	0	0	1	1%
Total	33	24	40	25	34	156	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	17	18	29	15	25	104	67%
\$5,001 - \$10,000	12	3	8	6	5	34	22%
\$10,000 - \$25,000	4	2	3	3	4	16	10%
\$25,001+	0	1	0	1	0	2	1%
Total	33	24	40	25	34	156	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
66	88253061	12/19/2019	Thursday	6:40 PM	18	2019	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
67	88021818	11/2/2018	Friday	3:27 AM	03	2018	Rear End	Injury	0	1	\$0	\$4,000	Dark - Not Lighted	Dry	N	0	N	0

Sand Lake Road from John Young Parkway to Presidents Drive

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	2	10	11	12	5	40	60%
Head On	0	0	0	0	0	0	0%
Sideswipe	0	3	3	1	3	10	15%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	1	1	1%
Left Turn	0	0	0	0	4	4	6%
Right Turn	0	0	1	1	1	3	4%
Off Road	1	2	0	0	0	3	4%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	2	1	2	0	1	6	9%
Total	5	16	17	14	15	67	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	0	3	6	3	2	14	21%
Property Damage Only	5	13	11	11	13	53	79%
Total	5	16	17	14	15	67	100%

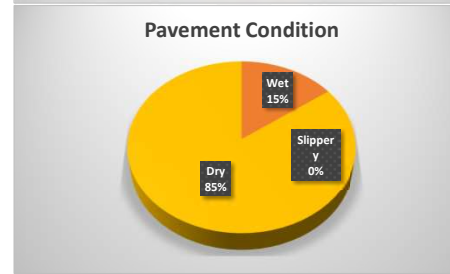
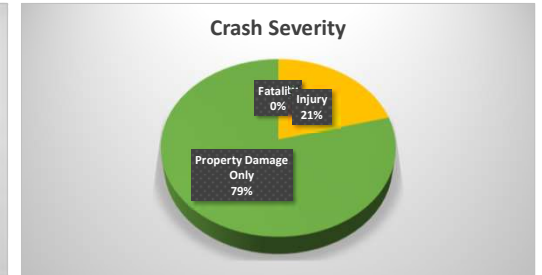
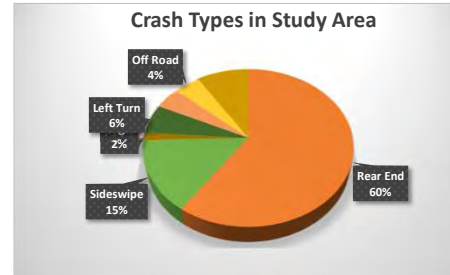
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	2	4	2	1	10	15%
Dry	4	14	13	12	14	57	85%
Slippery	0	0	0	0	0	0	0%
Total	5	16	17	14	15	67	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	12	13	10	13	52	78%
Dusk	0	0	0	1	0	1	1%
Dawn	0	0	0	0	0	0	0%
Dark	1	4	4	3	2	14	21%
Total	5	16	17	14	15	67	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

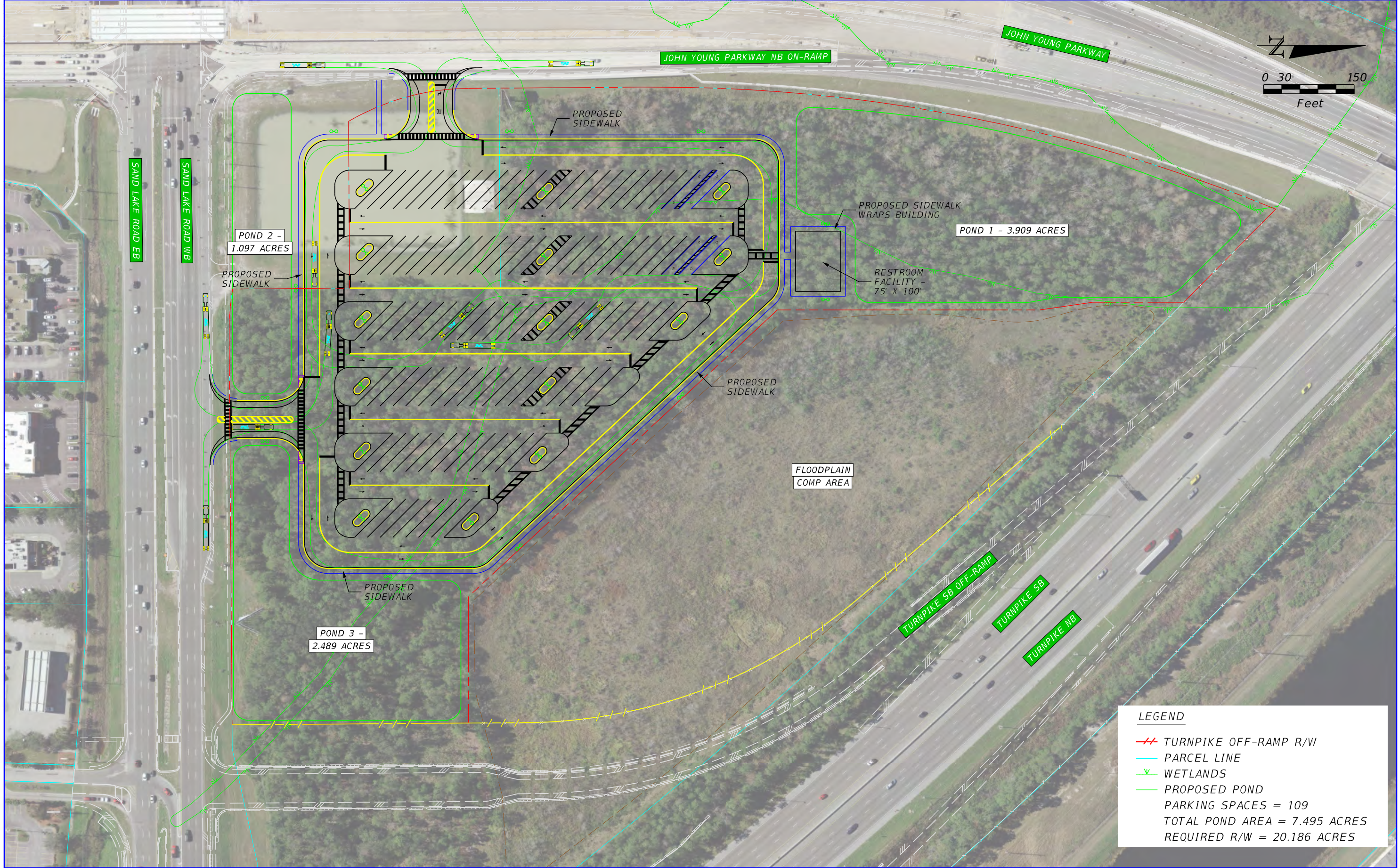
Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	5	15	17	14	15	66	99%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	1	0	0	0	1	1%
Total	5	16	17	14	15	67	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	4	12	12	13	13	54	81%
\$5,001 - \$10,000	1	1	4	0	1	7	10%
\$10,000 - \$25,000	0	3	1	1	1	6	9%
\$25,001+	0	0	0	0	0	0	0%
Total	5	16	17	14	15	67	100%



Appendix C-4

Orange County Site 1 – Future Volume Development



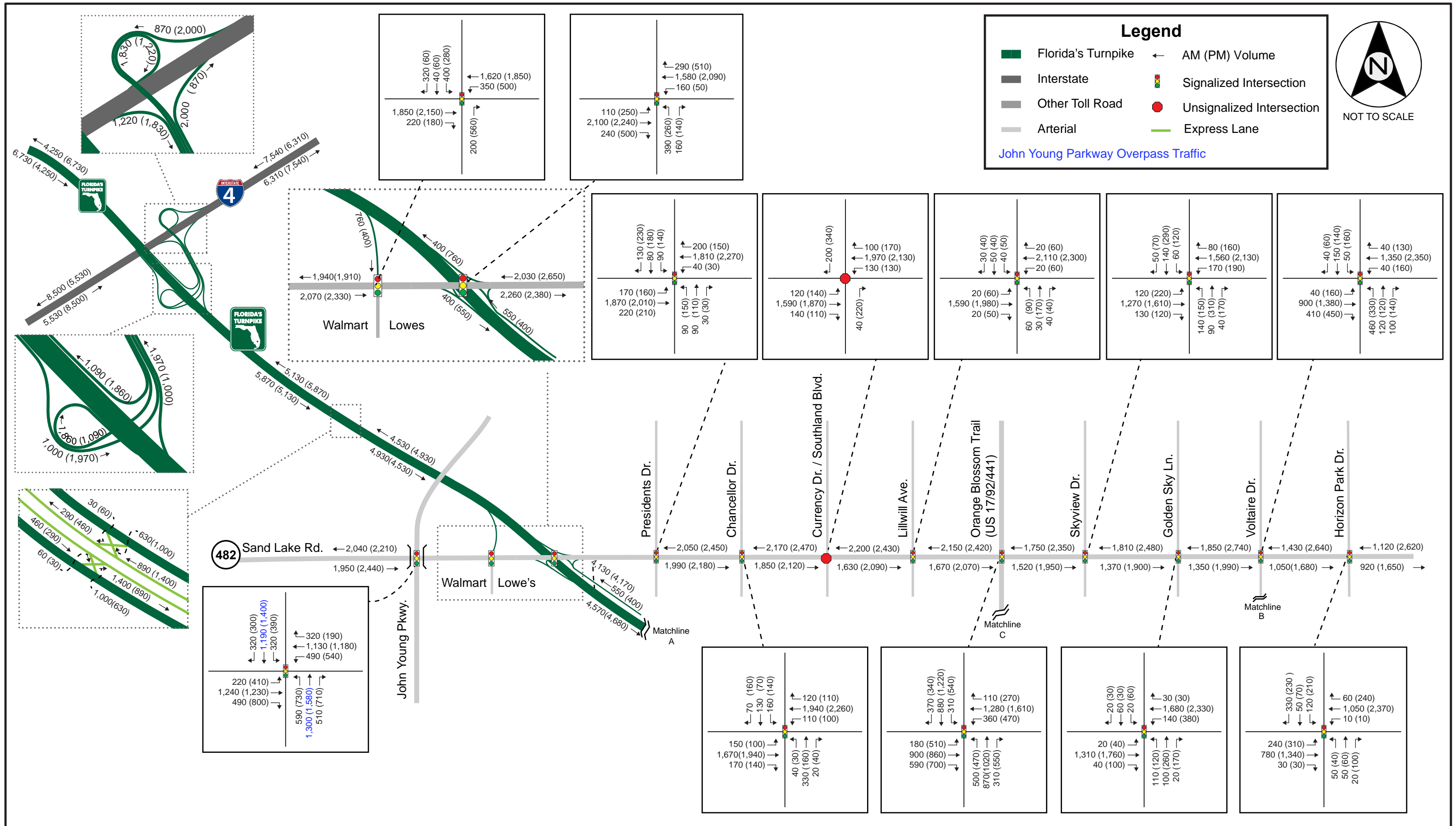
REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION

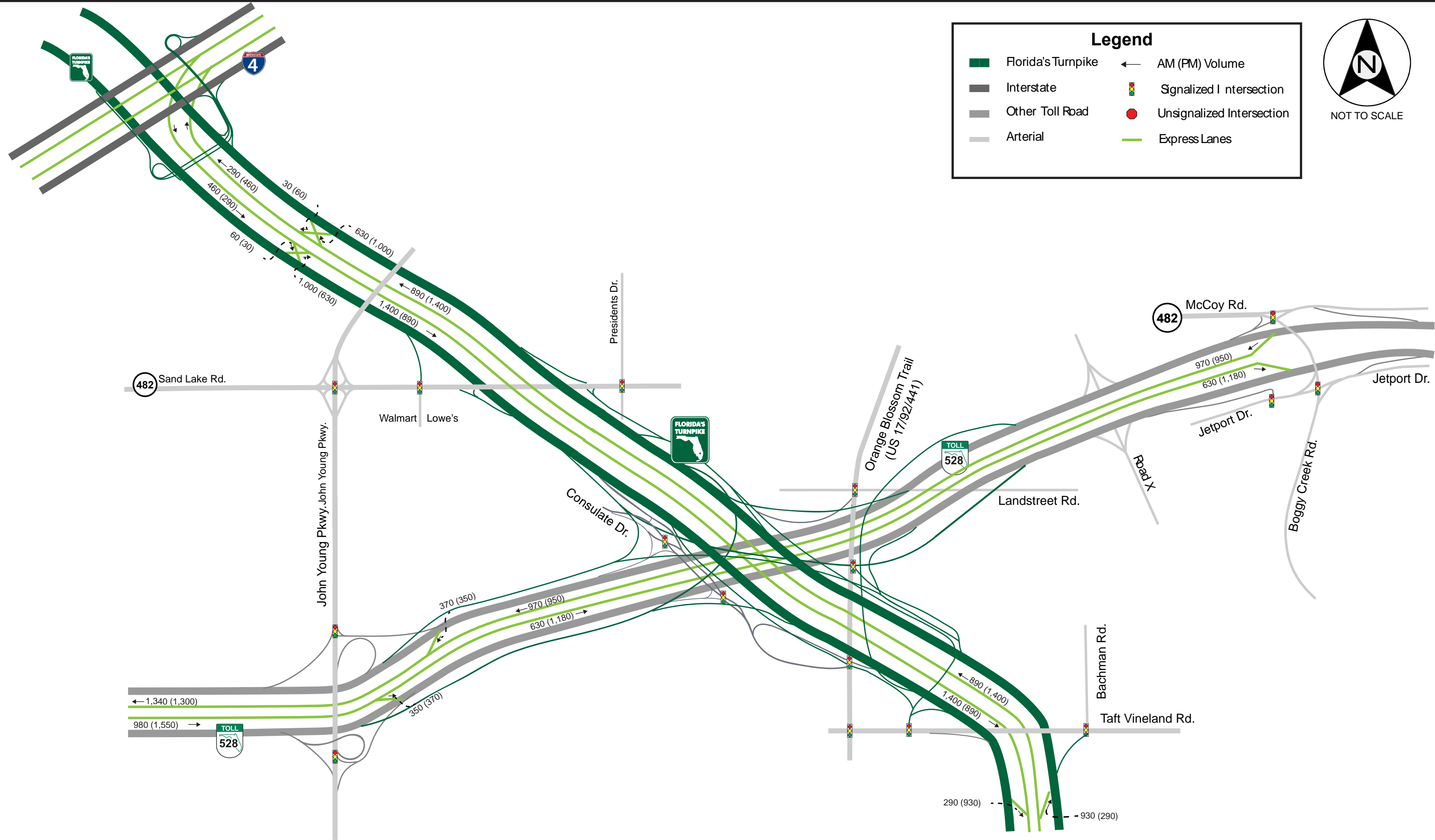
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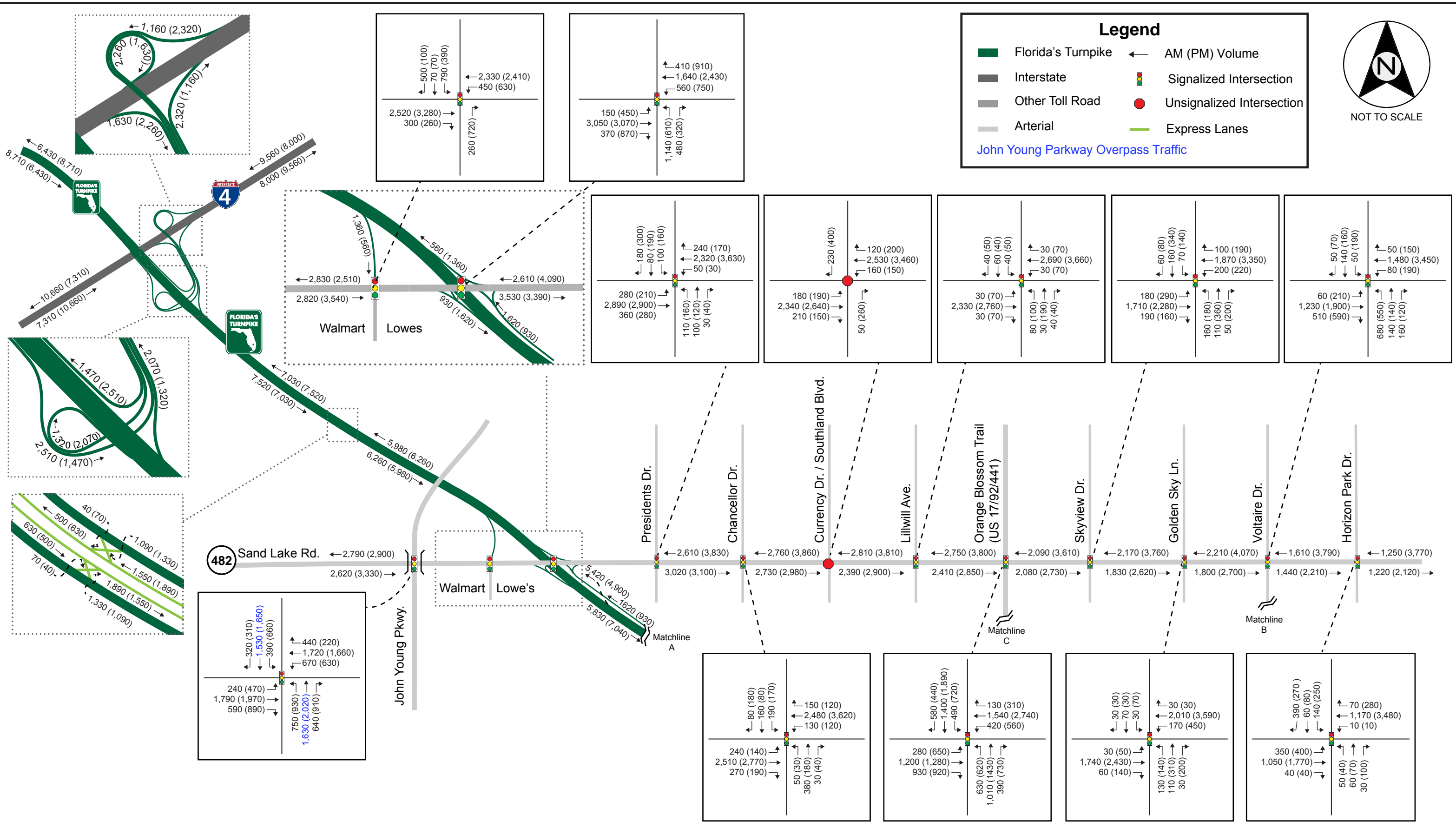
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 482	ORANGE	447724-1

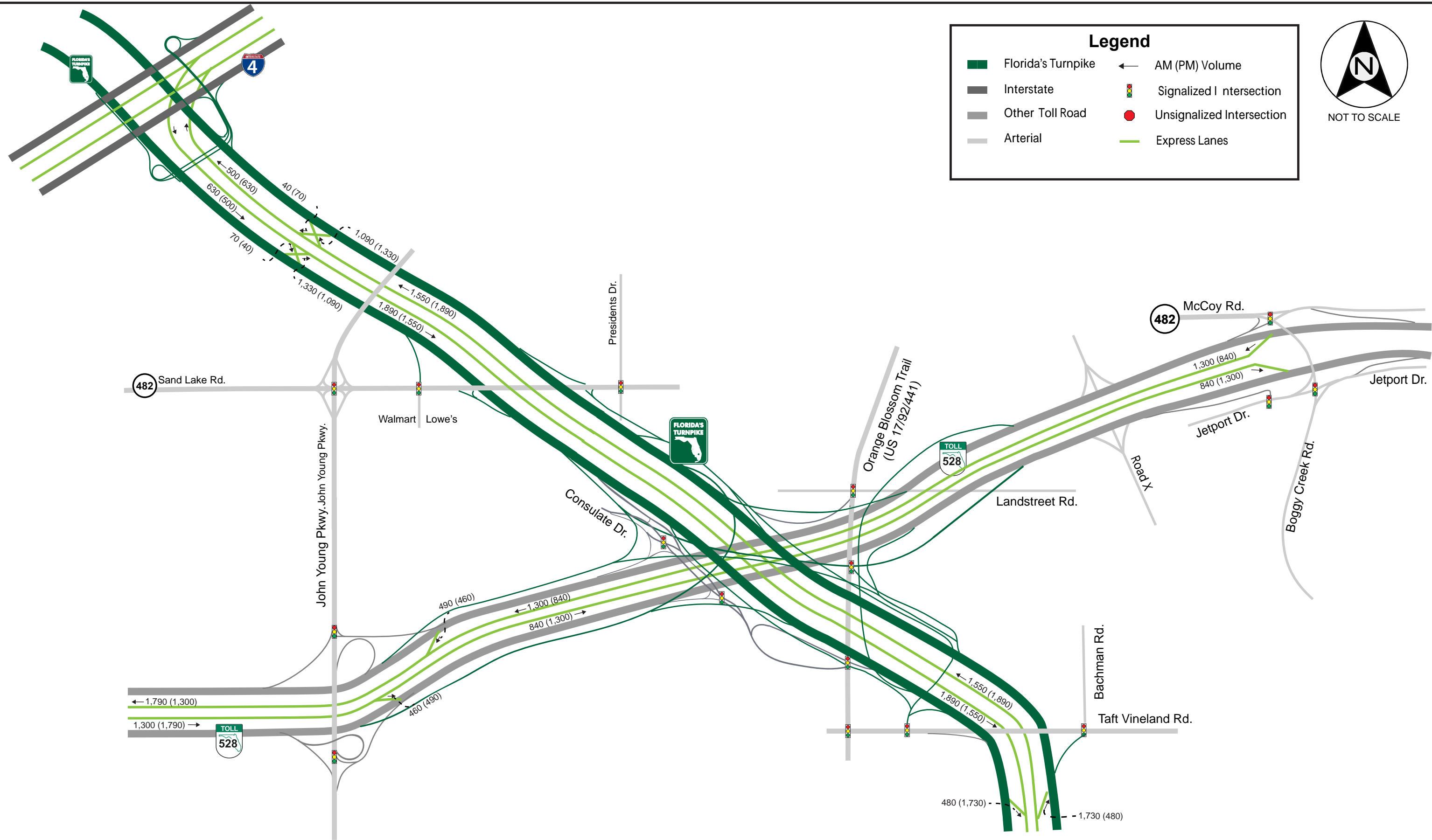
<p>ORANGE COUNTY SITE 1</p> <p>TRUCK PARKING CONCEPT</p>
--

SHEET NO.
1









The build alternatives are described in this section as well as future traffic operational analysis and safety assessment.

6.1 ANALYSIS ALTERNATIVES

Several Transportation System Management and Operations (TSM&O) measures have been implemented within the study area. These TSM&O considerations included the following: the installation of a new traffic signal along US 17/92/441 at the Turnpike ramps merge and signal timing optimization at the Turnpike southbound off-ramp terminal intersection with Consulate Drive. Adaptive signal control is also being considered at the Consulate Drive intersection as well as lane geometry modifications, to be implemented as part of the implementation of the EL project from Orlando South to I-4 and direct connect ramps to/from I-4 (FPN: 437166-2 and 437987-3). The Orlando South interchange resurfacing project (FPN: 437156-2), will also include widening of SR 528 westbound to Turnpike off-ramp single lane section to two lanes, downstream of the US 17/92/441 southbound on-ramp.

These TSM&O improvements and other similar future changes are not expected to satisfy the need for direct access ramps between the Florida's Turnpike and SR 528, improve access to the surface streets, and alleviate traffic congestion within the interchange. Therefore, this PD&E study and the SIJR did not consider a standalone TSM&O alternative. However, planned and programmed improvements within the study area were considered in developing the traffic and interchange concepts. The viable build alternatives considered improvements included in the No-Build alternative (see **Chapter 5.1.3**) and additional improvements were made to enhance safety, address traffic needs, improve travel time reliability and provide long-term mobility for the Orlando South interchange.

A Draft Preliminary Engineering Report (PER) was prepared for the Orlando South PD&E study. Build alternatives development and selection of the Preferred Build alternative are discussed in detail in the PER. A summary of the Build alternatives is provided in this SIJR. The concepts for the alternatives are provided in **Appendix F**.

6.1.1 Alternative 1

Alternative 1 was a reconfiguration of the Orlando South interchange only, to address the need for system-to-system connections. It included the following improvements:

- Directional GTL systems ramps
- Directional north/east EL ramps
- Realignment of SR 528 to provide longer spans for a ten-lane Florida's Turnpike typical section
- Maintaining the Landstreet Road ramps connected to SR 528
- Maintaining Consulate Drive entry/exit ramps connected to SR 528 and the southbound exit from Florida's Turnpike with a Diverging Diamond Interchange (DDI)
- Modifications to the remaining US 17/92/441 ramps to preclude weaving
- A new southbound entry ramp to Florida's Turnpike southbound via Consulate Drive

- A new more direct entry to Florida's Turnpike northbound from US 17/92/441 southbound
- A new southbound Florida's Turnpike to northbound US 17/92/441 flyover to provide a higher speed ramp
- Use of the southbound Florida's Turnpike exit to Consulate Drive for access to US 17/92/441 southbound
- Ramp braiding between CR 423 and Consulate Drive to preclude adverse weaving

6.1.2 Alternative 2

Alternative 2 Options 1 and 2 included the improvements in Alternative 1, plus two new interchanges for surface street access away from the Orlando South interchange. The two options differed in the configuration of the reliever interchanges.

Other common changes for both options included:

- The removal of Landstreet Road ramps connecting to SR 528
- The removal of US 17/92/441 ramps to/from south at the Orlando South interchange
- Northbound US 17/92/441 to northbound/southbound Florida's Turnpike
- Northbound Florida's Turnpike to southbound US 17/92/441

A description of each reliever interchange option follows.

Florida's Turnpike Reliever Interchange

The interchange at Taft Vineland Road includes:

- Trumpet style interchange in the northwest quadrant of the Florida's Turnpike
- Modification of the proposed Taft Vineland Road median to accommodate dual left-turn eastbound lanes
- A diamond ramp (eastbound to southbound) in the southeast quadrant

Two options for the northbound exit ramp were carried forward:

Alternative 2 Option 1

This option includes a northbound exit, directly connected to Taft Vineland Road and Bachman Road, east of the Florida's Turnpike.

Alternative 2 Option 2

This option includes a northbound exit to Rocket Boulevard with arterial connections to Taft Vineland Road. This option requires termination of Rocket Boulevard where the alignment changes from north-south to east-west for limited access limits. Impacts and mitigation for these impacts include:

- A new connector road linking Rocket Boulevard to General Drive.
- An additional northbound lane on General Drive (Rocket Boulevard to Taft Vineland Road) to accommodate added traffic from the exit.

- An additional westbound lane on Taft Vineland Road (General Drive to Bachman Road) beyond the limits of Orange County's widening to accommodate added traffic from the exit.

SR 528 Reliever Interchange

Both concepts (Build Alternative 2 Options 1 and 2) include a new four-lane divided arterial facility, connecting SR 528 with SR 482 to the north and Landstreet Road to the south. Two options were developed for the north leg of this reliever interchange. The difference in the concepts are alignment and the resulting interchange type. These options were incorporated into Build Alternative 2 Options 1 and 2, and are described as follows:

Alternative 2 Option 1

The north arterial leg includes using the existing Horizon Park Drive alignment and widening to a four-lane divided arterial facility. When combined with the south leg, this arterial results in a *split interchange*.

Alternative 2 Option 2

The north arterial leg is an extension of the southern alignment along the east side of the Terrace at Florida Mall. The intersection with SR 482 includes a realignment of Voltaire Drive north of SR 482 to form the fourth leg of this intersection. This option includes a SPUI at SR 528.

6.1.3 Alternative 3

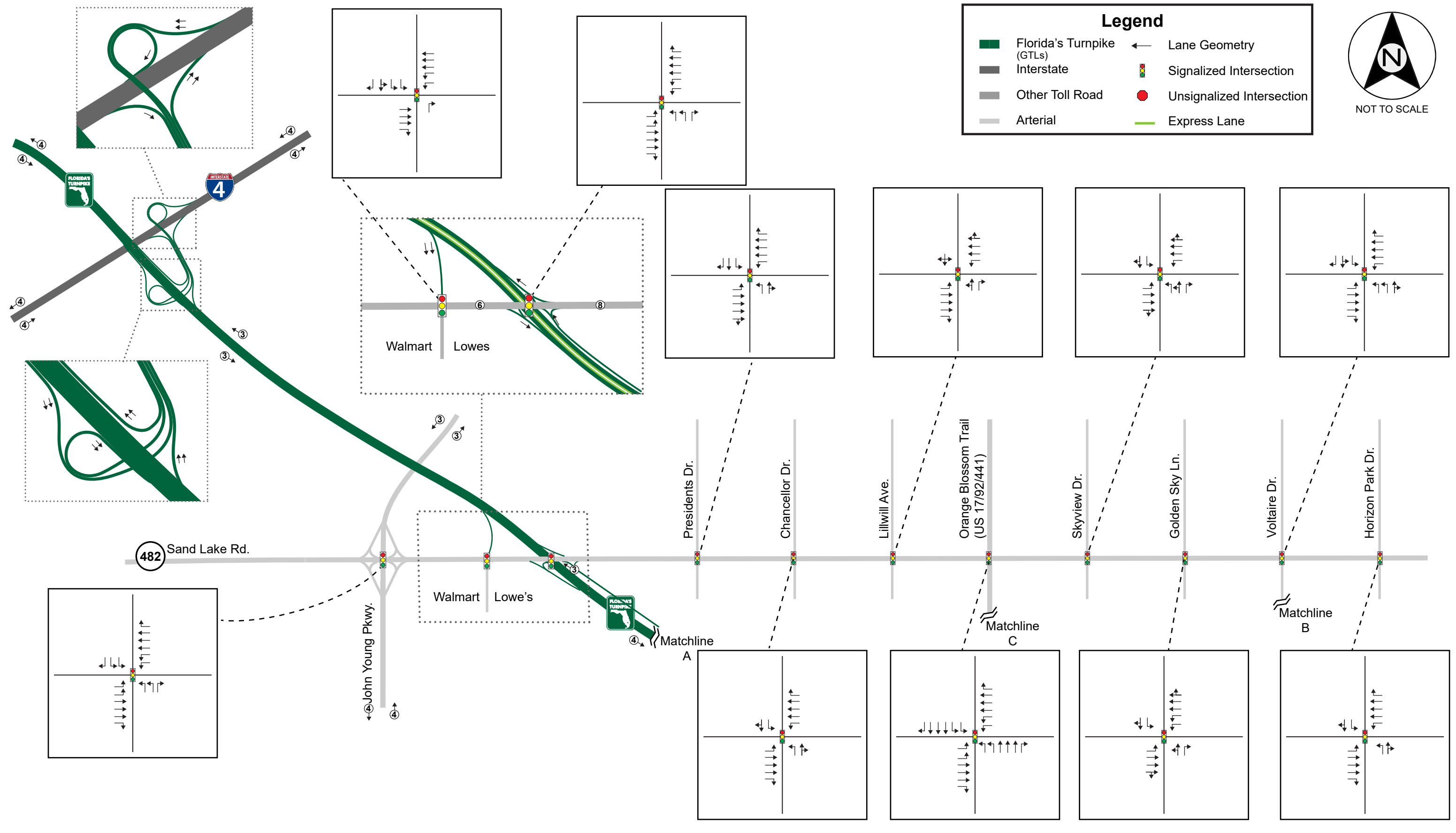
Alternative 3 was developed following a Public Information Meeting (PIM) for the project and internal coordination. The following refinements were made to Alternative 2 based on comments received at the PIM, to minimize right-of-way impacts, reduce cost and improve constructability:

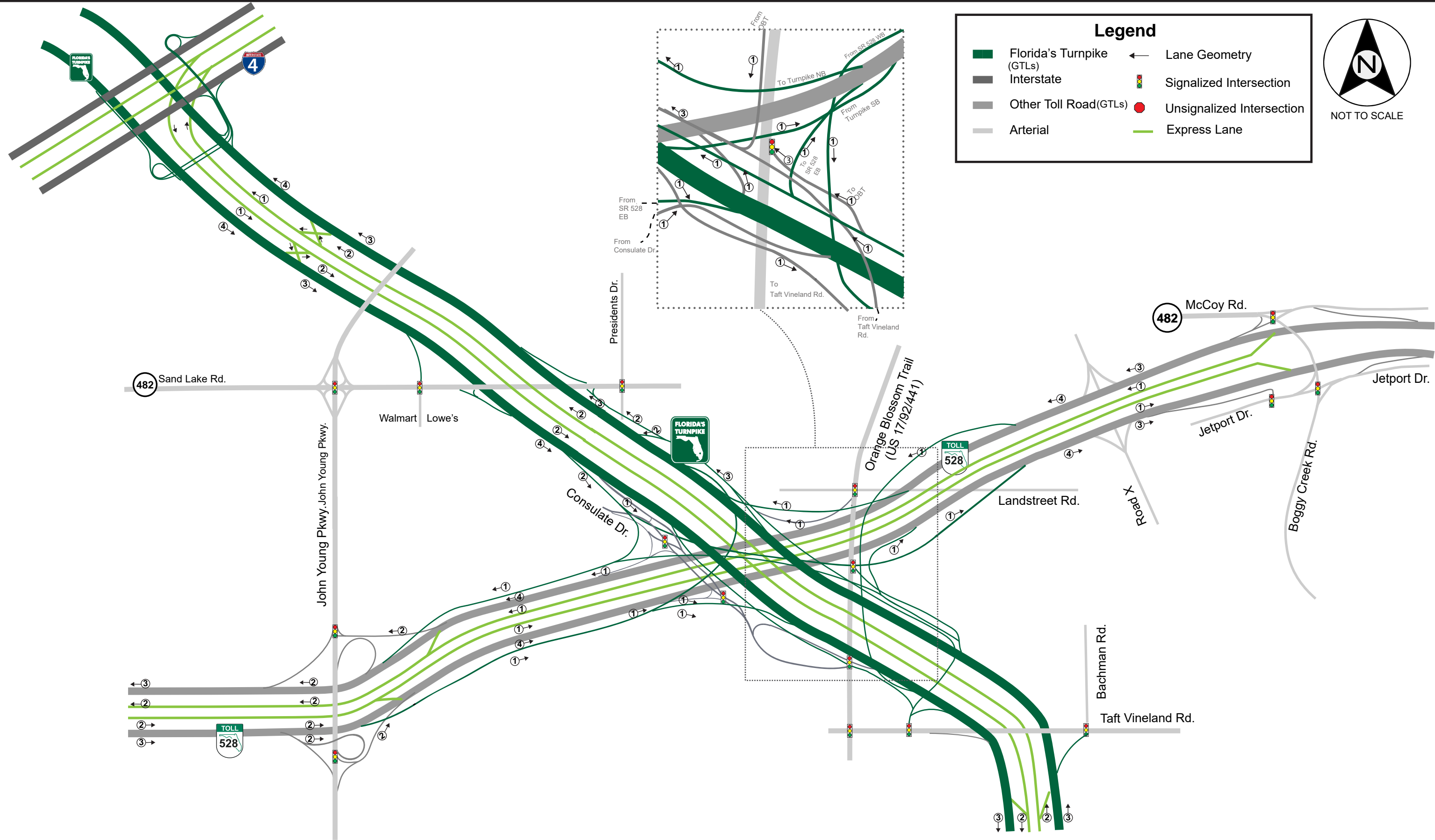
- Removal of EL direct connect ramps to/from the north of Florida's Turnpike to/from the east of SR 528.
- Removal of southbound Florida's Turnpike to northbound US 17/92/441 ramp and reassign traffic to the Consulate Drive exit. To accommodate the additional traffic at the Consulate Drive and US 17/92/441 intersection, the following improvements were made:
 - A third lane was added to the eastbound Consulate Drive to northbound US 17/92/441 movement by reallocating the median width of Consulate Drive
 - A northbound US 17/92/441 turbo configuration (delineator separated receiving lanes from the Consulate Drive triple lefts) for the intersection was added to further improve the efficiency of the intersection.
 - The triple left-turn from westbound Consulate Drive plus two northbound US 17/92/441 through lanes tapers to four lanes that are carried to Landstreet Road. The outer lane is a drop right lane at Landstreet Road and US 17/92/441 intersection with three through lanes carried north of the intersection.
- Northbound Florida's Turnpike C-D road to minimize the potential impacts of queuing on the Florida's Turnpike and minimize lane changes

- A Tight-Urban Diamond Interchange (TUDI) for the SR 528 reliever interchange
- A revised alignment of Voltaire Drive
- Relocated trumpet ramp intersection at the Florida's Turnpike reliever interchange and elimination of "free-flow" movement for westbound right turn
- Taft Vineland Road modifications east of the Florida's Turnpike:
 - Realignment of the northbound Florida's Turnpike exit ramp to include a northbound through movement on Bachman Road. Also, exclusive southbound left and right turn lanes were included.
 - The two eastbound Taft Vineland Road through lanes will transition to a left turn and through lane at Bachman Road. This approach is subject to further coordination with Orange County.
 - An extended second westbound Taft Vineland Road through lane between Bachman Road and General Drive within the existing right-of-way

With these refinements, Alternative 3 was selected as the Preferred Build concept because it reduced wetland and right-of-way impacts, reduced costs and improved constructability. Documentation of the selection criteria is provided in the PER.

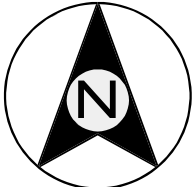
This SIJR only documents traffic and safety analysis for the No-Build and the Preferred Build (also referred to as Build herein) alternatives. The results are provided for the 2025 opening and 2045 design years. The No-Build and Preferred Build Alternative 3 lane configurations are comprehensively depicted on **Figures 6.1** and **6.2**, respectively.





Legend

- Florida's Turnpike (GTLs)
- Interstate
- Other Toll Road(GTLs)
- Arterial
- Lane Geometry
- Signalized Intersection
- Unsignalized Intersection
- Express Lane



NOT TO SCALE

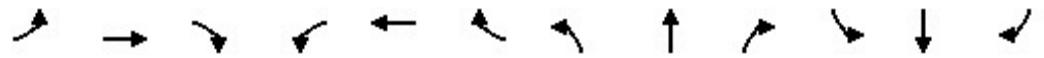


Appendix C-5

Orange County Site 1 – Future Synchro Outputs

Queues

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	1240	490	490	1130	320	590	0	510	320	0	320
Future Volume (vph)	220	1240	490	490	1130	320	590	0	510	320	0	320
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Satd. Flow (RTOR)			510			333			102			102
Lane Group Flow (vph)	229	1292	510	510	1177	333	615	0	531	333	0	333
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1
Permitted Phases			Free			Free			7			3
Total Split (s)	33.0	73.0		52.0	92.0		55.0		52.0	55.0		33.0
Total Lost Time (s)	10.8	9.0		10.8	9.0		10.0		10.8	10.0		10.8
Act Effct Green (s)	15.8	72.8	180.0	41.2	98.2	180.0	36.2		87.4	36.2		62.0
Actuated g/C Ratio	0.09	0.40	1.00	0.23	0.55	1.00	0.20		0.49	0.20		0.34
v/c Ratio	0.79	0.65	0.33	0.67	0.44	0.22	0.90		0.65	0.49		0.55
Control Delay	99.0	45.8	0.6	79.3	33.6	0.3	86.8		31.1	65.5		34.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	99.0	45.8	0.6	79.3	33.6	0.3	86.8		31.1	65.5		34.6
LOS	F	D	A	E	C	A	F		C	E		C
Approach Delay		40.5			39.6			61.0			50.0	
Approach LOS		D			D			E			D	
Queue Length 50th (ft)	139	450	0	304	395	0	370		383	181		223
Queue Length 95th (ft)	185	539	0	372	367	0	424		481	223		296
Internal Link Dist (ft)		2910			1167			2992			153	
Turn Bay Length (ft)	750		750	550		550			600			600
Base Capacity (vph)	411	1997	1538	763	2695	1538	850		814	850		659
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.56	0.65	0.33	0.67	0.44	0.22	0.72		0.65	0.39		0.51

Intersection Summary

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 167 (93%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 45.3

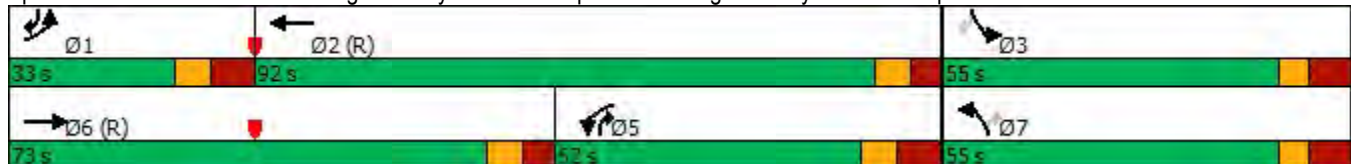
Intersection LOS: D

Intersection Capacity Utilization 84.5%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Queues

2025 No Build AM

3: Presidents Dr & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1870	220	40	1810	200	90	90	30	90	80	130
Future Volume (vph)	170	1870	220	40	1810	200	90	90	30	90	80	130
Satd. Flow (prot)	1719	6125	0	1719	4940	1538	1480	1562	0	1517	1638	1252
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6125	0	1719	4940	1538	1480	1562	0	1517	1638	1252
Satd. Flow (RTOR)		25				176		8				170
Lane Group Flow (vph)	179	2200	0	42	1905	211	95	127	0	95	84	137
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	
Permitted Phases						2						8
Total Split (s)	35.0	105.8		18.2	89.0	89.0	29.1	29.0		27.0	26.9	26.9
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	7.9
Act Effct Green (s)	21.5	113.4		7.7	96.9	96.9	14.8	16.5		14.3	15.7	15.7
Actuated g/C Ratio	0.12	0.63		0.04	0.54	0.54	0.08	0.09		0.08	0.09	0.09
v/c Ratio	0.87	0.57		0.58	0.72	0.23	0.78	0.85		0.79	0.59	0.52
Control Delay	134.5	3.7		112.9	35.2	6.2	118.2	116.1		121.2	95.0	10.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	134.5	3.7		112.9	35.2	6.2	118.2	116.1		121.2	95.0	10.8
LOS	F	A		F	D	A	F	F		F	F	B
Approach Delay		13.5			33.9			117.0			66.4	
Approach LOS		B			C			F			E	
Queue Length 50th (ft)	202	36		50	622	20	112	141		112	97	0
Queue Length 95th (ft)	m282	143		97	786	77	177	218		179	160	34
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	255	3869		96	2659	909	172	190		160	173	285
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.70	0.57		0.44	0.72	0.23	0.55	0.67		0.59	0.49	0.48

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 12 (7%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 30.0 Intersection LOS: C
 Intersection Capacity Utilization 75.1% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Queues

2025 No Build AM

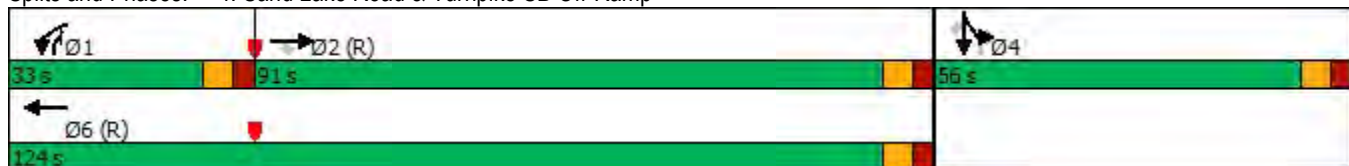
4: Sand Lake Road & Turnpike SB Off-Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	1850	220	350	1620	0	0	0	200	400	40	320
Future Volume (vph)	0	1850	220	350	1620	0	0	0	200	400	40	320
Satd. Flow (prot)	0	4940	1538	3335	4940	0	0	0	1522	3042	1545	1495
Flt Permitted				0.950						0.950	0.965	
Satd. Flow (perm)	0	4940	1538	3335	4940	0	0	0	1522	3042	1545	1495
Satd. Flow (RTOR)			134						24			67
Lane Group Flow (vph)	0	1947	232	368	1705	0	0	0	211	307	156	337
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4	4	
Permitted Phases			2						4			4
Total Split (s)		91.0	91.0	33.0	124.0				33.0	56.0	56.0	56.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Act Effct Green (s)		95.0	95.0	23.8	125.7				71.0	40.3	40.3	40.3
Actuated g/C Ratio		0.53	0.53	0.13	0.70				0.39	0.22	0.22	0.22
v/c Ratio		0.75	0.27	0.84	0.49				0.34	0.45	0.45	0.87
Control Delay		19.7	3.1	81.5	15.3				33.6	61.4	63.1	75.8
Queue Delay		0.0	0.0	0.0	0.1				0.0	0.0	0.0	0.0
Total Delay		19.7	3.1	81.5	15.5				33.6	61.4	63.1	75.8
LOS		B	A	F	B				C	E	E	E
Approach Delay		17.9			27.2			33.6			67.8	
Approach LOS		B			C			C			E	
Queue Length 50th (ft)		382	21	223	483				150	172	174	317
Queue Length 95th (ft)		406	61	287	363				205	214	248	431
Internal Link Dist (ft)		1167			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2606	874	481	3451				633	828	420	455
Starvation Cap Reductn		0	0	0	653				0	0	0	0
Spillback Cap Reductn		1	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.75	0.27	0.77	0.61				0.33	0.37	0.37	0.74

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 120 (67%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 29.8 Intersection LOS: C
 Intersection Capacity Utilization 77.4% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



Queues

2025 No Build AM

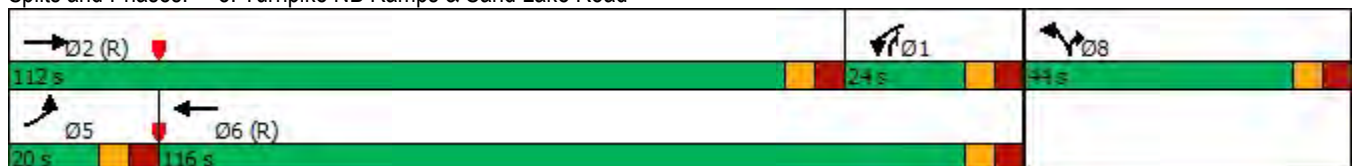
5: Turnpike NB Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	2100	240	160	1580	290	390	0	160	0	0	0
Future Volume (vph)	110	2100	240	160	1580	290	390	0	160	0	0	0
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Satd. Flow (RTOR)			176			176			79			
Lane Group Flow (vph)	116	2211	253	168	1663	305	411	0	168	0	0	0
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		
Permitted Phases			Free			Free						
Total Split (s)	20.0	112.0		24.0	116.0		44.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Act Effct Green (s)	10.8	111.8	180.0	16.0	117.0	180.0	28.2		52.2			
Actuated g/C Ratio	0.06	0.62	1.00	0.09	0.65	1.00	0.16		0.29			
v/c Ratio	0.58	0.72	0.16	0.57	0.52	0.20	0.81		0.34			
Control Delay	107.6	7.7	0.2	69.2	17.3	0.2	85.9		27.1			
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0		0.0			
Total Delay	107.6	8.3	0.2	69.2	17.3	0.2	85.9		27.1			
LOS	F	A	A	E	B	A	F		C			
Approach Delay		11.9			18.9			68.9				
Approach LOS		B			B			E				
Queue Length 50th (ft)	65	375	0	92	192	0	245		81			
Queue Length 95th (ft)	m93	326	0	m132	370	0	296		146			
Internal Link Dist (ft)		783			1933			1226			1047	
Turn Bay Length (ft)	350		350	350		350						
Base Capacity (vph)	222	3068	1538	296	3209	1538	648		551			
Starvation Cap Reductn	0	399	0	0	0	0	0		0			
Spillback Cap Reductn	0	0	0	0	0	0	0		0			
Storage Cap Reductn	0	0	0	0	0	0	0		0			
Reduced v/c Ratio	0.52	0.83	0.16	0.57	0.52	0.20	0.63		0.30			

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 160 (89%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 21.0
 Intersection LOS: C
 Intersection Capacity Utilization 72.9%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Lanes, Volumes, Timings

2025 No Build PM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	410	1230	800	540	1180	190	730	0	710	390	0	300
Future Volume (vph)	410	1230	800	540	1180	190	730	0	710	390	0	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	750		750	550		550	0		600	0		600
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			728			205			92			92
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2990			1247			3072			233	
Travel Time (s)		45.3			18.9			46.5			3.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	0%	3%	3%	0%	3%
Adj. Flow (vph)	427	1281	833	563	1229	198	760	0	740	406	0	313
Shared Lane Traffic (%)												
Lane Group Flow (vph)	427	1281	833	563	1229	198	760	0	740	406	0	313
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			50			50	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Offset: 37 (19%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay: 56.3 Intersection LOS: E

Intersection Capacity Utilization 98.7% ICU Level of Service F

Analysis Period (min) 15

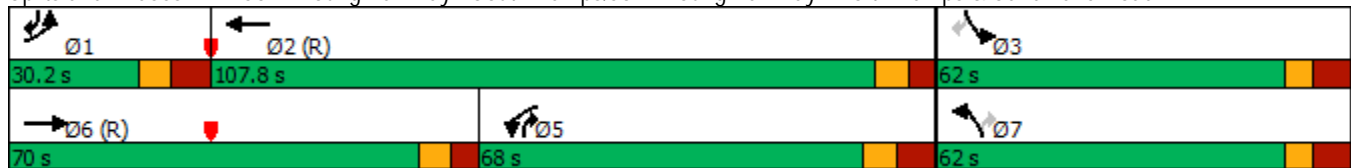
- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



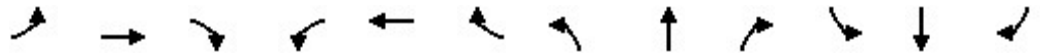
Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2025 No Build PM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	2010	210	30	2270	150	150	110	30	140	180	230
Future Volume (vph)	160	2010	210	30	2270	150	150	110	30	140	180	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.986				0.850		0.968				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6138	0	1719	4940	1538	1770	1743	0	1703	1810	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6138	0	1719	4940	1538	1770	1743	0	1703	1810	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				160		6				65
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	7%	0%	6%	5%	1%
Adj. Flow (vph)	188	2365	247	35	2671	176	176	129	35	165	212	271
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	2612	0	35	2671	176	176	164	0	165	212	271
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2025 No Build PM
08/17/2022



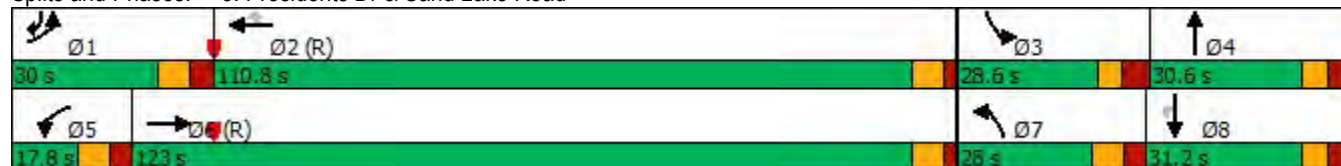
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	13.2
Total Split (s)	30.0	123.0		17.8	110.8	110.8	28.0	30.6		28.6	31.2	30.0
Total Split (%)	15.0%	61.5%		8.9%	55.4%	55.4%	14.0%	15.3%		14.3%	15.6%	15.0%
Maximum Green (s)	21.8	116.2		9.7	104.0	104.0	19.9	22.7		20.7	23.3	21.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	4.8
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	8.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	21.8	121.1		7.4	104.0	104.0	19.9	23.2		20.2	23.3	53.0
Actuated g/C Ratio	0.11	0.61		0.04	0.52	0.52	0.10	0.12		0.10	0.12	0.26
v/c Ratio	1.01	0.70		0.56	1.04	0.20	1.00	0.79		0.96	1.01	0.58
Control Delay	144.8	27.4		124.7	75.4	4.6	153.6	108.3		144.8	148.2	53.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	144.8	27.4		124.7	75.4	4.6	153.6	108.3		144.8	148.2	53.2
LOS	F	C		F	E	A	F	F		F	F	D
Approach Delay		35.3			71.7			131.7				107.6
Approach LOS		D			E			F				F
Queue Length 50th (ft)	~262	443		46	~1383	10	236	207		220	~286	240
Queue Length 95th (ft)	#404	454		87	#1242	45	#384	#302		#351	#440	321
Internal Link Dist (ft)		1933			754			965				903
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	187	3724		83	2568	876	176	207		176	210	471
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.01	0.70		0.42	1.04	0.20	1.00	0.79		0.94	1.01	0.58

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 154 (77%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 62.9 Intersection LOS: E
 Intersection Capacity Utilization 96.2% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.













Queue shown is maximum after two cycles.

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2025 No Build PM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	2150	180	500	1850	0	0	0	560	280	60	60
Future Volume (vph)	0	2150	180	500	1850	0	0	0	560	280	60	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.976	
Satd. Flow (prot)	0	4940	1538	3335	4940	0	0	0	1522	3042	1563	1495
Flt Permitted				0.950						0.950	0.976	
Satd. Flow (perm)	0	4940	1538	3335	4940	0	0	0	1522	3042	1563	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			91						22			60
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1247			863			507				1013
Travel Time (s)		18.9			13.1			11.5				23.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	0%	0%	8%	8%	8%	8%
Adj. Flow (vph)	0	2263	189	526	1947	0	0	0	589	295	63	63
Shared Lane Traffic (%)										20%		
Lane Group Flow (vph)	0	2263	189	526	1947	0	0	0	589	236	122	63
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4		4

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2025 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		108.0	108.0	65.0	173.0				65.0	27.0	27.0	27.0
Total Split (%)		54.0%	54.0%	32.5%	86.5%				32.5%	13.5%	13.5%	13.5%
Maximum Green (s)		101.0	101.0	58.0	166.0				58.0	20.0	20.0	20.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead				Lead				
Lead-Lag Optimize?		Yes	Yes	Yes				Yes				
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		103.0	103.0	57.1	167.1				83.0	18.9	18.9	18.9
Actuated g/C Ratio		0.52	0.52	0.29	0.84				0.42	0.09	0.09	0.09
v/c Ratio		0.89	0.23	0.55	0.47				0.91	0.82	0.83	0.32
Control Delay		32.9	9.0	58.0	7.5				72.4	111.1	127.0	22.8
Queue Delay		0.0	0.0	0.0	0.2				0.0	0.0	0.0	0.0
Total Delay		32.9	9.0	58.0	7.7				72.4	111.1	127.0	22.8
LOS		C	A	E	A				E	F	F	C
Approach Delay		31.0			18.4			72.4			102.5	
Approach LOS		C			B			E			F	
Queue Length 50th (ft)		643	22	332	295				699	169	175	4
Queue Length 95th (ft)		779	m65	393	312				#942	#234	#302	57
Internal Link Dist (ft)		1167			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2543	835	967	4127				651	304	156	203
Starvation Cap Reductn		0	0	0	1039				0	0	0	0
Spillback Cap Reductn		0	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.89	0.23	0.54	0.63				0.90	0.78	0.78	0.31

Intersection Summary
 Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 163 (82%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 35.0 Intersection LOS: C
 Intersection Capacity Utilization 102.0% ICU Level of Service G
 Analysis Period (min) 15

Lanes, Volumes, Timings
 4: Sand Lake Road & Turnpike SB Off-Ramp

2025 No Build PM
 08/17/2022

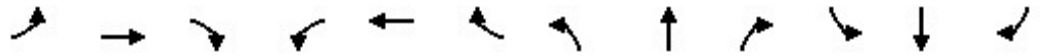
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp

↖ Ø1 65 s	→ Ø2 (R) 108 s	↖ Ø4 27 s
← Ø6 (R) 173 s		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2025 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑↑	↔	↔↔	↑↑↑	↔	↔↔		↔			
Traffic Volume (vph)	250	2240	500	50	2090	510	260	0	140	0	0	0
Future Volume (vph)	250	2240	500	50	2090	510	260	0	140	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		350	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			164			180			71			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		863			2013			1306				1127
Travel Time (s)		13.1			30.5			29.7				25.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	0%	0%	0%
Adj. Flow (vph)	263	2358	526	53	2200	537	274	0	147	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	263	2358	526	53	2200	537	274	0	147	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
 5: Turnpike NB Ramps & Sand Lake Road

2025 No Build PM
 08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free			Free								
Detector Phase	5	2	1		6	8		8 1				
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0		5.0	5.0						
Minimum Split (s)	13.0	26.0	13.0		26.0	26.0						
Total Split (s)	35.0	147.0	17.0		129.0	36.0						
Total Split (%)	17.5%	73.5%	8.5%		64.5%	18.0%						
Maximum Green (s)	27.0	139.0	9.0		121.0	28.0						
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0						
All-Red Time (s)	4.0	4.0	4.0		4.0	4.0						
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0						
Total Lost Time (s)	8.0	8.0	8.0		8.0	8.0						
Lead/Lag	Lead	Lead	Lag		Lag							
Lead-Lag Optimize?	Yes	Yes	Yes		Yes							
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0						
Recall Mode	None	C-Max	None		C-Max	None						
Walk Time (s)	7.0		7.0		7.0							
Flash Dont Walk (s)	11.0		11.0		11.0							
Pedestrian Calls (#/hr)	0		0		0							
Act Effct Green (s)	21.0	144.8	200.0	9.0	132.8	200.0	22.2	39.2				
Actuated g/C Ratio	0.10	0.72	1.00	0.04	0.66	1.00	0.11	0.20				
v/c Ratio	0.75	0.66	0.34	0.35	0.67	0.35	0.76	0.42				
Control Delay	113.4	8.4	0.3	74.5	5.0	0.1	100.3	38.7				
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0				
Total Delay	113.4	8.7	0.3	74.5	5.0	0.1	100.3	38.7				
LOS	F	A	A	E	A	A	F	D				
Approach Delay	16.1		5.4		78.8							
Approach LOS	B		A		E							
Queue Length 50th (ft)	186	242	0	36	101	0	184	87				
Queue Length 95th (ft)	m206	273	m0	m38	m248	m0	234	163				
Internal Link Dist (ft)	783		1933		1226						1047	
Turn Bay Length (ft)	350	350		350	350							
Base Capacity (vph)	450	3577	1538	150	3280	1538	453	391				
Starvation Cap Reductn	0	587	0	0	0	0	0	0				
Spillback Cap Reductn	0	0	0	0	0	0	0	0				
Storage Cap Reductn	0	0	0	0	0	0	0	0				
Reduced v/c Ratio	0.58	0.79	0.34	0.35	0.67	0.35	0.60	0.38				

Intersection Summary

Area Type: Other

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 188 (94%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 15.5

Intersection LOS: B

Intersection Capacity Utilization 71.6%

ICU Level of Service C

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

































Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Lanes, Volumes, Timings

2025 Build AM

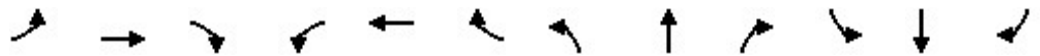
1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	  	  		  	  		 				 	
Traffic Volume (vph)	235	1240	490	502	1153	320	590	0	510	327	0	320
Future Volume (vph)	235	1240	490	502	1153	320	590	0	510	327	0	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	750		750	550		550	0		600	0		600
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3155	4940	1538	3335	4848	1538	3400	0	1568	3335	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3155	4940	1538	3335	4848	1538	3400	0	1568	3335	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			510			313			92			92
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2990			841			3072			467	
Travel Time (s)		45.3			12.7			46.5			7.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	11%	5%	5%	5%	7%	5%	3%	0%	3%	5%	0%	3%
Adj. Flow (vph)	245	1292	510	523	1201	333	615	0	531	341	0	333
Shared Lane Traffic (%)												
Lane Group Flow (vph)	245	1292	510	523	1201	333	615	0	531	341	0	333
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			50			50	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1

Lanes, Volumes, Timings

2025 Build AM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

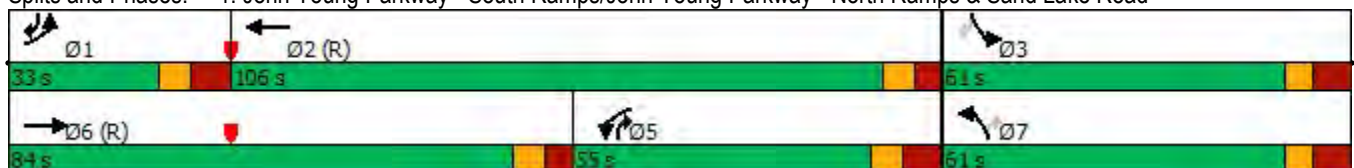


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		7		3		1	
Detector Phase	1	6	5		2		7		5		3	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0		10.0		5.0		5.0		5.0	
Minimum Split (s)	15.8	44.0	15.8		46.0		15.0		15.8		15.0	
Total Split (s)	33.0	84.0	55.0		106.0		61.0		55.0		61.0	
Total Split (%)	16.5%	42.0%	27.5%		53.0%		30.5%		27.5%		30.5%	
Maximum Green (s)	22.2	75.0	44.2		97.0		51.0		44.2		51.0	
Yellow Time (s)	4.8	4.8	4.8		4.8		4.0		4.8		4.0	
All-Red Time (s)	6.0	4.2	6.0		4.2		6.0		6.0		6.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	10.8	9.0	10.8		9.0		10.0		10.8		10.0	
Lead/Lag	Lead	Lead	Lag		Lag		Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0		1.0		1.0	
Recall Mode	None	C-Max	None		C-Max		None		None		None	
Act Effct Green (s)	18.5	86.0	200.0	44.2	111.7	200.0	40.0	94.2	40.0	68.5		
Actuated g/C Ratio	0.09	0.43	1.00	0.22	0.56	1.00	0.20	0.47	0.20	0.34		
v/c Ratio	0.84	0.61	0.33	0.71	0.44	0.22	0.91	0.68	0.51	0.56		
Control Delay	113.3	46.2	0.6	80.7	29.7	0.3	95.7	37.5	73.5	40.4		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Delay	113.3	46.2	0.6	80.7	29.7	0.3	95.7	37.5	73.5	40.4		
LOS	F	D	A	F	C	A	F	D	E	D		
Approach Delay	42.8		37.9		68.7		57.1					
Approach LOS	D		D		E		E					
Queue Length 50th (ft)	166	480	0	346	337	0	413	454	209	261		
Queue Length 95th (ft)	218	569	0	423	484	0	469	558	253	342		
Internal Link Dist (ft)	2910		761		2992		387					
Turn Bay Length (ft)	750	750	550	550	600	600	600	600	600	600		
Base Capacity (vph)	350	2125	1538	737	2708	1538	867	786	850	624		
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	0.70	0.61	0.33	0.71	0.44	0.22	0.71	0.68	0.40	0.53		

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 18 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 47.8
 Intersection LOS: D
 Intersection Capacity Utilization 84.7%
 ICU Level of Service E
 Analysis Period (min) 15

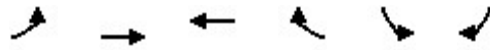
Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



HCM Unsignalized Intersection Capacity Analysis

2: Sand Lake Road & TRUCK PARKING























2025 Build AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↑↑↑	↑↑↑	↗		↗			
Traffic Volume (veh/h)	0	2070	1940	33	0	34			
Future Volume (Veh/h)	0	2070	1940	33	0	34			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Hourly flow rate (vph)	0	2179	2042	35	0	36			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage (veh)									
Upstream signal (ft)		841	406						
pX, platoon unblocked	0.83				0.91	0.83			
vC, conflicting volume	2077				2587	681			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	1592				859	0			
tC, single (s)	4.1				6.8	8.9			
tC, 2 stage (s)									
tF (s)	2.2				3.5	4.3			
p0 queue free %	100				100	95			
cM capacity (veh/h)	348				272	698			
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	545	545	545	545	681	681	681	35	36
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	35	36
cSH	1700	1700	1700	1700	1700	1700	1700	1700	698
Volume to Capacity	0.32	0.32	0.32	0.32	0.40	0.40	0.40	0.02	0.05
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.4
Lane LOS									B
Approach Delay (s)	0.0				0.0				10.4
Approach LOS									B
Intersection Summary									
Average Delay			0.1						
Intersection Capacity Utilization			47.5%		ICU Level of Service				A
Analysis Period (min)			15						

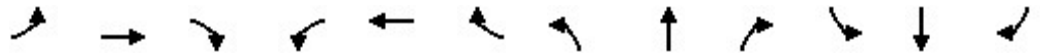
Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2025 Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	1870	220	40	1825	200	90	90	30	90	80	130
Future Volume (vph)	170	1870	220	40	1825	200	90	90	30	90	80	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.984				0.850		0.962				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6125	0	1719	4893	1538	1480	1562	0	1517	1638	1252
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6125	0	1719	4893	1538	1480	1562	0	1517	1638	1252
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24				159		7				153
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	6%	5%	22%	17%	17%	19%	16%	29%
Adj. Flow (vph)	179	1968	232	42	1921	211	95	95	32	95	84	137
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	2200	0	42	1921	211	95	127	0	95	84	137
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2025 Build AM
08/17/2022

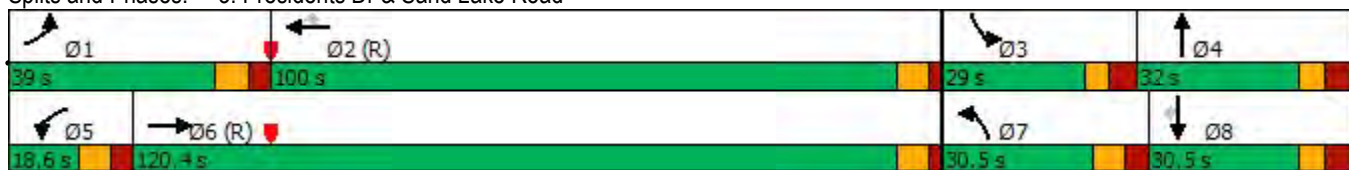


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	25.9
Total Split (s)	39.0	120.4		18.6	100.0	100.0	30.5	32.0		29.0	30.5	30.5
Total Split (%)	19.5%	60.2%		9.3%	50.0%	50.0%	15.3%	16.0%		14.5%	15.3%	15.3%
Maximum Green (s)	30.8	113.6		10.5	93.2	93.2	22.4	24.1		21.1	22.6	22.6
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	3.7
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	4.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	7.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	23.9	130.0		8.1	111.4	111.4	16.1	18.3		15.6	17.6	17.6
Actuated g/C Ratio	0.12	0.65		0.04	0.56	0.56	0.08	0.09		0.08	0.09	0.09
v/c Ratio	0.87	0.55		0.61	0.70	0.23	0.81	0.85		0.81	0.58	0.55
Control Delay	126.8	13.1		128.1	36.3	7.9	131.5	126.4		132.7	102.9	15.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	126.8	13.1		128.1	36.3	7.9	131.5	126.4		132.7	102.9	15.4
LOS	F	B		F	D	A	F	F		F	F	B
Approach Delay		21.7			35.3			128.6			73.9	
Approach LOS		C			D			F			E	
Queue Length 50th (ft)	248	213		56	674	31	125	159		125	108	0
Queue Length 95th (ft)	339	269		104	870	96	194	238		195	172	55
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	264	3988		90	2726	927	165	194		160	185	277
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.68	0.55		0.47	0.70	0.23	0.58	0.65		0.59	0.45	0.49

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 194 (97%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 35.4
 Intersection LOS: D
 Intersection Capacity Utilization 75.4%
 ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2025 Build AM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	1850	220	350	1647	0	0	0	200	400	40	326
Future Volume (vph)	0	1850	220	350	1647	0	0	0	200	400	40	326
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.965	
Satd. Flow (prot)	0	4940	1538	3335	4848	0	0	0	1522	3042	1545	1468
Flt Permitted				0.950						0.950	0.965	
Satd. Flow (perm)	0	4940	1538	3335	4848	0	0	0	1522	3042	1545	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			122						22			60
Link Speed (mph)		45			45			30				30
Link Distance (ft)		406			863			507				1013
Travel Time (s)		6.2			13.1			11.5				23.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	7%	5%	0%	0%	8%	8%	8%	10%
Adj. Flow (vph)	0	1947	232	368	1734	0	0	0	211	421	42	343
Shared Lane Traffic (%)										27%		
Lane Group Flow (vph)	0	1947	232	368	1734	0	0	0	211	307	156	343
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4		4

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2025 Build AM
08/17/2022

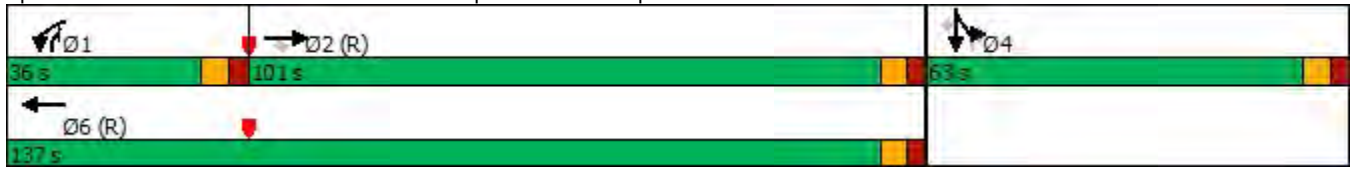


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		101.0	101.0	36.0	137.0				36.0	63.0	63.0	63.0
Total Split (%)		50.5%	50.5%	18.0%	68.5%				18.0%	31.5%	31.5%	31.5%
Maximum Green (s)		94.0	94.0	29.0	130.0				29.0	56.0	56.0	56.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead				Lead				
Lead-Lag Optimize?		Yes	Yes	Yes				Yes				
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		106.4	106.4	26.2	139.6				79.6	46.4	46.4	46.4
Actuated g/C Ratio		0.53	0.53	0.13	0.70				0.40	0.23	0.23	0.23
v/c Ratio		0.74	0.27	0.84	0.51				0.34	0.44	0.44	0.89
Control Delay		23.6	4.7	111.0	10.6				37.2	66.4	68.0	85.1
Queue Delay		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Delay		23.6	4.7	111.0	10.6				37.2	66.4	68.0	85.1
LOS		C	A	F	B				D	E	E	F
Approach Delay		21.6			28.2			37.2			74.6	
Approach LOS		C			C			D			E	
Queue Length 50th (ft)		423	42	254	292				169	190	193	371
Queue Length 95th (ft)		509	78	323	340				224	232	268	489
Internal Link Dist (ft)		326			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2627	875	483	3384				640	851	432	454
Starvation Cap Reductn		0	0	0	270				0	0	0	0
Spillback Cap Reductn		0	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.74	0.27	0.76	0.56				0.33	0.36	0.36	0.76

Intersection Summary





























Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	172 (86%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	90
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.89
Intersection Signal Delay:	32.9
Intersection LOS:	C
Intersection Capacity Utilization	77.4%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2025 Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 					
Traffic Volume (vph)	110	2100	240	160	1595	290	401	0	160	0	0	0
Future Volume (vph)	110	2100	240	160	1595	290	401	0	160	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		0	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	4940	1538	3335	4893	1538	3155	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4893	1538	3155	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			158			71			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		863			2013			1306			1127	
Travel Time (s)		13.1			30.5			29.7			25.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	6%	5%	11%	8%	8%	0%	0%	0%
Adj. Flow (vph)	116	2211	253	168	1679	305	422	0	168	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	116	2211	253	168	1679	305	422	0	168	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2025 Build AM
08/17/2022



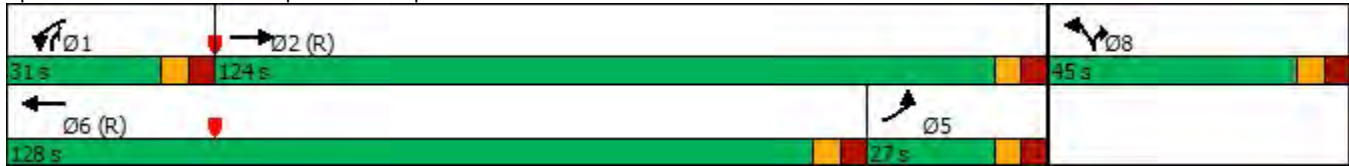
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free			Free								
Detector Phase	5	2		1	6		8		8	1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0					
Minimum Split (s)	13.0	26.0		13.0	26.0		26.0					
Total Split (s)	27.0	124.0		31.0	128.0		45.0					
Total Split (%)	13.5%	62.0%		15.5%	64.0%		22.5%					
Maximum Green (s)	19.0	116.0		23.0	120.0		37.0					
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0					
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Lead/Lag	Lag	Lag		Lead	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0					
Recall Mode	None	C-Max		None	C-Max		None					
Walk Time (s)		7.0			7.0		7.0					
Flash Dont Walk (s)		11.0			11.0		11.0					
Pedestrian Calls (#/hr)		0			0		0					
Act Effct Green (s)	19.0	129.1	200.0	15.4	125.5	200.0	31.5		54.9			
Actuated g/C Ratio	0.10	0.65	1.00	0.08	0.63	1.00	0.16		0.27			
v/c Ratio	0.37	0.69	0.16	0.66	0.55	0.20	0.85		0.36			
Control Delay	67.6	8.3	0.2	104.1	21.1	0.2	97.9		33.8			
Queue Delay	0.0	0.4	0.0	0.0	0.0	0.0	0.0		0.0			
Total Delay	67.6	8.6	0.2	104.1	21.1	0.2	97.9		33.8			
LOS	E	A	A	F	C	A	F		C			
Approach Delay		10.4			24.6			79.7				
Approach LOS		B			C			E				
Queue Length 50th (ft)	70	97	0	120	232	0	282		102			
Queue Length 95th (ft)	m101	214	0	164	439	0	341		168			
Internal Link Dist (ft)		783			1933			1226			1047	
Turn Bay Length (ft)	350		350	350								
Base Capacity (vph)	316	3187	1538	383	3069	1538	583		504			
Starvation Cap Reductn	0	401	0	0	0	0	0		0			
Spillback Cap Reductn	0	0	0	0	0	0	0		0			
Storage Cap Reductn	0	0	0	0	0	0	0		0			
Reduced v/c Ratio	0.37	0.79	0.16	0.44	0.55	0.20	0.72		0.33			

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	184 (92%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	80
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	23.8
Intersection LOS:	C
Intersection Capacity Utilization:	73.2%
ICU Level of Service:	D
Analysis Period (min):	15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	21	533	22	0	647
Future Vol, veh/h	0	21	533	22	0	647
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	100	6	100	2	6
Mvmt Flow	0	22	561	23	0	681

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	292	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	8.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	4.3	-	-	-
Pot Cap-1 Maneuver	0	482	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	482	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	482
HCM Lane V/C Ratio	-	-	0.046
HCM Control Delay (s)	-	-	12.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Queues

2025 Build PM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	426	1230	800	552	1203	190	730	0	710	398	0	300
Future Volume (vph)	426	1230	800	552	1203	190	730	0	710	398	0	300
Satd. Flow (prot)	3045	4940	1538	3335	4848	1538	3400	0	1568	3335	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3045	4940	1538	3335	4848	1538	3400	0	1568	3335	0	1568
Satd. Flow (RTOR)			726			205			92			92
Lane Group Flow (vph)	444	1281	833	575	1253	198	760	0	740	415	0	313
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1
Permitted Phases			Free			Free			7			3
Total Split (s)	36.0	70.0		68.0	102.0		62.0		68.0	62.0		36.0
Total Lost Time (s)	10.8	9.0		10.8	9.0		10.0		10.8	10.0		10.8
Act Effct Green (s)	25.2	65.4	200.0	57.2	97.4	200.0	47.6		114.8	47.6		82.8
Actuated g/C Ratio	0.13	0.33	1.00	0.29	0.49	1.00	0.24		0.57	0.24		0.41
v/c Ratio	1.16	0.79	0.54	0.60	0.53	0.13	0.94		0.79	0.52		0.45
Control Delay	168.3	66.1	1.4	69.2	42.1	0.2	94.4		35.3	68.4		30.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	168.3	66.2	1.4	69.2	42.1	0.2	94.4		35.3	68.4		30.4
LOS	F	E	A	E	D	A	F		D	E		C
Approach Delay		62.8			45.7			65.3				52.1
Approach LOS		E			D			E				D
Queue Length 50th (ft)	~354	569	0	367	408	0	509		659	246		206
Queue Length 95th (ft)	#477	646	0	446	461	0	582		822	300		292
Internal Link Dist (ft)		2910			761			2992				387
Turn Bay Length (ft)	750		750	550		550			600			600
Base Capacity (vph)	383	1616	1538	953	2361	1538	884		938	867		702
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	17	0	0	0	0	0		1	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	1.16	0.80	0.54	0.60	0.53	0.13	0.86		0.79	0.48		0.45

Intersection Summary

Cycle Length: 200

Actuated Cycle Length: 200

Offset: 48 (24%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 57.1

Intersection LOS: E

Intersection Capacity Utilization 98.9%

ICU Level of Service F

Analysis Period (min) 15

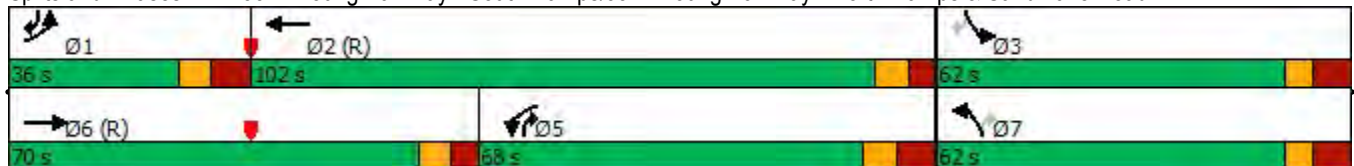
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

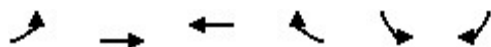
Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



HCM Unsignalized Intersection Capacity Analysis

2: Sand Lake Road & TRUCK PARKING

2025 Build PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR				
Lane Configurations		↑↑↑	↑↑↑	↑		↑				
Traffic Volume (veh/h)	0	2330	1910	31	0	34				
Future Volume (Veh/h)	0	2330	1910	31	0	34				
Sign Control		Free	Free		Stop					
Grade		0%	0%		0%					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	0	2453	2011	33	0	36				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type		None	None							
Median storage (veh)										
Upstream signal (ft)		841	406							
pX, platoon unblocked	0.89				0.85	0.89				
vC, conflicting volume	2044				2624	670				
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	1735				1018	188				
tC, single (s)	4.1				6.8	8.9				
tC, 2 stage (s)										
tF (s)	2.2				3.5	4.3				
p0 queue free %	100				100	93				
cM capacity (veh/h)	327				200	522				
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	
Volume Total	613	613	613	613	670	670	670	33	36	
Volume Left	0	0	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	33	36	
cSH	1700	1700	1700	1700	1700	1700	1700	1700	522	
Volume to Capacity	0.36	0.36	0.36	0.36	0.39	0.39	0.39	0.02	0.07	
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	6	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.4	
Lane LOS									B	
Approach Delay (s)	0.0					0.0				12.4
Approach LOS									B	
Intersection Summary										
Average Delay			0.1							
Intersection Capacity Utilization			46.9%	ICU Level of Service				A		
Analysis Period (min)			15							

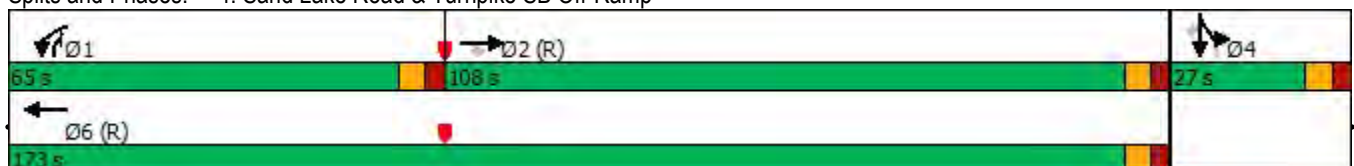
4: Sand Lake Road & Turnpike SB Off-Ramp

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↗↘	↑↑↑				↑	↗↘	↑	↑
Traffic Volume (vph)	0	2150	180	500	1879	0	0	0	560	280	60	62
Future Volume (vph)	0	2150	180	500	1879	0	0	0	560	280	60	62
Satd. Flow (prot)	0	4940	1538	3335	4893	0	0	0	1522	3042	1563	1455
Flt Permitted				0.950						0.950	0.976	
Satd. Flow (perm)	0	4940	1538	3335	4893	0	0	0	1522	3042	1563	1455
Satd. Flow (RTOR)			91						22			60
Lane Group Flow (vph)	0	2263	189	526	1978	0	0	0	589	236	122	65
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4	4	
Permitted Phases			2						4			4
Total Split (s)		108.0	108.0	65.0	173.0				65.0	27.0	27.0	27.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Act Effct Green (s)		103.0	103.0	57.1	167.1				83.0	18.9	18.9	18.9
Actuated g/C Ratio		0.52	0.52	0.29	0.84				0.42	0.09	0.09	0.09
v/c Ratio		0.89	0.23	0.55	0.48				0.91	0.82	0.83	0.34
Control Delay		36.2	6.9	67.4	8.7				72.4	111.1	127.0	24.5
Queue Delay		0.1	0.0	0.0	0.1				0.0	0.0	0.0	0.0
Total Delay		36.3	6.9	67.4	8.8				72.4	111.1	127.0	24.5
LOS		D	A	E	A				E	F	F	C
Approach Delay		34.0			21.1			72.4			102.4	
Approach LOS		C			C			E			F	
Queue Length 50th (ft)		1121	43	369	378				699	169	175	6
Queue Length 95th (ft)		1034	m78	434	362				#942	#234	#302	61
Internal Link Dist (ft)		326			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2543	835	967	4088				651	304	156	199
Starvation Cap Reductn		9	0	0	606				0	0	0	0
Spillback Cap Reductn		0	0	0	0				0	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		0.89	0.23	0.54	0.57				0.90	0.78	0.78	0.33

Intersection Summary

Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.91
 Intersection Signal Delay: 37.2 Intersection LOS: D
 Intersection Capacity Utilization 102.0% ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



5: Turnpike NB Ramps & Sand Lake Road

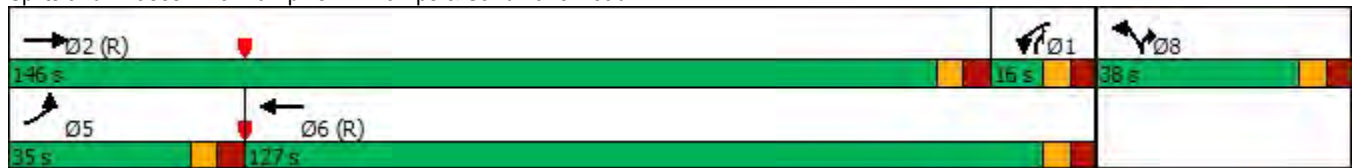
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	2240	500	50	2109	510	270	0	140	0	0	0
Future Volume (vph)	250	2240	500	50	2109	510	270	0	140	0	0	0
Satd. Flow (prot)	3335	4940	1538	3335	4893	1538	3155	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4893	1538	3155	0	1495	0	0	0
Satd. Flow (RTOR)			164			178			71			
Lane Group Flow (vph)	263	2358	526	53	2220	537	284	0	147	0	0	0
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		
Permitted Phases			Free			Free						
Total Split (s)	35.0	146.0		16.0	127.0		38.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Act Effct Green (s)	21.0	144.7	200.0	8.0	131.7	200.0	23.3		39.3			
Actuated g/C Ratio	0.10	0.72	1.00	0.04	0.66	1.00	0.12		0.20			
v/c Ratio	0.75	0.66	0.34	0.40	0.69	0.35	0.78		0.42			
Control Delay	101.0	9.4	0.3	70.8	13.1	0.1	100.1		38.6			
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0		0.0			
Total Delay	101.0	9.7	0.3	70.8	13.1	0.1	100.1		38.6			
LOS	F	A	A	E	B	A	F		D			
Approach Delay		15.7			11.7			79.2				
Approach LOS		B			B			E				
Queue Length 50th (ft)	182	286	0	34	294	0	190		87			
Queue Length 95th (ft)	m206	357	m0	m34	m274	m0	241		163			
Internal Link Dist (ft)		783			1933			1226			1047	
Turn Bay Length (ft)	350		350	350		350						
Base Capacity (vph)	450	3575	1538	133	3222	1538	473		398			
Starvation Cap Reductn	0	459	0	0	0	0	0		0			
Spillback Cap Reductn	0	0	0	0	0	0	0		0			
Storage Cap Reductn	0	0	0	0	0	0	0		0			
Reduced v/c Ratio	0.58	0.76	0.34	0.40	0.69	0.35	0.60		0.37			

Intersection Summary

Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 5 (3%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 18.2
 Intersection LOS: B
 Intersection Capacity Utilization 72.3%
 ICU Level of Service C
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	21	322	24	0	698
Future Vol, veh/h	0	21	322	24	0	698
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	100	3	100	2	3
Mvmt Flow	0	22	339	25	0	735

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	182	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	8.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	4.3	-	-	-
Pot Cap-1 Maneuver	0	594	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	594	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-




































Approach	WB	NB	SB
HCM Control Delay, s	11.3	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	594
HCM Lane V/C Ratio	-	-	0.037
HCM Control Delay (s)	-	-	11.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.1

Lanes, Volumes, Timings

2045 No Build AM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	  	  		  	  		  			  			  
Traffic Volume (vph)	240	1790	590	670	1720	440	750	0	640	390	0	320	
Future Volume (vph)	240	1790	590	670	1720	440	750	0	640	390	0	320	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Storage Length (ft)	750		750	550		550	0		600	0		600	
Storage Lanes	2		1	2		1	2		1	2		1	
Taper Length (ft)	50			50			25			25			
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00	
Frt			0.850			0.850			0.850			0.850	
Flt Protected	0.950			0.950			0.950			0.950			
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568	
Flt Permitted	0.950			0.950			0.950			0.950			
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568	
Right Turn on Red			Yes			Yes			Yes			Yes	
Satd. Flow (RTOR)			502			289			92			92	
Link Speed (mph)		45			45			45			45		
Link Distance (ft)		2990			1247			3072			233		
Travel Time (s)		45.3			18.9			46.5			3.5		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	0%	3%	3%	0%	3%	
Adj. Flow (vph)	250	1865	615	698	1792	458	781	0	667	406	0	333	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	250	1865	615	698	1792	458	781	0	667	406	0	333	
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No	
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right	
Median Width(ft)		24			24			50			50		
Link Offset(ft)		0			0			0			0		
Crosswalk Width(ft)		16			16			16			16		
Two way Left Turn Lane													
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Turning Speed (mph)	15		9	15		9	15		9	15		9	
Number of Detectors	1	2	1	1	2	1	1		1	1		1	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right	
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20	
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0	
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0	
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	
Detector 1 Channel													
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Detector 2 Position(ft)		94			94								
Detector 2 Size(ft)		6			6								
Detector 2 Type		Cl+Ex			Cl+Ex								
Detector 2 Channel													
Detector 2 Extend (s)		0.0			0.0								
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov	
Protected Phases	1	6		5	2		7		5	3		1	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		7		3		3	
Detector Phase	1	6	5		2		7		5		3	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0		10.0		5.0		5.0		5.0	
Minimum Split (s)	15.8	44.0	15.8		46.0		15.0		15.8		15.0	
Total Split (s)	33.2	86.0	53.0		105.8		61.0		53.0		61.0	
Total Split (%)	16.6%	43.0%	26.5%		52.9%		30.5%		26.5%		30.5%	
Maximum Green (s)	22.4	77.0	42.2		96.8		51.0		42.2		51.0	
Yellow Time (s)	4.8	4.8	4.8		4.8		4.0		4.8		4.0	
All-Red Time (s)	6.0	4.2	6.0		4.2		6.0		6.0		6.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	10.8	9.0	10.8		9.0		10.0		10.8		10.0	
Lead/Lag	Lead	Lead	Lag		Lag		Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0		1.0		1.0	
Recall Mode	None	C-Max	None		C-Max		None		None		None	
Act Effct Green (s)	18.2	79.8	200.0	42.2	103.9	200.0	48.2	100.4	48.2	76.3	76.3	
Actuated g/C Ratio	0.09	0.40	1.00	0.21	0.52	1.00	0.24	0.50	0.24	0.38	0.38	
v/c Ratio	0.83	0.95	0.40	0.99	0.70	0.30	0.95	0.80	0.50	0.51	0.51	
Control Delay	111.1	68.6	0.8	85.3	23.7	0.3	96.2	43.5	67.4	35.4	35.4	
Queue Delay	0.0	3.9	0.0	0.0	0.0	0.0	0.0	12.4	0.0	0.0	0.0	
Total Delay	111.1	72.5	0.8	85.3	23.7	0.3	96.2	55.9	67.4	35.4	35.4	
LOS	F	E	A	F	C	A	F	E	E	D	D	
Approach Delay	59.9		34.6		77.7		53.0					
Approach LOS	E		C		E		D					
Queue Length 50th (ft)	170	886	0	468	597	0	521	630	237	240	240	
Queue Length 95th (ft)	220	#995	0	m#573	m697	m0	#623	815	294	331	331	
Internal Link Dist (ft)	2910		1167		2992		153					
Turn Bay Length (ft)	750		750	550	550		600		600		600	
Base Capacity (vph)	373	1971	1538	703	2565	1538	867	832	867	686	686	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	74	0	0	0	0	0	152	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.67	0.98	0.40	0.99	0.70	0.30	0.90	0.98	0.47	0.49	0.49	

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 128 (64%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 53.0 Intersection LOS: D
 Intersection Capacity Utilization 105.2% ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 No Build AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	280	2890	360	50	2320	240	110	100	30	100	80	180
Future Volume (vph)	280	2890	360	50	2320	240	110	100	30	100	80	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6119	0	1719	4940	1538	1480	1567	0	1517	1638	1252
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6119	0	1719	4940	1538	1480	1567	0	1517	1638	1252
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29				160		6				189
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	22%	17%	17%	19%	16%	29%
Adj. Flow (vph)	295	3042	379	53	2442	253	116	105	32	105	84	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	295	3421	0	53	2442	253	116	137	0	105	84	189
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 No Build AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	25.9
Total Split (s)	42.0	130.6		17.6	106.2	106.2	24.8	25.9		25.9	27.0	27.0
Total Split (%)	21.0%	65.3%		8.8%	53.1%	53.1%	12.4%	13.0%		13.0%	13.5%	13.5%
Maximum Green (s)	33.8	123.8		9.5	99.4	99.4	16.7	18.0		18.0	19.1	19.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	3.7
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	4.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	7.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	35.0	126.8		8.4	100.0	100.0	16.4	18.2		15.9	17.5	17.5
Actuated g/C Ratio	0.18	0.63		0.04	0.50	0.50	0.08	0.09		0.08	0.09	0.09
v/c Ratio	0.98	0.88		0.75	0.99	0.30	0.96	0.93		0.88	0.59	0.67
Control Delay	109.4	15.0		143.5	64.2	11.2	158.5	139.9		142.1	104.2	21.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	109.4	15.0		143.5	64.2	11.2	158.5	139.9		142.1	104.2	21.8
LOS	F	B		F	E	B	F	F		F	F	C
Approach Delay		22.5			60.9			148.4			73.5	
Approach LOS		C			E			F			E	
Queue Length 50th (ft)	~414	292		70	1162	65	155	175		138	108	0
Queue Length 95th (ft)	m325	m204		#145	#1276	132	#300	#331		#247	176	94
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	301	3889		81	2471	848	123	151		136	156	290
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.98	0.88		0.65	0.99	0.30	0.94	0.91		0.77	0.54	0.65





Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 188 (94%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 44.5 Intersection LOS: D
 Intersection Capacity Utilization 98.6% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.













Splits and Phases: 3: Presidents Dr & Sand Lake Road

 Ø1 42 s		 Ø2 (R) 106.2 s		 Ø3 25.9 s		 Ø4 25.9 s	
 Ø5 17.6 s		 Ø6 (R) 130.6 s		 Ø7 24.8 s		 Ø8 27 s	

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 No Build AM

08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	2520	300	450	2330	0	0	0	260	790	70	500
Future Volume (vph)	0	2520	300	450	2330	0	0	0	260	790	70	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.963	
Satd. Flow (prot)	0	4940	1538	3335	4940	0	0	0	1522	3042	1542	1495
Flt Permitted				0.950						0.950	0.963	
Satd. Flow (perm)	0	4940	1538	3335	4940	0	0	0	1522	3042	1542	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127						22			60
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1247			863			507				1013
Travel Time (s)		18.9			13.1			11.5				23.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	0%	0%	8%	8%	8%	8%
Adj. Flow (vph)	0	2653	316	474	2453	0	0	0	274	832	74	526
Shared Lane Traffic (%)										28%		
Lane Group Flow (vph)	0	2653	316	474	2453	0	0	0	274	599	307	526
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4		4

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 No Build AM
08/17/2022



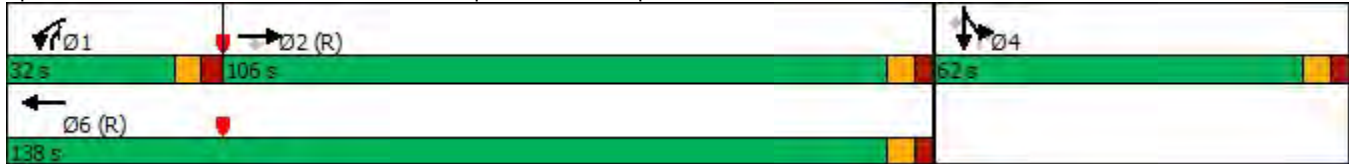
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		106.0	106.0	32.0	138.0				32.0	62.0	62.0	62.0
Total Split (%)		53.0%	53.0%	16.0%	69.0%				16.0%	31.0%	31.0%	31.0%
Maximum Green (s)		99.0	99.0	25.0	131.0				25.0	55.0	55.0	55.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead				Lead				
Lead-Lag Optimize?		Yes	Yes	Yes				Yes				
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		99.0	99.0	25.0	131.0				87.0	55.0	55.0	55.0
Actuated g/C Ratio		0.50	0.50	0.12	0.66				0.44	0.28	0.28	0.28
v/c Ratio		1.09	0.38	1.14	0.76				0.41	0.72	0.72	1.16
Control Delay		86.4	11.0	160.4	17.0				37.6	71.1	76.8	146.8
Queue Delay		8.3	0.0	0.0	1.4				0.0	0.0	0.0	0.0
Total Delay		94.6	11.0	160.4	18.3				37.6	71.1	76.8	146.8
LOS		F	B	F	B				D	E	E	F
Approach Delay		85.7			41.3			37.6			100.1	
Approach LOS		F			D			D			F	
Queue Length 50th (ft)		~1443	89	~380	398				227	395	406	~755
Queue Length 95th (ft)		#1504	m130	m#382	m356				317	475	546	#1005
Internal Link Dist (ft)		1167			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2445	825	416	3235				674	836	424	454
Starvation Cap Reductn		0	0	0	535				0	0	0	0
Spillback Cap Reductn		1143	0	0	0				4	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		2.04	0.38	1.14	0.91				0.41	0.72	0.72	1.16

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	124 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.16
Intersection Signal Delay:	69.6
Intersection LOS:	E
Intersection Capacity Utilization:	98.1%
ICU Level of Service:	F
Analysis Period (min):	15





























- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 No Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 					
Traffic Volume (vph)	150	3050	370	560	1640	410	1140	0	480	0	0	0
Future Volume (vph)	150	3050	370	560	1640	410	1140	0	480	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		350	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			185			27			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		863			2013			1306				1127
Travel Time (s)		13.1			30.5			29.7				25.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	0%	0%	0%
Adj. Flow (vph)	158	3211	389	589	1726	432	1200	0	505	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	3211	389	589	1726	432	1200	0	505	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 No Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free			Free								
Detector Phase	5	2		1	6		8		8	1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0					
Minimum Split (s)	13.0	26.0		13.0	26.0		26.0					
Total Split (s)	23.0	104.0		33.0	114.0		63.0					
Total Split (%)	11.5%	52.0%		16.5%	57.0%		31.5%					
Maximum Green (s)	15.0	96.0		25.0	106.0		55.0					
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0					
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Lead/Lag	Lag	Lead		Lag	Lead							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0					
Recall Mode	None	C-Max		None	C-Max		None					
Walk Time (s)		7.0			7.0		7.0					
Flash Dont Walk (s)		11.0			11.0		11.0					
Pedestrian Calls (#/hr)		0			0		0					
Act Effct Green (s)	15.0	96.0	200.0	25.0	106.0	200.0	55.0			88.0		
Actuated g/C Ratio	0.08	0.48	1.00	0.12	0.53	1.00	0.28			0.44		
v/c Ratio	0.63	1.35	0.25	1.42	0.66	0.28	1.35			0.75		
Control Delay	85.8	189.4	0.1	233.7	36.3	0.1	215.0			52.6		
Queue Delay	0.0	0.2	0.0	0.0	0.0	0.0	0.0			0.0		
Total Delay	85.8	189.6	0.1	233.7	36.3	0.1	215.0			52.6		
LOS	F	F	A	F	D	A	F			D		
Approach Delay		165.6			73.0			166.9				
Approach LOS		F			E			F				
Queue Length 50th (ft)	111	~2013	0	~530	400	0	~1058			530		
Queue Length 95th (ft)	m117	m#1855	m0	m#551	m416	m0	#1196			695		
Internal Link Dist (ft)		783			1933			1226			1047	
Turn Bay Length (ft)	350		350	350		350						
Base Capacity (vph)	250	2371	1538	416	2618	1538	891			672		
Starvation Cap Reductn	0	186	0	0	0	0	0			0		
Spillback Cap Reductn	0	0	0	0	0	0	0			0		
Storage Cap Reductn	0	0	0	0	0	0	0			0		
Reduced v/c Ratio	0.63	1.47	0.25	1.42	0.66	0.28	1.35			0.75		

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	170 (85%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.42
Intersection Signal Delay:	134.9
Intersection LOS:	F
Intersection Capacity Utilization:	124.1%
ICU Level of Service:	H
Analysis Period (min):	15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road

→ Ø2 (R)	↖ Ø1	↖ Ø8
104 s	33 s	63 s
← Ø6 (R)	↗ Ø5	
114 s	33 s	

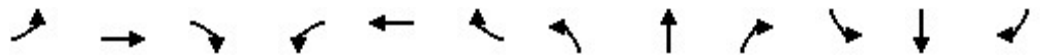
Lanes, Volumes, Timings

2045 No Build PM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	470	1970	890	630	1660	220	930	0	910	660	0	310
Future Volume (vph)	470	1970	890	630	1660	220	930	0	910	660	0	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	750		750	550		550	0		600	0		600
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3400	0	1568	3400	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			688			205			92			92
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2990			1247			3072			233	
Travel Time (s)		45.3			18.9			46.5			3.5	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	3%	0%	3%	3%	0%	3%
Adj. Flow (vph)	490	2052	927	656	1729	229	969	0	948	688	0	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	490	2052	927	656	1729	229	969	0	948	688	0	323
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			50			50	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			Free		Free				7			3
Detector Phase	1	6	5		2		7		5	3	1	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0		10.0		5.0		5.0	5.0	5.0	
Minimum Split (s)	15.8	44.0	15.8		46.0		15.0		15.8	15.0	15.8	
Total Split (s)	44.5	85.0	56.0		96.5		59.0		56.0	59.0	44.5	
Total Split (%)	22.3%	42.5%	28.0%		48.3%		29.5%		28.0%	29.5%	22.3%	
Maximum Green (s)	33.7	76.0	45.2		87.5		49.0		45.2	49.0	33.7	
Yellow Time (s)	4.8	4.8	4.8		4.8		4.0		4.8	4.0	4.8	
All-Red Time (s)	6.0	4.2	6.0		4.2		6.0		6.0	6.0	6.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0		0.0	0.0	0.0	
Total Lost Time (s)	10.8	9.0	10.8		9.0		10.0		10.8	10.0	10.8	
Lead/Lag	Lead	Lead	Lag		Lag				Lag			Lead
Lead-Lag Optimize?	Yes	Yes	Yes		Yes				Yes			Yes
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0		1.0	1.0	1.0	
Recall Mode	None	C-Max	None		C-Max		None		None	None	None	
Act Effct Green (s)	31.6	76.0	200.0	45.2	89.6	200.0	49.0	104.2	49.0	90.6		
Actuated g/C Ratio	0.16	0.38	1.00	0.23	0.45	1.00	0.24	0.52	0.24	0.45		
v/c Ratio	0.93	1.09	0.60	0.87	0.78	0.15	1.16	1.10	0.83	0.42		
Control Delay	107.9	107.5	1.8	88.8	53.8	0.2	149.3	102.4	81.1	27.2		
Queue Delay	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		
Total Delay	107.9	111.5	1.8	88.8	53.8	0.2	149.3	102.4	81.1	27.2		
LOS	F	F	A	F	D	A	F	F	F	F	C	
Approach Delay	81.7				57.9				126.1			63.9
Approach LOS	F				E				F			E
Queue Length 50th (ft)	330	~1110	0	461	761	0	~775	~1350	447	201		
Queue Length 95th (ft)	#419	#1189	0	531	855	0	#912	#1623	528	290		
Internal Link Dist (ft)	2910				1167				2992			153
Turn Bay Length (ft)	750		750	550		550		600		600		
Base Capacity (vph)	561	1877	1538	753	2214	1538	833	860	833	776		
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Spillback Cap Reductn	0	570	0	0	0	0	0	10	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	0.87	1.57	0.60	0.87	0.78	0.15	1.16	1.12	0.83	0.42		

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 50 (25%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 82.3 Intersection LOS: F
 Intersection Capacity Utilization 133.1% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 No Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	2900	280	30	3630	170	160	120	40	160	190	300
Future Volume (vph)	210	2900	280	30	3630	170	160	120	40	160	190	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987				0.850		0.962				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6144	0	1719	4940	1538	1770	1737	0	1703	1810	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6144	0	1719	4940	1538	1770	1737	0	1703	1810	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				160		7				65
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	7%	0%	6%	5%	1%
Adj. Flow (vph)	247	3412	329	35	4271	200	188	141	47	188	224	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	3741	0	35	4271	200	188	188	0	188	224	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	13.2
Total Split (s)	27.0	132.6		13.4	119.0	119.0	22.0	27.0		27.0	32.0	27.0
Total Split (%)	13.5%	66.3%		6.7%	59.5%	59.5%	11.0%	13.5%		13.5%	16.0%	13.5%
Maximum Green (s)	18.8	125.8		5.3	112.2	112.2	13.9	19.1		19.1	24.1	18.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	4.8
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	8.2
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	18.8	128.5		5.2	112.2	112.2	13.9	19.1		19.1	24.1	50.8
Actuated g/C Ratio	0.09	0.64		0.03	0.56	0.56	0.07	0.10		0.10	0.12	0.25
v/c Ratio	1.53	0.95		0.80	1.54	0.21	1.53	1.09		1.16	1.03	0.78
Control Delay	312.5	8.8		173.1	277.6	5.4	327.6	170.3		192.8	149.9	69.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	312.5	8.8		173.1	277.6	5.4	327.6	170.3		192.8	149.9	69.1
LOS	F	A		F	F	A	F	F		F	F	E
Approach Delay		27.6			264.7			248.9				123.2
Approach LOS		C			F			F				F
Queue Length 50th (ft)	~460	177		47	~2878	23	~344	~269		~290	~313	364
Queue Length 95th (ft)	m#426	m159		#115	#2625	57	#489	#415		#435	#463	459
Internal Link Dist (ft)		1933			754			965				903
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	161	3954		45	2771	933	123	172		162	218	454
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.53	0.95		0.78	1.54	0.21	1.53	1.09		1.16	1.03	0.78

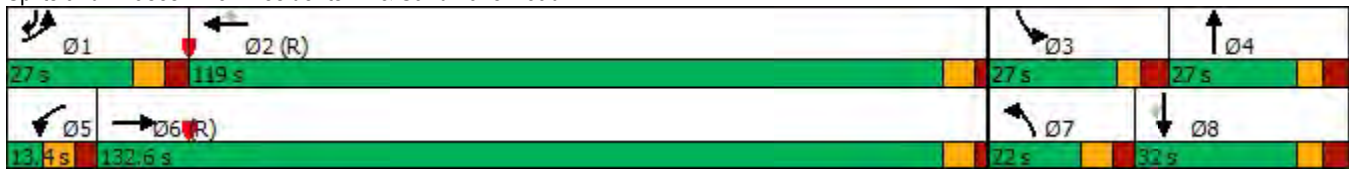
Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 17 (9%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.54
 Intersection Signal Delay: 154.7
 Intersection LOS: F
 Intersection Capacity Utilization 126.3%
 ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 No Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	3280	260	630	2410	0	0	0	720	390	70	100
Future Volume (vph)	0	3280	260	630	2410	0	0	0	720	390	70	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.973	
Satd. Flow (prot)	0	4940	1538	3335	4940	0	0	0	1522	3042	1558	1495
Flt Permitted				0.950						0.950	0.973	
Satd. Flow (perm)	0	4940	1538	3335	4940	0	0	0	1522	3042	1558	1495
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			96						22			60
Link Speed (mph)		45			45			30				30
Link Distance (ft)		1247			863			507				1013
Travel Time (s)		18.9			13.1			11.5				23.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	0%	0%	8%	8%	8%	8%
Adj. Flow (vph)	0	3453	274	663	2537	0	0	0	758	411	74	105
Shared Lane Traffic (%)										22%		
Lane Group Flow (vph)	0	3453	274	663	2537	0	0	0	758	321	164	105
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4		4

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		118.0	118.0	57.0	175.0				57.0	25.0	25.0	25.0
Total Split (%)		59.0%	59.0%	28.5%	87.5%				28.5%	12.5%	12.5%	12.5%
Maximum Green (s)		111.0	111.0	50.0	168.0				50.0	18.0	18.0	18.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead				Lead				
Lead-Lag Optimize?		Yes	Yes	Yes				Yes				
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		111.0	111.0	50.0	168.0				75.0	18.0	18.0	18.0
Actuated g/C Ratio		0.56	0.56	0.25	0.84				0.38	0.09	0.09	0.09
v/c Ratio		1.26	0.31	0.80	0.61				1.30	1.18	1.17	0.56
Control Delay		141.4	4.3	56.2	9.0				192.7	183.1	201.3	50.5
Queue Delay		0.6	0.0	0.0	1.0				0.0	0.0	0.0	0.0
Total Delay		142.0	4.3	56.2	10.0				192.7	183.1	201.3	50.5
LOS		F	A	E	A				F	F	F	D
Approach Delay		131.9			19.5			192.7			164.5	
Approach LOS		F			B			F			F	
Queue Length 50th (ft)		~2078	61	410	429				~1254	~275	~281	57
Queue Length 95th (ft)		m#1838	m49	m429	m532				#1521	#395	#472	133
Internal Link Dist (ft)		1167			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2741	896	833	4149				584	273	140	189
Starvation Cap Reductn		27	0	0	1223				0	0	0	0
Spillback Cap Reductn		651	0	0	0				2	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		1.65	0.31	0.80	0.87				1.30	1.18	1.17	0.56

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	190 (95%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	96.3
Intersection LOS:	F
Intersection Capacity Utilization:	133.9%
ICU Level of Service:	H
Analysis Period (min):	15





























- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



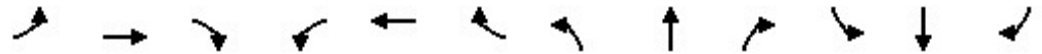
Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 No Build PM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 					
Traffic Volume (vph)	450	3070	870	750	2430	910	610	0	320	0	0	0
Future Volume (vph)	450	3070	870	750	2430	910	610	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		350	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	4940	1538	3335	4940	1538	3242	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			276			71			
Link Speed (mph)		45			45			30				30
Link Distance (ft)		863			2013			1306				1127
Travel Time (s)		13.1			30.5			29.7				25.6
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	8%	8%	8%	0%	0%	0%
Adj. Flow (vph)	474	3232	916	789	2558	958	642	0	337	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	474	3232	916	789	2558	958	642	0	337	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free			Free								
Detector Phase	5	2		1	6		8		8	1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0					
Minimum Split (s)	13.0	26.0		13.0	26.0		26.0					
Total Split (s)	40.0	123.0		37.0	120.0		40.0					
Total Split (%)	20.0%	61.5%		18.5%	60.0%		20.0%					
Maximum Green (s)	32.0	115.0		29.0	112.0		32.0					
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0					
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0					
Recall Mode	None	C-Max		None	C-Max		None					
Walk Time (s)		7.0			7.0		7.0					
Flash Dont Walk (s)		11.0			11.0		11.0					
Pedestrian Calls (#/hr)		0			0		0					
Act Effct Green (s)	31.0	115.0	200.0	29.0	113.0	200.0	32.0					69.0
Actuated g/C Ratio	0.16	0.58	1.00	0.14	0.56	1.00	0.16					0.34
v/c Ratio	0.92	1.14	0.60	1.63	0.92	0.62	1.24					0.60
Control Delay	103.1	92.8	0.2	325.3	23.9	2.9	187.3					47.1
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0					0.0
Total Delay	103.1	93.0	0.2	325.3	23.9	2.9	187.3					47.1
LOS	F	F	A	F	C	A	F					D
Approach Delay		75.7			74.5				139.0			
Approach LOS		E			E				F			
Queue Length 50th (ft)	312	~1801	0	~766	442	0	~537					294
Queue Length 95th (ft)	m246	m808	m0	m#413	m258	m0	#670					416
Internal Link Dist (ft)		783			1933				1226			1047
Turn Bay Length (ft)	350		350	350		350						
Base Capacity (vph)	533	2840	1538	483	2790	1538	518					562
Starvation Cap Reductn	0	346	0	0	0	0	0					0
Spillback Cap Reductn	0	0	0	0	0	0	0					0
Storage Cap Reductn	0	0	0	0	0	0	0					0
Reduced v/c Ratio	0.89	1.30	0.60	1.63	0.92	0.62	1.24					0.60

Intersection Summary	
Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	24 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.63
Intersection Signal Delay:	81.4
Intersection LOS:	F
Intersection Capacity Utilization:	114.8%
ICU Level of Service:	H
Analysis Period (min):	15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.























Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road

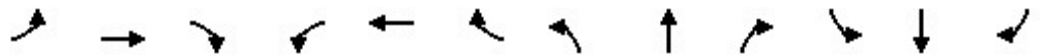


Lanes, Volumes, Timings

2045 Build AM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1790	590	682	1743	440	750	0	640	397	0	320
Future Volume (vph)	255	1790	590	682	1743	440	750	0	640	397	0	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	750		750	550		550	0		600	0		600
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3155	4940	1538	3367	4893	1538	3400	0	1568	3335	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3155	4940	1538	3367	4893	1538	3400	0	1568	3335	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			502			285			92			92
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2990			841			3072			467	
Travel Time (s)		45.3			12.7			46.5			7.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	11%	5%	5%	4%	6%	5%	3%	0%	3%	5%	0%	3%
Adj. Flow (vph)	266	1865	615	710	1816	458	781	0	667	414	0	333
Shared Lane Traffic (%)												
Lane Group Flow (vph)	266	1865	615	710	1816	458	781	0	667	414	0	333
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			50			50	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1



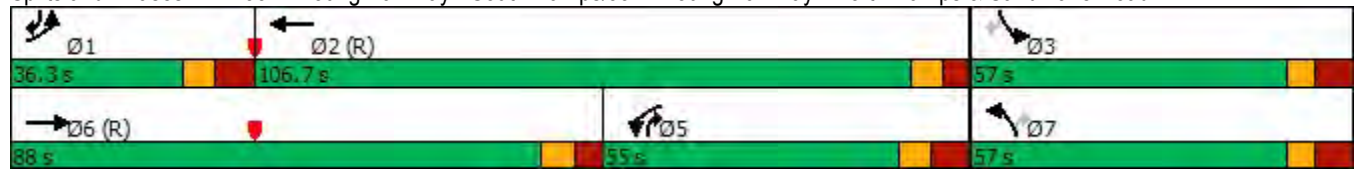
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		7		3		3	
Detector Phase	1	6	5		2		7		5		3	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0		10.0		5.0		5.0		5.0	
Minimum Split (s)	15.8	44.0	15.8		46.0		15.0		15.8		15.0	
Total Split (s)	36.3	88.0	55.0		106.7		57.0		55.0		57.0	
Total Split (%)	18.2%	44.0%	27.5%		53.4%		28.5%		27.5%		28.5%	
Maximum Green (s)	25.5	79.0	44.2		97.7		47.0		44.2		47.0	
Yellow Time (s)	4.8	4.8	4.8		4.8		4.0		4.8		4.0	
All-Red Time (s)	6.0	4.2	6.0		4.2		6.0		6.0		6.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	10.8	9.0	10.8		9.0		10.0		10.8		10.0	
Lead/Lag	Lead	Lead	Lag		Lag		Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0		1.0		1.0	
Recall Mode	None	C-Max	None		C-Max		None		None		None	
Act Effct Green (s)	20.2	79.4	200.0	44.2	103.4	200.0	46.6	100.8	46.6	76.8		
Actuated g/C Ratio	0.10	0.40	1.00	0.22	0.52	1.00	0.23	0.50	0.23	0.38		
v/c Ratio	0.84	0.95	0.40	0.95	0.72	0.30	0.99	0.80	0.53	0.51		
Control Delay	110.1	69.8	0.8	77.3	24.2	0.3	103.4	43.5	70.0	35.4		
Queue Delay	0.0	5.8	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0		
Total Delay	110.1	75.7	0.8	77.3	24.2	0.3	103.4	53.9	70.0	35.4		
LOS	F	E	A	E	C	A	F	D	E	D		
Approach Delay	62.2		33.1		80.6		54.6					
Approach LOS	E		C		F		D					
Queue Length 50th (ft)	180	876	0	506	638	0	533	638	248	243		
Queue Length 95th (ft)	231	941	0	m#573	m642	m0	#671	833	309	334		
Internal Link Dist (ft)	2910		761		2992		387					
Turn Bay Length (ft)	750	750	550	550	600	600						
Base Capacity (vph)	402	1960	1538	744	2529	1538	799	835	783	697		
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Spillback Cap Reductn	0	86	0	0	0	0	0	147	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	0.66	1.00	0.40	0.95	0.72	0.30	0.98	0.97	0.53	0.48		

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 150 (75%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 53.9 Intersection LOS: D
 Intersection Capacity Utilization 105.4% ICU Level of Service G
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

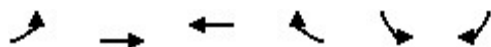
Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



HCM Unsignalized Intersection Capacity Analysis

2: Sand Lake Road & TRUCK PARKING





























2045 Build AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR			
Lane Configurations		↑↑↑	↑↑↑	↗		↗			
Traffic Volume (veh/h)	0	2820	2830	33	0	34			
Future Volume (Veh/h)	0	2820	2830	33	0	34			
Sign Control		Free	Free		Stop				
Grade		0%	0%		0%				
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95			
Hourly flow rate (vph)	0	2968	2979	35	0	36			
Pedestrians									
Lane Width (ft)									
Walking Speed (ft/s)									
Percent Blockage									
Right turn flare (veh)									
Median type		None	None						
Median storage (veh)									
Upstream signal (ft)		841	406						
pX, platoon unblocked	0.63				0.81	0.63			
vC, conflicting volume	3014				3721	993			
vC1, stage 1 conf vol									
vC2, stage 2 conf vol									
vCu, unblocked vol	2159				37	0			
tC, single (s)	4.1				6.8	8.9			
tC, 2 stage (s)									
tF (s)	2.2				3.5	4.3			
p0 queue free %	100				100	93			
cM capacity (veh/h)	160				787	531			
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	742	742	742	742	993	993	993	35	36
Volume Left	0	0	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0	35	36
cSH	1700	1700	1700	1700	1700	1700	1700	1700	531
Volume to Capacity	0.44	0.44	0.44	0.44	0.58	0.58	0.58	0.02	0.07
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.3
Lane LOS									B
Approach Delay (s)	0.0				0.0				12.3
Approach LOS									B
Intersection Summary									
Average Delay			0.1						
Intersection Capacity Utilization			64.7%		ICU Level of Service				C
Analysis Period (min)			15						

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	280	2890	360	50	2335	240	110	100	30	100	80	180
Future Volume (vph)	280	2890	360	50	2335	240	110	100	30	100	80	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.983				0.850		0.965				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6119	0	1719	4893	1538	1480	1567	0	1517	1638	1252
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6119	0	1719	4893	1538	1480	1567	0	1517	1638	1252
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29				160		6				189
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	6%	5%	22%	17%	17%	19%	16%	29%
Adj. Flow (vph)	295	3042	379	53	2458	253	116	105	32	105	84	189
Shared Lane Traffic (%)												
Lane Group Flow (vph)	295	3421	0	53	2458	253	116	137	0	105	84	189
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		7	4		3	8	

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	8
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	25.9
Total Split (s)	42.0	130.6		17.6	106.2	106.2	24.8	25.9		25.9	27.0	27.0
Total Split (%)	21.0%	65.3%		8.8%	53.1%	53.1%	12.4%	13.0%		13.0%	13.5%	13.5%
Maximum Green (s)	33.8	123.8		9.5	99.4	99.4	16.7	18.0		18.0	19.1	19.1
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	3.7
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	4.2
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	7.9
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	35.0	126.8		8.4	100.0	100.0	16.4	18.2		15.9	17.5	17.5
Actuated g/C Ratio	0.18	0.63		0.04	0.50	0.50	0.08	0.09		0.08	0.09	0.09
v/c Ratio	0.98	0.88		0.75	1.00	0.30	0.96	0.93		0.88	0.59	0.67
Control Delay	114.0	14.7		143.5	68.1	11.2	158.5	139.9		142.1	104.2	21.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	114.0	14.7		143.5	68.1	11.2	158.5	139.9		142.1	104.2	21.8
LOS	F	B		F	E	B	F	F		F	F	C
Approach Delay		22.6			64.3			148.4			73.5	
Approach LOS		C			E			F			E	
Queue Length 50th (ft)	~388	1311		70	~1238	65	155	175		138	108	0
Queue Length 95th (ft)	m287	m344		#145	#1304	132	#300	#331		#247	176	94
Internal Link Dist (ft)		1933			754			965			903	
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	301	3889		81	2447	848	123	151		136	156	290
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.98	0.88		0.65	1.00	0.30	0.94	0.91		0.77	0.54	0.65



Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 189 (95%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.00
 Intersection Signal Delay: 46.0 Intersection LOS: D
 Intersection Capacity Utilization 98.9% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.













m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Presidents Dr & Sand Lake Road

 Ø1 42 s		 Ø2 (R) 106.2 s		 Ø3 25.9 s		 Ø4 25.9 s	
 Ø5 17.6 s		 Ø6 (R) 130.6 s		 Ø7 24.8 s		 Ø8 27 s	

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	2520	300	450	2357	0	0	0	260	790	70	506
Future Volume (vph)	0	2520	300	450	2357	0	0	0	260	790	70	506
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.963	
Satd. Flow (prot)	0	4940	1538	3335	4893	0	0	0	1522	3042	1542	1482
Flt Permitted				0.950						0.950	0.963	
Satd. Flow (perm)	0	4940	1538	3335	4893	0	0	0	1522	3042	1542	1482
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127						22			60
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		406			863			507			1013	
Travel Time (s)		6.2			13.1			11.5			23.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	6%	5%	0%	0%	8%	8%	8%	9%
Adj. Flow (vph)	0	2653	316	474	2481	0	0	0	274	832	74	533
Shared Lane Traffic (%)										28%		
Lane Group Flow (vph)	0	2653	316	474	2481	0	0	0	274	599	307	533
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4	4	

Lanes, Volumes, Timings
 4: Sand Lake Road & Turnpike SB Off-Ramp

2045 Build AM
 08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		106.0	106.0	31.0	137.0				31.0	63.0	63.0	63.0
Total Split (%)		53.0%	53.0%	15.5%	68.5%				15.5%	31.5%	31.5%	31.5%
Maximum Green (s)		99.0	99.0	24.0	130.0				24.0	56.0	56.0	56.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead					Lead			
Lead-Lag Optimize?		Yes	Yes	Yes					Yes			
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		99.0	99.0	24.0	130.0				87.0	56.0	56.0	56.0
Actuated g/C Ratio		0.50	0.50	0.12	0.65				0.44	0.28	0.28	0.28
v/c Ratio		1.09	0.38	1.19	0.78				0.41	0.70	0.71	1.16
Control Delay		85.3	10.7	152.1	28.8				37.6	69.8	75.2	148.1
Queue Delay		7.8	0.0	0.0	0.4				0.4	0.7	1.4	0.0
Total Delay		93.1	10.7	152.1	29.2				38.0	70.5	76.6	148.1
LOS		F	B	F	C				D	E	E	F
Approach Delay		84.3			49.0			38.0			100.6	
Approach LOS		F			D			D			F	
Queue Length 50th (ft)		~1442	93	~385	712				227	392	403	~770
Queue Length 95th (ft)		#1504	m136	m#392	m650				317	472	541	#1023
Internal Link Dist (ft)		326			783			427			933	
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2445	825	400	3180				674	851	431	458
Starvation Cap Reductn		0	0	0	250				0	0	0	0
Spillback Cap Reductn		948	0	0	0				116	67	34	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		1.77	0.38	1.19	0.85				0.49	0.76	0.77	1.16

Intersection Summary

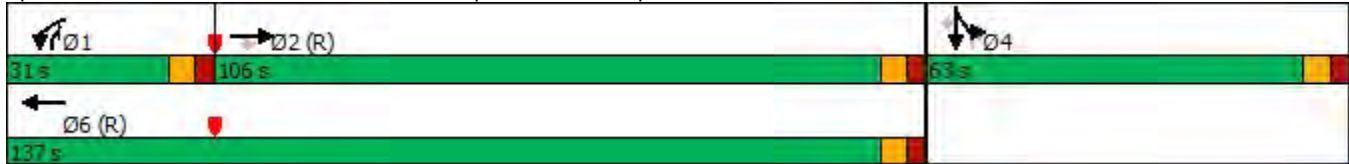
Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	144 (72%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.19
Intersection Signal Delay:	72.0
Intersection LOS:	E
Intersection Capacity Utilization:	98.1%
ICU Level of Service:	F
Analysis Period (min):	15

Lanes, Volumes, Timings
 4: Sand Lake Road & Turnpike SB Off-Ramp

2045 Build AM
 08/17/2022




























- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 Build AM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 					
Traffic Volume (vph)	150	3050	370	560	1655	410	1151	0	480	0	0	0
Future Volume (vph)	150	3050	370	560	1655	410	1151	0	480	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		0	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	5187	1538	3335	4893	1538	3213	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	5187	1538	3335	4893	1538	3213	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			158			71			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		863			2013			1306			1127	
Travel Time (s)		13.1			30.5			29.7			25.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	0%	5%	5%	6%	5%	9%	8%	8%	0%	0%	0%
Adj. Flow (vph)	158	3211	389	589	1742	432	1212	0	505	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	3211	389	589	1742	432	1212	0	505	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 Build AM
08/17/2022



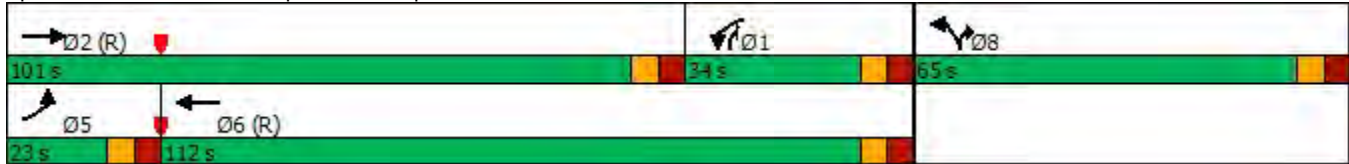
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		Free		Free		Free	
Detector Phase	5	2		1	6		8		8	1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0					
Minimum Split (s)	13.0	26.0		13.0	26.0		26.0					
Total Split (s)	23.0	101.0		34.0	112.0		65.0					
Total Split (%)	11.5%	50.5%		17.0%	56.0%		32.5%					
Maximum Green (s)	15.0	93.0		26.0	104.0		57.0					
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0					
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0					
Recall Mode	None	C-Max		None	C-Max		None					
Walk Time (s)		7.0			7.0		7.0					
Flash Dont Walk (s)		11.0			11.0		11.0					
Pedestrian Calls (#/hr)		0			0		0					
Act Effct Green (s)	13.7	93.0	200.0	26.0	105.3	200.0	57.0			91.0		
Actuated g/C Ratio	0.07	0.46	1.00	0.13	0.53	1.00	0.28			0.46		
v/c Ratio	0.69	1.33	0.25	1.36	0.68	0.28	1.32			0.70		
Control Delay	112.6	190.7	0.1	230.1	51.1	0.1	205.5			43.3		
Queue Delay	0.0	0.1	0.0	0.0	0.1	0.0	0.0			0.0		
Total Delay	112.6	190.8	0.1	230.1	51.2	0.1	205.5			43.3		
LOS	F	F	A	F	D	A	F			D		
Approach Delay		167.8			81.3			157.8				
Approach LOS		F			F			F				
Queue Length 50th (ft)	112	~1996	0	~517	561	0	~1058			464		
Queue Length 95th (ft)	m120	m#1827	m0	m#527	m568	m0	#1195			620		
Internal Link Dist (ft)		783			1933			1226			1047	
Turn Bay Length (ft)	350		350	350								
Base Capacity (vph)	250	2411	1538	433	2575	1538	915			718		
Starvation Cap Reductn	0	138	0	0	0	0	0			0		
Spillback Cap Reductn	0	0	0	0	86	0	0			0		
Storage Cap Reductn	0	0	0	0	0	0	0			0		
Reduced v/c Ratio	0.63	1.41	0.25	1.36	0.70	0.28	1.32			0.70		

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	154 (77%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.36
Intersection Signal Delay:	136.7
Intersection LOS:	F
Intersection Capacity Utilization:	124.4%
ICU Level of Service:	H
Analysis Period (min):	15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↑↑			↑↑
Traffic Vol, veh/h	0	21	674	21	0	717
Future Vol, veh/h	0	21	674	21	0	717
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	100	3	100	2	3
Mvmt Flow	0	22	709	22	0	755

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	366	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	8.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	4.3	-	-	-
Pot Cap-1 Maneuver	0	418	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	418	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.1	0	0
HCM LOS	B		

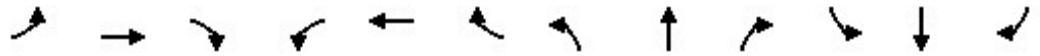
Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	418
HCM Lane V/C Ratio	-	-	0.053
HCM Control Delay (s)	-	-	14.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Lanes, Volumes, Timings

2045 Build PM

1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	486	1970	890	642	1683	220	930	0	910	668	0	310
Future Volume (vph)	486	1970	890	642	1683	220	930	0	910	668	0	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	750		750	550		550	0		600	0		600
Storage Lanes	2		1	2		1	2		1	2		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3242	4940	1538	3335	4893	1538	3400	0	1568	3367	0	1568
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3242	4940	1538	3335	4893	1538	3400	0	1568	3367	0	1568
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			688			205			92			92
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		2990			841			3072			467	
Travel Time (s)		45.3			12.7			46.5			7.1	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	8%	5%	5%	5%	6%	5%	3%	0%	3%	4%	0%	3%
Adj. Flow (vph)	506	2052	927	669	1753	229	969	0	948	696	0	323
Shared Lane Traffic (%)												
Lane Group Flow (vph)	506	2052	927	669	1753	229	969	0	948	696	0	323
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			50			50	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pm+ov	Prot		pm+ov
Protected Phases	1	6		5	2		7		5	3		1



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		7		3		1	
Detector Phase	1	6	5		2		7		5		3	
Switch Phase												
Minimum Initial (s)	5.0	10.0	5.0		10.0		5.0		5.0		5.0	
Minimum Split (s)	15.8	44.0	15.8		46.0		15.0		15.8		15.0	
Total Split (s)	46.5	85.0	56.0		94.5		59.0		56.0		46.5	
Total Split (%)	23.3%	42.5%	28.0%		47.3%		29.5%		28.0%		23.3%	
Maximum Green (s)	35.7	76.0	45.2		85.5		49.0		45.2		49.0	
Yellow Time (s)	4.8	4.8	4.8		4.8		4.0		4.8		4.0	
All-Red Time (s)	6.0	4.2	6.0		4.2		6.0		6.0		6.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0		0.0		0.0		0.0	
Total Lost Time (s)	10.8	9.0	10.8		9.0		10.0		10.8		10.0	
Lead/Lag	Lead	Lead	Lag		Lag		Lag		Lag		Lead	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes		Yes		Yes		Yes	
Vehicle Extension (s)	1.0	1.0	1.0		1.0		1.0		1.0		1.0	
Recall Mode	None	C-Max	None		C-Max		None		None		None	
Act Effct Green (s)	33.4	76.0	200.0	45.2	87.8	200.0	49.0	104.2	49.0	92.4		
Actuated g/C Ratio	0.17	0.38	1.00	0.23	0.44	1.00	0.24	0.52	0.24	0.46		
v/c Ratio	0.94	1.09	0.60	0.89	0.82	0.15	1.16	1.10	0.84	0.42		
Control Delay	107.1	107.5	1.8	88.6	55.1	0.2	149.3	102.4	82.5	26.3		
Queue Delay	0.0	4.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0		
Total Delay	107.1	111.5	1.8	88.6	55.1	0.2	149.3	102.4	82.5	26.3		
LOS	F	F	A	F	E	A	F	F	F	C		
Approach Delay	81.7		58.8		126.1		64.7					
Approach LOS	F		E		F		E					
Queue Length 50th (ft)	340	~1110	0	470	818	0	~775	~1350	455	197		
Queue Length 95th (ft)	#431	#1189	0	#552	914	0	#912	#1623	537	284		
Internal Link Dist (ft)	2910		761		2992		387					
Turn Bay Length (ft)	750	750	550	550	600	600	600	600	600	600		
Base Capacity (vph)	578	1877	1538	753	2148	1538	833	860	824	790		
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Spillback Cap Reductn	0	570	0	0	0	0	0	10	0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		
Reduced v/c Ratio	0.88	1.57	0.60	0.89	0.82	0.15	1.16	1.12	0.84	0.41		

Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 28 (14%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.16
 Intersection Signal Delay: 82.5 Intersection LOS: F
 Intersection Capacity Utilization 133.3% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

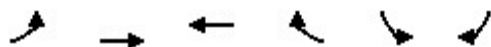
Splits and Phases: 1: John Young Parkway - South Ramps/John Young Parkway - North Ramps & Sand Lake Road



HCM Unsignalized Intersection Capacity Analysis

2: Sand Lake Road & TRUCK PARKING

2045 Build PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR				
Lane Configurations		↑↑↑	↑↑↑	↑		↑				
Traffic Volume (veh/h)	0	3540	2510	31	0	34				
Future Volume (Veh/h)	0	3540	2510	31	0	34				
Sign Control		Free	Free		Stop					
Grade		0%	0%		0%					
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95				
Hourly flow rate (vph)	0	3726	2642	33	0	36				
Pedestrians										
Lane Width (ft)										
Walking Speed (ft/s)										
Percent Blockage										
Right turn flare (veh)										
Median type		None	None							
Median storage (veh)										
Upstream signal (ft)		841	406							
pX, platoon unblocked	0.82				0.74	0.82				
vC, conflicting volume	2675				3574	881				
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol	2266				857	70				
tC, single (s)	4.1				6.8	8.9				
tC, 2 stage (s)										
tF (s)	2.2				3.5	*5.5				
p0 queue free %	100				100	92				
cM capacity (veh/h)	187				222	475				
Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	SB 1	
Volume Total	932	932	932	932	881	881	881	33	36	
Volume Left	0	0	0	0	0	0	0	0	0	
Volume Right	0	0	0	0	0	0	0	33	36	
cSH	1700	1700	1700	1700	1700	1700	1700	1700	475	
Volume to Capacity	0.55	0.55	0.55	0.55	0.52	0.52	0.52	0.02	0.08	
Queue Length 95th (ft)	0	0	0	0	0	0	0	0	6	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.2	
Lane LOS									B	
Approach Delay (s)	0.0					0.0				13.2
Approach LOS									B	
Intersection Summary										
Average Delay			0.1							
Intersection Capacity Utilization			58.5%	ICU Level of Service				B		
Analysis Period (min)			15							

* User Entered Value

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 Build PM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	210	2900	280	30	3649	170	160	120	40	160	190	300
Future Volume (vph)	210	2900	280	30	3649	170	160	120	40	160	190	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	400		200	400		150	200		0	200		200
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	50			50			25			25		
Lane Util. Factor	1.00	0.86	0.86	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.987				0.850		0.962				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	6144	0	1719	4940	1538	1770	1737	0	1703	1810	1599
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1719	6144	0	1719	4940	1538	1770	1737	0	1703	1810	1599
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21				116		7				109
Link Speed (mph)		45			45			35				35
Link Distance (ft)		2013			834			1045				983
Travel Time (s)		30.5			12.6			20.4				19.1
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	2%	7%	0%	6%	5%	1%
Adj. Flow (vph)	247	3412	329	35	4293	200	188	141	47	188	224	353
Shared Lane Traffic (%)												
Lane Group Flow (vph)	247	3741	0	35	4293	200	188	188	0	188	224	353
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12				12
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2		1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru		Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100		20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0		0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94				94
Detector 2 Size(ft)		6			6			6				6
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex				Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0				0.0
Turn Type	Prot	NA		Prot	NA	Perm	Prot	NA		Prot	NA	pm+ov
Protected Phases	1	6		5	2		7	4		3	8	1

Lanes, Volumes, Timings
3: Presidents Dr & Sand Lake Road

2045 Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases						2						8
Detector Phase	1	6		5	2	2	7	4		3	8	1
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	5.0	5.0		5.0	5.0	5.0
Minimum Split (s)	13.2	24.8		13.1	24.8	24.8	13.1	25.9		25.9	25.9	13.2
Total Split (s)	27.0	132.6		13.4	119.0	119.0	22.0	27.0		27.0	32.0	27.0
Total Split (%)	13.5%	66.3%		6.7%	59.5%	59.5%	11.0%	13.5%		13.5%	16.0%	13.5%
Maximum Green (s)	18.8	125.8		5.3	112.2	112.2	13.9	19.1		19.1	24.1	18.8
Yellow Time (s)	4.8	4.8		4.8	4.8	4.8	4.8	3.7		3.7	3.7	4.8
All-Red Time (s)	3.4	2.0		3.3	2.0	2.0	3.3	4.2		4.2	4.2	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	8.2	6.8		8.1	6.8	6.8	8.1	7.9		7.9	7.9	8.2
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Max		None	C-Max	C-Max	None	None		None	None	None
Act Effct Green (s)	18.8	128.5		5.2	112.2	112.2	13.9	19.1		19.1	24.1	42.6
Actuated g/C Ratio	0.09	0.64		0.03	0.56	0.56	0.07	0.10		0.10	0.12	0.21
v/c Ratio	1.53	0.95		0.80	1.55	0.22	1.53	1.09		1.16	1.03	0.83
Control Delay	283.0	8.3		173.1	281.0	9.4	327.6	170.3		192.8	149.9	57.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	283.0	8.3		173.1	281.0	9.4	327.6	170.3		192.8	149.9	57.0
LOS	F	A		F	F	A	F	F		F	F	E
Approach Delay		25.3			268.2			248.9				117.6
Approach LOS		C			F			F				F
Queue Length 50th (ft)	~461	174		47	~2899	51	~344	~269		~290	~313	258
Queue Length 95th (ft)	m#401	m149		#115	#2645	88	#489	#415		#435	#463	336
Internal Link Dist (ft)		1933			754			965				903
Turn Bay Length (ft)	400			400		150	200			200		200
Base Capacity (vph)	161	3954		45	2771	913	123	172		162	218	426
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	1.53	0.95		0.78	1.55	0.22	1.53	1.09		1.16	1.03	0.83

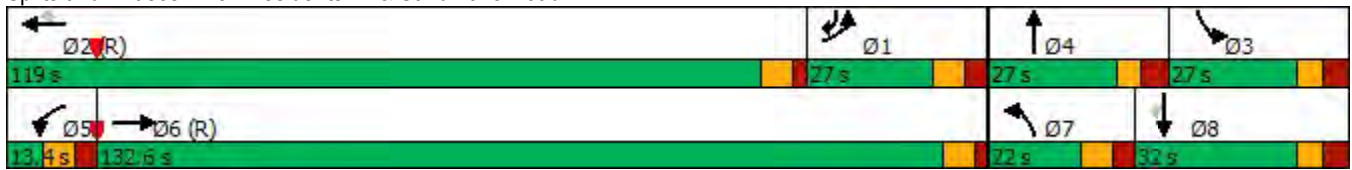
Intersection Summary

Area Type: Other
 Cycle Length: 200
 Actuated Cycle Length: 200
 Offset: 179 (90%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.55
 Intersection Signal Delay: 155.2 Intersection LOS: F
 Intersection Capacity Utilization 126.7% ICU Level of Service H
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Presidents Dr & Sand Lake Road



Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 Build PM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑	↑↑	↑↑↑				↑	↑↑	↑	↑
Traffic Volume (vph)	0	3280	260	630	2439	0	0	0	720	390	70	102
Future Volume (vph)	0	3280	260	630	2439	0	0	0	720	390	70	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	350		0	0		0	500		500
Storage Lanes	0		1	2		0	0		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	1.00	1.00	1.00	0.91	0.91	1.00
Frt			0.850						0.865			0.850
Flt Protected				0.950						0.950	0.973	
Satd. Flow (prot)	0	4940	1538	3335	4893	0	0	0	1522	3042	1558	1468
Flt Permitted				0.950						0.950	0.973	
Satd. Flow (perm)	0	4940	1538	3335	4893	0	0	0	1522	3042	1558	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			96						22			60
Link Speed (mph)		45			45			30				30
Link Distance (ft)		406			863			507				1013
Travel Time (s)		6.2			13.1			11.5				23.0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	5%	5%	5%	6%	5%	0%	0%	8%	8%	8%	10%
Adj. Flow (vph)	0	3453	274	663	2567	0	0	0	758	411	74	107
Shared Lane Traffic (%)										22%		
Lane Group Flow (vph)	0	3453	274	663	2567	0	0	0	758	321	164	107
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24				24
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2	1	1	2				1	1	2	1
Detector Template		Thru	Right	Left	Thru				Right	Left	Thru	Right
Leading Detector (ft)		100	20	20	100				20	20	100	20
Trailing Detector (ft)		0	0	0	0				0	0	0	0
Detector 1 Position(ft)		0	0	0	0				0	0	0	0
Detector 1 Size(ft)		6	20	20	6				20	20	6	20
Detector 1 Type		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Queue (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 1 Delay (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94							94
Detector 2 Size(ft)		6			6							6
Detector 2 Type		Cl+Ex			Cl+Ex							Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							0.0
Turn Type		NA	Perm	Prot	NA				pm+ov	Split	NA	Perm
Protected Phases		2		1	6				1	4		4

Lanes, Volumes, Timings
4: Sand Lake Road & Turnpike SB Off-Ramp

2045 Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			2						4			4
Detector Phase		2	2	1	6				1	4	4	4
Switch Phase												
Minimum Initial (s)		15.0	15.0	19.0	15.0				19.0	10.0	10.0	10.0
Minimum Split (s)		25.0	25.0	26.0	25.0				26.0	25.0	25.0	25.0
Total Split (s)		118.0	118.0	57.0	175.0				57.0	25.0	25.0	25.0
Total Split (%)		59.0%	59.0%	28.5%	87.5%				28.5%	12.5%	12.5%	12.5%
Maximum Green (s)		111.0	111.0	50.0	168.0				50.0	18.0	18.0	18.0
Yellow Time (s)		4.0	4.0	4.0	4.0				4.0	4.0	4.0	4.0
All-Red Time (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Lost Time Adjust (s)		0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0	7.0	7.0	7.0				7.0	7.0	7.0	7.0
Lead/Lag		Lag	Lag	Lead				Lead				
Lead-Lag Optimize?		Yes	Yes	Yes				Yes				
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0	3.0	3.0	3.0
Recall Mode		C-Max	C-Max	None	C-Max				None	None	None	None
Walk Time (s)		7.0	7.0		7.0					7.0	7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0					11.0	11.0	11.0
Pedestrian Calls (#/hr)		0	0		0					0	0	0
Act Effct Green (s)		111.0	111.0	50.0	168.0				75.0	18.0	18.0	18.0
Actuated g/C Ratio		0.56	0.56	0.25	0.84				0.38	0.09	0.09	0.09
v/c Ratio		1.26	0.31	0.80	0.62				1.30	1.18	1.17	0.58
Control Delay		141.4	4.2	57.3	9.7				192.7	183.1	201.3	52.2
Queue Delay		0.9	0.0	0.0	1.1				0.0	0.0	0.0	0.0
Total Delay		142.2	4.2	57.3	10.8				192.7	183.1	201.3	52.2
LOS		F	A	E	B				F	F	F	D
Approach Delay		132.1			20.3			192.7				164.5
Approach LOS		F			C			F				F
Queue Length 50th (ft)		~2078	60	427	528				~1254	~275	~281	59
Queue Length 95th (ft)		m#1837	m48	m429	m541				#1521	#395	#472	136
Internal Link Dist (ft)		326			783			427				933
Turn Bay Length (ft)				350						500		500
Base Capacity (vph)		2741	896	833	4110				584	273	140	186
Starvation Cap Reductn		28	0	0	1194				0	0	0	0
Spillback Cap Reductn		841	0	0	0				3	0	0	0
Storage Cap Reductn		0	0	0	0				0	0	0	0
Reduced v/c Ratio		1.82	0.31	0.80	0.88				1.30	1.18	1.17	0.58

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	166 (83%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.30
Intersection Signal Delay:	96.5
Intersection LOS:	F
Intersection Capacity Utilization:	133.9%
ICU Level of Service:	H
Analysis Period (min):	15





























- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sand Lake Road & Turnpike SB Off-Ramp



Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 Build PM
08/17/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		  	  		 					
Traffic Volume (vph)	450	3070	870	750	2449	910	620	0	320	0	0	0
Future Volume (vph)	450	3070	870	750	2449	910	620	0	320	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	350		350	350		350	0		0	0		0
Storage Lanes	2		1	2		1	2		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850			
Flt Protected	0.950			0.950			0.950					
Satd. Flow (prot)	3335	5187	1538	3335	4893	1538	3183	0	1495	0	0	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	3335	5187	1538	3335	4893	1538	3183	0	1495	0	0	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209			274			71			
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		863			2013			1306			1127	
Travel Time (s)		13.1			30.5			29.7			25.6	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	5%	0%	5%	5%	6%	5%	10%	8%	8%	0%	0%	0%
Adj. Flow (vph)	474	3232	916	789	2578	958	653	0	337	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	474	3232	916	789	2578	958	653	0	337	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1			
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right			
Leading Detector (ft)	20	100	20	20	100	20	20		20			
Trailing Detector (ft)	0	0	0	0	0	0	0		0			
Detector 1 Position(ft)	0	0	0	0	0	0	0		0			
Detector 1 Size(ft)	20	6	20	20	6	20	20		20			
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex			
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0			
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot		pt+ov			
Protected Phases	5	2		1	6		8		8	1		

Lanes, Volumes, Timings
5: Turnpike NB Ramps & Sand Lake Road

2045 Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	Free		Free		Free		Free		Free		Free	
Detector Phase	5	2		1	6		8		8	1		
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0					
Minimum Split (s)	13.0	26.0		13.0	26.0		26.0					
Total Split (s)	37.0	112.0		39.0	114.0		49.0					
Total Split (%)	18.5%	56.0%		19.5%	57.0%		24.5%					
Maximum Green (s)	29.0	104.0		31.0	106.0		41.0					
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0					
All-Red Time (s)	4.0	4.0		4.0	4.0		4.0					
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0					
Total Lost Time (s)	8.0	8.0		8.0	8.0		8.0					
Lead/Lag	Lead	Lead		Lag	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0					
Recall Mode	None	C-Max		None	C-Max		None					
Walk Time (s)		7.0			7.0		7.0					
Flash Dont Walk (s)		11.0			11.0		11.0					
Pedestrian Calls (#/hr)		0			0		0					
Act Effct Green (s)	29.0	104.0	200.0	31.0	106.0	200.0	41.0			80.0		
Actuated g/C Ratio	0.14	0.52	1.00	0.16	0.53	1.00	0.20			0.40		
v/c Ratio	0.98	1.20	0.60	1.53	0.99	0.62	1.00			0.53		
Control Delay	108.2	125.2	0.2	274.9	19.1	3.0	112.8			38.7		
Queue Delay	0.0	0.3	0.0	0.0	0.0	0.0	0.0			0.0		
Total Delay	108.2	125.5	0.2	274.9	19.1	3.0	112.8			38.7		
LOS	F	F	A	F	B	A	F			D		
Approach Delay		98.9			62.2				87.6			
Approach LOS		F			E				F			
Queue Length 50th (ft)	321	~1874	0	~742	862	0	~450			268		
Queue Length 95th (ft)	m246	m1020	m0	m#387	m211	m0	#591			379		
Internal Link Dist (ft)		783			1933				1226			1047
Turn Bay Length (ft)	350		350	350		350						
Base Capacity (vph)	483	2697	1538	516	2593	1538	652			640		
Starvation Cap Reductn	0	338	0	0	0	0	0			0		
Spillback Cap Reductn	0	0	0	0	0	0	0			0		
Storage Cap Reductn	0	0	0	0	0	0	0			0		
Reduced v/c Ratio	0.98	1.37	0.60	1.53	0.99	0.62	1.00			0.53		

Intersection Summary

Area Type:	Other
Cycle Length:	200
Actuated Cycle Length:	200
Offset:	0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle:	150
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.53
Intersection Signal Delay:	81.8
Intersection LOS:	F
Intersection Capacity Utilization:	115.1%
ICU Level of Service:	H
Analysis Period (min):	15

- ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Turnpike NB Ramps & Sand Lake Road



Intersection						
Int Delay, s/veh	0.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↗	↕			↕
Traffic Vol, veh/h	0	21	682	24	0	978
Future Vol, veh/h	0	21	682	24	0	978
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	100	3	100	2	3
Mvmt Flow	0	22	718	25	0	1029

Major/Minor	Minor1	Major1	Major2		
Conflicting Flow All	-	372	0	0	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-
Critical Hdwy	-	8.9	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-
Follow-up Hdwy	-	4.3	-	-	-
Pot Cap-1 Maneuver	0	413	-	-	0
Stage 1	0	-	-	-	0
Stage 2	0	-	-	-	0
Platoon blocked, %			-	-	-
Mov Cap-1 Maneuver	-	413	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.2	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBRWBLn1	SBT
Capacity (veh/h)	-	-	413
HCM Lane V/C Ratio	-	-	0.054
HCM Control Delay (s)	-	-	14.2
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.2

Appendix C-6

Orange County Site 1 – Future Safety Analysis

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road No Build
Agency or Company	VHB	Intersection	John Young Parkway
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	69,200
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	37,000
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			19
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	9
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.85	1.00	0.91	1.00	0.40

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	28.622	1.000	28.622	0.40	1.00	11.408
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	10.226	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.367	10.490	0.40	1.00	4.181
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	17.675	$(5)_{TOTAL}-(5)_{FI}$ 0.633	18.132	0.40	1.00	7.227

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.181	1.000	7.227	11.408
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.882	0.483	3.491	5.372
Head-on collision	0.049	0.205	0.030	0.217	0.422
Angle collision	0.347	1.451	0.244	1.763	3.214
Sideswipe	0.099	0.414	0.032	0.231	0.645
Other multiple-vehicle collision	0.055	0.230	0.211	1.525	1.755

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.232	1.000	1.232	0.40	1.00	0.491
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.245	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.199	0.246	0.40	1.00	0.098
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.983	$(5)_{TOTAL}-(5)_{FI}$ 0.801	0.986	0.40	1.00	0.393

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.098	1.000	0.393	0.491
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.073	0.870	0.342	0.415
Collision with other object	0.072	0.007	0.070	0.028	0.035
Other single-vehicle collision	0.040	0.004	0.023	0.009	0.013
Single-vehicle noncollision	0.141	0.014	0.034	0.013	0.027

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.034	1.00	1.00	0.034
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.034

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	11.408	0.491	11.899	0.015	1.00	0.178
Fatal and injury (FI)	--	--	--	--	1.00	0.178

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.882	3.491	5.372
Head-on collisions (from Worksheet 2D)	0.205	0.217	0.422
Angle collisions (from Worksheet 2D)	1.451	1.763	3.214
Sideswipe (from Worksheet 2D)	0.414	0.231	0.645
Other multiple-vehicle collision (from Worksheet 2D)	0.230	1.525	1.755
Subtotal	4.181	7.227	11.408
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.073	0.342	0.415
Collision with other object (from Worksheet 2F)	0.007	0.028	0.035
Other single-vehicle collision (from Worksheet 2F)	0.004	0.009	0.013
Single-vehicle noncollision (from Worksheet 2F)	0.014	0.013	0.027
Collision with pedestrian (from Worksheet 2G or 2I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 2J)	0.178	0.000	0.178
Subtotal	0.310	0.393	0.704
Total	4.492	7.620	12.112

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	12.1
Fatal and injury (FI)	4.5
Property damage only (PDO)	7.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road No Build
Agency or Company	VHB	Intersection	Turnpike SB Off Ramp
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	18,700
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Permissive
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	8
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.93	0.88	1.00	0.91	1.00	0.61

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bimv}	Proportion of Total Crashes	Adjusted N_{bimv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bimv}
	from Table 12-10									
	a	b	c							
Total	-10.99	1.07	0.23	0.39	28.572	1.000	28.572	0.61	1.00	17.353
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	10.443	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.375	10.717	0.61	1.00	6.509
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	17.397	$(5)_{TOTAL}-(5)_{FI}$ 0.625	17.854	0.61	1.00	10.844

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type _(FI)	Predicted $N_{bimv (FI)}$ (crashes/year)	Proportion of Collision Type _(PDO)	Predicted $N_{bimv (PDO)}$ (crashes/year)	Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	(9) _{FI} from Worksheet 2C	from Table 12-11	(9) _{PDO} from Worksheet 2C	(9) _{PDO} from Worksheet 2C
Total	1.000	6.509	1.000	10.844	17.353
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.929	0.483	5.237	8.167
Head-on collision	0.049	0.319	0.030	0.325	0.644
Angle collision	0.347	2.259	0.244	2.646	4.905
Sideswipe	0.099	0.644	0.032	0.347	0.991
Other multiple-vehicle collision	0.055	0.358	0.211	2.288	2.646

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bisv}	Proportion of Total Crashes	Adjusted N_{bimv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bisv}
	from Table 12-12									
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.131	1.000	1.131	0.61	1.00	0.687
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.214	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.187	0.212	0.61	1.00	0.129
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.928	$(5)_{TOTAL}-(5)_{FI}$ 0.813	0.919	0.61	1.00	0.558

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.129	1.000	0.558	0.687
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.001	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.096	0.870	0.486	0.581
Collision with other object	0.072	0.009	0.070	0.039	0.048
Other single-vehicle collision	0.040	0.005	0.023	0.013	0.018
Single-vehicle noncollision	0.141	0.018	0.034	0.019	0.037

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.007	1.00	1.00	0.007
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.007

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	17.353	0.687	18.040	0.015	1.00	0.271
Fatal and injury (FI)	--	--	--	--	1.00	0.271

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.929	5.237	8.167
Head-on collisions (from Worksheet 2D)	0.319	0.325	0.644
Angle collisions (from Worksheet 2D)	2.259	2.646	4.905
Sideswipe (from Worksheet 2D)	0.644	0.347	0.991
Other multiple-vehicle collision (from Worksheet 2D)	0.358	2.288	2.646
Subtotal	6.509	10.844	17.353
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.001	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.096	0.486	0.581
Collision with other object (from Worksheet 2F)	0.009	0.039	0.048
Other single-vehicle collision (from Worksheet 2F)	0.005	0.013	0.018
Single-vehicle noncollision (from Worksheet 2F)	0.018	0.019	0.037
Collision with pedestrian (from Worksheet 2G or 2I)	0.007	0.000	0.007
Collision with bicycle (from Worksheet 2J)	0.271	0.000	0.271
Subtotal	0.406	0.558	0.964
Total	6.915	11.402	18.317

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	18.3
Fatal and injury (FI)	6.9
Property damage only (PDO)	11.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road No Build
Agency or Company	VHB	Intersection	Turnpike NB Ramps
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	28,300
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	10
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.82	0.88	1.00	0.91	1.00	0.48

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	31.428	1.000	31.428	0.48	1.00	15.200
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	11.440	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.373	11.728	0.48	1.00	5.672
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	19.216	$(5)_{TOTAL}-(5)_{FI}$ 0.627	19.700	0.48	1.00	9.528

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	5.672	1.000	9.528	15.200
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.553	0.483	4.602	7.155
Head-on collision	0.049	0.278	0.030	0.286	0.564
Angle collision	0.347	1.968	0.244	2.325	4.293
Sideswipe	0.099	0.562	0.032	0.305	0.866
Other multiple-vehicle collision	0.055	0.312	0.211	2.010	2.322

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.265	1.000	1.265	0.48	1.00	0.612
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.241	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.190	0.240	0.48	1.00	0.116
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	1.029	$(5)_{TOTAL}-(5)_{FI}$ 0.810	1.025	0.48	1.00	0.496

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.116	1.000	0.496	0.612
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.086	0.870	0.431	0.517
Collision with other object	0.072	0.008	0.070	0.035	0.043
Other single-vehicle collision	0.040	0.005	0.023	0.011	0.016
Single-vehicle noncollision	0.141	0.016	0.034	0.017	0.033

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.00	2.78

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.009	2.78	1.00	0.024
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.024

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	15.200	0.612	15.812	0.015	1.00	0.237
Fatal and injury (FI)	--	--	--	--	1.00	0.237

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.553	4.602	7.155
Head-on collisions (from Worksheet 2D)	0.278	0.286	0.564
Angle collisions (from Worksheet 2D)	1.968	2.325	4.293
Sideswipe (from Worksheet 2D)	0.562	0.305	0.866
Other multiple-vehicle collision (from Worksheet 2D)	0.312	2.010	2.322
Subtotal	5.672	9.528	15.200
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.086	0.431	0.517
Collision with other object (from Worksheet 2F)	0.008	0.035	0.043
Other single-vehicle collision (from Worksheet 2F)	0.005	0.011	0.016
Single-vehicle noncollision (from Worksheet 2F)	0.016	0.017	0.033
Collision with pedestrian (from Worksheet 2G or 2I)	0.024	0.000	0.024
Collision with bicycle (from Worksheet 2J)	0.237	0.000	0.237
Subtotal	0.377	0.496	0.873
Total	6.049	10.024	16.073

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	16.1
Fatal and injury (FI)	6.0
Property damage only (PDO)	10.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road No Build
Agency or Company	VHB	Intersection	Presidents Drive
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	12,800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			12
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	10
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	1

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.92	1.00	0.91	1.00	0.43

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	26.186	1.000	26.186	0.43	1.00	11.325
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	9.607	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.377	9.869	0.43	1.00	4.268
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	15.884	$(5)_{TOTAL}-(5)_{FI}$ 0.623	16.317	0.43	1.00	7.057

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.268	1.000	7.057	11.325
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.921	0.483	3.408	5.329
Head-on collision	0.049	0.209	0.030	0.212	0.421
Angle collision	0.347	1.481	0.244	1.722	3.203
Sideswipe	0.099	0.423	0.032	0.226	0.648
Other multiple-vehicle collision	0.055	0.235	0.211	1.489	1.724

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.021	1.000	1.021	0.43	1.00	0.441
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.192	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.185	0.189	0.43	1.00	0.082
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.844	$(5)_{TOTAL}-(5)_{FI}$ 0.815	0.832	0.43	1.00	0.360

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.082	1.000	0.360	0.441
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.061	0.870	0.313	0.374
Collision with other object	0.072	0.006	0.070	0.025	0.031
Other single-vehicle collision	0.040	0.003	0.023	0.008	0.012
Single-vehicle noncollision	0.141	0.012	0.034	0.012	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.020	3.11	1.00	0.062
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.062

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	11.325	0.441	11.767	0.015	1.00	0.176
Fatal and injury (FI)	--	--	--	--	1.00	0.176

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.921	3.408	5.329
Head-on collisions (from Worksheet 2D)	0.209	0.212	0.421
Angle collisions (from Worksheet 2D)	1.481	1.722	3.203
Sideswipe (from Worksheet 2D)	0.423	0.226	0.648
Other multiple-vehicle collision (from Worksheet 2D)	0.235	1.489	1.724
Subtotal	4.268	7.057	11.325
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.061	0.313	0.374
Collision with other object (from Worksheet 2F)	0.006	0.025	0.031
Other single-vehicle collision (from Worksheet 2F)	0.003	0.008	0.012
Single-vehicle noncollision (from Worksheet 2F)	0.012	0.012	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.062	0.000	0.062
Collision with bicycle (from Worksheet 2J)	0.176	0.000	0.176
Subtotal	0.320	0.360	0.680
Total	4.589	7.417	12.005

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	12.0
Fatal and injury (FI)	4.6
Property damage only (PDO)	7.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	John Young Parkway
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	69,200
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	37,800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			19
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	9
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF 1i</i>	<i>CMF 2i</i>	<i>CMF 3i</i>	<i>CMF 4i</i>	<i>CMF 5i</i>	<i>CMF 6i</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.85	1.00	0.91	1.00	0.40

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	28.763	1.000	28.763	0.40	1.00	11.465
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	10.274	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.366	10.539	0.40	1.00	4.201
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	17.766	$(5)_{TOTAL}-(5)_{FI}$ 0.634	18.224	0.40	1.00	7.264

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.201	1.000	7.264	11.465
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.890	0.483	3.508	5.399
Head-on collision	0.049	0.206	0.030	0.218	0.424
Angle collision	0.347	1.458	0.244	1.772	3.230
Sideswipe	0.099	0.416	0.032	0.232	0.648
Other multiple-vehicle collision	0.055	0.231	0.211	1.533	1.764

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.239	1.000	1.239	0.40	1.00	0.494
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.246	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.200	0.247	0.40	1.00	0.099
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.988	$(5)_{TOTAL}-(5)_{FI}$ 0.800	0.992	0.40	1.00	0.395

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.099	1.000	0.395	0.494
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.073	0.870	0.344	0.417
Collision with other object	0.072	0.007	0.070	0.028	0.035
Other single-vehicle collision	0.040	0.004	0.023	0.009	0.013
Single-vehicle noncollision	0.141	0.014	0.034	0.013	0.027

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.034	1.00	1.00	0.034
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.034

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	11.465	0.494	11.958	0.015	1.00	0.179
Fatal and injury (FI)	--	--	--	--	1.00	0.179

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.890	3.508	5.399
Head-on collisions (from Worksheet 2D)	0.206	0.218	0.424
Angle collisions (from Worksheet 2D)	1.458	1.772	3.230
Sideswipe (from Worksheet 2D)	0.416	0.232	0.648
Other multiple-vehicle collision (from Worksheet 2D)	0.231	1.533	1.764
Subtotal	4.201	7.264	11.465
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.073	0.344	0.417
Collision with other object (from Worksheet 2F)	0.007	0.028	0.035
Other single-vehicle collision (from Worksheet 2F)	0.004	0.009	0.013
Single-vehicle noncollision (from Worksheet 2F)	0.014	0.013	0.027
Collision with pedestrian (from Worksheet 2G or 2I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 2J)	0.179	0.000	0.179
Subtotal	0.312	0.395	0.708
Total	4.513	7.659	12.172

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	12.2
Fatal and injury (FI)	4.5
Property damage only (PDO)	7.7

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	Turnpike SB Off Ramp
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	18,700
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Permissive
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	8
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF</i> 1i	<i>CMF</i> 2i	<i>CMF</i> 3i	<i>CMF</i> 4i	<i>CMF</i> 5i	<i>CMF</i> 6i	<i>CMF</i> COMB
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.93	0.88	1.00	0.91	1.00	0.61

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	28.572	1.000	28.572	0.61	1.00	17.353
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	10.443	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.375	10.717	0.61	1.00	6.509
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	17.397	$(5)_{TOTAL}-(5)_{FI}$ 0.625	17.854	0.61	1.00	10.844

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	6.509	1.000	10.844	17.353
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.929	0.483	5.237	8.167
Head-on collision	0.049	0.319	0.030	0.325	0.644
Angle collision	0.347	2.259	0.244	2.646	4.905
Sideswipe	0.099	0.644	0.032	0.347	0.991
Other multiple-vehicle collision	0.055	0.358	0.211	2.288	2.646

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.131	1.000	1.131	0.61	1.00	0.687
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.214	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.187	0.212	0.61	1.00	0.129
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.928	$(5)_{TOTAL}-(5)_{FI}$ 0.813	0.919	0.61	1.00	0.558

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.129	1.000	0.558	0.687
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.001	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.096	0.870	0.486	0.581
Collision with other object	0.072	0.009	0.070	0.039	0.048
Other single-vehicle collision	0.040	0.005	0.023	0.013	0.018
Single-vehicle noncollision	0.141	0.018	0.034	0.019	0.037

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.007	1.00	1.00	0.007
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.007

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	17.353	0.687	18.040	0.015	1.00	0.271
Fatal and injury (FI)	--	--	--	--	1.00	0.271

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.929	5.237	8.167
Head-on collisions (from Worksheet 2D)	0.319	0.325	0.644
Angle collisions (from Worksheet 2D)	2.259	2.646	4.905
Sideswipe (from Worksheet 2D)	0.644	0.347	0.991
Other multiple-vehicle collision (from Worksheet 2D)	0.358	2.288	2.646
Subtotal	6.509	10.844	17.353
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.001	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.096	0.486	0.581
Collision with other object (from Worksheet 2F)	0.009	0.039	0.048
Other single-vehicle collision (from Worksheet 2F)	0.005	0.013	0.018
Single-vehicle noncollision (from Worksheet 2F)	0.018	0.019	0.037
Collision with pedestrian (from Worksheet 2G or 2I)	0.007	0.000	0.007
Collision with bicycle (from Worksheet 2J)	0.271	0.000	0.271
Subtotal	0.406	0.558	0.964
Total	6.915	11.402	18.317

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	18.3
Fatal and injury (FI)	6.9
Property damage only (PDO)	11.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	Turnpike NB Ramps
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	28,300
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			1
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	10
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF 1i</i>	<i>CMF 2i</i>	<i>CMF 3i</i>	<i>CMF 4i</i>	<i>CMF 5i</i>	<i>CMF 6i</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.82	0.88	1.00	0.91	1.00	0.48

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	31.428	1.000	31.428	0.48	1.00	15.200
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	11.440	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.373	11.728	0.48	1.00	5.672
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	19.216	$(5)_{TOTAL}-(5)_{FI}$ 0.627	19.700	0.48	1.00	9.528

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	5.672	1.000	9.528	15.200
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.553	0.483	4.602	7.155
Head-on collision	0.049	0.278	0.030	0.286	0.564
Angle collision	0.347	1.968	0.244	2.325	4.293
Sideswipe	0.099	0.562	0.032	0.305	0.866
Other multiple-vehicle collision	0.055	0.312	0.211	2.010	2.322

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.265	1.000	1.265	0.48	1.00	0.612
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.241	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.190	0.240	0.48	1.00	0.116
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	1.029	$(5)_{TOTAL}-(5)_{FI}$ 0.810	1.025	0.48	1.00	0.496

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type _(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type _(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.116	1.000	0.496	0.612
		(2)* _{(3)_{FI}}		(4)* _{(5)_{PDO}}	(3)+ ₍₅₎
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.086	0.870	0.431	0.517
Collision with other object	0.072	0.008	0.070	0.035	0.043
Other single-vehicle collision	0.040	0.005	0.023	0.011	0.016
Single-vehicle noncollision	0.141	0.016	0.034	0.017	0.033

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)* _{(5)*₍₆₎}
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)* _{(2)*₍₃₎}
2.78	1.00	1.00	2.78

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.009	2.78	1.00	0.024
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.024

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	15.200	0.612	15.812	0.015	1.00	0.237
Fatal and injury (FI)	--	--	--	--	1.00	0.237

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.553	4.602	7.155
Head-on collisions (from Worksheet 2D)	0.278	0.286	0.564
Angle collisions (from Worksheet 2D)	1.968	2.325	4.293
Sideswipe (from Worksheet 2D)	0.562	0.305	0.866
Other multiple-vehicle collision (from Worksheet 2D)	0.312	2.010	2.322
Subtotal	5.672	9.528	15.200
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.086	0.431	0.517
Collision with other object (from Worksheet 2F)	0.008	0.035	0.043
Other single-vehicle collision (from Worksheet 2F)	0.005	0.011	0.016
Single-vehicle noncollision (from Worksheet 2F)	0.016	0.017	0.033
Collision with pedestrian (from Worksheet 2G or 2I)	0.024	0.000	0.024
Collision with bicycle (from Worksheet 2J)	0.237	0.000	0.237
Subtotal	0.377	0.496	0.873
Total	6.049	10.024	16.073

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	16.1
Fatal and injury (FI)	6.0
Property damage only (PDO)	10.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	Presidents Drive
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	80,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	12,800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			12
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	10
Number of bus stops within 300 m (1,000 ft) of the intersection		0	1
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	1

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF 1i</i>	<i>CMF 2i</i>	<i>CMF 3i</i>	<i>CMF 4i</i>	<i>CMF 5i</i>	<i>CMF 6i</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.92	1.00	0.91	1.00	0.43

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	26.186	1.000	26.186	0.43	1.00	11.325
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	9.607	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.377	9.869	0.43	1.00	4.268
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	15.884	$(5)_{TOTAL}-(5)_{FI}$ 0.623	16.317	0.43	1.00	7.057

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.268	1.000	7.057	11.325
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.921	0.483	3.408	5.329
Head-on collision	0.049	0.209	0.030	0.212	0.421
Angle collision	0.347	1.481	0.244	1.722	3.203
Sideswipe	0.099	0.423	0.032	0.226	0.648
Other multiple-vehicle collision	0.055	0.235	0.211	1.489	1.724

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.021	1.000	1.021	0.43	1.00	0.441
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.192	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.185	0.189	0.43	1.00	0.082
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.844	$(5)_{TOTAL}-(5)_{FI}$ 0.815	0.832	0.43	1.00	0.360

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.082	1.000	0.360	0.441
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.061	0.870	0.313	0.374
Collision with other object	0.072	0.006	0.070	0.025	0.031
Other single-vehicle collision	0.040	0.003	0.023	0.008	0.012
Single-vehicle noncollision	0.141	0.012	0.034	0.012	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.020	3.11	1.00	0.062
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.062

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	11.325	0.441	11.767	0.015	1.00	0.176
Fatal and injury (FI)	--	--	--	--	1.00	0.176

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.921	3.408	5.329
Head-on collisions (from Worksheet 2D)	0.209	0.212	0.421
Angle collisions (from Worksheet 2D)	1.481	1.722	3.203
Sideswipe (from Worksheet 2D)	0.423	0.226	0.648
Other multiple-vehicle collision (from Worksheet 2D)	0.235	1.489	1.724
Subtotal	4.268	7.057	11.325
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.061	0.313	0.374
Collision with other object (from Worksheet 2F)	0.006	0.025	0.031
Other single-vehicle collision (from Worksheet 2F)	0.003	0.008	0.012
Single-vehicle noncollision (from Worksheet 2F)	0.012	0.012	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.062	0.000	0.062
Collision with bicycle (from Worksheet 2J)	0.176	0.000	0.176
Subtotal	0.320	0.360	0.680
Total	4.589	7.417	12.005

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	12.0
Fatal and injury (FI)	4.6
Property damage only (PDO)	7.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	Potential Truck Stop - Sand Lake Road (East)
Date Performed	06/17/22	Jurisdiction	Orange County
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT _{major} (veh/day)	AADT _{MAX} = 45,700 (veh/day)	--	37,000
AADT _{minor} (veh/day)	AADT _{MAX} = 9,300 (veh/day)	--	800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	0.86	1.00	0.91	1.00	0.52

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-13.36	1.11	0.41	0.80	2.876	1.000	2.876	0.52	1.00	1.510
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	1.218	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.388	1.117	0.52	1.00	0.586
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	1.919	$(5)_{TOTAL}-(5)_{FI}$ 0.612	1.759	0.52	1.00	0.923

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.586	1.000	0.923	1.510
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.421	0.247	0.440	0.406	0.653
Head-on collision	0.045	0.026	0.023	0.021	0.048
Angle collision	0.343	0.201	0.262	0.242	0.443
Sideswipe	0.126	0.074	0.040	0.037	0.111
Other multiple-vehicle collision	0.065	0.038	0.235	0.217	0.255

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.179	1.000	0.179	0.52	1.00	0.094
Fatal and Injury (FI)	--	--	--	--	0.056	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.303	0.054	0.52	1.00	0.028
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.128	$(5)_{TOTAL}-(5)_{FI}$ 0.697	0.125	0.52	1.00	0.066

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.028	1.000	0.066	0.094
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.001
Collision with fixed object	0.762	0.022	0.834	0.055	0.077
Collision with other object	0.090	0.003	0.092	0.006	0.009
Other single-vehicle collision	0.039	0.001	0.023	0.002	0.003
Single-vehicle noncollision	0.105	0.003	0.030	0.002	0.005

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	1.510	0.094	1.604	0.021	1.00	0.034
Fatal and injury (FI)	--	--	--	--	1.00	0.034

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.510	0.094	1.604	0.016	1.00	0.026
Fatal and injury (FI)	--	--	--	--	1.00	0.026

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.247	0.406	0.653
Head-on collisions (from Worksheet 2D)	0.026	0.021	0.048
Angle collisions (from Worksheet 2D)	0.201	0.242	0.443
Sideswipe (from Worksheet 2D)	0.074	0.037	0.111
Other multiple-vehicle collision (from Worksheet 2D)	0.038	0.217	0.255
Subtotal	0.586	0.923	1.510
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.022	0.055	0.077
Collision with other object (from Worksheet 2F)	0.003	0.006	0.009
Other single-vehicle collision (from Worksheet 2F)	0.001	0.002	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.003	0.002	0.005
Collision with pedestrian (from Worksheet 2G or 2I)	0.034	0.000	0.034
Collision with bicycle (from Worksheet 2J)	0.026	0.000	0.026
Subtotal	0.088	0.066	0.154
Total	0.674	0.989	1.663

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.7
Fatal and injury (FI)	0.7
Property damage only (PDO)	1.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Sand Lake Road Build
Agency or Company	VHB	Intersection	Potential Truck Stop - John Young Parkway (North)
Date Performed	06/17/22	Jurisdiction	Orange County
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT _{major} (veh/day)	AADT _{MAX} = 45,700 (veh/day)	--	8,100
AADT _{minor} (veh/day)	AADT _{MAX} = 9,300 (veh/day)	--	400
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF 1i</i>	<i>CMF 2i</i>	<i>CMF 3i</i>	<i>CMF 4i</i>	<i>CMF 5i</i>	<i>CMF 6i</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	0.86	1.00	0.91	1.00	0.52

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.401	1.000	0.401	0.52	1.00	0.210
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.170	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.438	0.176	0.52	1.00	0.092
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.218	$(5)_{TOTAL}-(5)_{FI}$ 0.562	0.225	0.52	1.00	0.118

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.092	1.000	0.118	0.210
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.421	0.039	0.440	0.052	0.091
Head-on collision	0.045	0.004	0.023	0.003	0.007
Angle collision	0.343	0.032	0.262	0.031	0.063
Sideswipe	0.126	0.012	0.040	0.005	0.016
Other multiple-vehicle collision	0.065	0.006	0.235	0.028	0.034

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.099	1.000	0.099	0.52	1.00	0.052
Fatal and Injury (FI)	--	--	--	--	0.031	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.338	0.033	0.52	1.00	0.018
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.060	$(5)_{TOTAL}-(5)_{FI}$ 0.662	0.065	0.52	1.00	0.034

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type (PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.018	1.000	0.034	0.052
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.001
Collision with fixed object	0.762	0.013	0.834	0.029	0.042
Collision with other object	0.090	0.002	0.092	0.003	0.005
Other single-vehicle collision	0.039	0.001	0.023	0.001	0.001
Single-vehicle noncollision	0.105	0.002	0.030	0.001	0.003

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	0.210	0.052	0.262	0.021	1.00	0.006
Fatal and injury (FI)	--	--	--	--	1.00	0.006

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.210	0.052	0.262	0.016	1.00	0.004
Fatal and injury (FI)	--	--	--	--	1.00	0.004

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.039	0.052	0.091
Head-on collisions (from Worksheet 2D)	0.004	0.003	0.007
Angle collisions (from Worksheet 2D)	0.032	0.031	0.063
Sideswipe (from Worksheet 2D)	0.012	0.005	0.016
Other multiple-vehicle collision (from Worksheet 2D)	0.006	0.028	0.034
Subtotal	0.092	0.118	0.210
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.013	0.029	0.042
Collision with other object (from Worksheet 2F)	0.002	0.003	0.005
Other single-vehicle collision (from Worksheet 2F)	0.001	0.001	0.001
Single-vehicle noncollision (from Worksheet 2F)	0.002	0.001	0.003
Collision with pedestrian (from Worksheet 2G or 2I)	0.006	0.000	0.006
Collision with bicycle (from Worksheet 2J)	0.004	0.000	0.004
Subtotal	0.027	0.034	0.062
Total	0.119	0.152	0.272

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	0.3
Fatal and injury (FI)	0.1
Property damage only (PDO)	0.2

Appendix D-1

Orange County Site 2 - Existing Traffic Data

VEHICLE TURNING MOVEMENT COUNT

SECTION: 63640.01
 STATE ROUTE: Landstreet Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Orlando
 INTERSECTING ROUTE: SR 528 WB off-ramp
 DATE OF COUNT: 1/0/00
 ROAD CONDITION: Good
 COUNT PERIODS:

COUNTY: Orange
 MILEPOST: 3.982
 COMPLETED BY: VV
 DATE COMPLETED: 5/5/22

ALL VEHICLES / ALL MOVEMENTS

Direction	Northbound						Southbound						NS Total	Eastbound						Westbound						EW Total	Grand Total
	NBU	NBL	NBT	NBR	NBRTOR	Total	SBU	SBL	SBT	SBR	SBRTOR	Total		EBU	EBL	EBT	EBR	EBRTOR	Total	WBU	WBL	WBT	WBR	WBRTOR	Total		
7:00 AM	0	24	0	72	0	96	0	0	0	0	0	96	0	0	37	0	0	37	0	0	43	0	0	43	80	176	
7:15 AM	0	17	0	90	0	107	0	0	0	0	0	107	0	0	39	0	0	39	0	0	44	0	0	44	83	190	
7:30 AM	0	31	0	99	0	130	0	0	0	0	0	130	0	0	63	0	0	63	0	0	39	0	0	39	102	232	
7:45 AM	0	37	0	98	0	135	0	0	0	0	0	135	0	0	43	1	0	44	0	0	65	0	0	65	109	244	
Total	0	109	0	359	0	468	0	0	0	0	0	468	0	0	182	1	0	183	0	0	191	0	0	191	374	842	
8:00 AM	0	26	0	61	0	87	0	0	0	0	0	87	0	0	56	0	0	56	1	0	48	0	0	49	105	192	
8:15 AM	0	30	0	68	0	98	0	0	0	0	0	98	0	0	52	0	0	52	2	0	42	0	0	44	96	194	
8:30 AM	0	21	0	54	0	75	0	0	0	0	0	75	0	0	56	0	0	56	0	0	47	0	0	47	103	178	
8:45 AM	0	21	0	83	0	104	0	0	0	0	0	104	0	0	54	0	0	54	0	0	48	0	0	48	102	206	
Total	0	98	0	266	0	364	0	0	0	0	0	364	0	0	218	0	0	218	3	0	185	0	0	188	406	770	
4:00 PM	0	13	0	51	0	64	0	0	0	0	0	64	0	0	110	0	0	110	0	0	35	0	0	35	145	209	
4:15 PM	0	9	0	36	0	45	0	0	0	0	0	45	0	0	103	0	0	103	0	0	31	0	0	31	134	179	
4:30 PM	0	6	0	49	0	55	0	0	0	0	0	55	0	0	90	0	0	90	0	0	24	0	0	24	114	169	
4:45 PM	0	14	0	42	0	56	0	0	0	0	0	56	0	0	117	0	0	117	0	0	30	0	0	30	147	203	
Total	0	42	0	178	0	220	0	0	0	0	0	220	0	0	420	0	0	420	0	0	120	0	0	120	540	760	
5:00 PM	0	10	0	37	0	47	0	0	0	0	0	47	0	0	118	0	0	118	0	0	35	0	0	35	153	200	
5:15 PM	0	8	0	36	0	44	0	0	0	0	0	44	1	0	111	0	0	112	1	0	36	0	0	37	149	193	
5:30 PM	0	8	0	35	0	43	0	0	0	0	0	43	1	0	98	0	0	99	1	0	35	0	0	36	135	178	
5:45 PM	0	5	0	62	0	67	0	0	0	0	0	67	0	0	75	0	0	75	0	0	29	0	0	29	104	171	
Total	0	31	0	170	0	201	0	0	0	0	0	201	2	0	402	0	0	404	2	0	135	0	0	137	541	742	

VEHICLE TURNING MOVEMENT COUNT

SECTION: 63640.01
 STATE ROUTE: Landstreet Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Orlando
 INTERSECTING ROUTE: SR 528 WB off-ramp
 DATE OF COUNT: 1/0/00
 ROAD CONDITION: Good
 COUNT PERIODS:

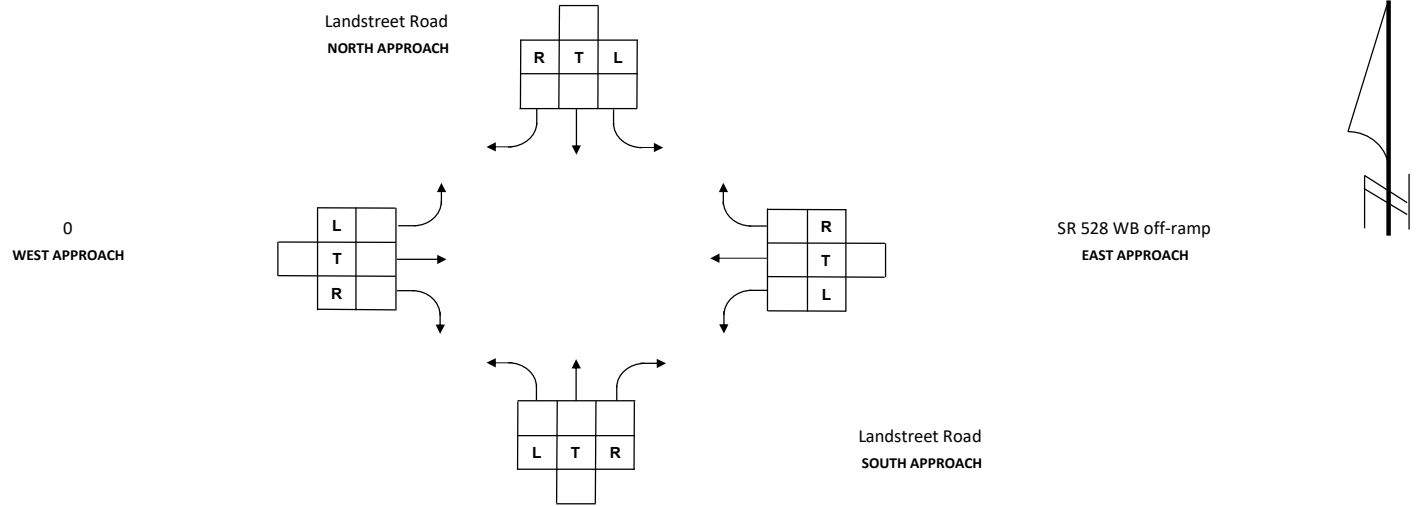
COUNTY: Orange
 MILEPOST: 3.982
 COMPLETED BY: VV
 DATE COMPLETED: 5/5/22

HEAVY VEHICLES (TRUCKS + BUSES)

Direction	Northbound						Southbound						NS Total	Eastbound						Westbound						EW Total	Grand Total
	NBU	NBL	NBT	NBR	NBRTOR	Total	SBU	SBL	SBT	SBR	SBRTOR	Total		EBU	EBL	EBT	EBR	EBRTOR	Total	WBU	WBL	WBT	WBR	WBRTOR	Total		
7:00 AM	0	2	0	3	0	5	0	0	0	0	0	0	5	0	0	9	0	0	9	0	0	7	0	0	7	16	21
7:15 AM	0	0	0	4	0	4	0	0	0	0	0	0	4	0	0	13	0	0	13	0	0	7	0	0	7	20	24
7:30 AM	0	1	0	4	0	5	0	0	0	0	0	0	5	0	0	13	0	0	13	0	0	10	0	0	10	23	28
7:45 AM	0	4	0	1	0	5	0	0	0	0	0	0	5	0	0	10	0	0	10	0	0	12	0	0	12	22	27
Total	0	7	0	12	0	19	0	0	0	0	0	0	19	0	0	45	0	0	45	0	0	36	0	0	36	81	100
8:00 AM	0	3	0	4	0	7	0	0	0	0	0	0	7	0	0	16	0	0	16	0	0	7	0	0	7	23	30
8:15 AM	0	3	0	4	0	7	0	0	0	0	0	0	7	0	0	20	0	0	20	0	0	10	0	0	10	30	37
8:30 AM	0	3	0	3	0	6	0	0	0	0	0	0	6	0	0	8	0	0	8	0	0	9	0	0	9	17	23
8:45 AM	0	2	0	4	0	6	0	0	0	0	0	0	6	0	0	17	0	0	17	0	0	8	0	0	8	25	31
Total	0	11	0	15	0	26	0	0	0	0	0	0	26	0	0	61	0	0	61	0	0	34	0	0	34	95	121
4:00 PM	0	2	0	9	0	11	0	0	0	0	0	0	11	0	0	13	0	0	13	0	0	7	0	0	7	20	31
4:15 PM	0	3	0	11	0	14	0	0	0	0	0	0	14	0	0	10	0	0	10	0	0	8	0	0	8	18	32
4:30 PM	0	3	0	7	0	10	0	0	0	0	0	0	10	0	0	9	0	0	9	0	0	6	0	0	6	15	25
4:45 PM	0	5	0	11	0	16	0	0	0	0	0	0	16	0	0	8	0	0	8	0	0	4	0	0	4	12	28
Total	0	13	0	38	0	51	0	0	0	0	0	0	51	0	0	40	0	0	40	0	0	25	0	0	25	65	116
5:00 PM	0	3	0	2	0	5	0	0	0	0	0	0	5	0	0	5	0	0	5	0	0	2	0	0	2	7	12
5:15 PM	0	3	0	2	0	5	0	0	0	0	0	0	5	0	0	8	0	0	8	0	0	4	0	0	4	12	17
5:30 PM	0	1	0	3	0	4	0	0	0	0	0	0	4	0	0	7	0	0	7	0	0	5	0	0	5	12	16
5:45 PM	0	2	0	6	0	8	0	0	0	0	0	0	8	0	0	8	0	0	8	0	0	2	0	0	2	10	18
Total	0	9	0	13	0	22	0	0	0	0	0	0	22	0	0	28	0	0	28	0	0	13	0	0	13	41	63

**FLORIDA DEPARTMENT OF TRANSPORTATION
SUMMARY OF VEHICLE MOVEMENTS**

SECTION: 63640.01	CITY: Orlando	COUNTY: Orange
STATE ROUTE: Landstreet Road	INTERSECTING ROUTE: SR 528 WB off-ramp	MILEPOST: 3.982
OBSERVER: VHB	DATE: 1/0/00	COMPLETED BY: VV
WEATHER: Good	ROAD CONDITION: Good	DATE COMPLETED: 5/5/22
REMARKS: _____		



TIME	NORTHBOUND						SOUTHBOUND						TOTAL N/S	EASTBOUND						WESTBOUND						TOTAL E/W
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT	
7:00 - 8:00	0	109	0	359	0	468	0	0	0	0	0	0	468	0	0	182	1	0	183	0	0	191	0	0	191	374
8:00 - 9:00	0	98	0	266	0	364	0	0	0	0	0	0	364	0	0	218	0	0	218	3	0	185	0	0	188	406
16:00 - 17:00	0	42	0	178	0	220	0	0	0	0	0	0	220	0	0	420	0	0	420	0	0	120	0	0	120	540
17:00 - 18:00	0	31	0	170	0	201	0	0	0	0	0	0	201	2	0	402	0	0	404	2	0	135	0	0	137	541
TOTAL	0	280	0	973	0	1,253	0	0	0	0	0	0	1,253	2	0	1,222	1	0	1,225	5	0	631	0	0	636	1,861

Percentage	0.0%	22.3%	0.0%	77.7%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	N/A	0.2%	0.0%	99.8%	0.1%	0.0%	100.0%	0.8%	0.0%	99.2%	0.0%	0.0%	100.0%	N/A
Maximum	0	109	0	359	0	468	0	0	0	0	0	0	468	2	0	420	1	0	420	3	0	191	0	0	191	541
Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Heavy Veh	40		0	78	0	118	0		0	0	0	0	118	0		174	0	0	174	0		108	0	0	108	282
% Heavy Veh	14.3%		0.0%	8.0%	9.4%	9.4%	0.0%		0.0%	0.0%	0.0%	0.0%	9.4%	0.0%		14.2%	0.0%	14.2%	0.0%		17.1%	0.0%	0.0%	17.0%	15.2%	

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** US 441
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	32	328	121	55	199	14	14	32	63	50	4	47
7:15 AM - 7:30 AM	24	294	83	53	242	12	31	28	56	73	13	51
7:30 AM - 7:45 AM	30	359	115	39	224	6	25	30	70	48	8	66
7:45 AM - 8:00 AM	23	370	91	50	255	14	28	42	66	50	16	54
8:00 AM - 8:15 AM	40	281	110	51	195	8	25	36	73	64	11	58
8:15 AM - 8:30 AM	32	318	78	43	195	3	18	24	56	57	8	48
8:30 AM - 8:45 AM	24	269	77	44	260	9	25	43	42	56	15	59
8:45 AM - 9:00 AM	30	297	101	43	202	10	18	37	71	51	15	57
TOTAL	235	2,516	776	378	1,772	76	184	272	497	449	90	440
Peak Hour												
7:00 AM - 8:00 AM	109	1,351	410	197	920	46	98	132	255	221	41	218

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	17	315	90	62	404	2	26	47	87	74	10	83
4:15 PM - 4:30 PM	24	296	76	55	381	7	25	45	70	86	8	70
4:30 PM - 4:45 PM	14	321	86	68	377	2	30	56	59	96	11	85
4:45 PM - 5:00 PM	22	299	95	59	376	3	28	47	76	75	13	70
5:00 PM - 5:15 PM	22	359	118	70	489	6	21	47	93	93	17	91
5:15 PM - 5:30 PM	17	359	120	56	490	6	16	34	82	66	16	72
5:30 PM - 5:45 PM	21	357	99	55	447	9	20	41	72	58	9	65
5:45 PM - 6:00 PM	16	344	87	63	421	3	30	39	71	63	7	52
TOTAL	153	2,650	771	488	3,385	38	196	356	610	611	91	588
Peak Hour												
5:00 PM - 6:00 PM	76	1,419	424	244	1,847	24	87	161	318	280	49	280

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** US 441
Date May 5, 2022 **Trucks**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	6	24	27	11	23	1	1	9	4	34	0	3
7:15 AM - 7:30 AM	5	15	14	9	25	3	5	4	1	40	0	4
7:30 AM - 7:45 AM	8	11	16	7	16	1	2	4	3	34	3	10
7:45 AM - 8:00 AM	5	20	12	5	36	0	2	4	3	33	4	8
8:00 AM - 8:15 AM	4	22	15	6	12	1	1	9	3	35	2	11
8:15 AM - 8:30 AM	7	25	12	8	21	0	1	6	5	26	3	9
8:30 AM - 8:45 AM	4	16	9	7	28	2	1	7	3	29	2	7
8:45 AM - 9:00 AM	6	17	13	7	17	0	0	10	4	28	4	8
TOTAL	45	150	118	60	178	8	13	53	26	259	18	60
Peak Hour												
7:00 AM - 8:00 AM	24	70	69	32	100	5	10	21	11	141	7	25
	29%	5%	30%	20%	12%	13%	11%	19%	13%	176%	21%	22%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	2	17	20	11	14	0	5	12	3	14	2	2
4:15 PM - 4:30 PM	2	12	25	5	18	4	1	11	2	12	0	5
4:30 PM - 4:45 PM	5	18	16	13	16	0	1	12	6	12	2	2
4:45 PM - 5:00 PM	2	7	18	8	20	1	1	6	7	16	1	2
5:00 PM - 5:15 PM	1	8	17	7	10	0	0	5	3	4	0	1
5:15 PM - 5:30 PM	2	12	19	3	12	1	1	2	4	8	1	3
5:30 PM - 5:45 PM	4	15	13	6	15	2	3	3	4	12	0	0
5:45 PM - 6:00 PM	1	13	12	5	10	0	1	7	1	11	0	1
TOTAL	19	102	140	58	115	8	13	58	30	89	6	16
Peak Hour												
5:00 PM - 6:00 PM	8	48	61	21	47	3	5	17	12	35	1	5

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Orange	City	Orlando
Intersection	-Landstreet Road	&	US 441
Date	May 5, 2022	U-Turns & RTOR	
		VHB Project #:	63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	26	0	0	0	0	0	38	0	0	21
7:15 AM - 7:30 AM	0	0	20	2	0	2	0	0	31	0	0	16
7:30 AM - 7:45 AM	3	0	38	0	0	0	0	0	46	0	0	23
7:45 AM - 8:00 AM	0	0	30	0	0	1	0	0	44	0	0	20
8:00 AM - 8:15 AM	1	0	37	3	0	1	0	0	42	0	0	18
8:15 AM - 8:30 AM	1	0	19	2	0	0	0	0	35	0	0	14
8:30 AM - 8:45 AM	2	0	26	2	0	0	0	0	19	0	0	29
8:45 AM - 9:00 AM	1	0	34	3	0	0	0	0	43	0	0	25
TOTAL	8	0	230	12	0	4	0	0	298	0	0	166
Peak Hour												
7:15 AM - 8:15 AM	4	0	125	5	0	4	0	0	163	0	0	77

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	24	3	0	0	0	0	46	0	0	52
4:15 PM - 4:30 PM	5	0	10	4	0	0	0	0	23	0	0	46
4:30 PM - 4:45 PM	2	0	20	1	0	2	0	0	17	0	0	40
4:45 PM - 5:00 PM	11	0	38	4	0	0	0	0	29	0	0	35
5:00 PM - 5:15 PM	5	0	37	6	0	1	0	0	42	0	0	54
5:15 PM - 5:30 PM	3	0	55	4	0	0	0	0	37	0	0	45
5:30 PM - 5:45 PM	3	0	31	1	0	0	0	0	33	0	0	46
5:45 PM - 6:00 PM	6	0	34	3	0	0	0	0	21	0	0	28
TOTAL	35	0	249	26	0	3	0	0	248	0	0	346
Peak Hour												
4:45 PM - 5:45 PM	22	0	161	15	0	1	0	0	141	0	0	180

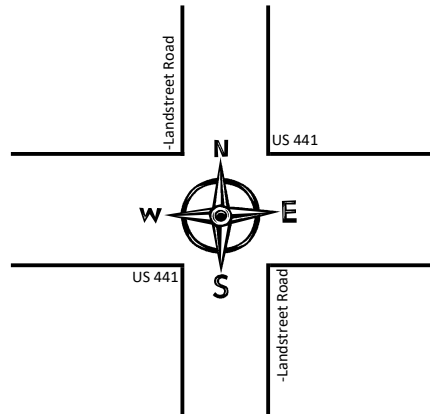
Pedestrian & Bicycle Summary

Project #: 63640.01
Date: 5/5/2022

NB/SB: -Landstreet Road
EB/WB: US 441

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	1	3	0	0	0	0	3	1	8
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	1	0	0	0
8:00	4	0	3	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	4	0	3	0
17:00	1	0	2	0
	10	0	8	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	1	1	1	0
8:00	1	0	3	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	3	0	7	6
	5	1	11	6

Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	3	0	0	0	0	0	0	1	4
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	2	2

7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
1	2	3	4	5	6	7	8

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** SR 528 EB on-ramp
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	168	21	13	116	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	144	24	16	156	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	1	179	21	19	130	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	176	24	19	147	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	169	30	21	124	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	121	27	17	114	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	142	19	12	165	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	180	33	13	124	0
TOTAL	0	0	0	0	0	0	1	1,279	199	130	1,076	0
Peak Hour												
7:15 AM - 8:15 AM	0	0	0	0	0	0	1	668	99	75	557	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	162	61	42	172	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	130	57	28	191	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	150	65	27	211	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	143	66	36	196	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	162	76	48	197	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	135	65	42	170	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	143	61	18	144	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	128	53	18	150	0
TOTAL	0	0	0	0	0	0	0	1,153	504	259	1,431	0
Peak Hour												
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	590	272	153	774	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** SR 528 EB on-ramp
Date May 5, 2022 **Trucks**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	39	8	4	41	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	28	6	7	55	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	26	2	15	54	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	21	5	11	62	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	34	13	13	36	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	21	6	8	43	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	29	3	8	53	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	48	8	8	36	0
TOTAL	0	0	0	0	0	0	0	246	51	74	380	0
Peak Hour												
7:15 AM - 8:15 AM	0	0	0	0	0	0	0	109	26	46	207	0
	0%	0%	0%	0%	0%	0%	0%	19%	36%	159%	59%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	52	4	5	16	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	50	4	4	23	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	38	2	5	21	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	35	1	4	16	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	31	2	4	14	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	28	2	0	16	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	24	1	2	16	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	28	4	2	15	0
TOTAL	0	0	0	0	0	0	0	286	20	26	137	0
Peak Hour												
4:30 PM - 5:30 PM	0	0	0	0	0	0	0	132	7	13	67	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Orange	City	Orlando
Intersection	-Landstreet Road	&	SR 528 EB on-ramp
Date	May 5, 2022	U-Turns & RTOR	
		VHB Project #:	63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	1	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	1	0	0	0	0	0
Peak Hour												
7:00 AM - 8:00 AM	0	0	0	0	0	0	1	0	0	0	0	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	1	0	0
Peak Hour												
4:45 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	1	0	0

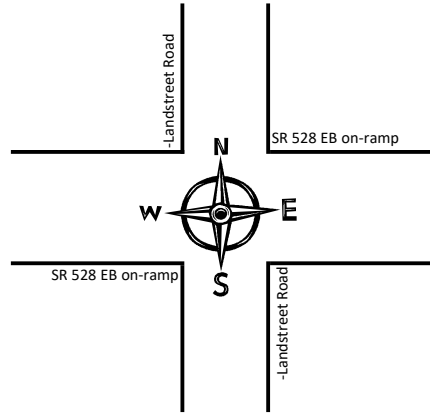
Pedestrian & Bicycle Summary

Project #: 63640.01
Date: 5/5/2022

NB/SB: -Landstreet Road
EB/WB: SR 528 EB on-ramp

		Hour									
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00		
		1	2	3	4	5	6	7	8		
Eastbound	Bike	0	0	0	0	0	0	0	0	0	0
	Ped	0	1	0	0	0	0	0	0	1	2
Westbound	Bike	0	0	0	0	0	0	1	0	1	1
	Ped	0	0	0	0	0	0	1	1	2	2

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0

Eastbound	Bike	1	0	0	0	0	0	0	0	1
	Ped	2	0	0	0	0	0	0	0	2
Westbound	Bike	1	0	0	0	0	0	0	0	1
	Ped	0	0	0	0	0	0	0	0	0

7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
1	2	3	4	5	6	7	8

Appendix D-2

Orange County Site 2 - Existing Synchro Outputs

Queues
2: US 441 & Landstreet Rd

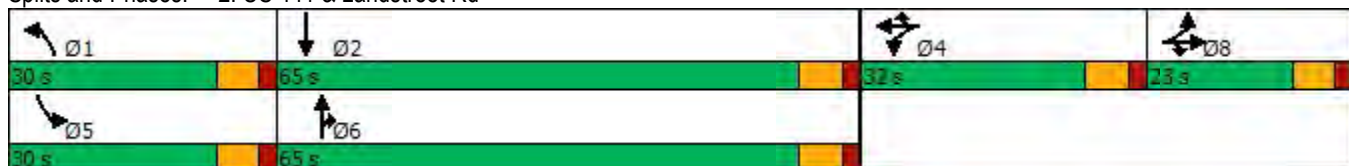
Existing AM
06/29/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	132	255	221	41	218	109	1351	410	197	920	46
Future Volume (vph)	98	132	255	221	41	218	109	1351	410	197	920	46
Satd. Flow (prot)	1626	1597	1429	1504	1502	1324	1399	4940	1242	1504	4597	0
Flt Permitted	0.950			0.950	0.967		0.950			0.950		
Satd. Flow (perm)	1626	1597	1429	1504	1502	1324	1399	4940	1242	1504	4597	0
Satd. Flow (RTOR)			271			232			306		6	
Lane Group Flow (vph)	104	140	271	139	140	232	116	1437	436	210	1028	0
Turn Type	Split	NA	Prot	Split	NA	Prot	Prot	NA	Prot	Prot	NA	
Protected Phases	8	8	8	4	4	4	1	6	6	5	2	
Permitted Phases												
Total Split (s)	23.0	23.0	23.0	32.0	32.0	32.0	30.0	65.0	65.0	30.0	65.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Act Effct Green (s)	15.3	15.3	15.3	18.4	18.4	18.4	16.7	58.4	58.4	22.2	63.9	
Actuated g/C Ratio	0.11	0.11	0.11	0.13	0.13	0.13	0.12	0.41	0.41	0.16	0.45	
v/c Ratio	0.59	0.81	0.68	0.71	0.72	0.62	0.71	0.71	0.63	0.89	0.49	
Control Delay	76.2	95.6	16.2	79.5	80.2	14.3	83.1	37.7	14.5	95.3	29.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.2	95.6	16.2	79.5	80.2	14.3	83.1	37.7	14.5	95.3	29.8	
LOS	E	F	B	E	F	B	F	D	B	F	C	
Approach Delay		49.9			50.1			35.3			40.9	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	93	129	0	132	133	0	106	408	91	193	244	
Queue Length 95th (ft)	165	#255	96	212	214	83	177	501	230	#360	335	
Internal Link Dist (ft)		578			1442			388			575	
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	186	183	404	268	268	427	230	2038	692	247	2079	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	0.77	0.67	0.52	0.52	0.54	0.50	0.71	0.63	0.85	0.49	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 141.6
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 40.5
 Intersection LOS: D
 Intersection Capacity Utilization 73.8%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Intersection						
Int Delay, s/veh	7.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↖	↗
Traffic Vol, veh/h	183	0	0	191	109	359
Future Vol, veh/h	183	0	0	191	109	359
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	88	88	88	88
Heavy Vehicles, %	14	0	0	17	14	8
Mvmt Flow	208	0	0	217	124	408

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	425 208
Stage 1	-	-	-	-	208 -
Stage 2	-	-	-	-	217 -
Critical Hdwy	-	-	-	-	6.54 6.28
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	-	-	3.626 3.372
Pot Cap-1 Maneuver	-	0	0	-	564 817
Stage 1	-	0	0	-	799 -
Stage 2	-	0	0	-	791 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	564 817
Mov Cap-2 Maneuver	-	-	-	-	564 -
Stage 1	-	-	-	-	799 -
Stage 2	-	-	-	-	791 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	564	817	-	-
HCM Lane V/C Ratio	0.22	0.499	-	-
HCM Control Delay (s)	13.2	13.7	-	-
HCM Lane LOS	B	B	-	-
HCM 95th %tile Q(veh)	0.8	2.8	-	-

Queues

2: US 441 & Landstreet Rd

06/29/2022

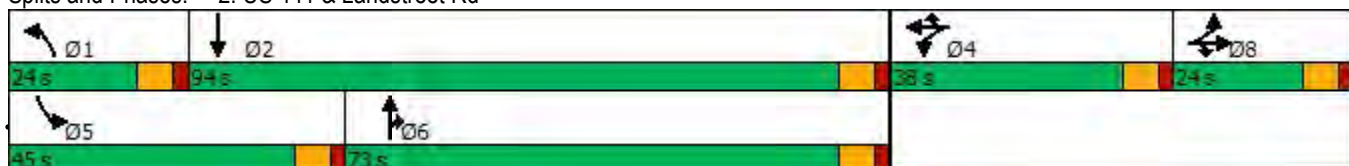


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↖	↗	↖	↑↑↑	↗	↖	↑↑↑	↗
Traffic Volume (vph)	87	161	318	280	49	280	76	1419	424	244	1847	24
Future Volume (vph)	87	161	318	280	49	280	76	1419	424	244	1847	24
Satd. Flow (prot)	1703	1696	1509	1504	1579	1538	1556	4988	1242	1641	5018	0
Flt Permitted	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (perm)	1703	1696	1509	1504	1579	1538	1556	4988	1242	1641	5018	0
Satd. Flow (RTOR)			173			308			243		1	
Lane Group Flow (vph)	96	177	349	179	183	308	84	1559	466	268	2056	0
Turn Type	Split	NA	Prot	Split	NA	Prot	Prot	NA	Prot	Prot	NA	
Protected Phases	8	8	8	4	4	4	1	6	6	5	2	
Permitted Phases												
Total Split (s)	24.0	24.0	24.0	38.0	38.0	38.0	24.0	73.0	73.0	45.0	94.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Act Effct Green (s)	17.2	17.2	17.2	25.2	25.2	25.2	13.8	69.3	69.3	31.9	87.4	
Actuated g/C Ratio	0.10	0.10	0.10	0.15	0.15	0.15	0.08	0.41	0.41	0.19	0.51	
v/c Ratio	0.56	1.04	1.14	0.81	0.79	0.63	0.67	0.77	0.72	0.88	0.80	
Control Delay	88.6	150.1	124.8	97.6	93.9	12.2	103.3	48.7	28.1	95.5	38.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	88.6	150.1	124.8	97.6	93.9	12.2	103.3	48.7	28.1	95.5	38.6	
LOS	F	F	F	F	F	B	F	D	C	F	D	
Approach Delay		126.4			57.3			46.4			45.2	
Approach LOS		F			E			D			D	
Queue Length 50th (ft)	106	~217	~274	208	212	0	94	568	228	296	705	
Queue Length 95th (ft)	180	#408	#509	311	317	96	162	684	420	#419	830	
Internal Link Dist (ft)		578			1442			388			575	
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	171	171	307	275	289	533	156	2022	648	367	2567	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	1.04	1.14	0.65	0.63	0.58	0.54	0.77	0.72	0.73	0.80	

Intersection Summary

Cycle Length: 180
 Actuated Cycle Length: 170.9
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.14
 Intersection Signal Delay: 55.9
 Intersection LOS: E
 Intersection Capacity Utilization 82.0%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



HCM 6th TWSC
 1: SR 528 WB off-ramp & Landstreet Rd

06/29/2022

Intersection						
Int Delay, s/veh	3.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↖	↗
Traffic Vol, veh/h	420	0	0	120	42	178
Future Vol, veh/h	420	0	0	120	42	178
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	Yield
Storage Length	-	-	-	-	0	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	14	0	0	17	14	8
Mvmt Flow	442	0	0	126	44	187

Major/Minor	Major1	Major2	Minor1		
Conflicting Flow All	0	-	-	-	568 442
Stage 1	-	-	-	-	442 -
Stage 2	-	-	-	-	126 -
Critical Hdwy	-	-	-	-	6.54 6.28
Critical Hdwy Stg 1	-	-	-	-	5.54 -
Critical Hdwy Stg 2	-	-	-	-	5.54 -
Follow-up Hdwy	-	-	-	-	3.626 3.372
Pot Cap-1 Maneuver	-	0	0	-	465 603
Stage 1	-	0	0	-	623 -
Stage 2	-	0	0	-	871 -
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	465 603
Mov Cap-2 Maneuver	-	-	-	-	465 -
Stage 1	-	-	-	-	623 -
Stage 2	-	-	-	-	871 -

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	WBT
Capacity (veh/h)	465	603	-	-
HCM Lane V/C Ratio	0.095	0.311	-	-
HCM Control Delay (s)	13.6	13.6	-	-
HCM Lane LOS	B	B	-	-
HCM 95th %tile Q(veh)	0.3	1.3	-	-

Lanes, Volumes, Timings
1: SR 528 WB off-ramp & Landstreet Rd

























Existing PM
08/18/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↘	↗
Traffic Volume (vph)	420	0	0	120	42	178
Future Volume (vph)	420	0	0	120	42	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	0		0	100
Storage Lanes		0	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	1667	0	0	1624	1583	1495
Flt Permitted					0.950	
Satd. Flow (perm)	1667	0	0	1624	1583	1495
Link Speed (mph)	45			45	25	
Link Distance (ft)	340			658	337	
Travel Time (s)	5.2			10.0	9.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	14%	0%	0%	17%	14%	8%
Adj. Flow (vph)	442	0	0	126	44	187
Shared Lane Traffic (%)						
Lane Group Flow (vph)	442	0	0	126	44	187
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.8%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

Existing PM
08/18/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	161	318	280	49	280	76	1419	424	244	1847	24
Future Volume (vph)	87	161	318	280	49	280	76	1419	424	244	1847	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.998	
Flt Protected	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (prot)	1703	1696	1509	1504	1579	1538	1556	4988	1242	1641	5018	0
Flt Permitted	0.950			0.950	0.966		0.950			0.950		
Satd. Flow (perm)	1703	1696	1509	1504	1579	1538	1556	4988	1242	1641	5018	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			173			308			243		1	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		658			1522			468			655	
Travel Time (s)		10.0			23.1			7.1			9.9	
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Heavy Vehicles (%)	6%	12%	7%	14%	2%	5%	16%	4%	30%	10%	3%	15%
Adj. Flow (vph)	96	177	349	308	54	308	84	1559	466	268	2030	26
Shared Lane Traffic (%)				42%								
Lane Group Flow (vph)	96	177	349	179	183	308	84	1559	466	268	2056	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	Prot	Split	NA	Prot	Prot	NA	Prot	Prot	NA	
Protected Phases	8	8	8	4	4	4	1	6	6	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

Existing PM
08/18/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	8	8	8	4	4	4	1	6	6	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	10.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	36.8	11.8	44.8	44.8	11.8	34.8	
Total Split (s)	24.0	24.0	24.0	38.0	38.0	38.0	24.0	73.0	73.0	45.0	94.0	
Total Split (%)	13.3%	13.3%	13.3%	21.1%	21.1%	21.1%	13.3%	40.6%	40.6%	25.0%	52.2%	
Maximum Green (s)	17.2	17.2	17.2	31.2	31.2	31.2	17.2	66.2	66.2	38.2	87.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag								Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?								Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	
Walk Time (s)				7.0	7.0	7.0		7.0	7.0		7.0	
Flash Dont Walk (s)				23.0	23.0	23.0		31.0	31.0		21.0	
Pedestrian Calls (#/hr)				0	0	0		0	0		0	
Act Effct Green (s)	17.2	17.2	17.2	25.2	25.2	25.2	13.8	69.3	69.3	31.9	87.4	
Actuated g/C Ratio	0.10	0.10	0.10	0.15	0.15	0.15	0.08	0.41	0.41	0.19	0.51	
v/c Ratio	0.56	1.04	1.14	0.81	0.79	0.63	0.67	0.77	0.72	0.88	0.80	
Control Delay	88.6	150.1	124.8	97.6	93.9	12.2	103.3	48.7	28.1	95.5	38.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	88.6	150.1	124.8	97.6	93.9	12.2	103.3	48.7	28.1	95.5	38.6	
LOS	F	F	F	F	F	B	F	D	C	F	D	
Approach Delay		126.4			57.3			46.4			45.2	
Approach LOS		F			E			D			D	
90th %ile Green (s)	17.2	17.2	17.2	31.2	31.2	31.2	17.2	66.2	66.2	38.2	87.2	
90th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	MaxR	MaxR	Max	MaxR	
70th %ile Green (s)	17.2	17.2	17.2	31.2	31.2	31.2	17.2	66.2	66.2	38.2	87.2	
70th %ile Term Code	Max	Max	Max	Max	Max	Max	Max	MaxR	MaxR	Max	MaxR	
50th %ile Green (s)	17.2	17.2	17.2	26.6	26.6	26.6	14.6	68.2	68.2	33.6	87.2	
50th %ile Term Code	Max	Max	Max	Gap	Gap	Gap	Gap	Hold	Hold	Gap	MaxR	
30th %ile Green (s)	17.2	17.2	17.2	22.4	22.4	22.4	12.0	70.5	70.5	28.7	87.2	
30th %ile Term Code	Max	Max	Max	Gap	Gap	Gap	Gap	Hold	Hold	Gap	MaxR	
10th %ile Green (s)	17.2	17.2	17.2	15.8	15.8	15.8	8.5	73.6	73.6	22.1	87.2	
10th %ile Term Code	Max	Max	Max	Gap	Gap	Gap	Gap	Hold	Hold	Gap	MaxR	
Queue Length 50th (ft)	106	~217	~274	208	212	0	94	568	228	296	705	
Queue Length 95th (ft)	180	#408	#509	311	317	96	162	684	420	#419	830	
Internal Link Dist (ft)		578			1442			388			575	
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	171	171	307	275	289	533	156	2022	648	367	2567	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.56	1.04	1.14	0.65	0.63	0.58	0.54	0.77	0.72	0.73	0.80	

Intersection Summary

Lanes, Volumes, Timings
 2: US 441 & Landstreet Rd

Existing PM
 08/18/2022

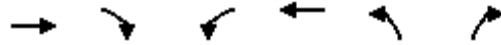
Area Type:	Other	
Cycle Length:	180	
Actuated Cycle Length:	170.9	
Natural Cycle:	150	
Control Type:	Actuated-Uncoordinated	
Maximum v/c Ratio:	1.14	
Intersection Signal Delay:	55.9	Intersection LOS: E
Intersection Capacity Utilization	82.0%	ICU Level of Service D
Analysis Period (min)	15	
90th %ile Actuated Cycle:	180	
70th %ile Actuated Cycle:	180	
50th %ile Actuated Cycle:	172.8	
30th %ile Actuated Cycle:	166	
10th %ile Actuated Cycle:	155.9	
~	Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
#	95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 2: US 441 & Landstreet Rd



Lanes, Volumes, Timings
4: SR 528 EB on-ramp & Landstreet Rd

Existing PM
08/18/2022



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↓	↑↑		
Traffic Volume (vph)	590	272	153	774	0	0
Future Volume (vph)	590	272	153	774	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		350	60		0	0
Storage Lanes		1	1		0	0
Taper Length (ft)			25		25	
Lane Util. Factor	0.95	1.00	1.00	0.95	1.00	1.00
Frt		0.850				
Flt Protected			0.950			
Satd. Flow (prot)	2798	1568	1656	3312	0	0
Flt Permitted			0.950			
Satd. Flow (perm)	2798	1568	1656	3312	0	0
Link Speed (mph)	45			45	25	
Link Distance (ft)	1522			254	300	
Travel Time (s)	23.1			3.8	8.2	
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	29%	3%	9%	9%	0%	0%
Adj. Flow (vph)	634	292	165	832	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	634	292	165	832	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	8			12	0	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane				Yes		
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	32.0%			ICU Level of Service A		
Analysis Period (min)	15					

Appendix D-3

Orange County Site 2 – Crash Data

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	88223744	10/24/2019	Thursday	11:25 AM	11	2019	Left Turn	Injury	0	1	\$0	\$10,000	Daylight	Dry	N	0	N	0
2	88064586	1/25/2019	Friday	3:24 PM	15	2019	Right Turn	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
3	87292053	10/29/2018	Monday	9:37 AM	09	2018	Left Turn	No Injury	0	0	\$0	\$110	Daylight	Dry	N	0	N	0
4	88126992	5/7/2019	Tuesday	7:49 AM	07	2019	Rear End	No Injury	0	0	\$0	\$3,050	Daylight	Dry	N	0	N	0
5	85514798	5/5/2017	Friday	5:18 PM	17	2017	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
6	85570203	8/3/2017	Thursday	6:20 PM	18	2017	Sideswipe	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
7	87299136	9/20/2018	Thursday	2:17 PM	14	2018	Rear End	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0	N	0
8	81962613	8/27/2018	Monday	9:30 AM	09	2018	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
9	85485444	3/1/2017	Wednesday	3:52 PM	15	2017	Other	Injury	0	1	\$0	\$3,500	Daylight	Dry	N	0	N	0
10	87275058	11/12/2018	Monday	3:32 AM	03	2018	Off Road	No Injury	0	0	\$25,000	\$30,000	Dark - Not Lighted	Dry	N	0	N	0
11	87248157	11/9/2018	Friday	4:00 PM	16	2018	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
12	88198431	8/23/2019	Friday	9:41 AM	09	2019	Left Turn	Injury	0	1	\$0	\$4,000	Daylight	Dry	N	0	N	0
13	88008929	10/8/2018	Monday	3:50 PM	15	2018	Sideswipe	No Injury	0	0	\$600	\$9,000	Daylight	Wet	N	0	N	0
14	87103260	11/19/2017	Sunday	7:40 PM	19	2017	Other	No Injury	0	0	\$0	\$7,500	Dark - Lighted	Dry	N	0	N	0
15	85509908	4/3/2017	Monday	5:40 AM	05	2017	Left Turn	No Injury	0	0	\$0	\$16,000	Dark - Lighted	Dry	N	0	N	0
16	85246626	1/4/2016	Monday	3:35 PM	15	2016	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
17	85294408	3/31/2016	Thursday	6:25 PM	18	2016	Left Turn	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
18	85146775	6/22/2015	Monday	5:49 PM	17	2015	Left Turn	No Injury	0	0	\$0	\$8,000	Dusk	Dry	N	0	N	0
19	84563470	1/19/2015	Monday	11:31 AM	11	2015	Sideswipe	No Injury	0	0	\$0	\$50	Daylight	Dry	N	0	N	0
20	83706000	6/2/2015	Tuesday	11:00 PM	23	2015	Off Road	No Injury	0	0	\$0	\$4,000	Dark - Lighted	Wet	N	0	N	0
21	85356389	7/6/2016	Wednesday	4:00 PM	16	2016	Rear End	No Injury	0	0	\$0	\$4,100	Daylight	Dry	N	0	N	0
22	85366190	12/30/2016	Friday	10:26 PM	22	2016	Rear End	Injury	0	1	\$0	\$1,400	Dark - Not Lighted	Dry	N	0	N	0
23	85362893	8/3/2016	Friday	2:11 PM	14	2016	Other	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
24	83830197	3/26/2015	Thursday	9:15 AM	09	2015	Rear End	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
25	85238691	12/23/2015	Wednesday	12:19 PM	12	2015	Angle	No Injury	0	0	\$0	\$14,000	Daylight	Dry	N	0	N	0
26	85302502	3/30/2016	Wednesday	9:55 PM	21	2016	Left Turn	No Injury	0	0	\$0	\$2,500	Dark - Lighted	Dry	N	0	N	0
27	85231204	12/2/2015	Wednesday	2:41 PM	14	2015	Rear End	No Injury	0	0	\$0	\$600	Daylight	Wet	N	0	N	0
28	85227837	12/16/2015	Wednesday	8:05 AM	08	2015	Sideswipe	No Injury	0	0	\$0	\$750	Daylight	Dry	N	0	N	0
29	85174401	8/12/2015	Wednesday	2:00 PM	14	2015	Other	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
30	83830766	11/18/2015	Wednesday	12:21 PM	12	2015	Off Road	Injury	0	1	\$1,500	\$7,500	Daylight	Dry	N	0	N	0

Land Street Road and SR 528 WB Off Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	2	3	1	3	1	10	33%
Head On	0	0	0	0	0	0	0%
Sideswipe	2	0	1	1	0	4	13%
Rollover	0	0	0	0	0	0	0%
Angle	1	0	0	0	0	1	3%
Left Turn	1	2	1	1	2	7	23%
Right Turn	0	0	0	0	1	1	3%
Off Road	2	0	0	1	0	3	10%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	1	1	2	0	0	4	13%
Total	9	6	5	6	4	30	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	1	1	1	0	2	5	17%
Property Damage Only	8	5	4	6	2	25	83%
Total	9	6	5	6	4	30	100%

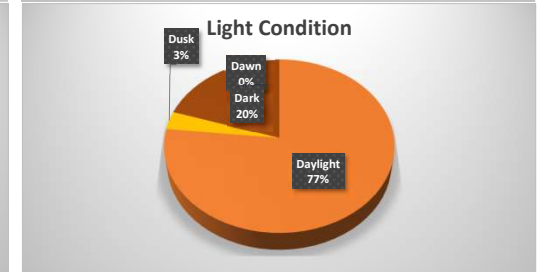
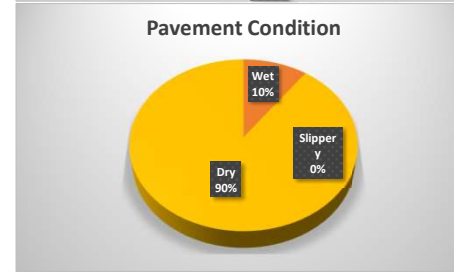
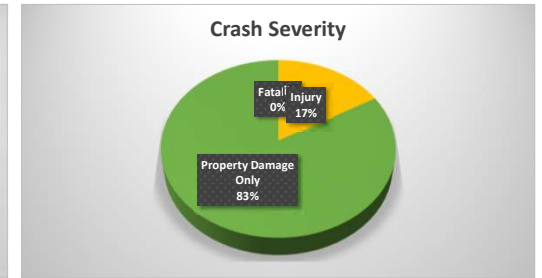
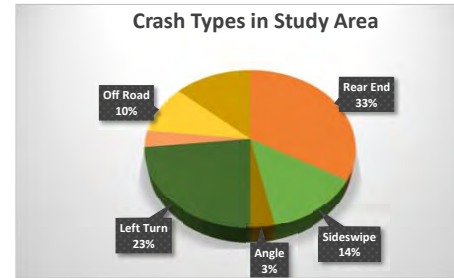
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	2	0	0	1	0	3	10%
Dry	7	6	5	5	4	27	90%
Slippery	0	0	0	0	0	0	0%
Total	9	6	5	6	4	30	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	7	4	3	5	4	23	77%
Dusk	1	0	0	0	0	1	3%
Dawn	0	0	0	0	0	0	0%
Dark	1	2	2	1	0	6	20%
Total	9	6	5	6	4	30	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	8	6	5	4	4	27	90%
\$501 - \$1,000	0	0	0	1	0	1	3%
\$1,001 - \$2,500	1	0	0	0	0	1	3%
\$2,501+	0	0	0	1	0	1	3%
Total	9	6	5	6	4	30	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	6	6	3	4	3	22	73%
\$5,001 - \$10,000	2	0	1	1	1	5	17%
\$10,000 - \$25,000	1	0	1	0	0	2	7%
\$25,001+	0	0	0	1	0	1	3%
Total	9	6	5	6	4	30	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
1	88097535	3/13/2019	Wednesday	12:10 PM	12	2019	Other	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0
2	83745985	11/20/2019	Wednesday	4:35 PM	16	2019	Other	Injury	0	1	\$0	\$2,800	Daylight	Dry	N	0
3	85529506	6/6/2017	Tuesday	4:22 PM	16	2017	Rear End	Injury	0	1	\$0	\$0	Daylight	Wet	N	0
4	88228534	11/1/2019	Friday	1:25 PM	13	2019	Angle	Injury	0	1	\$0	\$4,500	Daylight	Dry	N	0
5	88239623	10/30/2019	Wednesday	1:33 PM	13	2019	Other	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
6	88239617	10/28/2019	Monday	2:12 PM	14	2019	Sideswipe	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0
7	88099122	7/23/2019	Tuesday	4:38 PM	16	2019	Rear End	No Injury	0	0	\$0	\$1,400	Daylight	Wet	N	0
8	88189619	8/6/2019	Tuesday	3:34 PM	15	2019	Sideswipe	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0
9	88184516	8/2/2019	Friday	12:34 PM	12	2019	Sideswipe	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0
10	88184556	9/5/2019	Thursday	9:54 AM	09	2019	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0
11	88118097	4/5/2019	Friday	1:50 PM	13	2019	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Dry	Y	1
12	88132854	5/3/2019	Friday	8:48 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0
13	88116971	4/17/2019	Wednesday	9:45 AM	09	2019	Rear End	No Injury	0	0	\$0	\$3,200	Daylight	Dry	N	0
14	88134817	6/23/2019	Sunday	4:02 AM	04	2019	Rear End	No Injury	0	1	\$0	\$7,000	Dark - Lighted	Dry	N	0
15	88189115	8/21/2019	Wednesday	3:54 PM	15	2019	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0
16	88144571	6/5/2019	Wednesday	9:17 PM	21	2019	Angle	No Injury	0	0	\$0	\$14,000	Dark - Not Lighted	Dry	N	0
17	88242224	10/31/2019	Thursday	12:30 PM	12	2019	Rear End	Injury	0	1	\$0	\$1,700	Daylight	Dry	N	0
18	87273093	8/15/2018	Wednesday	4:25 PM	16	2018	Left Turn	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0
19	85455229	1/7/2017	Saturday	2:45 PM	14	2017	Left Turn	Injury	0	1	\$0	\$4,000	Daylight	Dry	N	0
20	88179393	9/6/2019	Friday	8:40 AM	08	2019	Rear End	Injury	0	1	\$0	\$300	Daylight	Dry	N	0
21	88196086	9/5/2019	Thursday	6:32 PM	18	2019	Rear End	Injury	0	1	\$0	\$1,800	Daylight	Dry	N	0
22	88206908	9/18/2019	Wednesday	1:30 PM	13	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
23	87232595	6/21/2018	Thursday	7:59 AM	07	2018	Rear End	No Injury	0	1	\$0	\$700	Daylight	Dry	N	0
24	88189147	9/13/2019	Friday	3:50 PM	15	2019	Rear End	Injury	0	1	\$0	\$1,000	Daylight	Dry	N	0
25	88158478	7/21/2019	Sunday	4:09 AM	04	2019	Sideswipe	No Injury	0	0	\$0	\$300	Dark - Lighted	Dry	N	0
26	88195703	12/21/2019	Saturday	1:49 PM	13	2019	Off Road	No Injury	0	0	\$1,000	\$1,100	Daylight	Dry	N	0
27	87262523	8/6/2018	Monday	12:20 PM	12	2018	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
28	87262524	8/6/2018	Monday	12:10 PM	12	2018	Sideswipe	No Injury	0	0	\$0	\$50	Daylight	Dry	N	0
29	88102118	4/2/2019	Tuesday	10:53 AM	10	2019	Unknown	No Injury	0	0	\$0	\$800	Daylight	Dry	N	0
30	88204809	9/29/2019	Sunday	4:00 AM	04	2019	Other	Injury	0	1	\$50,000	\$60,000	Dark - Lighted	Dry	N	0
31	88132934	4/29/2019	Monday	5:00 PM	17	2019	Sideswipe	No Injury	0	0	\$0	\$3,700	Daylight	Dry	N	0
32	87152574	2/6/2018	Tuesday	4:20 PM	16	2018	Head On	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0
33	87265115	8/2/2018	Thursday	1:00 PM	13	2018	Other	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0
34	87265116	8/2/2018	Thursday	4:06 PM	16	2018	Other	No Injury	0	0	\$200	\$200	Daylight	Dry	N	0
35	88270434	12/29/2019	Sunday	12:35 PM	12	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
36	88126989	5/6/2019	Monday	7:21 AM	07	2019	Rear End	Injury	0	1	\$0	\$1,200	Daylight	Dry	N	0
37	87288707	10/25/2018	Thursday	10:42 PM	22	2018	Rear End	Injury	0	2	\$0	\$500	Dark - Lighted	Dry	N	0
38	88030999	11/1/2018	Thursday	3:27 PM	15	2018	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0
39	88132964	5/24/2019	Friday	10:15 AM	10	2019	Sideswipe	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0
40	87226330	5/11/2018	Friday	11:15 PM	23	2018	Unknown	No Injury	0	0	\$0	\$2,400	Dark - Lighted	Dry	N	0
41	88055667	1/25/2019	Friday	12:37 PM	12	2019	Right Turn	No Injury	0	0	\$0	\$2,400	Daylight	Dry	N	0
42	87187312	3/30/2018	Friday	2:25 PM	14	2018	Rear End	Injury	0	2	\$0	\$14,800	Daylight	Dry	N	0
43	87182082	3/22/2018	Thursday	2:26 PM	14	2018	Rear End	No Injury	0	0	\$0	\$1,900	Daylight	Dry	N	0
44	88242864	11/11/2019	Monday	1:00 PM	13	2019	Sideswipe	No Injury	0	0	\$0	\$750	Daylight	Wet	N	0
45	87248983	6/25/2018	Monday	11:40 AM	11	2018	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
46	88028289	10/30/2018	Tuesday	5:22 PM	17	2018	Other	Injury	0	1	\$0	\$2,000	Daylight	Dry	N	0
47	88030710	10/27/2018	Saturday	11:20 PM	23	2018	Rear End	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0
48	88068579	3/7/2019	Thursday	11:56 AM	11	2019	Sideswipe	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0
49	88068580	3/8/2019	Friday	7:56 AM	07	2019	Rear End	Injury	0	2	\$0	\$3,300	Daylight	Dry	N	0
50	87212465	6/14/2018	Thursday	7:06 AM	07	2018	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
51	88163584	7/30/2019	Tuesday	5:54 AM	05	2019	Sideswipe	No Injury	0	0	\$0	\$300	Dusk	Dry	N	0
52	85466842	2/5/2017	Sunday	8:15 PM	20	2017	Rear End	No Injury	0	3	\$0	\$6,300	Dark - Lighted	Dry	N	0
53	88083819	1/28/2019	Monday	10:52 AM	10	2019	Angle	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0
54	88083832	2/9/2019	Saturday	11:25 AM	11	2019	Sideswipe	No Injury	0	0	\$0	\$900	Daylight	Dry	N	0
55	87172312	3/19/2018	Monday	8:15 AM	08	2018	Left Turn	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0
56	87262688	8/4/2018	Saturday	3:08 PM	15	2018	Rear End	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0
57	87172325	3/30/2018	Friday	8:15 AM	08	2018	Rear End	No Injury	0	0	\$0	\$5,100	Daylight	Dry	N	0
58	88149951	7/1/2019	Monday	9:08 AM	09	2019	Rear End	Injury	0	1	\$0	\$6,500	Daylight	Dry	N	0
59	85496104	3/8/2017	Wednesday	9:25 AM	09	2017	Other	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0
60	85518363	4/27/2017	Thursday	9:50 PM	21	2017	Other	No Injury	0	0	\$0	\$3,000	Dark - Lighted	Dry	N	0
61	88046426	1/25/2019	Friday	2:05 AM	02	2019	Sideswipe	No Injury	0	0	\$0	\$2,200	Dark - Lighted	Dry	N	0
62	88079887	2/7/2019	Thursday	3:05 PM	15	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
63	85527662	5/8/2017	Monday	4:21 PM	16	2017	Right Turn	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
64	85543806	6/14/2017	Wednesday	9:40 AM	09	2017	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0
65	85529495	5/31/2017	Wednesday	10:17 AM	10	2017	Sideswipe	No Injury	0	0	\$0	\$350	Daylight	Dry	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
66	85582376	10/4/2017	Wednesday	2:11 PM	14	2017	Rear End	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0
67	85542803	6/22/2017	Thursday	1:20 PM	13	2017	Left Turn	Injury	0	1	\$0	\$3,100	Daylight	Dry	N	0
68	85505125	7/15/2017	Saturday	4:35 PM	16	2017	Rear End	No Injury	0	0	\$0	\$50	Daylight	Dry	N	0
69	85535281	6/19/2017	Monday	7:10 AM	07	2017	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0
70	85582252	8/15/2017	Tuesday	8:10 PM	20	2017	Rear End	No Injury	0	0	\$0	\$8,000	Dusk	Dry	N	0
71	85542081	6/16/2017	Friday	11:25 AM	11	2017	Rear End	No Injury	0	0	\$0	\$205	Daylight	Dry	N	0
72	85542816	6/28/2017	Wednesday	1:32 PM	13	2017	Rear End	Injury	0	1	\$0	\$1,900	Daylight	Dry	N	0
73	85538157	6/6/2017	Tuesday	6:00 PM	18	2017	Angle	No Injury	0	0	\$0	\$5,000	Daylight	Wet	N	0
74	88003632	9/30/2018	Sunday	12:00 AM	00	2018	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0
75	85584168	9/7/2017	Thursday	10:45 AM	10	2017	Rear End	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0
76	85597517	9/20/2017	Wednesday	5:45 PM	17	2017	Sideswipe	No Injury	0	0	\$0	\$2,600	Daylight	Dry	N	0
77	85604793	11/14/2017	Tuesday	8:00 AM	08	2017	Rear End	No Injury	0	0	\$0	\$1,250	Daylight	Dry	N	0
78	85544795	8/2/2017	Wednesday	8:31 AM	08	2017	Rear End	Injury	0	1	\$0	\$2,500	Daylight	Dry	N	0
79	85584833	9/7/2017	Thursday	6:30 PM	18	2017	Left Turn	No Injury	0	0	\$0	\$1,700	Daylight	Wet	N	0
80	88030218	11/9/2018	Friday	6:58 AM	06	2018	Rear End	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0
81	87225824	5/31/2018	Thursday	7:47 AM	07	2018	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
82	87225799	5/18/2018	Friday	6:58 AM	06	2018	Rear End	No Injury	0	0	\$0	\$595	Daylight	Wet	N	0
83	87180791	3/22/2018	Thursday	11:25 AM	11	2018	Left Turn	No Injury	0	0	\$0	\$3,300	Daylight	Dry	N	0
84	87180323	4/4/2018	Wednesday	7:50 AM	07	2018	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0
85	85517100	5/6/2017	Saturday	2:55 AM	02	2017	Left Turn	Injury	0	1	\$0	\$6,000	Dark - Lighted	Dry	N	0
86	87181920	3/19/2018	Monday	1:48 PM	13	2018	Other	No Injury	0	0	\$0	\$11,000	Daylight	Dry	N	0
87	87173007	8/18/2018	Saturday	10:51 AM	10	2018	Right Turn	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0
88	88117100	4/9/2019	Tuesday	2:50 PM	14	2019	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0
89	87269181	10/24/2018	Wednesday	7:15 AM	07	2018	Angle	Injury	0	1	\$0	\$3,500	Daylight	Dry	N	0
90	87102329	11/6/2017	Monday	5:05 PM	17	2017	Rear End	Injury	0	1	\$0	\$4,800	Daylight	Dry	N	0
91	87109454	10/23/2017	Monday	12:45 AM	00	2017	Sideswipe	No Injury	0	0	\$0	\$1,600	Dark - Lighted	Dry	N	0
92	88093234	3/2/2019	Saturday	7:11 PM	19	2019	Rear End	No Injury	0	0	\$0	\$4,000	Dark - Lighted	Dry	N	0
93	88041661	11/19/2018	Monday	10:05 AM	10	2018	Sideswipe	No Injury	0	0	\$0	\$3,100	Daylight	Dry	N	0
94	85496112	3/14/2017	Tuesday	1:55 PM	13	2017	Rear End	Injury	0	1	\$0	\$6,500	Daylight	Dry	N	0
95	85455995	2/26/2017	Sunday	5:39 AM	05	2017	Left Turn	Injury	0	2	\$0	\$9,000	Dark - Lighted	Dry	N	0
96	85469544	2/21/2017	Tuesday	1:05 PM	13	2017	Sideswipe	No Injury	0	0	\$0	\$1,010	Daylight	Dry	N	0
97	87299135	9/20/2018	Thursday	12:43 PM	12	2018	Rear End	No Injury	0	0	\$0	\$4,350	Daylight	Dry	N	0
98	88128508	4/17/2019	Wednesday	2:06 PM	14	2019	Rear End	No Injury	0	0	\$0	\$320	Daylight	Dry	N	0
99	84525020	2/3/2017	Friday	6:30 AM	06	2017	Rear End	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0
100	88177810	7/23/2019	Tuesday	12:45 PM	12	2019	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
101	87130971	12/16/2017	Saturday	12:30 PM	12	2017	Rear End	No Injury	0	0	\$0	\$3,600	Daylight	Dry	N	0
102	85440395	1/3/2017	Tuesday	10:05 AM	10	2017	Rear End	No Injury	0	0	\$0	\$10	Daylight	Dry	N	0
103	85466802	1/19/2017	Thursday	5:57 PM	17	2017	Rear End	No Injury	0	0	\$0	\$1,800	Daylight	Dry	N	0
104	87103059	10/11/2017	Wednesday	6:35 PM	18	2017	Rear End	No Injury	0	0	\$0	\$4,000	Dark - Lighted	Dry	N	0
105	85468872	1/24/2017	Tuesday	11:36 AM	11	2017	Off Road	No Injury	0	0	\$0	\$150	Daylight	Dry	N	0
106	85466018	4/24/2017	Monday	11:40 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0
107	85477761	3/1/2017	Wednesday	7:12 AM	07	2017	Rear End	No Injury	0	0	\$0	\$5,600	Daylight	Dry	N	0
108	85485450	3/2/2017	Thursday	10:21 PM	22	2017	Angle	Injury	0	2	\$0	\$8,000	Dark - Lighted	Dry	N	0
109	85548819	6/26/2017	Monday	5:35 PM	17	2017	Unknown	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0
110	87107219	10/27/2017	Friday	12:09 PM	12	2017	Angle	No Injury	0	0	\$0	\$3,250	Daylight	Dry	N	0
111	85476082	4/17/2017	Monday	9:19 AM	09	2017	Sideswipe	No Injury	0	0	\$0	\$1,750	Daylight	Dry	N	0
112	85487124	2/21/2017	Tuesday	4:49 PM	16	2017	Rear End	No Injury	0	0	\$0	\$3,000	Dusk	Dry	N	0
113	85481761	3/9/2017	Thursday	8:55 AM	08	2017	Sideswipe	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0
114	85490513	4/18/2017	Tuesday	10:22 AM	10	2017	Sideswipe	Injury	0	1	\$0	\$4,200	Daylight	Dry	N	0
115	85447875	1/2/2017	Monday	4:11 PM	16	2017	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0
116	85448525	1/3/2017	Tuesday	4:20 PM	16	2017	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
117	85415736	2/5/2017	Sunday	5:59 AM	05	2017	Left Turn	No Injury	0	0	\$0	\$1,200	Dawn	Dry	N	0
118	85584128	8/18/2017	Friday	10:27 AM	10	2017	Rear End	Injury	0	1	\$0	\$4,100	Daylight	Dry	N	0
119	85441032	1/5/2017	Thursday	6:33 AM	06	2017	Rear End	No Injury	0	0	\$0	\$2,200	Dark - Lighted	Dry	N	0
120	85604687	12/8/2017	Friday	6:10 PM	18	2017	Sideswipe	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0
121	85600151	10/17/2017	Tuesday	6:20 AM	06	2017	Unknown	No Injury	0	0	\$0	\$6,500	Dark - Lighted	Dry	N	0
122	85605095	10/2/2017	Monday	5:30 PM	17	2017	Sideswipe	No Injury	0	0	\$0	\$550	Daylight	Dry	N	0
123	88177824	8/7/2019	Wednesday	2:25 PM	14	2019	Sideswipe	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0
124	88046399	12/26/2018	Wednesday	8:40 AM	08	2018	Sideswipe	Injury	0	1	\$0	\$2,200	Daylight	Dry	N	0
125	85594356	10/2/2017	Monday	11:12 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0
126	85592853	10/26/2017	Thursday	12:06 PM	12	2017	Rear End	No Injury	0	0	\$0	\$750	Daylight	Dry	N	0
127	85517016	4/27/2017	Thursday	10:51 AM	10	2017	Left Turn	Injury	0	3	\$0	\$12,500	Daylight	Dry	N	0
128	85524031	7/18/2017	Tuesday	7:08 PM	19	2017	Unknown	No Injury	0	0	\$0	\$2,000	Dusk	Wet	N	0
129	85532523	6/14/2017	Wednesday	5:20 PM	17	2017	Rear End	No Injury	0	0	\$0	\$1,800	Daylight	Wet	N	0
130	85523740	6/5/2017	Monday	9:18 AM	09	2017	Sideswipe	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0
131	85567636	7/27/2017	Thursday	9:58 AM	09	2017	Rear End	No Injury	0	0	\$300	\$5,300	Daylight	Dry	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related		
132	85567637	7/27/2017	Thursday	12:37 PM	12	2017	Rear End	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
133	85561283	7/10/2017	Monday	11:59 AM	11	2017	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
134	87150627	1/11/2018	Thursday	9:06 AM	09	2018	Other	No Injury	0	0	\$0	\$820	Daylight	Dry	N	0	N	0
135	87108316	11/17/2017	Friday	3:06 AM	03	2017	Pedestrian	No Injury	0	0	\$0	\$0	Dark - Lighted	Dry	N	0	N	0
136	87109501	12/13/2017	Wednesday	11:54 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0	N	0
137	87178496	3/1/2018	Thursday	3:02 PM	15	2018	Sideswipe	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0	N	0
138	87109959	11/26/2017	Sunday	4:38 PM	16	2017	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
139	87269244	8/3/2018	Friday	1:29 PM	13	2018	Sideswipe	No Injury	0	0	\$0	\$6,500	Daylight	Dry	N	0	N	0
140	87223806	5/11/2018	Friday	5:39 PM	17	2018	Right Turn	No Injury	0	0	\$0	\$1,800	Daylight	Dry	N	0	N	0
141	87224373	5/22/2018	Tuesday	4:33 PM	16	2018	Rear End	Injury	0	4	\$0	\$500	Daylight	Dry	N	0	N	0
142	87266940	8/27/2018	Monday	8:08 AM	08	2018	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
143	87129641	12/9/2017	Saturday	9:05 AM	09	2017	Left Turn	No Injury	0	0	\$30,000	\$35,500	Daylight	Wet	N	0	N	0
144	87124046	12/16/2017	Saturday	6:12 PM	18	2017	Rear End	No Injury	0	0	\$0	\$800	Dusk	Dry	N	0	N	0
145	88156320	10/9/2019	Wednesday	3:10 PM	15	2019	Other	No Injury	0	0	\$0	\$6,000	Daylight	Wet	N	0	N	0
146	87152097	12/30/2017	Saturday	6:59 PM	18	2017	Sideswipe	No Injury	0	0	\$0	\$1,400	Dark - Lighted	Dry	N	0	N	0
147	87128429	1/6/2018	Saturday	4:30 PM	16	2018	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
148	87142963	1/24/2018	Wednesday	9:35 PM	21	2018	Rear End	No Injury	0	0	\$0	\$100	Dark - Lighted	Dry	N	0	N	0
149	87285769	9/17/2018	Monday	7:20 AM	07	2018	Sideswipe	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
150	87232532	5/17/2018	Thursday	10:22 AM	10	2018	Pedestrian	Injury	0	1	\$0	\$0	Daylight	Dry	N	0	N	0
151	87275109	8/10/2018	Friday	9:26 AM	09	2018	Sideswipe	No Injury	0	0	\$0	\$1,495	Daylight	Dry	N	0	N	0
152	87143532	1/19/2018	Friday	10:05 AM	10	2018	Sideswipe	No Injury	0	0	\$0	\$5,500	Daylight	Dry	N	0	N	0
153	87290944	9/18/2018	Tuesday	4:00 PM	16	2018	Rear End	No Injury	0	0	\$0	\$3,300	Daylight	Dry	N	0	N	0
154	87236049	6/28/2018	Thursday	1:00 PM	13	2018	Rear End	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
155	87278937	9/4/2018	Tuesday	9:11 AM	09	2018	Rear End	No Injury	0	0	\$0	\$1,300	Daylight	Dry	N	0	N	0
156	87148629	2/1/2018	Thursday	2:25 PM	14	2018	Unknown	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
157	87245034	7/5/2018	Thursday	1:47 PM	13	2018	Rear End	Injury	0	1	\$0	\$500	Daylight	Dry	N	0	N	0
158	87245035	7/5/2018	Thursday	1:36 PM	13	2018	Unknown	No Injury	0	0	\$0	\$6,150	Daylight	Dry	N	0	N	0
159	87245036	7/5/2018	Thursday	1:54 PM	13	2018	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
160	87243047	7/17/2018	Tuesday	3:08 PM	15	2018	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
161	87252324	7/11/2018	Wednesday	7:20 AM	07	2018	Rear End	Injury	0	1	\$0	\$1,000	Daylight	Dry	N	0	N	0
162	87252372	7/11/2018	Wednesday	6:27 AM	06	2018	Rear End	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
163	87154755	1/26/2018	Friday	10:00 AM	10	2018	Sideswipe	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
164	82003391	12/22/2017	Friday	7:56 AM	07	2017	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
165	87197667	4/22/2018	Sunday	6:29 PM	18	2018	Left Turn	Injury	0	1	\$0	\$7,300	Dusk	Dry	N	0	N	0
166	85590582	9/7/2017	Thursday	5:50 PM	17	2017	Right Turn	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
167	88008161	9/28/2018	Friday	4:08 AM	04	2018	Rear End	Serious Injury	0	1	\$0	\$6,500	Dark - Lighted	Dry	Y	1	N	0
168	88089888	2/20/2019	Wednesday	9:01 AM	09	2019	Left Turn	No Injury	0	0	\$0	\$800	Daylight	Dry	N	0	N	0
169	88017482	11/30/2018	Friday	3:18 PM	15	2018	Left Turn	No Injury	0	0	\$0	\$1,000	Dark - Lighted	Dry	N	0	N	0
170	88017979	11/23/2018	Friday	11:01 AM	11	2018	Other	No Injury	0	1	\$0	\$0	Daylight	Dry	N	0	N	0
171	87994422	10/19/2018	Friday	8:53 AM	08	2018	Sideswipe	No Injury	0	0	\$0	\$1,300	Daylight	Dry	N	0	N	0
172	88027121	11/2/2018	Friday	5:52 AM	05	2018	Sideswipe	No Injury	0	0	\$0	\$4,500	Daylight	Wet	N	0	N	0
173	88008209	10/30/2018	Tuesday	5:07 PM	17	2018	Unknown	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
174	88014546	10/18/2018	Thursday	5:02 PM	17	2018	Rear End	No Injury	0	0	\$0	\$19,500	Daylight	Dry	N	0	N	0
175	88014547	10/18/2018	Thursday	7:00 PM	19	2018	Rear End	No Injury	0	0	\$0	\$2,000	Dusk	Dry	N	0	N	0
176	87291093	7/8/2019	Monday	8:42 AM	08	2019	Unknown	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
177	88108887	3/29/2019	Friday	9:31 PM	21	2019	Rear End	No Injury	0	0	\$0	\$8,000	Dusk	Dry	N	0	N	0
178	88084359	2/9/2019	Saturday	4:51 PM	16	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
179	88083845	2/19/2019	Tuesday	9:41 AM	09	2019	Unknown	No Injury	0	0	\$0	\$9,200	Daylight	Dry	N	0	N	0
180	88121886	4/11/2019	Thursday	1:17 PM	13	2019	Sideswipe	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
181	88121889	4/11/2019	Thursday	3:55 PM	15	2019	Rear End	Injury	0	1	\$0	\$10,500	Daylight	Dry	N	0	N	0
182	88211007	9/11/2019	Wednesday	8:09 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$900	Daylight	Dry	N	0	N	0
183	88105984	3/21/2019	Thursday	10:34 PM	22	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Dark - Lighted	Dry	N	0	N	0
184	88011249	9/25/2018	Tuesday	11:36 AM	11	2018	Rear End	No Injury	0	0	\$0	\$1,100	Daylight	Dry	N	0	N	0
185	88106020	4/7/2019	Sunday	9:52 PM	21	2019	Rear End	No Injury	0	0	\$0	\$200	Dark - Lighted	Dry	N	0	N	0
186	88105537	3/12/2019	Tuesday	6:11 PM	18	2019	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
187	88102322	3/20/2019	Wednesday	6:05 AM	06	2019	Rear End	No Injury	0	0	\$0	\$1,000	Dark - Lighted	Dry	N	0	N	0
188	88211061	10/11/2019	Friday	12:09 PM	12	2019	Sideswipe	No Injury	0	0	\$0	\$1,800	Daylight	Dry	N	0	N	0
189	88211016	9/17/2019	Tuesday	7:06 AM	07	2019	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
190	88211018	9/18/2019	Wednesday	9:50 AM	09	2019	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
191	88211036	9/27/2019	Friday	7:55 AM	07	2019	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
192	88239805	11/16/2019	Saturday	4:58 PM	16	2019	Rear End	Injury	0	1	\$0	\$3,499	Daylight	Dry	N	0	N	0
193	88143340	5/20/2019	Monday	3:45 PM	15	2019	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
194	88189351	8/25/2019	Sunday	8:28 PM	20	2019	Rear End	No Injury	0	1	\$0	\$1,000	Dark - Lighted	Dry	N	0	N	0
195	88267009	12/27/2019	Friday	2:48 PM	14	2019	Angle	No Injury	0	0	\$0	\$28,000	Daylight	Dry	N	0	N	0
196	88213712	10/9/2019	Wednesday	2:12 PM	14	2019	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Wet	N	0	N	0
197	88220953	10/4/2019	Friday	6:37 PM	18	2019	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
198	88180746	7/26/2019	Friday	8:01 PM	20	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
199	88170744	8/5/2019	Monday	9:00 AM	09	2019	Sideswipe	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
200	88170745	8/7/2019	Wednesday	7:44 AM	07	2019	Sideswipe	Injury	0	1	\$0	\$4,500	Daylight	Dry	N	0	N	0
201	88101036	3/13/2019	Wednesday	8:07 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
202	88168675	8/13/2019	Tuesday	3:20 PM	15	2019	Other	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
203	88138840	5/28/2019	Tuesday	7:10 PM	19	2019	Other	No Injury	0	0	\$0	\$1,300	Dusk	Dry	N	0	N	0
204	88138864	6/17/2019	Monday	2:15 PM	14	2019	Sideswipe	No Injury	0	0	\$0	\$900	Daylight	Dry	N	0	N	0
205	88138865	6/17/2019	Monday	4:40 PM	16	2019	Rear End	No Injury	0	0	\$0	\$700	Daylight	Wet	N	0	N	0
206	88162585	6/20/2019	Thursday	4:40 PM	16	2019	Sideswipe	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
207	88208245	10/14/2019	Monday	10:33 AM	10	2019	Unknown	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
208	88267856	12/17/2019	Tuesday	12:15 AM	00	2019	Rear End	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0	N	0
209	88033373	2/13/2019	Wednesday	4:35 PM	16	2019	Right Turn	No Injury	0	0	\$0	\$7,500	Daylight	Dry	N	0	N	0
210	88208838	9/17/2019	Tuesday	3:42 PM	15	2019	Rear End	Injury	0	1	\$0	\$1,000	Daylight	Dry	N	0	N	0
211	88208866	9/24/2019	Tuesday	5:22 AM	05	2019	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
212	88057839	1/7/2019	Monday	9:36 AM	09	2019	Sideswipe	No Injury	0	0	\$0	\$1,250	Daylight	Dry	N	0	N	0
213	88057841	1/8/2019	Tuesday	6:34 AM	06	2019	Left Turn	No Injury	0	0	\$0	\$5,000	Dark - Lighted	Dry	N	0	N	0
214	88057852	1/11/2019	Friday	9:56 AM	09	2019	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
215	85466837	2/4/2017	Saturday	2:12 PM	14	2017	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
216	8590010	11/2/2017	Thursday	8:45 AM	08	2017	Sideswipe	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
217	85496259	3/14/2017	Tuesday	10:05 PM	22	2017	Sideswipe	No Injury	0	0	\$0	\$1,500	Dark - Lighted	Dry	N	0	N	0
218	8597566	10/19/2017	Thursday	10:15 AM	10	2017	Sideswipe	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
219	85440405	1/6/2017	Friday	1:20 PM	13	2017	Sideswipe	No Injury	0	0	\$0	\$650	Daylight	Dry	N	0	N	0
220	85587868	9/15/2017	Friday	3:20 PM	15	2017	Off Road	Injury	0	1	\$1,000	\$5,000	Daylight	Dry	N	0	N	0
221	85463042	3/30/2017	Thursday	7:49 AM	07	2017	Rear End	No Injury	0	0	\$0	\$2,400	Daylight	Dry	N	0	N	0
222	87260853	8/9/2018	Thursday	1:10 PM	13	2018	Rear End	No Injury	0	0	\$0	\$2,200	Daylight	Dry	N	0	N	0
223	87271711	8/21/2018	Tuesday	1:50 PM	13	2018	Rear End	No Injury	0	0	\$0	\$9,000	Daylight	Dry	N	0	N	0
224	85242180	1/20/2016	Wednesday	7:44 AM	07	2016	Left Turn	No Injury	0	0	\$0	\$4,700	Daylight	Dry	N	0	N	0
225	85308555	4/18/2016	Monday	3:02 PM	15	2016	Sideswipe	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
226	85308556	4/18/2016	Monday	5:25 PM	17	2016	Rear End	No Injury	0	0	\$0	\$150	Daylight	Dry	N	0	N	0
227	85432956	12/20/2016	Tuesday	12:45 PM	12	2016	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
228	85451011	12/21/2016	Wednesday	12:15 PM	12	2016	Left Turn	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
229	85435767	12/19/2016	Monday	4:01 PM	16	2016	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
230	85435771	12/20/2016	Tuesday	3:11 PM	15	2016	Rear End	No Injury	0	0	\$0	\$800	Daylight	Dry	N	0	N	0
231	85215207	11/30/2015	Monday	7:15 AM	07	2015	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
232	85218657	11/21/2015	Saturday	2:43 AM	02	2015	Sideswipe	No Injury	0	0	\$0	\$1,900	Dark - Lighted	Dry	N	0	N	0
233	85430158	12/15/2016	Thursday	8:55 AM	08	2016	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
234	85310941	4/15/2016	Friday	12:50 PM	12	2016	Sideswipe	No Injury	0	0	\$0	\$5,500	Daylight	Dry	N	0	N	0
235	85328789	6/6/2016	Monday	9:38 AM	09	2016	Other	No Injury	0	0	\$0	\$4,500	Daylight	Wet	N	0	N	0
236	85334524	6/18/2016	Saturday	11:31 PM	23	2016	Sideswipe	Injury	0	1	\$0	\$7,000	Dark - Lighted	Dry	N	0	N	0
237	85378640	8/27/2016	Saturday	12:00 AM	00	2016	Rear End	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
238	85328751	5/20/2016	Friday	12:46 PM	12	2016	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
239	85315305	5/13/2016	Friday	1:11 PM	13	2016	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
240	85330425	5/15/2016	Sunday	12:14 AM	00	2016	Other	No Injury	0	0	\$0	\$200	Dark - Lighted	Dry	N	0	N	0
241	85293306	4/14/2016	Thursday	2:40 PM	14	2016	Rear End	Injury	0	1	\$0	\$3,000	Daylight	Dry	N	0	N	0
242	85182906	9/4/2015	Friday	5:10 PM	17	2015	Rear End	No Injury	0	0	\$0	\$1,400	Daylight	Dry	N	0	N	0
243	85374060	8/11/2016	Thursday	2:30 PM	14	2016	Rear End	No Injury	0	0	\$0	\$4,100	Daylight	Dry	N	0	N	0
244	85366951	9/19/2016	Monday	12:18 PM	12	2016	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
245	85131776	6/5/2015	Friday	9:30 AM	09	2015	Left Turn	No Injury	0	0	\$0	\$8,500	Daylight	Dry	N	0	N	0
246	85118745	6/3/2015	Wednesday	6:42 PM	18	2015	Sideswipe	No Injury	0	0	\$0	\$1,100	Daylight	Dry	N	0	N	0
247	85372359	8/2/2016	Tuesday	1:20 PM	13	2016	Rear End	No Injury	0	0	\$0	\$300	Daylight	Dry	N	0	N	0
248	85196809	9/14/2015	Monday	5:40 PM	17	2015	Other	No Injury	0	0	\$0	\$4,100	Daylight	Dry	N	0	N	0
249	85229334	12/15/2015	Tuesday	4:43 PM	16	2015	Rear End	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0	N	0
250	85138034	7/1/2015	Wednesday	8:54 AM	08	2015	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
251	85183333	9/14/2015	Monday	2:05 PM	14	2015	Sideswipe	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
252	85140430	8/11/2015	Tuesday	4:26 AM	04	2015	Sideswipe	No Injury	0	0	\$0	\$7,000	Dark - Lighted	Dry	N	0	N	0
253	85145065	6/16/2015	Tuesday	6:36 PM	18	2015	Rear End	No Injury	0	0	\$0	\$8,600	Daylight	Dry	N	0	N	0
254	85201206	10/19/2015	Monday	6:15 AM	06	2015	Sideswipe	No Injury	0	0	\$0	\$2,200	Dark - Lighted	Dry	N	0	N	0
255	85157146	7/6/2015	Monday	5:15 PM	17	2015	Rear End	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
256	85218472	11/13/2015	Friday	11:47 AM	11	2015	Other	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
257	85218485	11/24/2015	Tuesday	11:58 AM	11	2015	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
258	85208959	10/16/2015	Friday	2:21 PM	14	2015	Sideswipe	No Injury	0	0	\$0	\$1,650	Daylight	Dry	N	0	N	0
259	85214144	10/29/2015	Thursday	6:19 AM	06	2015	Left Turn	Injury	0	2	\$0	\$13,000	Dark - Lighted	Dry	N	0	N	0
260	85149794	8/27/2015	Thursday	2:55 PM	14	2015	Rear End	Injury	0	1	\$0	\$8,000	Daylight	Wet	N	0	N	0
261	85158561	7/8/2015	Wednesday	7:06 PM	19	2015	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Wet	N	0	N	0
262	84563262	2/10/2015	Tuesday	7:55 AM	07	2015	Other	No Injury	0	0	\$0	\$3,800	Daylight	Dry	N	0	N	0
263	84558819	2/16/2015	Monday	9:00 AM	09	2015	Sideswipe	No Injury	0	0	\$0	\$4,100	Daylight	Dry	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
264	85156806	7/29/2015	Wednesday	9:25 PM	21	2015	Right Turn	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
265	88251851	11/22/2019	Friday	5:25 PM	17	2019	Unknown	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
266	88251875	12/3/2019	Tuesday	5:40 PM	17	2019	Sideswipe	No Injury	0	0	\$0	\$1,600	Dark - Lighted	Dry	N	0	N	0
267	85120979	7/17/2015	Friday	8:35 AM	08	2015	Left Turn	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0	N	0
268	85174422	8/21/2015	Friday	6:30 AM	06	2015	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Wet	N	0	N	0
269	85447846	12/22/2016	Thursday	4:50 PM	16	2016	Rear End	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
270	84563452	1/8/2015	Thursday	9:00 AM	09	2015	Other	No Injury	0	0	\$0	\$650	Daylight	Dry	N	0	N	0
271	84567640	1/13/2015	Tuesday	4:44 PM	16	2015	Rear End	No Injury	0	0	\$0	\$450	Daylight	Dry	N	0	N	0
272	84539018	2/3/2015	Tuesday	10:45 AM	10	2015	Rear End	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0	N	0
273	85196493	9/19/2015	Saturday	4:34 PM	16	2015	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
274	85183817	8/27/2015	Thursday	8:35 PM	20	2015	Rear End	No Injury	0	0	\$0	\$200	Dark - Lighted	Dry	N	0	N	0
275	84521704	3/16/2015	Monday	11:00 AM	11	2015	Rear End	No Injury	0	0	\$0	\$1,250	Daylight	Dry	N	0	N	0
276	85165437	8/12/2015	Wednesday	5:45 PM	17	2015	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
277	85226599	12/18/2015	Friday	12:41 PM	12	2015	Angle	Injury	0	1	\$0	\$7,000	Daylight	Dry	N	0	N	0
278	85238686	12/18/2015	Friday	8:51 AM	08	2015	Right Turn	No Injury	0	0	\$0	\$4,200	Daylight	Wet	N	0	N	0
279	84561491	1/1/2015	Thursday	1:36 PM	13	2015	Right Turn	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
280	85113385	5/18/2015	Monday	12:58 PM	12	2015	Left Turn	Injury	0	1	\$0	\$4,000	Daylight	Dry	N	0	N	0
281	83704391	3/15/2015	Sunday	2:45 AM	02	2015	Rear End	No Injury	0	0	\$0	\$1,000	Dark - Lighted	Dry	Y	1	N	0
282	85376408	9/7/2016	Wednesday	12:20 PM	12	2016	Sideswipe	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
283	84563282	2/23/2015	Monday	4:50 AM	04	2015	Rear End	Injury	0	1	\$0	\$2,200	Dark - Not Lighted	Dry	N	0	N	0
284	84561265	1/3/2015	Saturday	1:24 PM	13	2015	Rear End	No Injury	0	0	\$0	\$3,600	Daylight	Dry	N	0	N	0
285	85348493	7/15/2016	Friday	10:38 AM	10	2016	Rear End	No Injury	0	0	\$0	\$7,000	Dawn	Dry	N	0	N	0
286	84561433	1/14/2015	Wednesday	5:04 PM	17	2015	Other	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
287	84873854	2/28/2015	Saturday	12:45 PM	12	2015	Left Turn	No Injury	0	0	\$0	\$3,000	Daylight	Wet	N	0	N	0
288	84878453	3/11/2015	Wednesday	9:15 AM	09	2015	Other	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
289	83746830	2/20/2016	Saturday	6:14 PM	18	2016	Sideswipe	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
290	84878509	3/30/2015	Monday	2:00 PM	14	2015	Pedestrian	No Injury	0	0	\$0	\$350	Daylight	Dry	N	0	N	0
291	85206780	10/27/2015	Tuesday	3:37 PM	15	2015	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Wet	N	0	N	0
292	85214143	10/29/2015	Thursday	6:17 AM	06	2015	Sideswipe	No Injury	0	0	\$0	\$5,000	Dark - Lighted	Dry	N	0	N	0
293	85210748	10/29/2015	Thursday	6:00 PM	18	2015	Right Turn	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
294	85306230	7/12/2016	Tuesday	5:26 PM	17	2016	Angle	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
295	84563484	1/27/2015	Tuesday	7:45 AM	07	2015	Left Turn	Serious Injury	0	1	\$0	\$6,000	Daylight	Dry	N	0	N	0
296	84570621	2/10/2015	Tuesday	11:23 AM	11	2015	Rear End	No Injury	0	0	\$0	\$1,700	Daylight	Dry	N	0	N	0
297	84895874	4/13/2015	Monday	1:03 AM	01	2015	Pedestrian	Serious Injury	0	1	\$0	\$350	Dark - Lighted	Dry	N	0	N	0
298	84861719	3/11/2015	Wednesday	3:03 PM	15	2015	Sideswipe	No Injury	0	0	\$0	\$1,300	Daylight	Dry	N	0	N	0
299	85164008	9/1/2015	Tuesday	9:02 AM	09	2015	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
300	85333644	6/13/2016	Monday	11:54 PM	23	2016	Left Turn	Injury	0	1	\$0	\$5,000	Dark - Lighted	Dry	N	0	N	0
301	85166691	8/20/2015	Thursday	9:15 PM	21	2015	Rear End	No Injury	0	0	\$0	\$3,500	Dark - Lighted	Dry	N	0	N	0
302	84903030	5/2/2015	Saturday	1:00 AM	01	2015	Pedestrian	Serious Injury	0	1	\$0	\$0	Dark - Lighted	Dry	N	0	N	0
303	84865068	2/16/2015	Monday	12:00 AM	00	2015	Other	No Injury	0	0	\$0	\$2,000	Dark - Unknown Lighting	Dry	N	0	N	0
304	85169769	8/17/2015	Monday	2:09 PM	14	2015	Other	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
305	85149775	8/12/2015	Wednesday	11:31 AM	11	2015	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
306	85163324	8/13/2015	Thursday	4:39 PM	16	2015	Sideswipe	Injury	0	2	\$0	\$500	Daylight	Dry	N	0	N	0
307	84873588	4/5/2015	Sunday	10:55 PM	22	2015	Rear End	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
308	84858583	3/2/2015	Monday	12:30 PM	12	2015	Left Turn	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
309	84871715	3/16/2015	Monday	3:40 PM	15	2015	Sideswipe	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
310	85164616	8/16/2015	Sunday	4:09 PM	16	2015	Rear End	Injury	0	1	\$0	\$9,000	Daylight	Wet	N	0	Y	1
311	84873868	3/7/2015	Saturday	6:45 AM	06	2015	Rear End	Injury	0	1	\$0	\$1,200	Daylight	Dry	N	0	N	0
312	84891157	4/27/2015	Monday	11:50 AM	11	2015	Sideswipe	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
313	85182198	9/1/2015	Tuesday	6:10 PM	18	2015	Rear End	No Injury	0	0	\$0	\$900	Daylight	Dry	N	0	N	0
314	84858417	2/19/2015	Thursday	6:26 PM	18	2015	Sideswipe	No Injury	0	0	\$0	\$300	Dark - Lighted	Dry	N	0	N	0
315	84895397	4/16/2015	Thursday	10:24 AM	10	2015	Right Turn	No Injury	0	0	\$0	\$2,700	Daylight	Dry	N	0	N	0
316	84895398	4/16/2015	Thursday	10:28 AM	10	2015	Sideswipe	No Injury	0	0	\$0	\$4,900	Daylight	Dry	N	0	N	0
317	84866717	2/18/2015	Wednesday	8:14 AM	08	2015	Rear End	Injury	0	2	\$0	\$150	Daylight	Wet	N	0	N	0
318	84855234	2/2/2015	Monday	1:48 PM	13	2015	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
319	85144094	7/21/2015	Tuesday	4:04 PM	16	2015	Rear End	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
320	85281486	12/30/2016	Friday	12:20 PM	12	2016	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
321	84904941	7/13/2015	Monday	3:15 PM	15	2015	Sideswipe	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
322	84895490	4/11/2015	Saturday	2:10 PM	14	2015	Rear End	No Injury	0	0	\$0	\$2,100	Daylight	Dry	N	0	N	0
323	84903797	6/3/2015	Wednesday	4:30 PM	16	2015	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
324	84899460	5/12/2015	Tuesday	7:54 AM	07	2015	Other	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
325	84883369	3/16/2015	Monday	2:47 PM	14	2015	Sideswipe	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
326	85279434	3/2/2016	Wednesday	8:06 AM	08	2016	Rear End	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0
327	85124821	6/29/2015	Monday	3:34 PM	15	2015	Rear End	Injury	0	1	\$0	\$5,500	Daylight	Wet	N	0	N	0
328	85269082	2/8/2016	Monday	1:11 PM	13	2016	Rear End	No Injury	0	0	\$0	\$1,700	Daylight	Dry	N	0	N	0
329	85165387	3/28/2016	Monday	3:15 PM	15	2016	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related		
330	85135805	6/2/2015	Tuesday	3:01 PM	15	2015	Rear End	No Injury	0	0	\$0	\$4,750	Daylight	Dry	N	0	N	0
331	85245116	12/31/2015	Thursday	1:01 PM	13	2015	Right Turn	Injury	0	1	\$0	\$2,000	Daylight	Dry	N	0	N	0
332	85333669	6/29/2016	Wednesday	2:20 PM	14	2016	Angle	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
333	85277051	2/25/2016	Thursday	5:25 PM	17	2016	Left Turn	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
334	85341332	7/2/2016	Saturday	8:30 AM	08	2016	Other	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
335	85336941	6/10/2016	Friday	10:50 AM	10	2016	Rear End	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
336	85297978	3/31/2016	Thursday	4:09 PM	16	2016	Sideswipe	No Injury	0	0	\$0	\$2,250	Daylight	Dry	N	0	N	0
337	85252786	1/26/2016	Tuesday	7:03 AM	07	2016	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
338	85251234	1/31/2016	Sunday	7:22 AM	07	2016	Left Turn	Injury	0	3	\$0	\$13,000	Daylight	Dry	N	0	N	0
339	85303965	4/6/2016	Wednesday	1:34 PM	13	2016	Sideswipe	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
340	85298394	5/24/2016	Tuesday	2:40 PM	14	2016	Rear End	No Injury	0	0	\$0	\$2,100	Daylight	Dry	N	0	N	0
341	85352688	7/13/2016	Wednesday	8:45 AM	08	2016	Rear End	No Injury	0	0	\$0	\$4,800	Daylight	Dry	N	0	N	0
342	85308248	6/2/2016	Thursday	5:33 AM	05	2016	Rear End	Injury	0	1	\$0	\$3,400	Dark - Lighted	Dry	N	0	N	0
343	85453231	12/21/2016	Wednesday	6:21 AM	06	2016	Rear End	Injury	0	1	\$0	\$8,100	Dark - Lighted	Dry	N	0	N	0
344	84903055	5/15/2015	Friday	7:20 AM	07	2015	Other	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
345	85447848	12/22/2016	Thursday	6:42 PM	18	2016	Unknown	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
346	85273241	3/10/2016	Thursday	5:20 PM	17	2016	Sideswipe	No Injury	0	0	\$0	\$2,100	Daylight	Dry	N	0	N	0
347	85441086	12/30/2016	Friday	10:25 AM	10	2016	Rear End	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0
348	85394219	10/1/2016	Saturday	2:33 PM	14	2016	Rear End	Injury	0	3	\$0	\$1,400	Daylight	Dry	N	0	N	0
349	85389204	9/14/2016	Wednesday	1:21 PM	13	2016	Unknown	No Injury	0	0	\$0	\$1,100	Daylight	Dry	N	0	N	0
350	84566060	3/2/2015	Monday	7:57 AM	07	2015	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
351	84885872	4/6/2015	Monday	3:40 PM	15	2015	Animal	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
352	84882467	3/28/2015	Saturday	2:00 PM	14	2015	Rear End	No Injury	0	0	\$0	\$1,200	Daylight	Dry	N	0	N	0
353	84883428	4/20/2015	Monday	7:50 PM	19	2015	Rear End	Injury	0	1	\$0	\$12,000	Dark - Lighted	Wet	N	0	N	0
354	84882487	4/7/2015	Tuesday	10:50 AM	10	2015	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
355	85231185	11/19/2015	Thursday	4:40 PM	16	2015	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
356	84567656	1/19/2015	Monday	2:56 PM	14	2015	Left Turn	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
357	85313084	5/1/2016	Sunday	2:30 PM	14	2016	Angle	Injury	0	1	\$0	\$10,000	Daylight	Dry	N	0	N	0
358	85315301	5/11/2016	Wednesday	5:30 PM	17	2016	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
359	85329688	6/2/2016	Thursday	4:52 PM	16	2016	Rear End	No Injury	0	0	\$0	\$1,000	Dusk	Dry	N	0	N	0
360	85208736	11/10/2015	Tuesday	7:51 AM	07	2015	Sideswipe	Injury	0	1	\$0	\$1,200	Daylight	Dry	N	0	N	0
361	85391217	9/21/2016	Wednesday	1:10 PM	13	2016	Sideswipe	No Injury	0	0	\$0	\$4,500	Daylight	Dry	N	0	N	0
362	85195845	9/18/2015	Friday	1:45 PM	13	2015	Rear End	Injury	0	1	\$0	\$500	Daylight	Dry	N	0	N	0
363	85197208	10/3/2015	Saturday	8:22 PM	20	2015	Sideswipe	No Injury	0	0	\$0	\$9,500	Dark - Lighted	Dry	N	0	N	0
364	85139649	7/22/2015	Wednesday	2:10 PM	14	2015	Rear End	No Injury	0	0	\$0	\$4,000	Daylight	Wet	N	0	N	0
365	85256206	1/25/2016	Monday	6:20 AM	06	2016	Rear End	No Injury	0	0	\$0	\$9,500	Dark - Lighted	Dry	N	0	N	0
366	85231238	12/15/2015	Tuesday	8:26 AM	08	2015	Angle	No Injury	0	0	\$0	\$5,500	Daylight	Dry	N	0	N	0
367	85253028	1/1/2016	Friday	10:23 AM	10	2016	Angle	No Injury	0	0	\$0	\$11,000	Daylight	Dry	N	0	N	0
368	85258480	1/21/2016	Thursday	8:33 AM	08	2016	Angle	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
369	85258462	1/14/2016	Thursday	8:09 AM	08	2016	Rear End	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
370	85433365	12/18/2016	Sunday	2:50 PM	14	2016	Right Turn	Injury	0	1	\$10,000	\$13,000	Daylight	Dry	N	0	N	0
371	85404393	10/4/2016	Tuesday	1:42 PM	13	2016	Rear End	Injury	0	1	\$0	\$800	Daylight	Dry	N	0	N	0
372	85427543	11/11/2016	Friday	12:46 PM	12	2016	Right Turn	No Injury	0	0	\$0	\$1,600	Daylight	Dry	N	0	N	0
373	85433580	12/3/2016	Saturday	9:26 PM	21	2016	Rear End	No Injury	0	0	\$0	\$1,900	Dark - Lighted	Dry	N	0	N	0
374	85396580	10/18/2016	Tuesday	7:40 AM	07	2016	Left Turn	Serious Injury	0	1	\$0	\$10,500	Daylight	Dry	N	0	N	0
375	85397384	10/22/2016	Saturday	7:20 PM	19	2016	Off Road	No Injury	0	0	\$5,000	\$5,800	Dark - Lighted	Dry	N	0	N	0
376	85409913	10/26/2016	Wednesday	10:42 AM	10	2016	Rear End	No Injury	0	0	\$0	\$450	Daylight	Dry	N	0	N	0
377	85427578	11/25/2016	Friday	5:18 PM	17	2016	Sideswipe	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
378	85390409	9/3/2016	Saturday	11:23 PM	23	2016	Rear End	Injury	0	1	\$0	\$200	Dark - Lighted	Dry	N	0	N	0
379	85185125	9/28/2015	Monday	9:09 PM	21	2015	Rear End	No Injury	0	0	\$0	\$500	Dark - Lighted	Dry	N	0	N	0
380	85328150	9/13/2016	Tuesday	5:15 PM	17	2016	Rear End	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
381	85272576	2/5/2016	Friday	6:09 PM	18	2016	Rear End	No Injury	0	0	\$0	\$3,250	Daylight	Dry	N	0	N	0
382	85339174	5/26/2016	Thursday	8:40 PM	20	2016	Right Turn	No Injury	0	0	\$0	\$700	Dark - Lighted	Dry	N	0	N	0
383	85333643	6/13/2016	Monday	10:32 PM	22	2016	Rear End	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
384	82265570	10/15/2016	Saturday	11:24 AM	11	2016	Other	No Injury	0	0	\$0	\$350	Daylight	Dry	N	0	N	0
385	84569424	6/18/2015	Thursday	12:10 PM	12	2015	Head On	No Injury	0	0	\$0	\$600	Daylight	Dry	N	0	N	0
386	88076753	2/1/2019	Friday	1:56 AM	01	2019	Pedestrian	Serious Injury	0	1	\$0	\$500	Dark - Lighted	Dry	N	0	N	0
387	85308569	4/22/2016	Friday	12:35 PM	12	2016	Other	Injury	0	2	\$0	\$16,300	Daylight	Dry	N	0	N	0
388	87131054	12/16/2017	Saturday	4:01 PM	16	2017	Sideswipe	Injury	0	1	\$0	\$2,000	Daylight	Dry	N	0	N	0
389	85294388	3/21/2016	Monday	4:00 PM	16	2016	Other	No Injury	0	0	\$0	\$1,100	Daylight	Dry	N	0	N	0
390	84903771	5/21/2015	Thursday	6:23 AM	06	2015	Other	No Injury	0	0	\$0	\$250	Daylight	Dry	N	0	N	0
391	85370493	9/10/2016	Saturday	11:18 PM	23	2016	Other	Injury	0	2	\$0	\$10,000	Dark - Lighted	Dry	N	0	N	0

Land Street Road and US 441

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	40	33	35	31	32	171	44%
Head On	1	0	0	1	0	2	1%
Sideswipe	21	14	19	15	31	100	26%
Rollover	0	0	0	0	0	0	0%
Angle	2	5	3	1	4	15	4%
Left Turn	8	6	8	5	3	30	8%
Right Turn	6	3	2	2	2	15	4%
Off Road	0	1	2	0	1	4	1%
Pedestrian & Bicycle	3	0	1	1	1	6	2%
Animal	1	0	0	0	0	1	0%
Other	11	9	5	10	12	47	12%
Total	93	71	75	66	86	391	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	17	14	16	13	17	77	20%
Property Damage Only	76	57	59	53	69	314	80%
Total	93	71	75	66	86	391	100%

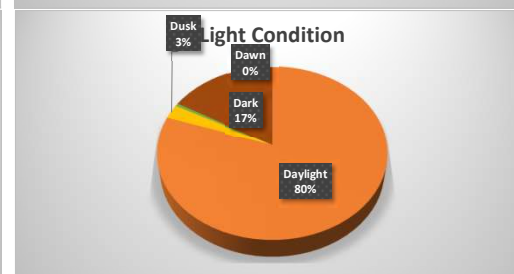
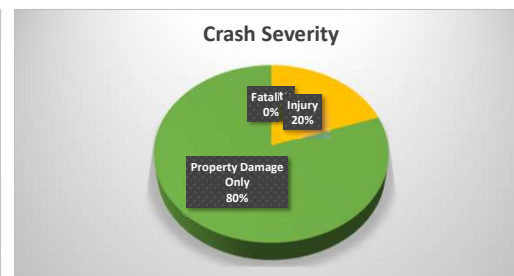
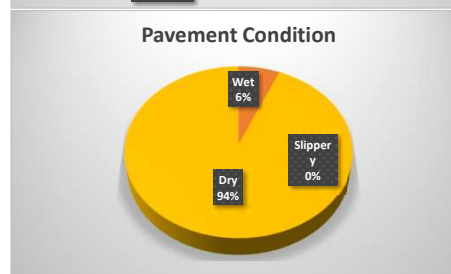
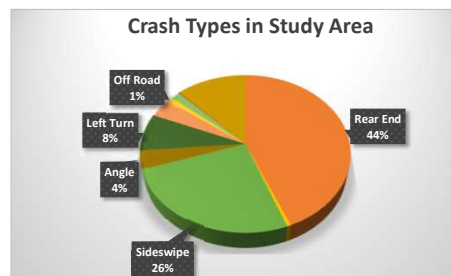
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	11	1	6	2	5	25	6%
Dry	82	70	69	64	81	366	94%
Slippery	0	0	0	0	0	0	0%
Total	93	71	75	66	86	391	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	75	56	56	58	69	314	80%
Dusk	0	1	4	2	3	10	3%
Dawn	0	1	1	0	0	2	1%
Dark	18	13	14	6	14	65	17%
Total	93	71	75	66	86	391	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	0	1	1	3	1%
Drugs	1	0	0	0	0	1	0%
Total	2	0	0	1	1	4	1%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	93	69	73	66	84	385	98%
\$501 - \$1,000	0	0	1	0	1	2	1%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	2	1	0	1	4	1%
Total	93	71	75	66	86	391	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	78	56	63	55	74	326	83%
\$5,001 - \$10,000	13	10	10	8	8	49	13%
\$10,000 - \$25,000	2	5	1	3	2	13	3%
\$25,001+	0	0	1	0	2	3	1%
Total	93	71	75	66	86	391	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	88102099	3/25/2019	Monday	7:55 AM	07	2019	Sideswipe	No Injury	0	0	\$0	\$550	Daylight	Dry	N	0	N	0
2	88093240	3/7/2019	Thursday	2:08 AM	02	2019	Sideswipe	Injury	0	1	\$0	\$3,000	Dark - Lighted	Dry	N	0	N	0
3	85496113	3/14/2017	Tuesday	3:40 PM	15	2017	Sideswipe	No Injury	0	0	\$0	\$2,900	Daylight	Dry	N	0	N	0
4	85502503	8/1/2017	Tuesday	4:44 PM	16	2017	Sideswipe	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
5	87239146	6/26/2018	Tuesday	5:33 PM	17	2018	Sideswipe	Injury	0	1	\$0	\$4,000	Daylight	Dry	N	0	N	0
6	85582317	9/20/2017	Wednesday	5:05 PM	17	2017	Left Turn	No Injury	0	0	\$0	\$6,500	Daylight	Dry	N	0	N	0
7	88061633	4/18/2019	Thursday	5:34 PM	17	2019	Sideswipe	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0	N	0
8	85213086	11/5/2015	Thursday	5:50 PM	17	2015	Sideswipe	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
9	88162425	6/25/2019	Tuesday	4:15 PM	16	2019	Rear End	Injury	0	1	\$0	\$3,000	Daylight	Dry	N	0	N	0
10	83769626	8/23/2015	Sunday	1:50 PM	13	2015	Off Road	No Injury	0	0	\$50	\$10,050	Daylight	Dry	N	0	N	0
11	84894581	4/22/2015	Wednesday	10:26 PM	22	2015	Sideswipe	No Injury	0	0	\$0	\$6,000	Dark - Lighted	Dry	N	0	N	0
12	85297069	4/5/2016	Tuesday	5:45 PM	17	2016	Rear End	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0	N	0

Land Street Road and SR 528 EB Ramps

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	1	0	0	1	2	17%
Head On	0	0	0	0	0	0	0%
Sideswipe	2	0	2	1	3	8	67%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	0	0	0%
Left Turn	0	0	1	0	0	1	8%
Right Turn	0	0	0	0	0	0	0%
Off Road	1	0	0	0	0	1	8%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	0	0	0	0	0	0	0%
Total	3	1	3	1	4	12	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	0	0	0	1	2	3	25%
Property Damage Only	3	1	3	0	2	9	75%
Total	3	1	3	1	4	12	100%

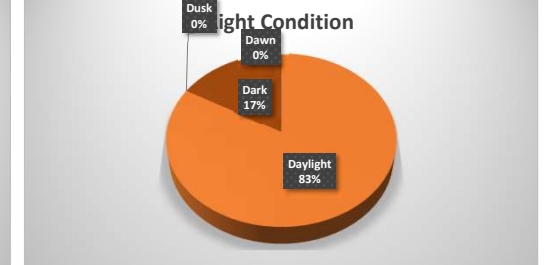
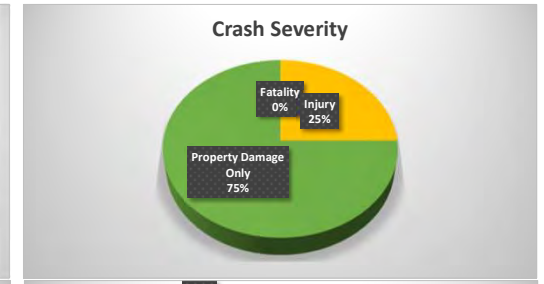
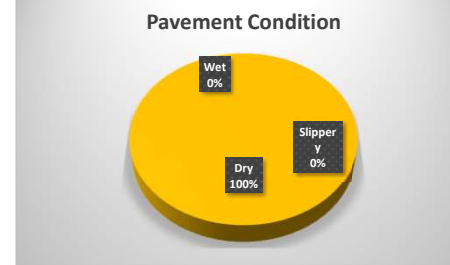
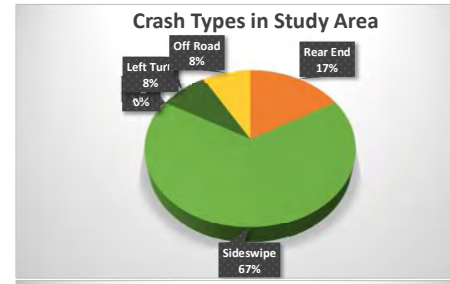
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	0	0	0%
Dry	3	1	3	1	4	12	100%
Slippery	0	0	0	0	0	0	0%
Total	3	1	3	1	4	12	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	1	3	1	3	10	83%
Dusk	0	0	0	0	0	0	0%
Dawn	0	0	0	0	0	0	0%
Dark	1	0	0	0	1	2	17%
Total	3	1	3	1	4	12	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	3	1	3	1	4	12	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	3	1	3	1	4	12	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	1	1	2	1	3	8	67%
\$5,001 - \$10,000	1	0	1	0	1	3	25%
\$10,000 - \$25,000	1	0	0	0	0	1	8%
\$25,001+	0	0	0	0	0	0	0%
Total	3	1	3	1	4	12	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	88033985	11/7/2018	Wednesday	11:26 AM	11	2018	Right Turn	No Injury	0	0	\$0	\$1,500	Daylight	Dry	N	0	N	0
2	88070758	1/15/2019	Tuesday	5:10 PM	17	2019	Rear End	Injury	0	1	\$0	\$600	Daylight	Dry	N	0	N	0
3	87246145	7/27/2018	Friday	6:30 AM	06	2018	Rear End	Injury	0	1	\$0	\$8,800	Daylight	Dry	N	0	N	0
4	84541169	7/14/2016	Thursday	3:16 PM	15	2016	Rear End	Injury	0	1	\$0	\$650	Daylight	Dry	N	0	N	0
5	85469571	1/20/2017	Friday	12:25 PM	12	2017	Left Turn	No Injury	0	0	\$0	\$550	Daylight	Dry	N	0	N	0
6	87299132	9/19/2018	Wednesday	1:55 PM	13	2018	Other	No Injury	0	0	\$0	\$1,160	Daylight	Dry	N	0	N	0
7	85457403	1/11/2017	Wednesday	3:30 PM	15	2017	Rear End	No Injury	0	0	\$0	\$100	Daylight	Dry	N	0	N	0
8	85444658	2/8/2017	Wednesday	8:53 PM	20	2017	Sideswipe	No Injury	0	0	\$0	\$16,000	Dark - Lighted	Dry	N	0	N	0
9	87125915	12/19/2017	Tuesday	11:33 AM	11	2017	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
10	87285768	9/17/2018	Monday	9:54 AM	09	2018	Sideswipe	Injury	0	1	\$0	\$7,000	Daylight	Dry	N	0	N	0
11	87152573	2/6/2018	Tuesday	3:05 PM	15	2018	Rear End	No Injury	0	0	\$0	\$2,800	Daylight	Dry	N	0	N	0
12	88084350	2/4/2019	Monday	4:53 PM	16	2019	Rear End	No Injury	0	0	\$0	\$1,100	Dark - Lighted	Dry	N	0	N	0
13	88101033	3/11/2019	Monday	8:23 AM	08	2019	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
14	88061927	1/17/2019	Thursday	1:34 PM	13	2019	Sideswipe	Injury	0	1	\$0	\$3,500	Daylight	Dry	N	0	N	0
15	88267641	12/11/2019	Wednesday	4:49 AM	04	2019	Rear End	No Injury	0	0	\$0	\$2,250	Dark - Lighted	Dry	N	0	N	0
16	88236914	10/21/2019	Monday	4:24 PM	16	2019	Rear End	No Injury	0	0	\$0	\$600	Daylight	Wet	N	0	N	0
17	85584126	8/15/2017	Tuesday	8:57 AM	08	2017	Left Turn	Injury	0	1	\$0	\$10,000	Daylight	Dry	N	0	N	0
18	85558770	7/7/2017	Friday	2:47 PM	14	2017	Rear End	No Injury	0	0	\$0	\$2,500	Daylight	Dry	N	0	N	0
19	85409454	11/7/2016	Monday	10:44 AM	10	2016	Rear End	No Injury	0	0	\$0	\$8,000	Dusk	Dry	N	0	N	0
20	85328485	6/6/2016	Monday	11:00 AM	11	2016	Left Turn	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
21	85210724	10/14/2015	Wednesday	4:50 PM	16	2015	Rear End	Injury	0	1	\$0	\$500	Daylight	Dry	N	0	N	0
22	85201183	10/9/2015	Friday	7:25 AM	07	2015	Rear End	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
23	85281145	3/9/2016	Wednesday	10:16 AM	10	2016	Left Turn	No Injury	0	0	\$0	\$3,750	Daylight	Dry	N	0	N	0
24	85364800	8/3/2016	Wednesday	7:15 AM	07	2016	Rear End	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
25	84570652	2/26/2015	Thursday	12:00 PM	12	2015	Left Turn	No Injury	0	0	\$0	\$7,000	Daylight	Dry	N	0	N	0
26	84555533	2/18/2015	Wednesday	1:45 PM	13	2015	Right Turn	No Injury	0	0	\$0	\$1,900	Daylight	Dry	N	0	N	0
27	85400727	10/13/2016	Thursday	3:52 PM	15	2016	Sideswipe	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
28	84558072	1/26/2015	Monday	12:00 PM	12	2015	Left Turn	No Injury	0	0	\$0	\$2,900	Daylight	Dry	N	0	N	0
29	84884427	5/6/2015	Wednesday	9:50 AM	09	2015	Right Turn	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
30	85166509	9/3/2015	Thursday	7:39 AM	07	2015	Rear End	No Injury	0	0	\$0	\$200	Daylight	Dry	N	0	N	0
31	85155977	7/1/2015	Wednesday	6:37 PM	18	2015	Left Turn	No Injury	0	0	\$0	\$15,000	Daylight	Dry	N	0	N	0
32	85433354	12/14/2016	Wednesday	5:05 PM	17	2016	Sideswipe	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
33	84884428	5/6/2015	Wednesday	9:58 AM	09	2015	Right Turn	No Injury	0	0	\$0	\$500	Daylight	Dry	N	0	N	0
34	85430040	12/12/2016	Monday	2:20 PM	14	2016	Sideswipe	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
35	85328506	5/25/2016	Wednesday	2:45 PM	14	2016	Sideswipe	No Injury	0	0	\$0	\$1,250	Daylight	Dry	N	0	N	0
36	84881713	3/20/2015	Friday	7:54 AM	07	2015	Left Turn	Injury	0	2	\$0	\$12,500	Daylight	Dry	N	0	N	0
37	85207291	11/5/2015	Thursday	5:53 PM	17	2015	Other	No Injury	0	0	\$0	\$1,700	Dusk	Dry	N	0	N	0
38	85174428	8/26/2015	Wednesday	9:30 AM	09	2015	Right Turn	No Injury	0	0	\$0	\$1,050	Daylight	Dry	N	0	N	0
39	84563385	1/27/2015	Tuesday	4:15 PM	16	2015	Left Turn	No Injury	0	0	\$0	\$5,000	Daylight	Dry	N	0	N	0

Land Street Road from SR 528 WB Off Ramp to SR 528 EB On Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	3	3	2	2	4	14	36%
Head On	0	0	0	0	0	0	0%
Sideswipe	0	4	2	1	2	9	23%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	0	0	0%
Left Turn	5	2	2	0	0	9	23%
Right Turn	4	0	0	1	0	5	13%
Off Road	0	0	0	0	0	0	0%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	1	0	0	1	0	2	5%
Total	13	9	6	5	6	39	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	2	1	1	2	2	8	21%
Property Damage Only	11	8	5	3	4	31	79%
Total	13	9	6	5	6	39	100%

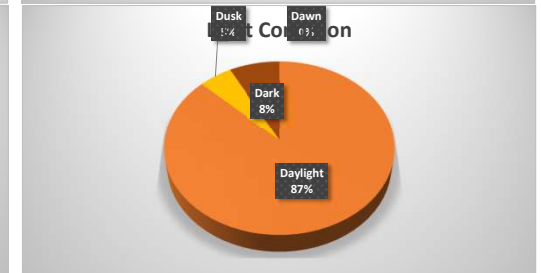
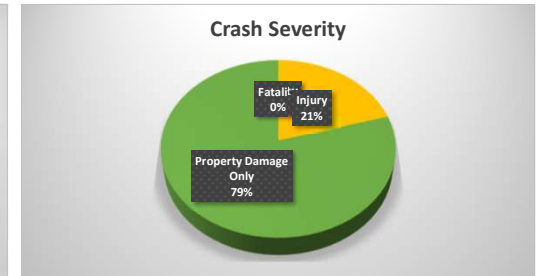
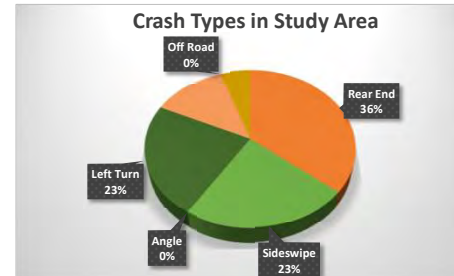
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	1	1	3%
Dry	13	9	6	5	5	38	97%
Slippery	0	0	0	0	0	0	0%
Total	13	9	6	5	6	39	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	12	8	5	5	4	34	87%
Dusk	1	1	0	0	0	2	5%
Dawn	0	0	0	0	0	0	0%
Dark	0	0	1	0	2	3	8%
Total	13	9	6	5	6	39	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	13	9	6	5	6	39	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	13	9	6	5	6	39	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	10	7	4	3	6	30	77%
\$5,001 - \$10,000	1	2	1	2	0	6	15%
\$10,000 - \$25,000	2	0	1	0	0	3	8%
\$25,001+	0	0	0	0	0	0	0%
Total	13	9	6	5	6	39	100%

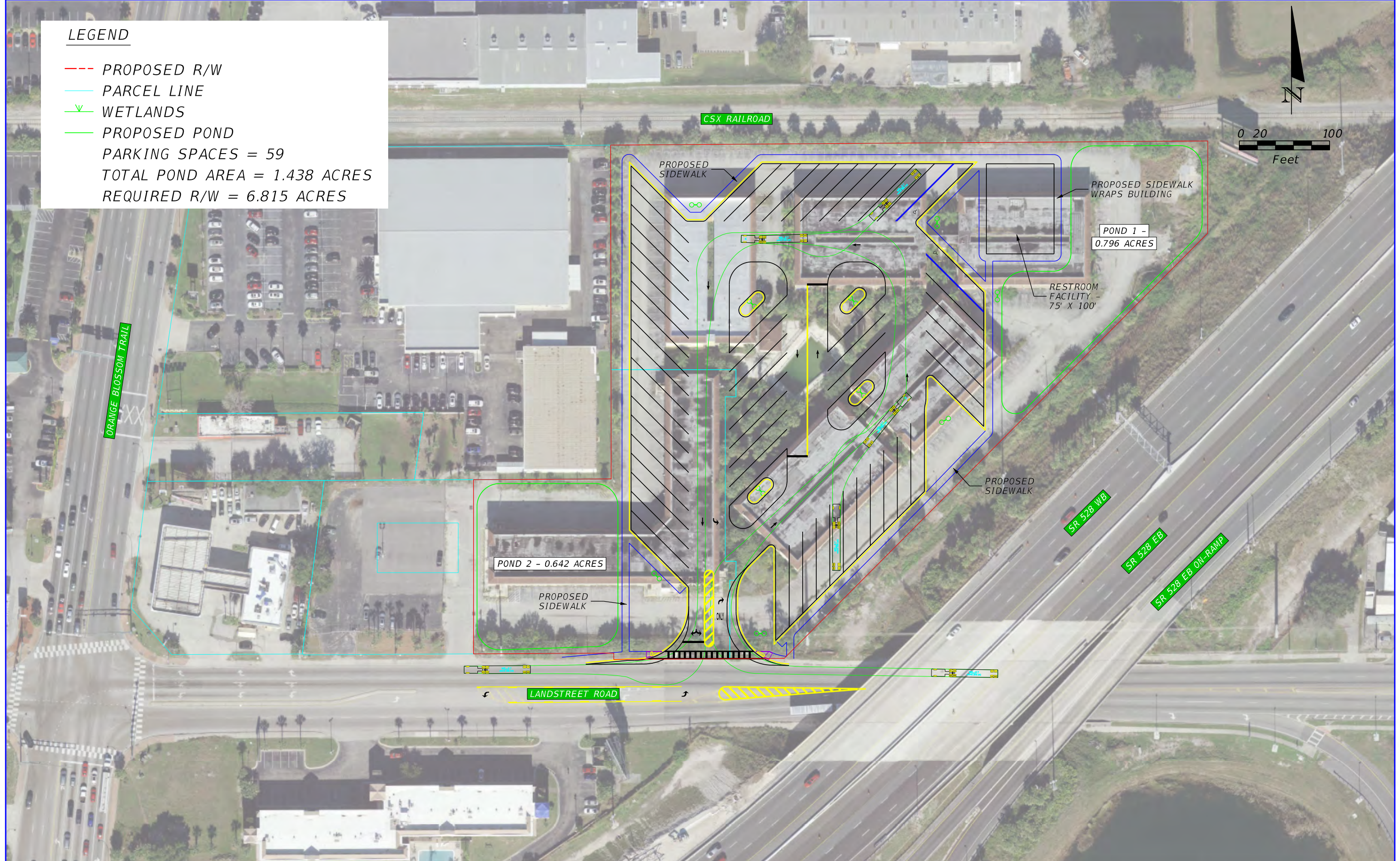


Appendix D-4

Orange County Site 2 – Future Volume Development

LEGEND

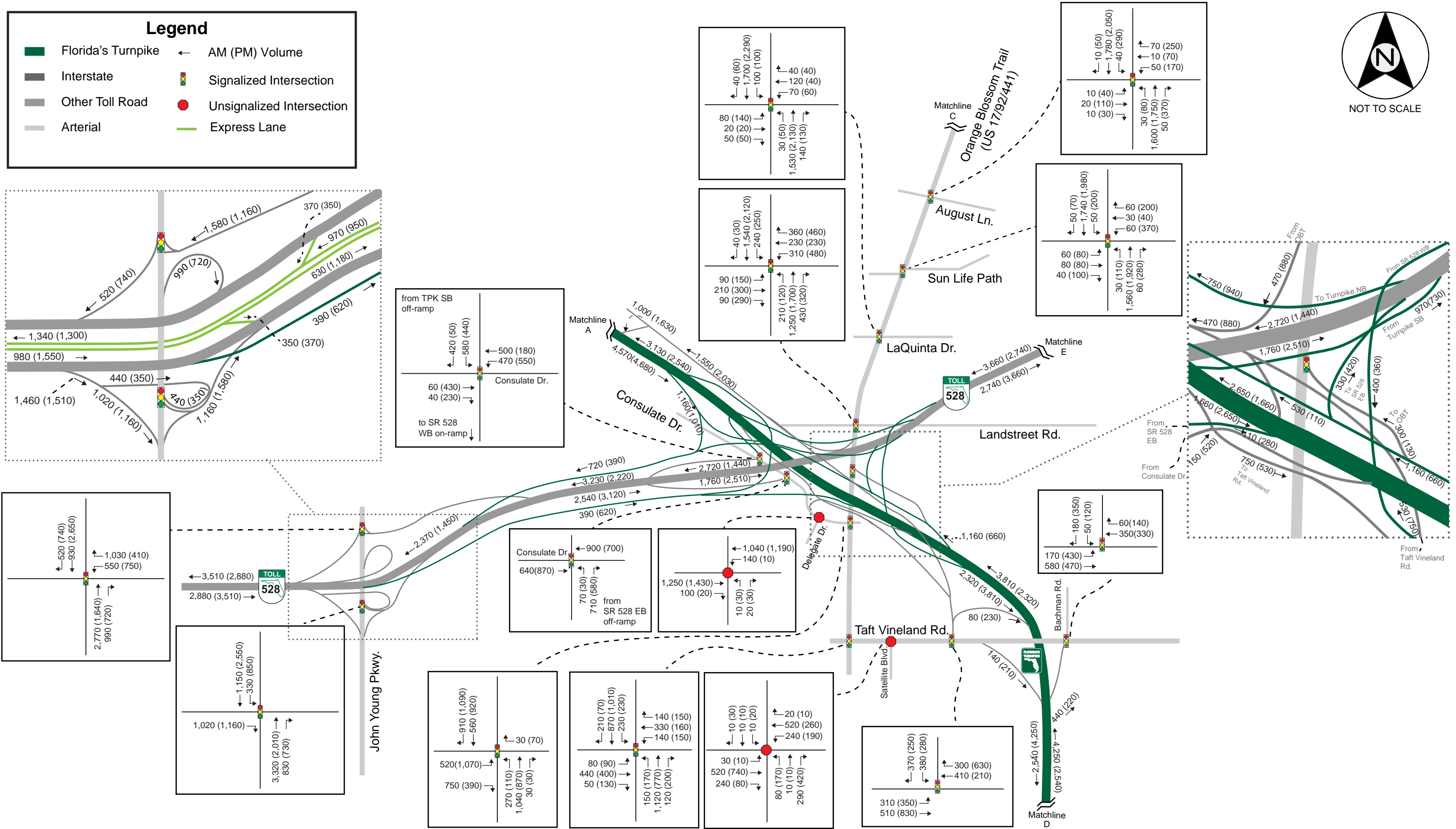
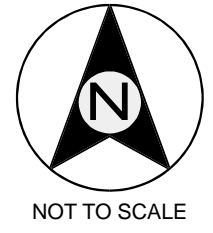
- PROPOSED R/W
 - PARCEL LINE
 - ▽ WETLANDS
 - PROPOSED POND
- PARKING SPACES = 59
 TOTAL POND AREA = 1.438 ACRES
 REQUIRED R/W = 6.815 ACRES

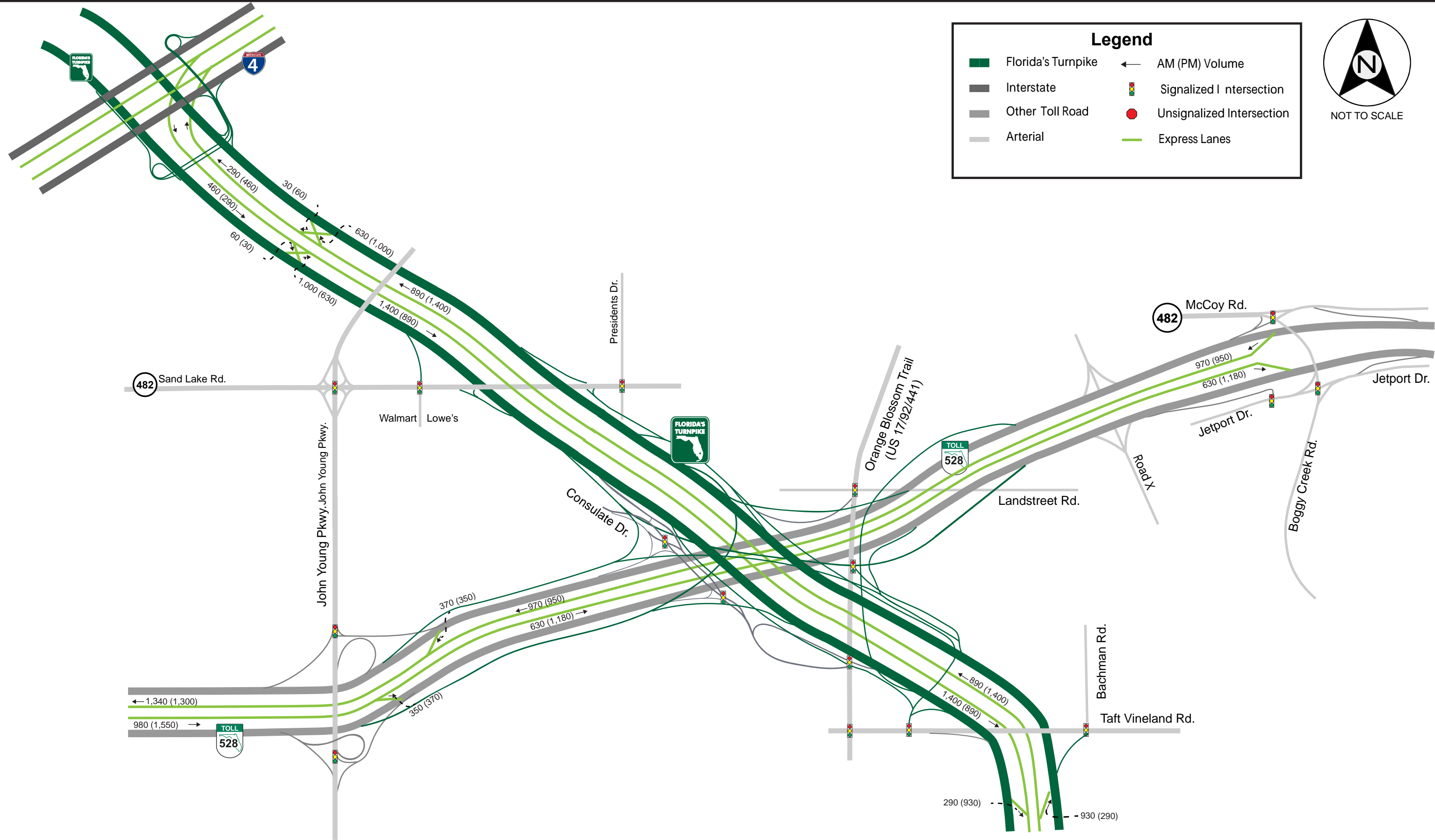


REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ORANGE COUNTY SITE 2 TRUCK PARKING CONCEPT	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				CR 527A	ORANGE	447724-1		

Legend

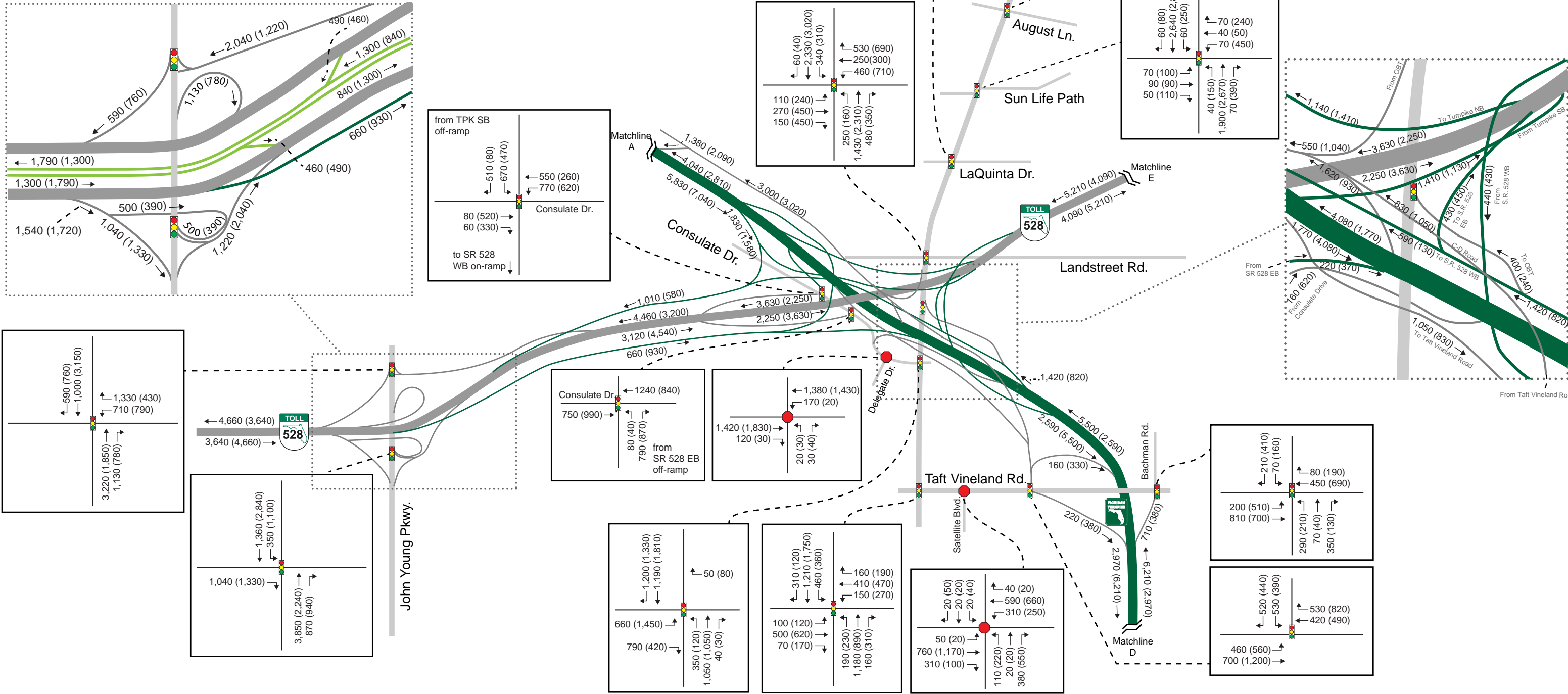
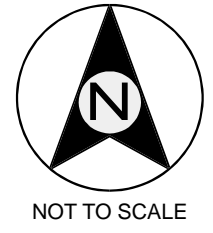
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- Interstate
- Other Toll Road
- Arterial
- AM (PM) Volume
- Signalized Intersection
- Unsignalized Intersection
- Express Lane

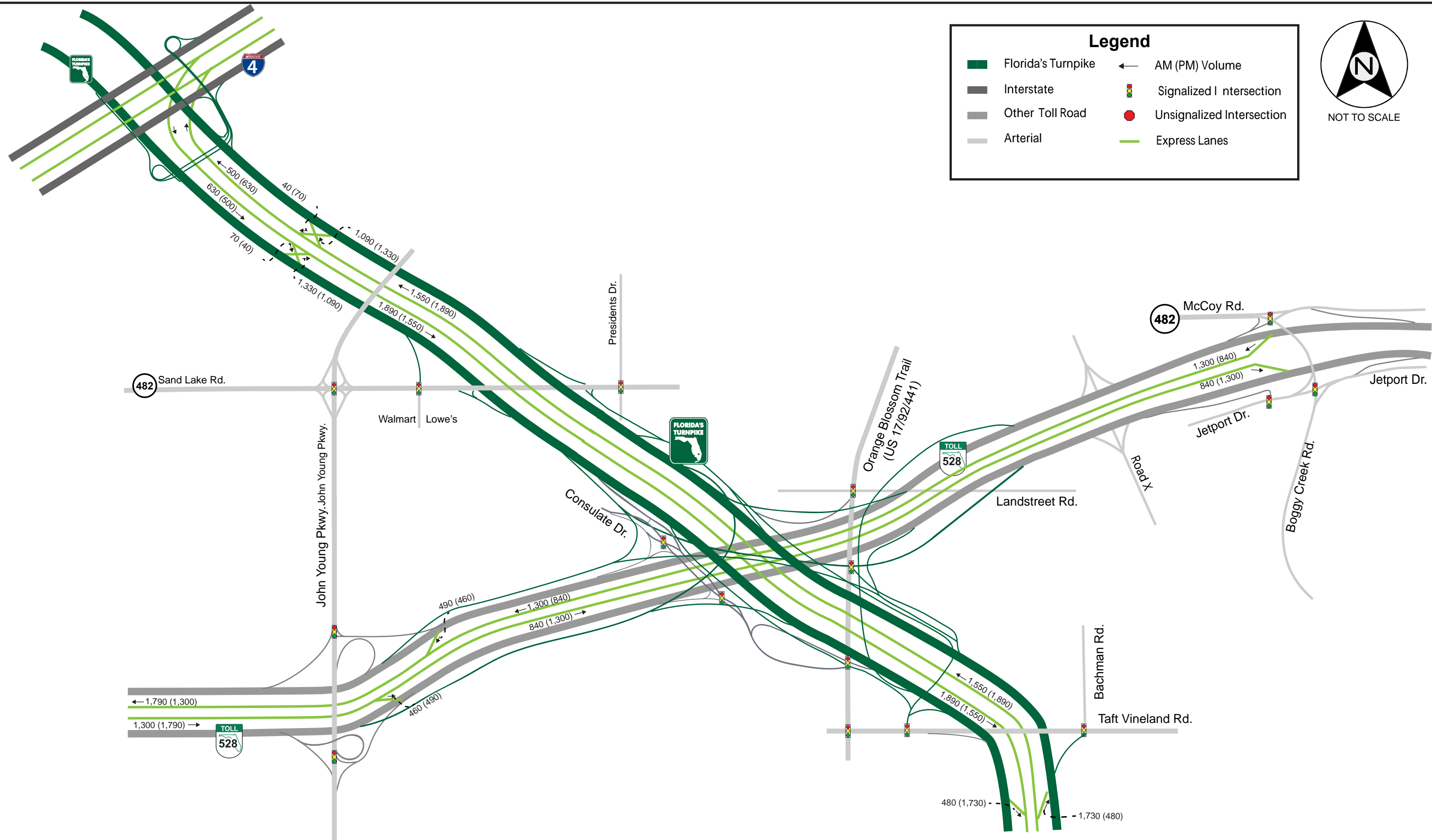




Legend

- Florida's Turnpike
- Interstate
- Other Toll Road
- Arterial
- Express Lanes
- AM (PM) Volume
- Signalized Intersection
- Unsignalized Intersection
- Express Lanes





The build alternatives are described in this section as well as future traffic operational analysis and safety assessment.

6.1 ANALYSIS ALTERNATIVES

Several Transportation System Management and Operations (TSM&O) measures have been implemented within the study area. These TSM&O considerations included the following: the installation of a new traffic signal along US 17/92/441 at the Turnpike ramps merge and signal timing optimization at the Turnpike southbound off-ramp terminal intersection with Consulate Drive. Adaptive signal control is also being considered at the Consulate Drive intersection as well as lane geometry modifications, to be implemented as part of the implementation of the EL project from Orlando South to I-4 and direct connect ramps to/from I-4 (FPN: 437166-2 and 437987-3). The Orlando South interchange resurfacing project (FPN: 437156-2), will also include widening of SR 528 westbound to Turnpike off-ramp single lane section to two lanes, downstream of the US 17/92/441 southbound on-ramp.

These TSM&O improvements and other similar future changes are not expected to satisfy the need for direct access ramps between the Florida's Turnpike and SR 528, improve access to the surface streets, and alleviate traffic congestion within the interchange. Therefore, this PD&E study and the SIJR did not consider a standalone TSM&O alternative. However, planned and programmed improvements within the study area were considered in developing the traffic and interchange concepts. The viable build alternatives considered improvements included in the No-Build alternative (see **Chapter 5.1.3**) and additional improvements were made to enhance safety, address traffic needs, improve travel time reliability and provide long-term mobility for the Orlando South interchange.

A Draft Preliminary Engineering Report (PER) was prepared for the Orlando South PD&E study. Build alternatives development and selection of the Preferred Build alternative are discussed in detail in the PER. A summary of the Build alternatives is provided in this SIJR. The concepts for the alternatives are provided in **Appendix F**.

6.1.1 Alternative 1

Alternative 1 was a reconfiguration of the Orlando South interchange only, to address the need for system-to-system connections. It included the following improvements:

- Directional GTL systems ramps
- Directional north/east EL ramps
- Realignment of SR 528 to provide longer spans for a ten-lane Florida's Turnpike typical section
- Maintaining the Landstreet Road ramps connected to SR 528
- Maintaining Consulate Drive entry/exit ramps connected to SR 528 and the southbound exit from Florida's Turnpike with a Diverging Diamond Interchange (DDI)
- Modifications to the remaining US 17/92/441 ramps to preclude weaving
- A new southbound entry ramp to Florida's Turnpike southbound via Consulate Drive

- A new more direct entry to Florida's Turnpike northbound from US 17/92/441 southbound
- A new southbound Florida's Turnpike to northbound US 17/92/441 flyover to provide a higher speed ramp
- Use of the southbound Florida's Turnpike exit to Consulate Drive for access to US 17/92/441 southbound
- Ramp braiding between CR 423 and Consulate Drive to preclude adverse weaving

6.1.2 Alternative 2

Alternative 2 Options 1 and 2 included the improvements in Alternative 1, plus two new interchanges for surface street access away from the Orlando South interchange. The two options differed in the configuration of the reliever interchanges.

Other common changes for both options included:

- The removal of Landstreet Road ramps connecting to SR 528
- The removal of US 17/92/441 ramps to/from south at the Orlando South interchange
- Northbound US 17/92/441 to northbound/southbound Florida's Turnpike
- Northbound Florida's Turnpike to southbound US 17/92/441

A description of each reliever interchange option follows.

Florida's Turnpike Reliever Interchange

The interchange at Taft Vineland Road includes:

- Trumpet style interchange in the northwest quadrant of the Florida's Turnpike
- Modification of the proposed Taft Vineland Road median to accommodate dual left-turn eastbound lanes
- A diamond ramp (eastbound to southbound) in the southeast quadrant

Two options for the northbound exit ramp were carried forward:

Alternative 2 Option 1

This option includes a northbound exit, directly connected to Taft Vineland Road and Bachman Road, east of the Florida's Turnpike.

Alternative 2 Option 2

This option includes a northbound exit to Rocket Boulevard with arterial connections to Taft Vineland Road. This option requires termination of Rocket Boulevard where the alignment changes from north-south to east-west for limited access limits. Impacts and mitigation for these impacts include:

- A new connector road linking Rocket Boulevard to General Drive.
- An additional northbound lane on General Drive (Rocket Boulevard to Taft Vineland Road) to accommodate added traffic from the exit.

- An additional westbound lane on Taft Vineland Road (General Drive to Bachman Road) beyond the limits of Orange County's widening to accommodate added traffic from the exit.

SR 528 Reliever Interchange

Both concepts (Build Alternative 2 Options 1 and 2) include a new four-lane divided arterial facility, connecting SR 528 with SR 482 to the north and Landstreet Road to the south. Two options were developed for the north leg of this reliever interchange. The difference in the concepts are alignment and the resulting interchange type. These options were incorporated into Build Alternative 2 Options 1 and 2, and are described as follows:

Alternative 2 Option 1

The north arterial leg includes using the existing Horizon Park Drive alignment and widening to a four-lane divided arterial facility. When combined with the south leg, this arterial results in a *split interchange*.

Alternative 2 Option 2

The north arterial leg is an extension of the southern alignment along the east side of the Terrace at Florida Mall. The intersection with SR 482 includes a realignment of Voltaire Drive north of SR 482 to form the fourth leg of this intersection. This option includes a SPUI at SR 528.

6.1.3 Alternative 3

Alternative 3 was developed following a Public Information Meeting (PIM) for the project and internal coordination. The following refinements were made to Alternative 2 based on comments received at the PIM, to minimize right-of-way impacts, reduce cost and improve constructability:

- Removal of EL direct connect ramps to/from the north of Florida's Turnpike to/from the east of SR 528.
- Removal of southbound Florida's Turnpike to northbound US 17/92/441 ramp and reassign traffic to the Consulate Drive exit. To accommodate the additional traffic at the Consulate Drive and US 17/92/441 intersection, the following improvements were made:
 - A third lane was added to the eastbound Consulate Drive to northbound US 17/92/441 movement by reallocating the median width of Consulate Drive
 - A northbound US 17/92/441 turbo configuration (delineator separated receiving lanes from the Consulate Drive triple lefts) for the intersection was added to further improve the efficiency of the intersection.
 - The triple left-turn from westbound Consulate Drive plus two northbound US 17/92/441 through lanes tapers to four lanes that are carried to Landstreet Road. The outer lane is a drop right lane at Landstreet Road and US 17/92/441 intersection with three through lanes carried north of the intersection.
- Northbound Florida's Turnpike C-D road to minimize the potential impacts of queuing on the Florida's Turnpike and minimize lane changes

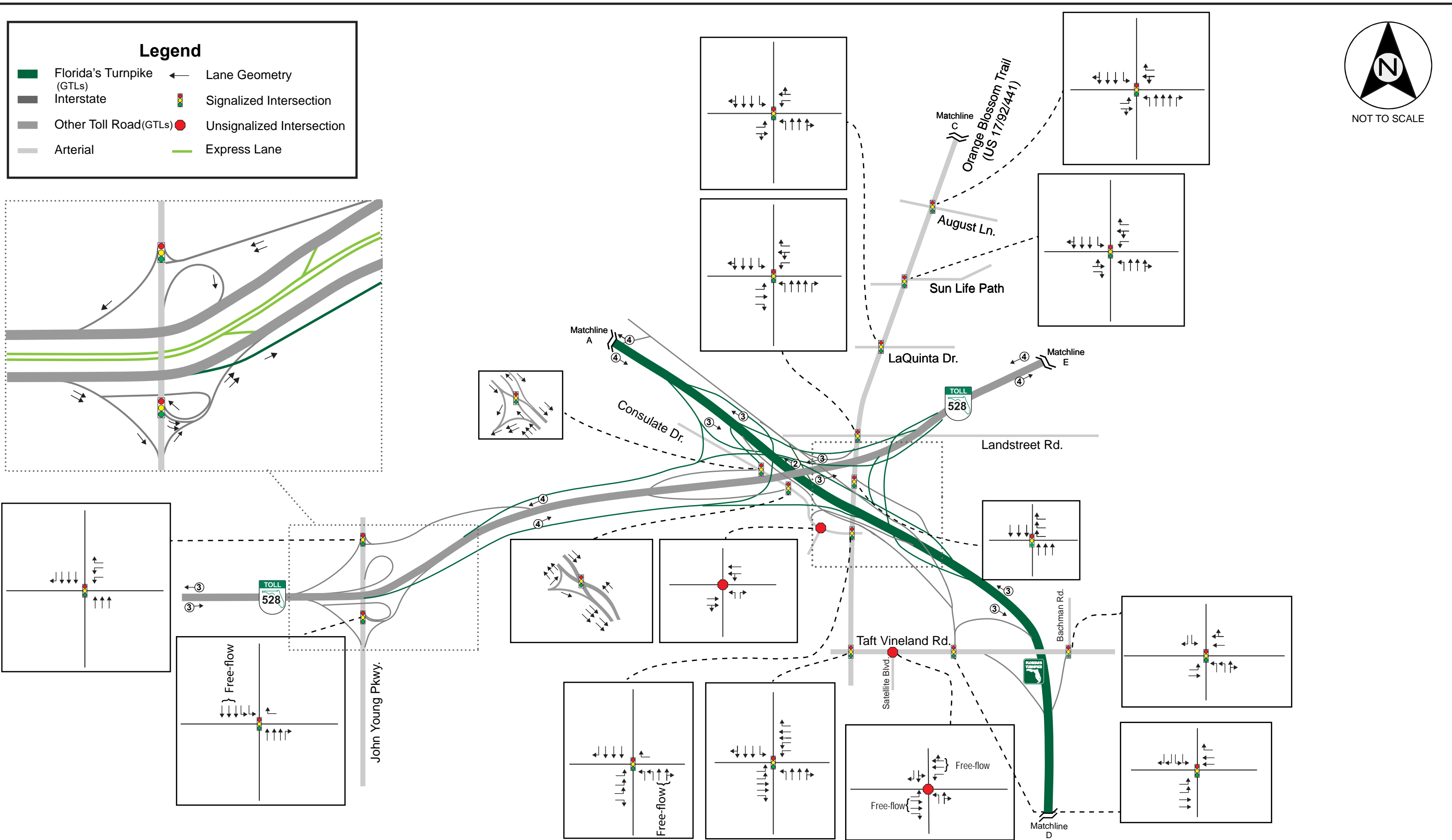
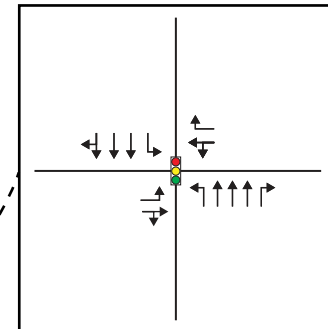
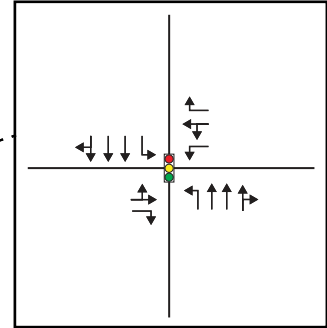
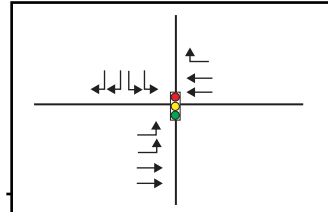
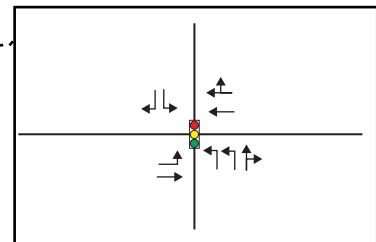
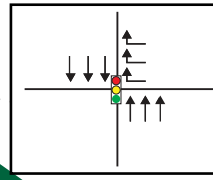
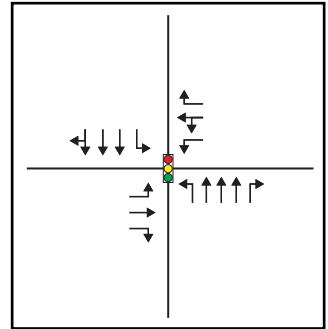
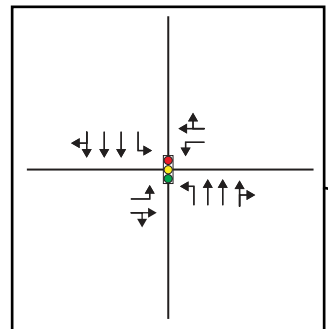
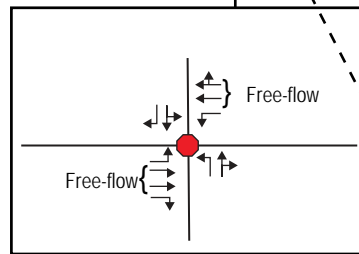
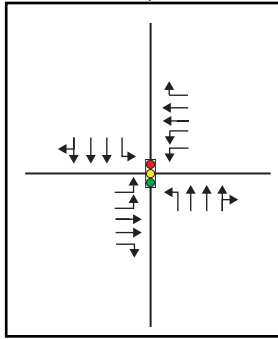
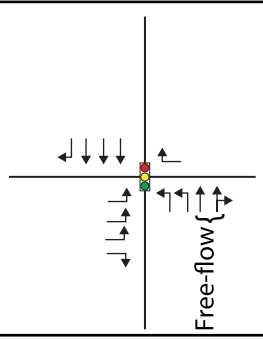
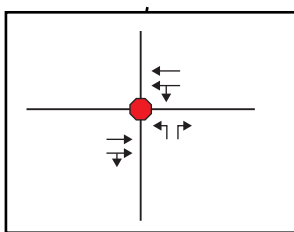
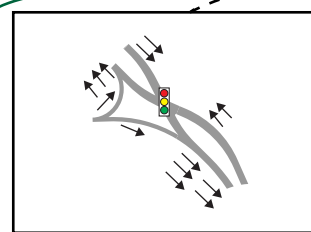
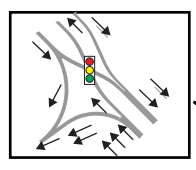
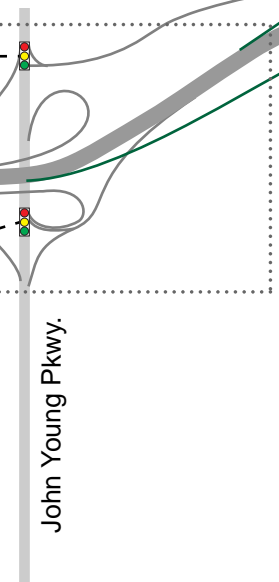
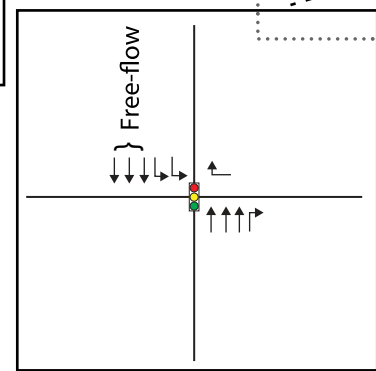
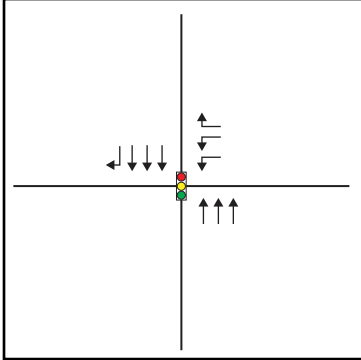
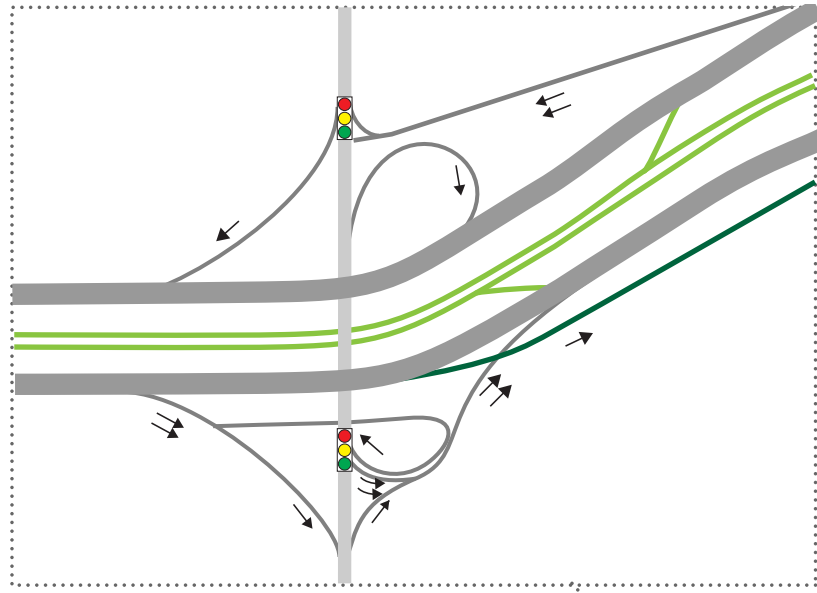
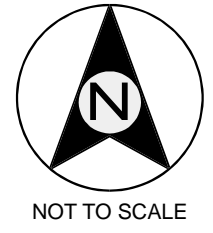
- A Tight-Urban Diamond Interchange (TUDI) for the SR 528 reliever interchange
- A revised alignment of Voltaire Drive
- Relocated trumpet ramp intersection at the Florida's Turnpike reliever interchange and elimination of "free-flow" movement for westbound right turn
- Taft Vineland Road modifications east of the Florida's Turnpike:
 - Realignment of the northbound Florida's Turnpike exit ramp to include a northbound through movement on Bachman Road. Also, exclusive southbound left and right turn lanes were included.
 - The two eastbound Taft Vineland Road through lanes will transition to a left turn and through lane at Bachman Road. This approach is subject to further coordination with Orange County.
 - An extended second westbound Taft Vineland Road through lane between Bachman Road and General Drive within the existing right-of-way

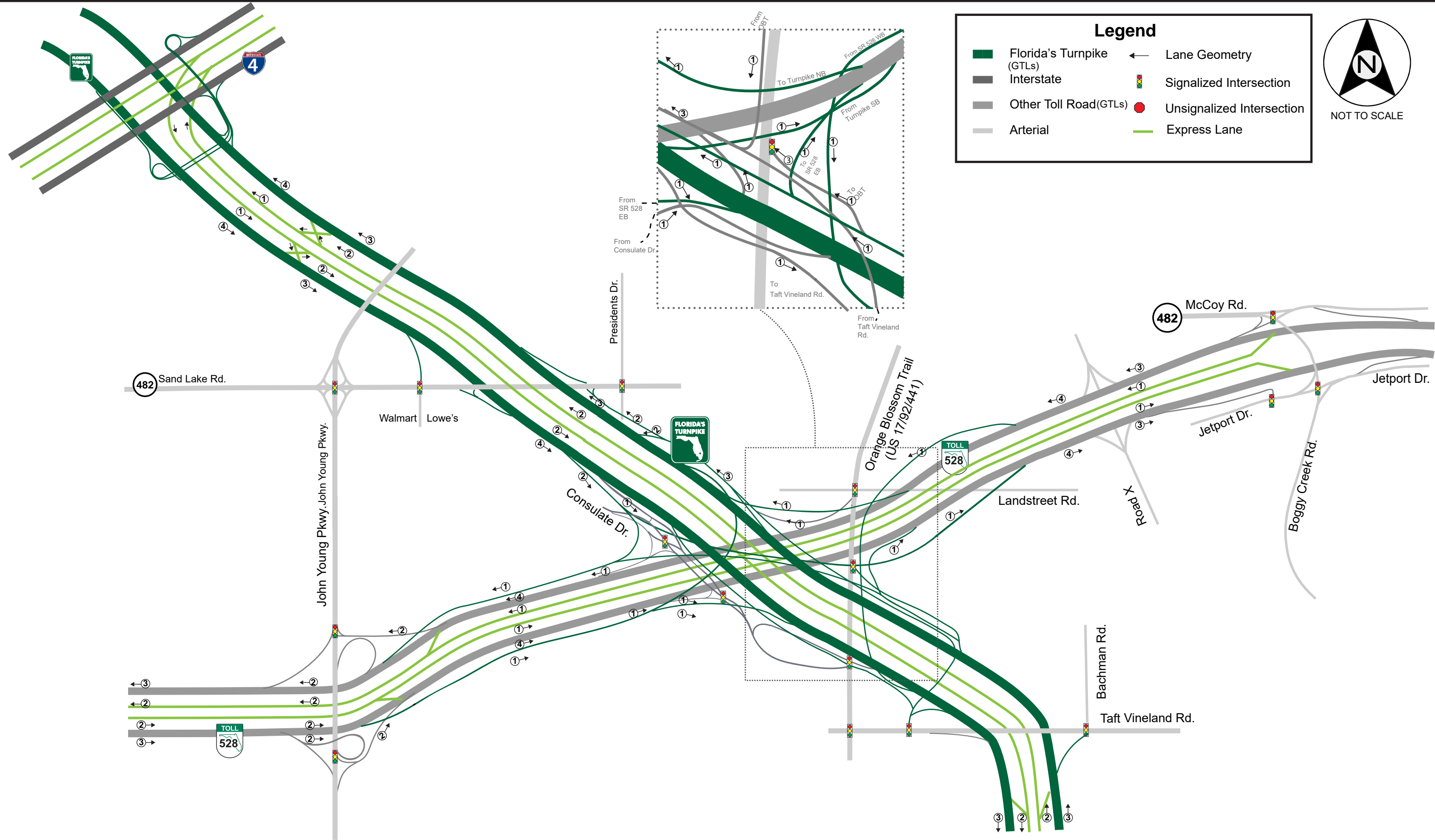
With these refinements, Alternative 3 was selected as the Preferred Build concept because it reduced wetland and right-of-way impacts, reduced costs and improved constructability. Documentation of the selection criteria is provided in the PER.

This SIJR only documents traffic and safety analysis for the No-Build and the Preferred Build (also referred to as Build herein) alternatives. The results are provided for the 2025 opening and 2045 design years. The No-Build and Preferred Build Alternative 3 lane configurations are comprehensively depicted on **Figures 6.1** and **6.2**, respectively.

Legend

- Florida's Turnpike (GTLs)
- Interstate
- Other Toll Road(GTLs)
- Arterial
- Lane Geometry
- Signalized Intersection
- Unsignalized Intersection
- Express Lane





Appendix D-5

Orange County Site 2 – Future Synchro Outputs

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 No Build AM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	210	90	310	230	360	210	1250	430	240	1540	40
Future Volume (vph)	90	210	90	310	230	360	210	1250	430	240	1540	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950	0.992		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1618	1689	1524	1671	4803	1495	1671	4784	0
Flt Permitted	0.950			0.950	0.992		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1618	1689	1524	1671	4803	1495	1671	4784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			64			137			157			2
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			761			468			655	
Travel Time (s)		5.0			11.5			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	95	221	95	326	242	379	221	1316	453	253	1621	42
Shared Lane Traffic (%)				15%								
Lane Group Flow (vph)	95	221	95	277	291	379	221	1316	453	253	1663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 No Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	32.0	32.0	33.0	41.0	41.0	39.8	33.0	67.2	41.0	39.8	74.0	
Total Split (%)	17.8%	17.8%	18.3%	22.8%	22.8%	22.1%	18.3%	37.3%	22.8%	22.1%	41.1%	
Maximum Green (s)	25.2	25.2	26.2	34.2	34.2	33.0	26.2	60.4	34.2	33.0	67.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				23.0	23.0			31.0	23.0		21.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)	24.1	24.1	56.1	32.8	32.8	62.9	25.2	62.5	102.2	30.0	67.3	
Actuated g/C Ratio	0.14	0.14	0.32	0.19	0.19	0.36	0.14	0.35	0.58	0.17	0.38	
v/c Ratio	0.41	0.91	0.18	0.92	0.93	0.60	0.93	0.78	0.49	0.89	0.91	
Control Delay	76.2	112.5	17.2	105.4	105.7	20.0	115.8	55.6	16.0	103.2	60.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	76.2	112.5	17.2	105.4	105.7	20.0	115.8	55.6	16.0	103.2	60.8	
LOS	E	F	B	F	F	C	F	E	B	F	E	
Approach Delay		82.1			71.3			53.3			66.4	
Approach LOS		F			E			D			E	
Queue Length 50th (ft)	104	261	26	342	358	145	261	524	205	292	691	
Queue Length 95th (ft)	170	#420	74	#528	#549	219	#429	585	302	#440	760	
Internal Link Dist (ft)		249			681			388			575	
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	243	255	536	313	327	653	248	1698	941	312	1823	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.39	0.87	0.18	0.88	0.89	0.58	0.89	0.78	0.48	0.81	0.91	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	176.7
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.93
Intersection Signal Delay:	63.5
Intersection LOS:	E
Intersection Capacity Utilization:	90.6%
ICU Level of Service:	E
Analysis Period (min):	15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd

 Ø1 33 s	 Ø2 74 s	 Ø4 41 s	 Ø8 32 s
 Ø5 39.8 s	 Ø6 67.2 s		

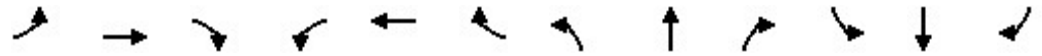
Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 No Build PM
08/17/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	300	290	480	230	460	120	1700	320	250	2120	30
Future Volume (vph)	150	300	290	480	230	460	120	1700	320	250	2120	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.998	
Flt Protected	0.950			0.950	0.982		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1618	1672	1524	1671	4803	1495	1671	4793	0
Flt Permitted	0.950			0.950	0.982		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1618	1672	1524	1671	4803	1495	1671	4793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			84			105			1
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			761			468			655	
Travel Time (s)		5.0			11.5			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	158	316	305	505	242	484	126	1789	337	263	2232	32
Shared Lane Traffic (%)				27%								
Lane Group Flow (vph)	158	316	305	369	378	484	126	1789	337	263	2264	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 No Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6					
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	34.0	34.0	20.0	44.0	44.0	31.0	20.0	71.0	44.0	31.0	82.0	
Total Split (%)	18.9%	18.9%	11.1%	24.4%	24.4%	17.2%	11.1%	39.4%	24.4%	17.2%	45.6%	
Maximum Green (s)	27.2	27.2	13.2	37.2	37.2	24.2	13.2	64.2	37.2	24.2	75.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lead			Lead			Lead	Lag	Lead		Lag	
Lead-Lag Optimize?	Yes			Yes			Yes	Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0			7.0	7.0			7.0
Flash Dont Walk (s)				23.0	23.0			31.0	23.0			21.0
Pedestrian Calls (#/hr)				0	0			0	0			0
Act Effct Green (s)	27.2	27.2	47.2	37.2	37.2	61.4	13.2	64.2	108.2	24.2	75.2	
Actuated g/C Ratio	0.15	0.15	0.26	0.21	0.21	0.34	0.07	0.36	0.60	0.13	0.42	
v/c Ratio	0.61	1.17	0.64	1.10	1.10	0.84	1.03	1.04	0.36	1.17	1.13	
Control Delay	82.8	171.3	44.7	143.0	139.7	39.6	167.1	89.3	13.2	178.3	112.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	82.8	171.3	44.7	143.0	139.7	39.6	167.1	89.3	13.2	178.3	112.9	
LOS	F	F	D	F	F	D	F	F	B	F	F	
Approach Delay	103.8			101.3			82.3				119.7	
Approach LOS	F			F			F				F	
Queue Length 50th (ft)	178	~442	215	~518	~528	287	~158	~835	131	~368	~1132	
Queue Length 95th (ft)	264	#652	331	#751	#762	#407	#310	#925	198	#566	#1213	
Internal Link Dist (ft)	249			681			388				575	
Turn Bay Length (ft)	250	200		200			210	210		485		
Base Capacity (vph)	257	270	477	334	345	575	122	1713	940	224	2002	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.61	1.17	0.64	1.10	1.10	0.84	1.03	1.04	0.36	1.17	1.13	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.17
Intersection Signal Delay:	102.1
Intersection LOS:	F
Intersection Capacity Utilization:	106.1%
ICU Level of Service:	G
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

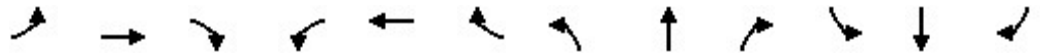
Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

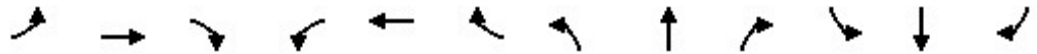
2025 Build AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	211	90	314	231	364	210	1250	434	244	1540	40
Future Volume (vph)	90	211	90	314	231	364	210	1250	434	244	1540	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950	0.992		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1573	1681	1482	1671	4803	1482	1656	4784	0
Flt Permitted	0.950			0.950	0.992		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1573	1681	1482	1671	4803	1482	1656	4784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			129			152			2
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			442			468			655	
Travel Time (s)		5.0			6.7			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	9%	6%	9%	8%	8%	9%	9%	8%	8%
Adj. Flow (vph)	95	222	95	331	243	383	221	1316	457	257	1621	42
Shared Lane Traffic (%)				15%								
Lane Group Flow (vph)	95	222	95	281	293	383	221	1316	457	257	1663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6					
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	31.0	31.0	33.0	42.0	42.0	40.4	33.0	66.6	42.0	40.4	74.0	
Total Split (%)	17.2%	17.2%	18.3%	23.3%	23.3%	22.4%	18.3%	37.0%	23.3%	22.4%	41.1%	
Maximum Green (s)	24.2	24.2	26.2	35.2	35.2	33.6	26.2	59.8	35.2	33.6	67.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lead			Lead			Lead	Lag	Lead			Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)				23.0	23.0				31.0	23.0	21.0	
Pedestrian Calls (#/hr)				0	0				0	0	0	
Act Effct Green (s)	23.6	23.6	55.7	33.9	33.9	64.6	25.3	61.9	102.6	30.7	67.3	
Actuated g/C Ratio	0.13	0.13	0.31	0.19	0.19	0.36	0.14	0.35	0.58	0.17	0.38	
v/c Ratio	0.42	0.93	0.17	0.94	0.91	0.62	0.93	0.79	0.50	0.90	0.92	
Control Delay	77.4	117.9	6.1	107.5	102.0	20.8	116.3	56.7	16.4	103.6	61.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	77.4	117.9	6.1	107.5	102.0	20.8	116.3	56.7	16.4	103.6	61.4	
LOS	E	F	A	F	F	C	F	E	B	F	E	
Approach Delay	82.8			71.2			54.1			67.1		
Approach LOS	F			E			D			E		
Queue Length 50th (ft)	105	264	0	347	360	153	261	526	212	297	691	
Queue Length 95th (ft)	171	#437	38	#541	#547	230	#429	589	311	#449	760	
Internal Link Dist (ft)	249			362			388			575		
Turn Bay Length (ft)	250	200		200				210	210	485		
Base Capacity (vph)	232	244	558	312	333	644	247	1675	931	314	1816	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.91	0.17	0.90	0.88	0.59	0.89	0.79	0.49	0.82	0.92	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	177.3
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.94
Intersection Signal Delay:	64.1
Intersection LOS:	E
Intersection Capacity Utilization:	90.8%
ICU Level of Service:	E
Analysis Period (min):	15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	880	900	11	11	9
Future Vol, veh/h	9	880	900	11	11	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	9	926	947	12	12	9

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	959	0	-	0	1434 480
Stage 1	-	-	-	-	953 -
Stage 2	-	-	-	-	481 -
Critical Hdwy	6.1	-	-	-	7 7
Critical Hdwy Stg 1	-	-	-	-	7 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	329	-	-	-	106 433
Stage 1	-	-	-	-	215 -
Stage 2	-	-	-	-	375 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	329	-	-	-	103 433
Mov Cap-2 Maneuver	-	-	-	-	164 -
Stage 1	-	-	-	-	209 -
Stage 2	-	-	-	-	375 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	329	-	-	-	228
HCM Lane V/C Ratio	0.029	-	-	-	0.092
HCM Control Delay (s)	16.3	-	-	-	22.4
HCM Lane LOS	C	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	301	290	484	231	464	120	1700	324	254	2120	30
Future Volume (vph)	150	301	290	484	231	464	120	1700	324	254	2120	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.998	
Flt Protected	0.950			0.950	0.982		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1573	1655	1482	1671	4803	1468	1641	4793	0
Flt Permitted	0.950			0.950	0.982		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1573	1655	1482	1671	4803	1468	1641	4793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			78			105			1
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			437			468			655	
Travel Time (s)		5.0			6.6			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	9%	6%	9%	8%	8%	10%	10%	8%	8%
Adj. Flow (vph)	158	317	305	509	243	488	126	1789	341	267	2232	32
Shared Lane Traffic (%)				27%								
Lane Group Flow (vph)	158	317	305	372	380	488	126	1789	341	267	2264	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2025 Build PM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6					
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	33.0	33.0	20.0	45.0	45.0	32.0	20.0	70.0	45.0	32.0	82.0	
Total Split (%)	18.3%	18.3%	11.1%	25.0%	25.0%	17.8%	11.1%	38.9%	25.0%	17.8%	45.6%	
Maximum Green (s)	26.2	26.2	13.2	38.2	38.2	25.2	13.2	63.2	38.2	25.2	75.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lead			Lead			Lead	Lag	Lead		Lag	
Lead-Lag Optimize?	Yes			Yes			Yes	Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)				23.0	23.0				31.0	23.0	21.0	
Pedestrian Calls (#/hr)				0	0				0	0	0	
Act Effct Green (s)	26.2	26.2	46.2	38.2	38.2	63.4	13.2	63.2	108.2	25.2	75.2	
Actuated g/C Ratio	0.15	0.15	0.26	0.21	0.21	0.35	0.07	0.35	0.60	0.14	0.42	
v/c Ratio	0.64	1.22	0.65	1.12	1.08	0.85	1.03	1.06	0.37	1.17	1.13	
Control Delay	85.2	188.2	45.6	146.2	135.4	40.8	167.1	94.9	13.4	174.9	112.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	85.2	188.2	45.6	146.2	135.4	40.8	167.1	94.9	13.4	174.9	112.9	
LOS	F	F	D	F	F	D	F	F	B	F	F	
Approach Delay	111.6			101.4			86.6			119.4		
Approach LOS	F			F			F			F		
Queue Length 50th (ft)	179	~456	216	~527	~526	296	~158	~847	135	~372	~1132	
Queue Length 95th (ft)	266	#667	334	#762	#760	#411	#310	#937	203	#570	#1213	
Internal Link Dist (ft)	249			357			388			575		
Turn Bay Length (ft)	250	200		200	210			210	485			
Base Capacity (vph)	247	260	469	333	351	572	122	1686	924	229	2002	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.64	1.22	0.65	1.12	1.08	0.85	1.03	1.06	0.37	1.17	1.13	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.22
Intersection Signal Delay:	104.4
Intersection LOS:	F
Intersection Capacity Utilization:	106.3%
ICU Level of Service:	G
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	870	1170	12	12	8
Future Vol, veh/h	8	870	1170	12	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	8	916	1232	13	13	8

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1245	0	-	0	1713 623
Stage 1	-	-	-	-	1239 -
Stage 2	-	-	-	-	474 -
Critical Hdwy	6.1	-	-	-	7 7
Critical Hdwy Stg 1	-	-	-	-	7 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	226	-	-	-	69 353
Stage 1	-	-	-	-	141 -
Stage 2	-	-	-	-	380 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	226	-	-	-	67 353
Mov Cap-2 Maneuver	-	-	-	-	113 -
Stage 1	-	-	-	-	136 -
Stage 2	-	-	-	-	380 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	31.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	226	-	-	-	155
HCM Lane V/C Ratio	0.037	-	-	-	0.136
HCM Control Delay (s)	21.5	-	-	-	31.8
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	270	150	460	250	530	250	1430	480	340	2330	60
Future Volume (vph)	110	270	150	460	250	530	250	1430	480	340	2330	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950	0.985		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1618	1677	1524	1671	4803	1495	1671	4784	0
Flt Permitted	0.950			0.950	0.985		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1618	1677	1524	1671	4803	1495	1671	4784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			91			105			2
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			761			468			655	
Travel Time (s)		5.0			11.5			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	116	284	158	484	263	558	263	1505	505	358	2453	63
Shared Lane Traffic (%)				24%								
Lane Group Flow (vph)	116	284	158	368	379	558	263	1505	505	358	2516	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6					
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	29.0	29.0	29.0	43.0	43.0	44.4	29.0	63.6	43.0	44.4	79.0	
Total Split (%)	16.1%	16.1%	16.1%	23.9%	23.9%	24.7%	16.1%	35.3%	23.9%	24.7%	43.9%	
Maximum Green (s)	22.2	22.2	22.2	36.2	36.2	37.6	22.2	56.8	36.2	37.6	72.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lead			Lead			Lead	Lag	Lead			Lag
Lead-Lag Optimize?	Yes			Yes			Yes	Yes	Yes			Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)				23.0	23.0				31.0	23.0	21.0	
Pedestrian Calls (#/hr)				0	0				0	0	0	
Act Effct Green (s)	22.2	22.2	51.2	36.2	36.2	73.8	22.2	56.8	99.8	37.6	72.2	
Actuated g/C Ratio	0.12	0.12	0.28	0.20	0.20	0.41	0.12	0.32	0.55	0.21	0.40	
v/c Ratio	0.55	1.29	0.31	1.13	1.12	0.82	1.28	0.99	0.58	1.03	1.31	
Control Delay	85.1	215.7	19.3	152.1	149.0	34.7	214.5	82.0	23.2	122.2	185.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	85.1	215.7	19.3	152.1	149.0	34.7	214.5	82.0	23.2	122.2	185.7	
LOS	F	F	B	F	F	C	F	F	C	F	F	
Approach Delay	132.9			101.0			84.3			177.8		
Approach LOS	F			F			F			F		
Queue Length 50th (ft)	131	~424	47	~528	~541	324	~391	653	305	~449	~1398	
Queue Length 95th (ft)	207	#627	115	#760	#775	441	#589	#764	423	#666	#1472	
Internal Link Dist (ft)	249			681			388			575		
Turn Bay Length (ft)	250	200		200	210			210	485			
Base Capacity (vph)	210	221	508	325	337	678	206	1515	875	349	1920	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.55	1.29	0.31	1.13	1.12	0.82	1.28	0.99	0.58	1.03	1.31	

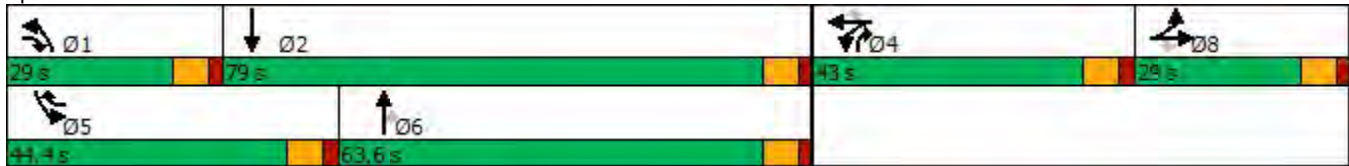
Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.31
Intersection Signal Delay:	129.6
Intersection LOS:	F
Intersection Capacity Utilization:	116.4%
ICU Level of Service:	H
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

























Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	450	450	710	300	690	160	2310	350	310	3020	40
Future Volume (vph)	240	450	450	710	300	690	160	2310	350	310	3020	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.998	
Flt Protected	0.950			0.950	0.980		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1618	1669	1524	1671	4803	1495	1671	4793	0
Flt Permitted	0.950			0.950	0.980		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1618	1669	1524	1671	4803	1495	1671	4793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			64			105		1	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			761			468			655	
Travel Time (s)		5.0			11.5			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	8%	8%	8%	8%	8%	8%
Adj. Flow (vph)	253	474	474	747	316	726	168	2432	368	326	3179	42
Shared Lane Traffic (%)				30%								
Lane Group Flow (vph)	253	474	474	523	540	726	168	2432	368	326	3221	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	32.0	32.0	19.0	49.0	49.0	27.0	19.0	72.0	49.0	27.0	80.0	
Total Split (%)	17.8%	17.8%	10.6%	27.2%	27.2%	15.0%	10.6%	40.0%	27.2%	15.0%	44.4%	
Maximum Green (s)	25.2	25.2	12.2	42.2	42.2	20.2	12.2	65.2	42.2	20.2	73.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				23.0	23.0			31.0	23.0		21.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)	25.2	25.2	44.2	42.2	42.2	62.4	12.2	65.2	114.2	20.2	73.2	
Actuated g/C Ratio	0.14	0.14	0.25	0.23	0.23	0.35	0.07	0.36	0.63	0.11	0.41	
v/c Ratio	1.06	1.90	1.05	1.38	1.38	1.27	1.49	1.40	0.37	1.74	1.65	
Control Delay	145.9	454.4	103.8	234.9	234.9	164.7	310.7	224.4	11.9	396.7	329.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	145.9	454.4	103.8	234.9	234.9	164.7	310.7	224.4	11.9	396.7	329.9	
LOS	F	F	F	F	F	F	F	F	B	F	F	
Approach Delay		251.0			206.4			203.0				336.0
Approach LOS		F			F			F				F
Queue Length 50th (ft)	~327	~852	~506	~857	~886	~816	~272	~1399	139	~568	~2024	
Queue Length 95th (ft)	#523	#1090	#746	#1112	#1144	#1101	#441	#1474	205	#781	#2073	
Internal Link Dist (ft)		249			681			388				575
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	238	250	453	379	391	570	113	1739	986	187	1949	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	1.90	1.05	1.38	1.38	1.27	1.49	1.40	0.37	1.74	1.65	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.90
Intersection Signal Delay:	259.3
Intersection LOS:	F
Intersection Capacity Utilization:	142.0%
ICU Level of Service:	H
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd

 Ø1 19 s	 Ø2 80 s	 Ø4 49 s	 Ø8 32 s
 Ø5 27 s	 Ø6 72 s		

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	271	150	464	251	534	250	1430	484	344	2330	60
Future Volume (vph)	110	271	150	464	251	534	250	1430	484	344	2330	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950	0.985		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1573	1663	1482	1671	4803	1482	1656	4784	0
Flt Permitted	0.950			0.950	0.985		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1573	1663	1482	1671	4803	1482	1656	4784	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			114			105			2
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			442			468			655	
Travel Time (s)		5.0			6.7			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	9%	6%	9%	8%	8%	9%	9%	8%	8%
Adj. Flow (vph)	116	285	158	488	264	562	263	1505	509	362	2453	63
Shared Lane Traffic (%)				24%								
Lane Group Flow (vph)	116	285	158	371	381	562	263	1505	509	362	2516	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases	8			4			6					
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	32.0	32.0	28.0	40.0	40.0	43.4	28.0	64.6	40.0	43.4	80.0	
Total Split (%)	17.8%	17.8%	15.6%	22.2%	22.2%	24.1%	15.6%	35.9%	22.2%	24.1%	44.4%	
Maximum Green (s)	25.2	25.2	21.2	33.2	33.2	36.6	21.2	57.8	33.2	36.6	73.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag	Lead			Lead			Lead	Lag	Lead		Lag	
Lead-Lag Optimize?	Yes			Yes			Yes	Yes	Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0				7.0	7.0	7.0	
Flash Dont Walk (s)				23.0	23.0				31.0	23.0	21.0	
Pedestrian Calls (#/hr)				0	0				0	0	0	
Act Effct Green (s)	25.2	25.2	53.2	33.2	33.2	69.8	21.2	57.8	97.8	36.6	73.2	
Actuated g/C Ratio	0.14	0.14	0.30	0.18	0.18	0.39	0.12	0.32	0.54	0.20	0.41	
v/c Ratio	0.49	1.14	0.30	1.28	1.25	0.87	1.34	0.98	0.60	1.08	1.29	
Control Delay	79.1	164.8	18.6	204.3	191.1	40.0	239.0	77.6	24.8	135.7	178.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	79.1	164.8	18.6	204.3	191.1	40.0	239.0	77.6	24.8	135.7	178.2	
LOS	E	F	B	F	F	D	F	E	C	F	F	
Approach Delay	105.7					130.2				84.4	172.8	
Approach LOS	F					F				F	F	
Queue Length 50th (ft)	129	~390	46	~581	~586	320	~402	647	319	~474	~1386	
Queue Length 95th (ft)	203	#593	113	#815	#823	#481	#601	#752	444	#694	#1460	
Internal Link Dist (ft)	249					362				388	575	
Turn Bay Length (ft)	250	200		200				210	210	485		
Base Capacity (vph)	238	250	524	290	306	644	196	1542	853	336	1946	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.49	1.14	0.30	1.28	1.25	0.87	1.34	0.98	0.60	1.08	1.29	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.34
Intersection Signal Delay:	130.9
Intersection LOS:	F
Intersection Capacity Utilization:	116.6%
ICU Level of Service:	H
Analysis Period (min):	15

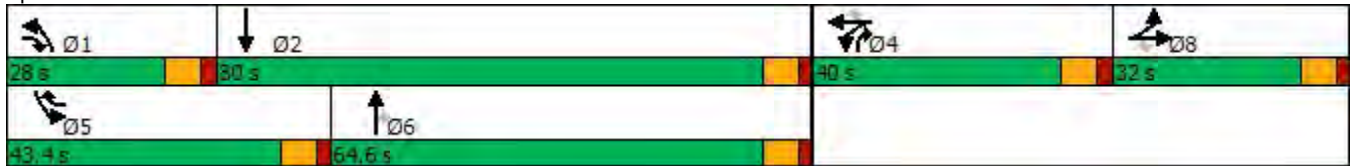
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd



Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	1090	1240	11	11	9
Future Vol, veh/h	9	1090	1240	11	11	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	9	1147	1305	12	12	9

























Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1317	0	-	0	1903 659
Stage 1	-	-	-	-	1311 -
Stage 2	-	-	-	-	592 -
Critical Hdwy	6.1	-	-	-	7 7
Critical Hdwy Stg 1	-	-	-	-	7 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	205	-	-	-	52 336
Stage 1	-	-	-	-	127 -
Stage 2	-	-	-	-	314 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	205	-	-	-	50 336
Mov Cap-2 Maneuver	-	-	-	-	97 -
Stage 1	-	-	-	-	121 -
Stage 2	-	-	-	-	314 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	34.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	205	-	-	-	143
HCM Lane V/C Ratio	0.046	-	-	-	0.147
HCM Control Delay (s)	23.4	-	-	-	34.5
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2045 Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	451	450	714	301	694	160	2310	354	314	3020	40
Future Volume (vph)	240	451	450	714	301	694	160	2310	354	314	3020	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		200	200		0	210		210	485		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	90			50			50			25		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Frt			0.850			0.850			0.850		0.998	
Flt Protected	0.950			0.950	0.980		0.950			0.950		
Satd. Flow (prot)	1703	1792	1524	1573	1649	1482	1671	4803	1468	1641	4793	0
Flt Permitted	0.950			0.950	0.980		0.950			0.950		
Satd. Flow (perm)	1703	1792	1524	1573	1649	1482	1671	4803	1468	1641	4793	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			105			64			105		1	
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		329			437			468			655	
Travel Time (s)		5.0			6.6			7.1			9.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	9%	6%	9%	8%	8%	10%	10%	8%	8%
Adj. Flow (vph)	253	475	474	752	317	731	168	2432	373	331	3179	42
Shared Lane Traffic (%)				30%								
Lane Group Flow (vph)	253	475	474	526	543	731	168	2432	373	331	3221	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			20			12			20	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA	pm+ov	Split	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	
Protected Phases	8	8	1	4	4	5	1	6	4	5	2	

Lanes, Volumes, Timings
2: US 441 & Landstreet Rd

2045 Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8			4			6			
Detector Phase	8	8	1	4	4	5	1	6	4	5	2	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	10.0	5.0	5.0	10.0	
Minimum Split (s)	11.8	11.8	11.8	36.8	36.8	11.8	11.8	44.8	36.8	11.8	34.8	
Total Split (s)	32.0	32.0	19.0	50.0	50.0	27.0	19.0	71.0	50.0	27.0	79.0	
Total Split (%)	17.8%	17.8%	10.6%	27.8%	27.8%	15.0%	10.6%	39.4%	27.8%	15.0%	43.9%	
Maximum Green (s)	25.2	25.2	12.2	43.2	43.2	20.2	12.2	64.2	43.2	20.2	72.2	
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	
Lead/Lag			Lead			Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?			Yes			Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max	None	None	Max	
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	
Flash Dont Walk (s)				23.0	23.0			31.0	23.0		21.0	
Pedestrian Calls (#/hr)				0	0			0	0		0	
Act Effct Green (s)	25.2	25.2	44.2	43.2	43.2	63.4	12.2	64.2	114.2	20.2	72.2	
Actuated g/C Ratio	0.14	0.14	0.25	0.24	0.24	0.35	0.07	0.36	0.63	0.11	0.40	
v/c Ratio	1.06	1.90	1.05	1.40	1.37	1.30	1.49	1.42	0.38	1.80	1.67	
Control Delay	145.9	456.0	103.8	240.7	232.0	175.2	310.7	233.6	12.2	419.8	339.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	145.9	456.0	103.8	240.7	232.0	175.2	310.7	233.6	12.2	419.8	339.7	
LOS	F	F	F	F	F	F	F	F	B	F	F	
Approach Delay		251.9			211.5			210.2				347.1
Approach LOS		F			F			F				F
Queue Length 50th (ft)	~327	~855	~506	~868	~888	~843	~272	~1410	144	~584	~2036	
Queue Length 95th (ft)	#523	#1092	#746	#1125	#1145	#1185	#441	#1486	212	#799	#2085	
Internal Link Dist (ft)		249			357			388				575
Turn Bay Length (ft)	250		200	200			210		210	485		
Base Capacity (vph)	238	250	453	377	395	563	113	1713	969	184	1923	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.06	1.90	1.05	1.40	1.37	1.30	1.49	1.42	0.38	1.80	1.67	

Intersection Summary

Area Type:	Other
Cycle Length:	180
Actuated Cycle Length:	180
Natural Cycle:	150
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.90
Intersection Signal Delay:	266.7
Intersection LOS:	F
Intersection Capacity Utilization:	142.2%
ICU Level of Service:	H
Analysis Period (min):	15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 2: US 441 & Landstreet Rd

↙ Ø1	↓ Ø2	↙ Ø4	↘ Ø8
19 s	79 s	50 s	32 s
↙ Ø5	↑ Ø6		
27 s	71 s		

Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↘	↑↑	↑↑		↘	
Traffic Vol, veh/h	8	1110	1700	12	12	8
Future Vol, veh/h	8	1110	1700	12	12	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	200	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	8	1168	1789	13	13	8

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1802	0	-	0	2396 901
Stage 1	-	-	-	-	1796 -
Stage 2	-	-	-	-	600 -
Critical Hdwy	6.1	-	-	-	7 7
Critical Hdwy Stg 1	-	-	-	-	7 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	107	-	-	-	24 237
Stage 1	-	-	-	-	61 -
Stage 2	-	-	-	-	310 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	107	-	-	-	22 237
Mov Cap-2 Maneuver	-	-	-	-	48 -
Stage 1	-	-	-	-	56 -
Stage 2	-	-	-	-	310 -

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	77.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	107	-	-	-	70
HCM Lane V/C Ratio	0.079	-	-	-	0.301
HCM Control Delay (s)	41.5	-	-	-	77.2
HCM Lane LOS	E	-	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	1.1

Appendix D-6

Orange County Site 2 – Future Safety Analysis

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road No Build
Agency or Company	VHB	Intersection	US 441
Date Performed	06/17/22	Jurisdiction	Bay County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	77,800
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	31,200
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			55
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	8
Number of bus stops within 300 m (1,000 ft) of the intersection		0	2
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	2

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.88	1.00	0.91	1.00	0.42

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	31.197	1.000	31.197	0.42	1.00	12.952
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	11.309	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.372	11.595	0.42	1.00	4.814
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	19.119	$(5)_{TOTAL}-(5)_{FI}$ 0.628	19.602	0.42	1.00	8.138

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.814	1.000	8.138	12.952
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.166	0.483	3.931	6.097
Head-on collision	0.049	0.236	0.030	0.244	0.480
Angle collision	0.347	1.670	0.244	1.986	3.656
Sideswipe	0.099	0.477	0.032	0.260	0.737
Other multiple-vehicle collision	0.055	0.265	0.211	1.717	1.982

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.274	1.000	1.274	0.42	1.00	0.529
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.245	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.192	0.244	0.42	1.00	0.101
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	1.032	$(5)_{TOTAL}-(5)_{FI}$ 0.808	1.029	0.42	1.00	0.427

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.101	1.000	0.427	0.529
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.076	0.870	0.372	0.447
Collision with other object	0.072	0.007	0.070	0.030	0.037
Other single-vehicle collision	0.040	0.004	0.023	0.010	0.014
Single-vehicle noncollision	0.141	0.014	0.034	0.015	0.029

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4)*(5)*(6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.050	3.11	1.00	0.154
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.154

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		$(4)*(5)*(6)$
Total	12.952	0.529	13.481	0.015	1.00	0.202
Fatal and injury (FI)	--	--	--	--	1.00	0.202

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.166	3.931	6.097
Head-on collisions (from Worksheet 2D)	0.236	0.244	0.480
Angle collisions (from Worksheet 2D)	1.670	1.986	3.656
Sideswipe (from Worksheet 2D)	0.477	0.260	0.737
Other multiple-vehicle collision (from Worksheet 2D)	0.265	1.717	1.982
Subtotal	4.814	8.138	12.952
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.076	0.372	0.447
Collision with other object (from Worksheet 2F)	0.007	0.030	0.037
Other single-vehicle collision (from Worksheet 2F)	0.004	0.010	0.014
Single-vehicle noncollision (from Worksheet 2F)	0.014	0.015	0.029
Collision with pedestrian (from Worksheet 2G or 2I)	0.154	0.000	0.154
Collision with bicycle (from Worksheet 2J)	0.202	0.000	0.202
Subtotal	0.458	0.427	0.885
Total	5.272	8.566	13.838

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	13.8
Fatal and injury (FI)	5.3
Property damage only (PDO)	8.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road Build
Agency or Company	VHB	Intersection	US 441
Date Performed	06/17/22	Jurisdiction	Bay County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	77,800
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	31,200
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	4
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			55
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	8
Number of bus stops within 300 m (1,000 ft) of the intersection		0	2
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	2

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.78	0.88	1.00	0.91	1.00	0.42

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	31.197	1.000	31.197	0.42	1.00	12.952
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	11.309	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.372	11.595	0.42	1.00	4.814
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	19.119	$(5)_{TOTAL}-(5)_{FI}$ 0.628	19.602	0.42	1.00	8.138

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	4.814	1.000	8.138	12.952
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	2.166	0.483	3.931	6.097
Head-on collision	0.049	0.236	0.030	0.244	0.480
Angle collision	0.347	1.670	0.244	1.986	3.656
Sideswipe	0.099	0.477	0.032	0.260	0.737
Other multiple-vehicle collision	0.055	0.265	0.211	1.717	1.982

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	1.274	1.000	1.274	0.42	1.00	0.529
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.245	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.192	0.244	0.42	1.00	0.101
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	1.032	$(5)_{TOTAL}-(5)_{FI}$ 0.808	1.029	0.42	1.00	0.427

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.101	1.000	0.427	0.529
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.076	0.870	0.372	0.447
Collision with other object	0.072	0.007	0.070	0.030	0.037
Other single-vehicle collision	0.040	0.004	0.023	0.010	0.014
Single-vehicle noncollision	0.141	0.014	0.034	0.015	0.029

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
2.78	1.00	1.12	3.11

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.050	3.11	1.00	0.154
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.154

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	12.952	0.529	13.481	0.015	1.00	0.202
Fatal and injury (FI)	--	--	--	--	1.00	0.202

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	2.166	3.931	6.097
Head-on collisions (from Worksheet 2D)	0.236	0.244	0.480
Angle collisions (from Worksheet 2D)	1.670	1.986	3.656
Sideswipe (from Worksheet 2D)	0.477	0.260	0.737
Other multiple-vehicle collision (from Worksheet 2D)	0.265	1.717	1.982
Subtotal	4.814	8.138	12.952
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.076	0.372	0.447
Collision with other object (from Worksheet 2F)	0.007	0.030	0.037
Other single-vehicle collision (from Worksheet 2F)	0.004	0.010	0.014
Single-vehicle noncollision (from Worksheet 2F)	0.014	0.015	0.029
Collision with pedestrian (from Worksheet 2G or 2I)	0.154	0.000	0.154
Collision with bicycle (from Worksheet 2J)	0.202	0.000	0.202
Subtotal	0.458	0.427	0.885
Total	5.272	8.566	13.838

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	13.8
Fatal and injury (FI)	5.3
Property damage only (PDO)	8.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road Build
Agency or Company	VHB	Intersection	Potential Truck Stop - US 441
Date Performed	06/17/22	Jurisdiction	Orange County
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT _{major} (veh/day)	AADT _{MAX} = 45,700 (veh/day)	--	26,700
AADT _{minor} (veh/day)	AADT _{MAX} = 9,300 (veh/day)	--	400
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	1.00	1.00	1.00	1.00	0.67

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-13.36	1.11	0.41	0.80	1.507	1.000	1.507	0.67	1.00	1.010
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.677	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.427	0.643	0.67	1.00	0.431
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.911	$(5)_{TOTAL}-(5)_{FI}$ 0.573	0.864	0.67	1.00	0.579

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.431	1.000	0.579	1.010
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.421	0.181	0.440	0.255	0.436
Head-on collision	0.045	0.019	0.023	0.013	0.033
Angle collision	0.343	0.148	0.262	0.152	0.300
Sideswipe	0.126	0.054	0.040	0.023	0.077
Other multiple-vehicle collision	0.065	0.028	0.235	0.136	0.164

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.120	1.000	0.120	0.67	1.00	0.080
Fatal and Injury (FI)	--	--	--	--	0.037	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.315	0.038	0.67	1.00	0.025
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.081	$(5)_{TOTAL}-(5)_{FI}$ 0.685	0.082	0.67	1.00	0.055

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.025	1.000	0.055	0.080
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.001
Collision with fixed object	0.762	0.019	0.834	0.046	0.065
Collision with other object	0.090	0.002	0.092	0.005	0.007
Other single-vehicle collision	0.039	0.001	0.023	0.001	0.002
Single-vehicle noncollision	0.105	0.003	0.030	0.002	0.004

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	1.010	0.080	1.090	0.021	1.00	0.023
Fatal and injury (FI)	--	--	--	--	1.00	0.023

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.010	0.080	1.090	0.016	1.00	0.017
Fatal and injury (FI)	--	--	--	--	1.00	0.017

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.181	0.255	0.436
Head-on collisions (from Worksheet 2D)	0.019	0.013	0.033
Angle collisions (from Worksheet 2D)	0.148	0.152	0.300
Sideswipe (from Worksheet 2D)	0.054	0.023	0.077
Other multiple-vehicle collision (from Worksheet 2D)	0.028	0.136	0.164
Subtotal	0.431	0.579	1.010
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.019	0.046	0.065
Collision with other object (from Worksheet 2F)	0.002	0.005	0.007
Other single-vehicle collision (from Worksheet 2F)	0.001	0.001	0.002
Single-vehicle noncollision (from Worksheet 2F)	0.003	0.002	0.004
Collision with pedestrian (from Worksheet 2G or 2I)	0.023	0.000	0.023
Collision with bicycle (from Worksheet 2J)	0.017	0.000	0.017
Subtotal	0.066	0.055	0.121
Total	0.497	0.634	1.131

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.1
Fatal and injury (FI)	0.5
Property damage only (PDO)	0.6

Appendix E-1

Orange County Site 4 - Existing Traffic Data

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Land Street Road **&** Parkers Landing
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	1	0	3	1	0	0	0	121	8	2	128	1
7:15 AM - 7:30 AM	6	0	1	0	0	1	0	93	4	0	124	2
7:30 AM - 7:45 AM	1	1	0	0	0	2	2	101	4	3	136	2
7:45 AM - 8:00 AM	3	0	3	0	0	2	0	100	3	1	169	0
8:00 AM - 8:15 AM	2	0	1	1	0	1	1	100	11	1	134	4
8:15 AM - 8:30 AM	6	1	2	1	0	0	0	76	6	2	113	0
8:30 AM - 8:45 AM	5	0	6	1	0	0	1	84	3	0	123	0
8:45 AM - 9:00 AM	1	0	1	0	0	0	0	117	6	0	124	1
TOTAL	25	2	17	4	0	6	4	792	45	9	1,051	10
Peak Hour												
7:00 AM - 8:00 AM	11	1	7	1	0	5	2	415	19	6	557	5

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	5	0	5	0	0	2	6	120	3	2	107	2
4:15 PM - 4:30 PM	7	0	3	3	0	2	3	128	0	1	101	0
4:30 PM - 4:45 PM	4	0	7	3	0	0	4	131	2	3	139	2
4:45 PM - 5:00 PM	3	0	2	2	0	2	0	131	1	2	128	2
5:00 PM - 5:15 PM	0	0	0	3	0	4	2	160	0	2	153	1
5:15 PM - 5:30 PM	3	0	1	1	0	3	4	153	1	0	106	2
5:30 PM - 5:45 PM	1	0	1	3	0	0	1	136	1	0	101	0
5:45 PM - 6:00 PM	3	0	1	0	0	1	1	129	0	2	103	0
TOTAL	26	0	20	15	0	14	21	1,088	8	12	938	9
Peak Hour												
4:30 PM - 5:30 PM	10	0	10	9	0	9	10	575	4	7	526	7

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Land Street Road **&** Parkers Landing
Date May 5, 2022 **Trucks**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	3	1	0	0	0	31	1	1	29	0
7:15 AM - 7:30 AM	0	0	0	0	0	1	0	26	0	0	31	0
7:30 AM - 7:45 AM	1	1	0	0	0	2	0	18	0	1	39	1
7:45 AM - 8:00 AM	0	0	1	0	0	2	0	15	0	0	45	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	21	2	0	26	0
8:15 AM - 8:30 AM	1	0	1	0	0	0	0	17	0	0	38	0
8:30 AM - 8:45 AM	1	0	2	0	0	0	0	23	0	0	33	0
8:45 AM - 9:00 AM	0	0	1	0	0	0	0	31	0	0	30	0
TOTAL	3	1	8	1	0	5	0	182	3	2	271	1
Peak Hour												
7:15 AM - 8:15 AM	1	1	1	0	0	5	0	80	2	1	141	1
	9%	0%	25%	0%	0%	500%	0%	25%	10%	25%	33%	14%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	1	2	15	0	1	17	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	1	18	0	1	18	0
4:30 PM - 4:45 PM	1	0	0	1	0	0	2	12	0	1	18	1
4:45 PM - 5:00 PM	1	0	0	0	0	0	0	11	0	2	17	2
5:00 PM - 5:15 PM	0	0	0	0	0	0	2	23	0	1	14	0
5:15 PM - 5:30 PM	0	0	0	0	0	2	0	19	0	0	10	1
5:30 PM - 5:45 PM	0	0	1	0	0	0	0	17	1	0	10	0
5:45 PM - 6:00 PM	0	0	1	0	0	0	0	22	0	0	13	0
TOTAL	2	0	2	1	0	3	7	137	1	6	117	4
Peak Hour												
4:30 PM - 5:30 PM	2	0	0	1	0	2	4	65	0	4	59	4

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Orange	City	Orlando
Intersection	-Land Street Road	&	Parkers Landing
Date	May 5, 2022	U-Turns & RTOR	
		VHB Project #:	63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM - 8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM - 8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM - 4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM - 4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM - 5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM - 5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0
5:30 PM - 5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM - 6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	1	0	0	0	0	0
Peak Hour												
4:30 PM - 5:30 PM	0	0	0	0	0	0	1	0	0	0	0	0

Pedestrian & Bicycle Summary

Project #: 63640.01

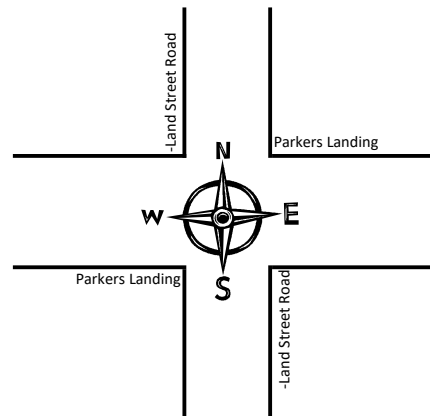
NB/SB: -Land Street Road

Date: 5/5/2022

EB/WB: Parkers Landing

		Hour									
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00		
		1	2	3	4	5	6	7	8		
Eastbound	▶ Bike	2	0	0	0	0	0	1	1	4	
	Ped	0	0	0	0	0	0	0	1	1	
Westbound	◀ Bike	0	0	0	0	0	0	1	1	2	
	Ped	0	0	0	0	0	0	0	0	0	

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0

Eastbound	▶ Bike	1	0	0	0	0	0	0	0	1
	Ped	0	0	0	0	0	0	0	0	0
Westbound	◀ Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
1	2	3	4	5	6	7	8

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** Sidney Hayes Road
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	14	0	9	1	0	2	2	83	21	23	132	1
7:15 AM - 7:30 AM	17	0	4	0	0	1	1	63	14	18	114	0
7:30 AM - 7:45 AM	19	0	8	1	0	1	3	70	14	15	120	1
7:45 AM - 8:00 AM	8	0	12	0	0	1	1	80	17	36	168	3
8:00 AM - 8:15 AM	14	1	11	0	0	1	0	71	26	23	142	1
8:15 AM - 8:30 AM	15	0	5	0	0	2	3	73	10	30	106	3
8:30 AM - 8:45 AM	15	1	16	1	0	0	0	66	22	21	113	0
8:45 AM - 9:00 AM	23	0	9	0	0	0	1	80	33	25	117	1
TOTAL	125	2	74	3	0	8	11	586	157	191	1,012	10
Peak Hour												
7:45 AM - 8:45 AM	52	2	44	1	0	4	4	290	75	110	529	7

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	19	0	21	2	1	3	5	97	37	20	73	1
4:15 PM - 4:30 PM	17	0	21	1	1	1	0	137	36	24	78	0
4:30 PM - 4:45 PM	26	0	29	0	0	0	0	125	38	25	99	1
4:45 PM - 5:00 PM	20	0	20	1	0	0	3	142	30	20	101	1
5:00 PM - 5:15 PM	29	0	17	1	0	2	0	144	37	16	112	0
5:15 PM - 5:30 PM	23	0	19	2	0	3	1	126	29	21	79	1
5:30 PM - 5:45 PM	15	0	14	5	0	0	0	130	30	15	85	1
5:45 PM - 6:00 PM	12	0	11	0	0	1	1	109	24	14	87	0
TOTAL	161	0	152	12	2	10	10	1,010	261	155	714	5
Peak Hour												
4:15 PM - 5:15 PM	92	0	87	3	1	3	3	548	141	85	390	2

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** Sidney Hayes Road
Date May 5, 2022 **Trucks**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	3	0	3	1	0	2	1	21	8	4	25	1
7:15 AM - 7:30 AM	6	0	1	0	0	1	0	18	5	7	23	0
7:30 AM - 7:45 AM	6	0	3	1	0	1	1	15	3	3	25	0
7:45 AM - 8:00 AM	3	0	4	0	0	1	1	13	2	4	33	0
8:00 AM - 8:15 AM	5	1	4	0	0	1	0	14	9	3	20	0
8:15 AM - 8:30 AM	7	0	0	0	0	1	2	13	2	4	27	2
8:30 AM - 8:45 AM	4	0	2	0	0	0	0	14	7	4	24	0
8:45 AM - 9:00 AM	4	0	0	0	0	0	1	11	13	8	23	1
TOTAL	38	1	17	2	0	7	6	119	49	37	200	4
Peak Hour												
7:45 AM - 8:45 AM	19	1	10	0	0	3	3	54	20	15	104	2
	58%	100%	59%	0%	0%	0%	300%	23%	42%	16%	24%	50%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	5	0	3	0	1	0	4	12	9	11	13	1
4:15 PM - 4:30 PM	4	0	0	1	1	0	0	23	8	12	13	0
4:30 PM - 4:45 PM	4	0	0	0	0	0	0	14	5	10	17	1
4:45 PM - 5:00 PM	5	0	1	0	0	0	1	16	4	9	14	1
5:00 PM - 5:15 PM	2	0	1	0	0	0	0	19	6	8	13	0
5:15 PM - 5:30 PM	1	0	0	0	0	0	1	11	3	8	13	0
5:30 PM - 5:45 PM	0	0	0	1	0	0	0	11	4	3	13	0
5:45 PM - 6:00 PM	3	0	0	0	0	0	0	14	5	1	10	0
TOTAL	24	0	5	2	2	0	6	120	44	62	106	3
Peak Hour												
4:30 PM - 5:30 PM	12	0	2	0	0	0	2	60	18	35	57	2

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Orange **City** Orlando
Intersection -Landstreet Road **&** Sidney Hayes Road
Date May 5, 2022 **U-Turns & RTOR**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	4	0	0	0	1	0	1	0	0	0
7:15 AM - 7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0
7:30 AM - 7:45 AM	0	0	1	0	0	0	0	0	0	0	0	1
7:45 AM - 8:00 AM	0	0	5	0	0	0	0	0	2	0	0	0
8:00 AM - 8:15 AM	0	0	5	0	0	0	0	0	4	0	0	0
8:15 AM - 8:30 AM	0	0	3	0	0	1	0	0	1	0	0	1
8:30 AM - 8:45 AM	0	0	4	0	0	0	0	0	0	0	0	0
8:45 AM - 9:00 AM	0	0	6	0	0	0	0	0	4	0	0	0
TOTAL	0	0	31	0	0	1	1	0	12	0	0	2
Peak Hour												
8:00 AM - 9:00 AM	0	0	18	0	0	1	0	0	9	0	0	1

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	12	0	0	0	0	0	2	0	0	0
4:15 PM - 4:30 PM	0	0	15	0	0	0	0	0	3	0	0	0
4:30 PM - 4:45 PM	0	0	18	0	0	0	0	0	11	0	0	0
4:45 PM - 5:00 PM	0	0	9	0	0	0	0	0	4	0	0	0
5:00 PM - 5:15 PM	0	0	13	0	0	1	0	0	1	0	0	0
5:15 PM - 5:30 PM	0	0	17	0	0	1	0	0	4	0	0	0
5:30 PM - 5:45 PM	0	0	9	0	0	0	0	0	0	0	0	1
5:45 PM - 6:00 PM	0	0	9	0	0	1	1	0	1	0	0	0
TOTAL	0	0	102	0	0	3	1	0	26	0	0	1
Peak Hour												
4:30 PM - 5:30 PM	0	0	57	0	0	2	0	0	20	0	0	0

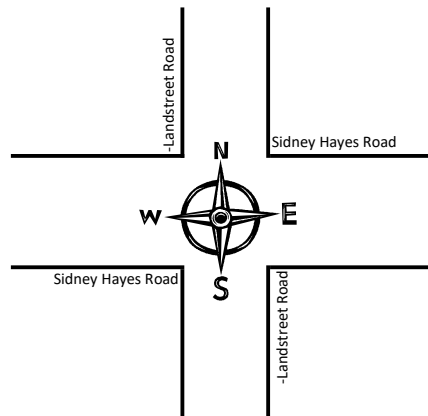
Pedestrian & Bicycle Summary

Project #: 63640.01
Date: 5/5/2022

NB/SB: -Landstreet Road
EB/WB: Sidney Hayes Road

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	1	0	0	0	0	0	0	0	1
	Ped	1	0	0	0	0	0	0	0	1
Westbound	Bike	0	0	0	0	0	0	1	2	3
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0

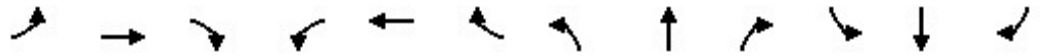
Eastbound	Bike	0	0	0	0	0	0	0	1	1
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	1	0	0	0	0	0	0	1
	Ped	0	0	0	0	0	0	0	0	0
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	

Appendix E-2

Orange County Site 4 - Existing Synchro Outputs

Queues
3: Sidney Hayes Rd/Driveway & Landstreet Rd

Existing AM
06/29/2022

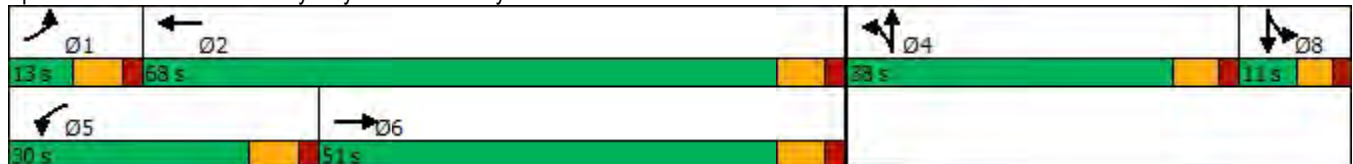


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↗	↕		↖	↕		↖	↕			↕	↗
Traffic Volume (vph)	4	290	75	110	529	7	52	2	44	1	0	4
Future Volume (vph)	4	290	75	110	529	7	52	2	44	1	0	4
Satd. Flow (prot)	902	2757	0	1556	2898	0	1142	1013	0	0	1672	0
Flt Permitted	0.950			0.950			0.950				0.992	
Satd. Flow (perm)	902	2757	0	1556	2898	0	1142	1013	0	0	1672	0
Satd. Flow (RTOR)		27			1			51			200	
Lane Group Flow (vph)	5	424	0	128	623	0	60	53	0	0	6	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Total Split (s)	13.0	51.0		30.0	68.0		38.0	38.0		11.0	11.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4			5.4	
Act Effect Green (s)	7.0	23.1		11.6	34.8		9.9	9.9			6.7	
Actuated g/C Ratio	0.13	0.42		0.21	0.64		0.18	0.18			0.12	
v/c Ratio	0.04	0.36		0.39	0.34		0.29	0.24			0.02	
Control Delay	32.2	18.6		27.8	9.9		29.5	12.4			0.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	32.2	18.6		27.8	9.9		29.5	12.4			0.0	
LOS	C	B		C	A		C	B			A	
Approach Delay		18.7			13.0			21.5				
Approach LOS		B			B			C				
Queue Length 50th (ft)	2	55		37	45		17	1			0	
Queue Length 95th (ft)	13	135		109	172		63	30			0	
Internal Link Dist (ft)		2590			329			445			178	
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	125	2257		793	2728		710	649			385	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.04	0.19		0.16	0.23		0.08	0.08			0.02	

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 54.4
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.39
 Intersection Signal Delay: 15.6
 Intersection LOS: B
 Intersection Capacity Utilization 45.2%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↑		↖	↑↑			↕			↕	
Traffic Vol, veh/h	2	415	19	6	557	5	11	1	7	1	0	5
Future Vol, veh/h	2	415	19	6	557	5	11	1	7	1	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	25	10	25	33	14	9	0	25	0	0	100
Mvmt Flow	2	451	21	7	605	5	12	1	8	1	0	5

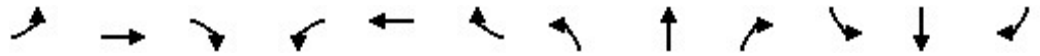
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	610	0	0	472	0	0	783	1090	236	852	1098	305
Stage 1	-	-	-	-	-	-	466	466	-	622	622	-
Stage 2	-	-	-	-	-	-	317	624	-	230	476	-
Critical Hdwy	4.1	-	-	4.6	-	-	7.68	6.5	7.4	7.5	6.5	8.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.2	-	-	2.45	-	-	3.59	4	3.55	3.5	4	4.3
Pot Cap-1 Maneuver	979	-	-	940	-	-	272	217	700	256	215	470
Stage 1	-	-	-	-	-	-	528	566	-	446	482	-
Stage 2	-	-	-	-	-	-	650	481	-	758	560	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	979	-	-	940	-	-	267	215	700	250	213	470
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	215	-	250	213	-
Stage 1	-	-	-	-	-	-	527	565	-	445	479	-
Stage 2	-	-	-	-	-	-	638	478	-	747	559	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			16.3			13.9		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	340	979	-	-	940	-	-	410
HCM Lane V/C Ratio	0.061	0.002	-	-	0.007	-	-	0.016
HCM Control Delay (s)	16.3	8.7	-	-	8.9	-	-	13.9
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Queues
3: Sidney Hayes Rd/Driveway & Landstreet Rd

Existing PM
06/29/2022

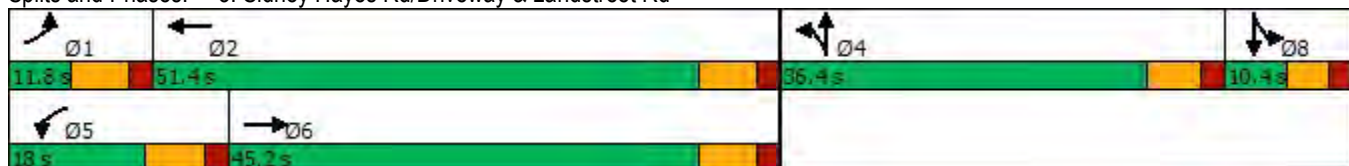


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↕		↖	↕		↖	↕			↕	↗
Traffic Volume (vph)	3	548	141	85	390	2	92	0	87	3	1	3
Future Volume (vph)	3	548	141	85	390	2	92	0	87	3	1	3
Satd. Flow (prot)	902	3062	0	1172	3125	0	1583	1495	0	0	1752	0
Flt Permitted	0.950			0.950			0.950				0.979	
Satd. Flow (perm)	902	3062	0	1172	3125	0	1583	1495	0	0	1752	0
Satd. Flow (RTOR)		32			1			314			3	
Lane Group Flow (vph)	3	725	0	89	413	0	97	92	0	0	7	0
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	
Permitted Phases												
Total Split (s)	11.8	45.2		18.0	51.4		36.4	36.4		10.4	10.4	
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4			5.4	
Act Effect Green (s)	6.3	27.7		11.7	38.7		11.0	11.0			6.3	
Actuated g/C Ratio	0.11	0.47		0.20	0.66		0.19	0.19			0.11	
v/c Ratio	0.03	0.50		0.38	0.20		0.33	0.17			0.04	
Control Delay	35.7	18.3		34.9	8.4		30.7	0.7			29.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	35.7	18.3		34.9	8.4		30.7	0.7			29.6	
LOS	D	B		C	A		C	A			C	
Approach Delay		18.3			13.1			16.1			29.6	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	1	114		29	28		32	0			1	
Queue Length 95th (ft)	11	229		#114	111		96	0			16	
Internal Link Dist (ft)		2590			329			445			178	
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	96	2057		280	2325		896	982			190	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.03	0.35		0.32	0.18		0.11	0.09			0.04	

Intersection Summary

Cycle Length: 110
 Actuated Cycle Length: 58.6
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.50
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization 51.3%
 ICU Level of Service A
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	10	575	4	7	526	7	10	0	10	9	0	9
Future Vol, veh/h	10	575	4	7	526	7	10	0	10	9	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	80	13	0	100	13	100	25	0	0	13	0	29
Mvmt Flow	11	639	4	8	584	8	11	0	11	10	0	10

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	592	0	0	643	0	0	971	1271	322	946	1269	296
Stage 1	-	-	-	-	-	-	663	663	-	604	604	-
Stage 2	-	-	-	-	-	-	308	608	-	342	665	-
Critical Hdwy	5.7	-	-	6.1	-	-	8	6.5	6.9	7.76	6.5	7.48
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Follow-up Hdwy	3	-	-	3.2	-	-	3.75	4	3.3	3.63	4	3.59
Pot Cap-1 Maneuver	595	-	-	497	-	-	176	169	680	200	170	626
Stage 1	-	-	-	-	-	-	366	462	-	426	491	-
Stage 2	-	-	-	-	-	-	617	489	-	617	461	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	595	-	-	497	-	-	169	163	680	192	164	626
Mov Cap-2 Maneuver	-	-	-	-	-	-	169	163	-	192	164	-
Stage 1	-	-	-	-	-	-	359	454	-	418	483	-
Stage 2	-	-	-	-	-	-	597	481	-	596	453	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.2			19.5			18.1		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	271	595	-	-	497	-	-	294
HCM Lane V/C Ratio	0.082	0.019	-	-	0.016	-	-	0.068
HCM Control Delay (s)	19.5	11.2	-	-	12.4	-	-	18.1
HCM Lane LOS	C	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.2

Appendix E-3

Orange County Site 4 – Crash Data

Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	87117391	11/17/2017	Friday	10:15 AM	10	2017	Rear End	Injury	0	1	\$0	\$7,800	Daylight	Dry	N	0	N	0
2	88041675	11/27/2018	Tuesday	8:00 AM	08	2018	Rear End	No Injury	0	0	\$0	\$10,000	Daylight	Dry	N	0	N	0
3	87181938	3/28/2018	Wednesday	12:38 PM	12	2018	Head On	Injury	0	2	\$0	\$29,000	Daylight	Dry	N	0	N	0
4	85507629	3/25/2017	Saturday	9:28 PM	21	2017	Rear End	No Injury	0	0	\$0	\$7,000	Dark - Lighted	Dry	N	0	N	0
5	88010407	10/24/2018	Wednesday	8:49 AM	08	2018	Rear End	Injury	0	1	\$0	\$7,000	Daylight	Dry	N	0	N	0
6	88178803	8/21/2019	Wednesday	11:43 AM	11	2019	Left Turn	No Injury	0	0	\$0	\$8,000	Daylight	Dry	N	0	N	0
7	88060825	1/15/2019	Tuesday	4:35 PM	16	2019	Sideswipe	No Injury	0	0	\$0	\$400	Daylight	Dry	N	0	N	0
8	88208233	10/7/2019	Monday	6:49 AM	06	2019	Rear End	Injury	0	1	\$0	\$2,500	Dawn	Dry	N	0	N	0
9	84516110	2/13/2015	Friday	4:15 PM	16	2015	Other	No Injury	0	0	\$3,500	\$8,000	Daylight	Dry	N	0	N	0

Land Street Road and Parkers Landing/Winegard Road

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	2	2	1	5	56%
Head On	0	0	0	1	0	1	11%
Sideswipe	0	0	0	0	1	1	11%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	0	0	0%
Left Turn	0	0	0	0	1	1	11%
Right Turn	0	0	0	0	0	0	0%
Off Road	0	0	0	0	0	0	0%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	1	0	0	0	0	1	11%
Total	1	0	2	3	3	9	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	0	0	1	2	1	4	44%
Property Damage Only	1	0	1	1	2	5	56%
Total	1	0	2	3	3	9	100%

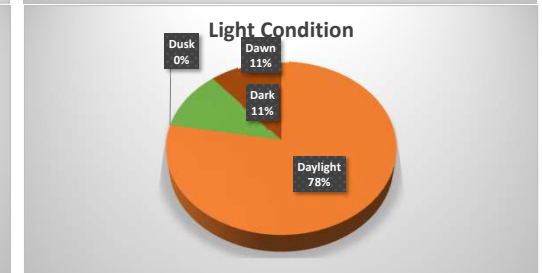
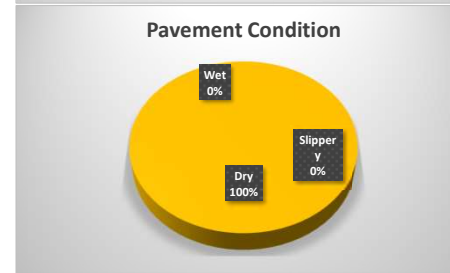
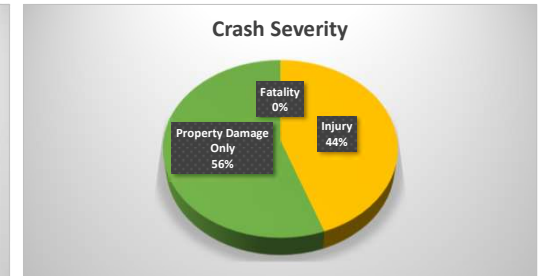
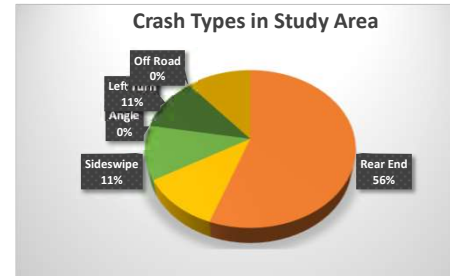
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	0	0	0%
Dry	1	0	2	3	3	9	100%
Slippery	0	0	0	0	0	0	0%
Total	1	0	2	3	3	9	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	1	0	1	3	2	7	78%
Dusk	0	0	0	0	0	0	0%
Dawn	0	0	0	0	1	1	11%
Dark	0	0	1	0	0	1	11%
Total	1	0	2	3	3	9	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	0	0	2	3	3	8	89%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	1	0	0	0	0	1	11%
Total	1	0	2	3	3	9	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	0	0	0	0	2	2	22%
\$5,001 - \$10,000	1	0	2	2	1	6	67%
\$10,000 - \$25,000	0	0	0	0	0	0	0%
\$25,001+	0	0	0	1	0	1	11%
Total	1	0	2	3	3	9	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	88057117	1/9/2019	Wednesday	10:23 AM	10	2019	Other	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
2	88024096	11/16/2018	Friday	2:22 AM	02	2018	Other	Injury	0	1	\$0	\$14,000	Dark - Not Lighted	Dry	N	0	N	0
3	87132337	12/20/2017	Wednesday	11:13 PM	23	2017	Rear End	Serious Injury	0	1	\$0	\$9,000	Dark - Not Lighted	Dry	N	0	N	0
4	85477565	2/16/2017	Thursday	5:46 AM	05	2017	Rear End	No Injury	0	0	\$0	\$2,000	Dark - Lighted	Dry	N	0	N	0
5	88098941	4/4/2019	Thursday	3:44 PM	15	2019	Rear End	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
6	88182990	8/27/2019	Tuesday	5:32 PM	17	2019	Left Turn	No Injury	0	0	\$0	\$4,000	Daylight	Dry	N	0	N	0
7	88208865	9/24/2019	Tuesday	4:00 PM	16	2019	Rear End	No Injury	0	0	\$0	\$3,000	Daylight	Dry	N	0	N	0
8	85150324	7/7/2015	Tuesday	9:25 AM	09	2015	Left Turn	No Injury	0	0	\$0	\$3,800	Daylight	Dry	N	0	N	0
9	85376414	9/8/2016	Thursday	10:00 AM	10	2016	Other	Serious Injury	0	2	\$0	\$7,500	Daylight	Dry	N	0	N	0
10	85370188	8/26/2016	Friday	2:13 PM	14	2016	Left Turn	Injury	0	1	\$0	\$9,000	Daylight	Dry	N	0	N	0
11	85236531	12/22/2015	Tuesday	4:43 PM	16	2015	Rear End	No Injury	0	0	\$0	\$2,000	Daylight	Dry	N	0	N	0
12	85267412	1/18/2016	Monday	3:46 AM	03	2016	Sideswipe	No Injury	0	0	\$0	\$700	Dark - Lighted	Dry	N	0	N	0
13	85339955	6/3/2016	Friday	6:30 PM	18	2016	Head On	Injury	0	2	\$0	\$20,000	Daylight	Dry	N	0	N	0
14	85391243	9/28/2016	Wednesday	4:24 PM	16	2016	Left Turn	No Injury	0	0	\$0	\$5,500	Daylight	Dry	N	0	N	0
15	84878457	3/13/2015	Friday	11:41 AM	11	2015	Left Turn	No Injury	0	0	\$0	\$3,500	Daylight	Dry	N	0	N	0
16	85138847	6/23/2015	Tuesday	7:28 AM	07	2015	Left Turn	No Injury	0	0	\$0	\$10,000	Daylight	Dry	N	0	N	0
17	85396597	9/19/2016	Monday	10:12 AM	10	2016	Off Road	No Injury	0	0	\$1,000	\$1,000	Daylight	Dry	N	0	N	0
18	87201766	4/9/2018	Monday	4:35 PM	16	2018	Other	Injury	0	1	\$0	\$12,000	Daylight	Dry	N	0	N	0

Land Street Road and Sidney Hayes Road

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	0	2	0	2	5	28%
Head On	0	1	0	0	0	1	6%
Sideswipe	0	1	0	0	0	1	6%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	0	0	0%
Left Turn	3	2	0	0	1	6	33%
Right Turn	0	0	0	0	0	0	0%
Off Road	0	1	0	0	0	1	6%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Animal	0	0	0	0	0	0	0%
Other	0	1	0	2	1	4	22%
Total	4	6	2	2	4	18	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	0	3	1	2	0	6	33%
Property Damage Only	4	3	1	0	4	12	67%
Total	4	6	2	2	4	18	100%

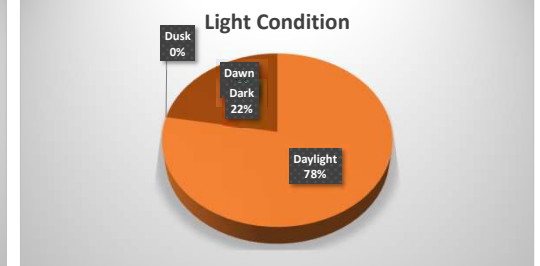
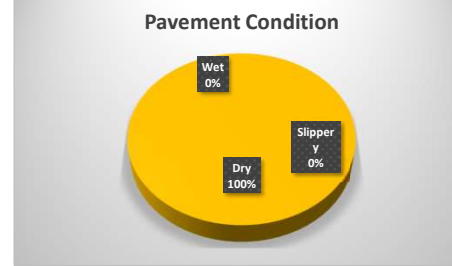
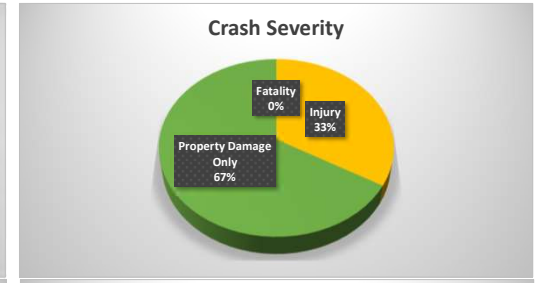
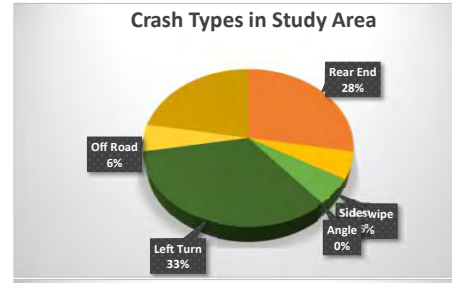
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	0	0	0%
Dry	4	6	2	2	4	18	100%
Slippery	0	0	0	0	0	0	0%
Total	4	6	2	2	4	18	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	4	5	0	1	4	14	78%
Dusk	0	0	0	0	0	0	0%
Dawn	0	0	0	0	0	0	0%
Dark	0	1	2	1	0	4	22%
Total	4	6	2	2	4	18	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	4	5	2	2	4	17	94%
\$501 - \$1,000	0	1	0	0	0	1	6%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	4	6	2	2	4	18	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	3	2	1	0	4	10	56%
\$5,001 - \$10,000	1	3	1	0	0	5	28%
\$10,000 - \$25,000	0	1	0	2	0	3	17%
\$25,001+	0	0	0	0	0	0	0%
Total	4	6	2	2	4	18	100%



Crash Data Summary

No.	Crash ID	Date	Day	Time	Hour	Year	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	88127997	5/9/2019	Thursday	4:51 PM	16	2019	Rear End	Injury	0	1	\$0	\$1,150	Daylight	Dry	N	0	N	0
2	87187916	3/7/2018	Wednesday	6:23 AM	06	2018	Other	Injury	0	1	\$0	\$5,000	Dusk	Wet	N	0	N	0
3	87167118	3/20/2018	Tuesday	9:40 PM	21	2018	Left Turn	Injury	0	1	\$0	\$1,700	Dark - Lighted	Dry	N	0	N	0
4	85455769	2/22/2017	Wednesday	2:45 AM	02	2017	Sideswipe	No Injury	0	0	\$0	\$1,500	Dark - Not Lighted	Dry	N	0	N	0
5	87169427	2/22/2018	Thursday	4:15 PM	16	2018	Sideswipe	No Injury	0	0	\$0	\$3,800	Daylight	Dry	N	0	N	0
6	88205795	10/2/2019	Wednesday	1:29 AM	01	2019	Left Turn	No Injury	0	0	\$0	\$20,000	Dark - Lighted	Dry	N	0	N	0
7	88047822	12/19/2018	Wednesday	3:25 PM	15	2018	Left Turn	Injury	0	1	\$0	\$7,500	Daylight	Dry	N	0	N	0
8	87149330	1/31/2018	Wednesday	10:46 PM	22	2018	Off Road	No Injury	0	0	\$500	\$3,300	Dark - Lighted	Dry	N	0	N	0
9	87148046	2/1/2018	Thursday	5:07 PM	17	2018	Other	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
10	87179146	3/24/2018	Saturday	5:53 AM	05	2018	Left Turn	No Injury	0	0	\$0	\$9,500	Dark - Lighted	Dry	N	0	N	0
11	87249011	7/19/2018	Thursday	6:42 AM	06	2018	Left Turn	No Injury	0	0	\$0	\$6,000	Daylight	Dry	N	0	N	0
12	87157550	1/26/2018	Friday	5:20 PM	17	2018	Left Turn	Injury	0	1	\$0	\$7,500	Daylight	Dry	N	0	N	0
13	88211024	9/20/2019	Friday	6:06 AM	06	2019	Bicycle	Injury	0	1	\$0	\$0	Daylight	Dry	N	0	N	0
14	88213713	10/9/2019	Wednesday	4:27 PM	16	2019	Left Turn	No Injury	0	0	\$0	\$3,000	Daylight	Wet	N	0	N	0
15	85315313	5/19/2016	Thursday	11:38 AM	11	2016	Off Road	No Injury	0	0	\$2,000	\$7,000	Daylight	Dry	N	0	N	0
16	85317786	5/12/2016	Thursday	7:03 AM	07	2016	Other	No Injury	0	0	\$0	\$700	Daylight	Dry	N	0	N	0
17	85219827	12/11/2015	Friday	3:35 PM	15	2015	Sideswipe	Injury	0	1	\$0	\$15,000	Daylight	Dry	N	0	N	0
18	84516111	2/13/2015	Friday	4:15 PM	16	2015	Off Road	No Injury	0	0	\$500	\$5,500	Daylight	Dry	N	0	N	0
19	85156774	7/9/2015	Thursday	7:00 PM	19	2015	Sideswipe	Injury	0	1	\$0	\$20,000	Daylight	Dry	N	0	N	0
20	84865251	2/21/2015	Saturday	1:35 PM	13	2015	Left Turn	No Injury	0	0	\$0	\$11,000	Daylight	Dry	N	0	N	0
21	85194826	9/30/2015	Wednesday	2:14 PM	14	2015	Off Road	No Injury	0	0	\$0	\$50	Daylight	Dry	N	0	N	0
22	85317772	5/6/2016	Friday	12:15 PM	12	2016	Left Turn	No Injury	0	0	\$0	\$1,000	Daylight	Dry	N	0	N	0
23	84881968	4/6/2015	Monday	8:20 PM	20	2015	Off Road	No Injury	0	0	\$30,000	\$30,000	Dusk	Dry	N	0	N	0
24	85383535	8/29/2016	Monday	5:52 AM	05	2016	Sideswipe	No Injury	0	0	\$0	\$5,000	Dark - Lighted	Dry	N	0	N	0

Land Street Road from Parkers Landing/Winegard Road to Sidney Hayes Road

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	0	0	1	1	4%
Head On	0	0	0	0	0	0	0%
Sideswipe	2	1	1	1	0	5	21%
Rollover	0	0	0	0	0	0	0%
Angle	0	0	0	0	0	0	0%
Left Turn	1	1	0	5	2	9	38%
Right Turn	0	0	0	0	0	0	0%
Off Road	3	1	0	1	0	5	21%
Pedestrian & Bicycle	0	0	0	0	1	1	4%
Animal	0	0	0	0	0	0	0%
Other	0	1	0	2	0	3	13%
Total	6	4	1	9	4	24	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	2	0	0	4	2	8	33%
Property Damage Only	4	4	1	5	2	16	67%
Total	6	4	1	9	4	24	100%

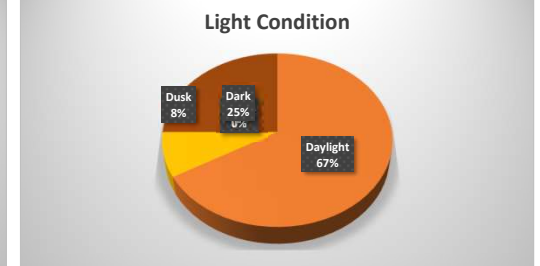
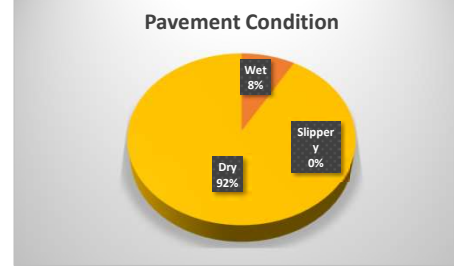
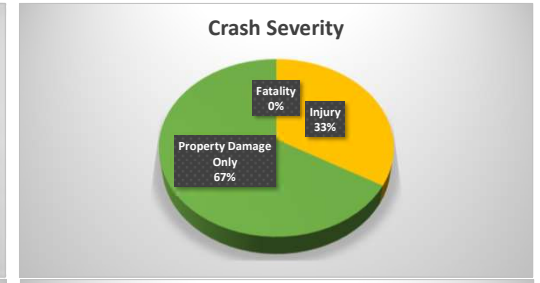
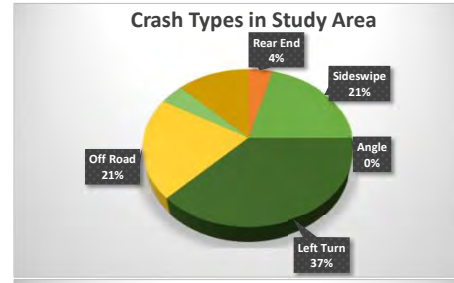
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	1	1	2	8%
Dry	6	4	1	8	3	22	92%
Slippery	0	0	0	0	0	0	0%
Total	6	4	1	9	4	24	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	5	3	0	5	3	16	67%
Dusk	1	0	0	1	0	2	8%
Dawn	0	0	0	0	0	0	0%
Dark	0	1	1	3	1	6	25%
Total	6	4	1	9	4	24	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	5	3	1	9	4	22	92%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	1	0	0	0	1	4%
\$2,501+	1	0	0	0	0	1	4%
Total	6	4	1	9	4	24	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	1	3	1	5	3	13	54%
\$5,001 - \$10,000	1	1	0	4	0	6	25%
\$10,000 - \$25,000	3	0	0	0	1	4	17%
\$25,001+	1	0	0	0	0	1	4%
Total	6	4	1	9	4	24	100%

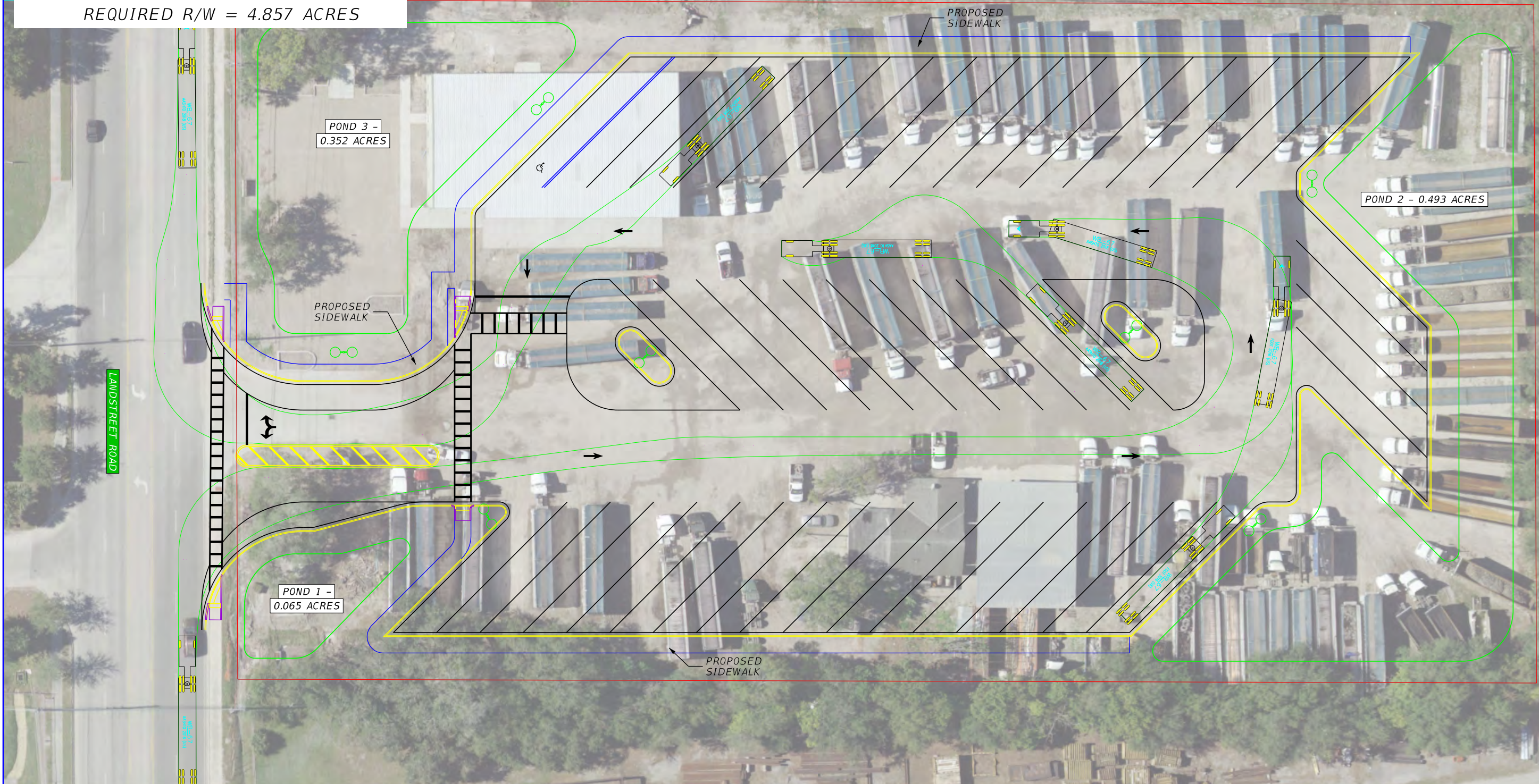
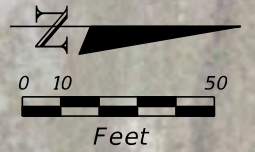


Appendix E-4

Orange County Site 4 – Future Volume Development

LEGEND

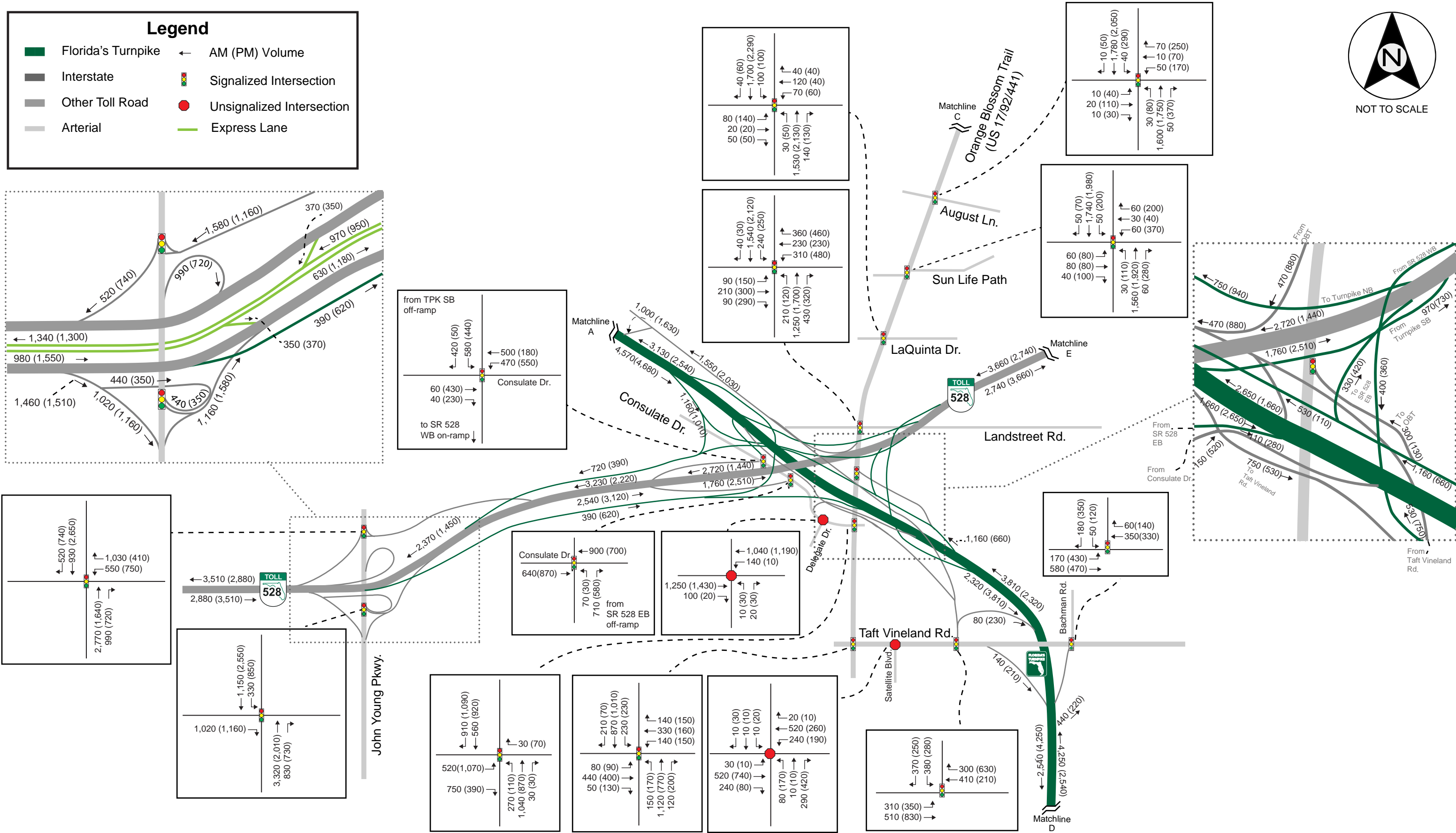
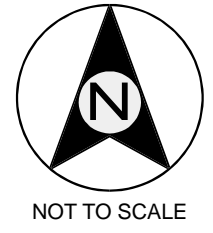
- PROPOSED R/W
- PARCEL LINE
- ▼ WETLANDS
- PROPOSED POND
- PARKING SPACES = 48
- TOTAL POND AREA = 0.910 ACRES
- REQUIRED R/W = 4.857 ACRES

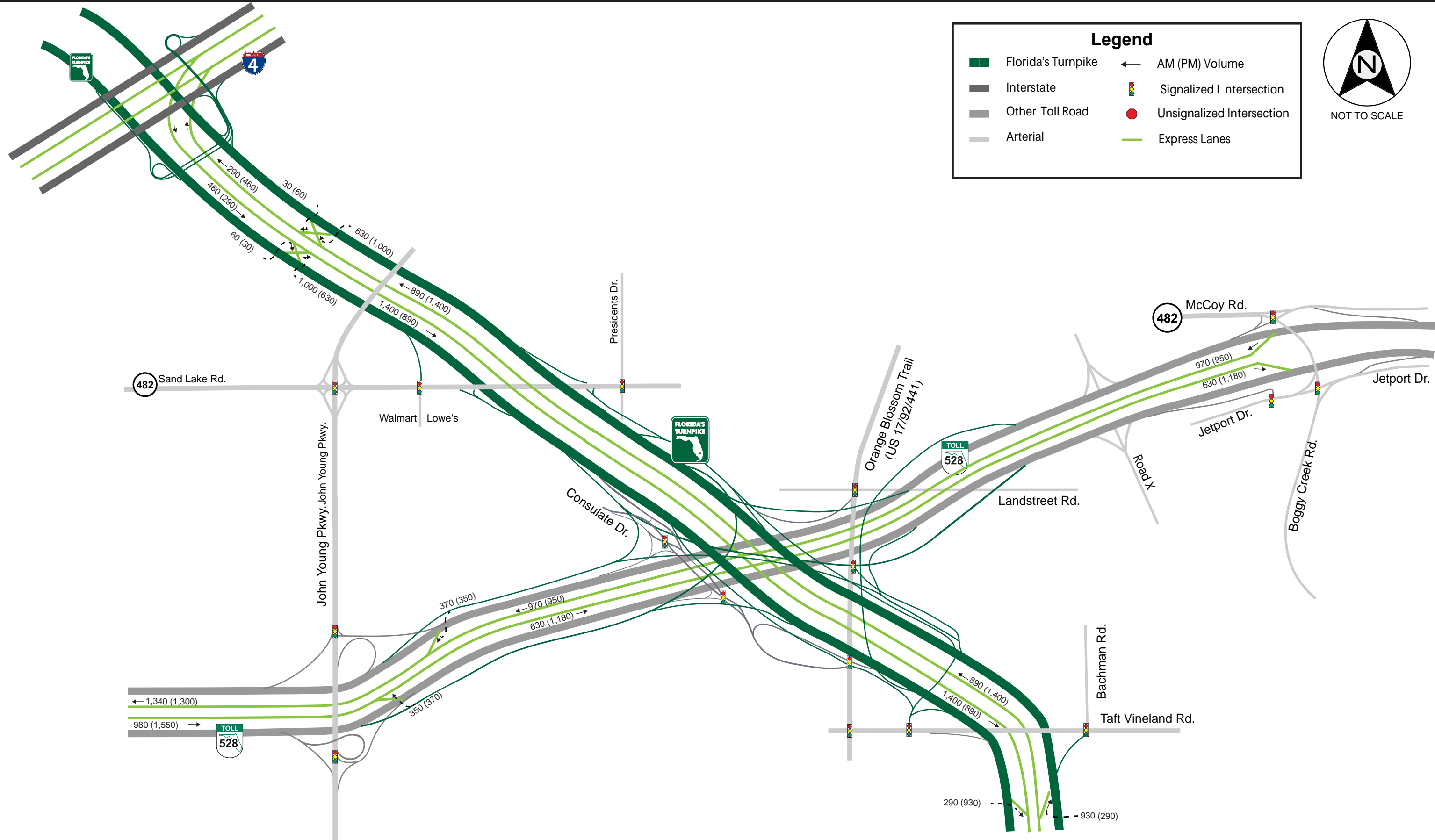


REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			ORANGE COUNTY SITE 4 TRUCK PARKING CONCEPT	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				CR 527A	ORANGE	447724-1		

Legend

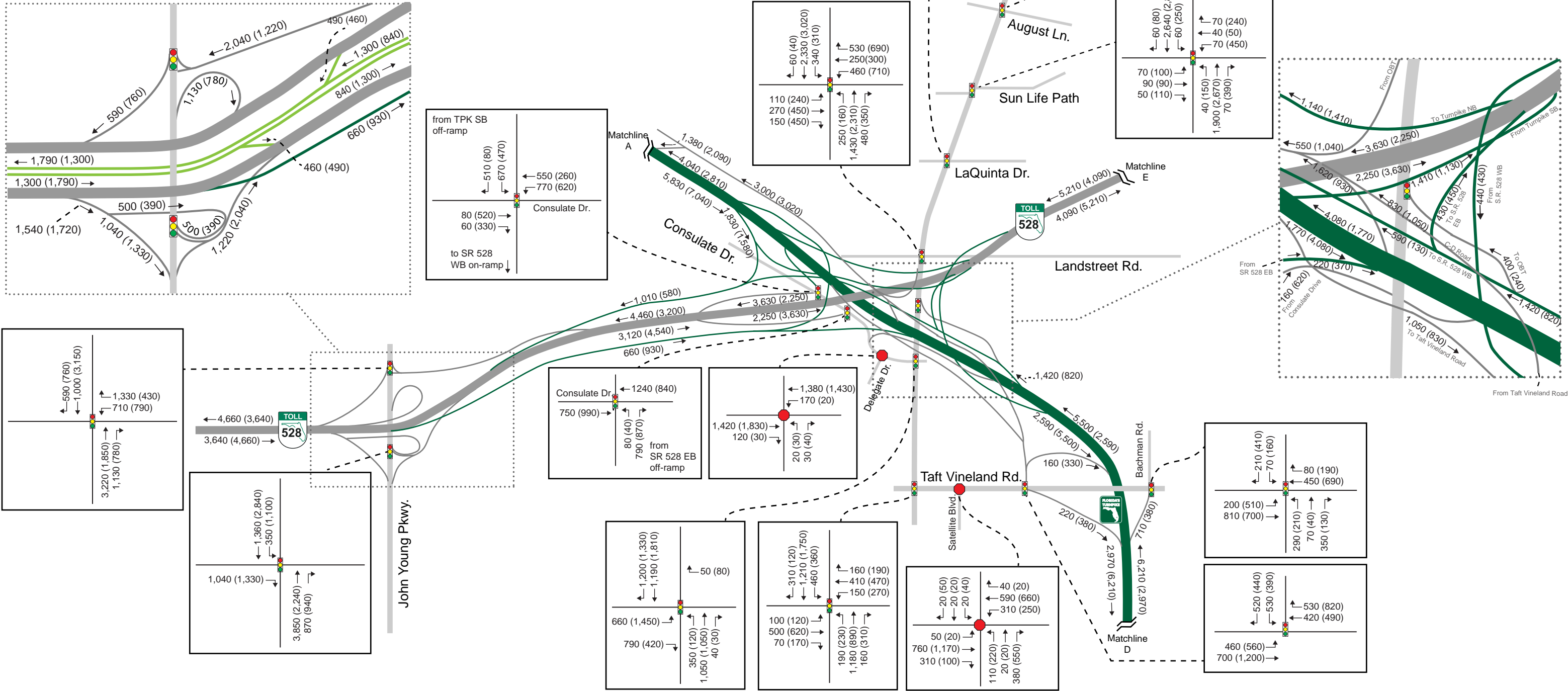
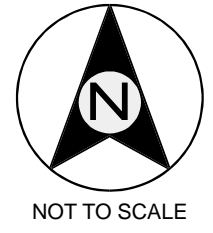
- Florida's Turnpike
- Interstate
- Other Toll Road
- Arterial
- AM (PM) Volume
- Signalized Intersection
- Unsignalized Intersection
- Express Lane
- Express Lane

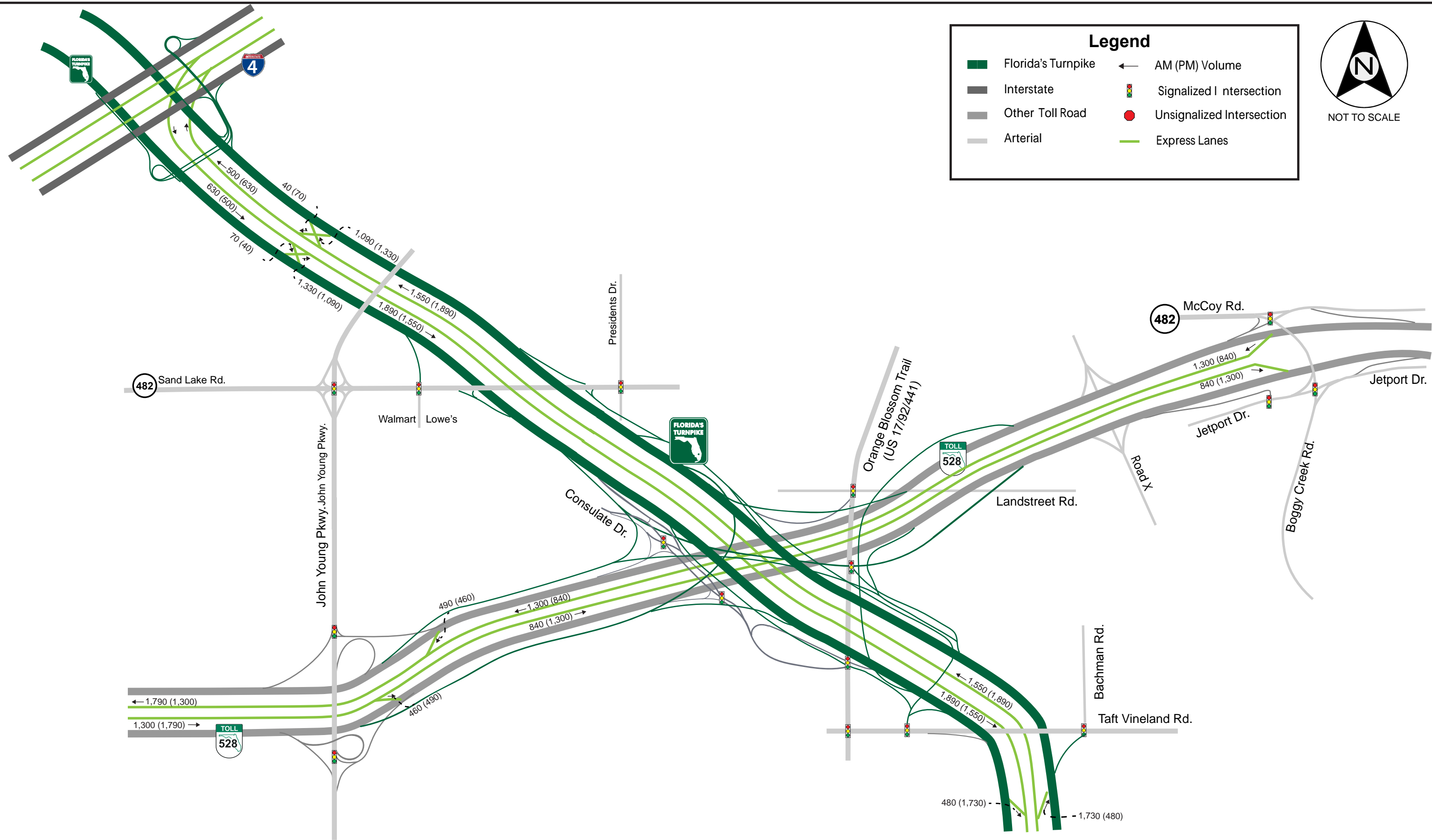




Legend

- Florida's Turnpike
- Interstate
- Other Toll Road
- Arterial
- Express Lanes
- AM (PM) Volume
- Signalized Intersection
- Unsignalized Intersection
- Express Lanes





The build alternatives are described in this section as well as future traffic operational analysis and safety assessment.

6.1 ANALYSIS ALTERNATIVES

Several Transportation System Management and Operations (TSM&O) measures have been implemented within the study area. These TSM&O considerations included the following: the installation of a new traffic signal along US 17/92/441 at the Turnpike ramps merge and signal timing optimization at the Turnpike southbound off-ramp terminal intersection with Consulate Drive. Adaptive signal control is also being considered at the Consulate Drive intersection as well as lane geometry modifications, to be implemented as part of the implementation of the EL project from Orlando South to I-4 and direct connect ramps to/from I-4 (FPN: 437166-2 and 437987-3). The Orlando South interchange resurfacing project (FPN: 437156-2), will also include widening of SR 528 westbound to Turnpike off-ramp single lane section to two lanes, downstream of the US 17/92/441 southbound on-ramp.

These TSM&O improvements and other similar future changes are not expected to satisfy the need for direct access ramps between the Florida's Turnpike and SR 528, improve access to the surface streets, and alleviate traffic congestion within the interchange. Therefore, this PD&E study and the SIJR did not consider a standalone TSM&O alternative. However, planned and programmed improvements within the study area were considered in developing the traffic and interchange concepts. The viable build alternatives considered improvements included in the No-Build alternative (see **Chapter 5.1.3**) and additional improvements were made to enhance safety, address traffic needs, improve travel time reliability and provide long-term mobility for the Orlando South interchange.

A Draft Preliminary Engineering Report (PER) was prepared for the Orlando South PD&E study. Build alternatives development and selection of the Preferred Build alternative are discussed in detail in the PER. A summary of the Build alternatives is provided in this SIJR. The concepts for the alternatives are provided in **Appendix F**.

6.1.1 Alternative 1

Alternative 1 was a reconfiguration of the Orlando South interchange only, to address the need for system-to-system connections. It included the following improvements:

- Directional GTL systems ramps
- Directional north/east EL ramps
- Realignment of SR 528 to provide longer spans for a ten-lane Florida's Turnpike typical section
- Maintaining the Landstreet Road ramps connected to SR 528
- Maintaining Consulate Drive entry/exit ramps connected to SR 528 and the southbound exit from Florida's Turnpike with a Diverging Diamond Interchange (DDI)
- Modifications to the remaining US 17/92/441 ramps to preclude weaving
- A new southbound entry ramp to Florida's Turnpike southbound via Consulate Drive

- A new more direct entry to Florida's Turnpike northbound from US 17/92/441 southbound
- A new southbound Florida's Turnpike to northbound US 17/92/441 flyover to provide a higher speed ramp
- Use of the southbound Florida's Turnpike exit to Consulate Drive for access to US 17/92/441 southbound
- Ramp braiding between CR 423 and Consulate Drive to preclude adverse weaving

6.1.2 Alternative 2

Alternative 2 Options 1 and 2 included the improvements in Alternative 1, plus two new interchanges for surface street access away from the Orlando South interchange. The two options differed in the configuration of the reliever interchanges.

Other common changes for both options included:

- The removal of Landstreet Road ramps connecting to SR 528
- The removal of US 17/92/441 ramps to/from south at the Orlando South interchange
- Northbound US 17/92/441 to northbound/southbound Florida's Turnpike
- Northbound Florida's Turnpike to southbound US 17/92/441

A description of each reliever interchange option follows.

Florida's Turnpike Reliever Interchange

The interchange at Taft Vineland Road includes:

- Trumpet style interchange in the northwest quadrant of the Florida's Turnpike
- Modification of the proposed Taft Vineland Road median to accommodate dual left-turn eastbound lanes
- A diamond ramp (eastbound to southbound) in the southeast quadrant

Two options for the northbound exit ramp were carried forward:

Alternative 2 Option 1

This option includes a northbound exit, directly connected to Taft Vineland Road and Bachman Road, east of the Florida's Turnpike.

Alternative 2 Option 2

This option includes a northbound exit to Rocket Boulevard with arterial connections to Taft Vineland Road. This option requires termination of Rocket Boulevard where the alignment changes from north-south to east-west for limited access limits. Impacts and mitigation for these impacts include:

- A new connector road linking Rocket Boulevard to General Drive.
- An additional northbound lane on General Drive (Rocket Boulevard to Taft Vineland Road) to accommodate added traffic from the exit.

- An additional westbound lane on Taft Vineland Road (General Drive to Bachman Road) beyond the limits of Orange County's widening to accommodate added traffic from the exit.

SR 528 Reliever Interchange

Both concepts (Build Alternative 2 Options 1 and 2) include a new four-lane divided arterial facility, connecting SR 528 with SR 482 to the north and Landstreet Road to the south. Two options were developed for the north leg of this reliever interchange. The difference in the concepts are alignment and the resulting interchange type. These options were incorporated into Build Alternative 2 Options 1 and 2, and are described as follows:

Alternative 2 Option 1

The north arterial leg includes using the existing Horizon Park Drive alignment and widening to a four-lane divided arterial facility. When combined with the south leg, this arterial results in a *split interchange*.

Alternative 2 Option 2

The north arterial leg is an extension of the southern alignment along the east side of the Terrace at Florida Mall. The intersection with SR 482 includes a realignment of Voltaire Drive north of SR 482 to form the fourth leg of this intersection. This option includes a SPUI at SR 528.

6.1.3 Alternative 3

Alternative 3 was developed following a Public Information Meeting (PIM) for the project and internal coordination. The following refinements were made to Alternative 2 based on comments received at the PIM, to minimize right-of-way impacts, reduce cost and improve constructability:

- Removal of EL direct connect ramps to/from the north of Florida's Turnpike to/from the east of SR 528.
- Removal of southbound Florida's Turnpike to northbound US 17/92/441 ramp and reassign traffic to the Consulate Drive exit. To accommodate the additional traffic at the Consulate Drive and US 17/92/441 intersection, the following improvements were made:
 - A third lane was added to the eastbound Consulate Drive to northbound US 17/92/441 movement by reallocating the median width of Consulate Drive
 - A northbound US 17/92/441 turbo configuration (delineator separated receiving lanes from the Consulate Drive triple lefts) for the intersection was added to further improve the efficiency of the intersection.
 - The triple left-turn from westbound Consulate Drive plus two northbound US 17/92/441 through lanes tapers to four lanes that are carried to Landstreet Road. The outer lane is a drop right lane at Landstreet Road and US 17/92/441 intersection with three through lanes carried north of the intersection.
- Northbound Florida's Turnpike C-D road to minimize the potential impacts of queuing on the Florida's Turnpike and minimize lane changes

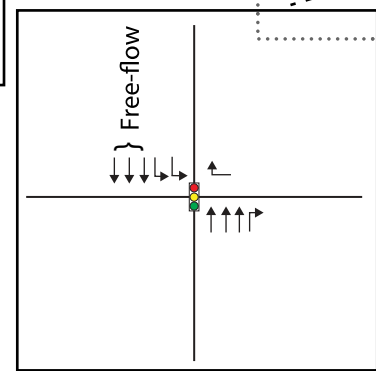
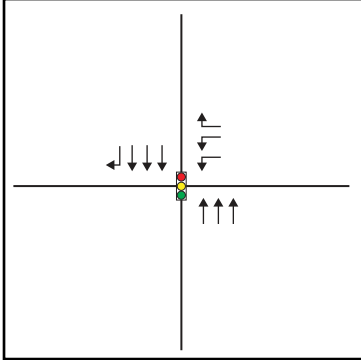
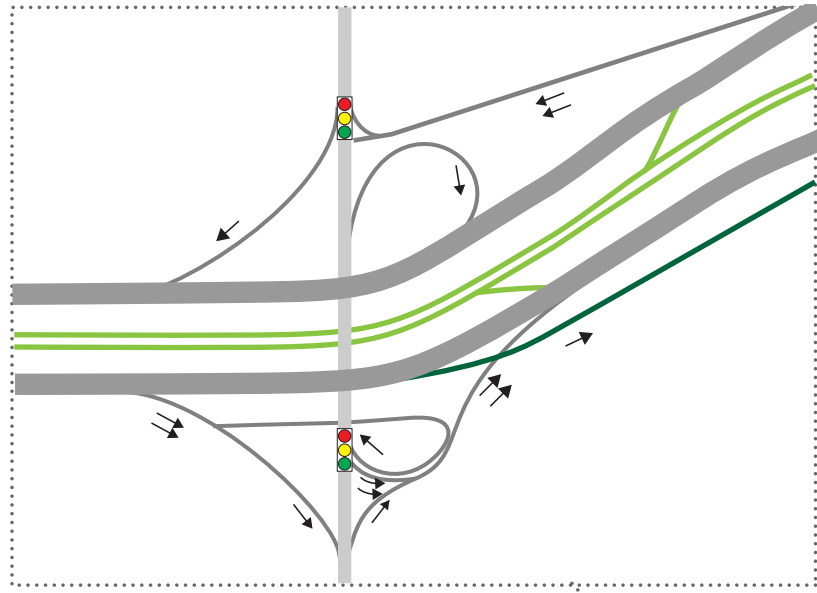
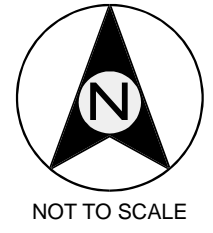
- A Tight-Urban Diamond Interchange (TUDI) for the SR 528 reliever interchange
- A revised alignment of Voltaire Drive
- Relocated trumpet ramp intersection at the Florida's Turnpike reliever interchange and elimination of "free-flow" movement for westbound right turn
- Taft Vineland Road modifications east of the Florida's Turnpike:
 - Realignment of the northbound Florida's Turnpike exit ramp to include a northbound through movement on Bachman Road. Also, exclusive southbound left and right turn lanes were included.
 - The two eastbound Taft Vineland Road through lanes will transition to a left turn and through lane at Bachman Road. This approach is subject to further coordination with Orange County.
 - An extended second westbound Taft Vineland Road through lane between Bachman Road and General Drive within the existing right-of-way

With these refinements, Alternative 3 was selected as the Preferred Build concept because it reduced wetland and right-of-way impacts, reduced costs and improved constructability. Documentation of the selection criteria is provided in the PER.

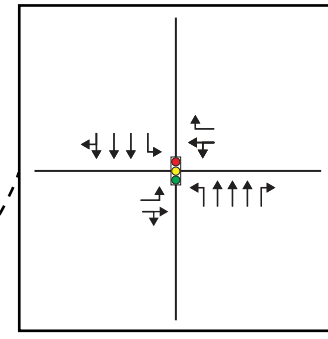
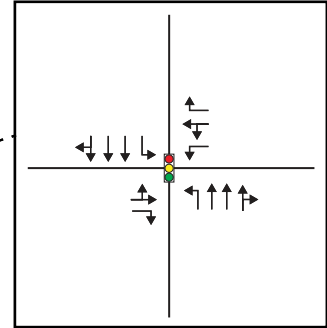
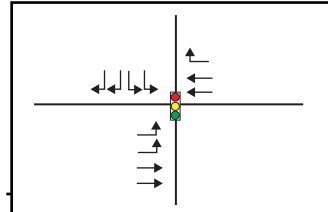
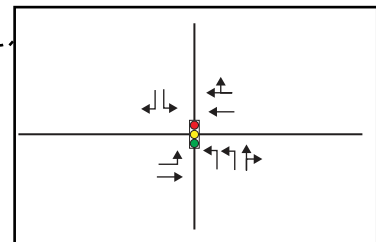
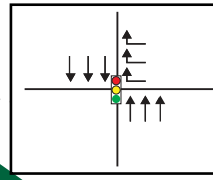
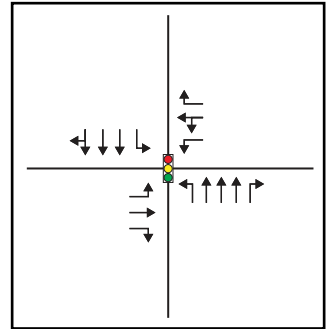
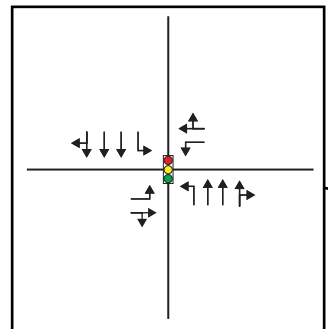
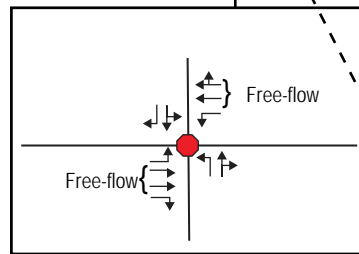
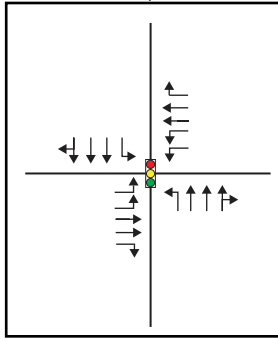
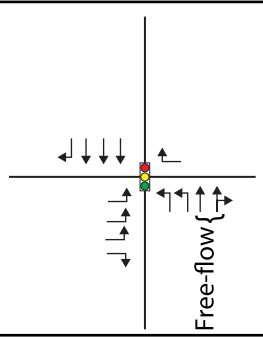
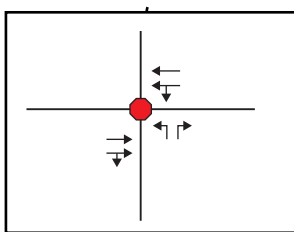
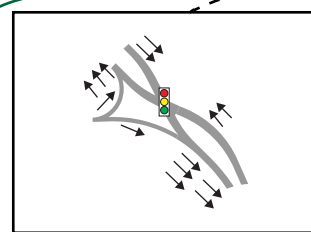
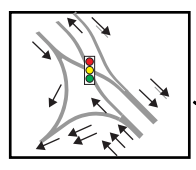
This SIJR only documents traffic and safety analysis for the No-Build and the Preferred Build (also referred to as Build herein) alternatives. The results are provided for the 2025 opening and 2045 design years. The No-Build and Preferred Build Alternative 3 lane configurations are comprehensively depicted on **Figures 6.1** and **6.2**, respectively.

Legend

- Florida's Turnpike (GTLs)
- Interstate
- Other Toll Road(GTLs)
- Arterial
- Lane Geometry
- Signalized Intersection
- Unsignalized Intersection
- Express Lane



John Young Pkwy.



Matchline A

Matchline C

Matchline E

Matchline D

TOLL 528

TOLL 528

Landstreet Rd.

Taft Vineland Rd.

Satellite Blvd.

Bachman Rd.

August Ln.

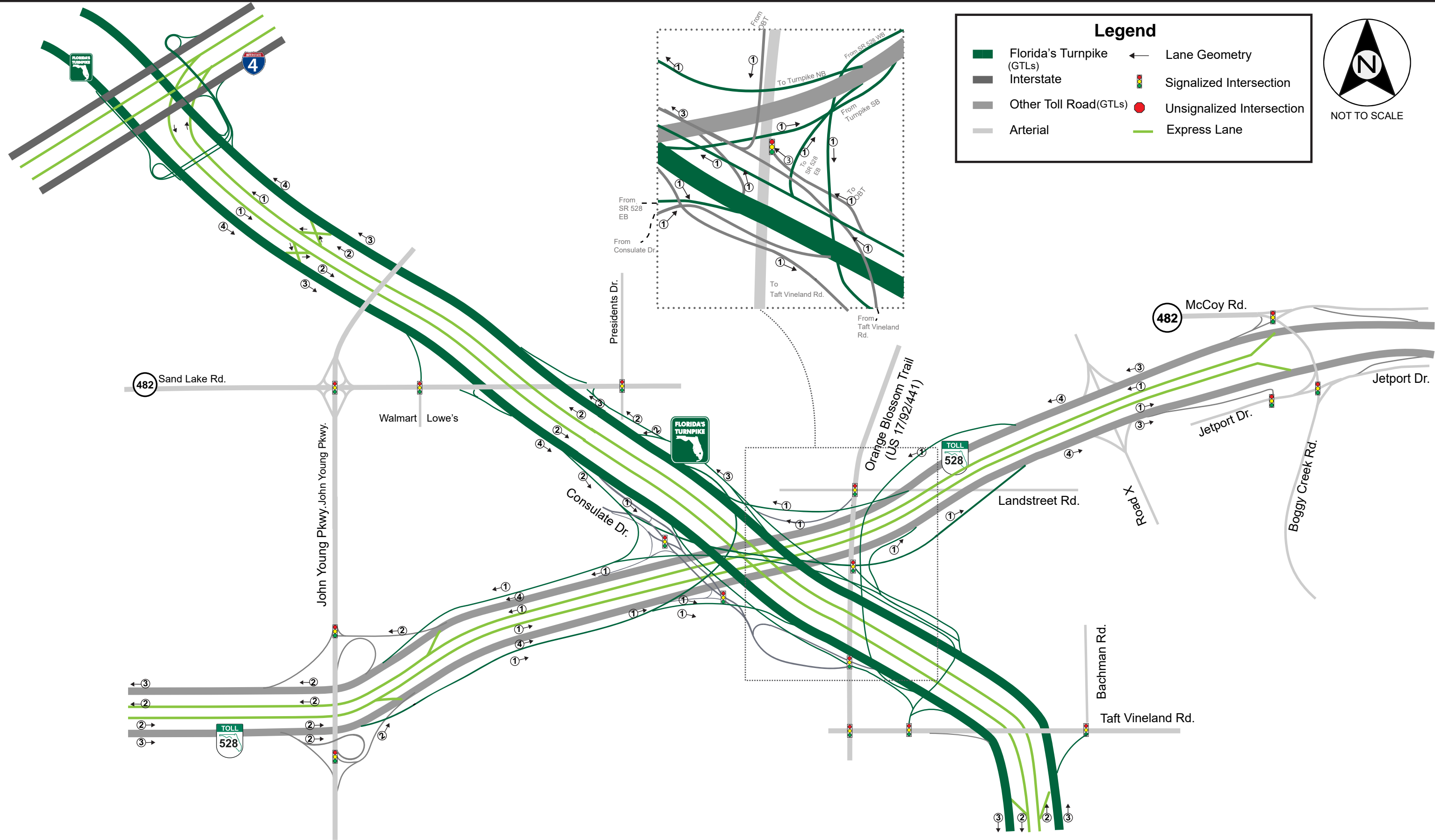
Sun Life Path

LaQuinta Dr.

Orange Blossom Trail (US 17/92/441)

Consulate Dr.



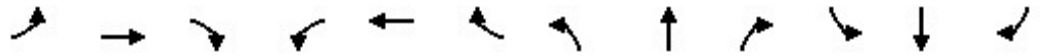


Appendix E-5

Orange County Site 4 – Future Synchro Outputs

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

2025 No Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	317	82	120	579	8	57	2	48	1	0	4
Future Volume (vph)	4	317	82	120	579	8	57	2	48	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.998			0.856			0.892	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1703	3300	0	1703	3399	0	1543	1390	0	0	1678	0
Flt Permitted	0.950			0.950			0.950				0.990	
Satd. Flow (perm)	1703	3300	0	1703	3399	0	1543	1390	0	0	1678	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29			1			51			216	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		2670			409			525			258	
Travel Time (s)		40.5			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	17%	17%	17%	0%	0%	0%
Adj. Flow (vph)	4	334	86	126	609	8	60	2	51	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	420	0	126	617	0	60	53	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Split	NA	
Protected Phases	1	6		5	2		4	4		8	8	

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

2025 No Build AM
08/17/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases												
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	12.0	48.0		24.0	60.0		37.0	37.0		11.0	11.0	
Total Split (%)	10.0%	40.0%		20.0%	50.0%		30.8%	30.8%		9.2%	9.2%	
Maximum Green (s)	5.2	41.2		17.2	53.2		30.6	30.6		5.6	5.6	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4				5.4
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.3	44.9		11.5	62.8		8.8	8.8				5.6
Actuated g/C Ratio	0.06	0.53		0.14	0.74		0.10	0.10				0.07
v/c Ratio	0.04	0.24		0.54	0.24		0.38	0.28				0.02
Control Delay	43.0	12.8		44.1	6.5		44.0	16.0				0.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	43.0	12.8		44.1	6.5		44.0	16.0				0.0
LOS	D	B		D	A		D	B				A
Approach Delay		13.1			12.8			30.9				
Approach LOS		B			B			C				
Queue Length 50th (ft)	2	55		60	43		29	1				0
Queue Length 95th (ft)	14	126		133	156		77	37				0
Internal Link Dist (ft)		2590			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	105	1766		349	2525		564	540				313
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.04	0.24		0.36	0.24		0.11	0.10				0.02

Intersection Summary

Area Type:	Other
Cycle Length:	120
Actuated Cycle Length:	84.6
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	14.5
Intersection LOS:	B
Intersection Capacity Utilization:	46.9%
ICU Level of Service:	A
Analysis Period (min):	15

Splits and Phases: 4: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	454	21	7	609	5	12	1	8	1	0	5
Future Vol, veh/h	2	454	21	7	609	5	12	1	8	1	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	9	0	25	0	0	100
Mvmt Flow	2	478	22	7	641	5	13	1	8	1	0	5

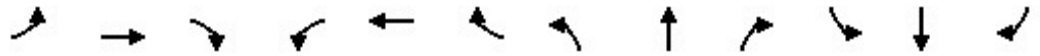
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	646	0	0	500	0	0	828	1153	250	902	1162	323
Stage 1	-	-	-	-	-	-	493	493	-	658	658	-
Stage 2	-	-	-	-	-	-	335	660	-	244	504	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.68	6.5	7.4	7.5	6.5	8.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.59	4	3.55	3.5	4	4.3
Pot Cap-1 Maneuver	909	-	-	1033	-	-	252	199	684	236	197	454
Stage 1	-	-	-	-	-	-	509	550	-	424	464	-
Stage 2	-	-	-	-	-	-	634	463	-	744	544	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	909	-	-	1033	-	-	247	197	684	231	195	454
Mov Cap-2 Maneuver	-	-	-	-	-	-	366	317	-	337	314	-
Stage 1	-	-	-	-	-	-	508	549	-	423	461	-
Stage 2	-	-	-	-	-	-	622	460	-	732	543	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			13.6			13.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	441	909	-	-	1033	-	-	429
HCM Lane V/C Ratio	0.05	0.002	-	-	0.007	-	-	0.015
HCM Control Delay (s)	13.6	9	-	-	8.5	-	-	13.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Lanes, Volumes, Timings
 3: Sidney Hayes Rd/Driveway & Landstreet Rd

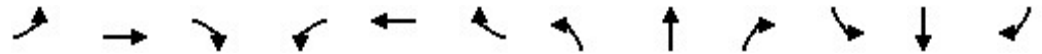
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	600	154	93	427	2	101	0	95	3	1	3
Future Volume (vph)	3	600	154	93	427	2	101	0	95	3	1	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.999			0.850			0.942	
Flt Protected	0.950			0.950			0.950				0.979	
Satd. Flow (prot)	1703	3300	0	1703	3402	0	1543	1380	0	0	1752	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3300	0	1703	3402	0	1543	1380	0	0	1790	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28						387			3	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		2670			409			525			258	
Travel Time (s)		40.5			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	17%	17%	17%	0%	0%	0%
Adj. Flow (vph)	3	632	162	98	449	2	106	0	100	3	1	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	794	0	98	451	0	106	100	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	11.8	55.2		28.0	71.4		36.4	36.4		10.4	10.4	
Total Split (%)	9.1%	42.5%		21.5%	54.9%		28.0%	28.0%		8.0%	8.0%	
Maximum Green (s)	5.0	48.4		21.2	64.6		30.0	30.0		5.0	5.0	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4				5.4
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.1	55.5		11.0	68.6		12.1	12.1				5.1
Actuated g/C Ratio	0.05	0.57		0.11	0.70		0.12	0.12				0.05
v/c Ratio	0.03	0.42		0.51	0.19		0.56	0.20				0.07
Control Delay	50.0	14.9		51.3	6.9		52.5	0.9				42.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	50.0	14.9		51.3	6.9		52.5	0.9				42.0
LOS	D	B		D	A		D	A				D
Approach Delay		15.1			14.8			27.4				42.0
Approach LOS		B			B			C				D
Queue Length 50th (ft)	2	132		53	35		58	0				2
Queue Length 95th (ft)	13	278		125	122		132	0				19
Internal Link Dist (ft)		2590			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	88	1886		373	2390		478	695				95
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.03	0.42		0.26	0.19		0.22	0.14				0.07

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	97.7
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	16.7
Intersection Capacity Utilization	54.6%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd

↖ Ø1	← Ø2	↗ Ø4	↓ Ø8
11.8 s	71.4 s	36.4 s	10.4 s
↙ Ø5	→ Ø6		
28 s	55.2 s		

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	11	629	4	8	576	8	11	0	11	10	0	10
Future Vol, veh/h	11	629	4	8	576	8	11	0	11	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	25	0	0	13	0	29
Mvmt Flow	12	662	4	8	606	8	12	0	12	11	0	11

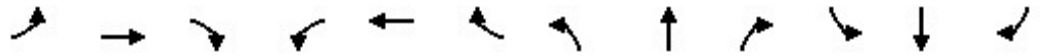
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	614	0	0	666	0	0	1007	1318	333	981	1316	307
Stage 1	-	-	-	-	-	-	688	688	-	626	626	-
Stage 2	-	-	-	-	-	-	319	630	-	355	690	-
Critical Hdwy	4.22	-	-	4.22	-	-	8	6.5	6.9	7.76	6.5	7.48
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.75	4	3.3	3.63	4	3.59
Pot Cap-1 Maneuver	935	-	-	893	-	-	165	159	669	188	159	615
Stage 1	-	-	-	-	-	-	353	450	-	413	480	-
Stage 2	-	-	-	-	-	-	607	478	-	606	449	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	935	-	-	893	-	-	160	156	669	182	156	615
Mov Cap-2 Maneuver	-	-	-	-	-	-	265	278	-	298	278	-
Stage 1	-	-	-	-	-	-	348	444	-	408	476	-
Stage 2	-	-	-	-	-	-	591	474	-	588	443	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			15.1			14.5		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	380	935	-	-	893	-	-	401
HCM Lane V/C Ratio	0.061	0.012	-	-	0.009	-	-	0.053
HCM Control Delay (s)	15.1	8.9	-	-	9.1	-	-	14.5
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

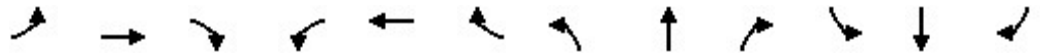
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	323	87	120	585	8	62	2	48	1	0	4
Future Volume (vph)	4	323	87	120	585	8	62	2	48	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968			0.998			0.856			0.892	
Flt Protected	0.950			0.950			0.950				0.990	
Satd. Flow (prot)	1703	3155	0	1703	3367	0	1467	1390	0	0	1678	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3155	0	1703	3367	0	1467	1390	0	0	1695	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		28			1			51			200	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		1807			409			525			258	
Travel Time (s)		27.4			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	8%	21%	6%	7%	6%	23%	17%	17%	0%	0%	0%
Adj. Flow (vph)	4	340	92	126	616	8	65	2	51	1	0	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	432	0	126	624	0	65	53	0	0	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases											8	
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	12.0	49.0		32.0	69.0		38.0	38.0		11.0	11.0	
Total Split (%)	9.2%	37.7%		24.6%	53.1%		29.2%	29.2%		8.5%	8.5%	
Maximum Green (s)	5.2	42.2		25.2	62.2		31.6	31.6		5.6	5.6	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4			5.4	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.3	49.4		11.9	67.7		9.4	9.4			5.6	
Actuated g/C Ratio	0.06	0.55		0.13	0.75		0.10	0.10			0.06	
v/c Ratio	0.04	0.25		0.56	0.25		0.42	0.28			0.02	
Control Delay	46.2	12.8		47.5	6.3		48.1	16.5			0.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	46.2	12.8		47.5	6.3		48.1	16.5			0.2	
LOS	D	B		D	A		D	B			A	
Approach Delay		13.1			13.2			33.9			0.2	
Approach LOS		B			B			C			A	
Queue Length 50th (ft)	2	58		63	45		33	1			0	
Queue Length 95th (ft)	15	136		145	161		88	39			0	
Internal Link Dist (ft)		1727			329			445			178	
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	99	1741		482	2531		521	527			294	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.04	0.25		0.26	0.25		0.12	0.10			0.02	

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	90.1
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.56
Intersection Signal Delay:	15.0
Intersection Capacity Utilization	47.4%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	A

Splits and Phases: 4: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	2	460	21	7	615	5	12	1	8	1	0	5
Future Vol, veh/h	2	460	21	7	615	5	12	1	8	1	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	7	6	6	7	6	9	0	25	0	0	100
Mvmt Flow	2	484	22	7	647	5	13	1	8	1	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	652	0	0	506	0	0	837	1165	253	911	1174	326
Stage 1	-	-	-	-	-	-	499	499	-	664	664	-
Stage 2	-	-	-	-	-	-	338	666	-	247	510	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.68	6.5	7.4	7.5	6.5	8.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.59	4	3.55	3.5	4	4.3
Pot Cap-1 Maneuver	904	-	-	1027	-	-	248	196	681	232	193	451
Stage 1	-	-	-	-	-	-	504	547	-	421	461	-
Stage 2	-	-	-	-	-	-	631	460	-	741	541	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	904	-	-	1027	-	-	244	194	681	227	191	451
Mov Cap-2 Maneuver	-	-	-	-	-	-	362	314	-	334	311	-
Stage 1	-	-	-	-	-	-	503	546	-	420	458	-
Stage 2	-	-	-	-	-	-	619	457	-	729	540	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			13.7			13.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	437	904	-	-	1027	-	-	426
HCM Lane V/C Ratio	0.051	0.002	-	-	0.007	-	-	0.015
HCM Control Delay (s)	13.7	9	-	-	8.5	-	-	13.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	457	630	10	10	6
Future Vol, veh/h	6	457	630	10	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	6	481	663	11	11	6

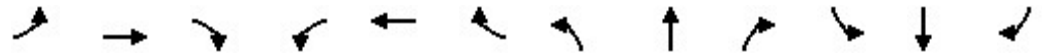
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	674	0	-	0	922 337
Stage 1	-	-	-	-	669 -
Stage 2	-	-	-	-	253 -
Critical Hdwy	6.1	-	-	-	8.8 8.9
Critical Hdwy Stg 1	-	-	-	-	7.8 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	477	-	-	-	142 442
Stage 1	-	-	-	-	277 -
Stage 2	-	-	-	-	539 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	477	-	-	-	140 442
Mov Cap-2 Maneuver	-	-	-	-	219 -
Stage 1	-	-	-	-	273 -
Stage 2	-	-	-	-	539 -

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	19.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	477	-	-	-	270
HCM Lane V/C Ratio	0.013	-	-	-	0.062
HCM Control Delay (s)	12.6	-	-	-	19.2
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

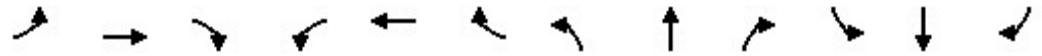
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	605	159	93	432	2	106	0	95	3	1	3
Future Volume (vph)	3	605	159	93	432	2	106	0	95	3	1	3
Ideal Flow (vphp)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.999			0.850			0.942	
Flt Protected	0.950			0.950			0.950				0.979	
Satd. Flow (prot)	1703	3189	0	1703	3371	0	1492	1380	0	0	1752	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3189	0	1703	3371	0	1492	1380	0	0	1790	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		29						386			3	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		1797			409			525			258	
Travel Time (s)		27.2			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	7%	20%	6%	7%	6%	21%	17%	17%	0%	0%	0%
Adj. Flow (vph)	3	637	167	98	455	2	112	0	100	3	1	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	804	0	98	457	0	112	100	0	0	7	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	11.8	55.2		28.0	71.4		36.4	36.4		10.4	10.4	
Total Split (%)	9.1%	42.5%		21.5%	54.9%		28.0%	28.0%		8.0%	8.0%	
Maximum Green (s)	5.0	48.4		21.2	64.6		30.0	30.0		5.0	5.0	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4			5.4	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.1	55.4		11.0	68.5		12.7	12.7				5.1
Actuated g/C Ratio	0.05	0.56		0.11	0.70		0.13	0.13				0.05
v/c Ratio	0.03	0.44		0.52	0.19		0.58	0.19				0.07
Control Delay	50.3	15.6		51.8	7.2		53.4	0.8				42.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	50.3	15.6		51.8	7.2		53.4	0.8				42.4
LOS	D	B		D	A		D	A				D
Approach Delay		15.8			15.0			28.6				42.4
Approach LOS		B			B			C				D
Queue Length 50th (ft)	2	138		54	37		61	0				2
Queue Length 95th (ft)	13	293		126	127		139	0				19
Internal Link Dist (ft)		1717			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	87	1811		372	2352		461	692				95
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.03	0.44		0.26	0.19		0.24	0.14				0.07

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	98.2
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	17.4
Intersection Capacity Utilization	55.5%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	B

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	11	634	4	8	581	8	11	0	11	10	0	10
Future Vol, veh/h	11	634	4	8	581	8	11	0	11	10	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	7	6	6	7	6	25	0	0	13	0	29
Mvmt Flow	12	667	4	8	612	8	12	0	12	11	0	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	620	0	0	671	0	0	1015	1329	336	990	1327	310
Stage 1	-	-	-	-	-	-	693	693	-	632	632	-
Stage 2	-	-	-	-	-	-	322	636	-	358	695	-
Critical Hdwy	4.22	-	-	4.22	-	-	8	6.5	6.9	7.76	6.5	7.48
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.75	4	3.3	3.63	4	3.59
Pot Cap-1 Maneuver	930	-	-	889	-	-	163	156	666	186	157	612
Stage 1	-	-	-	-	-	-	350	448	-	409	477	-
Stage 2	-	-	-	-	-	-	604	475	-	603	447	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	930	-	-	889	-	-	157	153	666	180	154	612
Mov Cap-2 Maneuver	-	-	-	-	-	-	262	275	-	295	276	-
Stage 1	-	-	-	-	-	-	345	442	-	404	473	-
Stage 2	-	-	-	-	-	-	588	471	-	585	441	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			15.2			14.6		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	376	930	-	-	889	-	-	398
HCM Lane V/C Ratio	0.062	0.012	-	-	0.009	-	-	0.053
HCM Control Delay (s)	15.2	8.9	-	-	9.1	-	-	14.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.2

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	644	521	10	10	6
Future Vol, veh/h	6	644	521	10	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	6	678	548	11	11	6

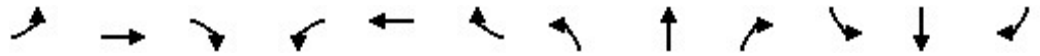
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	559	0	-	0	905 280
Stage 1	-	-	-	-	554 -
Stage 2	-	-	-	-	351 -
Critical Hdwy	6.1	-	-	-	8.8 8.9
Critical Hdwy Stg 1	-	-	-	-	7.8 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	554	-	-	-	146 493
Stage 1	-	-	-	-	334 -
Stage 2	-	-	-	-	462 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	554	-	-	-	144 493
Mov Cap-2 Maneuver	-	-	-	-	239 -
Stage 1	-	-	-	-	330 -
Stage 2	-	-	-	-	462 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	554	-	-	-	296
HCM Lane V/C Ratio	0.011	-	-	-	0.057
HCM Control Delay (s)	11.6	-	-	-	17.9
HCM Lane LOS	B	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

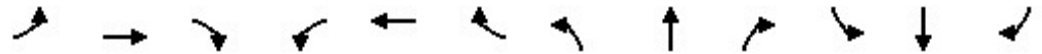
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	499	129	189	911	12	90	3	76	2	0	7
Future Volume (vph)	7	499	129	189	911	12	90	3	76	2	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.998			0.855			0.895	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1703	3300	0	1703	3399	0	1543	1388	0	0	1682	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3300	0	1703	3399	0	1543	1388	0	0	1700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			1			80			200	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		2670			409			525			258	
Travel Time (s)		40.5			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	17%	17%	17%	0%	0%	0%
Adj. Flow (vph)	7	525	136	199	959	13	95	3	80	2	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	661	0	199	972	0	95	83	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

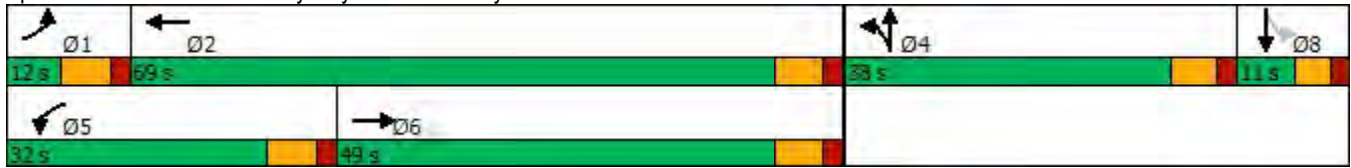
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	12.0	49.0		32.0	69.0		38.0	38.0		11.0	11.0	
Total Split (%)	9.2%	37.7%		24.6%	53.1%		29.2%	29.2%		8.5%	8.5%	
Maximum Green (s)	5.2	42.2		25.2	62.2		31.6	31.6		5.6	5.6	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4				5.4
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.3	43.5		16.1	64.6		11.2	11.2				5.6
Actuated g/C Ratio	0.06	0.47		0.17	0.70		0.12	0.12				0.06
v/c Ratio	0.07	0.42		0.67	0.41		0.51	0.35				0.03
Control Delay	49.1	18.8		48.7	8.5		49.9	14.6				0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	49.1	18.8		48.7	8.5		49.9	14.6				0.2
LOS	D	B		D	A		D	B				A
Approach Delay		19.1			15.4			33.5				0.2
Approach LOS		B			B			C				A
Queue Length 50th (ft)	4	117		105	90		51	2				0
Queue Length 95th (ft)	21	252		211	293		120	47				0
Internal Link Dist (ft)		2590			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	96	1560		468	2363		532	531				291
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.07	0.42		0.43	0.41		0.18	0.16				0.03

Intersection Summary	
Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	92.9
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	18.1
Intersection LOS:	B
Intersection Capacity Utilization:	58.1%
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 4: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↵	↕		↵	↕			↕			↕	
Traffic Vol, veh/h	3	715	33	10	959	9	19	2	12	2	0	9
Future Vol, veh/h	3	715	33	10	959	9	19	2	12	2	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	9	0	25	0	0	100
Mvmt Flow	3	753	35	11	1009	9	20	2	13	2	0	9

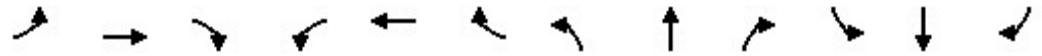
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1018	0	0	788	0	0	1304	1817	394	1420	1830	509
Stage 1	-	-	-	-	-	-	777	777	-	1036	1036	-
Stage 2	-	-	-	-	-	-	527	1040	-	384	794	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.68	6.5	7.4	7.5	6.5	8.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.59	4	3.55	3.5	4	4.3
Pot Cap-1 Maneuver	654	-	-	802	-	-	111	79	544	98	77	317
Stage 1	-	-	-	-	-	-	341	410	-	251	311	-
Stage 2	-	-	-	-	-	-	485	310	-	616	403	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	654	-	-	802	-	-	106	77	544	94	76	317
Mov Cap-2 Maneuver	-	-	-	-	-	-	225	193	-	194	191	-
Stage 1	-	-	-	-	-	-	339	408	-	250	307	-
Stage 2	-	-	-	-	-	-	464	306	-	596	401	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			19.6			18.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	282	654	-	-	802	-	-	284
HCM Lane V/C Ratio	0.123	0.005	-	-	0.013	-	-	0.041
HCM Control Delay (s)	19.6	10.5	-	-	9.5	-	-	18.2
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	944	243	146	672	3	158	0	150	5	2	5
Future Volume (vph)	5	944	243	146	672	3	158	0	150	5	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.999			0.850			0.944	
Flt Protected	0.950			0.950			0.950				0.980	
Satd. Flow (prot)	1703	3300	0	1703	3402	0	1543	1380	0	0	1758	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3300	0	1703	3402	0	1543	1380	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		30						250			5	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		2670			409			525			258	
Travel Time (s)		40.5			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	6%	6%	6%	6%	6%	17%	17%	17%	0%	0%	0%
Adj. Flow (vph)	5	994	256	154	707	3	166	0	158	5	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1250	0	154	710	0	166	158	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

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08/17/2022



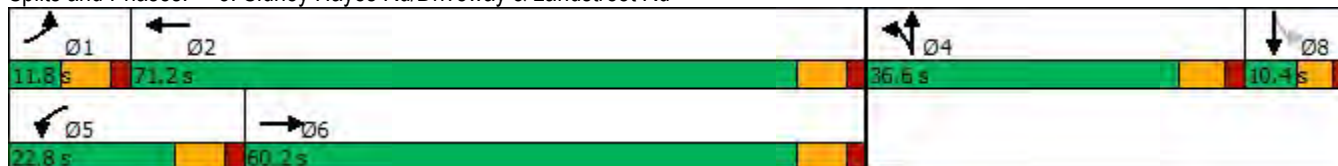
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	11.8	60.2		22.8	71.2		36.6	36.6		10.4	10.4	
Total Split (%)	9.1%	46.3%		17.5%	54.8%		28.2%	28.2%		8.0%	8.0%	
Maximum Green (s)	5.0	53.4		16.0	64.4		30.2	30.2		5.0	5.0	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4			5.4	
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.1	54.0		13.9	72.8		17.0	17.0			5.1	
Actuated g/C Ratio	0.05	0.50		0.13	0.67		0.16	0.16			0.05	
v/c Ratio	0.06	0.76		0.71	0.31		0.69	0.37			0.14	
Control Delay	57.6	27.5		65.7	10.2		59.7	2.5			47.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0			0.0	
Total Delay	57.6	27.5		65.7	10.2		59.7	2.5			47.0	
LOS	E	C		E	B		E	A			D	
Approach Delay		27.6			20.1			31.8			47.0	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)	3	328		99	77		107	0			5	
Queue Length 95th (ft)	19	576		#216	227		196	0			28	
Internal Link Dist (ft)		2590			329			445			178	
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	79	1652		253	2275		433	567			88	
Starvation Cap Reductn	0	0		0	0		0	0			0	
Spillback Cap Reductn	0	0		0	0		0	0			0	
Storage Cap Reductn	0	0		0	0		0	0			0	
Reduced v/c Ratio	0.06	0.76		0.61	0.31		0.38	0.28			0.14	

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	108.9
Natural Cycle:	115
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	25.6
Intersection LOS:	C
Intersection Capacity Utilization:	74.0%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	

Queue shown is maximum after two cycles.

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑↗		↖	↑↗			↕			↕	
Traffic Vol, veh/h	17	990	7	12	906	12	17	0	17	16	0	16
Future Vol, veh/h	17	990	7	12	906	12	17	0	17	16	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	6	6	6	6	6	25	0	0	13	0	29
Mvmt Flow	18	1042	7	13	954	13	18	0	18	17	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	967	0	0	1049	0	0	1585	2075	525	1544	2072	484
Stage 1	-	-	-	-	-	-	1082	1082	-	987	987	-
Stage 2	-	-	-	-	-	-	503	993	-	557	1085	-
Critical Hdwy	4.22	-	-	4.22	-	-	8	6.5	6.9	7.76	6.5	7.48
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.75	4	3.3	3.63	4	3.59
Pot Cap-1 Maneuver	684	-	-	636	-	-	58	54	502	70	55	462
Stage 1	-	-	-	-	-	-	195	296	-	245	328	-
Stage 2	-	-	-	-	-	-	464	326	-	455	295	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	684	-	-	636	-	-	54	52	502	65	53	462
Mov Cap-2 Maneuver	-	-	-	-	-	-	140	158	-	165	159	-
Stage 1	-	-	-	-	-	-	190	288	-	239	321	-
Stage 2	-	-	-	-	-	-	438	319	-	427	287	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			24.6			22.2		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	219	684	-	-	636	-	-	243
HCM Lane V/C Ratio	0.163	0.026	-	-	0.02	-	-	0.139
HCM Control Delay (s)	24.6	10.4	-	-	10.8	-	-	22.2
HCM Lane LOS	C	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.5

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

2045 Build AM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	505	134	189	917	12	95	3	76	2	0	7
Future Volume (vph)	7	505	134	189	917	12	95	3	76	2	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.998			0.855			0.895	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1703	3188	0	1703	3368	0	1492	1388	0	0	1682	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3188	0	1703	3368	0	1492	1388	0	0	1700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			1			80			200	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		1807			409			525			258	
Travel Time (s)		27.4			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	7%	20%	6%	7%	6%	21%	17%	17%	0%	0%	0%
Adj. Flow (vph)	7	532	141	199	965	13	100	3	80	2	0	7
Shared Lane Traffic (%)												
Lane Group Flow (vph)	7	673	0	199	978	0	100	83	0	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
4: Sidney Hayes Rd/Driveway & Landstreet Rd

2045 Build AM
08/17/2022

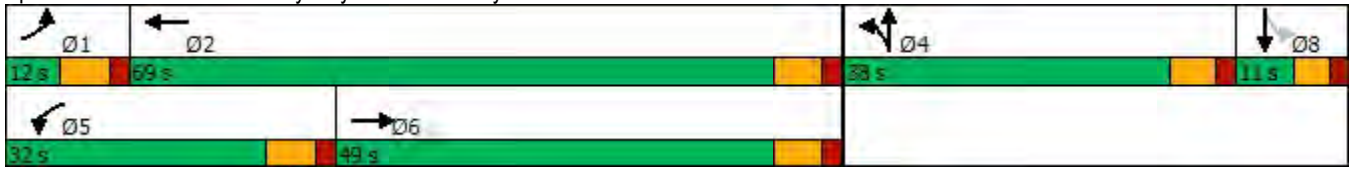


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	12.0	49.0		32.0	69.0		38.0	38.0		11.0	11.0	
Total Split (%)	9.2%	37.7%		24.6%	53.1%		29.2%	29.2%		8.5%	8.5%	
Maximum Green (s)	5.2	42.2		25.2	62.2		31.6	31.6		5.6	5.6	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4				5.4
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.3	43.6		16.2	64.7		11.8	11.8				5.6
Actuated g/C Ratio	0.06	0.47		0.17	0.69		0.13	0.13				0.06
v/c Ratio	0.07	0.45		0.68	0.42		0.53	0.34				0.03
Control Delay	49.7	19.6		49.1	8.9		50.6	14.3				0.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	49.7	19.6		49.1	8.9		50.6	14.3				0.2
LOS	D	B		D	A		D	B				A
Approach Delay		19.9			15.7			34.1				0.2
Approach LOS		B			B			C				A
Queue Length 50th (ft)	4	122		106	94		54	2				0
Queue Length 95th (ft)	21	264		212	303		125	47				0
Internal Link Dist (ft)		1727			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	96	1497		465	2329		511	528				291
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.07	0.45		0.43	0.42		0.20	0.16				0.03

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	93.6
Natural Cycle:	105
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	18.6
Intersection Capacity Utilization	58.5%
Analysis Period (min)	15
Intersection LOS:	B
ICU Level of Service	B

Splits and Phases: 4: Sidney Hayes Rd/Driveway & Landstreet Rd



Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	3	721	33	10	965	9	19	2	12	2	0	9
Future Vol, veh/h	3	721	33	10	965	9	19	2	12	2	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	7	6	6	7	6	9	0	25	0	0	100
Mvmt Flow	3	759	35	11	1016	9	20	2	13	2	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1025	0	0	794	0	0	1313	1830	397	1430	1843	513
Stage 1	-	-	-	-	-	-	783	783	-	1043	1043	-
Stage 2	-	-	-	-	-	-	530	1047	-	387	800	-
Critical Hdwy	4.22	-	-	4.22	-	-	7.68	6.5	7.4	7.5	6.5	8.9
Critical Hdwy Stg 1	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.68	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.59	4	3.55	3.5	4	4.3
Pot Cap-1 Maneuver	650	-	-	797	-	-	109	77	542	97	76	315
Stage 1	-	-	-	-	-	-	338	407	-	249	309	-
Stage 2	-	-	-	-	-	-	483	308	-	614	400	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	650	-	-	797	-	-	104	76	542	93	75	315
Mov Cap-2 Maneuver	-	-	-	-	-	-	223	191	-	192	189	-
Stage 1	-	-	-	-	-	-	336	405	-	248	305	-
Stage 2	-	-	-	-	-	-	462	304	-	594	398	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.1			19.7			18.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	280	650	-	-	797	-	-	282
HCM Lane V/C Ratio	0.124	0.005	-	-	0.013	-	-	0.041
HCM Control Delay (s)	19.7	10.6	-	-	9.6	-	-	18.3
HCM Lane LOS	C	B	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0	-	-	0.1

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	6	729	1008	10	10	6
Future Vol, veh/h	6	729	1008	10	10	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	6	767	1061	11	11	6

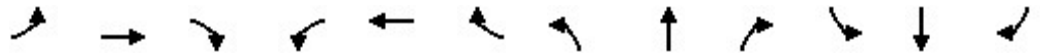
Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	1072	0	-	0	1463 536
Stage 1	-	-	-	-	1067 -
Stage 2	-	-	-	-	396 -
Critical Hdwy	6.1	-	-	-	8.8 8.9
Critical Hdwy Stg 1	-	-	-	-	7.8 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	284	-	-	-	49 301
Stage 1	-	-	-	-	144 -
Stage 2	-	-	-	-	430 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	284	-	-	-	48 301
Mov Cap-2 Maneuver	-	-	-	-	112 -
Stage 1	-	-	-	-	141 -
Stage 2	-	-	-	-	430 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	32.8
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	284	-	-	-	146
HCM Lane V/C Ratio	0.022	-	-	-	0.115
HCM Control Delay (s)	18	-	-	-	32.8
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

2045 Build PM
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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	949	248	146	677	3	163	0	150	5	2	5
Future Volume (vph)	5	949	248	146	677	3	163	0	150	5	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	82		0	115		0	330		0	0		0
Storage Lanes	1		0	1		0	1		0	0		0
Taper Length (ft)	25			25			40			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.969			0.999			0.850			0.944	
Flt Protected	0.950			0.950			0.950				0.980	
Satd. Flow (prot)	1703	3195	0	1703	3371	0	1504	1380	0	0	1758	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1703	3195	0	1703	3371	0	1504	1380	0	0	1794	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		31						226			5	
Link Speed (mph)		45			45			40			25	
Link Distance (ft)		1797			409			525			258	
Travel Time (s)		27.2			6.2			8.9			7.0	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	6%	7%	19%	6%	7%	6%	20%	17%	17%	0%	0%	0%
Adj. Flow (vph)	5	999	261	154	713	3	172	0	158	5	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	5	1260	0	154	716	0	172	158	0	0	12	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane		Yes			Yes							
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA		Prot	NA		Split	NA		Perm	NA	
Protected Phases	1	6		5	2		4	4			8	

Lanes, Volumes, Timings
3: Sidney Hayes Rd/Driveway & Landstreet Rd

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Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										8		
Detector Phase	1	6		5	2		4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	15.0		5.0	15.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	11.8	44.8		11.8	34.8		36.4	36.4		10.4	10.4	
Total Split (s)	11.8	62.0		21.0	71.2		36.6	36.6		10.4	10.4	
Total Split (%)	9.1%	47.7%		16.2%	54.8%		28.2%	28.2%		8.0%	8.0%	
Maximum Green (s)	5.0	55.2		14.2	64.4		30.2	30.2		5.0	5.0	
Yellow Time (s)	4.8	4.8		4.8	4.8		4.4	4.4		3.4	3.4	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Lost Time (s)	6.8	6.8		6.8	6.8		6.4	6.4				5.4
Lead/Lag	Lead	Lag		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	None		None	None	
Walk Time (s)		7.0			7.0		7.0	7.0				
Flash Dont Walk (s)		31.0			21.0		23.0	23.0				
Pedestrian Calls (#/hr)		0			0		0	0				
Act Effct Green (s)	5.1	55.8		13.5	74.1		17.9	17.9				5.1
Actuated g/C Ratio	0.05	0.50		0.12	0.67		0.16	0.16				0.05
v/c Ratio	0.06	0.78		0.75	0.32		0.71	0.38				0.14
Control Delay	58.4	28.3		71.3	10.6		61.3	3.6				47.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0				0.0
Total Delay	58.4	28.3		71.3	10.6		61.3	3.6				47.6
LOS	E	C		E	B		E	A				D
Approach Delay		28.4			21.3			33.7				47.6
Approach LOS		C			C			C				D
Queue Length 50th (ft)	3	336		102	81		112	0				5
Queue Length 95th (ft)	19	#595		#241	235		203	10				27
Internal Link Dist (ft)		1717			329			445				178
Turn Bay Length (ft)	82			115			330					
Base Capacity (vph)	77	1619		219	2247		412	542				86
Starvation Cap Reductn	0	0		0	0		0	0				0
Spillback Cap Reductn	0	0		0	0		0	0				0
Storage Cap Reductn	0	0		0	0		0	0				0
Reduced v/c Ratio	0.06	0.78		0.70	0.32		0.42	0.29				0.14

Intersection Summary

Area Type:	Other
Cycle Length:	130
Actuated Cycle Length:	111.1
Natural Cycle:	115
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	0.78
Intersection Signal Delay:	26.7
Intersection LOS:	C
Intersection Capacity Utilization:	74.6%
ICU Level of Service:	D
Analysis Period (min):	15
# 95th percentile volume exceeds capacity, queue may be longer.	

Queue shown is maximum after two cycles.

Splits and Phases: 3: Sidney Hayes Rd/Driveway & Landstreet Rd

↖ Ø1	← Ø2	↖↗ Ø4	↓ Ø8
11.8 s	71.2 s	36.6 s	10.4 s
↙ Ø5	→ Ø6		
21 s	62 s		

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↗		↖	↗			↕			↕	
Traffic Vol, veh/h	17	995	7	12	911	12	17	0	17	16	0	16
Future Vol, veh/h	17	995	7	12	911	12	17	0	17	16	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	7	6	6	7	6	25	0	0	13	0	29
Mvmt Flow	18	1047	7	13	959	13	18	0	18	17	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	972	0	0	1054	0	0	1593	2085	527	1552	2082	486
Stage 1	-	-	-	-	-	-	1087	1087	-	992	992	-
Stage 2	-	-	-	-	-	-	506	998	-	560	1090	-
Critical Hdwy	4.22	-	-	4.22	-	-	8	6.5	6.9	7.76	6.5	7.48
Critical Hdwy Stg 1	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	7	5.5	-	6.76	5.5	-
Follow-up Hdwy	2.26	-	-	2.26	-	-	3.75	4	3.3	3.63	4	3.59
Pot Cap-1 Maneuver	681	-	-	633	-	-	57	54	501	69	54	461
Stage 1	-	-	-	-	-	-	194	295	-	244	326	-
Stage 2	-	-	-	-	-	-	462	324	-	453	294	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	681	-	-	633	-	-	53	52	501	64	52	461
Mov Cap-2 Maneuver	-	-	-	-	-	-	139	157	-	164	158	-
Stage 1	-	-	-	-	-	-	189	287	-	238	319	-
Stage 2	-	-	-	-	-	-	436	317	-	425	286	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2			0.1			24.7			22.3		
HCM LOS							C			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	218	681	-	-	633	-	-	242
HCM Lane V/C Ratio	0.164	0.026	-	-	0.02	-	-	0.139
HCM Control Delay (s)	24.7	10.4	-	-	10.8	-	-	22.3
HCM Lane LOS	C	B	-	-	B	-	-	C
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.5

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	1023	835	11	11	5
Future Vol, veh/h	5	1023	835	11	11	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	1	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	100	6	6	100	100	100
Mvmt Flow	5	1077	879	12	12	5

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	891	0	-	0	1434 446
Stage 1	-	-	-	-	885 -
Stage 2	-	-	-	-	549 -
Critical Hdwy	6.1	-	-	-	8.8 8.9
Critical Hdwy Stg 1	-	-	-	-	7.8 -
Critical Hdwy Stg 2	-	-	-	-	7.8 -
Follow-up Hdwy	3.2	-	-	-	4.5 4.3
Pot Cap-1 Maneuver	360	-	-	-	52 359
Stage 1	-	-	-	-	194 -
Stage 2	-	-	-	-	337 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	360	-	-	-	51 359
Mov Cap-2 Maneuver	-	-	-	-	132 -
Stage 1	-	-	-	-	191 -
Stage 2	-	-	-	-	337 -

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	29.3
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	360	-	-	-	165
HCM Lane V/C Ratio	0.015	-	-	-	0.102
HCM Control Delay (s)	15.1	-	-	-	29.3
HCM Lane LOS	C	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Appendix E-6

Orange County Site 4 – Future Safety Analysis

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road No Build
Agency or Company	VHB	Intersection	Parkers Landing
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	21,700
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	800
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	1.00	1.00	1.00	0.97	0.51

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	2.609	1.000	2.609	0.51	1.00	1.342
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.028	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.387	1.011	0.51	1.00	0.520
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.626	$(5)_{TOTAL}-(5)_{FI}$ 0.613	1.598	0.51	1.00	0.822

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.520	1.000	0.822	1.342
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.176	0.374	0.307	0.483
Head-on collision	0.041	0.021	0.030	0.025	0.046
Angle collision	0.440	0.229	0.335	0.275	0.504
Sideswipe	0.121	0.063	0.044	0.036	0.099
Other multiple-vehicle collision	0.060	0.031	0.217	0.178	0.210

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.291	1.000	0.291	0.51	1.00	0.150
Fatal and Injury (FI)	--	--	--	--	0.082	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.325	0.095	0.51	1.00	0.049
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.170	$(5)_{TOTAL}-(5)_{FI}$ 0.675	0.197	0.51	1.00	0.101

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.049	1.000	0.101	0.150
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.033	0.847	0.086	0.119
Collision with other object	0.089	0.004	0.070	0.007	0.011
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.009	0.049	0.005	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	1.342	0.150	1.492	0.022	1.00	0.033
Fatal and injury (FI)	--	--	--	--	1.00	0.033

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		$(4)*(5)*(6)$
Total	1.342	0.150	1.492	0.018	1.00	0.027
Fatal and injury (FI)	--	--	--	--	1.00	0.027

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.176	0.307	0.483
Head-on collisions (from Worksheet 2D)	0.021	0.025	0.046
Angle collisions (from Worksheet 2D)	0.229	0.275	0.504
Sideswipe (from Worksheet 2D)	0.063	0.036	0.099
Other multiple-vehicle collision (from Worksheet 2D)	0.031	0.178	0.210
Subtotal	0.520	0.822	1.342
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.033	0.086	0.119
Collision with other object (from Worksheet 2F)	0.004	0.007	0.011
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.009	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.033	0.000	0.033
Collision with bicycle (from Worksheet 2J)	0.027	0.000	0.027
Subtotal	0.108	0.101	0.210
Total	0.628	0.923	1.551

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.6
Fatal and injury (FI)	0.6
Property damage only (PDO)	0.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road No Build
Agency or Company	VHB	Intersection	Sidney Hayes Road
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	22,500
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	7,800
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Permissive
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			7
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.83	1.00	1.00	1.00	1.00	0.61

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	6.013	1.000	6.013	0.61	1.00	3.646
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	1.928	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.333	2.001	0.61	1.00	1.213
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	3.867	$(5)_{TOTAL}-(5)_{FI}$ 0.667	4.013	0.61	1.00	2.433

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.213	1.000	2.433	3.646
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	0.546	0.483	1.175	1.721
Head-on collision	0.049	0.059	0.030	0.073	0.132
Angle collision	0.347	0.421	0.244	0.594	1.015
Sideswipe	0.099	0.120	0.032	0.078	0.198
Other multiple-vehicle collision	0.055	0.067	0.211	0.513	0.580

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.377	1.000	0.377	0.61	1.00	0.229
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.096	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.258	0.097	0.61	1.00	0.059
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.277	$(5)_{TOTAL}-(5)_{FI}$ 0.742	0.280	0.61	1.00	0.170

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.059	1.000	0.170	0.229
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.044	0.870	0.148	0.191
Collision with other object	0.072	0.004	0.070	0.012	0.016
Other single-vehicle collision	0.040	0.002	0.023	0.004	0.006
Single-vehicle noncollision	0.141	0.008	0.034	0.006	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)*(2)*(3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.010	1.00	1.00	0.010
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.010

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	3.646	0.229	3.875	0.015	1.00	0.058
Fatal and injury (FI)	--	--	--	--	1.00	0.058

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.546	1.175	1.721
Head-on collisions (from Worksheet 2D)	0.059	0.073	0.132
Angle collisions (from Worksheet 2D)	0.421	0.594	1.015
Sideswipe (from Worksheet 2D)	0.120	0.078	0.198
Other multiple-vehicle collision (from Worksheet 2D)	0.067	0.513	0.580
Subtotal	1.213	2.433	3.646
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.044	0.148	0.191
Collision with other object (from Worksheet 2F)	0.004	0.012	0.016
Other single-vehicle collision (from Worksheet 2F)	0.002	0.004	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.006	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 2J)	0.058	0.000	0.058
Subtotal	0.127	0.170	0.297
Total	1.340	2.603	3.943

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	3.9
Fatal and injury (FI)	1.3
Property damage only (PDO)	2.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road Build
Agency or Company	VHB	Intersection	Parkers Landing
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	21,700
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	800
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	1.00	1.00	1.00	0.97	0.51

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	2.609	1.000	2.609	0.51	1.00	1.342
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.028	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.387	1.011	0.51	1.00	0.520
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.626	$(5)_{TOTAL}-(5)_{FI}$ 0.613	1.598	0.51	1.00	0.822

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.520	1.000	0.822	1.342
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.176	0.374	0.307	0.483
Head-on collision	0.041	0.021	0.030	0.025	0.046
Angle collision	0.440	0.229	0.335	0.275	0.504
Sideswipe	0.121	0.063	0.044	0.036	0.099
Other multiple-vehicle collision	0.060	0.031	0.217	0.178	0.210

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.291	1.000	0.291	0.51	1.00	0.150
Fatal and Injury (FI)	--	--	--	--	0.082	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.325	0.095	0.51	1.00	0.049
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.170	$(5)_{TOTAL}-(5)_{FI}$ 0.675	0.197	0.51	1.00	0.101

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.049	1.000	0.101	0.150
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.033	0.847	0.086	0.119
Collision with other object	0.089	0.004	0.070	0.007	0.011
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.009	0.049	0.005	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	1.342	0.150	1.492	0.022	1.00	0.033
Fatal and injury (FI)	--	--	--	--	1.00	0.033

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.342	0.150	1.492	0.018	1.00	0.027
Fatal and injury (FI)	--	--	--	--	1.00	0.027

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.176	0.307	0.483
Head-on collisions (from Worksheet 2D)	0.021	0.025	0.046
Angle collisions (from Worksheet 2D)	0.229	0.275	0.504
Sideswipe (from Worksheet 2D)	0.063	0.036	0.099
Other multiple-vehicle collision (from Worksheet 2D)	0.031	0.178	0.210
Subtotal	0.520	0.822	1.342
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.033	0.086	0.119
Collision with other object (from Worksheet 2F)	0.004	0.007	0.011
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.009	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.033	0.000	0.033
Collision with bicycle (from Worksheet 2J)	0.027	0.000	0.027
Subtotal	0.108	0.101	0.210
Total	0.628	0.923	1.551

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.6
Fatal and injury (FI)	0.6
Property damage only (PDO)	0.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road Build
Agency or Company	VHB	Intersection	Sidney Hayes Road
Date Performed	06/17/22	Jurisdiction	Orange County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	22,500
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	7,800
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	4
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Permissive
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			7
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF 1i</i>	<i>CMF 2i</i>	<i>CMF 3i</i>	<i>CMF 4i</i>	<i>CMF 5i</i>	<i>CMF 6i</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.83	1.00	1.00	1.00	1.00	0.61

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	6.013	1.000	6.013	0.61	1.00	3.646
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	1.928	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.333	2.001	0.61	1.00	1.213
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	3.867	$(5)_{TOTAL}-(5)_{FI}$ 0.667	4.013	0.61	1.00	2.433

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.213	1.000	2.433	3.646
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	0.546	0.483	1.175	1.721
Head-on collision	0.049	0.059	0.030	0.073	0.132
Angle collision	0.347	0.421	0.244	0.594	1.015
Sideswipe	0.099	0.120	0.032	0.078	0.198
Other multiple-vehicle collision	0.055	0.067	0.211	0.513	0.580

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.377	1.000	0.377	0.61	1.00	0.229
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.096	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.258	0.097	0.61	1.00	0.059
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.277	$(5)_{TOTAL}-(5)_{FI}$ 0.742	0.280	0.61	1.00	0.170

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.059	1.000	0.170	0.229
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.044	0.870	0.148	0.191
Collision with other object	0.072	0.004	0.070	0.012	0.016
Other single-vehicle collision	0.040	0.002	0.023	0.004	0.006
Single-vehicle noncollision	0.141	0.008	0.034	0.006	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.010	1.00	1.00	0.010
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.010

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	3.646	0.229	3.875	0.015	1.00	0.058
Fatal and injury (FI)	--	--	--	--	1.00	0.058

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.546	1.175	1.721
Head-on collisions (from Worksheet 2D)	0.059	0.073	0.132
Angle collisions (from Worksheet 2D)	0.421	0.594	1.015
Sideswipe (from Worksheet 2D)	0.120	0.078	0.198
Other multiple-vehicle collision (from Worksheet 2D)	0.067	0.513	0.580
Subtotal	1.213	2.433	3.646
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.044	0.148	0.191
Collision with other object (from Worksheet 2F)	0.004	0.012	0.016
Other single-vehicle collision (from Worksheet 2F)	0.002	0.004	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.006	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.010	0.000	0.010
Collision with bicycle (from Worksheet 2J)	0.058	0.000	0.058
Subtotal	0.127	0.170	0.297
Total	1.340	2.603	3.943

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	3.9
Fatal and injury (FI)	1.3
Property damage only (PDO)	2.6

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	Landstreet Road Build
Agency or Company	VHB	Intersection	Potential Truck Stop - Winegard Road
Date Performed	06/17/22	Jurisdiction	Orange County
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3ST
AADT _{major} (veh/day)	AADT _{MAX} = 45,700 (veh/day)	--	16,300
AADT _{minor} (veh/day)	AADT _{MAX} = 9,300 (veh/day)	--	400
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.67	1.00	1.00	1.00	1.00	1.00	0.67

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-13.36	1.11	0.41	0.80	0.871	1.000	0.871	0.67	1.00	0.584
Fatal and Injury (FI)	-14.01	1.16	0.30	0.69	0.382	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.431	0.376	0.67	1.00	0.252
Property Damage Only (PDO)	-15.38	1.20	0.51	0.77	0.504	$(5)_{TOTAL}-(5)_{FI}$ 0.569	0.495	0.67	1.00	0.332

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.252	1.000	0.332	0.584
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.421	0.106	0.440	0.146	0.252
Head-on collision	0.045	0.011	0.023	0.008	0.019
Angle collision	0.343	0.086	0.262	0.087	0.173
Sideswipe	0.126	0.032	0.040	0.013	0.045
Other multiple-vehicle collision	0.065	0.016	0.235	0.078	0.094

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-6.81	0.16	0.51	1.14	0.111	1.000	0.111	0.67	1.00	0.074
Fatal and Injury (FI)	--	--	--	--	0.034	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.324	0.036	0.67	1.00	0.024
Property Damage Only (PDO)	-8.36	0.25	0.55	1.29	0.071	$(5)_{TOTAL}-(5)_{FI}$ 0.676	0.075	0.67	1.00	0.050

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type (PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.024	1.000	0.050	0.074
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.003	0.000	0.000
Collision with animal	0.003	0.000	0.018	0.001	0.001
Collision with fixed object	0.762	0.018	0.834	0.042	0.060
Collision with other object	0.090	0.002	0.092	0.005	0.007
Other single-vehicle collision	0.039	0.001	0.023	0.001	0.002
Single-vehicle noncollision	0.105	0.003	0.030	0.002	0.004

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	0.584	0.074	0.658	0.021	1.00	0.014
Fatal and injury (FI)	--	--	--	--	1.00	0.014

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	0.584	0.074	0.658	0.016	1.00	0.011
Fatal and injury (FI)	--	--	--	--	1.00	0.011

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.106	0.146	0.252
Head-on collisions (from Worksheet 2D)	0.011	0.008	0.019
Angle collisions (from Worksheet 2D)	0.086	0.087	0.173
Sideswipe (from Worksheet 2D)	0.032	0.013	0.045
Other multiple-vehicle collision (from Worksheet 2D)	0.016	0.078	0.094
Subtotal	0.252	0.332	0.584
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.018	0.042	0.060
Collision with other object (from Worksheet 2F)	0.002	0.005	0.007
Other single-vehicle collision (from Worksheet 2F)	0.001	0.001	0.002
Single-vehicle noncollision (from Worksheet 2F)	0.003	0.002	0.004
Collision with pedestrian (from Worksheet 2G or 2I)	0.014	0.000	0.014
Collision with bicycle (from Worksheet 2J)	0.011	0.000	0.011
Subtotal	0.048	0.050	0.098
Total	0.300	0.382	0.683

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	0.7
Fatal and injury (FI)	0.3
Property damage only (PDO)	0.4

Appendix F-1

Seminole County Site 1B - Existing Traffic Data

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Seminole **City** Sanford
Intersection -US 17-Monroe Road **&** Orange Boulevard
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	20	69	0	3	241	47	29	0	25	0	0	0
7:15 AM - 7:30 AM	27	86	3	0	234	57	35	0	26	0	0	2
7:30 AM - 7:45 AM	26	88	0	1	301	49	40	0	28	0	0	3
7:45 AM - 8:00 AM	32	101	5	1	341	54	37	0	45	0	0	2
8:00 AM - 8:15 AM	30	90	0	2	220	51	34	0	31	0	0	3
8:15 AM - 8:30 AM	28	107	5	2	237	57	36	1	35	0	0	0
8:30 AM - 8:45 AM	26	103	3	1	194	43	47	0	31	0	0	1
8:45 AM - 9:00 AM	24	106	4	1	190	49	33	0	29	0	0	2
TOTAL	213	750	20	11	1,958	407	291	1	250	0	0	13
Peak Hour												
7:30 AM - 8:30 AM	116	386	10	6	1,099	211	147	1	139	0	0	8

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	24	273	0	0	148	60	85	0	29	0	0	2
4:15 PM - 4:30 PM	38	263	0	0	149	40	73	0	28	0	0	3
4:30 PM - 4:45 PM	26	303	0	0	152	37	99	0	41	0	0	1
4:45 PM - 5:00 PM	41	359	0	0	125	46	103	0	36	0	0	3
5:00 PM - 5:15 PM	25	347	2	0	138	41	91	0	40	0	0	5
5:15 PM - 5:30 PM	24	365	0	0	175	35	105	1	25	0	0	3
5:30 PM - 5:45 PM	21	271	0	0	145	27	78	0	38	0	0	3
5:45 PM - 6:00 PM	30	366	1	0	161	37	110	0	34	0	0	2
TOTAL	229	2,547	3	0	1,193	323	744	1	271	0	0	22
Peak Hour												
4:30 PM - 5:30 PM	116	1,374	2	0	590	159	398	1	142	0	0	12

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Seminole
Intersection -US 17-Monroe Road
Date May 5, 2022

City Sanford
& Orange Boulevard

Trucks
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	3	4	0	0	13	2	2	0	2	0	0	0
7:15 AM - 7:30 AM	1	5	0	0	7	5	3	0	0	0	0	0
7:30 AM - 7:45 AM	1	8	0	0	10	3	3	0	0	0	0	0
7:45 AM - 8:00 AM	2	9	0	0	10	2	0	0	0	0	0	0
8:00 AM - 8:15 AM	3	6	0	0	8	3	7	0	1	0	0	0
8:15 AM - 8:30 AM	4	8	0	0	10	2	1	0	1	0	0	0
8:30 AM - 8:45 AM	6	8	0	0	10	5	5	0	2	0	0	0
8:45 AM - 9:00 AM	0	33	0	0	10	1	3	0	3	0	0	0
TOTAL	20	81	0	0	78	23	24	0	9	0	0	0
Peak Hour 7:30 AM - 8:30 AM	10	31	0	0	38	10	11	0	2	0	0	0
	10%	9%	0%	0%	4%	5%	9%	0%	6%	0%	0%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour 11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	4	7	0	0	17	4	1	0	1	0	0	0
4:15 PM - 4:30 PM	2	4	0	0	13	2	5	0	2	0	0	0
4:30 PM - 4:45 PM	2	7	0	0	18	2	4	0	1	0	0	0
4:45 PM - 5:00 PM	1	5	0	0	8	2	0	0	0	0	0	0
5:00 PM - 5:15 PM	1	3	0	0	13	1	0	0	1	0	0	0
5:15 PM - 5:30 PM	0	4	0	0	12	1	0	0	0	0	0	0
5:30 PM - 5:45 PM	2	2	0	0	11	1	1	0	0	0	0	0
5:45 PM - 6:00 PM	1	2	0	0	5	0	1	0	0	0	0	0
TOTAL	13	34	0	0	97	13	12	0	5	0	0	0
Peak Hour 4:30 PM - 5:30 PM	4	19	0	0	51	6	4	0	2	0	0	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County	Seminole	City	Sanford
Intersection	-US 17-Monroe Road	&	Orange Boulevard
Date	May 5, 2022	U-Turns & RTOR	
		VHB Project #:	63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	0	0	0	0	0	0	2	0	16	0	0	0
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	23	0	0	2
7:30 AM - 7:45 AM	0	0	0	0	0	0	2	0	21	0	0	3
7:45 AM - 8:00 AM	1	0	0	0	0	0	3	0	30	0	0	1
8:00 AM - 8:15 AM	1	0	0	0	0	1	1	0	26	0	0	2
8:15 AM - 8:30 AM	1	0	0	0	0	2	3	0	25	0	0	0
8:30 AM - 8:45 AM	0	0	1	0	0	1	3	0	14	0	0	1
8:45 AM - 9:00 AM	1	0	0	0	0	2	0	0	11	0	0	2
TOTAL	4	0	1	0	0	6	14	0	166	0	0	11
Peak Hour												
7:30 AM - 8:30 AM	3	0	0	0	0	3	9	0	102	0	0	6

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	0	0	0	0	0	2	0	0	16	0	0	2
4:15 PM - 4:30 PM	0	0	0	0	0	3	0	0	19	0	0	1
4:30 PM - 4:45 PM	0	0	0	0	0	2	1	0	26	0	0	1
4:45 PM - 5:00 PM	0	0	0	0	0	3	0	0	20	0	0	1
5:00 PM - 5:15 PM	0	0	0	0	0	0	2	0	20	0	0	2
5:15 PM - 5:30 PM	0	0	0	0	0	0	1	0	14	0	0	2
5:30 PM - 5:45 PM	0	0	0	0	0	0	3	0	30	0	0	2
5:45 PM - 6:00 PM	0	0	0	0	0	2	1	0	20	0	0	1
TOTAL	0	0	0	0	0	12	8	0	165	0	0	12
Peak Hour												
4:15 PM - 5:15 PM	0	0	0	0	0	8	3	0	85	0	0	5

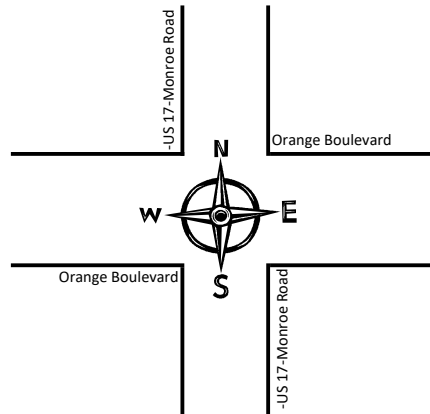
Pedestrian & Bicycle Summary

Project #: 63640.01
 Date: 5/5/2022

NB/SB: -US 17-Monroe Road
 EB/WB: Orange Boulevard

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	1	0	0	0	0	0	0	1
Westbound	Bike	0	0	0	0	0	0	0	1	1
	Ped	0	2	0	0	0	0	0	0	2

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	1	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	1	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	1	2	0
8:00	0	0	1	1
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	2
	0	1	3	3

Eastbound	Bike	0	1	0	0	0	0	0	0	1
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
		1	2	3	4	5	6	7	8

Pedestrian & Bicycle Summary

Project #: 63640.01

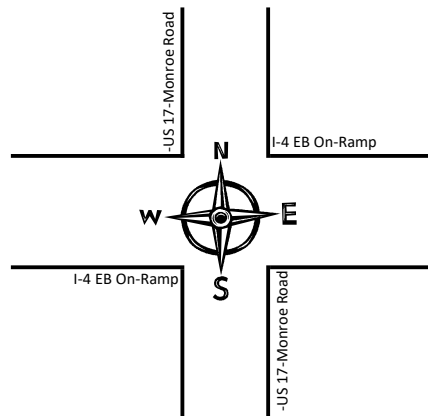
NB/SB: -US 17-Monroe Road

Date: 5/5/2022

EB/WB: I-4 EB On-Ramp

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
1 7:00	1	0	1	0
2 8:00	2	0	3	0
3 11:00	0	0	0	0
4 12:00	0	0	0	0
5 14:00	0	0	0	0
6 15:00	0	0	0	0
7 16:00	0	0	0	0
8 17:00	0	0	0	2
	3	0	4	2

Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	1
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Seminole **City** Sanford
Intersection -US 17-Monroe Road **&** Seminole Boulevard
Date May 5, 2022 **All Vehicles**
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	36	0	2	11	10	52	0	82	283	16	37	0
7:15 AM - 7:30 AM	67	0	6	14	16	90	0	85	258	30	40	0
7:30 AM - 7:45 AM	63	0	11	12	18	81	0	105	332	22	52	0
7:45 AM - 8:00 AM	53	0	14	22	33	90	0	115	330	35	41	0
8:00 AM - 8:15 AM	43	0	15	9	27	90	0	115	260	25	29	0
8:15 AM - 8:30 AM	72	0	13	12	19	87	0	84	233	25	40	0
8:30 AM - 8:45 AM	76	0	14	13	19	92	0	84	200	36	46	0
8:45 AM - 9:00 AM	68	0	14	15	15	83	0	68	193	13	31	0
TOTAL	478	0	89	108	157	665	0	738	2,089	202	316	0
Peak Hour												
7:15 AM - 8:15 AM	226	0	46	57	94	351	0	420	1,180	112	162	0

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour												
11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	223	0	16	14	5	245	0	30	179	56	91	0
4:15 PM - 4:30 PM	195	0	19	7	9	225	0	55	174	51	105	0
4:30 PM - 4:45 PM	260	0	18	6	8	189	0	49	166	55	98	0
4:45 PM - 5:00 PM	301	0	19	6	10	232	0	53	151	52	92	0
5:00 PM - 5:15 PM	263	0	14	5	4	203	0	48	142	87	135	0
5:15 PM - 5:30 PM	296	0	28	4	3	208	0	57	183	64	106	0
5:30 PM - 5:45 PM	220	0	16	4	5	204	0	69	157	64	104	0
5:45 PM - 6:00 PM	294	0	32	4	4	211	0	63	142	43	83	0
TOTAL	2,052	0	162	50	48	1,717	0	424	1,294	472	814	0
Peak Hour												
4:30 PM - 5:30 PM	1,120	0	79	21	25	832	0	207	642	258	431	0

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Seminole
Intersection -US 17-Monroe Road
Date May 5, 2022

City Sanford
& Seminole Boulevard

Trucks
VHB Project #: 63640.01

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	2	0	0	0	2	0	0	1	13	1	1	0
7:15 AM - 7:30 AM	4	0	0	0	1	1	0	0	10	1	0	0
7:30 AM - 7:45 AM	7	0	0	0	1	1	0	1	12	0	0	0
7:45 AM - 8:00 AM	2	0	0	0	3	0	0	2	10	1	0	0
8:00 AM - 8:15 AM	3	0	1	0	0	0	0	2	12	1	0	0
8:15 AM - 8:30 AM	10	0	0	0	0	3	0	0	9	1	0	0
8:30 AM - 8:45 AM	8	0	0	0	2	1	0	3	11	3	1	0
8:45 AM - 9:00 AM	3	0	0	0	1	0	0	1	8	0	0	0
TOTAL	39	0	1	0	10	6	0	10	85	8	2	0
Peak Hour 7:15 AM - 8:15 AM	16	0	1	0	5	2	0	5	44	3	0	0
	8%	0%	11%	0%	6%	3%	0%	1%	4%	3%	0%	0%

Mid-day

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
11:00 AM - 11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM - 11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM - 11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM - 12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM - 12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour 11:00 AM - 12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	6	0	0	0	2	0	0	0	17	0	0	0
4:15 PM - 4:30 PM	2	0	2	0	0	2	0	0	10	1	0	0
4:30 PM - 4:45 PM	6	0	0	0	0	0	0	2	16	1	0	0
4:45 PM - 5:00 PM	5	0	1	0	0	0	0	2	11	0	0	0
5:00 PM - 5:15 PM	1	0	0	0	0	0	0	0	7	0	0	0
5:15 PM - 5:30 PM	2	0	3	0	0	1	0	0	8	0	0	0
5:30 PM - 5:45 PM	1	0	0	0	0	0	0	0	5	0	1	0
5:45 PM - 6:00 PM	2	0	0	0	0	0	0	0	3	1	0	0
TOTAL	25	0	6	0	2	3	0	4	77	3	1	0
Peak Hour 4:45 PM - 5:45 PM	9	0	4	0	0	1	0	2	31	0	1	0

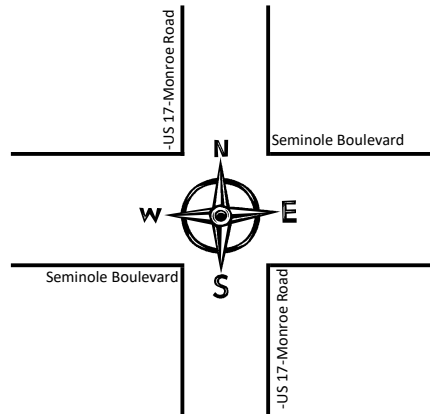
Pedestrian & Bicycle Summary

Project #: 63640.01
 Date: 5/5/2022

NB/SB: -US 17-Monroe Road
 EB/WB: Seminole Boulevard

		Hour								
		7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00	
		1	2	3	4	5	6	7	8	
Eastbound	Bike	2	3	0	0	0	0	0	2	7
	Ped	0	1	0	0	0	0	0	0	1
Westbound	Bike	1	3	0	0	0	0	1	2	7
	Ped	0	1	0	0	0	0	0	0	1

Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	0	0	0
8:00	0	0	0	0
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	0
	0	0	0	0



Hour	Southbound		Northbound	
	Ped ▼	Bike	Ped ▲	Bike
7:00	0	1	0	0
8:00	1	0	1	1
11:00	0	0	0	0
12:00	0	0	0	0
14:00	0	0	0	0
15:00	0	0	0	0
16:00	0	0	0	0
17:00	0	0	0	1
	1	1	1	2

Eastbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0
Westbound	Bike	0	0	0	0	0	0	0	0	0
	Ped	0	0	0	0	0	0	0	0	0

7:00	8:00	11:00	12:00	14:00	15:00	16:00	17:00
1	2	3	4	5	6	7	8

Appendix F-2

Seminole County Site 1B - Existing Synchro Outputs

Queues
1: Monroe Rd & Orange Blvd

Existing AM
06/29/2022



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	116	396	1105	211	148	139
Future Volume (vph)	116	396	1105	211	148	139
Satd. Flow (prot)	1641	3312	3383	0	3213	1524
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1641	3312	3383	0	3213	1524
Satd. Flow (RTOR)			23			162
Lane Group Flow (vph)	135	460	1530	0	172	162
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	20.0	60.0	40.0		40.0	40.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	13.4	73.5	54.0		10.8	10.8
Actuated g/C Ratio	0.13	0.74	0.54		0.11	0.11
v/c Ratio	0.61	0.19	0.83		0.50	0.52
Control Delay	52.3	4.5	22.7		46.6	13.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	52.3	4.5	22.7		46.6	13.1
LOS	D	A	C		D	B
Approach Delay		15.3	22.7		30.3	
Approach LOS		B	C		C	
Queue Length 50th (ft)	82	40	372		54	0
Queue Length 95th (ft)	130	60	#601		80	51
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	249	2434	1836		1066	614
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.54	0.19	0.83		0.16	0.26

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 5 (5%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 22.0
 Intersection LOS: C
 Intersection Capacity Utilization 68.5%
 ICU Level of Service C
 Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Monroe Rd & Orange Blvd

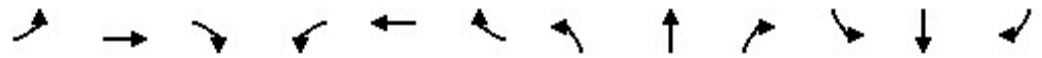


Queues

Existing AM

3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd

06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↗↖		↗		↖	↗
Traffic Volume (vph)	0	420	1180	112	162	0	226	0	46	57	94	351
Future Volume (vph)	0	420	1180	112	162	0	226	0	46	57	94	351
Satd. Flow (prot)	0	1881	1553	1752	3610	0	3242	0	1455	0	1797	1568
Flt Permitted				0.231			0.950				0.981	
Satd. Flow (perm)	0	1881	1553	426	3610	0	3242	0	1455	0	1797	1568
Satd. Flow (RTOR)			793						191			390
Lane Group Flow (vph)	0	467	1311	124	180	0	251	0	51	0	167	390
Turn Type		NA	Free	pm+pt	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free	6								Free
Total Split (s)		22.0		22.0	44.0		32.0		32.0	24.0	24.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		35.2	100.0	52.3	52.3		13.5		13.5		14.8	100.0
Actuated g/C Ratio		0.35	1.00	0.52	0.52		0.14		0.14		0.15	1.00
v/c Ratio		0.71	0.84	0.35	0.10		0.57		0.14		0.63	0.25
Control Delay		37.6	6.1	16.8	13.4		43.9		2.0		50.3	0.4
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		37.6	6.1	16.8	13.4		43.9		2.0		50.3	0.4
LOS		D	A	B	B		D		A		D	A
Approach Delay		14.4			14.8			36.8			15.3	
Approach LOS		B			B			D			B	
Queue Length 50th (ft)		255	0	39	29		81		0		101	0
Queue Length 95th (ft)		#504	0	81	54		118		2		165	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		662	1553	418	1886		839		518		321	1568
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.71	0.84	0.30	0.10		0.30		0.10		0.52	0.25

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 52 (52%), Referenced to phase 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 16.9

Intersection LOS: B

Intersection Capacity Utilization 60.2%

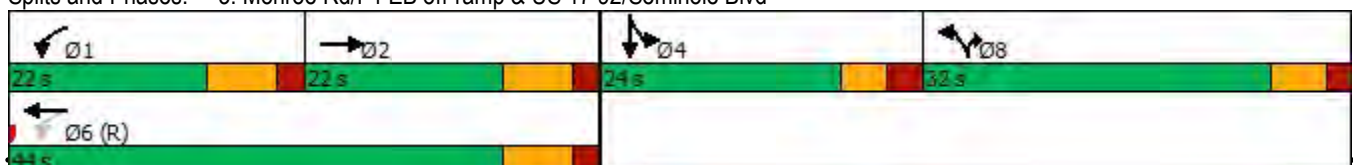
ICU Level of Service B

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Scenario 1 10:13 am 05/20/2022 Existing AM

Synchro 11 Report

Page 2

Intersection												
Int Delay, s/veh	4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕		↗	↘
Traffic Vol, veh/h	0	0	0	0	1	9	239	276	6	12	1314	94
Future Vol, veh/h	0	0	0	0	1	9	239	276	6	12	1314	94
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	0	0	0	0	0	0	9	10	0	0	4	3
Mvmt Flow	0	0	0	0	1	10	278	321	7	14	1528	109

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	- 2437	164 1528	0 0 328
Stage 1	- 881	- -	- - -
Stage 2	- 1556	- -	- - -
Critical Hdwy	- 6.5	6.9 4.28	- - 4.1
Critical Hdwy Stg 1	- 5.5	- -	- - -
Critical Hdwy Stg 2	- 5.5	- -	- - -
Follow-up Hdwy	- 4	3.3 2.29	- - 2.2
Pot Cap-1 Maneuver	0 32	858 400	- - 1243
Stage 1	0 367	- -	- - -
Stage 2	0 176	- -	- - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	- 0	858 400	- - 1243
Mov Cap-2 Maneuver	- 0	- -	- - -
Stage 1	- 0	- -	- - -
Stage 2	- 0	- -	- - -

Approach	NW	NE	SW
HCM Control Delay, s	9.2	14.7	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SWL	SWT	SWR
Capacity (veh/h)	400	-	-	858	1243	-
HCM Lane V/C Ratio	0.695	-	-	0.012	0.011	-
HCM Control Delay (s)	32.1	-	-	9.2	7.9	-
HCM Lane LOS	D	-	-	A	A	-
HCM 95th %tile Q(veh)	5.1	-	-	0	0	-

Queues
1: Monroe Rd & Orange Blvd

Existing PM
06/29/2022

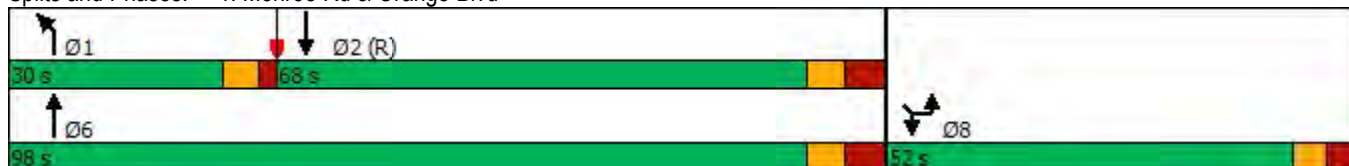


Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	116	1376	590	159	399	142
Future Volume (vph)	116	1376	590	159	399	142
Satd. Flow (prot)	1736	3574	3237	0	3467	1568
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3574	3237	0	3467	1568
Satd. Flow (RTOR)			27			149
Lane Group Flow (vph)	122	1448	788	0	420	149
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	30.0	98.0	68.0		52.0	52.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	45.3	110.5	59.1		23.8	23.8
Actuated g/C Ratio	0.30	0.74	0.39		0.16	0.16
v/c Ratio	0.23	0.55	0.61		0.76	0.40
Control Delay	42.2	10.2	48.1		69.6	10.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	42.2	10.2	48.1		69.6	10.6
LOS	D	B	D		E	B
Approach Delay		12.6	48.1		54.1	
Approach LOS		B	D		D	
Queue Length 50th (ft)	90	297	352		205	0
Queue Length 95th (ft)	156	412	423		253	61
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	524	2632	1291		1044	576
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.23	0.55	0.61		0.40	0.26

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 51 (34%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 30.2
 Intersection LOS: C
 Intersection Capacity Utilization 62.5%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 1: Monroe Rd & Orange Blvd

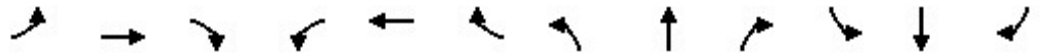


Queues

Existing PM

3: Monroe Rd/I-4 EB off-ramp

06/29/2022

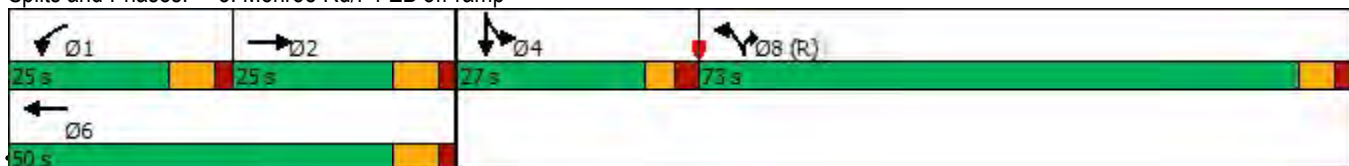


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	207	642	258	431	0	1120	0	79	21	25	832
Future Volume (vph)	0	207	642	258	431	0	1120	0	79	21	25	832
Satd. Flow (prot)	0	1881	1538	1805	3610	0	3467	0	1482	0	1858	1599
Flt Permitted				0.950			0.950				0.978	
Satd. Flow (perm)	0	1881	1538	1805	3610	0	3467	0	1482	0	1858	1599
Satd. Flow (RTOR)			676						127			240
Lane Group Flow (vph)	0	218	676	272	454	0	1179	0	83	0	48	876
Turn Type		NA	Free	Prot	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free									Free
Total Split (s)		25.0		25.0	50.0		73.0		73.0	27.0	27.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		17.8	150.0	31.1	56.1		66.8		66.8		10.5	150.0
Actuated g/C Ratio		0.12	1.00	0.21	0.37		0.45		0.45		0.07	1.00
v/c Ratio		0.98	0.44	0.73	0.34		0.76		0.11		0.37	0.55
Control Delay		119.4	0.9	68.4	35.9		34.0		1.1		74.1	1.4
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		119.4	0.9	68.4	35.9		34.0		1.1		74.1	1.4
LOS		F	A	E	D		C		A		E	A
Approach Delay		29.8			48.1			31.9			5.1	
Approach LOS		C			D			C			A	
Queue Length 50th (ft)		216	0	253	168		542		2		46	0
Queue Length 95th (ft)		#388	0	#482	238		599		8		90	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		223	1538	374	1351		1569		740		258	1599
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.98	0.44	0.73	0.34		0.75		0.11		0.19	0.55

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 41 (27%), Referenced to phase 8:NBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 28.0
 Intersection LOS: C
 Intersection Capacity Utilization 79.1%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp



Scenario 1 10:13 am 05/20/2022 Existing PM

Intersection												
Int Delay, s/veh	6.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↗	↗	↗	↗	↗
Traffic Vol, veh/h	0	0	0	1	0	5	610	1140	0	6	759	143
Future Vol, veh/h	0	0	0	1	0	5	610	1140	0	6	759	143
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	0	0	0	3	1	0	0	8	0
Mvmt Flow	0	0	0	1	0	5	663	1239	0	7	825	155

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2992	- 620 825	0 - 1239 0 0
Stage 1	2565	- - -	- - - - -
Stage 2	427	- - -	- - - - -
Critical Hdwy	6.8	- 6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	5.8	- - -	- - - - -
Critical Hdwy Stg 2	5.8	- - -	- - - - -
Follow-up Hdwy	3.5	- 3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	11	0 436 795	- 0 569 - -
Stage 1	45	0 - -	- 0 - - -
Stage 2	632	0 - -	- 0 - - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	2	0 436 795	- - 569 - -
Mov Cap-2 Maneuver	2	0 - -	- - - - -
Stage 1	7	0 - -	- - - - -
Stage 2	624	0 - -	- - - - -

Approach	NW	NE	SW
HCM Control Delay, s	13.4	9.7	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NETNWLn1	SWL	SWT	SWR
Capacity (veh/h)	795	- 436 569	- -		
HCM Lane V/C Ratio	0.834	- 0.012 0.011	- -		
HCM Control Delay (s)	27.8	- 13.4 11.4	- -		
HCM Lane LOS	D	- B B	- -		
HCM 95th %tile Q(veh)	9.5	- 0 0	- -		

Appendix F-3

Seminole County Site 1B – Crash Data

Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	845083450	0.014	3/17/2015	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$4,300	DAYLIGHT	DRY	NO	0	NO	0
2	845052200	0.028	9/10/2015	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$3,600	DAYLIGHT	DRY	NO	0	NO	0
3	861047710	0.005	10/15/2015	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,500	DAWN	DRY	NO	0	NO	0
4	848033450	0.028	1/12/2015	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$20,000	DAYLIGHT	DRY	NO	0	NO	0
5	848049150	0.019	7/16/2015	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,000	DUSK	WET	NO	0	NO	0
6	854495490	0.009	4/18/2017	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$3,000	\$6,000	DAYLIGHT	DRY	NO	0	NO	0
7	854624800	0.019	8/22/2017	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$550	DAYLIGHT	WET	NO	0	NO	0
8	844813450	0.003	2/5/2015	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$1,000	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
9	873520090	0.019	10/4/2017	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	DRY	NO	0	NO	0
10	865977010	0	9/11/2016	Sunday	FRONT TO REAR	Injury	0	1	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
11	865985820	0.038	11/9/2016	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,500	DAYLIGHT	DRY	NO	0	NO	0
12	848048420	0	4/22/2015	Wednesday	ANGLE	Property Damage Only	0	0	\$0	\$3,500	DAYLIGHT	DRY	NO	0	NO	0
13	867882500	0	1/13/2017	Friday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$750	DAYLIGHT	DRY	NO	0	NO	0
14	851982660	0.027	1/26/2016	Tuesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$3,200	DARK-NOT LIGHTED	WET	NO	0	NO	0
15	873654270	0.009	8/15/2017	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$2,700	DAYLIGHT	DRY	NO	0	NO	0
16	853964270	0.019	2/26/2017	Sunday	FRONT TO REAR	Injury	0	1	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
17	853232520	0.009	11/9/2016	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$10,000	\$35,000	DAYLIGHT	DRY	NO	0	NO	0
18	853963920	0.284	11/5/2016	Saturday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$12,800	DAYLIGHT	DRY	NO	0	NO	0
19	865967840	0.038	7/4/2016	Monday	ANGLE	Injury	0	1	\$0	\$4,500	DAYLIGHT	DRY	NO	0	NO	0
20	871402950	0	5/30/2018	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$100	\$5,100	DAYLIGHT	DRY	NO	0	NO	0
21	873528310	0	12/5/2017	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$600	DAYLIGHT	DRY	NO	0	NO	0
22	875073820	0.002	5/23/2018	Wednesday	NOT CODED	Injury	0	1	\$0	\$3,500	DAYLIGHT	DRY	NO	0	NO	0
23	873515520	0.002	8/28/2017	Monday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$400	DAYLIGHT	DRY	NO	0	NO	0
24	867895650	0	3/6/2017	Monday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
25	875076230	0	6/13/2018	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	DRY	NO	0	NO	0
26	870190080	0	5/21/2017	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$2,000	\$4,000	DAYLIGHT	WET	NO	0	NO	0
27	873530030	0.006	12/17/2017	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$14,000	DAYLIGHT	DRY	NO	0	NO	0
28	875080840	0	7/26/2018	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$500	\$10,500	DAYLIGHT	DRY	NO	0	NO	0
29	875078450	0.018	7/4/2018	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$100	\$4,100	DAYLIGHT	DRY	NO	0	NO	0
30	887685870	0.008	9/11/2018	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
31	875064090	0.009	3/13/2018	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
32	880069490	0.011	1/18/2019	Friday	ANGLE	Injury	0	1	\$1,000	\$9,000	DAYLIGHT	DRY	NO	0	NO	0
33	892740690	0.04	11/5/2019	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$1,100	DUSK	DRY	NO	0	NO	0
34	892734650	0.009	9/19/2019	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	DRY	NO	0	NO	0
35	875066210	0	3/29/2018	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$1,000	DAYLIGHT	DRY	NO	0	NO	0

US 17/Monroe Road at Orange Blvd

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	5	1	5	3	2	16	46%
Head On	0	0	0	0	0	0	0%
Sideswipe	1	2	4	3	0	10	29%
Rollover	0	0	0	0	0	0	0%
Angle	1	1	2	1	1	6	17%
Left Turn	0	0	0	0	0	0	0%
Right Turn	0	0	0	0	0	0	0%
Off Road	0	0	0	0	0	0	0%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Hit Traffic Barrier	0	0	0	0	0	0	0%
Other	0	2	0	1	0	3	9%
Total	7	6	11	8	3	35	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	1	3	2	1	1	8	23%
Property Damage Only	6	3	9	7	2	27	77%
Total	7	6	11	8	3	35	100%

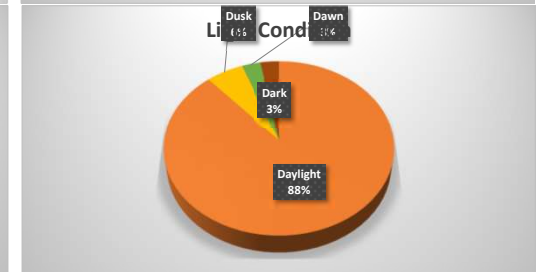
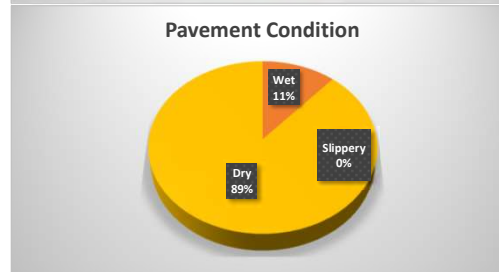
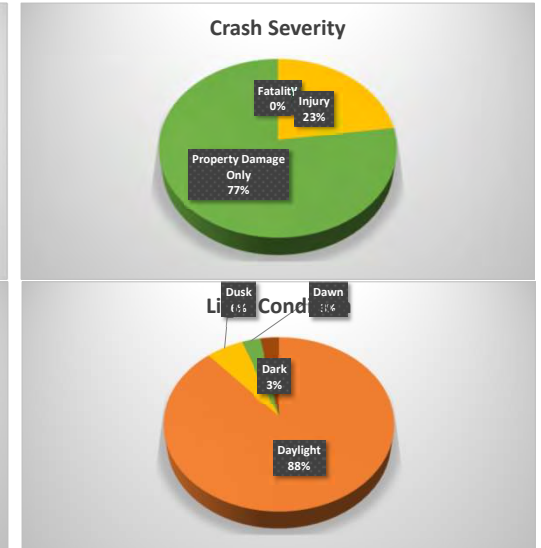
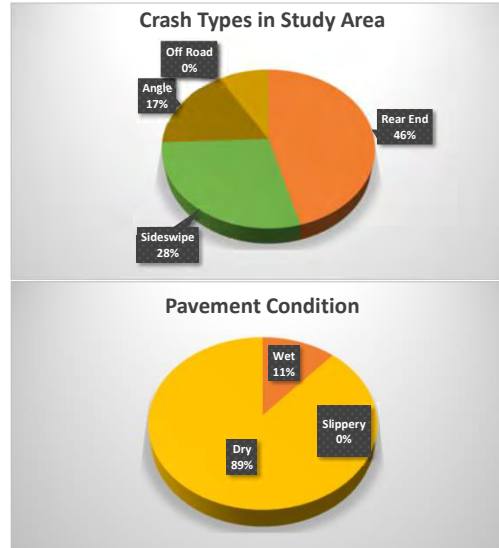
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	1	2	0	0	4	11%
Dry	6	5	9	8	3	31	89%
Slippery	0	0	0	0	0	0	0%
Total	7	6	11	8	3	35	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	5	5	11	8	2	31	89%
Dusk	1	0	0	0	1	2	6%
Dawn	1	0	0	0	0	1	3%
Dark	0	1	0	0	0	1	3%
Total	7	6	11	8	3	35	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	6	5	9	8	2	30	86%
\$501 - \$1,000	1	0	0	0	1	2	6%
\$1,001 - \$2,500	0	0	1	0	0	1	3%
\$2,501+	0	1	1	0	0	2	6%
Total	7	6	11	8	3	35	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	5	4	8	5	1	23	66%
\$5,001 - \$10,000	1	0	2	2	2	7	20%
\$10,000 - \$25,000	1	1	1	1	0	4	11%
\$25,001+	0	1	0	0	0	1	3%
Total	7	6	11	8	3	35	100%



Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	845066020	0.076	3/19/2015	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
2	848059340	0	7/15/2015	Wednesday	ANGLE	Injury	0	1	\$0	\$25,000	DAYLIGHT	DRY	NO	0	NO	0
3	851832320	0	10/20/2015	Tuesday	ANGLE	Injury	0	1	\$0	\$2,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
4	873525950	0.028	11/16/2017	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$20,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
5	855242530	0.019	7/19/2017	Wednesday	FRONT TO FRONT	Injury	0	1	\$0	\$1,000	DAWN	DRY	NO	0	NO	0
6	865973050	0	9/10/2016	Saturday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$11,000	DARK-NOT LIGHTED	DRY	ALC	1	ALC	0
7	873526690	0.019	11/23/2017	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DARK-LIGHTED	DRY	ALC	1	ALC	0
8	873531040	0.019	12/26/2017	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,100	DAYLIGHT	DRY	NO	0	NO	0
9	873529320	0	12/12/2017	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
10	867895630	0.436	3/22/2017	Wednesday	ANGLE	Property Damage Only	0	0	\$0	\$500	DAYLIGHT	DRY	NO	0	NO	0
11	873515860	0.014	8/30/2017	Wednesday	FRONT TO REAR	Injury	0	1	\$0	\$2,650	DAYLIGHT	DRY	NO	0	NO	0
12	875073020	0.112	5/16/2018	Wednesday	FRONT TO REAR	Injury	0	3	\$0	\$100	DAYLIGHT	WET	NO	0	NO	0
13	867902360	0.313	5/2/2017	Tuesday	FRONT TO REAR	Injury	0	1	\$0	\$200	DAYLIGHT	DRY	NO	0	NO	0
14	875072980	0.116	5/16/2018	Wednesday	FRONT TO REAR	Injury	0	7	\$0	\$15,000	DAYLIGHT	WET	NO	0	NO	0
15	887702440	0.063	2/14/2019	Thursday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	DRY	NO	0	NO	0
16	887712570	0	7/16/2019	Tuesday	FRONT TO FRONT	Property Damage Only	0	0	\$0	\$3,800	DAYLIGHT	DRY	NO	0	NO	0
17	887711890	0.056	7/7/2019	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,500	DAYLIGHT	DRY	NO	0	NO	0
18	892736790	0.08	10/6/2019	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	WET	NO	0	NO	0

US 17/Monroe Road at I-4 EB On-Ramp

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	0	5	2	2	10	56%
Head On	0	0	0	0	0	0	0%
Sideswipe	0	0	0	0	1	1	6%
Rollover	0	0	0	0	0	0	0%
Angle	2	0	2	0	0	4	22%
Left Turn	0	0	1	0	1	2	11%
Right Turn	0	0	0	0	0	0	0%
Off Road	0	0	0	0	0	0	0%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Hit Traffic Barrier	0	0	0	0	0	0	0%
Other	0	1	0	0	0	1	6%
Total	3	1	8	2	4	18	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	3	0	3	2	0	8	44%
Property Damage Only	0	1	5	0	4	10	56%
Total	3	1	8	2	4	18	100%

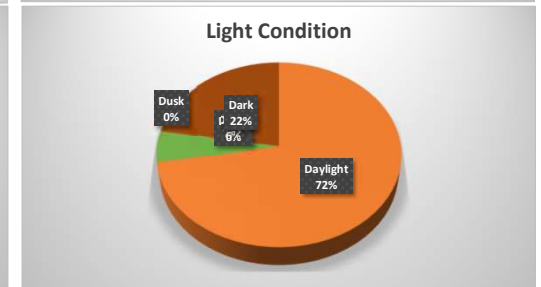
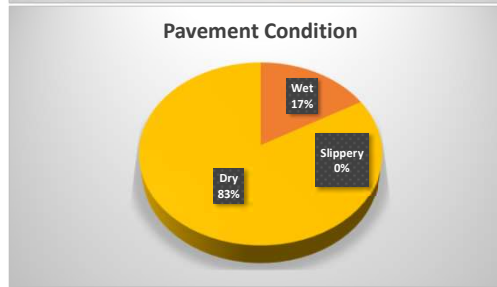
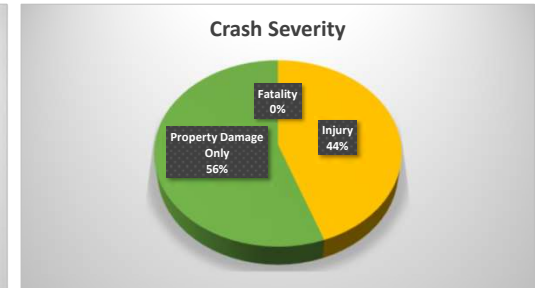
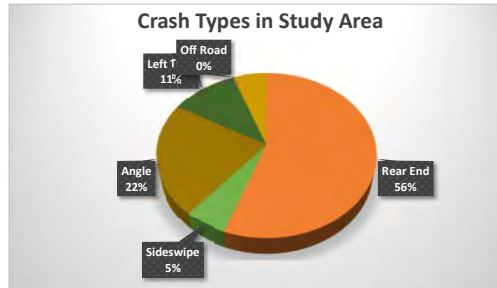
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	2	1	3	17%
Dry	3	1	8	0	3	15	83%
Slippery	0	0	0	0	0	0	0%
Total	3	1	8	2	4	18	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	0	5	2	4	13	72%
Dusk	0	0	0	0	0	0	0%
Dawn	0	0	1	0	0	1	6%
Dark	1	1	2	0	0	4	22%
Total	3	1	8	2	4	18	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	1	1	0	0	2	11%
Drugs	0	0	0	0	0	0	0%
Total	0	1	1	0	0	2	11%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	3	1	8	2	4	18	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	3	1	8	2	4	18	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	2	0	7	1	1	11	61%
\$5,001 - \$10,000	0	0	0	0	3	3	17%
\$10,000 - \$25,000	1	1	1	1	0	4	22%
\$25,001+	0	0	0	0	0	0	0%
Total	3	1	8	2	4	18	100%



Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	845073290	0.004	1/21/2015	Wednesday	FRONT TO REAR	Injury	0	3	\$0	\$10,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
2	844889490	0.095	2/21/2015	Saturday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$19,000	DARK-NOT LIGHTED	DRY	ALC	1	ALC	0
3	861050540	0	11/18/2015	Wednesday	ANGLE	Injury	0	1	\$0	\$1,000	DAYLIGHT	DRY	NO	0	NO	0
4	848040980	0	2/22/2015	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$1,400	DAYLIGHT	DRY	NO	0	NO	0
5	848638260	0.019	5/20/2015	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
6	848055750	0.005	7/26/2015	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$11,000	DUSK	WET	NO	0	NO	0
7	849025870	0	4/22/2015	Wednesday	ANGLE	Property Damage Only	0	0	\$0	\$4,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
8	837150910	0	1/1/2015	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$2,200	DUSK	WET	NO	0	NO	0
9	848058460	0.028	7/15/2015	Wednesday	FRONT TO REAR	Injury	0	2	\$400	\$8,400	DAYLIGHT	DRY	NO	0	NO	0
10	848041590	0.028	3/3/2015	Tuesday	FRONT TO REAR	Injury	0	1	\$0	\$8,000	DUSK	DRY	NO	0	NO	0
11	848891610	0.009	6/23/2015	Tuesday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$10,000	DARK-NOT LIGHTED	WET	NO	0	NO	0
12	851832080	0	9/5/2015	Saturday	ANGLE	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	WET	NO	0	NO	0
13	851827240	0	9/8/2015	Tuesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$5,500	DAYLIGHT	DRY	NO	0	NO	0
14	851575400	0	12/22/2015	Tuesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$500	DARK-NOT LIGHTED	DRY	NO	0	NO	0
15	851617650	0.017	11/2/2015	Monday	ANGLE	Property Damage Only	0	0	\$0	\$2,000	DUSK	DRY	NO	0	NO	0
16	852262240	0.019	12/21/2015	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$500	DAYLIGHT	DRY	NO	0	NO	0
17	880906740	0.004	8/10/2019	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
18	852813330	0.038	7/22/2016	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
19	853964020	0.019	12/17/2016	Saturday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$500	DARK-NOT LIGHTED	DRY	NO	0	NO	0
20	863326620	0	1/27/2016	Wednesday	ANGLE	Property Damage Only	0	0	\$2,500	\$27,000	DAYLIGHT	WET	NO	0	NO	0
21	863332560	0.009	5/30/2016	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$400	DAYLIGHT	DRY	NO	0	NO	0
22	865984910	0.009	11/17/2016	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$1,000	DAYLIGHT	DRY	NO	0	NO	0
23	865979750	0.009	10/4/2016	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$1,100	DAYLIGHT	DRY	NO	0	NO	0
24	865981040	0	10/5/2016	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	WET	NO	0	NO	0
25	867883460	0	11/28/2016	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$300	DAYLIGHT	DRY	NO	0	NO	0
26	867904330	0	7/14/2017	Friday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$10,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
27	867900850	0.076	4/13/2017	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$1,500	DAYLIGHT	DRY	NO	0	NO	0
28	851625460	0.019	2/15/2016	Monday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$8,500	DARK-NOT LIGHTED	WET	NO	0	NO	0
29	873530120	0.009	12/18/2017	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
30	873654340	0.001	9/26/2017	Tuesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$1,500	DARK-LIGHTED	DRY	NO	0	NO	0
31	867883830	0.038	8/25/2017	Friday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$3,000	DARK-NOT LIGHTED	DRY	ALC	1	ALC	0
32	861059440	0.019	1/17/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
33	861059870	0.006	4/22/2016	Friday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0	NO	0
34	865972630	0.009	8/4/2016	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$15,500	DAYLIGHT	DRY	NO	0	NO	0
35	865986100	0.014	11/14/2016	Monday	ANGLE	Property Damage Only	0	0	\$0	\$21,000	DAYLIGHT	DRY	NO	0	NO	0
36	865986290	0	12/16/2016	Friday	ANGLE	Property Damage Only	0	0	\$0	\$6,500	DARK-NOT LIGHTED	DRY	NO	0	NO	0
37	851569100	0	1/27/2016	Wednesday	ANGLE	Injury	0	2	\$0	\$500	DARK-NOT LIGHTED	WET	NO	0	NO	0
38	853608240	0.019	9/26/2016	Monday	ANGLE	Property Damage Only	0	0	\$0	\$2,500	DAYLIGHT	DRY	NO	0	NO	0
39	853608560	0.047	12/16/2016	Friday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,000	DUSK	DRY	NO	0	NO	0
40	863336500	0	7/27/2016	Wednesday	FRONT TO FRONT	Injury	0	4	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
41	851866250	0.038	1/4/2016	Monday	FRONT TO REAR	Injury	0	1	\$500	\$3,500	DAYLIGHT	DRY	NO	0	NO	0
42	854756210	0	12/17/2017	Sunday	ANGLE	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
43	871914740	0	7/16/2018	Monday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
44	873533960	0.032	1/18/2018	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$1,000	DAYLIGHT	DRY	NO	0	NO	0
45	873524990	0	11/10/2017	Friday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,000	DARK-LIGHTED	DRY	NO	0	NO	0
46	873513190	0.005	8/8/2017	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,100	DAYLIGHT	DRY	NO	0	NO	0
47	887690740	0.009	10/23/2018	Tuesday	FRONT TO REAR	Injury	0	1	\$0	\$1,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
48	867886360	0	3/24/2017	Friday	FRONT TO REAR	Injury	0	1	\$0	\$3,700	DAYLIGHT	DRY	NO	0	NO	0
49	873527260	0.065	11/28/2017	Tuesday	FRONT TO REAR	Injury	0	1	\$0	\$24,000	DAYLIGHT	DRY	NO	0	NO	0
50	873525720	0.019	11/16/2017	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$520	DAYLIGHT	DRY	NO	0	NO	0
51	867901200	0	4/16/2017	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0	NO	0
52	867894110	0	3/3/2017	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,500	DARK-NOT LIGHTED	DRY	NO	0	NO	0
53	873511180	0.028	7/17/2017	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
54	887698220	0.038	12/18/2018	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
55	875064610	0.008	3/18/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$12,000	DAYLIGHT	WET	NO	0	NO	0
56	875066280	0.012	3/29/2018	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$500	DAYLIGHT	WET	NO	0	NO	0
57	875065760	0.047	3/26/2018	Monday	ESWIPE, OPPOSITE DIRECTI	Property Damage Only	0	0	\$1,000	\$12,000	DARK-LIGHTED	DRY	NO	0	NO	0
58	873526850	0.02	11/26/2017	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$7,000	DAYLIGHT	DRY	NO	0	NO	0
59	873534100	0.095	1/19/2018	Friday	NOT CODED	Property Damage Only	0	0	\$0	\$500	DARK-LIGHTED	DRY	NO	0	NO	0
60	875077490	0	6/25/2018	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
61	855924320	0.006	3/18/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,500	DAYLIGHT	DRY	NO	0	NO	0
62	85557120	0	8/16/2018	Thursday	ANGLE	Injury	0	2	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
63	879513460	0.009	8/19/2018	Sunday	NOT CODED	Property Damage Only	0	0	\$500	\$4,500	DAYLIGHT	DRY	NO	0	NO	0
64	875062730	0.014	3/4/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$9,000	DAYLIGHT	DRY	NO	0	NO	0
65	871798010	0.057	4/18/2018	Wednesday	FRONT TO REAR	Injury	0	1	\$0	\$100	DAYLIGHT	DRY	NO	0	NO	0
66	875071160	0.005	5/3/2018	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0

Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
67	875077500	0	6/25/2018	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
68	873536410	0	2/7/2018	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$13,000	DAYLIGHT	DRY	NO	0	NO	0
69	875083620	0.002	8/18/2018	Saturday	FRONT TO REAR	Injury	0	1	\$0	\$1,550	DAYLIGHT	DRY	NO	0	NO	0
70	873655400	0.012	1/13/2019	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DUSK	DRY	NO	0	NO	0
71	871949120	0.057	8/15/2018	Wednesday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$5,000	DAYLIGHT	DRY	NO	0	NO	0
72	887686660	0.028	9/12/2018	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$1,500	DAYLIGHT	DRY	NO	0	NO	0
73	875082860	0.01	8/12/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	DRY	NO	0	NO	0
74	873657790	0.009	3/7/2019	Thursday	FRONT TO REAR	Injury	0	2	\$0	\$5,000	DARK-LIGHTED	DRY	NO	0	NO	0
75	880292690	0.1	4/26/2019	Friday	ANGLE	Injury	0	1	\$3,000	\$10,000	DAYLIGHT	DRY	NO	0	NO	0
76	891386360	0.042	10/3/2019	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
77	880962600	0	2/28/2019	Thursday	OTHER (SEE NARRATIVE)	Injury	0	1	\$4,000	\$12,000	DUSK	DRY	NO	0	NO	0
78	882046740	0.028	8/28/2019	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$3,850	DAYLIGHT	DRY	NO	0	NO	0
79	892735910	0.005	9/30/2019	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	DRY	NO	0	NO	0
80	887712070	0.012	7/11/2019	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
81	887703840	0.001	2/27/2019	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0	NO	0
82	853608160	0	9/9/2016	Friday	ANGLE	Property Damage Only	0	0	\$250	\$7,750	DAYLIGHT	DRY	NO	0	NO	0
83	887698730	0	12/20/2018	Thursday	FRONT TO FRONT	Property Damage Only	0	0	\$0	\$5,000	DARK-LIGHTED	DRY	NO	0	NO	0
84	863331580	0	3/20/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$1,000	\$7,000	DAYLIGHT	DRY	NO	0	NO	0
85	863333610	0	3/22/2016	Tuesday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$18,000	DAYLIGHT	DRY	NO	0	NO	0
86	863328590	0.015	2/14/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	DRY	NO	0	NO	0
87	873656700	0	1/26/2019	Saturday	ANGLE	Property Damage Only	0	0	\$0	\$3,000	DARK-NOT LIGHTED	WET	NO	0	NO	0

US 17/Monroe Road at I-4 EB Off-Ramp/Seminole Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	8	9	10	13	7	47	54%
Head On	0	0	0	0	0	0	0%
Sideswipe	0	2	2	4	1	9	10%
Rollover	0	0	0	0	0	0	0%
Angle	4	7	1	1	2	15	17%
Left Turn	0	1	0	1	0	2	2%
Right Turn	0	0	0	0	0	0	0%
Off Road	0	0	0	0	0	0	0%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Hit Traffic Barrier	0	0	0	0	0	0	0%
Other	4	4	2	3	1	14	16%
Total	16	23	15	22	11	87	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0%
Injury	6	5	3	5	3	22	25%
Property Damage Only	10	18	12	17	8	65	75%
Total	16	23	15	22	11	87	100%

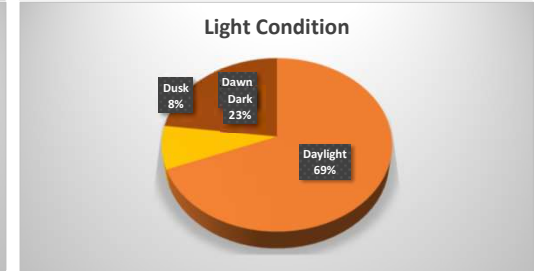
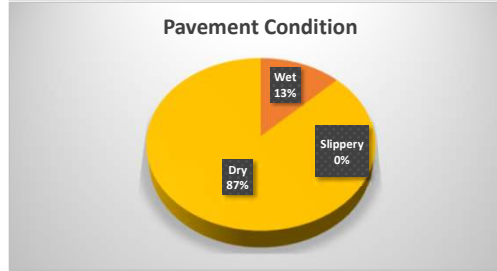
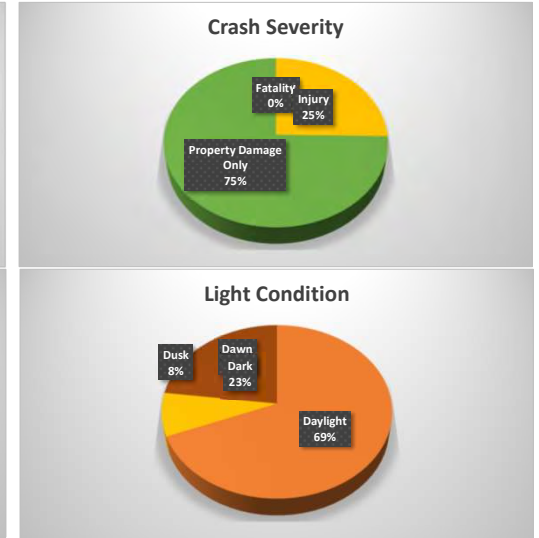
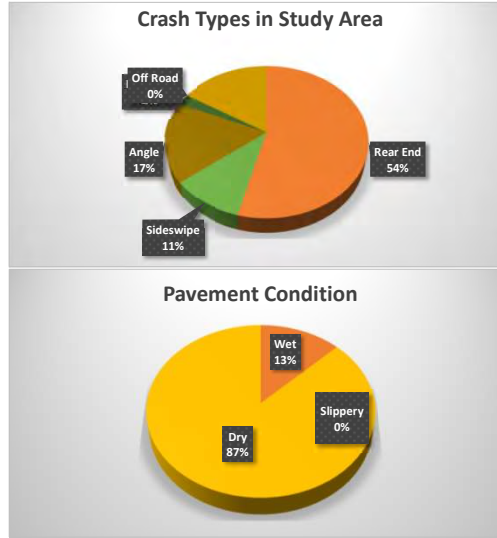
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	4	4	0	2	1	11	13%
Dry	12	19	15	20	10	76	87%
Slippery	0	0	0	0	0	0	0%
Total	16	23	15	22	11	87	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	7	18	10	18	7	60	69%
Dusk	4	1	0	0	2	7	8%
Dawn	0	0	0	0	0	0	0%
Dark	5	4	5	4	2	20	23%
Total	16	23	15	22	11	87	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	1	0	1	0	0	2	2%
Drugs	0	0	0	0	0	0	0%
Total	1	0	1	0	0	2	2%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	16	21	15	21	9	82	94%
\$501 - \$1,000	0	1	0	1	0	2	2%
\$1,001 - \$2,500	0	1	0	0	0	1	1%
\$2,501+	0	0	0	0	2	2	2%
Total	16	23	15	22	11	87	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	9	12	10	16	7	54	62%
\$5,001 - \$10,000	5	7	4	3	3	22	25%
\$10,000 - \$25,000	2	3	1	3	1	10	11%
\$25,001+	0	1	0	0	0	1	1%
Total	16	23	15	22	11	87	100%



Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	861044720	0.002	11/10/2015	Tuesday	FRONT TO REAR	Injury	0	1	\$1	\$1,001	DAYLIGHT	DRY	NO	0	NO	0
2	848044500	0	4/6/2015	Monday	ANGLE	Property Damage Only	0	0	\$0	\$4,200	DAYLIGHT	WET	NO	0	NO	0
3	851146060	0.019	4/25/2016	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
4	875075820	0.009	6/10/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	DRY	NO	0	NO	0
5	875075380	0.023	6/7/2018	Thursday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$11,000	DAYLIGHT	DRY	NO	0	NO	0
6	887693500	0.003	11/12/2018	Monday	ANGLE	Property Damage Only	0	0	\$0	\$4,000	DUSK	DRY	NO	0	NO	0
7	875075410	0	6/7/2018	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	WET	NO	0	NO	0
8	887695990	0.012	12/2/2018	Sunday	ANGLE	Property Damage Only	0	0	\$0	\$2,500	ARK - UNKNOWN LIGHTING	WET	NO	0	NO	0
9	871063960	0	8/7/2018	Tuesday	ANGLE	Injury	0	2	\$0	\$7,500	DAYLIGHT	DRY	NO	0	NO	0
10	872122520	0.004	10/17/2018	Wednesday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$250	DAYLIGHT	DRY	NO	0	NO	0
11	875080070	0.028	7/19/2018	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$900	DAYLIGHT	DRY	NO	0	NO	0
12	863328360	0.009	2/7/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	DRY	NO	0	NO	0

US 17/Monroe Road from School Street to Orange Blvd

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	1	2	0	3	0	6	50.0%
Head On	0	0	0	0	0	0	0.0%
Sideswipe	0	0	0	2	0	2	16.7%
Rollover	0	0	0	0	0	0	0.0%
Angle	1	0	0	3	0	4	33.3%
Left Turn	0	0	0	0	0	0	0.0%
Right Turn	0	0	0	0	0	0	0.0%
Off Road	0	0	0	0	0	0	0.0%
Pedestrian & Bicycle	0	0	0	0	0	0	0.0%
Hit Traffic Barrier	0	0	0	0	0	0	0.0%
Other	0	0	0	0	0	0	0.0%
Total	2	2	0	8	0	12	100.0%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0.0%
Injury	1	0	0	2	0	3	25.0%
Property Damage Only	1	2	0	6	0	9	75.0%
Total	2	2	0	8	0	12	100.0%

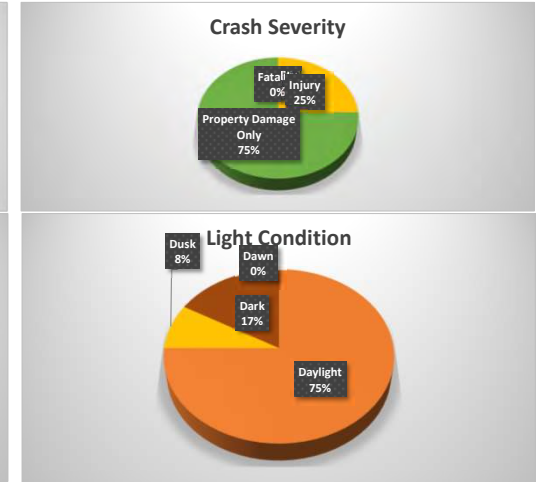
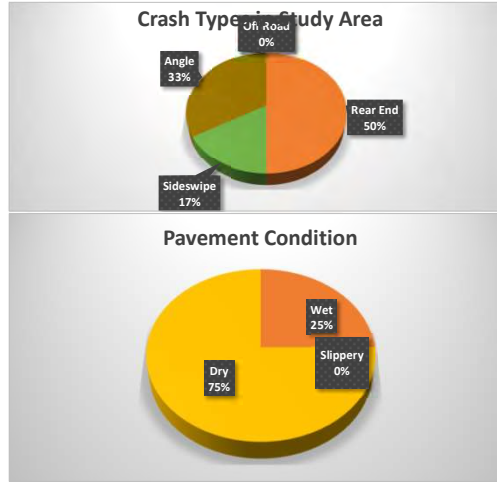
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	1	0	0	2	0	3	25.0%
Dry	1	2	0	6	0	9	75.0%
Slippery	0	0	0	0	0	0	0.0%
Total	2	2	0	8	0	12	100.0%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	2	1	0	6	0	9	75.0%
Dusk	0	0	0	1	0	1	8.3%
Dawn	0	0	0	0	0	0	0.0%
Dark	0	1	0	1	0	2	16.7%
Total	2	2	0	8	0	12	100%

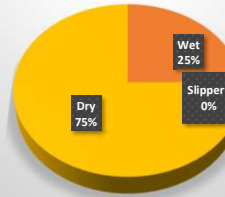
Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	2	2	0	8	0	12	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	2	2	0	8	0	12	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	2	0	0	4	0	6	50%
\$5,001 - \$10,000	0	2	0	3	0	5	42%
\$10,000 - \$25,000	0	0	0	1	0	1	8%
\$25,001+	0	0	0	0	0	0	0%
Total	2	2	0	8	0	12	100%



Pavement Condition



Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related		Drug Related	
1	873529360	0.067	12/12/2017	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$7,000	DAYLIGHT	DRY	NO	0	NO	0
2	875074830	0.096	6/3/2018	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0	NO	0
3	887713660	0.498	7/25/2019	Thursday	OFF ROAD	Injury	0	1	\$0	\$22,000	DARK-LIGHTED	DRY	NO	0	NO	0

US 17/Monroe Road from I-4 EB On-Ramp to I-4 EB Off-Ramp/Seminole Boulevard

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	0	0	1	1	0	2	66.7%
Head On	0	0	0	0	0	0	0.0%
Sideswipe	0	0	0	0	0	0	0.0%
Rollover	0	0	0	0	0	0	0.0%
Angle	0	0	0	0	0	0	0.0%
Left Turn	0	0	0	0	0	0	0.0%
Right Turn	0	0	0	0	0	0	0.0%
Off Road	0	0	0	0	1	1	33.3%
Pedestrian & Bicycle	0	0	0	0	0	0	0.0%
Hit Traffic Barrier	0	0	0	0	0	0	0.0%
Other	0	0	0	0	0	0	0.0%
Total	0	0	1	1	1	3	100.0%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	0	0	0	0	0.0%
Injury	0	0	0	0	1	1	33.3%
Property Damage Only	0	0	1	1	0	2	66.7%
Total	0	0	1	1	1	3	100.0%

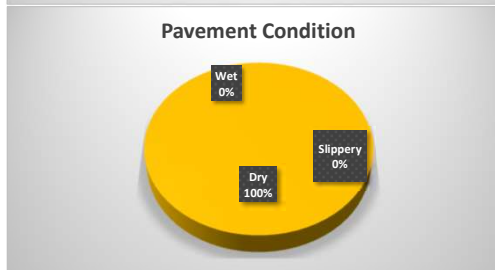
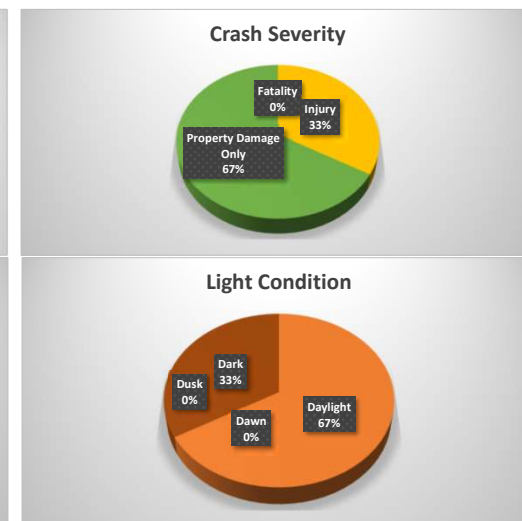
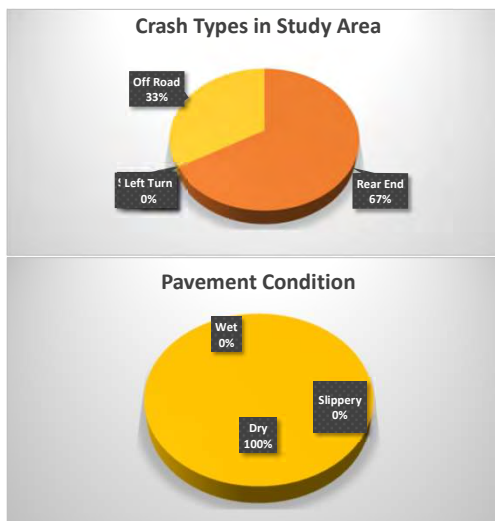
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	0	0	0	0	0	0	0.0%
Dry	0	0	1	1	1	3	100.0%
Slippery	0	0	0	0	0	0	0.0%
Total	0	0	1	1	1	3	100.0%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	0	0	1	1	0	2	66.7%
Dusk	0	0	0	0	0	0	0.0%
Dawn	0	0	0	0	0	0	0.0%
Dark	0	0	0	0	1	1	33.3%
Total	0	0	1	1	1	3	100.0%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	0	0	0	0	0%
Drugs	0	0	0	0	0	0	0%
Total	0	0	0	0	0	0	0%

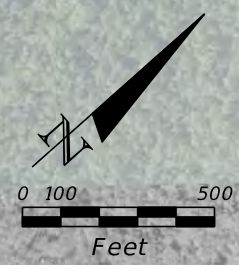
Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	0	0	1	1	1	3	100%
\$501 - \$1,000	0	0	0	0	0	0	0%
\$1,001 - \$2,500	0	0	0	0	0	0	0%
\$2,501+	0	0	0	0	0	0	0%
Total	0	0	1	1	1	3	100%

Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	0	0	0	1	0	1	33%
\$5,001 - \$10,000	0	0	1	0	0	1	33%
\$10,000 - \$25,000	0	0	0	0	1	1	33%
\$25,001+	0	0	0	0	0	0	0%
Total	0	0	1	1	1	3	100%

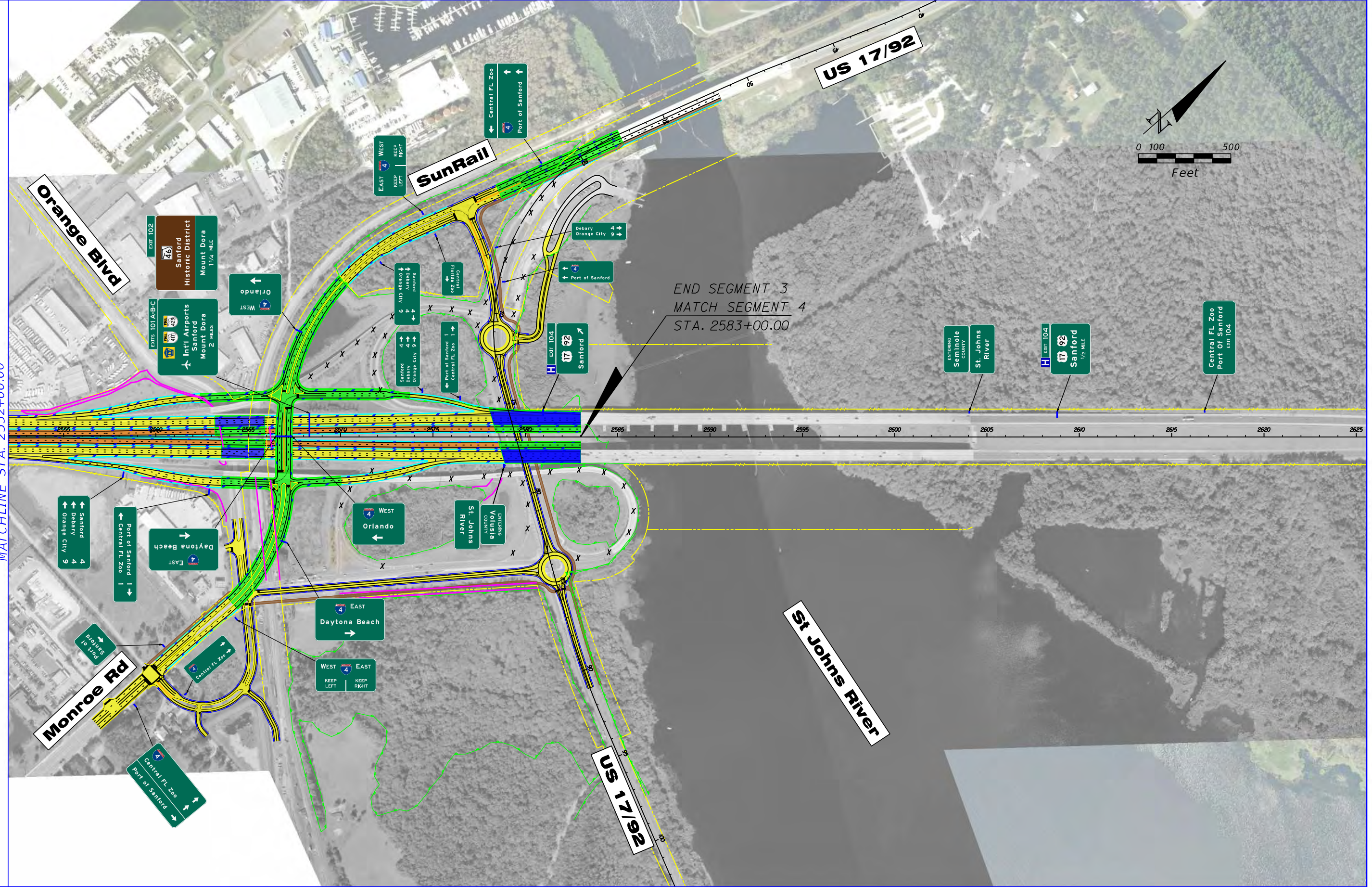


Appendix F-4

Seminole County Site 1B – Future Volume Development



MATCHLINE STA. 2552+00.00



END SEGMENT 3
 MATCH SEGMENT 4
 STA. 2583+00.00

	EXISTING LA R/W		GENERAL USE LANES
	PROPOSED LA R/W		EXPRESS LANES
	EXISTING R/W		EXISTING BRIDGE
	PROPOSED FDOT R/W		PROPOSED BRIDGE
	PARCEL LINES		BARRIER WALL
	FUTURE EXISTING CONDITION		PARCEL NUMBERS

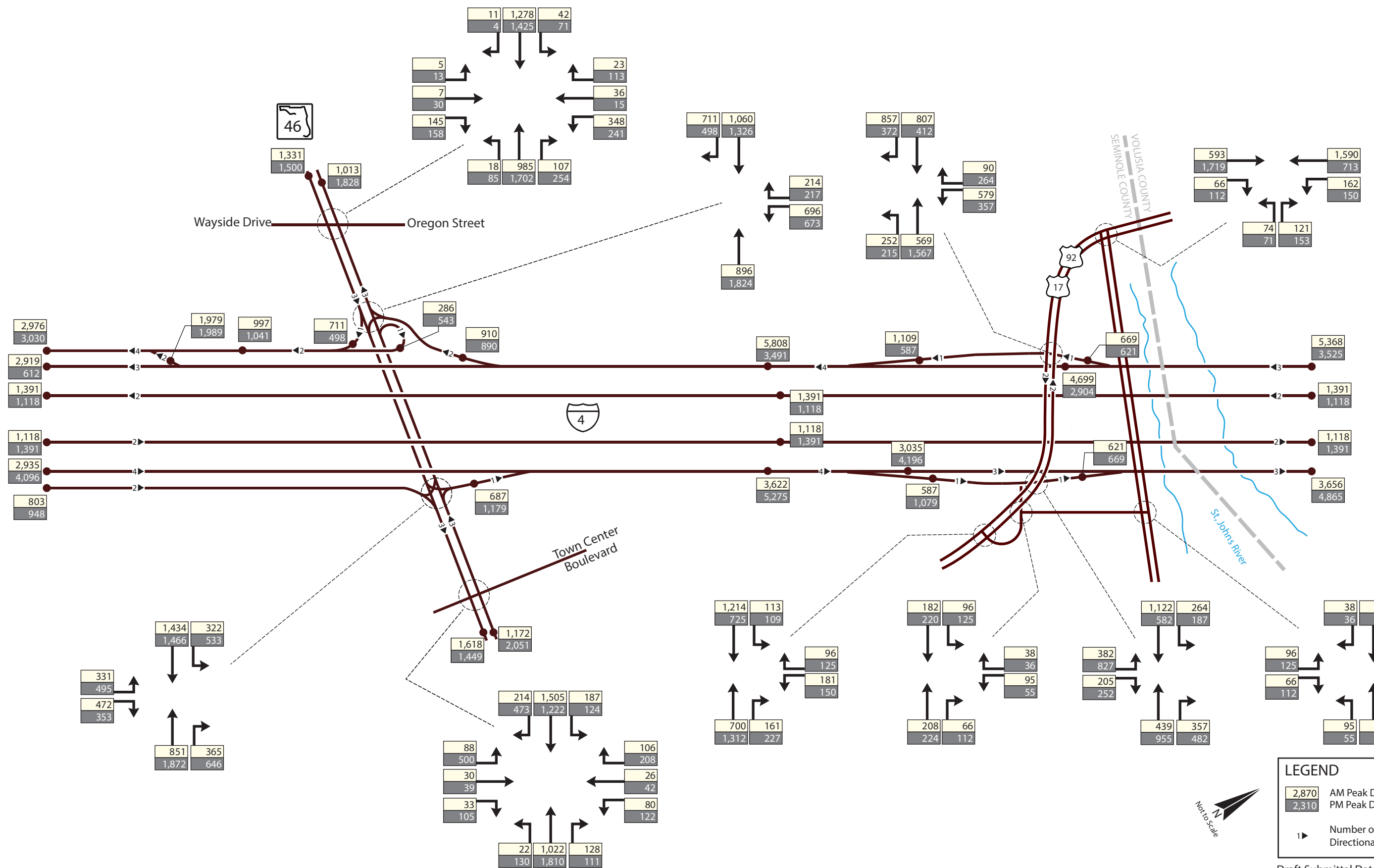
HNTB CORPORATION
 610 CRESCENT EXECUTIVE CT
 SUITE 400
 LAKE MARY, FL 32746
 (407) 805-0355
 CERT. OF AUTH. NO. 6500

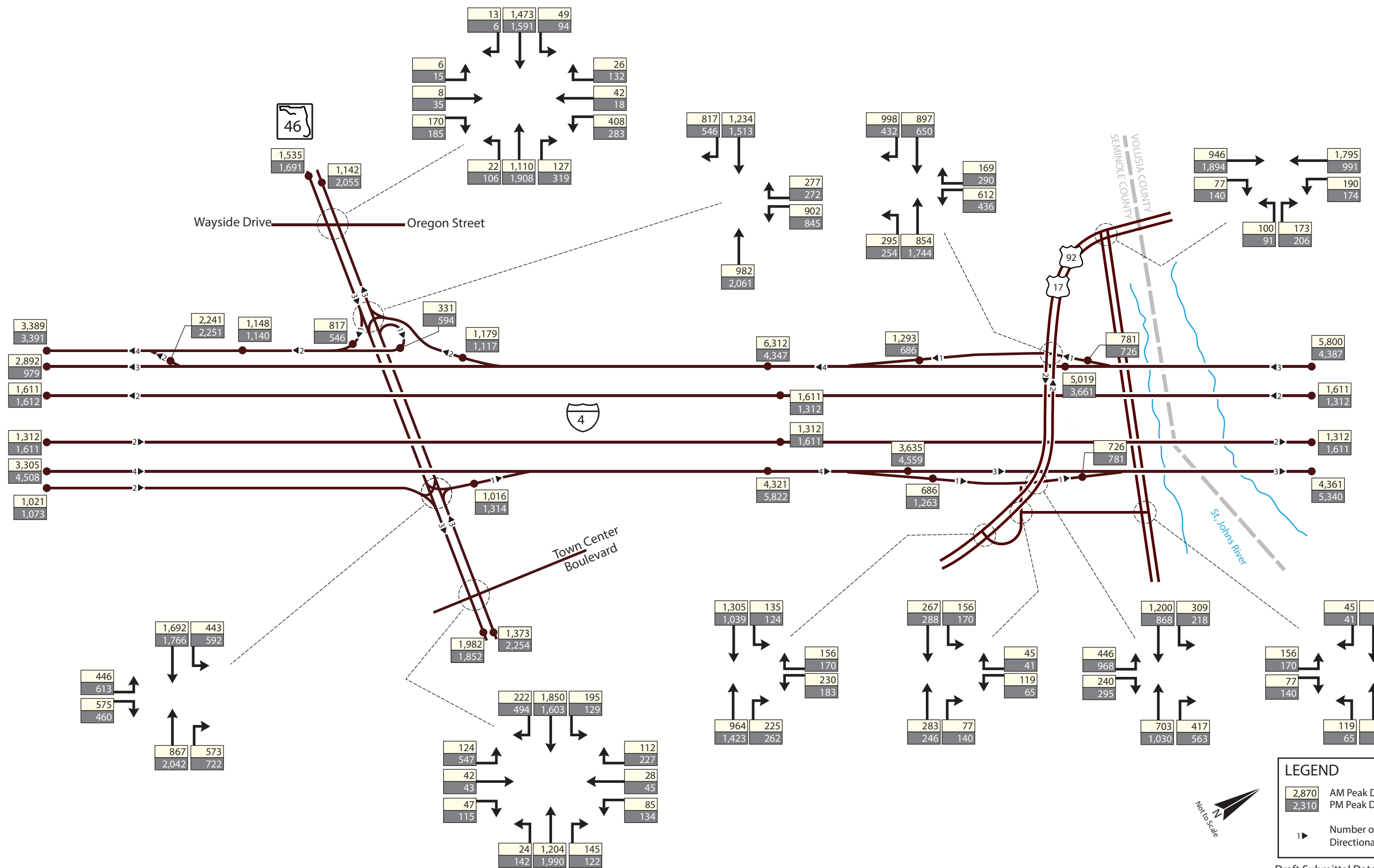
ENGINEER OF RECORD: ROBERT M. DENNEY, P.E.
 FL. REGISTRATION NO. 58593

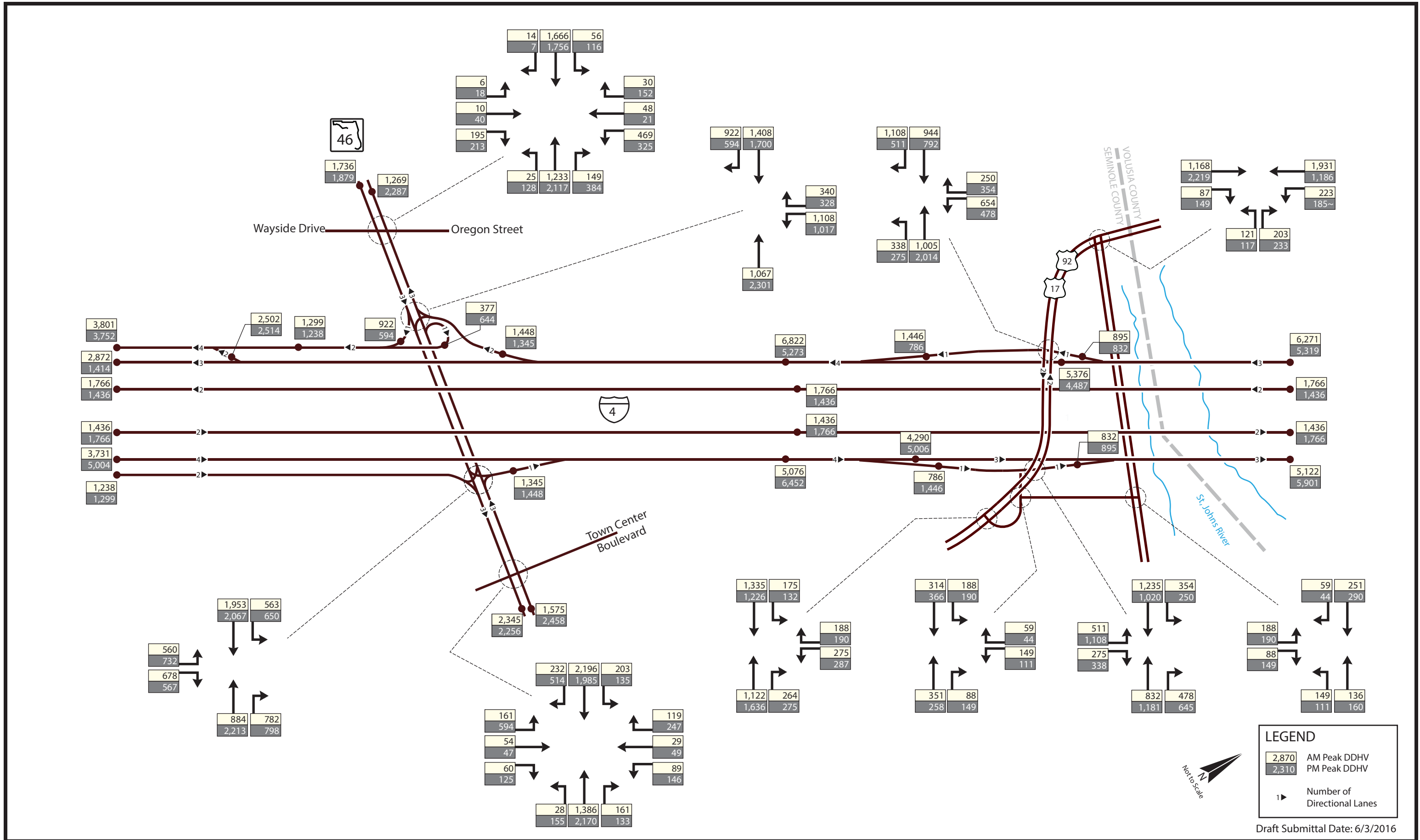
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
400	SEMINOLE	432100-1-22-01

I-4 PD&E STUDY
CONCEPTUAL SIGNING PLAN
SEGMENT 3

SHEET NO.
 C-9

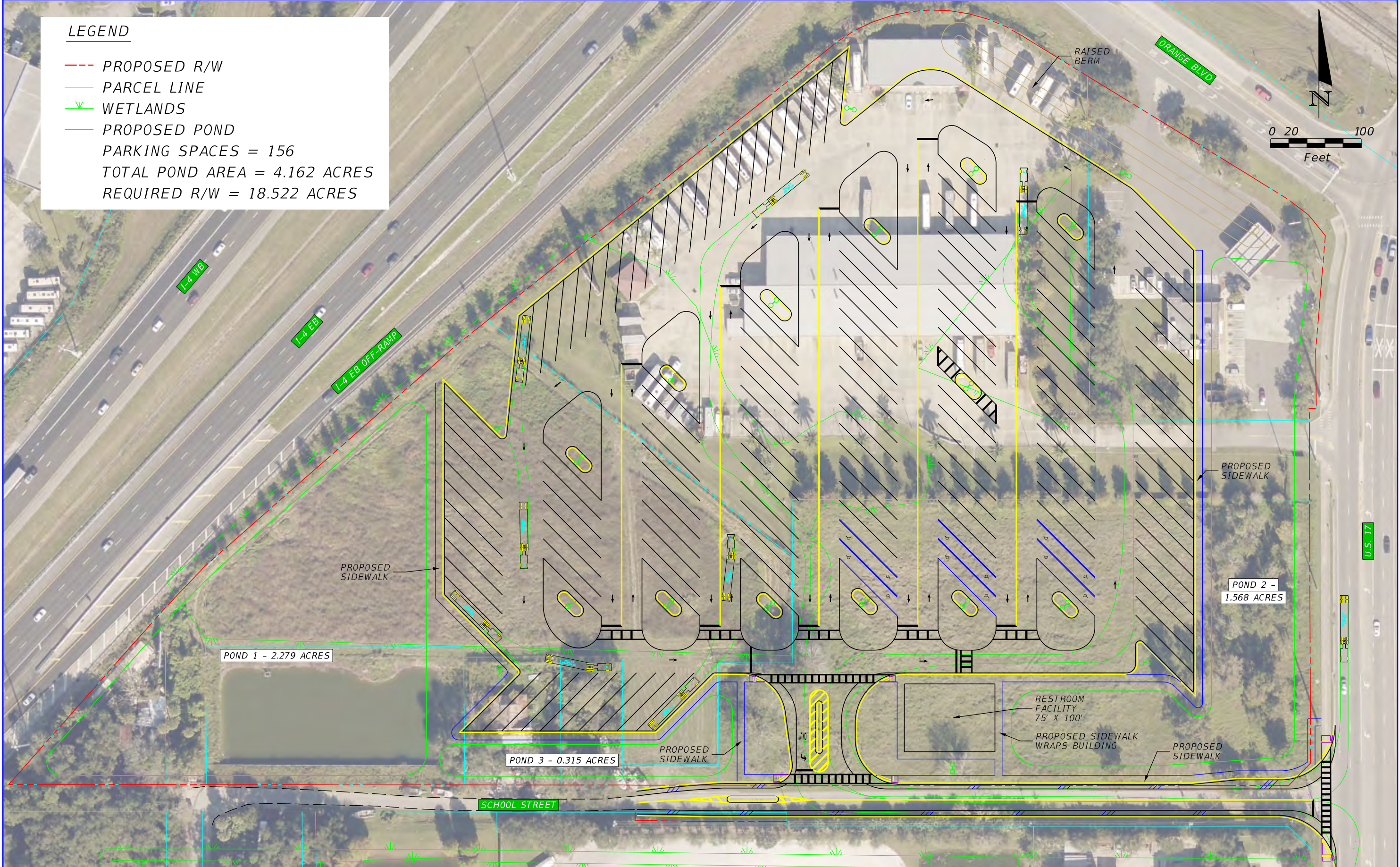
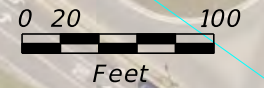






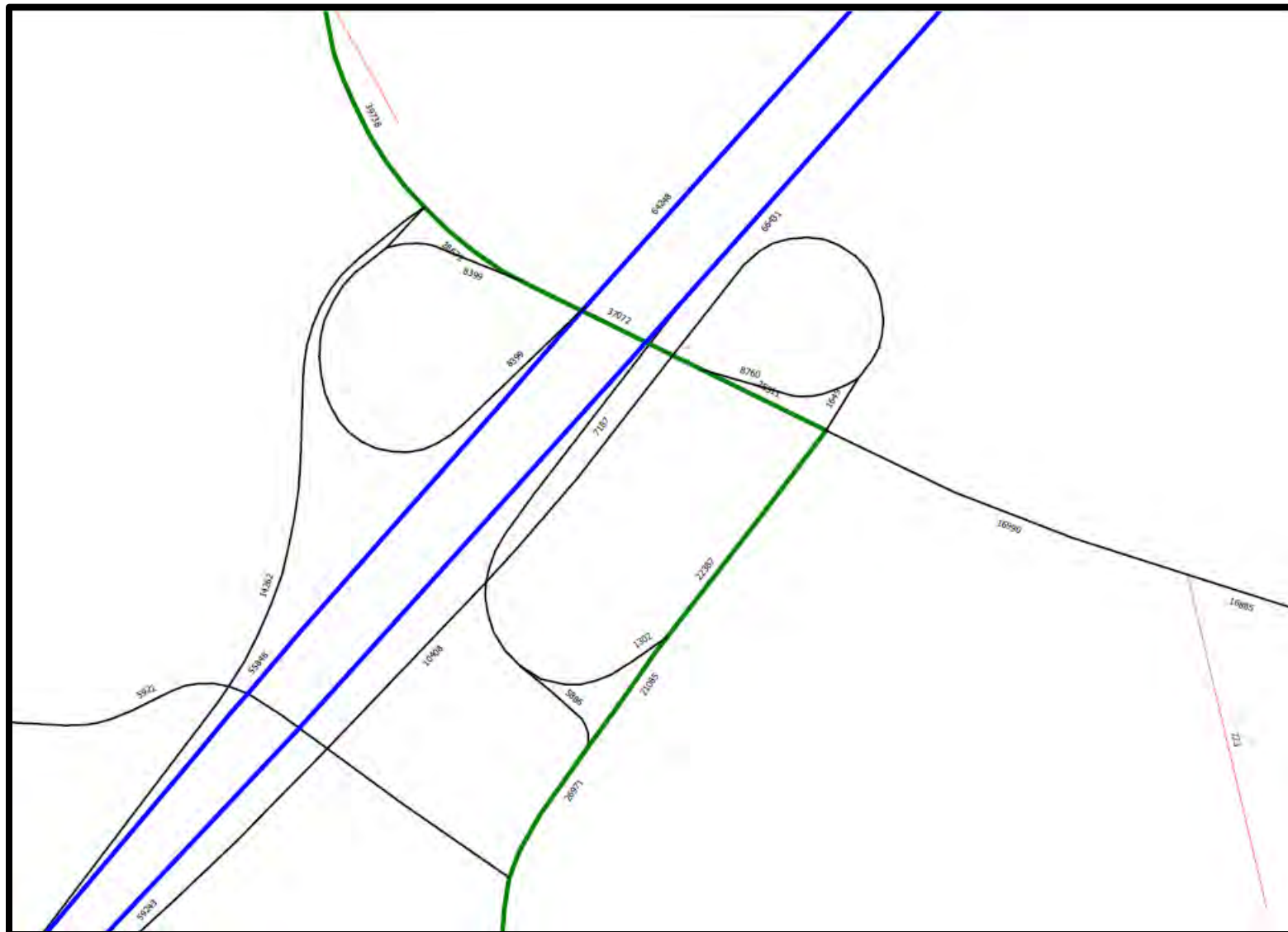
LEGEND

- PROPOSED R/W
 - PARCEL LINE
 - WETLANDS
 - PROPOSED POND
- PARKING SPACES = 156
 TOTAL POND AREA = 4.162 ACRES
 REQUIRED R/W = 18.522 ACRES

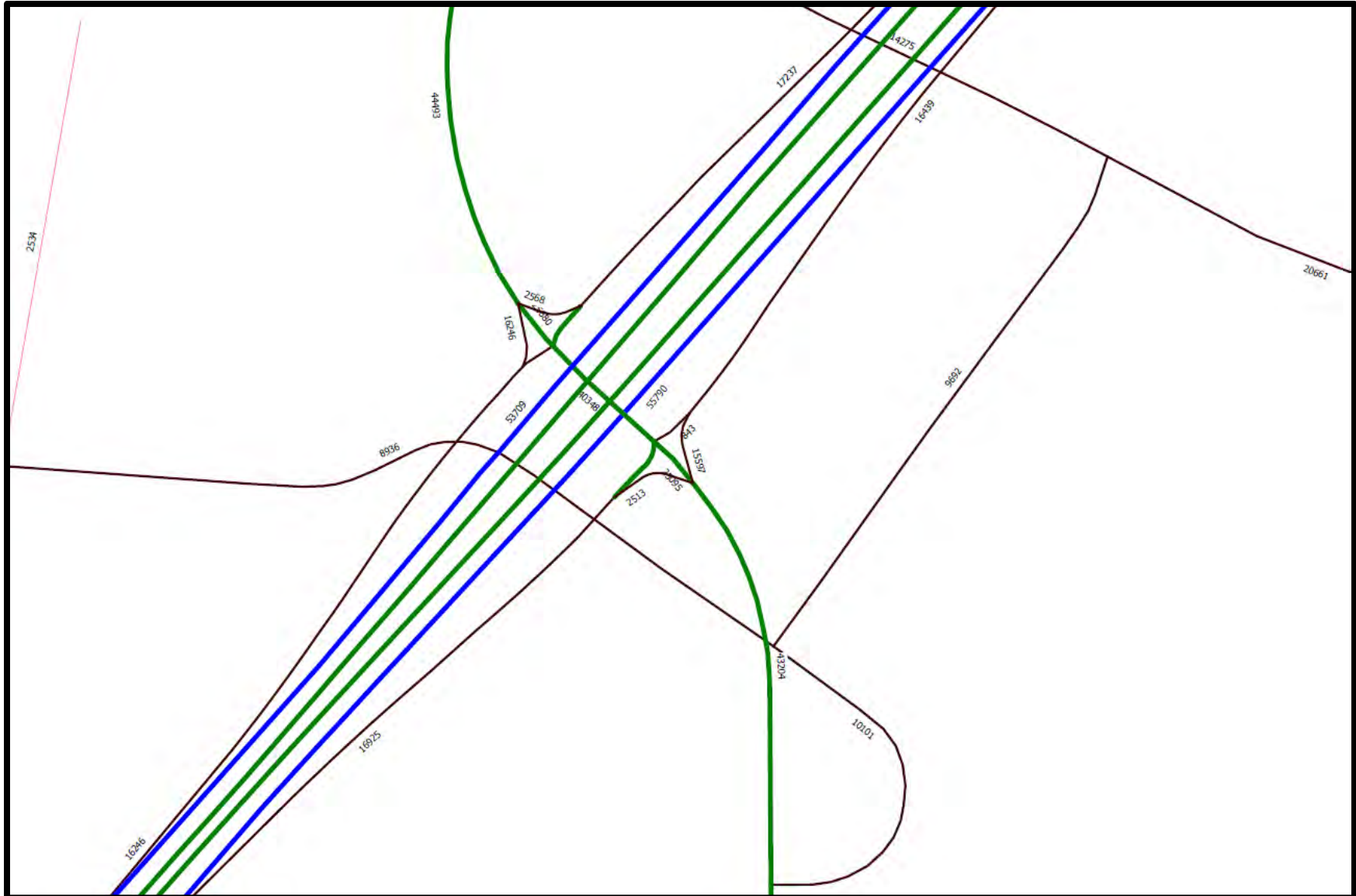


REVISIONS				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SEMINOLE COUNTY SITE 1B TRUCK PARKING CONCEPT	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				I-4	SEMINOLE	447724-1		

2015 CFRPM 7



2045 CFRPM 7



Appendix F-5

Seminole County Site 1B – Future Synchro Outputs

Queues
1: Monroe Rd & Orange Blvd



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	121	413	1154	220	155	145
Future Volume (vph)	121	413	1154	220	155	145
Satd. Flow (prot)	1752	3505	3421	0	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3421	0	3433	1583
Satd. Flow (RTOR)			23			153
Lane Group Flow (vph)	127	435	1447	0	163	153
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	20.0	60.0	40.0		40.0	40.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	12.5	74.0	55.4		10.3	10.3
Actuated g/C Ratio	0.12	0.74	0.55		0.10	0.10
v/c Ratio	0.58	0.17	0.76		0.46	0.51
Control Delay	51.4	4.2	19.1		46.2	13.2
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	51.4	4.2	19.1		46.2	13.2
LOS	D	A	B		D	B
Approach Delay		14.9	19.1		30.2	
Approach LOS		B	B		C	
Queue Length 50th (ft)	78	35	323		51	0
Queue Length 95th (ft)	130	57	486		81	57
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	256	2594	1906		1139	627
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.50	0.17	0.76		0.14	0.24

Intersection Summary

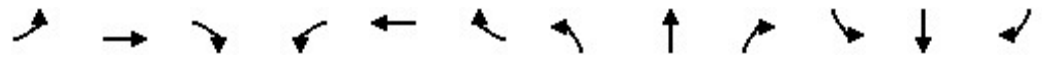
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 5 (5%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 19.6
 Intersection Capacity Utilization 70.5%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues

3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd

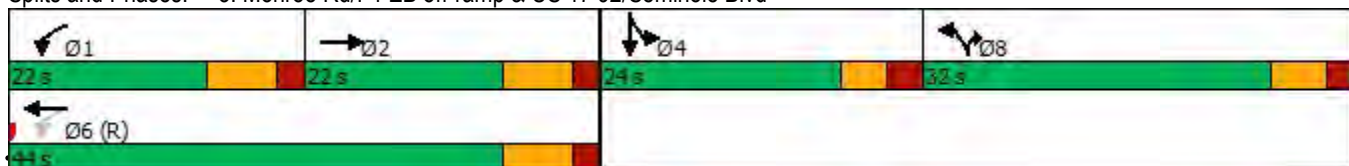


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	439	1233	117	169	0	236	0	48	60	98	367
Future Volume (vph)	0	439	1233	117	169	0	236	0	48	60	98	367
Satd. Flow (prot)	0	1845	1568	1787	3574	0	3400	0	1568	0	1819	1553
Flt Permitted				0.242			0.950				0.981	
Satd. Flow (perm)	0	1845	1568	455	3574	0	3400	0	1568	0	1819	1553
Satd. Flow (RTOR)			794						191			386
Lane Group Flow (vph)	0	462	1298	123	178	0	248	0	51	0	166	386
Turn Type		NA	Free	pm+pt	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free	6								Free
Total Split (s)		22.0		22.0	44.0		32.0		32.0	24.0	24.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		35.9	100.0	52.8	52.8		13.1		13.1		14.7	100.0
Actuated g/C Ratio		0.36	1.00	0.53	0.53		0.13		0.13		0.15	1.00
v/c Ratio		0.70	0.83	0.33	0.09		0.56		0.14		0.62	0.25
Control Delay		36.8	5.2	16.1	13.1		43.9		2.1		50.0	0.4
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		36.8	5.2	16.1	13.1		43.9		2.1		50.0	0.4
LOS		D	A	B	B		D		A		D	A
Approach Delay		13.5			14.3			36.7			15.3	
Approach LOS		B			B			D			B	
Queue Length 50th (ft)		250	0	38	28		80		0		100	0
Queue Length 95th (ft)		#492	0	79	53		117		2		163	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		662	1568	437	1887		880		547		325	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.70	0.83	0.28	0.09		0.28		0.09		0.51	0.25

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 52 (52%), Referenced to phase 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 16.3
 Intersection LOS: B
 Intersection Capacity Utilization 61.8%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Intersection												
Int Delay, s/veh	2.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	0	1	9	250	288	6	13	1373	98
Future Vol, veh/h	0	0	0	0	1	9	250	288	6	13	1373	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	3	3
Mvmt Flow	0	0	0	0	1	9	263	303	6	14	1445	103

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	- 2305	155 1445	0 0 309 0 0
Stage 1	- 832	- -	- - - - -
Stage 2	- 1473	- -	- - - - -
Critical Hdwy	- 6.5	6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	- 5.5	- -	- - - - -
Critical Hdwy Stg 2	- 5.5	- -	- - - - -
Follow-up Hdwy	- 4	3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	0 39	869 460	- - 1263 - -
Stage 1	0 387	- -	- - - - -
Stage 2	0 193	- -	- - - - -
Platoon blocked, %			- - - - -
Mov Cap-1 Maneuver	- 0	869 460	- - 1263 - -
Mov Cap-2 Maneuver	- 0	- -	- - - - -
Stage 1	- 0	- -	- - - - -
Stage 2	- 0	- -	- - - - -

Approach	NW	NE	SW
HCM Control Delay, s	9.2	10.5	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SWL	SWT	SWR
Capacity (veh/h)	460	-	-	869	1263	-
HCM Lane V/C Ratio	0.572	-	-	0.011	0.011	-
HCM Control Delay (s)	22.8	-	-	9.2	7.9	-
HCM Lane LOS	C	-	-	A	A	-
HCM 95th %tile Q(veh)	3.5	-	-	0	0	-

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	525	5	5	1283	5
Future Vol, veh/h	5	5	5	5	5	5	5	525	5	5	1283	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1	1	3	1	1	3	1
Mvmt Flow	5	5	5	5	5	5	5	553	5	5	1351	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1653	1932	678	1254	1932	279	1356	0	0	558	0	0
Stage 1	1364	1364	-	566	566	-	-	-	-	-	-	-
Stage 2	289	568	-	688	1366	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	65	66	397	129	66	721	508	-	-	1016	-	-
Stage 1	157	216	-	479	508	-	-	-	-	-	-	-
Stage 2	697	507	-	405	215	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	62	65	397	123	65	721	508	-	-	1016	-	-
Mov Cap-2 Maneuver	130	161	-	249	158	-	-	-	-	-	-	-
Stage 1	155	215	-	474	503	-	-	-	-	-	-	-
Stage 2	678	502	-	388	214	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.5		20		0.1		0	
HCM LOS	D		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	508	-	-	183	256	1016	-	-
HCM Lane V/C Ratio	0.01	-	-	0.086	0.062	0.005	-	-
HCM Control Delay (s)	12.2	-	-	26.5	20	8.6	-	-
HCM Lane LOS	B	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Queues

1: Monroe Rd & Orange Blvd

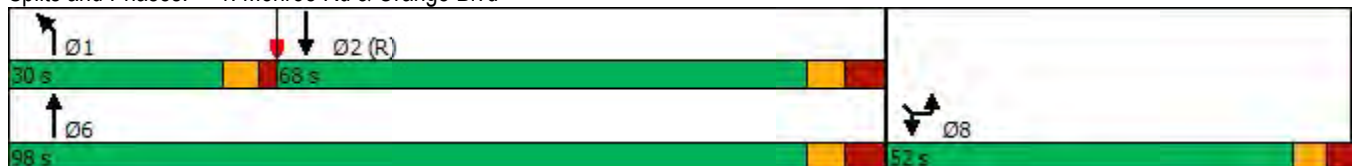


Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	121	1438	617	166	417	148
Future Volume (vph)	121	1438	617	166	417	148
Satd. Flow (prot)	1752	3505	3393	0	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3393	0	3433	1583
Satd. Flow (RTOR)			27			156
Lane Group Flow (vph)	127	1514	824	0	439	156
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	30.0	98.0	68.0		52.0	52.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	44.2	109.4	59.1		24.9	24.9
Actuated g/C Ratio	0.29	0.73	0.39		0.17	0.17
v/c Ratio	0.25	0.59	0.61		0.77	0.40
Control Delay	43.2	11.3	47.5		69.2	10.1
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	43.2	11.3	47.5		69.2	10.1
LOS	D	B	D		E	B
Approach Delay		13.8	47.5		53.7	
Approach LOS		B	D		D	
Queue Length 50th (ft)	95	335	368		214	0
Queue Length 95th (ft)	163	465	440		262	62
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	516	2557	1353		1034	586
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.25	0.59	0.61		0.42	0.27

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 51 (34%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 30.6
 Intersection LOS: C
 Intersection Capacity Utilization 64.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Monroe Rd & Orange Blvd

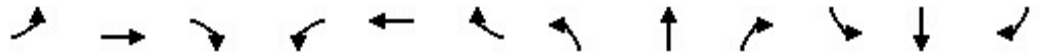


Queues

2025 No Build PM

3: Monroe Rd/I-4 EB off-ramp

06/29/2022

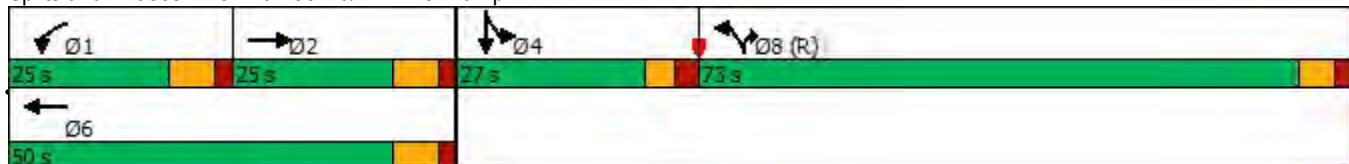


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	216	671	270	450	0	1170	0	83	22	26	869
Future Volume (vph)	0	216	671	270	450	0	1170	0	83	22	26	869
Satd. Flow (prot)	0	1845	1568	1787	3574	0	3400	0	1568	0	1819	1553
Flt Permitted				0.950			0.950				0.978	
Satd. Flow (perm)	0	1845	1568	1787	3574	0	3400	0	1568	0	1819	1553
Satd. Flow (RTOR)			706						127			234
Lane Group Flow (vph)	0	227	706	284	474	0	1232	0	87	0	50	915
Turn Type		NA	Free	Prot	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free									Free
Total Split (s)		25.0		25.0	50.0		73.0		73.0	27.0	27.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		17.8	150.0	28.7	53.7		69.1		69.1		10.7	150.0
Actuated g/C Ratio		0.12	1.00	0.19	0.36		0.46		0.46		0.07	1.00
v/c Ratio		1.04	0.45	0.83	0.37		0.79		0.11		0.39	0.59
Control Delay		134.2	0.9	78.9	38.3		33.4		1.0		74.5	1.6
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		134.2	0.9	78.9	38.3		33.4		1.0		74.5	1.6
LOS		F	A	E	D		C		A		E	A
Approach Delay		33.4			53.5			31.2			5.4	
Approach LOS		C			D			C			A	
Queue Length 50th (ft)		~238	0	273	182		569		2		48	0
Queue Length 95th (ft)		#413	0	#552	258		590		9		92	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		218	1568	341	1278		1572		793		253	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.04	0.45	0.83	0.37		0.78		0.11		0.20	0.59

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 41 (27%), Referenced to phase 8:NBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 29.7
 Intersection LOS: C
 Intersection Capacity Utilization 81.7%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp



Intersection												
Int Delay, s/veh	6.8											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↘	↕
Traffic Vol, veh/h	0	0	0	1	0	5	637	1191	0	6	793	149
Future Vol, veh/h	0	0	0	1	0	5	637	1191	0	6	793	149
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	3	0
Mvmt Flow	0	0	0	1	0	5	671	1254	0	6	835	157

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	3026	- 627 835	0 - 1254 0 0
Stage 1	2596	- - -	- - -
Stage 2	430	- - -	- - -
Critical Hdwy	6.8	- 6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	5.8	- - -	- - -
Critical Hdwy Stg 2	5.8	- - -	- - -
Follow-up Hdwy	3.5	- 3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	11	0 431 788	- 0 562 - -
Stage 1	43	0 - -	0 - -
Stage 2	629	0 - -	0 - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	2	0 431 788	- - 562 - -
Mov Cap-2 Maneuver	2	0 - -	- - -
Stage 1	6	0 - -	- - -
Stage 2	622	0 - -	- - -

Approach	NW	NE	SW
HCM Control Delay, s	13.5	10.3	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NETNWLn1	SWL	SWT	SWR
Capacity (veh/h)	788	- 431 562	- -		
HCM Lane V/C Ratio	0.851	- 0.012 0.011	- -		
HCM Control Delay (s)	29.6	- 13.5 11.5	- -		
HCM Lane LOS	D	- B B	- -		
HCM 95th %tile Q(veh)	10.1	- 0 0	- -		

Intersection												
Int Delay, s/veh	0.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	1549	5	5	754	5
Future Vol, veh/h	5	5	5	5	5	5	5	1549	5	5	754	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1	1	3	1	1	3	1
Mvmt Flow	5	5	5	5	5	5	5	1631	5	5	794	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1635	2453	400	2054	2453	818	799	0	0	1636	0	0
Stage 1	807	807	-	1644	1644	-	-	-	-	-	-	-
Stage 2	828	1646	-	410	809	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	67	31	603	33	31	321	826	-	-	397	-	-
Stage 1	344	395	-	105	157	-	-	-	-	-	-	-
Stage 2	334	157	-	592	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	63	30	603	31	30	321	826	-	-	397	-	-
Mov Cap-2 Maneuver	177	110	-	87	112	-	-	-	-	-	-	-
Stage 1	342	390	-	104	156	-	-	-	-	-	-	-
Stage 2	316	156	-	572	389	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	26.5		37.3		0		0.1	
HCM LOS	D		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	826	-	-	183	127	397	-	-
HCM Lane V/C Ratio	0.006	-	-	0.086	0.124	0.013	-	-
HCM Control Delay (s)	9.4	-	-	26.5	37.3	14.2	-	-
HCM Lane LOS	A	-	-	D	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.4	0	-	-

Queues
1: Monroe Rd & Orange Blvd



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	156	532	1486	284	199	187
Future Volume (vph)	156	532	1486	284	199	187
Satd. Flow (prot)	1752	3505	3421	0	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3421	0	3433	1583
Satd. Flow (RTOR)			37			197
Lane Group Flow (vph)	164	560	1863	0	209	197
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	18.0	84.6	66.6		15.4	15.4
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	11.5	75.7	58.1		8.6	8.6
Actuated g/C Ratio	0.12	0.76	0.58		0.09	0.09
v/c Ratio	0.82	0.21	0.93		0.71	0.63
Control Delay	73.4	3.7	21.6		58.8	15.9
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	73.4	3.7	21.6		58.8	15.9
LOS	E	A	C		E	B
Approach Delay		19.5	21.6		38.0	
Approach LOS		B	C		D	
Queue Length 50th (ft)	103	44	488		68	0
Queue Length 95th (ft)	#209	60	m484		#116	67
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	208	2654	2003		295	316
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.79	0.21	0.93		0.71	0.62

Intersection Summary

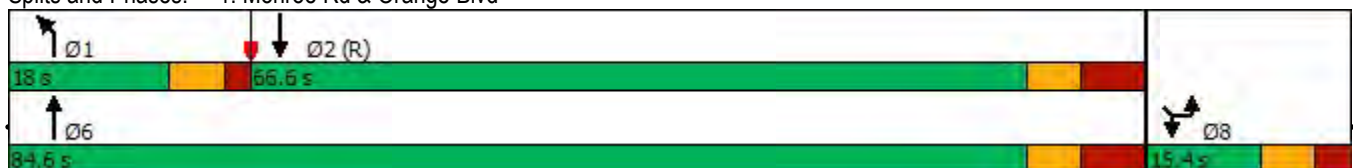
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 5 (5%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 23.3
 Intersection LOS: C
 Intersection Capacity Utilization 83.6%
 ICU Level of Service E
 Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues

3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↕		↗		↗		↕	↗
Traffic Volume (vph)	0	565	1587	151	218	0	304	0	62	77	126	472
Future Volume (vph)	0	565	1587	151	218	0	304	0	62	77	126	472
Satd. Flow (prot)	0	1845	1568	1787	3574	0	3400	0	1568	0	1819	1553
Flt Permitted				0.105			0.950				0.981	
Satd. Flow (perm)	0	1845	1568	198	3574	0	3400	0	1568	0	1819	1553
Satd. Flow (RTOR)			747						191			497
Lane Group Flow (vph)	0	595	1671	159	229	0	320	0	65	0	214	497
Turn Type		NA	Free	pm+pt	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free	6								Free
Total Split (s)		22.0		22.0	44.0		32.0		32.0	24.0	24.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		30.9	100.0	49.3	49.3		15.2		15.2		16.2	100.0
Actuated g/C Ratio		0.31	1.00	0.49	0.49		0.15		0.15		0.16	1.00
v/c Ratio		1.05	1.07	0.58	0.13		0.62		0.16		0.73	0.32
Control Delay		87.1	47.6	25.9	15.1		44.7		2.7		54.6	0.5
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		87.1	47.6	25.9	15.1		44.7		2.7		54.6	0.5
LOS		F	D	C	B		D		A		D	A
Approach Delay		57.9			19.5			37.6			16.8	
Approach LOS		E			B			D			B	
Queue Length 50th (ft)		~433	~137	56	41		104		0		128	0
Queue Length 95th (ft)		#745	#399	117	69		144		m4		207	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		569	1568	334	1761		880		547		325	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.05	1.07	0.48	0.13		0.36		0.12		0.66	0.32

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 80 (80%), Referenced to phase 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 44.1

Intersection LOS: D

Intersection Capacity Utilization 78.1%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

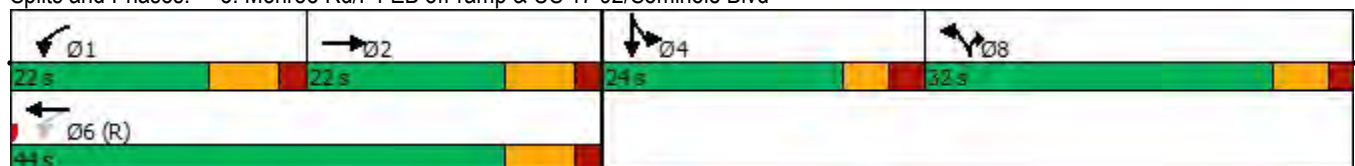
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Intersection												
Int Delay, s/veh	13.1											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	0	1	12	321	371	8	16	1767	126
Future Vol, veh/h	0	0	0	0	1	12	321	371	8	16	1767	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	3	3
Mvmt Flow	0	0	0	0	1	13	338	391	8	17	1860	133

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	- 2965	200 1860	0 0 399
Stage 1	- 1071	- -	- - -
Stage 2	- 1894	- -	- - -
Critical Hdwy	- 6.5	6.9 4.16	- - 4.1
Critical Hdwy Stg 1	- 5.5	- -	- - -
Critical Hdwy Stg 2	- 5.5	- -	- - -
Follow-up Hdwy	- 4	3.3 2.23	- - 2.2
Pot Cap-1 Maneuver	0 15	814 ~ 317	- - 1171
Stage 1	0 300	- -	- - -
Stage 2	0 119	- -	- - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	- 0	814 ~ 317	- - 1171
Mov Cap-2 Maneuver	- 0	- -	- - -
Stage 1	- 0	- -	- - -
Stage 2	- 0	- -	- - -

Approach	NW	NE	SW
HCM Control Delay, s	9.5	48.8	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SWL	SWT	SWR
Capacity (veh/h)	~ 317	-	-	814	1171	-
HCM Lane V/C Ratio	1.066	-	-	0.016	0.014	-
HCM Control Delay (s)	106.5	-	-	9.5	8.1	-
HCM Lane LOS	F	-	-	A	A	-
HCM 95th %tile Q(veh)	12.6	-	-	0	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	678	5	5	1655	5
Future Vol, veh/h	5	5	5	5	5	5	5	678	5	5	1655	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1	1	3	1	1	3	1
Mvmt Flow	5	5	5	5	5	5	5	714	5	5	1742	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2125	2484	874	1611	2484	360	1747	0	0	719	0	0
Stage 1	1755	1755	-	727	727	-	-	-	-	-	-	-
Stage 2	370	729	-	884	1757	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	29	29	295	70	29	639	360	-	-	885	-	-
Stage 1	89	139	-	384	430	-	-	-	-	-	-	-
Stage 2	625	429	-	309	138	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	27	28	295	65	28	639	360	-	-	885	-	-
Mov Cap-2 Maneuver	75	104	-	177	101	-	-	-	-	-	-	-
Stage 1	88	138	-	379	424	-	-	-	-	-	-	-
Stage 2	604	423	-	290	137	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	41.6		27.6		0.1		0	
HCM LOS	E		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	360	-	-	114	175	885	-	-
HCM Lane V/C Ratio	0.015	-	-	0.139	0.09	0.006	-	-
HCM Control Delay (s)	15.1	-	-	41.6	27.6	9.1	-	-
HCM Lane LOS	C	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.3	0	-	-

Queues
1: Monroe Rd & Orange Blvd



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations	↩	↑↑	↑↑		↩↩	↩
Traffic Volume (vph)	156	1851	794	214	536	191
Future Volume (vph)	156	1851	794	214	536	191
Satd. Flow (prot)	1752	3505	3393	0	3433	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3393	0	3433	1583
Satd. Flow (RTOR)			31			201
Lane Group Flow (vph)	164	1948	1061	0	564	201
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	29.7	109.2	79.5		40.8	40.8
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effect Green (s)	27.9	104.6	70.6		29.7	29.7
Actuated g/C Ratio	0.19	0.70	0.47		0.20	0.20
v/c Ratio	0.50	0.80	0.66		0.83	0.42
Control Delay	62.2	19.3	41.9		68.8	8.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	62.2	19.3	41.9		68.8	8.7
LOS	E	B	D		E	A
Approach Delay		22.7	41.9		53.0	
Approach LOS		C	D		D	
Queue Length 50th (ft)	147	646	468		273	0
Queue Length 95th (ft)	233	812	m512		334	67
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	326	2445	1613		778	514
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.50	0.80	0.66		0.72	0.39

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 51 (34%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 33.7
 Intersection LOS: C
 Intersection Capacity Utilization 79.5%
 ICU Level of Service D
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues
3: Monroe Rd/I-4 EB off-ramp

2045 No Build PM
06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↗↖		↗		↖	↗
Traffic Volume (vph)	0	278	863	347	580	0	1506	0	106	28	34	1119
Future Volume (vph)	0	278	863	347	580	0	1506	0	106	28	34	1119
Satd. Flow (prot)	0	1845	1568	1787	3574	0	3400	0	1568	0	1818	1553
Flt Permitted				0.950			0.950				0.978	
Satd. Flow (perm)	0	1845	1568	1787	3574	0	3400	0	1568	0	1818	1553
Satd. Flow (RTOR)			816						127			172
Lane Group Flow (vph)	0	293	908	365	611	0	1585	0	112	0	65	1178
Turn Type		NA	Free	Prot	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free									Free
Total Split (s)		29.6		35.8	65.4		70.5		70.5	14.1	14.1	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		22.4	150.0	28.6	58.2		64.4		64.4		8.0	150.0
Actuated g/C Ratio		0.15	1.00	0.19	0.39		0.43		0.43		0.05	1.00
v/c Ratio		1.07	0.58	1.07	0.44		1.09		0.15		0.68	0.76
Control Delay		131.4	1.6	125.5	35.1		82.7		3.2		101.7	3.5
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		131.4	1.6	125.5	35.1		82.7		3.2		101.7	3.5
LOS		F	A	F	D		F		A		F	A
Approach Delay		33.2			68.9			77.4				8.7
Approach LOS		C			E			E				A
Queue Length 50th (ft)		~315	0	~395	231		~893		3		64	0
Queue Length 95th (ft)		#508	0	#602	287		#1029		m9		#139	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		275	1568	340	1386		1459		745		96	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.07	0.58	1.07	0.44		1.09		0.15		0.68	0.76

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 41 (27%), Referenced to phase 8:NBL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 48.7

Intersection LOS: D

Intersection Capacity Utilization 98.8%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

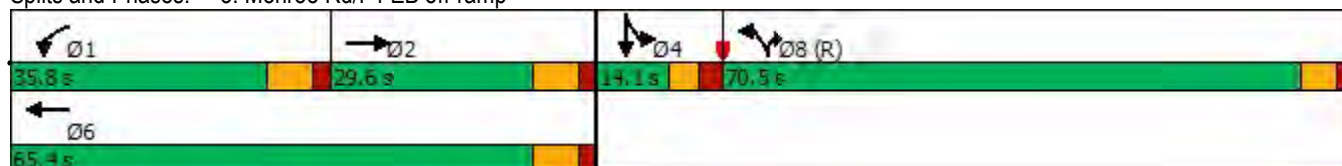
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp



Intersection												
Int Delay, s/veh	43.3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	1	0	7	820	1533	0	8	1021	192
Future Vol, veh/h	0	0	0	1	0	7	820	1533	0	8	1021	192
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	3	0
Mvmt Flow	0	0	0	1	0	7	863	1614	0	8	1075	202

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	3894	- 807 1075	0 - 1614 0 0
Stage 1	3340	- - -	- - - - -
Stage 2	554	- - -	- - - - -
Critical Hdwy	6.8	- 6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	5.8	- - -	- - - - -
Critical Hdwy Stg 2	5.8	- - -	- - - - -
Follow-up Hdwy	3.5	- 3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	3	0 329 ~ 638	- 0 410 - -
Stage 1	16	0 - -	- 0 - - -
Stage 2	545	0 - -	- 0 - - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	0	0 329 ~ 638	- - 410 - -
Mov Cap-2 Maneuver	0	0 - -	- - - - -
Stage 1	0	0 - -	- - - - -
Stage 2	534	0 - -	- - - - -

Approach	NW	NE	SW
HCM Control Delay, s	16.2	65.8	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NETNWLn1	SWL	SWT	SWR
Capacity (veh/h)	~ 638	- 329	410	-	-
HCM Lane V/C Ratio	1.353	- 0.022	0.021	-	-
HCM Control Delay (s)	188.7	- 16.2	14	-	-
HCM Lane LOS	F	- C	B	-	-
HCM 95th %tile Q(veh)	36.9	- 0.1	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	5	5	5	5	5	1993	5	5	971	5
Future Vol, veh/h	5	5	5	5	5	5	5	1993	5	5	971	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	1	1	1	1	3	1	1	3	1
Mvmt Flow	5	5	5	5	5	5	5	2098	5	5	1022	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2097	3148	514	2635	3148	1052	1027	0	0	2103	0	0
Stage 1	1035	1035	-	2111	2111	-	-	-	-	-	-	-
Stage 2	1062	2113	-	524	1037	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	6.92	7.52	6.52	6.92	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	3.31	3.51	4.01	3.31	2.21	-	-	2.21	-	-
Pot Cap-1 Maneuver	30	11	508	12	11	225	678	-	-	261	-	-
Stage 1	250	309	-	53	92	-	-	-	-	-	-	-
Stage 2	241	91	-	507	309	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	27	11	508	11	11	225	678	-	-	261	-	-
Mov Cap-2 Maneuver	117	64	-	45	67	-	-	-	-	-	-	-
Stage 1	248	303	-	53	91	-	-	-	-	-	-	-
Stage 2	220	90	-	484	303	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	41.2		68.5		0		0.1	
HCM LOS	E		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	678	-	-	115	72	261	-	-
HCM Lane V/C Ratio	0.008	-	-	0.137	0.219	0.02	-	-
HCM Control Delay (s)	10.4	-	-	41.2	68.5	19.1	-	-
HCM Lane LOS	B	-	-	E	F	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.8	0.1	-	-

Queues
1: Monroe Rd & Orange Blvd



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	121	413	1173	220	155	147
Future Volume (vph)	121	413	1173	220	155	147
Satd. Flow (prot)	1752	3505	3393	0	3433	1553
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3393	0	3433	1553
Satd. Flow (RTOR)			22			155
Lane Group Flow (vph)	127	435	1467	0	163	155
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	20.0	60.0	40.0		40.0	40.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	12.5	74.0	55.4		10.3	10.3
Actuated g/C Ratio	0.12	0.74	0.55		0.10	0.10
v/c Ratio	0.58	0.17	0.78		0.46	0.52
Control Delay	51.4	4.2	19.5		46.2	13.4
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	51.4	4.2	19.5		46.2	13.4
LOS	D	A	B		D	B
Approach Delay		14.9	19.5		30.2	
Approach LOS		B	B		C	
Queue Length 50th (ft)	78	35	331		51	0
Queue Length 95th (ft)	130	57	#514		81	57
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	256	2594	1890		1139	619
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.50	0.17	0.78		0.14	0.25

Intersection Summary

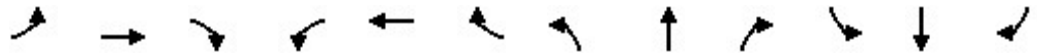
Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 5 (5%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.78
 Intersection Signal Delay: 19.9
 Intersection LOS: B
 Intersection Capacity Utilization 71.0%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues

3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd

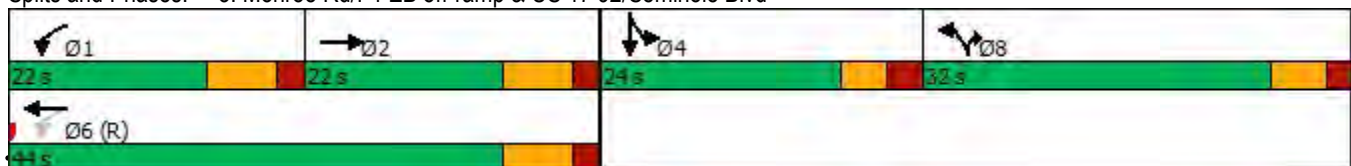


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	439	1246	118	169	0	236	0	48	60	103	367
Future Volume (vph)	0	439	1246	118	169	0	236	0	48	60	103	367
Satd. Flow (prot)	0	1845	1553	1787	3574	0	3400	0	1568	0	1787	1553
Flt Permitted				0.239			0.950				0.982	
Satd. Flow (perm)	0	1845	1553	450	3574	0	3400	0	1568	0	1787	1553
Satd. Flow (RTOR)			789						191			386
Lane Group Flow (vph)	0	462	1312	124	178	0	248	0	51	0	171	386
Turn Type		NA	Free	pm+pt	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free	6								Free
Total Split (s)		22.0		22.0	44.0		32.0		32.0	24.0	24.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		35.5	100.0	52.5	52.5		13.1		13.1		15.0	100.0
Actuated g/C Ratio		0.36	1.00	0.52	0.52		0.13		0.13		0.15	1.00
v/c Ratio		0.71	0.84	0.34	0.09		0.56		0.14		0.64	0.25
Control Delay		37.4	6.2	16.3	13.3		43.9		2.1		50.6	0.4
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		37.4	6.2	16.3	13.3		43.9		2.1		50.6	0.4
LOS		D	A	B	B		D		A		D	A
Approach Delay		14.3			14.5			36.8				15.8
Approach LOS		B			B			D				B
Queue Length 50th (ft)		252	0	39	28		80		0		103	0
Queue Length 95th (ft)		#492	0	80	53		117		2		168	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		655	1553	433	1875		880		547		319	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.71	0.84	0.29	0.09		0.28		0.09		0.54	0.25

Intersection Summary

Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 52 (52%), Referenced to phase 6:WBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 16.9
 Intersection LOS: B
 Intersection Capacity Utilization 62.1%
 ICU Level of Service B
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Queues
7: US 17 92/Seminole Blvd

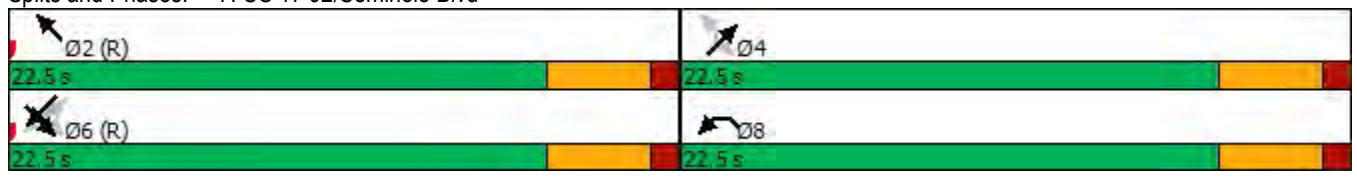
2025 Build AM
06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Satd. Flow (prot)	1863	3539	1863	1863	3539	0	0	1863	1863	0	1863	0
Flt Permitted												
Satd. Flow (perm)	1863	3539	1863	1863	3539	0	0	1863	1863	0	1863	0
Satd. Flow (RTOR)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm		Perm	Prot					Perm			
Protected Phases		6!		8!	2!			4!				6!
Permitted Phases	6!		6				4!		4	6!		
Total Split (s)	22.5	22.5	22.5	22.5	22.5		22.5	22.5	22.5	22.5	22.5	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5			4.5	4.5		4.5	
Act Effct Green (s)												
Actuated g/C Ratio												
v/c Ratio												
Control Delay												
Queue Delay												
Total Delay												
LOS												
Approach Delay												
Approach LOS												
Queue Length 50th (ft)												
Queue Length 95th (ft)												
Internal Link Dist (ft)		677			446			320			133	
Turn Bay Length (ft)												
Base Capacity (vph)												
Starvation Cap Reductn												
Spillback Cap Reductn												
Storage Cap Reductn												
Reduced v/c Ratio												

Intersection Summary

Cycle Length: 45
 Actuated Cycle Length: 45
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SESW, Start of Green
 Control Type: Pretimed
 Maximum v/c Ratio: 0.00
 Intersection Signal Delay: 0.0
 Intersection Capacity Utilization 0.0%
 Analysis Period (min) 15
 ! Phase conflict between lane groups.

Splits and Phases: 7: US 17 92/Seminole Blvd



Intersection												
Int Delay, s/veh	3											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	0	1	9	250	288	6	13	1392	98
Future Vol, veh/h	0	0	0	0	1	9	250	288	6	13	1392	98
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	4	3
Mvmt Flow	0	0	0	0	1	9	263	303	6	14	1465	103

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	- 2325	155 1465	0 0 309 0 0
Stage 1	- 832	- -	- - - - -
Stage 2	- 1493	- -	- - - - -
Critical Hdwy	- 6.5	6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	- 5.5	- -	- - - - -
Critical Hdwy Stg 2	- 5.5	- -	- - - - -
Follow-up Hdwy	- 4	3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	0 38	869 452	- - 1263 - -
Stage 1	0 387	- -	- - - - -
Stage 2	0 188	- -	- - - - -
Platoon blocked, %			- - - - -
Mov Cap-1 Maneuver	- 0	869 452	- - 1263 - -
Mov Cap-2 Maneuver	- 0	- -	- - - - -
Stage 1	- 0	- -	- - - - -
Stage 2	- 0	- -	- - - - -

Approach	NW	NE	SW
HCM Control Delay, s	9.2	10.8	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SWL	SWT	SWR
Capacity (veh/h)	452	-	-	869	1263	-
HCM Lane V/C Ratio	0.582	-	-	0.011	0.011	-
HCM Control Delay (s)	23.5	-	-	9.2	7.9	-
HCM Lane LOS	C	-	-	A	A	-
HCM 95th %tile Q(veh)	3.6	-	-	0	0	-

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	40	5	5	5	19	525	5	5	1283	26
Future Vol, veh/h	5	5	40	5	5	5	19	525	5	5	1283	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	100	1	1	1	100	3	1	1	3	100
Mvmt Flow	5	5	42	5	5	5	20	553	5	5	1351	27

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	1694	1973	689	1284	1984	279	1378	0	0	558	0	0
Stage 1	1375	1375	-	596	596	-	-	-	-	-	-	-
Stage 2	319	598	-	688	1388	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	8.9	7.52	6.52	6.92	6.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	4.3	3.51	4.01	3.31	3.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	61	62	224	123	61	721	189	-	-	1016	-	-
Stage 1	154	213	-	460	493	-	-	-	-	-	-	-
Stage 2	670	492	-	405	210	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	54	55	224	89	54	721	189	-	-	1016	-	-
Mov Cap-2 Maneuver	115	152	-	197	141	-	-	-	-	-	-	-
Stage 1	138	212	-	411	441	-	-	-	-	-	-	-
Stage 2	588	440	-	319	209	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	30	22.5	0.9	0
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	189	-	-	196	221	1016	-
HCM Lane V/C Ratio	0.106	-	-	0.269	0.071	0.005	-
HCM Control Delay (s)	26.3	-	-	30	22.5	8.6	-
HCM Lane LOS	D	-	-	D	C	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1	0.2	0	-

Queues

1: Monroe Rd & Orange Blvd

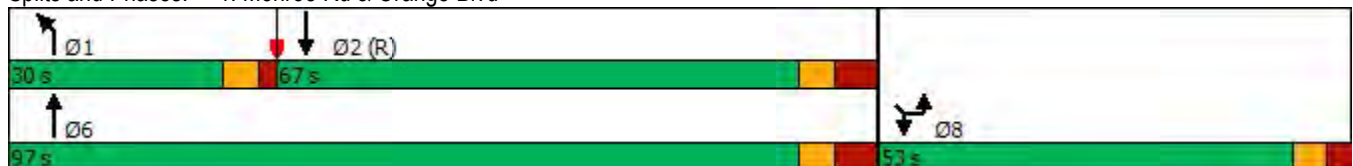


Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	121	1438	633	166	417	192
Future Volume (vph)	121	1438	633	166	417	192
Satd. Flow (prot)	1752	3505	3345	0	3433	1553
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3345	0	3433	1553
Satd. Flow (RTOR)			26			202
Lane Group Flow (vph)	127	1514	841	0	439	202
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	30.0	97.0	67.0		53.0	53.0
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	45.1	109.3	58.1		25.0	25.0
Actuated g/C Ratio	0.30	0.73	0.39		0.17	0.17
v/c Ratio	0.24	0.59	0.64		0.77	0.47
Control Delay	42.5	11.4	48.6		68.7	10.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	42.5	11.4	48.6		68.7	10.0
LOS	D	B	D		E	B
Approach Delay		13.8	48.6		50.2	
Approach LOS		B	D		D	
Queue Length 50th (ft)	94	335	383		214	0
Queue Length 95th (ft)	161	465	456		262	69
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	526	2553	1311		1057	618
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.24	0.59	0.64		0.42	0.33

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 51 (34%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 30.7
 Intersection LOS: C
 Intersection Capacity Utilization 64.7%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues
3: Monroe Rd/I-4 EB off-ramp

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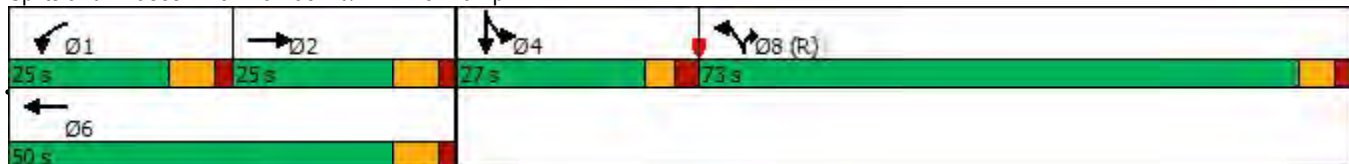


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	216	678	272	450	0	1170	0	83	22	34	869
Future Volume (vph)	0	216	678	272	450	0	1170	0	83	22	34	869
Satd. Flow (prot)	0	1845	1553	1770	3574	0	3400	0	1568	0	1643	1553
Flt Permitted				0.950			0.950				0.981	
Satd. Flow (perm)	0	1845	1553	1770	3574	0	3400	0	1568	0	1643	1553
Satd. Flow (RTOR)			714						127			234
Lane Group Flow (vph)	0	227	714	286	474	0	1232	0	87	0	59	915
Turn Type		NA	Free	Prot	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free									Free
Total Split (s)		25.0		25.0	50.0		73.0		73.0	27.0	27.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		17.8	150.0	28.3	53.3		68.3		68.3		11.8	150.0
Actuated g/C Ratio		0.12	1.00	0.19	0.36		0.46		0.46		0.08	1.00
v/c Ratio		1.04	0.46	0.86	0.37		0.80		0.11		0.46	0.59
Control Delay		134.2	1.0	82.4	38.6		34.6		1.0		76.5	1.6
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		134.2	1.0	82.4	38.6		34.6		1.0		76.5	1.6
LOS		F	A	F	D		C		A		E	A
Approach Delay		33.1			55.1			32.4			6.2	
Approach LOS		C			E			C			A	
Queue Length 50th (ft)		~238	0	278	184		571		2		56	0
Queue Length 95th (ft)		#413	0	#558	258		632		9		104	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		218	1553	333	1269		1557		787		228	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.04	0.46	0.86	0.37		0.79		0.11		0.26	0.59

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 41 (27%), Referenced to phase 8:NBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 30.5
 Intersection LOS: C
 Intersection Capacity Utilization 81.8%
 ICU Level of Service D
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp



Intersection												
Int Delay, s/veh	7.2											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↘	↕
Traffic Vol, veh/h	0	0	0	1	0	5	637	1191	0	6	809	149
Future Vol, veh/h	0	0	0	1	0	5	637	1191	0	6	809	149
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	5	0
Mvmt Flow	0	0	0	1	0	5	671	1254	0	6	852	157

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	3034	- 627 852	0 - 1254 0 0
Stage 1	2596	- - -	- - -
Stage 2	438	- - -	- - -
Critical Hdwy	6.8	- 6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	5.8	- - -	- - -
Critical Hdwy Stg 2	5.8	- - -	- - -
Follow-up Hdwy	3.5	- 3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	10	0 431 776	- 0 562 - -
Stage 1	43	0 - -	- 0 - -
Stage 2	624	0 - -	- 0 - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	~ 1	0 431 776	- - 562 - -
Mov Cap-2 Maneuver	~ 1	0 - -	- - - -
Stage 1	6	0 - -	- - - -
Stage 2	617	0 - -	- - - -

Approach	NW	NE	SW
HCM Control Delay, s	13.5	10.9	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NETNWLn1	SWL	SWT	SWR
Capacity (veh/h)	776	- 431 562	- -	- -	- -
HCM Lane V/C Ratio	0.864	- 0.012 0.011	- -	- -	- -
HCM Control Delay (s)	31.4	- 13.5 11.5	- -	- -	- -
HCM Lane LOS	D	- B B	- -	- -	- -
HCM 95th %tile Q(veh)	10.6	- 0 0	- -	- -	- -

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	40	5	5	5	22	1549	5	5	754	23
Future Vol, veh/h	5	5	40	5	5	5	22	1549	5	5	754	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	100	1	1	1	100	3	1	1	3	100
Mvmt Flow	5	5	42	5	5	5	23	1631	5	5	794	24

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1680	2498	409	2090	2508	818	818	0	0	1636	0	0
Stage 1	816	816	-	1680	1680	-	-	-	-	-	-	-
Stage 2	864	1682	-	410	828	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	8.9	7.52	6.52	6.92	6.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	4.3	3.51	4.01	3.31	3.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	62	29	385	31	28	321	396	-	-	397	-	-
Stage 1	339	391	-	99	151	-	-	-	-	-	-	-
Stage 2	317	151	-	592	386	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	55	27	385	25	26	321	396	-	-	397	-	-
Mov Cap-2 Maneuver	161	102	-	77	102	-	-	-	-	-	-	-
Stage 1	319	386	-	93	142	-	-	-	-	-	-	-
Stage 2	283	142	-	514	381	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	21.4		40.9		0.2		0.1	
HCM LOS	C		E					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	396	-	-	272	116	397	-	-
HCM Lane V/C Ratio	0.058	-	-	0.193	0.136	0.013	-	-
HCM Control Delay (s)	14.7	-	-	21.4	40.9	14.2	-	-
HCM Lane LOS	B	-	-	C	E	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	0.5	0	-	-



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	156	532	1505	284	199	189
Future Volume (vph)	156	532	1505	284	199	189
Satd. Flow (prot)	1752	3505	3393	0	3433	1553
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3393	0	3433	1553
Satd. Flow (RTOR)			37			197
Lane Group Flow (vph)	164	560	1883	0	209	199
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	17.2	84.6	67.4		15.4	15.4
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	11.0	75.7	58.6		8.6	8.6
Actuated g/C Ratio	0.11	0.76	0.59		0.09	0.09
v/c Ratio	0.85	0.21	0.94		0.71	0.64
Control Delay	80.7	3.7	23.1		58.8	16.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	80.7	3.7	23.1		58.8	16.7
LOS	F	A	C		E	B
Approach Delay		21.2	23.1		38.3	
Approach LOS		C	C		D	
Queue Length 50th (ft)	104	44	533		68	1
Queue Length 95th (ft)	#218	60	m528		#116	69
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	194	2654	2005		295	313
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.85	0.21	0.94		0.71	0.64

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 5 (5%), Referenced to phase 2:SBT, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 24.7

Intersection LOS: C

Intersection Capacity Utilization 84.1%

ICU Level of Service E

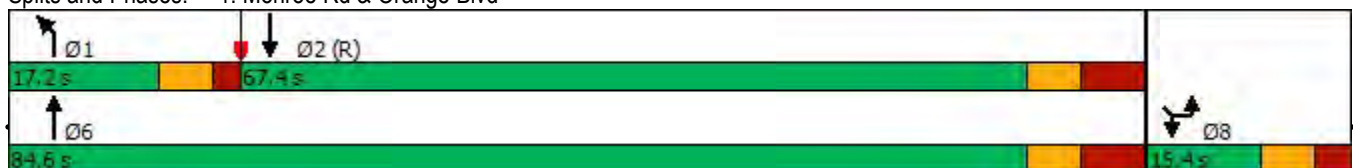
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Monroe Rd & Orange Blvd

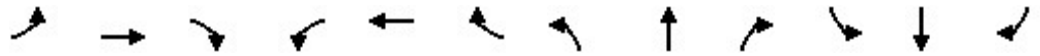


Queues

2045 Build AM

3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd

06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	565	1600	152	218	0	304	0	62	77	131	472
Future Volume (vph)	0	565	1600	152	218	0	304	0	62	77	131	472
Satd. Flow (prot)	0	1845	1553	1787	3574	0	3400	0	1568	0	1787	1553
Flt Permitted				0.106			0.950				0.982	
Satd. Flow (perm)	0	1845	1553	199	3574	0	3400	0	1568	0	1787	1553
Satd. Flow (RTOR)			742						191			497
Lane Group Flow (vph)	0	595	1684	160	229	0	320	0	65	0	219	497
Turn Type		NA	Free	pm+pt	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free	6								Free
Total Split (s)		22.0		22.0	44.0		32.0		32.0	24.0	24.0	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		30.6	100.0	49.1	49.1		15.2		15.2		16.4	100.0
Actuated g/C Ratio		0.31	1.00	0.49	0.49		0.15		0.15		0.16	1.00
v/c Ratio		1.05	1.08	0.58	0.13		0.62		0.16		0.75	0.32
Control Delay		89.8	54.9	26.1	15.2		36.5		1.4		56.2	0.5
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		89.8	54.9	26.1	15.2		36.5		1.4		56.2	0.5
LOS		F	D	C	B		D		A		E	A
Approach Delay		64.0			19.6			30.6			17.6	
Approach LOS		E			B			C			B	
Queue Length 50th (ft)		~434	~175	57	41		87		0		132	0
Queue Length 95th (ft)		#745	#436	118	69		117		m4		#226	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		564	1553	334	1753		880		547		319	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.05	1.08	0.48	0.13		0.36		0.12		0.69	0.32

Intersection Summary

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 42 (42%), Referenced to phase 6:WBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 47.2

Intersection LOS: D

Intersection Capacity Utilization 78.4%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

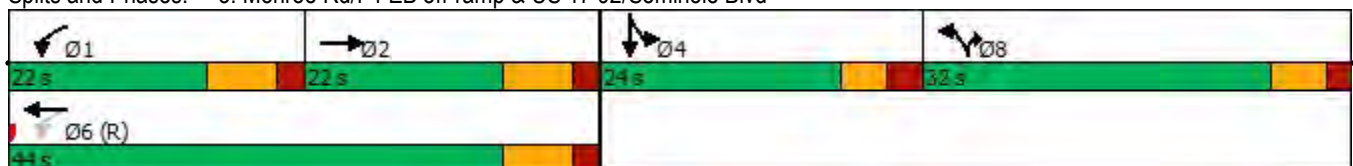
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp & US 17 92/Seminole Blvd



Intersection												
Int Delay, s/veh	14											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	0	1	12	321	371	8	16	1786	126
Future Vol, veh/h	0	0	0	0	1	12	321	371	8	16	1786	126
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	4	3
Mvmt Flow	0	0	0	0	1	13	338	391	8	17	1880	133

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	- 2985	200 1880	0 0 399 0 0
Stage 1	- 1071	- -	- - - - -
Stage 2	- 1914	- -	- - - - -
Critical Hdwy	- 6.5	6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	- 5.5	- -	- - - - -
Critical Hdwy Stg 2	- 5.5	- -	- - - - -
Follow-up Hdwy	- 4	3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	0 14	814 ~ 311	- - 1171 - -
Stage 1	0 300	- -	- - - - -
Stage 2	0 117	- -	- - - - -
Platoon blocked, %			- - - - -
Mov Cap-1 Maneuver	- 0	814 ~ 311	- - 1171 - -
Mov Cap-2 Maneuver	- 0	- -	- - - - -
Stage 1	- 0	- -	- - - - -
Stage 2	- 0	- -	- - - - -

Approach	NW	NE	SW
HCM Control Delay, s	9.5	52.2	0.1
HCM LOS	A		

Minor Lane/Major Mvmt	NEL	NET	NERNWLn1	SWL	SWT	SWR
Capacity (veh/h)	~ 311	-	-	814	1171	-
HCM Lane V/C Ratio	1.086	-	-	0.016	0.014	-
HCM Control Delay (s)	113.7	-	-	9.5	8.1	-
HCM Lane LOS	F	-	-	A	A	-
HCM 95th %tile Q(veh)	13.1	-	-	0	0	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	1.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	40	5	5	5	19	678	5	5	1655	26
Future Vol, veh/h	5	5	40	5	5	5	19	678	5	5	1655	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	100	1	1	1	100	3	1	1	3	100
Mvmt Flow	5	5	42	5	5	5	20	714	5	5	1742	27

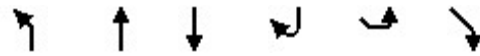
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2166	2525	885	1641	2536	360	1769	0	0	719	0	0
Stage 1	1766	1766	-	757	757	-	-	-	-	-	-	-
Stage 2	400	759	-	884	1779	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	8.9	7.52	6.52	6.92	6.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	4.3	3.51	4.01	3.31	3.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	27	28	152	67	27	639	111	-	-	885	-	-
Stage 1	88	137	-	368	416	-	-	-	-	-	-	-
Stage 2	600	415	-	309	135	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	22	23	152	40	22	639	111	-	-	885	-	-
Mov Cap-2 Maneuver	61	97	-	125	85	-	-	-	-	-	-	-
Stage 1	72	136	-	302	341	-	-	-	-	-	-	-
Stage 2	480	340	-	214	134	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	52.7		33.7		1.2		0	
HCM LOS	F		D					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	111	-	-	126	141	885	-	-
HCM Lane V/C Ratio	0.18	-	-	0.418	0.112	0.006	-	-
HCM Control Delay (s)	44.4	-	-	52.7	33.7	9.1	-	-
HCM Lane LOS	E	-	-	F	D	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	1.8	0.4	0	-	-

Queues

1: Monroe Rd & Orange Blvd



Lane Group	NBL	NBT	SBT	SBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	156	1851	810	214	536	192
Future Volume (vph)	156	1851	810	214	536	192
Satd. Flow (prot)	1752	3505	3345	0	3433	1568
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	3505	3345	0	3433	1568
Satd. Flow (RTOR)			30			202
Lane Group Flow (vph)	164	1948	1078	0	564	202
Turn Type	Prot	NA	NA		Prot	Prot
Protected Phases	1	6	2		8	8
Permitted Phases						
Total Split (s)	29.7	109.2	79.5		40.8	40.8
Total Lost Time (s)	6.1	8.9	8.9		6.8	6.8
Act Effct Green (s)	27.9	104.6	70.6		29.7	29.7
Actuated g/C Ratio	0.19	0.70	0.47		0.20	0.20
v/c Ratio	0.50	0.80	0.68		0.83	0.43
Control Delay	62.2	19.3	42.4		68.8	8.8
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	62.2	19.3	42.4		68.8	8.8
LOS	E	B	D		E	A
Approach Delay		22.7	42.4		53.0	
Approach LOS		C	D		D	
Queue Length 50th (ft)	147	646	481		273	0
Queue Length 95th (ft)	233	812	m525		334	67
Internal Link Dist (ft)		570	459		442	
Turn Bay Length (ft)	150				300	
Base Capacity (vph)	326	2445	1590		778	511
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.50	0.80	0.68		0.72	0.40

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 51 (34%), Referenced to phase 2:SBT, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 33.9
 Intersection LOS: C
 Intersection Capacity Utilization 79.5%
 ICU Level of Service D
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Monroe Rd & Orange Blvd



Queues
3: Monroe Rd/I-4 EB off-ramp

2045 Build PM
06/29/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↗	↖	↑↑		↖↗		↗		↖	↗
Traffic Volume (vph)	0	278	870	349	580	0	1506	0	106	28	42	1119
Future Volume (vph)	0	278	870	349	580	0	1506	0	106	28	42	1119
Satd. Flow (prot)	0	1845	1553	1770	3574	0	3400	0	1568	0	1646	1553
Flt Permitted				0.950			0.950				0.981	
Satd. Flow (perm)	0	1845	1553	1770	3574	0	3400	0	1568	0	1646	1553
Satd. Flow (RTOR)			808						127			172
Lane Group Flow (vph)	0	293	916	367	611	0	1585	0	112	0	73	1178
Turn Type		NA	Free	Prot	NA		Prot		Prot	Split	NA	Free
Protected Phases		2		1	6		8		8	4	4	
Permitted Phases			Free									Free
Total Split (s)		29.6		36.2	65.8		70.1		70.1	14.1	14.1	
Total Lost Time (s)		7.2		7.2	7.2		6.1		6.1		6.1	
Act Effct Green (s)		22.4	150.0	29.0	58.6		64.0		64.0		8.0	150.0
Actuated g/C Ratio		0.15	1.00	0.19	0.39		0.43		0.43		0.05	1.00
v/c Ratio		1.07	0.59	1.07	0.44		1.09		0.15		0.84	0.76
Control Delay		131.4	1.7	125.1	34.8		85.4		3.3		128.3	3.5
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		131.4	1.7	125.1	34.8		85.4		3.3		128.3	3.5
LOS		F	A	F	C		F		A		F	A
Approach Delay		33.1			68.7			80.0			10.8	
Approach LOS		C			E			F			B	
Queue Length 50th (ft)		~315	0	~397	230		~896		3		72	0
Queue Length 95th (ft)		#508	0	#604	285		#1034		m9		#171	0
Internal Link Dist (ft)		790			753			1044			328	
Turn Bay Length (ft)				265			500					
Base Capacity (vph)		275	1553	342	1396		1450		741		87	1553
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.07	0.59	1.07	0.44		1.09		0.15		0.84	0.76

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 41 (27%), Referenced to phase 8:NBL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 50.0
 Intersection LOS: D
 Intersection Capacity Utilization 98.9%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Monroe Rd/I-4 EB off-ramp



Intersection												
Int Delay, s/veh	45											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations							↗	↘	↕	↗	↕	↘
Traffic Vol, veh/h	0	0	0	1	0	7	820	1533	0	8	1037	192
Future Vol, veh/h	0	0	0	1	0	7	820	1533	0	8	1037	192
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Yield
Storage Length	-	-	-	-	-	0	240	-	-	330	-	0
Veh in Median Storage, #	-	1	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0	3	3	0	0	5	0
Mvmt Flow	0	0	0	1	0	7	863	1614	0	8	1092	202

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	3902	- 807 1092	0 - 1614 0 0
Stage 1	3340	- - -	- - -
Stage 2	562	- - -	- - -
Critical Hdwy	6.8	- 6.9 4.16	- - 4.1 - -
Critical Hdwy Stg 1	5.8	- - -	- - -
Critical Hdwy Stg 2	5.8	- - -	- - -
Follow-up Hdwy	3.5	- 3.3 2.23	- - 2.2 - -
Pot Cap-1 Maneuver	3	0 329 ~ 629	- 0 410 - -
Stage 1	16	0 - -	0 - - -
Stage 2	540	0 - -	0 - - -
Platoon blocked, %			- - -
Mov Cap-1 Maneuver	0	0 329 ~ 629	- - 410 - -
Mov Cap-2 Maneuver	0	0 - -	- - - -
Stage 1	0	0 - -	- - - -
Stage 2	529	0 - -	- - - -

Approach	NW	NE	SW
HCM Control Delay, s	16.2	68.7	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NETNWLn1	SWL	SWT	SWR
Capacity (veh/h)	~ 629	- 329	410	-	-
HCM Lane V/C Ratio	1.372	- 0.022	0.021	-	-
HCM Control Delay (s)	197.2	- 16.2	14	-	-
HCM Lane LOS	F	- C	B	-	-
HCM 95th %tile Q(veh)	37.8	- 0.1	0.1	-	-

Notes
 ~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	5	5	40	5	5	5	22	1993	5	5	971	23
Future Vol, veh/h	5	5	40	5	5	5	22	1993	5	5	971	23
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	100	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	100	1	1	1	100	3	1	1	3	100
Mvmt Flow	5	5	42	5	5	5	23	2098	5	5	1022	24

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2142	3193	523	2671	3203	1052	1046	0	0	2103	0	0
Stage 1	1044	1044	-	2147	2147	-	-	-	-	-	-	-
Stage 2	1098	2149	-	524	1056	-	-	-	-	-	-	-
Critical Hdwy	7.52	6.52	8.9	7.52	6.52	6.92	6.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.52	5.52	-	6.52	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.51	4.01	4.3	3.51	4.01	3.31	3.2	-	-	2.21	-	-
Pot Cap-1 Maneuver	28	10	309	11	10	225	294	-	-	261	-	-
Stage 1	247	306	-	50	88	-	-	-	-	-	-	-
Stage 2	229	88	-	507	302	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	24	9	309	8	9	225	294	-	-	261	-	-
Mov Cap-2 Maneuver	105	58	-	39	60	-	-	-	-	-	-	-
Stage 1	228	300	-	46	81	-	-	-	-	-	-	-
Stage 2	193	81	-	422	296	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	31.1		78.8		0.2		0.1	
HCM LOS	D		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	294	-	-	190	64	261	-	-
HCM Lane V/C Ratio	0.079	-	-	0.277	0.247	0.02	-	-
HCM Control Delay (s)	18.3	-	-	31.1	78.8	19.1	-	-
HCM Lane LOS	C	-	-	D	F	C	-	-
HCM 95th %tile Q(veh)	0.3	-	-	1.1	0.9	0.1	-	-

Queues

2025 Build AM

11: Monroe Rd & Potential Truck Stop/School St

06/29/2022



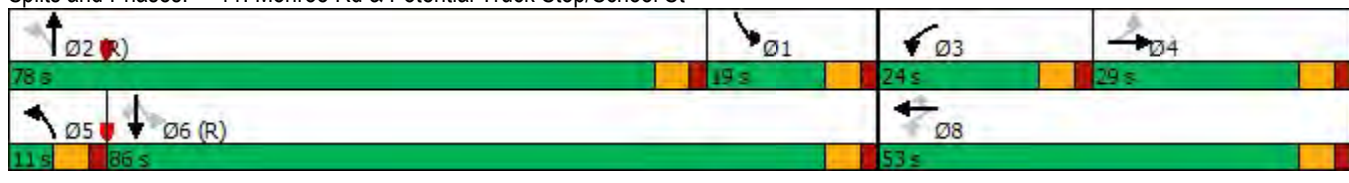
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕		↖	↗	↗	↖	↕↕		↖	↕↕	↖
Traffic Volume (vph)	29	7	14	205	7	119	14	806	187	129	1244	29
Future Volume (vph)	29	7	14	205	7	119	14	806	187	129	1244	29
Satd. Flow (prot)	0	888	0	1752	950	1568	902	3407	0	1752	3505	808
Flt Permitted		0.816		0.669			0.113			0.214		
Satd. Flow (perm)	0	746	0	1234	950	1568	107	3407	0	395	3505	808
Satd. Flow (RTOR)		11				125		26				109
Lane Group Flow (vph)	0	53	0	216	7	125	15	1045	0	136	1309	31
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	29.0	29.0		24.0	53.0	53.0	11.0	78.0		19.0	86.0	86.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Act Effct Green (s)		13.9		35.1	35.1	35.1	83.9	83.9		97.9	97.9	97.9
Actuated g/C Ratio		0.09		0.23	0.23	0.23	0.56	0.56		0.65	0.65	0.65
v/c Ratio		0.67		0.62	0.03	0.27	0.16	0.55		0.36	0.57	0.05
Control Delay		89.1		56.4	38.7	7.5	22.6	23.3		19.1	14.2	0.2
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		89.1		56.4	38.7	7.5	22.6	23.3		19.1	14.2	0.2
LOS		F		E	D	A	C	C		B	B	A
Approach Delay		89.1			38.5			23.3			14.4	
Approach LOS		F			D			C			B	
Queue Length 50th (ft)		40		182	5	0	7	336		31	204	0
Queue Length 95th (ft)		87		246	17	49	21	458		73	498	m0
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		300
Base Capacity (vph)		123		354	297	577	92	1916		375	2287	565
Starvation Cap Reductn		0		0	0	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.43		0.61	0.02	0.22	0.16	0.55		0.36	0.57	0.05

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 65 (43%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 21.8
 Intersection LOS: C
 Intersection Capacity Utilization 71.1%
 ICU Level of Service C
 Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Monroe Rd & Potential Truck Stop/School St



Queues
12: I-4 EB Ramps & Monroe Rd

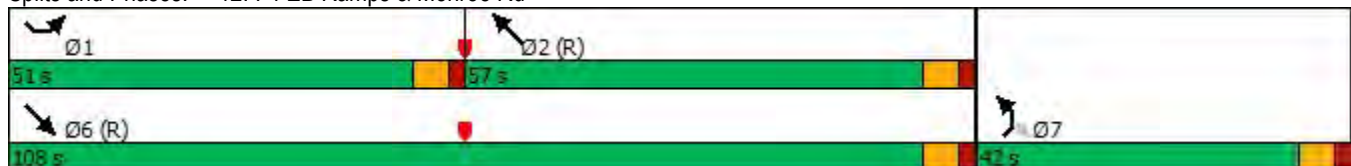
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	287	1166	0	0	555	393	414	0	231	0	0	0
Future Volume (vph)	287	1166	0	0	555	393	414	0	231	0	0	0
Satd. Flow (prot)	1752	3471	0	0	3438	1538	3367	0	1524	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3471	0	0	3438	1538	3367	0	1524	0	0	0
Satd. Flow (RTOR)							414		100			
Lane Group Flow (vph)	302	1227	0	0	584	414	436	0	243	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	51.0	108.0			57.0		42.0		42.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	31.3	112.9			75.6	150.0	25.1		25.1			
Actuated g/C Ratio	0.21	0.75			0.50	1.00	0.17		0.17			
v/c Ratio	0.83	0.47			0.34	0.27	0.78		0.72			
Control Delay	67.6	0.5			10.8	0.4	69.4		46.3			
Queue Delay	0.4	0.4			0.0	0.0	0.0		0.0			
Total Delay	68.0	0.9			10.8	0.4	69.4		46.3			
LOS	E	A			B	A	E		D			
Approach Delay		14.1			6.5			61.1				
Approach LOS		B			A			E				
Queue Length 50th (ft)	225	0			138	0	213		136			
Queue Length 95th (ft)	303	0			252	0	261		227			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	525	2613			1733	1538	808		441			
Starvation Cap Reductn	38	794			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.62	0.67			0.34	0.27	0.54		0.55			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 106 (71%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 21.7
 Intersection Capacity Utilization 71.4%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
13: Monroe Rd & I-4 WB Ramps

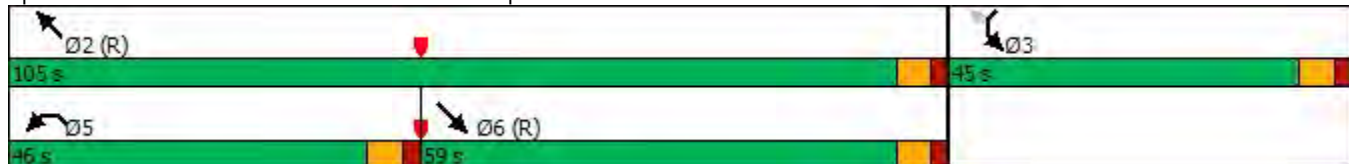
2025 Build AM
06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↗	↘	↑↑					↖↗		↗
Traffic Volume (vph)	0	851	920	282	688	0	0	0	0	604	0	130
Future Volume (vph)	0	851	920	282	688	0	0	0	0	604	0	130
Satd. Flow (prot)	0	3471	1568	1703	3471	0	0	0	0	3367	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3471	1568	1703	3471	0	0	0	0	3367	0	1553
Satd. Flow (RTOR)			640									137
Lane Group Flow (vph)	0	896	968	297	724	0	0	0	0	636	0	137
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		59.0		46.0	105.0					45.0		45.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		53.0	150.0	45.4	104.4					33.6		33.6
Actuated g/C Ratio		0.35	1.00	0.30	0.70					0.22		0.22
v/c Ratio		0.73	0.62	0.58	0.30					0.84		0.30
Control Delay		46.5	1.8	41.6	14.6					66.6		8.3
Queue Delay		0.0	0.0	1.0	0.7					0.0		0.0
Total Delay		46.6	1.8	42.6	15.3					66.6		8.3
LOS		D	A	D	B					E		A
Approach Delay		23.3			23.2							56.3
Approach LOS		C			C							E
Queue Length 50th (ft)		401	0	209	172					307		0
Queue Length 95th (ft)		482	0	315	264					365		54
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1226	1568	515	2416					875		505
Starvation Cap Reductn		0	0	71	1252					0		0
Spillback Cap Reductn		7	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.74	0.62	0.67	0.62					0.73		0.27

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 40 (27%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 30.3
 Intersection Capacity Utilization 71.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps

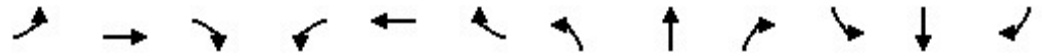


Queues

2025 Build PM

11: Monroe Rd & Potential Truck Stop/School St

06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗	↗	↖	↕		↖	↕	↗
Traffic Volume (vph)	23	2	10	184	2	141	10	1393	239	115	850	23
Future Volume (vph)	23	2	10	184	2	141	10	1393	239	115	850	23
Satd. Flow (prot)	0	884	0	1752	950	1568	902	3428	0	1752	3505	808
Flt Permitted		0.803		0.709			0.306			0.057		
Satd. Flow (perm)	0	732	0	1308	950	1568	291	3428	0	105	3505	808
Satd. Flow (RTOR)		11				93		22				109
Lane Group Flow (vph)	0	37	0	194	2	148	11	1718	0	121	895	24
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	24.0	24.0		19.0	43.0	43.0	11.0	92.0		15.0	96.0	96.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Act Effct Green (s)		11.1		27.8	27.8	27.8	99.6	93.9		109.8	105.5	105.5
Actuated g/C Ratio		0.07		0.19	0.19	0.19	0.66	0.63		0.73	0.70	0.70
v/c Ratio		0.58		0.69	0.01	0.41	0.05	0.80		0.64	0.36	0.04
Control Delay		83.3		68.0	44.5	22.6	8.2	26.1		55.7	5.6	0.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		83.3		68.0	44.5	22.6	8.2	26.1		55.7	5.6	0.1
LOS		F		E	D	C	A	C		E	A	A
Approach Delay		83.3			48.3			26.0			11.3	
Approach LOS		F			D			C			B	
Queue Length 50th (ft)		25		173	2	45	3	670		61	71	0
Queue Length 95th (ft)		64		242	9	106	11	838		#152	122	m0
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		300
Base Capacity (vph)		97		280	234	456	216	2153		194	2466	600
Starvation Cap Reductn		0		0	0	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.38		0.69	0.01	0.32	0.05	0.80		0.62	0.36	0.04

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 140 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.3

Intersection LOS: C

Intersection Capacity Utilization 81.6%

ICU Level of Service D

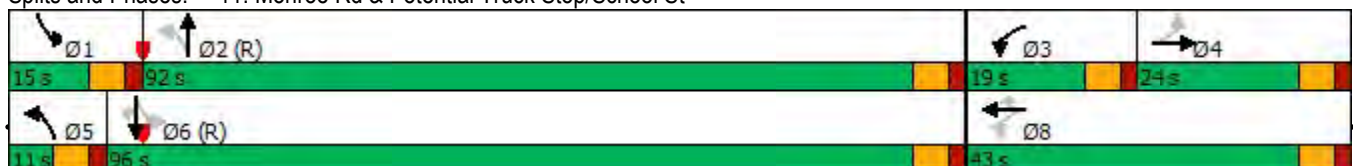
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Monroe Rd & Potential Truck Stop/School St



Queues
12: I-4 EB Ramps & Monroe Rd

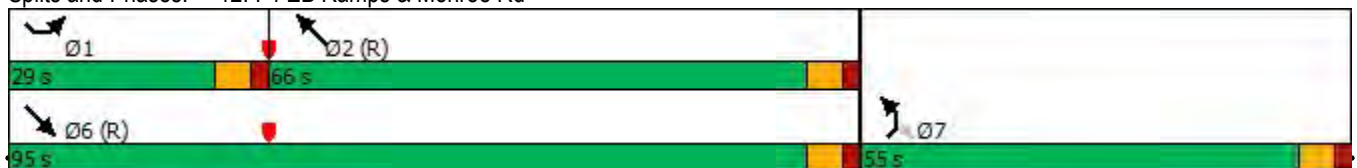
2025 Build PM
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Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	203	708	0	0	1030	529	897	0	281	0	0	0
Future Volume (vph)	203	708	0	0	1030	529	897	0	281	0	0	0
Satd. Flow (prot)	1752	3471	0	0	3471	1553	3367	0	1538	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3471	0	0	3471	1553	3367	0	1538	0	0	0
Satd. Flow (RTOR)						304			211			
Lane Group Flow (vph)	214	745	0	0	1084	557	944	0	296	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	29.0	95.0			66.0		55.0		55.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	21.3	91.4			64.1	150.0	46.6		46.6			
Actuated g/C Ratio	0.14	0.61			0.43	1.00	0.31		0.31			
v/c Ratio	0.86	0.35			0.73	0.36	0.90		0.48			
Control Delay	108.9	21.6			32.5	0.4	62.0		14.2			
Queue Delay	0.0	0.2			0.0	0.0	48.9		0.0			
Total Delay	108.9	21.8			32.5	0.4	110.9		14.2			
LOS	F	C			C	A	F		B			
Approach Delay		41.3			21.6			87.8				
Approach LOS		D			C			F				
Queue Length 50th (ft)	223	181			265	0	446		59			
Queue Length 95th (ft)	#343	211			452	0	535		149			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	268	2116			1483	1553	1099		644			
Starvation Cap Reductn	0	590			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	337		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.80	0.49			0.73	0.36	1.24		0.46			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 47.9
 Intersection LOS: D
 Intersection Capacity Utilization 93.5%
 ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
 13: Monroe Rd & I-4 WB Ramps

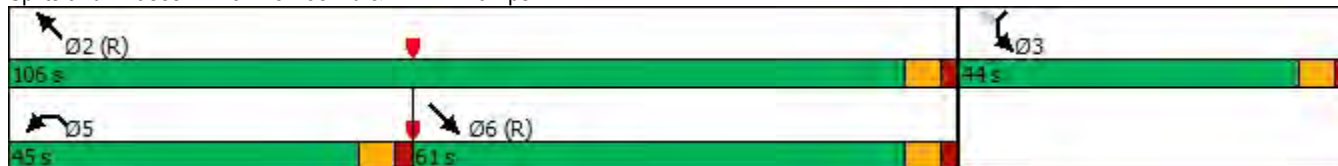
2025 Build PM
 06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↑	↑	↑↑					↑↑		↑
Traffic Volume (vph)	0	517	407	237	1689	0	0	0	0	393	0	287
Future Volume (vph)	0	517	407	237	1689	0	0	0	0	393	0	287
Satd. Flow (prot)	0	3471	1568	1703	3505	0	0	0	0	3335	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3471	1568	1703	3505	0	0	0	0	3335	0	1553
Satd. Flow (RTOR)			428									65
Lane Group Flow (vph)	0	544	428	249	1778	0	0	0	0	414	0	302
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		61.0		45.0	106.0					44.0		44.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		55.0	150.0	47.9	108.9					29.1		29.1
Actuated g/C Ratio		0.37	1.00	0.32	0.73					0.19		0.19
v/c Ratio		0.43	0.27	0.46	0.70					0.64		0.86
Control Delay		37.0	0.4	50.0	15.5					59.5		67.2
Queue Delay		0.0	0.0	1.9	24.2					0.0		0.0
Total Delay		37.0	0.4	51.9	39.8					59.5		67.2
LOS		D	A	D	D					E		E
Approach Delay		20.9			41.3						62.8	
Approach LOS		C			D						E	
Queue Length 50th (ft)		210	0	249	534					192		230
Queue Length 95th (ft)		264	0	m330	571					233		326
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1272	1568	544	2545					844		441
Starvation Cap Reductn		0	0	166	838					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.43	0.27	0.66	1.04					0.49		0.68

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 40.1
 Intersection LOS: D
 Intersection Capacity Utilization 93.5%
 ICU Level of Service F
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps



Queues
11: Monroe Rd & School St

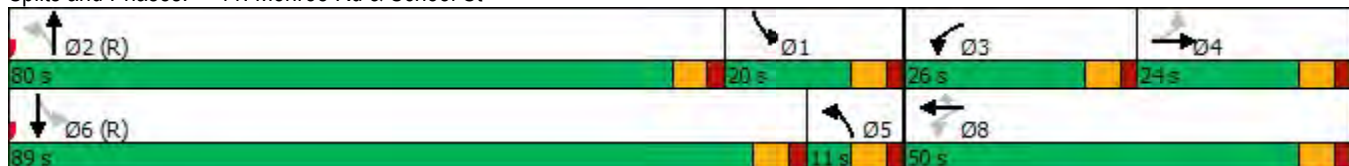
2025 No Build AM
06/29/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	5	205	5	119	5	806	187	129	1244	5
Future Volume (vph)	5	5	5	205	5	119	5	806	187	129	1244	5
Satd. Flow (prot)	0	1733	0	1752	1845	1568	1752	3407	0	1752	3501	0
Flt Permitted		0.887		0.569			0.152			0.215		
Satd. Flow (perm)	0	1563	0	1050	1845	1568	280	3407	0	397	3501	0
Satd. Flow (RTOR)		5					125	26				
Lane Group Flow (vph)	0	15	0	216	5	125	5	1045	0	136	1314	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	24.0	24.0		26.0	50.0	50.0	11.0	80.0		20.0	89.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		6.6		26.6	26.6	26.6	103.2	98.2		111.4	109.2	
Actuated g/C Ratio		0.04		0.18	0.18	0.18	0.69	0.65		0.74	0.73	
v/c Ratio		0.21		0.76	0.02	0.33	0.02	0.47		0.38	0.52	
Control Delay		58.4		74.1	45.2	9.5	7.4	14.8		20.6	15.8	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.4		74.1	45.2	9.5	7.4	14.8		20.6	15.8	
LOS		E		E	D	A	A	B		C	B	
Approach Delay		58.4			50.3			14.8			16.3	
Approach LOS		E			D			B			B	
Queue Length 50th (ft)		10		206	4	0	1	221		46	357	
Queue Length 95th (ft)		35		276	16	55	6	387		106	637	
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		
Base Capacity (vph)		191		293	541	548	241	2239		439	2549	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.08		0.74	0.01	0.23	0.02	0.47		0.31	0.52	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 90 (60%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 20.1
 Intersection Capacity Utilization 71.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 11: Monroe Rd & School St



Queues
12: I-4 EB Ramps & Monroe Rd

2025 No Build AM
06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	287	1150	0	0	537	387	414	0	223	0	0	0
Future Volume (vph)	287	1150	0	0	537	387	414	0	223	0	0	0
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Satd. Flow (RTOR)						407			98			
Lane Group Flow (vph)	302	1211	0	0	565	407	436	0	235	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	54.0	106.0			52.0		44.0		44.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	48.0	112.9			58.9	150.0	25.1		25.1			
Actuated g/C Ratio	0.32	0.75			0.39	1.00	0.17		0.17			
v/c Ratio	0.54	0.46			0.41	0.26	0.77		0.69			
Control Delay	22.8	1.6			28.7	0.4	69.3		44.0			
Queue Delay	1.9	0.2			0.0	0.0	0.0		0.0			
Total Delay	24.7	1.8			28.7	0.4	69.3		44.0			
LOS	C	A			C	A	E		D			
Approach Delay		6.3			16.9			60.5				
Approach LOS		A			B			E				
Queue Length 50th (ft)	183	10			226	0	213		129			
Queue Length 95th (ft)	275	57			308	0	261		217			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)							300					
Base Capacity (vph)	560	2638			1376	1568	852		466			
Starvation Cap Reductn	135	534			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	18		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.71	0.58			0.41	0.26	0.52		0.50			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 21.1
 Intersection Capacity Utilization 70.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
13: Monroe Rd & I-4 WB Ramps

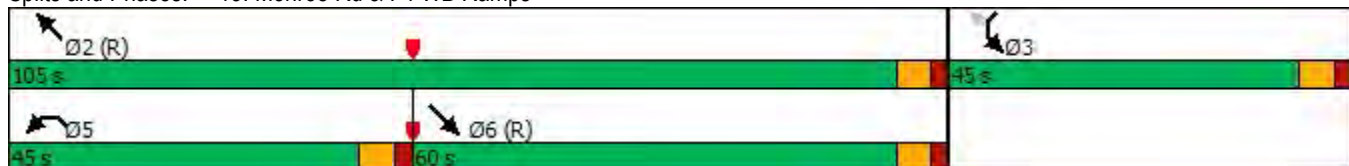
2025 No Build AM
06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↗	↖	↑↑					↖↗		↗
Traffic Volume (vph)	0	841	920	274	678	0	0	0	0	598	0	130
Future Volume (vph)	0	841	920	274	678	0	0	0	0	598	0	130
Satd. Flow (prot)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Satd. Flow (RTOR)			648									137
Lane Group Flow (vph)	0	885	968	288	714	0	0	0	0	629	0	137
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		60.0		45.0	105.0					45.0		45.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		54.0	150.0	44.7	104.7					33.3		33.3
Actuated g/C Ratio		0.36	1.00	0.30	0.70					0.22		0.22
v/c Ratio		0.70	0.62	0.55	0.29					0.84		0.30
Control Delay		44.7	1.8	52.7	0.3					66.6		8.3
Queue Delay		0.0	0.0	1.6	0.2					0.0		0.0
Total Delay		44.7	1.8	54.3	0.5					66.6		8.3
LOS		D	A	D	A					E		A
Approach Delay		22.3			15.9						56.2	
Approach LOS		C			B						E	
Queue Length 50th (ft)		389	0	144	0					304		0
Queue Length 95th (ft)		468	0	351	0					361		54
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1261	1568	521	2446					875		505
Starvation Cap Reductn		0	0	105	823					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.70	0.62	0.69	0.44					0.72		0.27

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 4 (3%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 27.7
 Intersection Capacity Utilization 70.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps



Queues

11: Monroe Rd & School St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	5	5	184	5	141	5	1393	239	115	850	5
Future Volume (vph)	5	5	5	184	5	141	5	1393	239	115	850	5
Satd. Flow (prot)	0	1733	0	1752	1845	1568	1752	3428	0	1752	3501	0
Flt Permitted		0.887		0.569			0.316			0.068		
Satd. Flow (perm)	0	1563	0	1050	1845	1568	583	3428	0	125	3501	0
Satd. Flow (RTOR)		5				93		22			1	
Lane Group Flow (vph)	0	15	0	194	5	148	5	1718	0	121	900	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	24.0	24.0		19.0	43.0	43.0	11.0	92.0		15.0	96.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		6.6		18.6	18.6	18.6	106.8	101.2		119.4	117.1	
Actuated g/C Ratio		0.04		0.12	0.12	0.12	0.71	0.67		0.80	0.78	
v/c Ratio		0.21		1.02	0.02	0.54	0.01	0.74		0.52	0.33	
Control Delay		58.4		132.7	52.6	30.3	5.6	20.1		39.7	3.4	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.4		132.7	52.6	30.3	5.6	20.1		39.7	3.4	
LOS		E		F	D	C	A	C		D	A	
Approach Delay		58.4			87.8			20.1			7.7	
Approach LOS		E			F			C			A	
Queue Length 50th (ft)		10		~240	5	52	1	464		45	51	
Queue Length 95th (ft)		35		#290	17	116	5	818		118	111	
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		
Base Capacity (vph)		191		190	455	456	458	2319		236	2732	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.08		1.02	0.01	0.32	0.01	0.74		0.51	0.33	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 140 (93%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 23.8

Intersection LOS: C

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15

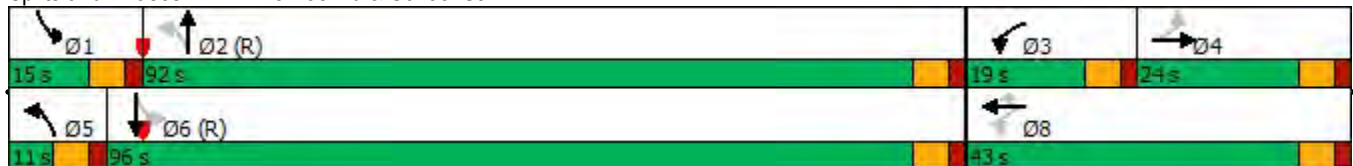
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Monroe Rd & School St

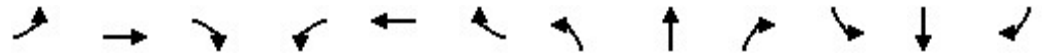


Queues

2045 Build AM

11: Monroe Rd & Potential Truck Stop/School St

06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↖	↗	↗	↖	↕		↖	↕	↗
Traffic Volume (vph)	29	7	14	281	7	192	14	1148	270	179	1366	29
Future Volume (vph)	29	7	14	281	7	192	14	1148	270	179	1366	29
Satd. Flow (prot)	0	888	0	1752	950	1568	902	3403	0	1752	3505	808
Flt Permitted		0.816		0.666			0.090			0.080		
Satd. Flow (perm)	0	746	0	1229	950	1568	86	3403	0	148	3505	808
Satd. Flow (RTOR)		11				202		28				109
Lane Group Flow (vph)	0	53	0	296	7	202	15	1492	0	188	1438	31
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	24.0	24.0		22.0	46.0	46.0	11.0	82.0		22.0	93.0	93.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Act Effct Green (s)		13.0		32.7	32.7	32.7	83.3	83.3		100.8	100.8	100.8
Actuated g/C Ratio		0.09		0.22	0.22	0.22	0.56	0.56		0.67	0.67	0.67
v/c Ratio		0.72		0.92	0.03	0.40	0.19	0.78		0.70	0.61	0.05
Control Delay		97.7		87.4	42.0	7.8	23.6	31.0		41.2	6.7	0.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		97.7		87.4	42.0	7.8	23.6	31.0		41.2	6.7	0.1
LOS		F		F	D	A	C	C		D	A	A
Approach Delay		97.7			54.9			31.0			10.5	
Approach LOS		F			D			C			B	
Queue Length 50th (ft)		40		268	5	0	7	607		82	125	0
Queue Length 95th (ft)		#94		#375	19	63	20	757		m#206	430	m0
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		300
Base Capacity (vph)		99		323	253	566	78	1903		270	2356	578
Starvation Cap Reductn		0		0	0	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.54		0.92	0.03	0.36	0.19	0.78		0.70	0.61	0.05

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 37 (25%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 26.0

Intersection LOS: C

Intersection Capacity Utilization 87.5%

ICU Level of Service E

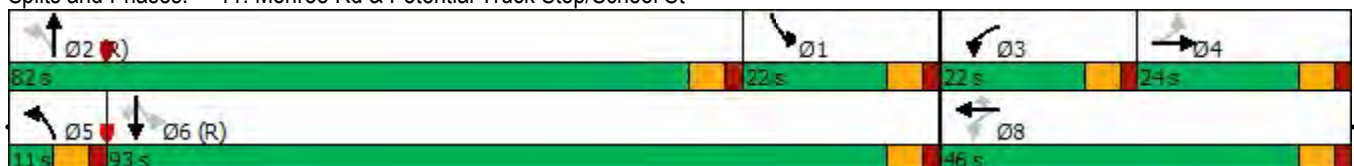
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Monroe Rd & Potential Truck Stop/School St



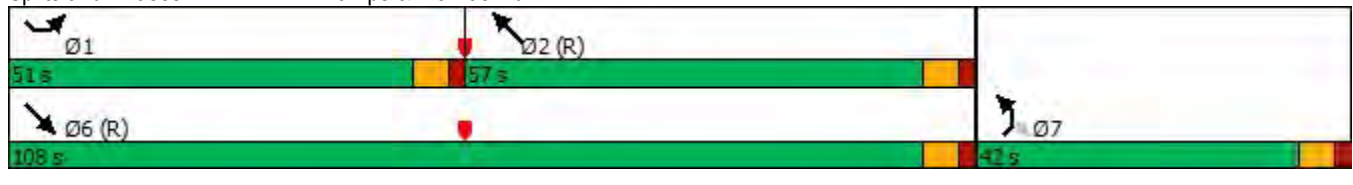
Queues
12: I-4 EB Ramps & Monroe Rd

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	362	1280	0	0	869	495	523	0	289	0	0	0
Future Volume (vph)	362	1280	0	0	869	495	523	0	289	0	0	0
Satd. Flow (prot)	1752	3471	0	0	3438	1538	3367	0	1524	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3471	0	0	3438	1538	3367	0	1524	0	0	0
Satd. Flow (RTOR)						337			78			
Lane Group Flow (vph)	381	1347	0	0	915	521	551	0	304	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	51.0	108.0			57.0		42.0		42.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	37.3	107.6			64.3	150.0	30.4		30.4			
Actuated g/C Ratio	0.25	0.72			0.43	1.00	0.20		0.20			
v/c Ratio	0.88	0.54			0.62	0.34	0.81		0.82			
Control Delay	58.7	1.1			16.2	0.4	66.7		60.1			
Queue Delay	3.3	1.0			0.1	0.0	0.0		0.0			
Total Delay	62.1	2.1			16.4	0.4	66.7		60.1			
LOS	E	A			B	A	E		E			
Approach Delay		15.3			10.6			64.3				
Approach LOS		B			B			E				
Queue Length 50th (ft)	293	0			207	0	267		218			
Queue Length 95th (ft)	m361	78			410	0	321		324			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	525	2490			1474	1538	808		425			
Starvation Cap Reductn	74	797			0	0	0		0			
Spillback Cap Reductn	0	0			79	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.84	0.80			0.66	0.34	0.68		0.72			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 67 (45%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 24.0
 Intersection LOS: C
 Intersection Capacity Utilization 80.8%
 ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd

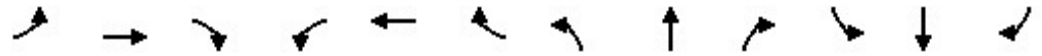


Queues

2045 Build PM

11: Monroe Rd & Potential Truck Stop/School St

06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↔		↖	↗	↗	↖	↕↔		↖	↕↔	↖
Traffic Volume (vph)	28	7	15	294	7	194	10	1674	281	135	1255	28
Future Volume (vph)	28	7	15	294	7	194	10	1674	281	135	1255	28
Satd. Flow (prot)	0	886	0	1752	950	1568	902	3428	0	1752	3505	808
Flt Permitted		0.823		0.656			0.169			0.042		
Satd. Flow (perm)	0	749	0	1210	950	1568	161	3428	0	77	3505	808
Satd. Flow (RTOR)		12				76		21				109
Lane Group Flow (vph)	0	52	0	309	7	204	11	2058	0	142	1321	29
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		6
Total Split (s)	24.0	24.0		19.0	43.0	43.0	11.0	93.0		14.0	96.0	96.0
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	6.0
Act Effct Green (s)		12.7		29.4	29.4	29.4	96.6	91.0		107.4	104.0	104.0
Actuated g/C Ratio		0.08		0.20	0.20	0.20	0.64	0.61		0.72	0.69	0.69
v/c Ratio		0.70		1.09	0.04	0.55	0.08	0.99		0.77	0.54	0.05
Control Delay		94.6		132.4	44.6	37.8	9.4	45.9		58.9	18.8	0.1
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay		94.6		132.4	44.6	37.8	9.4	45.9		58.9	18.8	0.1
LOS		F		F	D	D	A	D		E	B	A
Approach Delay		94.6			94.1			45.7			22.3	
Approach LOS		F			F			D			C	
Queue Length 50th (ft)		39		~292	5	110	3	~1127		96	325	0
Queue Length 95th (ft)		87		#473	19	188	11	#1261		#252	466	m0
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		300
Base Capacity (vph)		100		284	234	444	131	2088		184	2430	593
Starvation Cap Reductn		0		0	0	0	0	0		0	0	0
Spillback Cap Reductn		0		0	0	0	0	0		0	0	0
Storage Cap Reductn		0		0	0	0	0	0		0	0	0
Reduced v/c Ratio		0.52		1.09	0.03	0.46	0.08	0.99		0.77	0.54	0.05

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 102 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 43.9

Intersection LOS: D

Intersection Capacity Utilization 100.7%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

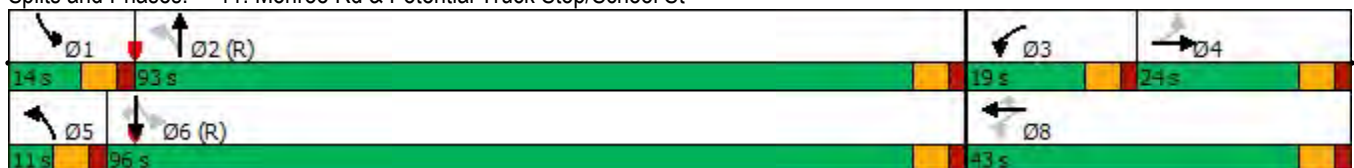
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 11: Monroe Rd & Potential Truck Stop/School St



Queues
12: I-4 EB Ramps & Monroe Rd

2045 Build PM
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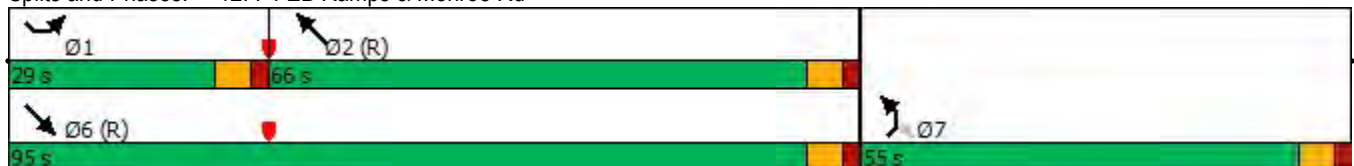
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	256	1060	0	0	1226	666	1134	0	353	0	0	0
Future Volume (vph)	256	1060	0	0	1226	666	1134	0	353	0	0	0
Satd. Flow (prot)	1752	3471	0	0	3471	1553	3367	0	1538	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3471	0	0	3471	1553	3367	0	1538	0	0	0
Satd. Flow (RTOR)						322			90			
Lane Group Flow (vph)	269	1116	0	0	1291	701	1194	0	372	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	29.0	95.0			66.0		55.0		55.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	23.0	89.0			60.0	150.0	49.0		49.0			
Actuated g/C Ratio	0.15	0.59			0.40	1.00	0.33		0.33			
v/c Ratio	1.00	0.54			0.93	0.45	1.09		0.66			
Control Delay	133.9	21.1			30.9	0.4	100.7		38.8			
Queue Delay	0.0	0.3			0.0	0.0	8.9		0.0			
Total Delay	133.9	21.5			30.9	0.4	109.6		38.8			
LOS	F	C			C	A	F		D			
Approach Delay		43.3			20.2			92.8				
Approach LOS		D			C			F				
Queue Length 50th (ft)	~280	230			572	0	~673		241			
Queue Length 95th (ft)	#472	257			m611	m0	#810		361			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	268	2059			1388	1553	1099		563			
Starvation Cap Reductn	0	370			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	485		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.00	0.66			0.93	0.45	1.94		0.66			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 5 (3%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 49.7 Intersection LOS: D
 Intersection Capacity Utilization 118.7% ICU Level of Service H
 Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
13: Monroe Rd & I-4 WB Ramps

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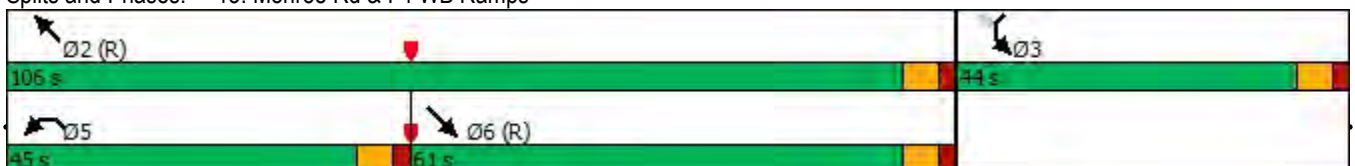
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↗	↖	↑↑					↖↗		↖
Traffic Volume (vph)	0	820	523	288	2071	0	0	0	0	495	0	362
Future Volume (vph)	0	820	523	288	2071	0	0	0	0	495	0	362
Satd. Flow (prot)	0	3471	1568	1703	3505	0	0	0	0	3335	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3471	1568	1703	3505	0	0	0	0	3335	0	1553
Satd. Flow (RTOR)			379									65
Lane Group Flow (vph)	0	863	551	303	2180	0	0	0	0	521	0	381
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		61.0		45.0	106.0					44.0		44.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		55.0	150.0	42.0	103.0					35.0		35.0
Actuated g/C Ratio		0.37	1.00	0.28	0.69					0.23		0.23
v/c Ratio		0.68	0.35	0.64	0.91					0.67		0.92
Control Delay		43.3	0.6	47.4	22.9					56.5		75.1
Queue Delay		0.0	0.0	4.2	46.4					0.0		0.0
Total Delay		43.3	0.6	51.5	69.3					56.5		75.1
LOS		D	A	D	E					E		E
Approach Delay		26.7			67.1						64.3	
Approach LOS		C			E						E	
Queue Length 50th (ft)		373	0	308	723					234		305
Queue Length 95th (ft)		450	0	m307	m749					297		#484
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1272	1568	476	2406					844		441
Starvation Cap Reductn		0	0	106	812					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.68	0.35	0.82	1.37					0.62		0.86

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 54.7
 Intersection LOS: D
 Intersection Capacity Utilization 118.7%
 ICU Level of Service H
 Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps



Queues
11: Monroe Rd & School St

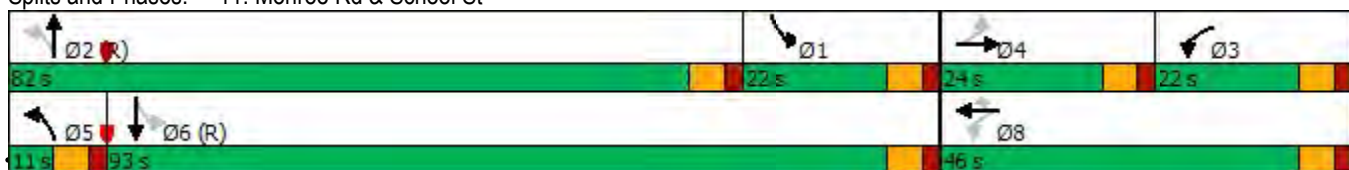
2045 No Build AM
06/29/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗	↗	↖	↕		↖	↕	↗
Traffic Volume (vph)	5	5	5	281	5	192	5	1148	270	179	1366	5
Future Volume (vph)	5	5	5	281	5	192	5	1148	270	179	1366	5
Satd. Flow (prot)	0	1733	0	1752	1845	1568	1752	3403	0	1752	3501	0
Flt Permitted		0.887		0.748			0.089			0.074		
Satd. Flow (perm)	0	1563	0	1380	1845	1568	164	3403	0	137	3501	0
Satd. Flow (RTOR)		5				202		28				
Lane Group Flow (vph)	0	15	0	296	5	202	5	1492	0	188	1443	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	24.0	24.0		22.0	46.0	46.0	11.0	82.0		22.0	93.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		6.6		30.9	30.9	30.9	85.1	85.1		104.9	104.9	
Actuated g/C Ratio		0.04		0.21	0.21	0.21	0.57	0.57		0.70	0.70	
v/c Ratio		0.21		0.85	0.01	0.42	0.03	0.77		0.70	0.59	
Control Delay		58.4		79.7	42.6	8.1	17.6	29.0		41.5	6.2	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.4		79.7	42.6	8.1	17.6	29.0		41.5	6.2	
LOS		E		E	D	A	B	C		D	A	
Approach Delay		58.4			50.6			29.0			10.2	
Approach LOS		E			D			C			B	
Queue Length 50th (ft)		10		281	4	0	2	554		74	117	
Queue Length 95th (ft)		35		365	15	63	10	757		#221	358	
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		
Base Capacity (vph)		191		347	492	566	151	1942		267	2448	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.08		0.85	0.01	0.36	0.03	0.77		0.70	0.59	

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 31 (21%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.85
 Intersection Signal Delay: 23.7
 Intersection LOS: C
 Intersection Capacity Utilization 87.5%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 11: Monroe Rd & School St



Queues
12: I-4 EB Ramps & Monroe Rd

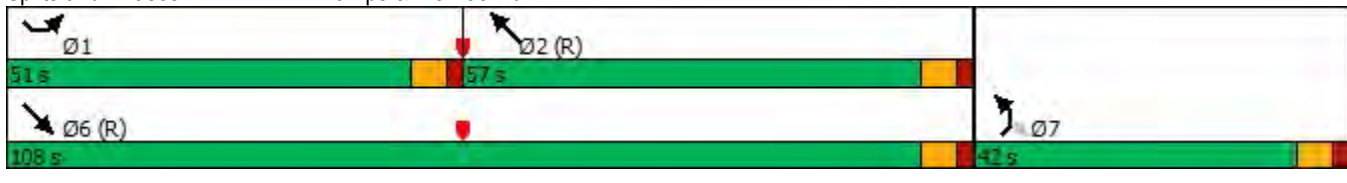
2045 No Build AM
06/29/2022

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	362	1264	0	0	851	489	523	0	281	0	0	0
Future Volume (vph)	362	1264	0	0	851	489	523	0	281	0	0	0
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Satd. Flow (RTOR)						340			81			
Lane Group Flow (vph)	381	1331	0	0	896	515	551	0	296	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	51.0	108.0			57.0		42.0		42.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	37.3	107.8			64.5	150.0	30.2		30.2			
Actuated g/C Ratio	0.25	0.72			0.43	1.00	0.20		0.20			
v/c Ratio	0.88	0.53			0.59	0.33	0.81		0.79			
Control Delay	58.9	1.0			14.7	0.4	67.1		55.6			
Queue Delay	3.3	0.9			0.1	0.0	0.0		0.0			
Total Delay	62.2	1.9			14.8	0.4	67.1		55.6			
LOS	E	A			B	A	E		E			
Approach Delay		15.3			9.5			63.1				
Approach LOS		B			A			E				
Queue Length 50th (ft)	297	0			303	0	267		205			
Queue Length 95th (ft)	m376	76			379	0	321		308			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	525	2519			1507	1568	808		434			
Starvation Cap Reductn	73	814			0	0	0		0			
Spillback Cap Reductn	0	0			61	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	0.84	0.78			0.62	0.33	0.68		0.68			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 67 (45%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 23.5 Intersection LOS: C
 Intersection Capacity Utilization 80.0% ICU Level of Service D
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
13: Monroe Rd & I-4 WB Ramps

2045 No Build AM
06/29/2022

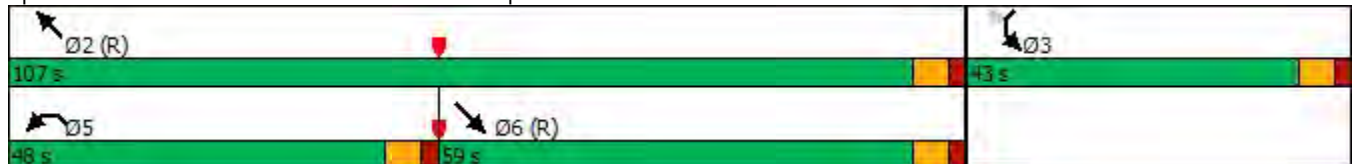


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↗	↖	↑↑					↖↗		↖
Traffic Volume (vph)	0	966	1134	346	1028	0	0	0	0	669	0	256
Future Volume (vph)	0	966	1134	346	1028	0	0	0	0	669	0	256
Satd. Flow (prot)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Satd. Flow (RTOR)			696									131
Lane Group Flow (vph)	0	1017	1194	364	1082	0	0	0	0	704	0	269
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		59.0		48.0	107.0					43.0		43.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		53.0	150.0	44.0	103.0					35.0		35.0
Actuated g/C Ratio		0.35	1.00	0.29	0.69					0.23		0.23
v/c Ratio		0.82	0.76	0.71	0.45					0.90		0.58
Control Delay		50.8	3.5	45.2	17.0					70.5		30.5
Queue Delay		0.5	0.0	3.8	2.5					0.0		0.0
Total Delay		51.3	3.5	49.0	19.5					70.5		30.5
LOS		D	A	D	B					E		C
Approach Delay		25.5			26.9						59.4	
Approach LOS		C			C						E	
Queue Length 50th (ft)		476	0	298	364					340		118
Queue Length 95th (ft)		566	0	412	411					419		216
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1238	1568	513	2406					830		481
Starvation Cap Reductn		0	0	83	1155					0		0
Spillback Cap Reductn		39	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.85	0.76	0.85	0.86					0.85		0.56

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 0 (0%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 33.1
 Intersection Capacity Utilization 80.0%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps



Queues
11: Monroe Rd & School St

2045 No Build PM
06/29/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖	↗	↗	↖	↕↔		↖	↕↔	
Traffic Volume (vph)	5	5	5	294	5	194	5	1674	281	135	1255	5
Future Volume (vph)	5	5	5	294	5	194	5	1674	281	135	1255	5
Satd. Flow (prot)	0	1733	0	1752	1845	1568	1752	3428	0	1752	3501	0
Flt Permitted		0.887		0.569			0.178			0.038		
Satd. Flow (perm)	0	1563	0	1050	1845	1568	328	3428	0	70	3501	0
Satd. Flow (RTOR)		5				76		21				
Lane Group Flow (vph)	0	15	0	309	5	204	5	2058	0	142	1326	0
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Total Split (s)	24.0	24.0		19.0	43.0	43.0	11.0	93.0		14.0	96.0	
Total Lost Time (s)		6.0		6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Act Effct Green (s)		6.6		19.9	19.9	19.9	109.1	104.1		117.5	115.9	
Actuated g/C Ratio		0.04		0.13	0.13	0.13	0.73	0.69		0.78	0.77	
v/c Ratio		0.21		1.50	0.02	0.74	0.02	0.86		0.99	0.49	
Control Delay		58.4		290.9	52.0	54.7	5.2	23.4		101.1	5.7	
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		58.4		290.9	52.0	54.7	5.2	23.4		101.1	5.7	
LOS		E		F	D	D	A	C		F	A	
Approach Delay		58.4			195.6			23.3			14.9	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		10		~411	4	125	1	711		88	138	
Queue Length 95th (ft)		35		#567	17	205	5	1031		#249	248	
Internal Link Dist (ft)		322			566			432			601	
Turn Bay Length (ft)				200		200	200			300		
Base Capacity (vph)		191		206	455	444	286	2385		144	2705	
Starvation Cap Reductn		0		0	0	0	0	0		0	0	
Spillback Cap Reductn		0		0	0	0	0	0		0	0	
Storage Cap Reductn		0		0	0	0	0	0		0	0	
Reduced v/c Ratio		0.08		1.50	0.01	0.46	0.02	0.86		0.99	0.49	

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 110 (73%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.50

Intersection Signal Delay: 42.4

Intersection LOS: D

Intersection Capacity Utilization 100.7%

ICU Level of Service G

Analysis Period (min) 15

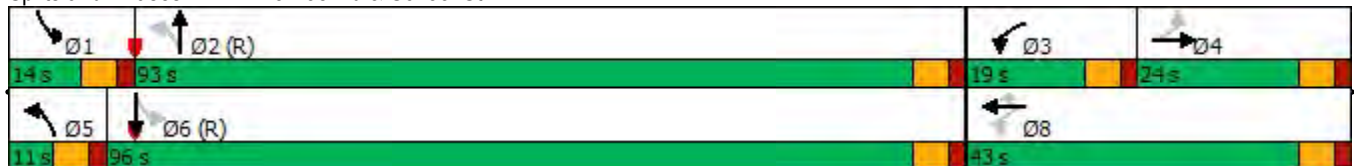
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

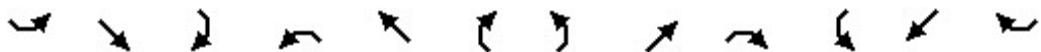
95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Monroe Rd & School St



Queues
12: I-4 EB Ramps & Monroe Rd



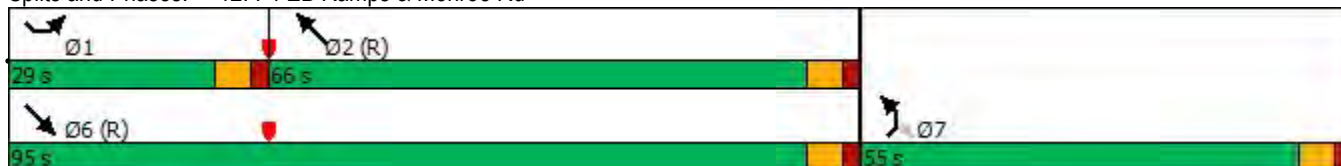
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations	↘	↑↑			↑↑	↗	↘↘		↗			
Traffic Volume (vph)	256	1044	0	0	1208	660	1134	0	346	0	0	0
Future Volume (vph)	256	1044	0	0	1208	660	1134	0	346	0	0	0
Satd. Flow (prot)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1752	3505	0	0	3505	1568	3367	0	1553	0	0	0
Satd. Flow (RTOR)						324			93			
Lane Group Flow (vph)	269	1099	0	0	1272	695	1194	0	364	0	0	0
Turn Type	Prot	NA			NA	Free	Prot		Perm			
Protected Phases	1	6			2		7					
Permitted Phases						Free			7			
Total Split (s)	29.0	95.0			66.0		55.0		55.0			
Total Lost Time (s)	6.0	6.0			6.0		6.0		6.0			
Act Effct Green (s)	23.0	89.0			60.0	150.0	49.0		49.0			
Actuated g/C Ratio	0.15	0.59			0.40	1.00	0.33		0.33			
v/c Ratio	1.00	0.53			0.91	0.44	1.09		0.64			
Control Delay	118.0	19.2			36.1	0.5	100.7		37.3			
Queue Delay	0.0	7.9			0.0	0.0	0.0		0.0			
Total Delay	118.0	27.1			36.1	0.5	100.7		37.3			
LOS	F	C			D	A	F		D			
Approach Delay		45.0			23.5			85.9				
Approach LOS		D			C			F				
Queue Length 50th (ft)	~268	322			621	0	~673		229			
Queue Length 95th (ft)	#460	380			#676	m0	#810		346			
Internal Link Dist (ft)		365			621			859			648	
Turn Bay Length (ft)						300						
Base Capacity (vph)	268	2079			1402	1568	1099		569			
Starvation Cap Reductn	0	937			0	0	0		0			
Spillback Cap Reductn	0	0			0	0	0		0			
Storage Cap Reductn	0	0			0	0	0		0			
Reduced v/c Ratio	1.00	0.96			0.91	0.44	1.09		0.64			

Intersection Summary

Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 10 (7%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 49.4 Intersection LOS: D
 Intersection Capacity Utilization 117.9% ICU Level of Service H
 Analysis Period (min) 15

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 12: I-4 EB Ramps & Monroe Rd



Queues
13: Monroe Rd & I-4 WB Ramps

2045 No Build PM
06/29/2022

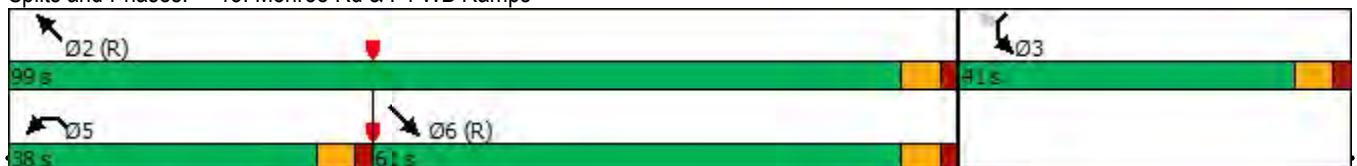


Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑	↗	↖	↑↑					↖↗		↗
Traffic Volume (vph)	0	810	523	281	2061	0	0	0	0	489	0	362
Future Volume (vph)	0	810	523	281	2061	0	0	0	0	489	0	362
Satd. Flow (prot)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	0	3505	1568	1752	3505	0	0	0	0	3367	0	1553
Satd. Flow (RTOR)			410									70
Lane Group Flow (vph)	0	853	551	296	2169	0	0	0	0	515	0	381
Turn Type		NA	Free	Prot	NA					Prot		Perm
Protected Phases		6		5	2					3		
Permitted Phases			Free									3
Total Split (s)		61.0		38.0	99.0					41.0		41.0
Total Lost Time (s)		6.0		6.0	6.0					6.0		6.0
Act Effct Green (s)		55.0	140.0	34.6	95.6					32.4		32.4
Actuated g/C Ratio		0.39	1.00	0.25	0.68					0.23		0.23
v/c Ratio		0.62	0.35	0.68	0.91					0.66		0.92
Control Delay		36.5	0.6	57.9	26.1					53.0		71.2
Queue Delay		0.0	0.0	1.1	46.0					0.0		0.0
Total Delay		36.5	0.6	59.0	72.0					53.0		71.2
LOS		D	A	E	E					D		E
Approach Delay		22.4			70.5						60.7	
Approach LOS		C			E						E	
Queue Length 50th (ft)		325	0	252	854					215		280
Queue Length 95th (ft)		396	0	363	1004					276		#460
Internal Link Dist (ft)		750			365			818			646	
Turn Bay Length (ft)			300							400		400
Base Capacity (vph)		1376	1568	433	2393					841		440
Starvation Cap Reductn		0	0	33	566					0		0
Spillback Cap Reductn		0	0	0	0					0		0
Storage Cap Reductn		0	0	0	0					0		0
Reduced v/c Ratio		0.62	0.35	0.74	1.19					0.61		0.87

Intersection Summary

Cycle Length: 140
 Actuated Cycle Length: 140
 Offset: 20 (14%), Referenced to phase 2:NWT and 6:SET, Start of Green
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 54.5
 Intersection LOS: D
 Intersection Capacity Utilization 117.9%
 ICU Level of Service H
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 13: Monroe Rd & I-4 WB Ramps



Appendix F-6

Seminole County Site 1B – Future Safety Analysis

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build
Agency or Company	VHB	Intersection	School Street
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	38,900
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	10,000
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	1
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive / Protected
Type of left-turn signal phasing for Leg #2		--	Permissive / Protected
Type of left-turn signal phasing for Leg #3		--	Permissive / Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			13
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.96	0.96	1.00	1.00	1.00	0.67

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	11.438	1.000	11.438	0.67	1.00	7.700
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	3.886	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.351	4.018	0.67	1.00	2.705
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	7.175	$(5)_{TOTAL}-(5)_{FI}$ 0.649	7.420	0.67	1.00	4.995

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.705	1.000	4.995	7.700
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.217	0.483	2.412	3.630
Head-on collision	0.049	0.133	0.030	0.150	0.282
Angle collision	0.347	0.939	0.244	1.219	2.157
Sideswipe	0.099	0.268	0.032	0.160	0.428
Other multiple-vehicle collision	0.055	0.149	0.211	1.054	1.203

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.585	1.000	0.585	0.67	1.00	0.394
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.131	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.224	0.131	0.67	1.00	0.088
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.452	$(5)_{TOTAL}-(5)_{FI}$ 0.776	0.454	0.67	1.00	0.305

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.088	1.000	0.305	0.394
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.066	0.870	0.266	0.331
Collision with other object	0.072	0.006	0.070	0.021	0.028
Other single-vehicle collision	0.040	0.004	0.023	0.007	0.011
Single-vehicle noncollision	0.141	0.012	0.034	0.010	0.023

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.015	1.00	1.00	0.015
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.015

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.700	0.394	8.094	0.015	1.00	0.121
Fatal and injury (FI)	--	--	--	--	1.00	0.121

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.217	2.412	3.630
Head-on collisions (from Worksheet 2D)	0.133	0.150	0.282
Angle collisions (from Worksheet 2D)	0.939	1.219	2.157
Sideswipe (from Worksheet 2D)	0.268	0.160	0.428
Other multiple-vehicle collision (from Worksheet 2D)	0.149	1.054	1.203
Subtotal	2.705	4.995	7.700
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.066	0.266	0.331
Collision with other object (from Worksheet 2F)	0.006	0.021	0.028
Other single-vehicle collision (from Worksheet 2F)	0.004	0.007	0.011
Single-vehicle noncollision (from Worksheet 2F)	0.012	0.010	0.023
Collision with pedestrian (from Worksheet 2G or 2I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 2J)	0.121	0.000	0.121
Subtotal	0.225	0.305	0.530
Total	2.930	5.300	8.230

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	8.2
Fatal and injury (FI)	2.9
Property damage only (PDO)	5.3

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build
Agency or Company	VHB	Intersection	I-4 EB Ramps
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	40,500
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	16,400
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.92	1.00	0.91	1.00	0.59

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	13.381	1.000	13.381	0.59	1.00	7.958
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.544	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.351	4.691	0.59	1.00	2.790
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	8.419	$(5)_{TOTAL}-(5)_{FI}$ 0.649	8.690	0.59	1.00	5.168

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.790	1.000	5.168	7.958
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.255	0.483	2.496	3.752
Head-on collision	0.049	0.137	0.030	0.155	0.292
Angle collision	0.347	0.968	0.244	1.261	2.229
Sideswipe	0.099	0.276	0.032	0.165	0.442
Other multiple-vehicle collision	0.055	0.153	0.211	1.090	1.244

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.687	1.000	0.687	0.59	1.00	0.409
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.154	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.225	0.155	0.59	1.00	0.092
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.528	$(5)_{TOTAL}-(5)_{FI}$ 0.775	0.532	0.59	1.00	0.316

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.092	1.000	0.316	0.409
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.068	0.870	0.275	0.344
Collision with other object	0.072	0.007	0.070	0.022	0.029
Other single-vehicle collision	0.040	0.004	0.023	0.007	0.011
Single-vehicle noncollision	0.141	0.013	0.034	0.011	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					(4) [*] (5) [*] (6)
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.016	1.00	1.00	0.016
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.016

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.958	0.409	8.366	0.015	1.00	0.125
Fatal and injury (FI)	--	--	--	--	1.00	0.125

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.255	2.496	3.752
Head-on collisions (from Worksheet 2D)	0.137	0.155	0.292
Angle collisions (from Worksheet 2D)	0.968	1.261	2.229
Sideswipe (from Worksheet 2D)	0.276	0.165	0.442
Other multiple-vehicle collision (from Worksheet 2D)	0.153	1.090	1.244
Subtotal	2.790	5.168	7.958
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.068	0.275	0.344
Collision with other object (from Worksheet 2F)	0.007	0.022	0.029
Other single-vehicle collision (from Worksheet 2F)	0.004	0.007	0.011
Single-vehicle noncollision (from Worksheet 2F)	0.013	0.011	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.016	0.000	0.016
Collision with bicycle (from Worksheet 2J)	0.125	0.000	0.125
Subtotal	0.234	0.316	0.550
Total	3.023	5.485	8.508

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	8.5
Fatal and injury (FI)	3.0
Property damage only (PDO)	5.5

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build
Agency or Company	VHB	Intersection	I-4 WB Ramps
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	41,700
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	9,500
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			21
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.92	1.00	0.91	1.00	0.59

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	12.177	1.000	12.177	0.59	1.00	7.241
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.171	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.354	4.312	0.59	1.00	2.564
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	7.608	$(5)_{TOTAL}-(5)_{FI}$ 0.646	7.865	0.59	1.00	4.677

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.564	1.000	4.677	7.241
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.154	0.483	2.259	3.413
Head-on collision	0.049	0.126	0.030	0.140	0.266
Angle collision	0.347	0.890	0.244	1.141	2.031
Sideswipe	0.099	0.254	0.032	0.150	0.404
Other multiple-vehicle collision	0.055	0.141	0.211	0.987	1.128

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.605	1.000	0.605	0.59	1.00	0.360
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.133	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.220	0.133	0.59	1.00	0.079
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.471	$(5)_{TOTAL}-(5)_{FI}$ 0.780	0.472	0.59	1.00	0.281

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type _(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type _(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.079	1.000	0.281	0.360
		(2)* _{(3)_{FI}}		(4)* _{(5)_{PDO}}	(3)+ ₍₅₎
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.059	0.870	0.244	0.303
Collision with other object	0.072	0.006	0.070	0.020	0.025
Other single-vehicle collision	0.040	0.003	0.023	0.006	0.010
Single-vehicle noncollision	0.141	0.011	0.034	0.010	0.021

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)* _{(5)*₍₆₎}
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)* _{(2)*₍₃₎}
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4)* _{(5)*₍₆₎}			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.019	1.00	1.00	0.019
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.019

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.241	0.360	7.601	0.015	1.00	0.114
Fatal and injury (FI)	--	--	--	--	1.00	0.114

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.154	2.259	3.413
Head-on collisions (from Worksheet 2D)	0.126	0.140	0.266
Angle collisions (from Worksheet 2D)	0.890	1.141	2.031
Sideswipe (from Worksheet 2D)	0.254	0.150	0.404
Other multiple-vehicle collision (from Worksheet 2D)	0.141	0.987	1.128
Subtotal	2.564	4.677	7.241
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.059	0.244	0.303
Collision with other object (from Worksheet 2F)	0.006	0.020	0.025
Other single-vehicle collision (from Worksheet 2F)	0.003	0.006	0.010
Single-vehicle noncollision (from Worksheet 2F)	0.011	0.010	0.021
Collision with pedestrian (from Worksheet 2G or 2I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 2J)	0.114	0.000	0.114
Subtotal	0.212	0.281	0.493
Total	2.776	4.958	7.734

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	7.7
Fatal and injury (FI)	2.8
Property damage only (PDO)	5.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build (No BTU Condition)
Agency or Company	VHB	Intersection	School Street
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	33,200
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	300
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	1.00	1.00	1.00	0.97	0.51

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	2.893	1.000	2.893	0.51	1.00	1.488
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.160	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.392	1.134	0.51	1.00	0.583
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	1.800	$(5)_{TOTAL}-(5)_{FI}$ 0.608	1.759	0.51	1.00	0.905

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.583	1.000	0.905	1.488
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.197	0.374	0.338	0.535
Head-on collision	0.041	0.024	0.030	0.027	0.051
Angle collision	0.440	0.257	0.335	0.303	0.560
Sideswipe	0.121	0.071	0.044	0.040	0.110
Other multiple-vehicle collision	0.060	0.035	0.217	0.196	0.231

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.298	1.000	0.298	0.51	1.00	0.153
Fatal and Injury (FI)	--	--	--	--	0.083	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.351	0.105	0.51	1.00	0.054
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.155	$(5)_{TOTAL}-(5)_{FI}$ 0.649	0.194	0.51	1.00	0.100

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type (PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.054	1.000	0.100	0.153
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.036	0.847	0.084	0.121
Collision with other object	0.089	0.005	0.070	0.007	0.012
Other single-vehicle collision	0.051	0.003	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.010	0.049	0.005	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	1.488	0.153	1.641	0.022	1.00	0.036
Fatal and injury (FI)	--	--	--	--	1.00	0.036

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	1.488	0.153	1.641	0.018	1.00	0.030
Fatal and injury (FI)	--	--	--	--	1.00	0.030

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.197	0.338	0.535
Head-on collisions (from Worksheet 2D)	0.024	0.027	0.051
Angle collisions (from Worksheet 2D)	0.257	0.303	0.560
Sideswipe (from Worksheet 2D)	0.071	0.040	0.110
Other multiple-vehicle collision (from Worksheet 2D)	0.035	0.196	0.231
Subtotal	0.583	0.905	1.488
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.036	0.084	0.121
Collision with other object (from Worksheet 2F)	0.005	0.007	0.012
Other single-vehicle collision (from Worksheet 2F)	0.003	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.010	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.036	0.000	0.036
Collision with bicycle (from Worksheet 2J)	0.030	0.000	0.030
Subtotal	0.119	0.100	0.219
Total	0.702	1.004	1.706

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	1.7
Fatal and injury (FI)	0.7
Property damage only (PDO)	1.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build (No BTU Condition)
Agency or Company	VHB	Intersection	Orange Boulevard
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	37,900
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	12,200
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Not Applicable
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			13
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.88	1.00	1.00	0.91	1.00	0.69

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	7.529	1.000	7.529	0.69	1.00	5.211
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	2.167	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.304	2.289	0.69	1.00	1.584
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	4.960	$(5)_{TOTAL}-(5)_{FI}$ 0.696	5.240	0.69	1.00	3.627

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.584	1.000	3.627	5.211
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.870	0.546	1.980	2.850
Head-on collision	0.038	0.060	0.020	0.073	0.133
Angle collision	0.280	0.444	0.204	0.740	1.183
Sideswipe	0.076	0.120	0.032	0.116	0.236
Other multiple-vehicle collision	0.057	0.090	0.198	0.718	0.808

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.437	1.000	0.437	0.69	1.00	0.302
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.122	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.294	0.129	0.69	1.00	0.089
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.292	$(5)_{TOTAL}-(5)_{FI}$ 0.706	0.308	0.69	1.00	0.213

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.089	1.000	0.213	0.302
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.058	0.895	0.191	0.249
Collision with other object	0.091	0.008	0.069	0.015	0.023
Other single-vehicle collision	0.045	0.004	0.018	0.004	0.008
Single-vehicle noncollision	0.209	0.019	0.014	0.003	0.022

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.008	1.00	1.00	0.008
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.008

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.211	0.302	5.513	0.011	1.00	0.061
Fatal and injury (FI)	--	--	--	--	1.00	0.061

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.870	1.980	2.850
Head-on collisions (from Worksheet 2D)	0.060	0.073	0.133
Angle collisions (from Worksheet 2D)	0.444	0.740	1.183
Sideswipe (from Worksheet 2D)	0.120	0.116	0.236
Other multiple-vehicle collision (from Worksheet 2D)	0.090	0.718	0.808
Subtotal	1.584	3.627	5.211
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.058	0.191	0.249
Collision with other object (from Worksheet 2F)	0.008	0.015	0.023
Other single-vehicle collision (from Worksheet 2F)	0.004	0.004	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.019	0.003	0.022
Collision with pedestrian (from Worksheet 2G or 2I)	0.008	0.000	0.008
Collision with bicycle (from Worksheet 2J)	0.061	0.000	0.061
Subtotal	0.158	0.213	0.371
Total	1.742	3.840	5.581

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	5.6
Fatal and injury (FI)	1.7
Property damage only (PDO)	3.8

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build (No BTU Condition)
Agency or Company	VHB	Intersection	I-4 EB On-Ramp (consider US 17 NBL as minor approach)
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	37,500
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	2,800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	0.86	1.00	0.91	0.97	0.40

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	5.588	1.000	5.588	0.40	1.00	2.252
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	2.429	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.424	2.367	0.40	1.00	0.954
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	3.305	$(5)_{TOTAL}-(5)_{FI}$ 0.576	3.221	0.40	1.00	1.298

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.954	1.000	1.298	2.252
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.322	0.374	0.485	0.808
Head-on collision	0.041	0.039	0.030	0.039	0.078
Angle collision	0.440	0.420	0.335	0.435	0.854
Sideswipe	0.121	0.115	0.044	0.057	0.173
Other multiple-vehicle collision	0.060	0.057	0.217	0.282	0.339

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.406	1.000	0.406	0.40	1.00	0.163
Fatal and Injury (FI)	--	--	--	--	0.114	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.287	0.116	0.40	1.00	0.047
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.282	$(5)_{TOTAL}-(5)_{FI}$ 0.713	0.289	0.40	1.00	0.117

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.047	1.000	0.117	0.163
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.032	0.847	0.099	0.131
Collision with other object	0.089	0.004	0.070	0.008	0.012
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.008	0.049	0.006	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	2.252	0.163	2.415	0.022	1.00	0.053
Fatal and injury (FI)	--	--	--	--	1.00	0.053

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.252	0.163	2.415	0.018	1.00	0.043
Fatal and injury (FI)	--	--	--	--	1.00	0.043

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.322	0.485	0.808
Head-on collisions (from Worksheet 2D)	0.039	0.039	0.078
Angle collisions (from Worksheet 2D)	0.420	0.435	0.854
Sideswipe (from Worksheet 2D)	0.115	0.057	0.173
Other multiple-vehicle collision (from Worksheet 2D)	0.057	0.282	0.339
Subtotal	0.954	1.298	2.252
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.032	0.099	0.131
Collision with other object (from Worksheet 2F)	0.004	0.008	0.012
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.006	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.053	0.000	0.053
Collision with bicycle (from Worksheet 2J)	0.043	0.000	0.043
Subtotal	0.143	0.117	0.260
Total	1.097	1.414	2.512

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	2.5
Fatal and injury (FI)	1.1
Property damage only (PDO)	1.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road No Build (No BTU Condition)
Agency or Company	VHB	Intersection	Seminole Boulevard/I-4 EB Off-Ramp
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	48,300
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	31,700
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive / Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			21
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF</i> 1i	<i>CMF</i> 2i	<i>CMF</i> 3i	<i>CMF</i> 4i	<i>CMF</i> 5i	<i>CMF</i> 6i	<i>CMF</i> COMB
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.88	1.00	0.91	1.00	0.57

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	18.801	1.000	18.801	0.57	1.00	10.626
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	6.466	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.354	6.655	0.57	1.00	3.761
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	11.802	$(5)_{TOTAL}-(5)_{FI}$ 0.646	12.146	0.57	1.00	6.865

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	3.761	1.000	6.865	10.626
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.693	0.483	3.316	5.008
Head-on collision	0.049	0.184	0.030	0.206	0.390
Angle collision	0.347	1.305	0.244	1.675	2.980
Sideswipe	0.099	0.372	0.032	0.220	0.592
Other multiple-vehicle collision	0.055	0.207	0.211	1.448	1.655

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.925	1.000	0.925	0.57	1.00	0.523
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.201	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.219	0.203	0.57	1.00	0.115
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.714	$(5)_{TOTAL}-(5)_{FI}$ 0.781	0.722	0.57	1.00	0.408

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.115	1.000	0.408	0.523
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.085	0.870	0.355	0.440
Collision with other object	0.072	0.008	0.070	0.029	0.037
Other single-vehicle collision	0.040	0.005	0.023	0.009	0.014
Single-vehicle noncollision	0.141	0.016	0.034	0.014	0.030

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.029	1.00	1.00	0.029
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.029

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	10.626	0.523	11.149	0.015	1.00	0.167
Fatal and injury (FI)	--	--	--	--	1.00	0.167

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.693	3.316	5.008
Head-on collisions (from Worksheet 2D)	0.184	0.206	0.390
Angle collisions (from Worksheet 2D)	1.305	1.675	2.980
Sideswipe (from Worksheet 2D)	0.372	0.220	0.592
Other multiple-vehicle collision (from Worksheet 2D)	0.207	1.448	1.655
Subtotal	3.761	6.865	10.626
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.085	0.355	0.440
Collision with other object (from Worksheet 2F)	0.008	0.029	0.037
Other single-vehicle collision (from Worksheet 2F)	0.005	0.009	0.014
Single-vehicle noncollision (from Worksheet 2F)	0.016	0.014	0.030
Collision with pedestrian (from Worksheet 2G or 2I)	0.029	0.000	0.029
Collision with bicycle (from Worksheet 2J)	0.167	0.000	0.167
Subtotal	0.310	0.408	0.719
Total	4.072	7.273	11.345

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	11.3
Fatal and injury (FI)	4.1
Property damage only (PDO)	7.3

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build
Agency or Company	VHB	Intersection	School Street/Potential Truck Stop
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	39,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	10,100
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive / Protected
Type of left-turn signal phasing for Leg #2		--	Permissive / Protected
Type of left-turn signal phasing for Leg #3		--	Permissive / Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			13
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.73	0.96	0.92	1.00	1.00	1.00	0.65

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bimv}	Proportion of Total Crashes	Adjusted N_{bimv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bimv}
	from Table 12-10									
	a	b	c							
Total	-10.99	1.07	0.23	0.39	11.496	1.000	11.496	0.65	1.00	7.429
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	3.906	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.351	4.039	0.65	1.00	2.610
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	7.211	$(5)_{TOTAL}-(5)_{FI}$ 0.649	7.456	0.65	1.00	4.819

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type _(FI)	Predicted $N_{bimv (FI)}$ (crashes/year)	Proportion of Collision Type _(PDO)	Predicted $N_{bimv (PDO)}$ (crashes/year)	Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.610	1.000	4.819	7.429
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.175	0.483	2.327	3.502
Head-on collision	0.049	0.128	0.030	0.145	0.272
Angle collision	0.347	0.906	0.244	1.176	2.082
Sideswipe	0.099	0.258	0.032	0.154	0.413
Other multiple-vehicle collision	0.055	0.144	0.211	1.017	1.160

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N_{bisv}	Proportion of Total Crashes	Adjusted N_{bisv}	Combined CMFs	Calibration Factor, C_i	Predicted N_{bisv}
	from Table 12-12									
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.587	1.000	0.587	0.65	1.00	0.380
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.131	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.224	0.132	0.65	1.00	0.085
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.454	$(5)_{TOTAL}-(5)_{FI}$ 0.776	0.456	0.65	1.00	0.294

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.085	1.000	0.294	0.380
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.063	0.870	0.256	0.320
Collision with other object	0.072	0.006	0.070	0.021	0.027
Other single-vehicle collision	0.040	0.003	0.023	0.007	0.010
Single-vehicle noncollision	0.141	0.012	0.034	0.010	0.022

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.015	1.00	1.00	0.015
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.015

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.429	0.380	7.809	0.015	1.00	0.117
Fatal and injury (FI)	--	--	--	--	1.00	0.117

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.175	2.327	3.502
Head-on collisions (from Worksheet 2D)	0.128	0.145	0.272
Angle collisions (from Worksheet 2D)	0.906	1.176	2.082
Sideswipe (from Worksheet 2D)	0.258	0.154	0.413
Other multiple-vehicle collision (from Worksheet 2D)	0.144	1.017	1.160
Subtotal	2.610	4.819	7.429
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.063	0.256	0.320
Collision with other object (from Worksheet 2F)	0.006	0.021	0.027
Other single-vehicle collision (from Worksheet 2F)	0.003	0.007	0.010
Single-vehicle noncollision (from Worksheet 2F)	0.012	0.010	0.022
Collision with pedestrian (from Worksheet 2G or 2I)	0.015	0.000	0.015
Collision with bicycle (from Worksheet 2J)	0.117	0.000	0.117
Subtotal	0.217	0.294	0.512
Total	2.828	5.113	7.941

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	7.9
Fatal and injury (FI)	2.8
Property damage only (PDO)	5.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build
Agency or Company	VHB	Intersection	I-4 EB Ramps
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	40,800
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	16,500
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	1
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			10
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.92	1.00	0.91	1.00	0.59

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	13.506	1.000	13.506	0.59	1.00	8.032
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.590	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.351	4.738	0.59	1.00	2.818
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	8.495	$(5)_{TOTAL}-(5)_{FI}$ 0.649	8.768	0.59	1.00	5.215

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.818	1.000	5.215	8.032
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.268	0.483	2.519	3.786
Head-on collision	0.049	0.138	0.030	0.156	0.294
Angle collision	0.347	0.978	0.244	1.272	2.250
Sideswipe	0.099	0.279	0.032	0.167	0.446
Other multiple-vehicle collision	0.055	0.155	0.211	1.100	1.255

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.692	1.000	0.692	0.59	1.00	0.411
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.154	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.225	0.156	0.59	1.00	0.092
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.532	$(5)_{TOTAL}-(5)_{FI}$ 0.775	0.536	0.59	1.00	0.319

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.092	1.000	0.319	0.411
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.069	0.870	0.277	0.346
Collision with other object	0.072	0.007	0.070	0.022	0.029
Other single-vehicle collision	0.040	0.004	0.023	0.007	0.011
Single-vehicle noncollision	0.141	0.013	0.034	0.011	0.024

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.016	1.00	1.00	0.016
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.016

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	8.032	0.411	8.443	0.015	1.00	0.127
Fatal and injury (FI)	--	--	--	--	1.00	0.127

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.268	2.519	3.786
Head-on collisions (from Worksheet 2D)	0.138	0.156	0.294
Angle collisions (from Worksheet 2D)	0.978	1.272	2.250
Sideswipe (from Worksheet 2D)	0.279	0.167	0.446
Other multiple-vehicle collision (from Worksheet 2D)	0.155	1.100	1.255
Subtotal	2.818	5.215	8.032
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.069	0.277	0.346
Collision with other object (from Worksheet 2F)	0.007	0.022	0.029
Other single-vehicle collision (from Worksheet 2F)	0.004	0.007	0.011
Single-vehicle noncollision (from Worksheet 2F)	0.013	0.011	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.016	0.000	0.016
Collision with bicycle (from Worksheet 2J)	0.127	0.000	0.127
Subtotal	0.236	0.319	0.554
Total	3.053	5.533	8.586

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	8.6
Fatal and injury (FI)	3.1
Property damage only (PDO)	5.5

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build
Agency or Company	VHB	Intersection	I-4 WB Ramps
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	42,000
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	9,500
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			21
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	6
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.92	1.00	0.91	1.00	0.59

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	12.270	1.000	12.270	0.59	1.00	7.297
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	4.206	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.354	4.348	0.59	1.00	2.586
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	7.664	$(5)_{TOTAL}-(5)_{FI}$ 0.646	7.922	0.59	1.00	4.711

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	2.586	1.000	4.711	7.297
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.164	0.483	2.276	3.439
Head-on collision	0.049	0.127	0.030	0.141	0.268
Angle collision	0.347	0.897	0.244	1.150	2.047
Sideswipe	0.099	0.256	0.032	0.151	0.407
Other multiple-vehicle collision	0.055	0.142	0.211	0.994	1.136

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.608	1.000	0.608	0.59	1.00	0.361
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.133	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.219	0.133	0.59	1.00	0.079
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.474	$(5)_{TOTAL}-(5)_{FI}$ 0.781	0.474	0.59	1.00	0.282

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type _(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type _(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.079	1.000	0.282	0.361
		(2)* _{(3)_{FI}}		(4)* _{(5)_{PDO}}	(3)+ ₍₅₎
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.059	0.870	0.245	0.304
Collision with other object	0.072	0.006	0.070	0.020	0.025
Other single-vehicle collision	0.040	0.003	0.023	0.006	0.010
Single-vehicle noncollision	0.141	0.011	0.034	0.010	0.021

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)* _{(5)*₍₆₎}
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1)* _{(2)*₍₃₎}
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4)* _{(5)*₍₆₎}			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.019	1.00	1.00	0.019
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.019

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	7.297	0.361	7.658	0.015	1.00	0.115
Fatal and injury (FI)	--	--	--	--	1.00	0.115

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.164	2.276	3.439
Head-on collisions (from Worksheet 2D)	0.127	0.141	0.268
Angle collisions (from Worksheet 2D)	0.897	1.150	2.047
Sideswipe (from Worksheet 2D)	0.256	0.151	0.407
Other multiple-vehicle collision (from Worksheet 2D)	0.142	0.994	1.136
Subtotal	2.586	4.711	7.297
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.059	0.245	0.304
Collision with other object (from Worksheet 2F)	0.006	0.020	0.025
Other single-vehicle collision (from Worksheet 2F)	0.003	0.006	0.010
Single-vehicle noncollision (from Worksheet 2F)	0.011	0.010	0.021
Collision with pedestrian (from Worksheet 2G or 2I)	0.019	0.000	0.019
Collision with bicycle (from Worksheet 2J)	0.115	0.000	0.115
Subtotal	0.213	0.282	0.495
Total	2.799	4.993	7.792

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	7.8
Fatal and injury (FI)	2.8
Property damage only (PDO)	5.0

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build (No BTU Condition)
Agency or Company	VHB	Intersection	School Street/Potential Truck Stop
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	33,400
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	1,100
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	0
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	1.00	1.00	1.00	0.97	0.51

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	4.023	1.000	4.023	0.51	1.00	2.067
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.679	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.408	1.641	0.51	1.00	0.843
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	2.438	$(5)_{TOTAL}-(5)_{FI}$ 0.592	2.383	0.51	1.00	1.224

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.843	1.000	1.224	2.067
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.285	0.374	0.458	0.743
Head-on collision	0.041	0.035	0.030	0.037	0.071
Angle collision	0.440	0.371	0.335	0.410	0.781
Sideswipe	0.121	0.102	0.044	0.054	0.156
Other multiple-vehicle collision	0.060	0.051	0.217	0.266	0.316

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.349	1.000	0.349	0.51	1.00	0.179
Fatal and Injury (FI)	--	--	--	--	0.098	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.313	0.109	0.51	1.00	0.056
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.215	$(5)_{TOTAL}-(5)_{FI}$ 0.687	0.240	0.51	1.00	0.123

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.056	1.000	0.123	0.179
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.038	0.847	0.104	0.142
Collision with other object	0.089	0.005	0.070	0.009	0.014
Other single-vehicle collision	0.051	0.003	0.007	0.001	0.004
Single-vehicle noncollision	0.179	0.010	0.049	0.006	0.016

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	2.067	0.179	2.246	0.022	1.00	0.049
Fatal and injury (FI)	--	--	--	--	1.00	0.049

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.067	0.179	2.246	0.018	1.00	0.040
Fatal and injury (FI)	--	--	--	--	1.00	0.040

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.285	0.458	0.743
Head-on collisions (from Worksheet 2D)	0.035	0.037	0.071
Angle collisions (from Worksheet 2D)	0.371	0.410	0.781
Sideswipe (from Worksheet 2D)	0.102	0.054	0.156
Other multiple-vehicle collision (from Worksheet 2D)	0.051	0.266	0.316
Subtotal	0.843	1.224	2.067
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.038	0.104	0.142
Collision with other object (from Worksheet 2F)	0.005	0.009	0.014
Other single-vehicle collision (from Worksheet 2F)	0.003	0.001	0.004
Single-vehicle noncollision (from Worksheet 2F)	0.010	0.006	0.016
Collision with pedestrian (from Worksheet 2G or 2I)	0.049	0.000	0.049
Collision with bicycle (from Worksheet 2J)	0.040	0.000	0.040
Subtotal	0.146	0.123	0.269
Total	0.989	1.347	2.336

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	2.3
Fatal and injury (FI)	1.0
Property damage only (PDO)	1.3

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build (No BTU Condition)
Agency or Company	VHB	Intersection	Orange Boulevard
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	3SG
AADT _{major} (veh/day)	AADT _{MAX} = 58,100 (veh/day)	--	38,100
AADT _{minor} (veh/day)	AADT _{MAX} = 16,400 (veh/day)	--	12,200
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	0
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	2
Type of left-turn signal phasing for Leg #1		Permissive	Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Not Applicable
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Not Applicable
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			13
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.86	0.88	1.00	1.00	0.91	1.00	0.69

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-12.13	1.11	0.26	0.33	7.573	1.000	7.573	0.69	1.00	5.241
Fatal and Injury (FI)	-11.58	1.02	0.17	0.30	2.178	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.304	2.301	0.69	1.00	1.593
Property Damage Only (PDO)	-13.24	1.14	0.30	0.36	4.990	$(5)_{TOTAL}-(5)_{FI}$ 0.696	5.272	0.69	1.00	3.648

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N_{bimv} (FI) (crashes/year)	(4) Proportion of Collision Type (PDO)	(5) Predicted N_{bimv} (PDO) (crashes/year)	(6) Predicted N_{bimv} (TOTAL) (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	1.593	1.000	3.648	5.241
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.549	0.874	0.546	1.992	2.866
Head-on collision	0.038	0.061	0.020	0.073	0.133
Angle collision	0.280	0.446	0.204	0.744	1.190
Sideswipe	0.076	0.121	0.032	0.117	0.238
Other multiple-vehicle collision	0.057	0.091	0.198	0.722	0.813

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-9.02	0.42	0.40	0.36	0.438	1.000	0.438	0.69	1.00	0.303
Fatal and Injury (FI)	-9.75	0.27	0.51	0.24	0.122	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.294	0.129	0.69	1.00	0.089
Property Damage Only (PDO)	-9.08	0.45	0.33	0.53	0.293	$(5)_{TOTAL}-(5)_{FI}$ 0.706	0.309	0.69	1.00	0.214

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.089	1.000	0.214	0.303
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.003	0.001	0.001
Collision with fixed object	0.653	0.058	0.895	0.191	0.250
Collision with other object	0.091	0.008	0.069	0.015	0.023
Other single-vehicle collision	0.045	0.004	0.018	0.004	0.008
Single-vehicle noncollision	0.209	0.019	0.014	0.003	0.022

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-6.60	0.05	0.24	0.41	0.09	0.52	0.008	1.00	1.00	0.008
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.008

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	5.241	0.303	5.544	0.011	1.00	0.061
Fatal and injury (FI)	--	--	--	--	1.00	0.061

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.874	1.992	2.866
Head-on collisions (from Worksheet 2D)	0.061	0.073	0.133
Angle collisions (from Worksheet 2D)	0.446	0.744	1.190
Sideswipe (from Worksheet 2D)	0.121	0.117	0.238
Other multiple-vehicle collision (from Worksheet 2D)	0.091	0.722	0.813
Subtotal	1.593	3.648	5.241
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.058	0.191	0.250
Collision with other object (from Worksheet 2F)	0.008	0.015	0.023
Other single-vehicle collision (from Worksheet 2F)	0.004	0.004	0.008
Single-vehicle noncollision (from Worksheet 2F)	0.019	0.003	0.022
Collision with pedestrian (from Worksheet 2G or 2I)	0.008	0.000	0.008
Collision with bicycle (from Worksheet 2J)	0.061	0.000	0.061
Subtotal	0.158	0.214	0.372
Total	1.751	3.862	5.613

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	5.6
Fatal and injury (FI)	1.8
Property damage only (PDO)	3.9

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build (No BTU Condition)
Agency or Company	VHB	Intersection	I-4 EB On-Ramp (consider US 17 NBL as minor approach)
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AADT _{major} (veh/day)	AADT _{MAX} = 46,800 (veh/day)	--	37,700
AADT _{minor} (veh/day)	AADT _{MAX} = 5,900 (veh/day)	--	2,800
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	2
Number of major-road approaches with right-turn lanes (0,1,2)		0	1
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	
Type of left-turn signal phasing for Leg #1		Permissive	
Type of left-turn signal phasing for Leg #2		--	
Type of left-turn signal phasing for Leg #3		--	
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	
Intersection red light cameras (present/not present)		Not Present	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	
Number of bus stops within 300 m (1,000 ft) of the intersection		0	
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF_{1i}</i>	<i>CMF_{2i}</i>	<i>CMF_{3i}</i>	<i>CMF_{4i}</i>	<i>CMF_{5i}</i>	<i>CMF_{6i}</i>	<i>CMF_{COMB}</i>
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.53	1.00	0.86	1.00	0.91	0.97	0.40

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-8.90	0.82	0.25	0.40	5.613	1.000	5.613	0.40	1.00	2.261
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	2.441	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.424	2.379	0.40	1.00	0.958
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	3.318	$(5)_{TOTAL}-(5)_{FI}$ 0.576	3.234	0.40	1.00	1.303

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	0.958	1.000	1.303	2.261
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.338	0.324	0.374	0.487	0.811
Head-on collision	0.041	0.039	0.030	0.039	0.078
Angle collision	0.440	0.422	0.335	0.436	0.858
Sideswipe	0.121	0.116	0.044	0.057	0.173
Other multiple-vehicle collision	0.060	0.058	0.217	0.283	0.340

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-5.33	0.33	0.12	0.65	0.407	1.000	0.407	0.40	1.00	0.164
Fatal and Injury (FI)	--	--	--	--	0.114	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.287	0.117	0.40	1.00	0.047
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.283	$(5)_{TOTAL}-(5)_{FI}$ 0.713	0.290	0.40	1.00	0.117

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.047	1.000	0.117	0.164
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000
Collision with animal	0.001	0.000	0.026	0.003	0.003
Collision with fixed object	0.679	0.032	0.847	0.099	0.131
Collision with other object	0.089	0.004	0.070	0.008	0.012
Other single-vehicle collision	0.051	0.002	0.007	0.001	0.003
Single-vehicle noncollision	0.179	0.008	0.049	0.006	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	2.261	0.164	2.425	0.022	1.00	0.053
Fatal and injury (FI)	--	--	--	--	1.00	0.053

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
--	--	--	--

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e					
Total	--	--	--	--	--	--	--	--	1.00	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	--

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	2.261	0.164	2.425	0.018	1.00	0.044
Fatal and injury (FI)	--	--	--	--	1.00	0.044

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	0.324	0.487	0.811
Head-on collisions (from Worksheet 2D)	0.039	0.039	0.078
Angle collisions (from Worksheet 2D)	0.422	0.436	0.858
Sideswipe (from Worksheet 2D)	0.116	0.057	0.173
Other multiple-vehicle collision (from Worksheet 2D)	0.058	0.283	0.340
Subtotal	0.958	1.303	2.261
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.003	0.003
Collision with fixed object (from Worksheet 2F)	0.032	0.099	0.131
Collision with other object (from Worksheet 2F)	0.004	0.008	0.012
Other single-vehicle collision (from Worksheet 2F)	0.002	0.001	0.003
Single-vehicle noncollision (from Worksheet 2F)	0.008	0.006	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.053	0.000	0.053
Collision with bicycle (from Worksheet 2J)	0.044	0.000	0.044
Subtotal	0.144	0.117	0.261
Total	1.102	1.420	2.522

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	2.5
Fatal and injury (FI)	1.1
Property damage only (PDO)	1.4

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst	AF	Roadway	US 17/Monroe Road Build (No BTU Condition)
Agency or Company	VHB	Intersection	Seminole Boulevard/I-4 EB Off-Ramp
Date Performed	06/17/22	Jurisdiction	Seminole County, FL
		Analysis Year	2045
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	48,400
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	31,900
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	1.00
Data for unsignalized intersections only:		--	
Number of major-road approaches with left-turn lanes (0,1,2)		0	
Number of major-road approaches with right-turn lanes (0,1,2)		0	
Data for signalized intersections only:		--	
Number of approaches with left-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	2
Number of approaches with right-turn lanes (0,1,2,3,4) [for 3SG, use maximum value of 3]		0	3
Number of approaches with left-turn signal phasing [for 3SG, use maximum value of 3]		--	3
Type of left-turn signal phasing for Leg #1		Permissive	Permissive / Protected
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			21
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft) of the intersection		0	0
Schools within 300 m (1,000 ft) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
<i>CMF</i> 1i	<i>CMF</i> 2i	<i>CMF</i> 3i	<i>CMF</i> 4i	<i>CMF</i> 5i	<i>CMF</i> 6i	<i>CMF</i> COMB
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.81	0.87	0.88	1.00	0.91	1.00	0.57

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bimv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bimv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bimv}
	from Table 12-10			from Table 12-10	from Equation 12-21		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.99	1.07	0.23	0.39	18.869	1.000	18.869	0.57	1.00	10.665
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	6.491	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.354	6.680	0.57	1.00	3.776
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	11.845	$(5)_{TOTAL}-(5)_{FI}$ 0.646	12.189	0.57	1.00	6.889

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted $N_{bimv (FI)}$ (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted $N_{bimv (PDO)}$ (crashes/year)	(6) Predicted $N_{bimv (TOTAL)}$ (crashes/year)
	from Table 12-11	$(9)_{FI}$ from Worksheet 2C	from Table 12-11	$(9)_{PDO}$ from Worksheet 2C	$(9)_{PDO}$ from Worksheet 2C
Total	1.000	3.776	1.000	6.889	10.665
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.699	0.483	3.328	5.027
Head-on collision	0.049	0.185	0.030	0.207	0.392
Angle collision	0.347	1.310	0.244	1.681	2.991
Sideswipe	0.099	0.374	0.032	0.220	0.594
Other multiple-vehicle collision	0.055	0.208	0.211	1.454	1.661

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections

(1) Crash Severity Level	(2) SPF Coefficients			(3) Overdispersion Parameter, k	(4) Initial N_{bisv}	(5) Proportion of Total Crashes	(6) Adjusted N_{bisv}	(7) Combined CMFs	(8) Calibration Factor, C_i	(9) Predicted N_{bisv}
	from Table 12-12			from Table 12-12	from Eqn. 12-24; (FI) from Eqn. 12-24 or 12-27		(4) _{TOTAL} *(5)	(7) from Worksheet 2B	(6)*(7)*(8)	
	a	b	c							
Total	-10.21	0.68	0.27	0.36	0.928	1.000	0.928	0.57	1.00	0.525
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.201	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.219	0.203	0.57	1.00	0.115
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.717	$(5)_{TOTAL}-(5)_{FI}$ 0.781	0.725	0.57	1.00	0.410

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1)	(2)	(3)	(4)	(5)	(6)
Collision Type	Proportion of Collision Type ^(FI)	Predicted N _{bisv (FI)} (crashes/year)	Proportion of Collision Type ^(PDO)	Predicted N _{bisv (PDO)} (crashes/year)	Predicted N _{bisv (TOTAL)} (crashes/year)
	from Table 12-13	(9) _{FI} from Worksheet 2E	from Table 12-13	(9) _{PDO} from Worksheet 2E	(9) _{PDO} from Worksheet 2E
Total	1.000	0.115	1.000	0.410	0.525
		(2) [*] (3) _{FI}		(4) [*] (5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001
Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.086	0.870	0.356	0.442
Collision with other object	0.072	0.008	0.070	0.029	0.037
Other single-vehicle collision	0.040	0.005	0.023	0.009	0.014
Single-vehicle noncollision	0.141	0.016	0.034	0.014	0.030

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N _{bimv}	Predicted N _{bisv}	Predicted N _{bi}	f _{pedi}	Calibration factor, C _i	Predicted N _{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4) [*] (5) [*] (6)
Total	--	--	--	--	1.00	--
Fatal and injury (FI)	--	--	--	--	1.00	--

Worksheet 2H -- Crash Modification Factors for Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections			
(1)	(2)	(3)	(4)
CMF for Bus Stops	CMF for Schools	CMF for Alcohol Sales Establishments	Combined CMF
CMF _{1p}	CMF _{2p}	CMF _{3p}	
from Table 12-28	from Table 12-29	from Table 12-30	(1) [*] (2) [*] (3)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14									
	a	b	c	d	e		(4) [*] (5) [*] (6)			
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.029	1.00	1.00	0.029
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.00	0.029

Worksheet 2J -- Vehicle-Bicycle Collisions for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{bikei}	Calibration factor, C_i	Predicted N_{bikei}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-17		(4)*(5)*(6)
Total	10.665	0.525	11.190	0.015	1.00	0.168
Fatal and injury (FI)	--	--	--	--	1.00	0.168

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections			
(1)	(2)	(3)	(4)
Collision type	Fatal and injury (FI)	Property damage only (PDO)	Total
	(3) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J	(5) from Worksheet 2D and 2F	(6) from Worksheet 2D and 2F; (7) from 2G or 2I and 2J
MULTIPLE-VEHICLE			
Rear-end collisions (from Worksheet 2D)	1.699	3.328	5.027
Head-on collisions (from Worksheet 2D)	0.185	0.207	0.392
Angle collisions (from Worksheet 2D)	1.310	1.681	2.991
Sideswipe (from Worksheet 2D)	0.374	0.220	0.594
Other multiple-vehicle collision (from Worksheet 2D)	0.208	1.454	1.661
Subtotal	3.776	6.889	10.665
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.001
Collision with animal (from Worksheet 2F)	0.000	0.001	0.001
Collision with fixed object (from Worksheet 2F)	0.086	0.356	0.442
Collision with other object (from Worksheet 2F)	0.008	0.029	0.037
Other single-vehicle collision (from Worksheet 2F)	0.005	0.009	0.014
Single-vehicle noncollision (from Worksheet 2F)	0.016	0.014	0.030
Collision with pedestrian (from Worksheet 2G or 2I)	0.029	0.000	0.029
Collision with bicycle (from Worksheet 2J)	0.168	0.000	0.168
Subtotal	0.311	0.410	0.721
Total	4.087	7.299	11.386

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	11.4
Fatal and injury (FI)	4.1
Property damage only (PDO)	7.3

Appendix G-1

Volusia County Site 1 - Existing Traffic Data

FLORIDA DEPARTMENT OF TRANSPORTATION
 TRANSPORTATION STATISTICS OFFICE
 2021 HISTORICAL AADT REPORT

COUNTY: 79 - VOLUSIA

SITE: 0486 - ON I-4, 0.452 MI. NE OF SR-44 OVERPASS (RVL)

YEAR	AADT	DIRECTION 1	DIRECTION 2	*K FACTOR	D FACTOR	T FACTOR
2021	59500 F	E 30000	W 29500	9.00	58.20	16.90
2020	59500 C	E 30000	W 29500	9.00	58.70	16.90
2019	66500 F	E 33500	W 33000	9.00	59.00	15.70
2018	65500 C	E 33000	W 32500	9.00	60.00	15.70
2017	65500 C	E 33000	W 32500	9.00	52.60	14.80
2016	58000 F	0	0	9.00	52.10	12.80
2015	57000 E			9.00	52.50	8.20
2014	56000 S	E 28000	W 28000	9.00	53.60	14.00
2013	55000 F	E 27500	W 27500	9.00	53.80	14.00
2012	55000 C	E 27500	W 27500	9.00	54.00	14.00
2011	54000 C	E 27000	W 27000	9.00	54.30	14.60
2010	56000 C	E 28000	W 28000	8.65	53.65	11.70
2009	56000 C	E 29500	W 26500	8.67	54.57	11.70
2008	56000 C	E 27500	W 28500	8.60	54.07	13.30
2007	54500 C	E 28000	W 26500	8.30	56.39	10.80
2006	53500 C	E 27000	W 26500	8.32	52.47	14.30

COUNTY: 79
 STATION: 0485
 DESCRIPTION: ON I-4, 0.4 MI. NE OF SR-472
 START DATE: 07/26/2021
 START TIME: 1200

TIME	DIRECTION: E					DIRECTION: W					COMBINED TOTAL	
	1ST	2ND	3RD	4TH	TOTAL	1ST	2ND	3RD	4TH	TOTAL		
0000	140	145	96	95	476	124	103	90	96	413	889	
0100	94	86	94	75	349	79	98	83	66	326	675	
0200	86	99	78	79	342	61	67	76	72	276	618	
0300	79	99	97	104	379	66	71	79	97	313	692	
0400	119	157	159	190	625	91	118	136	153	498	1123	
0500	216	332	341	378	1267	176	183	262	298	919	2186	
0600	521	693	695	726	2635	344	428	542	531	1845	4480	
0700	829	908	866	724	3327	490	661	639	675	2465	5792	
0800	727	702	703	623	2755	629	610	687	633	2559	5314	
0900	705	742	681	688	2816	536	611	598	604	2349	5165	
1000	779	759	764	736	3038	624	602	593	634	2453	5491	
1100	730	791	750	661	2932	643	638	644	640	2565	5497	
1200	780	770	786	807	3143	703	644	709	655	2711	5854	
1300	733	781	700	705	2919	508	539	666	762	2475	5394	
1400	762	730	736	681	2909	780	802	818	808	3208	6117	
1500	753	781	770	766	3070	823	827	881	837	3368	6438	
1600	735	771	695	787	2988	868	890	880	884	3522	6510	
1700	670	694	598	630	2592	910	1026	1069	922	3927	6519	
1800	658	632	523	494	2307	860	792	701	626	2979	5286	
1900	444	424	397	407	1672	604	549	564	477	2194	3866	
2000	388	352	354	300	1394	443	443	424	360	1670	3064	
2100	299	301	257	271	1128	384	347	334	329	1394	2522	
2200	253	214	223	159	849	254	223	202	180	859	1708	
2300	189	183	193	129	694	181	189	188	172	730	1424	
24-HOUR TOTALS:					46606						46018	92624

PEAK VOLUME INFORMATION						
DIRECTION: E		DIRECTION: W		COMBINED DIRECTIONS		
hour	VOLUME	hour	VOLUME	hour	VOLUME	
A.M.	645	3329	715	2604	715	5829
P.M.	1200	3143	1700	3927	1645	6638
DAILY	645	3329	1700	3927	1645	6638

TRUCK PERCENTAGE 15.47 13.01 14.25

CLASSIFICATION SUMMARY DATABASE																	
DIR	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	TOTTRK	TOTVOL
E	54	30035	9305	461	1896	310	87	1959	2144	170	89	73	23	0	0	7212	46606
W	62	31163	8807	435	1520	363	50	1558	1880	37	97	41	5	0	0	5986	46018

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Appendix G-2

Volusia County Site 1 - Existing HCS Outputs

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2022
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Existing AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3431	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1313
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	31.2	18.8	14.1	11.3
LOS	D	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2022
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Existing PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2464	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	943
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	20.3	13.5	10.1	8.1
LOS	C	B	A	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2022
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Existing AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2464	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	943
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	13.5
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
---------------------	---	---	---	---

Density, pc/mi/ln	20.3	13.5	10.1	8.1
LOS	C	B	A	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2022
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Existing PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3431	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1313
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (Et)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.9
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	18.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	31.2	18.8	14.1	11.3
LOS	D	C	B	B

Appendix G-3

Volusia County Site 1 – Crash Data

Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
1	848692850	4	7/24/2015	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	DRY	NO	0
2	845514060	4	6/9/2015	Tuesday	FRONT TO REAR	Injury	0	1	\$0	\$2,000	DAYLIGHT	DRY	NO	0
3	854506740	0.152	3/11/2017	Saturday	OFF ROAD	Injury	0	1	\$0	\$6,000	DARK-NOT LIGHTED	DRY	NO	0
4	854197580	0.076	12/31/2016	Saturday	FRONT TO REAR	Injury	0	1	\$0	\$1,500	DAYLIGHT	DRY	NO	0
5	855824450	0.028	10/4/2017	Wednesday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$30,000	DAYLIGHT	WET	NO	0
6	855973500	4	11/22/2017	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$2,000	\$10,000	DAYLIGHT	WET	NO	0
7	855131370	1	5/12/2017	Friday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	WET	NO	0
8	876781430	0	6/22/2018	Friday	OFF ROAD	Property Damage Only	0	0	\$1,000	\$8,500	DAYLIGHT	WET	NO	0
9	855112530	0	6/7/2017	Wednesday	OFF ROAD	Property Damage Only	0	0	\$0	\$9,500	DAYLIGHT	WET	NO	0
10	854507160	0.152	6/25/2017	Sunday	IDESWIPE, SAME DIRECTION	Injury	0	1	\$0	\$2,750	DAYLIGHT	DRY	NO	0
11	855072290	3.28	7/7/2017	Friday	FRONT TO REAR	Injury	0	5	\$0	\$1,500	DARK-NOT LIGHTED	DRY	NO	0
12	855039920	0.057	7/5/2017	Wednesday	FRONT TO REAR	Injury	0	1	\$3,000	\$8,000	DARK-NOT LIGHTED	DRY	NO	0
13	854376960	0	3/25/2017	Saturday	FRONT TO REAR	Injury	0	2	\$1,500	\$1,500	DAYLIGHT	DRY	NO	0
14	855493250	0	8/7/2017	Monday	IDESWIPE, SAME DIRECTION	Injury	0	1	\$0	\$15,000	DAYLIGHT	WET	NO	0
15	855178600	3	8/27/2017	Sunday	OFF ROAD	Property Damage Only	0	0	\$0	\$2,500	DAYLIGHT	WET	NO	0
16	845074550	0	9/29/2017	Friday	FRONT TO REAR	Injury	0	3	\$0	\$20,000	DAYLIGHT	DRY	NO	0
17	854736660	0.1	4/3/2017	Monday	OFF ROAD	Property Damage Only	0	0	\$28,000	\$33,000	DAYLIGHT	WET	NO	0
18	853088750	0	7/29/2016	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0
19	854590650	0	6/3/2017	Saturday	OFF ROAD	Injury	0	1	\$0	\$10,000	DAYLIGHT	DRY	NO	0
20	853088400	0	6/5/2016	Sunday	OFF ROAD	Injury	0	1	\$0	\$15,500	DARK-LIGHTED	WET	NO	0
21	854670450	0	3/13/2017	Monday	OFF ROAD	Property Damage Only	0	0	\$0	\$16,000	DARK-NOT LIGHTED	WET	NO	0
22	852980300	2.6	8/13/2017	Sunday	OFF ROAD	Injury	0	3	\$0	\$2,000	DAYLIGHT	DRY	NO	0
23	853832470	0.009	12/22/2016	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,200	DAYLIGHT	DRY	NO	0
24	851686070	0	2/19/2016	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$350	DAYLIGHT	DRY	NO	0
25	836543590	3	2/24/2017	Friday	FRONT TO REAR	Property Damage Only	0	0	\$2,500	\$11,000	DAYLIGHT	DRY	NO	0
26	855178890	2.81	10/21/2017	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$500	\$5,500	DARK-NOT LIGHTED	DRY	NO	0
27	853956580	0	12/22/2016	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$800	DAYLIGHT	DRY	NO	0
28	854062850	3	11/13/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$50,000	\$70,000	DAYLIGHT	DRY	NO	0
29	852438530	0.076	3/10/2016	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$3,000	\$18,000	DAYLIGHT	DRY	NO	0
30	852499500	0.75	2/5/2016	Friday	OFF ROAD	Injury	0	2	\$0	\$500	DARK-NOT LIGHTED	WET	NO	0
31	852438670	0.095	3/26/2016	Saturday	OFF ROAD	Injury	0	2	\$0	\$5,500	DARK-NOT LIGHTED	WET	NO	0
32	852002420	0	3/30/2016	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$1,000	\$4,000	DAYLIGHT	DRY	NO	0
33	852483120	0	1/26/2016	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,500	DAYLIGHT	WET	NO	0
34	852483100	0	1/26/2016	Tuesday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$5,000	ARK - UNKNOWN LIGHTING	WET	NO	0
35	855451560	0.057	7/19/2017	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$3,500	DAYLIGHT	DRY	NO	0
36	852400300	3	1/28/2016	Thursday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$4,200	DAYLIGHT	DRY	NO	0
37	852364880	0	2/21/2016	Sunday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0
38	852400230	4	1/26/2016	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	WET	NO	0
39	880875950	0	4/27/2019	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$9,000	DAYLIGHT	DRY	NO	0
40	852400220	4	1/26/2016	Tuesday	ANGLE	Property Damage Only	0	0	\$0	\$15,000	DARK-NOT LIGHTED	WET	NO	0
41	852283280	0.25	3/1/2016	Tuesday	FRONT TO REAR	Injury	0	1	\$3,000	\$26,000	DARK-NOT LIGHTED	DRY	NO	0
42	852287000	0	1/17/2016	Sunday	ANGLE	Injury	0	1	\$0	\$15,000	DARK-NOT LIGHTED	DRY	NO	0
43	852293680	0	4/21/2016	Thursday	OFF ROAD	Injury	0	1	\$0	\$1,000	DAYLIGHT	DRY	NO	0
44	852002320	0	3/21/2016	Monday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$300	DAYLIGHT	DRY	NO	0
45	819653330	0	7/31/2015	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0
46	852293720	0	4/29/2016	Friday	OFF ROAD	Injury	0	1	\$0	\$5,500	DAYLIGHT	DRY	NO	0
47	853145170	0	6/23/2016	Thursday	ANGLE	Injury	0	2	\$0	\$7,500	DAYLIGHT	WET	NO	0
48	852648640	0	3/19/2016	Saturday	FRONT TO REAR	Injury	0	8	\$0	\$1,200	DAYLIGHT	DRY	NO	0
49	852648620	0	3/18/2016	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$10,000	DAYLIGHT	WET	NO	0
50	852532420	0	3/6/2016	Sunday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$1,000	DARK-NOT LIGHTED	DRY	NO	0
51	852267500	0.009	11/17/2015	Tuesday	OFF ROAD	Property Damage Only	0	0	\$0	\$25,000	DAYLIGHT	WET	NO	0
52	852066400	0	12/26/2015	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$500	DAYLIGHT	DRY	NO	0
53	855985380	0.028	10/9/2017	Monday	IDESWIPE, SAME DIRECTION	Injury	0	1	\$0	\$500	DARK-NOT LIGHTED	DRY	NO	0
54	855549730	0.2	8/27/2017	Sunday	OFF ROAD	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	WET	NO	0
55	855549620	1	8/8/2017	Tuesday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0
56	848970770	0	7/2/2015	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$8,000	DAYLIGHT	DRY	NO	0
57	855178820	4	10/4/2017	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	WET	NO	0
58	855000190	0.1	5/20/2017	Saturday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0
59	854564420	0.009	3/15/2017	Wednesday	FRONT TO REAR	Fatality	1	1	\$0	\$520	DARK-NOT LIGHTED	DRY	ALC	1
60	852283160	0.5	2/13/2016	Saturday	OFF ROAD	Injury	0	1	\$0	\$1,000	DARK-NOT LIGHTED	DRY	NO	0
61	854015310	3	11/26/2016	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$6,500	DAYLIGHT	DRY	NO	0
62	853520630	0.5	9/3/2016	Saturday	ANGLE	Injury	0	3	\$0	\$8,000	DAYLIGHT	DRY	NO	0
63	853589960	0	9/4/2016	Sunday	OFF ROAD	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0
64	854015180	3	10/15/2016	Saturday	IDESWIPE, SAME DIRECTION	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0
65	854017970	0	11/26/2016	Saturday	FRONT TO REAR	Injury	0	1	\$0	\$10,000	DAYLIGHT	DRY	NO	0

Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related
66	85350270	0.095	9/2/2016	Friday	FRONT TO REAR	Injury	0	2	\$0	\$5,000	DAYLIGHT	DRY	NO	0
67	853346450	3	6/10/2016	Friday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$1,700	DAYLIGHT	DRY	NO	0
68	852807390	0.5	6/23/2016	Thursday	OFF ROAD	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	DRY	NO	0
69	852560550	0.189	1/8/2016	Friday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$5,000	DUSK	WET	NO	0
70	853075990	0.057	5/20/2016	Friday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$5,000	DAYLIGHT	DRY	NO	0
71	852886170	0.028	5/29/2016	Sunday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$20,000	DARK-NOT LIGHTED	DRY	NO	0
72	836485770	0.5	4/3/2015	Friday	OFF ROAD	Injury	0	2	\$0	\$3,000	DARK-NOT LIGHTED	DRY	NO	0
73	851408260	0.189	8/7/2015	Friday	OFF ROAD	Property Damage Only	0	0	\$0	\$5,050	DUSK	WET	NO	0
74	881084320	0	6/30/2019	Sunday	FRONT TO REAR	Injury	0	1	\$200	\$2,200	DARK-NOT LIGHTED	WET	NO	0
75	852807410	0	6/27/2016	Monday	FRONT TO REAR	Injury	0	4	\$500	\$13,000	DARK-NOT LIGHTED	DRY	NO	0
76	852880840	0.5	3/23/2016	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0
77	852825940	0.003	4/7/2016	Thursday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$1,000	DAYLIGHT	DRY	NO	0
78	845005020	0	3/14/2015	Saturday	OFF ROAD	Injury	0	1	\$0	\$10,000	DAYLIGHT	DRY	NO	0
79	852267820	0.095	12/15/2015	Tuesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$500	\$10,500	DAYLIGHT	DRY	NO	0
80	852286560	0	11/24/2015	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DARK-NOT LIGHTED	WET	NO	0
81	851637230	0	8/14/2015	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$20,000	DAYLIGHT	DRY	NO	0
82	851129880	0	8/29/2015	Saturday	OFF ROAD	Injury	0	4	\$0	\$800	DAYLIGHT	WET	NO	0
83	851369070	3	9/11/2015	Friday	OFF ROAD	Injury	0	2	\$9,000	\$59,000	DAYLIGHT	WET	NO	0
84	851368660	4	7/11/2015	Saturday	FRONT TO REAR	Injury	0	1	\$0	\$1,000	DAYLIGHT	DRY	NO	0
85	851432740	4	9/15/2015	Tuesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$15,000	DAYLIGHT	DRY	NO	0
86	851314680	0.7	6/27/2015	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,050	DAYLIGHT	DRY	NO	0
87	851154380	3	11/9/2015	Monday	ANGLE	Injury	0	1	\$0	\$2,100	DAYLIGHT	DRY	NO	0
88	851329220	0	8/29/2015	Saturday	OFF ROAD	Injury	0	1	\$0	\$6,000	DAYLIGHT	WET	NO	0
89	851154010	3	8/26/2015	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$12,000	DAYLIGHT	DRY	NO	0
90	852267930	0.057	12/26/2015	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$15,000	DAYLIGHT	DRY	NO	0
91	852066410	0	12/26/2015	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$50	DAYLIGHT	DRY	NO	0
92	851835270	0	9/26/2015	Saturday	FRONT TO REAR	Injury	0	2	\$0	\$3,500	DARK-LIGHTED	DRY	NO	0
93	851844960	0	11/3/2015	Tuesday	OFF ROAD	Injury	0	1	\$0	\$1,300	DAYLIGHT	WET	NO	0
94	851532230	0.004	7/12/2015	Sunday	FRONT TO REAR	Injury	0	2	\$300	\$2,800	DAYLIGHT	DRY	NO	0
95	851835440	0	10/15/2015	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$0	DARK-NOT LIGHTED	DRY	NO	0
96	851568610	0.25	9/19/2015	Saturday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	DRY	NO	0
97	851831190	0.25	12/25/2015	Friday	FRONT TO REAR	Injury	0	1	\$0	\$3,000	DAYLIGHT	DRY	NO	0
98	851830660	0.038	9/14/2015	Monday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	WET	NO	0
99	851532190	0.019	7/4/2015	Saturday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$5,200	DAYLIGHT	DRY	NO	0
100	848982040	0.019	6/11/2015	Thursday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$700	DAYLIGHT	DRY	NO	0
101	848604360	10	4/4/2015	Saturday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$251	DARK-NOT LIGHTED	DRY	NO	0
102	845690010	0	2/12/2015	Thursday	OFF ROAD	Property Damage Only	0	0	\$0	\$1,000	DARK-NOT LIGHTED	DRY	NO	0
103	845690590	0.8	5/1/2015	Friday	OFF ROAD	Injury	0	1	\$0	\$2,000	DAYLIGHT	DRY	NO	0
104	845514210	3	6/25/2015	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$400	DARK-NOT LIGHTED	DRY	NO	0
105	848731540	0.5	4/25/2015	Saturday	OFF ROAD	Injury	0	1	\$0	\$9,000	DARK-NOT LIGHTED	WET	NO	0
106	848928780	0.5	6/14/2015	Sunday	UNKNOWN	Property Damage Only	0	0	\$0	\$1,200	DAYLIGHT	DRY	NO	0
107	848635340	0	4/5/2015	Sunday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$1,001	DAYLIGHT	DRY	NO	0
108	848635010	0.5	2/16/2015	Monday	OFF ROAD	Injury	0	2	\$0	\$5,000	DAYLIGHT	WET	NO	0
109	848716600	0.189	5/15/2015	Friday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	DRY	NO	0
110	848604010	3	2/12/2015	Thursday	FRONT TO REAR	Injury	0	1	\$0	\$5,500	DARK-NOT LIGHTED	DRY	NO	0
111	820044570	4	6/26/2015	Friday	FRONT TO REAR	Injury	0	1	\$0	\$10,000	DAYLIGHT	DRY	NO	0
112	871668090	4	5/30/2018	Wednesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$13,000	DUSK	WET	NO	0
113	872207250	0	6/2/2018	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$500	\$3,000	DAYLIGHT	DRY	NO	0
114	852582090	0.189	3/17/2016	Thursday	OFF ROAD	Injury	0	1	\$0	\$1,000	DARK-NOT LIGHTED	DRY	NO	0
115	854237550	0.057	12/24/2016	Saturday	FRONT TO REAR	Injury	0	1	\$0	\$2,000	DARK-NOT LIGHTED	DRY	NO	0
116	852532600	0	4/23/2016	Saturday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$1,000	DAYLIGHT	DRY	NO	0
117	853346390	3	5/28/2016	Saturday	OFF ROAD	Property Damage Only	0	0	\$0	\$9,500	DAYLIGHT	DRY	NO	0
118	853061840	0.095	6/23/2016	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$17,500	DAYLIGHT	DRY	NO	0
119	853088380	0	5/29/2016	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$3,500	DARK-NOT LIGHTED	WET	NO	0
120	853088310	0	5/16/2016	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,100	DAYLIGHT	DRY	NO	0
121	851890910	0.8	11/19/2015	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$13,500	DAYLIGHT	DRY	NO	0
122	851631220	0	11/27/2015	Friday	IDESWIPE, SAME DIRECTIO	Injury	0	2	\$0	\$2,000	DAYLIGHT	DRY	NO	0
123	851835570	0	10/28/2015	Wednesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	DRY	NO	0
124	851432600	3	8/6/2015	Thursday	OFF ROAD	Property Damage Only	0	0	\$0	\$13,500	DAYLIGHT	WET	NO	0
125	851408540	0.095	9/19/2015	Saturday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$5,000	DAYLIGHT	DRY	NO	0
126	848635430	0.2	4/10/2015	Friday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$17,000	DUSK	WET	NO	0
127	855451300	0.057	6/11/2017	Sunday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	WET	NO	0
128	880394780	0.189	11/11/2018	Sunday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$6,500	DAYLIGHT	WET	NO	0
129	871568980	0	4/21/2018	Saturday	OFF ROAD	Property Damage Only	0	0	\$0	\$1,600	DAYLIGHT	WET	NO	0
130	871467340	0.25	2/9/2018	Friday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$500	DARK-NOT LIGHTED	DRY	NO	0
131	856083290	0	6/12/2018	Tuesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,500	DAYLIGHT	DRY	NO	0
132	881252500	0.25	8/14/2019	Wednesday	ANGLE	Property Damage Only	0	0	\$0	\$550	DAYLIGHT	WET	NO	0

Crash Data Summary

No.	Crash ID	Milepost	Date	Day	Crash Type	Crash Severity	Fatalities	Injuries	Property Damage	Total Damage	Day/Night	Wet/Dry	Alcohol Related	Drug Related		
133	880917520	0.019	5/31/2019	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DARK-LIGHTED	DRY	NO	0	NO	0
134	881694590	0.25	10/8/2019	Tuesday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$13,000	DARK-NOT LIGHTED	WET	NO	0	NO	0
135	872033550	0	5/22/2018	Tuesday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$2,500	DAYLIGHT	DRY	NO	0	NO	0
136	871866300	3	5/30/2018	Wednesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$500	DUSK	WET	NO	0	NO	0
137	872390310	0	7/20/2018	Friday	OFF ROAD	Injury	0	1	\$0	\$13,000	DAYLIGHT	DRY	NO	0	NO	0
138	872458260	0	8/7/2018	Tuesday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$1,400	DARK-NOT LIGHTED	WET	NO	0	NO	0
139	880506020	0	1/5/2019	Saturday	OFF ROAD	Property Damage Only	0	0	\$0	\$2,500	DAYLIGHT	DRY	NO	0	NO	0
140	880176150	3	1/23/2019	Wednesday	OFF ROAD	Injury	0	1	\$0	\$0	DAYLIGHT	WET	NO	0	NO	0
141	881549270	0.189	9/24/2019	Tuesday	OFF ROAD	Injury	0	1	\$0	\$8,000	DAYLIGHT	DRY	NO	0	NO	0
142	881214210	0.114	6/29/2019	Saturday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$15,000	DAYLIGHT	WET	NO	0	NO	0
143	881603860	0	10/18/2019	Friday	OFF ROAD	Property Damage Only	0	0	\$0	\$5,000	DARK-LIGHTED	WET	NO	0	NO	0
144	881054130	0.5	5/4/2019	Saturday	OTHER (SEE NARRATIVE)	Injury	0	2	\$200	\$20,200	DAYLIGHT	WET	NO	0	NO	0
145	836442250	1	12/22/2019	Sunday	OFF ROAD	Property Damage Only	0	0	\$0	\$1,000	DAWN	WET	NO	0	NO	0
146	880505950	0	1/1/2019	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$0	DARK-NOT LIGHTED	DRY	NO	0	NO	0
147	880944970	0.019	5/17/2019	Friday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$2,000	DARK-NOT LIGHTED	DRY	NO	0	NO	0
148	853204140	0	6/10/2016	Friday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$5,500	DAYLIGHT	DRY	NO	0	NO	0
149	853113010	3	7/11/2016	Monday	OFF ROAD	Property Damage Only	0	0	\$0	\$1,100	DARK-NOT LIGHTED	DRY	NO	0	NO	0
150	853112900	3	6/13/2016	Monday	OTHER (SEE NARRATIVE)	Injury	0	3	\$0	\$4,000	DUSK	WET	NO	0	NO	0
151	855065730	0	6/5/2017	Monday	IDESWIPE, SAME DIRECTIO	Injury	0	1	\$0	\$16,000	DAYLIGHT	WET	NO	0	NO	0
152	872390470	0	8/20/2018	Monday	OFF ROAD	Property Damage Only	0	0	\$0	\$16,000	DARK-LIGHTED	WET	NO	0	NO	0
153	880654750	0.1	2/17/2019	Sunday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
154	880917160	0.189	4/5/2019	Friday	FRONT TO FRONT	Injury	0	3	\$0	\$5,500	DARK-LIGHTED	DRY	NO	0	NO	0
155	871536680	0	4/2/2018	Monday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$3,000	DAYLIGHT	DRY	NO	0	NO	0
156	871706220	3	5/31/2018	Thursday	FRONT TO REAR	Property Damage Only	0	0	\$100	\$9,100	DAYLIGHT	DRY	NO	0	NO	0
157	872449910	0	8/11/2018	Saturday	OFF ROAD	Property Damage Only	0	0	\$2,000	\$10,000	DAYLIGHT	WET	NO	0	NO	0
158	872071730	0.095	6/5/2018	Tuesday	FRONT TO REAR	Property Damage Only	0	0	\$500	\$10,500	DAYLIGHT	DRY	NO	0	NO	0
159	872124980	0.2	5/5/2018	Saturday	OTHER (SEE NARRATIVE)	Property Damage Only	0	0	\$0	\$2,000	DAYLIGHT	WET	NO	0	NO	0
160	881075050	3	3/13/2019	Wednesday	OTHER (SEE NARRATIVE)	Injury	0	1	\$0	\$6,500	DAYLIGHT	DRY	NO	0	NO	0
161	881052700	0.25	5/4/2019	Saturday	OFF ROAD	Property Damage Only	0	0	\$0	\$11,000	DAYLIGHT	WET	NO	0	NO	0
162	881066650	0.5	7/26/2019	Friday	OFF ROAD	Property Damage Only	0	0	\$0	\$6,000	DAYLIGHT	WET	NO	0	NO	0
163	881052620	0.25	4/25/2019	Thursday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	DRY	NO	0	NO	0
164	881623980	3	9/13/2019	Friday	OFF ROAD	Property Damage Only	0	0	\$0	\$3,000	DUSK	WET	NO	0	NO	0
165	881161120	0.75	6/17/2019	Monday	FRONT TO REAR	Property Damage Only	0	0	\$0	\$4,000	DAYLIGHT	DRY	NO	0	NO	0
166	872125320	0.1	7/3/2018	Tuesday	IDESWIPE, SAME DIRECTIO	Property Damage Only	0	0	\$0	\$1,500	DAYLIGHT	DRY	ALC	1	ALC	0

I-4 (MP 127) from MP 22 to MP 24

Crash Type	2015	2016	2017	2018	2019	Total	Proportion
Rear End	19	20	9	4	7	59	36%
Head On	0	0	0	0	0	0	0%
Sideswipe	8	8	8	4	1	29	17%
Rollover	0	0	0	0	0	0	0%
Angle	1	5	0	0	1	7	4%
Left Turn	0	0	0	0	1	1	1%
Right Turn	0	0	0	0	0	0	0%
Off Road	13	11	8	5	8	45	27%
Pedestrian & Bicycle	0	0	0	0	0	0	0%
Hit Traffic Barrier	0	0	0	0	0	0	0%
Other	7	7	2	5	4	25	15%
Total	48	51	27	18	22	166	100%

Crash Severity	2015	2016	2017	2018	2019	Total	Proportion
Fatality	0	0	1	0	0	1	1%
Injury	18	22	11	2	8	61	37%
Property Damage Only	30	29	15	16	14	104	63%
Total	48	51	27	18	22	166	100%

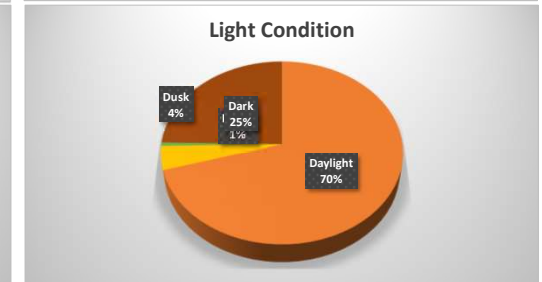
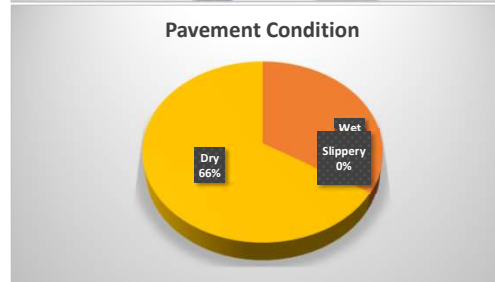
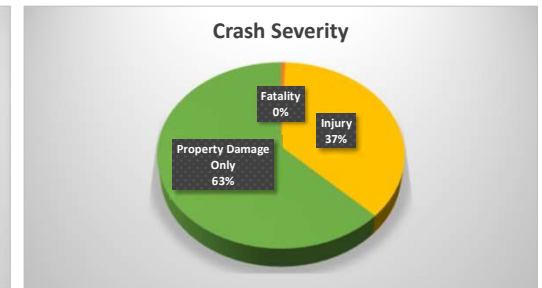
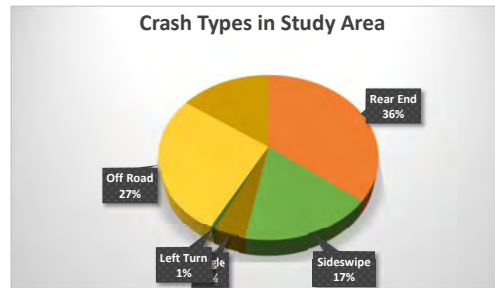
Pavement Condition	2015	2016	2017	2018	2019	Total	Proportion
Wet	12	12	12	9	11	56	34%
Dry	36	39	15	9	11	110	66%
Slippery	0	0	0	0	0	0	0%
Total	48	51	27	18	22	166	100%

Light Condition	2015	2016	2017	2018	2019	Total	Proportion
Daylight	37	34	20	13	13	117	70%
Dusk	2	2	0	2	1	7	4%
Dawn	0	0	0	0	1	1	1%
Dark	9	15	7	3	7	41	25%
Total	48	51	27	18	22	166	100%

Under the Influence	2015	2016	2017	2018	2019	Total	Proportion
Alcohol	0	0	1	1	0	2	1%
Drugs	0	0	0	0	0	0	0%
Total	0	0	1	1	0	2	1%

Property Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$500	47	47	22	16	22	154	93%
\$501 - \$1,000	0	1	0	1	0	2	1%
\$1,001 - \$2,500	0	0	3	1	0	4	2%
\$2,501+	1	3	2	0	0	6	4%
Total	48	51	27	18	22	166	100%

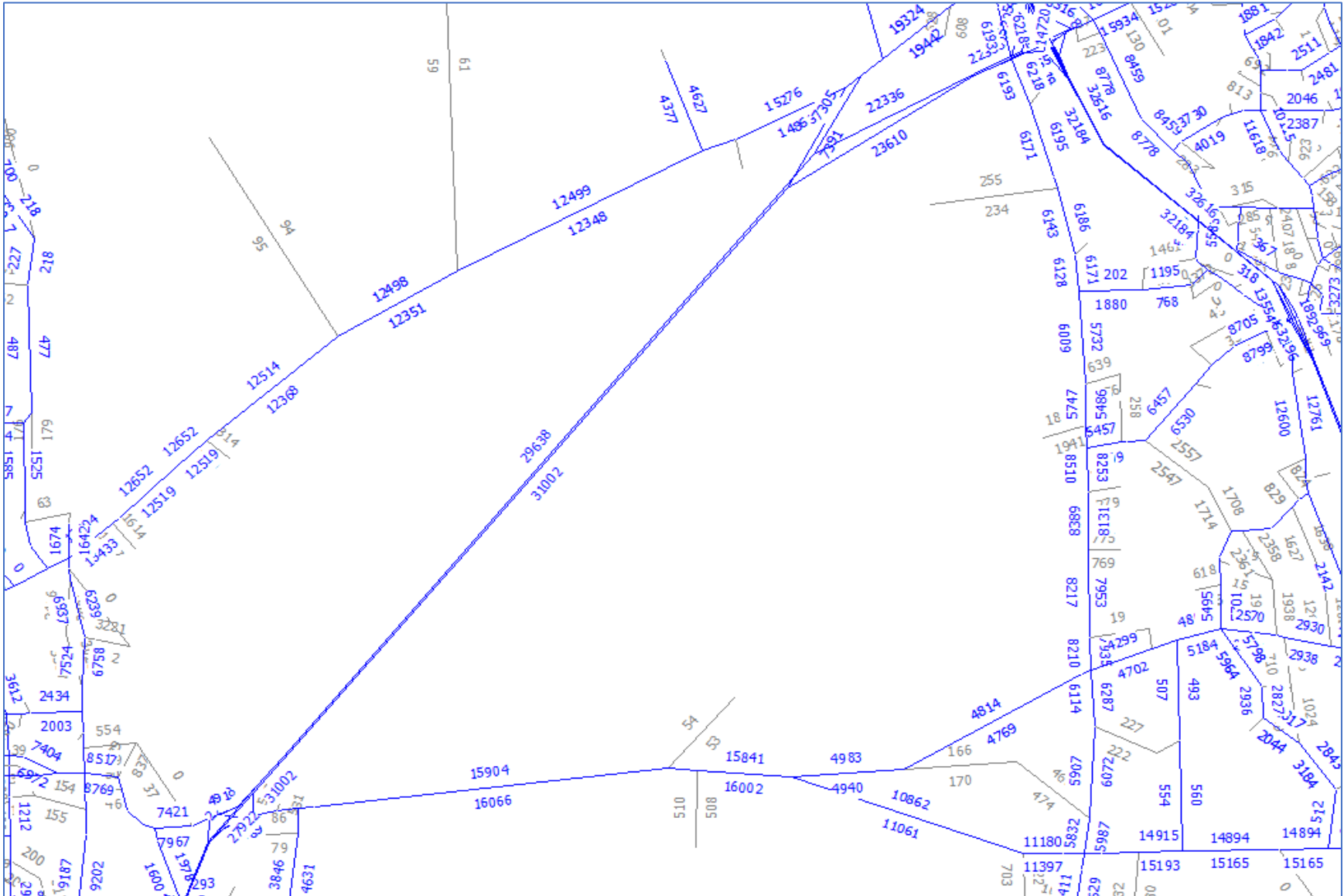
Total Damage	2015	2016	2017	2018	2019	Total	Proportion
\$0 - \$5,000	28	30	13	10	13	94	57%
\$5,001 - \$10,000	10	12	7	4	5	38	23%
\$10,000 - \$25,000	9	7	5	4	4	29	17%
\$25,001+	1	2	2	0	0	5	3%
Total	48	51	27	18	22	166	100%



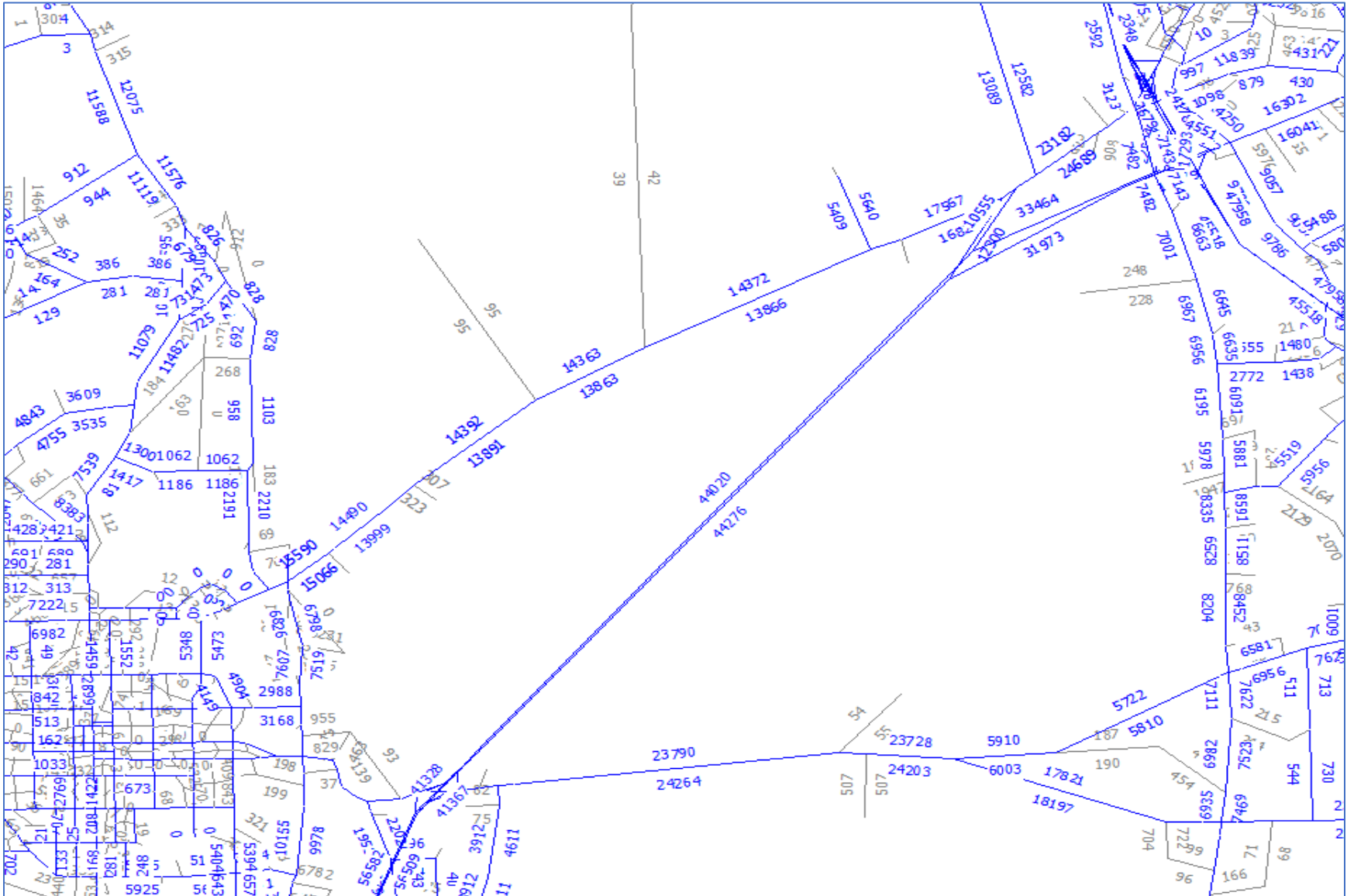
Appendix G-4

Volusia County Site 1 – Future Volume Development

CFRPM 7 2015 Model Plot



CFRPM 7 2045 Model Plot





LEGEND

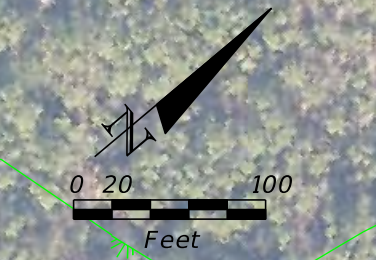
- PROPOSED R/W
- PARCEL LINE
- WETLANDS
- PROPOSED POND

TRUCK PARKING SPACES = 275
 MAINTENANCE VEHICLE PARKING SPACES = 10
 TOTAL POND AREA = 10.245 ACRES
 R/W REQUIRED = 73.335 ACRES

POND 2 - 1.469 ACRES

POND 3 - 1.626 ACRES

POND 1 - 2.150 ACRES



LEGEND

- PROPOSED R/W
- PARCEL LINE
- WETLANDS
- PROPOSED POND
- TRUCK PARKING SPACES = 253
- MAINTENANCE VEHICLE PARKING SPACES = 10
- TOTAL POND AREA = 10.506 ACRES
- R/W REQUIRED = 116.827 ACRES



Appendix G-5

Volusia County Site 1 – Future HCS Outputs

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - No Build AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3771	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1443
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	36.6	20.8	15.5	12.4
LOS	E	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Upstream and Downstream of Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3855	Heavy Vehicle Adjustment Factor (fhv)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1488
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.4
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	21.8
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	39.0	21.8	16.1	12.9
LOS	E	C	B	B

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B I-4 EB - Basic Segment 1.xuf

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Between Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3771	Heavy Vehicle Adjustment Factor (fhv)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1456
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.6
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	21.2
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	37.4	21.2	15.8	12.6
LOS	E	C	B	B

HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Diverge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3855	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	4464	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.444
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1543
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.640	Outer Lanes Freeway Speed (SO), mi/h	74.7
Flow in Lanes 1 and 2 (v12), pc/h	2921	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	23.8
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	25.8

Service Volume Table

Target LOS	A		B		C		D		E	
Freeway										
Max Service Flow Rate (MSF), pc/h/ln	488		1090		1657		2227		2400	
Service Flow Rate (SF), veh/h	1331		2972		4519		6074		6545	
Service Volume, veh/h	1264		2823		4293		5771		6218	
One Direction DSV, 1000 veh/day	14		31		48		64		69	
Bi-Directional DSV, 1000 veh/day	24		54		82		111		119	
Ramp										
Max Service Flow Rate (MSF), pc/h/ln	58		130		197		265		157	
Service Flow Rate (SF), veh/h	29		65		98		132		78	
Service Volume, veh/h	28		62		94		126		75	
One Direction DSV, 1000 veh/day	0		1		1		1		1	
Design Analysis Table										
Freeway Lanes, ln	2	2	3	3	4	4	5	5		
Ramp Lanes, ln	1	2	1	2	1	2	1	2		
Density, pc/mi/ln	38.8	38.8	23.8	23.5	16.8	16.6	13.4	13.2		
LOS	E	E	C	B	B	B	B	B		

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Merge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3771	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	4367	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	755.8	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.329
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1747
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	65.5
Flow in Lanes 1 and 2 (v12), pc/h	2620	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	2797	Average Density (D), pc/mi/ln	24.2
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.3

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	634	1301	1840	2281	2348			
Service Flow Rate (SF), veh/h	1728	3547	5017	6221	6402			
Service Volume, veh/h	1642	3369	4766	5910	6082			
One Direction DSV, 1000 veh/day	18	37	53	66	68			
Bi-Directional DSV, 1000 veh/day	31	65	91	113	117			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	77	158	224	277	285			
Service Flow Rate (SF), veh/h	39	79	112	139	143			
Service Volume, veh/h	37	75	106	132	135			
One Direction DSV, 1000 veh/day	0	1	1	1	2			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	43.4	42.3	24.2	23.9	17.6	17.4	13.9	13.8
LOS	E	D	C	B	B	B	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - No Build PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2709	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1037
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	22.7	14.8	11.1	8.9
LOS	C	B	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Upstream and Downstream of Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2793	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1078
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.6
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	24.0	15.6	11.7	9.3
LOS	C	B	B	A

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Between Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2709	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1046
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.1
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	23.1	15.1	11.3	9.1
LOS	C	B	B	A

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HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Diverge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	2793	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	3234	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.45	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.444
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1006
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.671	Outer Lanes Freeway Speed (SO), mi/h	76.8
Flow in Lanes 1 and 2 (v12), pc/h	2228	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.2
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.8

Service Volume Table

Target LOS	A		B		C		D		E	
Freeway										
Max Service Flow Rate (MSF), pc/h/ln	488		1091		1643		2219		2400	
Service Flow Rate (SF), veh/h	1330		2976		4480		6052		6545	
Service Volume, veh/h	1264		2827		4256		5749		6218	
One Direction DSV, 1000 veh/day	14		31		47		64		69	
Bi-Directional DSV, 1000 veh/day	24		54		82		110		119	
Ramp										
Max Service Flow Rate (MSF), pc/h/ln	80		179		270		364		217	
Service Flow Rate (SF), veh/h	40		90		135		182		108	
Service Volume, veh/h	38		85		128		173		103	
One Direction DSV, 1000 veh/day	0		1		1		2		1	
Design Analysis Table										
Freeway Lanes, ln	2	2	3	3	4	4	5	5		
Ramp Lanes, ln	1	2	1	2	1	2	1	2		
Density, pc/mi/ln	28.1	28.1	17.2	16.8	12.2	11.9	9.7	9.5		
LOS	D	C	B	B	B	A	B	A		

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Merge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	2709	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	3137	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.46	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	492.6	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.296
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1255
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	67.3
Flow in Lanes 1 and 2 (v12), pc/h	1882	Ramp Junction Speed (S), mi/h	63.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	2059	Average Density (D), pc/mi/ln	17.3
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.5

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	615	1274	1798	2255	2328			
Service Flow Rate (SF), veh/h	1677	3475	4904	6148	6348			
Service Volume, veh/h	1593	3301	4659	5841	6031			
One Direction DSV, 1000 veh/day	18	37	52	65	67			
Bi-Directional DSV, 1000 veh/day	31	63	89	112	116			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	104	216	304	381	394			
Service Flow Rate (SF), veh/h	52	108	152	191	197			
Service Volume, veh/h	49	102	144	181	187			
One Direction DSV, 1000 veh/day	1	1	2	2	2			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	27.8	27.2	17.3	17.1	12.6	12.5	10.1	10.0
LOS	C	C	B	B	B	A	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - No Build AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2709	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1037
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	70.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	14.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	22.7	14.8	11.1	8.9
LOS	C	B	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Upstream and Downstream of Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2787	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1085
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.7
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	24.2	15.7	11.8	9.4
LOS	C	B	B	A

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Between Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2709	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1055
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	15.2
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	23.4	15.2	11.4	9.1
LOS	C	B	B	A

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HCS™ Freeways Version 7.8.5
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HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Diverge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	2787	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	3256	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.45	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.443
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1017
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.671	Outer Lanes Freeway Speed (SO), mi/h	76.7
Flow in Lanes 1 and 2 (v12), pc/h	2239	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	17.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	19.9

Service Volume Table

Target LOS	A		B		C		D		E	
Freeway										
Max Service Flow Rate (MSF), pc/h/ln	496		1094		1649		2225		2400	
Service Flow Rate (SF), veh/h	1340		2957		4456		6013		6487	
Service Volume, veh/h	1273		2809		4233		5712		6163	
One Direction DSV, 1000 veh/day	14		31		47		63		68	
Bi-Directional DSV, 1000 veh/day	24		54		81		109		118	
Ramp										
Max Service Flow Rate (MSF), pc/h/ln	75		166		249		337		202	
Service Flow Rate (SF), veh/h	38		83		125		168		101	
Service Volume, veh/h	36		79		118		160		96	
One Direction DSV, 1000 veh/day	0		1		1		2		1	
Design Analysis Table										
Freeway Lanes, ln	2	2	3	3	4	4	5	5		
Ramp Lanes, ln	1	2	1	2	1	2	1	2		
Density, pc/mi/ln	28.3	28.3	17.4	17.0	12.2	12.0	9.8	9.6		
LOS	D	C	B	B	B	A	B	A		

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Merge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	2709	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	3165	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.46	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	495.8	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.296
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1266
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.7
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	67.2
Flow in Lanes 1 and 2 (v12), pc/h	1899	Ramp Junction Speed (S), mi/h	63.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	2063	Average Density (D), pc/mi/ln	17.4
Level of Service (LOS)	B	Density in Ramp Influence Area (DR), pc/mi/ln	16.5

Service Volume Table

Target LOS	A		B		C		D		E	
Freeway										
Max Service Flow Rate (MSF), pc/h/ln	623		1282		1807		2264		2333	
Service Flow Rate (SF), veh/h	1684		3464		4885		6120		6306	
Service Volume, veh/h	1600		3291		4640		5814		5990	
One Direction DSV, 1000 veh/day	18		37		52		65		67	
Bi-Directional DSV, 1000 veh/day	31		63		89		111		115	
Ramp										
Max Service Flow Rate (MSF), pc/h/ln	97		200		281		352		363	
Service Flow Rate (SF), veh/h	49		100		141		176		182	
Service Volume, veh/h	46		95		134		167		172	
One Direction DSV, 1000 veh/day	1		1		1		2		2	
Design Analysis Table										
Freeway Lanes, ln	2	2	3	3	4	4	5	5		
Ramp Lanes, ln	1	2	1	2	1	2	1	2		
Density, pc/mi/ln	28.0	27.3	17.4	17.2	12.7	12.6	10.1	10.0		
LOS	C	C	B	B	B	A	B	A		

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - No Build PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3771	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1443
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.3
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	20.8
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	36.6	20.8	15.5	12.4
LOS	E	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Upstream and Downstream of Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3849	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1499
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.63
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.3
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	21.9
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	39.5	21.9	16.2	13.0
LOS	E	C	B	B

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Between Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3771	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1469
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.61
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	21.4
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	38.0	21.4	15.9	12.7
LOS	E	C	B	B

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HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Diverge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3849	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	4497	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.62	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.443
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1560
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.640	Outer Lanes Freeway Speed (SO), mi/h	74.6
Flow in Lanes 1 and 2 (v12), pc/h	2937	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	24.0
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	25.9

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	493	1100	1649	2235	2400			
Service Flow Rate (SF), veh/h	1332	2973	4457	6041	6487			
Service Volume, veh/h	1266	2824	4234	5739	6163			
One Direction DSV, 1000 veh/day	14	31	47	64	68			
Bi-Directional DSV, 1000 veh/day	24	54	81	110	118			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	54	121	181	245	146			
Service Flow Rate (SF), veh/h	27	60	90	122	73			
Service Volume, veh/h	26	57	86	116	69			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	39.0	39.0	24.0	23.6	17.0	16.8	13.5	13.3
LOS	E	E	C	B	B	B	B	B

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2025
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Merge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3771	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	4406	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.63	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	761.4	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.330
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1762
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	60.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	65.5
Flow in Lanes 1 and 2 (v12), pc/h	2644	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	2808	Average Density (D), pc/mi/ln	24.4
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	22.4

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	635	1306	1845	2298	2351			
Service Flow Rate (SF), veh/h	1716	3529	4988	6212	6356			
Service Volume, veh/h	1630	3353	4739	5902	6038			
One Direction DSV, 1000 veh/day	18	37	53	66	67			
Bi-Directional DSV, 1000 veh/day	31	64	91	113	116			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	71	146	206	257	263			
Service Flow Rate (SF), veh/h	36	73	103	129	131			
Service Volume, veh/h	34	69	98	122	125			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	43.9	42.8	24.4	24.0	17.7	17.5	14.0	13.8
LOS	E	D	C	B	B	B	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - No Build AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4819	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1844
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	65.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	28.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	-	28.3	19.9	15.8
LOS	F	D	C	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Upstream and Downstream of Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4903	Heavy Vehicle Adjustment Factor (fhv)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1893
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	64.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	29.6
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	-	29.6	20.6	16.4
LOS	F	D	C	B

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Between Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4819	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1860
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	64.5
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	28.8
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	-	28.8	20.2	16.1
LOS	F	D	C	B

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HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Diverge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	4903	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	5678	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.444
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2145
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.610	Outer Lanes Freeway Speed (SO), mi/h	72.3
Flow in Lanes 1 and 2 (v12), pc/h	3533	Ramp Junction Speed (S), mi/h	62.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	30.3
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	31.0

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	546	1097	1650	2237	2400			
Service Flow Rate (SF), veh/h	1488	2991	4501	6100	6545			
Service Volume, veh/h	1414	2842	4276	5795	6218			
One Direction DSV, 1000 veh/day	16	32	48	64	69			
Bi-Directional DSV, 1000 veh/day	27	54	82	111	119			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	51	103	154	209	123			
Service Flow Rate (SF), veh/h	26	51	77	105	62			
Service Volume, veh/h	24	49	73	99	59			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	-	-	30.3	30.2	21.6	21.4	17.2	17.0
LOS	F	F	D	C	C	B	B	B

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Merge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	4819	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	5580	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.80	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	1015.4	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.397
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	2232
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.9
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	63.8
Flow in Lanes 1 and 2 (v12), pc/h	3348	Ramp Junction Speed (S), mi/h	60.7
Flow Entering Ramp-Infl. Area (vR12), pc/h	3525	Average Density (D), pc/mi/ln	31.6
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	27.9

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	642	1325	1859	2313	2359			
Service Flow Rate (SF), veh/h	1750	3614	5069	6306	6433			
Service Volume, veh/h	1662	3434	4816	5991	6111			
One Direction DSV, 1000 veh/day	18	38	54	67	68			
Bi-Directional DSV, 1000 veh/day	32	66	92	115	117			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	61	126	177	220	224			
Service Flow Rate (SF), veh/h	31	63	88	110	112			
Service Volume, veh/h	29	60	84	104	107			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	-	-	31.6	31.1	22.5	22.3	17.8	17.6
LOS	F	F	C	C	B	B	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - No Build PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3461	Heavy Vehicle Adjustment Factor (fhv)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1324
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	31.6	19.0	14.2	11.4
LOS	D	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Upstream and Downstream of Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3545	Heavy Vehicle Adjustment Factor (fhv)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1368
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.57
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.8
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	33.5	19.8	14.8	11.9
LOS	D	C	B	B

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Basic Segment - Build - Between Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3461	Heavy Vehicle Adjustment Factor (fHV)	0.909
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1336
Total Trucks, %	10.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.1
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.3
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2081	3390	4700	5740	-
Service Volume, veh/h	1977	3220	4465	5453	-
One Direction DSV, 1000 veh/day	22	36	50	61	-
Bi-Directional DSV, 1000 veh/day	38	61	85	104	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	32.3	19.3	14.5	11.6
LOS	D	C	B	B

HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Diverge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3545	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	4105	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.444
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1379
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.649	Outer Lanes Freeway Speed (SO), mi/h	75.3
Flow in Lanes 1 and 2 (v12), pc/h	2726	Ramp Junction Speed (S), mi/h	62.5
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	21.9
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	24.1

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	487	1095	1647	2229	2400			
Service Flow Rate (SF), veh/h	1329	2986	4490	6077	6545			
Service Volume, veh/h	1263	2837	4266	5773	6218			
One Direction DSV, 1000 veh/day	14	32	47	64	69			
Bi-Directional DSV, 1000 veh/day	24	54	82	111	119			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	63	142	213	288	171			
Service Flow Rate (SF), veh/h	32	71	106	144	85			
Service Volume, veh/h	30	67	101	137	81			
One Direction DSV, 1000 veh/day	0	1	1	2	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	35.6	35.6	21.9	21.5	15.5	15.2	12.3	12.1
LOS	E	D	C	B	B	B	B	A

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 EB Merge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3461	84
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	10.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.909	0.500
Flow Rate (vi),pc/h	4008	177
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.09

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	679.0	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.317
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1603
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	66.0
Flow in Lanes 1 and 2 (v12), pc/h	2405	Ramp Junction Speed (S), mi/h	62.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	2582	Average Density (D), pc/mi/ln	22.2
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.6

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	627	1296	1828	2275	2343			
Service Flow Rate (SF), veh/h	1710	3533	4985	6204	6390			
Service Volume, veh/h	1624	3356	4736	5894	6070			
One Direction DSV, 1000 veh/day	18	37	53	65	67			
Bi-Directional DSV, 1000 veh/day	31	64	91	113	116			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	83	172	242	301	310			
Service Flow Rate (SF), veh/h	42	86	121	151	155			
Service Volume, veh/h	39	81	115	143	147			
One Direction DSV, 1000 veh/day	0	1	1	2	2			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	37.8	36.8	22.2	21.8	16.1	15.9	12.8	12.6
LOS	D	D	C	B	B	A	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - No Build AM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3461	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1324
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.55
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.8
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.0
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	31.6	19.0	14.2	11.4
LOS	D	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Upstream and Downstream of Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3539	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1378
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	68.9
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	20.0
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	34.0	20.0	14.9	12.0
LOS	D	C	B	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Between Ramps AM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3461	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1348
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	19.5
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	32.7	19.5	14.6	11.7
LOS	D	C	B	B

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HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Diverge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3539	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	4135	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.57	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.443
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	1394
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.649	Outer Lanes Freeway Speed (SO), mi/h	75.3
Flow in Lanes 1 and 2 (v12), pc/h	2741	Ramp Junction Speed (S), mi/h	62.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	22.0
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	24.2

Service Volume Table

Target LOS	A		B		C		D		E	
Freeway										
Max Service Flow Rate (MSF), pc/h/ln	495		1091		1656		2227		2400	
Service Flow Rate (SF), veh/h	1338		2949		4477		6018		6487	
Service Volume, veh/h	1272		2802		4253		5717		6163	
One Direction DSV, 1000 veh/day	14		31		47		64		68	
Bi-Directional DSV, 1000 veh/day	24		54		81		110		118	
Ramp										
Max Service Flow Rate (MSF), pc/h/ln	59		130		197		265		159	
Service Flow Rate (SF), veh/h	30		65		99		133		79	
Service Volume, veh/h	28		62		94		126		75	
One Direction DSV, 1000 veh/day	0		1		1		1		1	
Design Analysis Table										
Freeway Lanes, ln	2	2	3	3	4	4	5	5		
Ramp Lanes, ln	1	2	1	2	1	2	1	2		
Density, pc/mi/ln	35.9	35.9	22.0	21.7	15.6	15.4	12.4	12.3		
LOS	E	D	C	B	B	B	B	A		

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Merge - Build AM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	3461	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	4043	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.58	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	683.7	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.317
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	1617
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	61.1
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	66.0
Flow in Lanes 1 and 2 (v12), pc/h	2426	Ramp Junction Speed (S), mi/h	62.9
Flow Entering Ramp-Infl. Area (vR12), pc/h	2590	Average Density (D), pc/mi/ln	22.3
Level of Service (LOS)	C	Density in Ramp Influence Area (DR), pc/mi/ln	20.7

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	632	1301	1837	2282	2347			
Service Flow Rate (SF), veh/h	1708	3516	4966	6168	6344			
Service Volume, veh/h	1623	3341	4718	5859	6027			
One Direction DSV, 1000 veh/day	18	37	52	65	67			
Bi-Directional DSV, 1000 veh/day	31	64	90	112	115			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	77	159	224	278	286			
Service Flow Rate (SF), veh/h	39	79	112	139	143			
Service Volume, veh/h	37	75	106	132	136			
One Direction DSV, 1000 veh/day	0	1	1	1	2			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	38.1	37.2	22.3	21.9	16.2	16.0	12.8	12.7
LOS	D	D	C	B	B	A	B	A

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - No Build PM	Unit	United States Customary

Geometric Data

Number of Lanes, In	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	70.0	Total Ramp Density (TRD), ramps/mi	0.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	70.0
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4819	Heavy Vehicle Adjustment Factor (fHV)	0.917
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1844
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2400
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2400
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (flw)	0.0	Average Speed (S), mi/h	65.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	28.3
Total Ramp Density Adjustment	0.0	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	70.0		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	770	1257	1737	2111	2400
Service Flow Rate (SF), veh/h	2118	3458	4779	5808	6602
Service Volume, veh/h	2012	3285	4540	5518	6272
One Direction DSV, 1000 veh/day	22	37	50	61	70
Bi-Directional DSV, 1000 veh/day	38	63	87	105	120

Design Analysis Table

Number of Lanes, In	2	3	4	5
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Density, pc/mi/ln	-	28.3	19.9	15.8
LOS	F	D	C	B

HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Upstream and Downstream of Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4897	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1907
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	63.8
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	29.9
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	-	29.9	20.8	16.5
LOS	F	D	C	B

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HCS7 Basic Freeway Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Basic Segment - Build - Between Ramps PM	Unit	United States Customary

Geometric Data

Number of Lanes, 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	70.0	Total Ramp Density (TRD), ramps/mi	0.18
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.2
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	4819	Heavy Vehicle Adjustment Factor (fHV)	0.901
Peak Hour Factor	0.95	Flow Rate (Vp), pc/h/ln	1877
Total Trucks, %	11.00	Capacity (c), pc/h/ln	2392
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2392
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.78
Passenger Car Equivalent (ET)	2.000		

Speed and Density

Lane Width Adjustment (fLW)	0.0	Average Speed (S), mi/h	64.2
Right-Side Lateral Clearance Adj. (fRLC)	0.0	Density (D), pc/mi/ln	29.2
Total Ramp Density Adjustment	0.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFSadj), mi/h	69.2		

Service Volume Table

Target LOS	A	B	C	D	E
Max Service Flow Rate (MSF), pc/h/ln	763	1243	1724	2105	-
Service Flow Rate (SF), veh/h	2063	3360	4659	5690	-
Service Volume, veh/h	1959	3192	4426	5405	-
One Direction DSV, 1000 veh/day	22	35	49	60	-
Bi-Directional DSV, 1000 veh/day	37	61	84	103	-

Design Analysis Table

Number of Lanes, ln	2	3	4	5
Density, pc/mi/ln	-	29.2	20.5	16.3
LOS	F	D	C	B

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B I-4 WB - Basic Segment 2.xuf

Generated: 06/27/2022 18:06:21

HCS7 Freeway Diverge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Diverge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Deceleration Length (LA),ft	1500	400
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	4897	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	5721	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.79	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	-	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	-	Speed Index (Ds)	0.443
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (vOA), pc/h/ln	2173
Distance to Downstream Ramp (LDOWN), ft	4500	Off-Ramp Influence Area Speed (SR), mi/h	57.6
Prop. Freeway Vehicles in Lane 1 and 2 (PFD)	0.609	Outer Lanes Freeway Speed (SO), mi/h	72.2
Flow in Lanes 1 and 2 (v12), pc/h	3548	Ramp Junction Speed (S), mi/h	62.4
Flow Entering Ramp-Infl. Area (vR12), pc/h	-	Average Density (D), pc/mi/ln	30.6
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	31.2

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	999	1103	1662	2230	2400			
Service Flow Rate (SF), veh/h	2700	2982	4491	6027	6487			
Service Volume, veh/h	2565	2833	4267	5726	6163			
One Direction DSV, 1000 veh/day	28	31	47	64	68			
Bi-Directional DSV, 1000 veh/day	49	54	82	110	118			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	86	95	143	192	115			
Service Flow Rate (SF), veh/h	43	48	72	96	57			
Service Volume, veh/h	41	45	68	91	54			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	-	-	30.6	30.4	21.7	21.5	17.3	17.1
LOS	F	F	D	C	C	B	B	B

HCS7 Freeway Merge Report

Project Information

Analyst	VHB	Date	6/17/2022
Agency	FDOT	Analysis Year	2045
Jurisdiction	Volusia County	Time Period Analyzed	
Project Description	I-4 WB Merge - Build PM	Unit	United States Customary

Geometric Data

	Freeway	Ramp
Number of Lanes (N), ln	3	1
Free-Flow Speed (FFS), mi/h	70.0	35.0
Segment Length (L) / Acceleration Length (LA),ft	1500	800
Terrain Type	Level	Level
Percent Grade, %	-	-
Segment Type / Ramp Side	Freeway	Right

Adjustment Factors

Driver Population	All Familiar	All Familiar
Weather Type	Non-Severe Weather	Non-Severe Weather
Incident Type	No Incident	-
Final Speed Adjustment Factor (SAF)	1.000	1.000
Final Capacity Adjustment Factor (CAF)	1.000	1.000
Demand Adjustment Factor (DAF)	1.000	1.000

Demand and Capacity

Demand Volume (Vi)	4819	78
Peak Hour Factor (PHF)	0.95	0.95
Total Trucks, %	11.00	100.00
Single-Unit Trucks (SUT), %	-	-
Tractor-Trailers (TT), %	-	-
Heavy Vehicle Adjustment Factor (fHV)	0.901	0.500
Flow Rate (vi),pc/h	5630	164
Capacity (c), pc/h	7200	2000
Volume-to-Capacity Ratio (v/c)	0.80	0.08

Speed and Density

Upstream Equilibrium Distance (LEQ), ft	1023.3	Number of Outer Lanes on Freeway (NO)	1
Distance to Upstream Ramp (LUP), ft	4500	Speed Index (MS)	0.400
Downstream Equilibrium Distance (LEQ), ft	-	Flow Outer Lanes (VOA), pc/h/ln	2252
Distance to Downstream Ramp (LDOWN), ft	-	On-Ramp Influence Area Speed (SR), mi/h	58.8
Prop. Freeway Vehicles in Lane 1 and 2 (PFM)	0.600	Outer Lanes Freeway Speed (SO), mi/h	63.7
Flow in Lanes 1 and 2 (v12), pc/h	3378	Ramp Junction Speed (S), mi/h	60.6
Flow Entering Ramp-Infl. Area (vR12), pc/h	3542	Average Density (D), pc/mi/ln	31.9
Level of Service (LOS)	D	Density in Ramp Influence Area (DR), pc/mi/ln	28.1

Service Volume Table

Target LOS	A	B	C	D	E			
Freeway								
Max Service Flow Rate (MSF), pc/h/ln	640	1320	1873	2309	2362			
Service Flow Rate (SF), veh/h	1730	3568	5062	6240	6384			
Service Volume, veh/h	1643	3390	4809	5928	6065			
One Direction DSV, 1000 veh/day	18	38	53	66	67			
Bi-Directional DSV, 1000 veh/day	31	65	92	114	116			
Ramp								
Max Service Flow Rate (MSF), pc/h/ln	56	116	164	202	207			
Service Flow Rate (SF), veh/h	28	58	82	101	103			
Service Volume, veh/h	27	55	78	96	98			
One Direction DSV, 1000 veh/day	0	1	1	1	1			
Design Analysis Table								
Freeway Lanes, ln	2	2	3	3	4	4	5	5
Ramp Lanes, ln	1	2	1	2	1	2	1	2
Density, pc/mi/ln	-	-	31.9	31.4	22.7	22.5	17.9	17.7
LOS	F	F	D	C	B	B	B	B

Appendix G-6

Volusia County Site 1 – Future Safety Analysis

Output Summary							
General Information							
Project description: I-4 at MP 127 (No Build)							
Analyst: VHB		Date: 6/27/2022		Area type: Urban			
First year of analysis: 2045							
Last year of analysis: 2045							
Crash Data Description							
Freeway segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp terminals	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Estimated Crash Statistics							
Crashes for Entire Facility							
	Total	K	A	B	C	PDO	
Estimated number of crashes during Study Period, crashes:							
	54.2	0.4	1.0	6.9	11.2	34.7	
Estimated average crash freq. during Study Period, crashes/yr:							
	54.2	0.4	1.0	6.9	11.2	34.7	
Crashes by Facility Component							
	Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:							
	2	54.2	0.4	1.0	6.9	11.2	34.7
Ramp segments, crashes:							
	0	0.0	0.0	0.0	0.0	0.0	0.0
Crossroad ramp terminals, crashes:							
	0	0.0	0.0	0.0	0.0	0.0	0.0
Crashes for Entire Facility by Year							
	Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:							
	2045	54.2	0.4	1.0	6.9	11.2	34.7
	2046						
	2047						
	2048						
	2049						
	2050						
	2051						
	2052						
	2053						
	2054						
	2055						
	2056						
	2057						
	2058						
	2059						
	2060						
	2061						
	2062						
	2063						
	2064						
	2065						
	2066						
	2067						
	2068						
Distribution of Crashes for Entire Facility							
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period					
		Total	K	A	B	C	PDO
Multiple vehicle	Head-on crashes:	0.1	0.0	0.0	0.0	0.1	0.0
	Right-angle crashes:	0.7	0.0	0.0	0.1	0.2	0.3
	Rear-end crashes:	20.8	0.2	0.4	2.9	4.7	12.6
	Sideswipe crashes:	6.8	0.0	0.1	0.7	1.1	4.8
	Other multiple-vehicle crashes:	0.8	0.0	0.0	0.1	0.2	0.4
	Total multiple-vehicle crashes:	29.3	0.2	0.6	3.9	6.3	18.2
Single vehicle	Crashes with animal:	0.4	0.0	0.0	0.0	0.0	0.4
	Crashes with fixed object:	17.9	0.1	0.3	2.2	3.5	11.8
	Crashes with other object:	2.7	0.0	0.0	0.2	0.2	2.3
	Crashes with parked vehicle:	0.4	0.0	0.0	0.0	0.1	0.3
	Other single-vehicle crashes:	3.5	0.0	0.1	0.6	1.0	1.8
	Total single-vehicle crashes:	24.9	0.2	0.4	3.0	4.9	16.5
	Total crashes:	54.2	0.4	1.0	6.9	11.2	34.7

Evaluation Site Summary				
General Information				
Project description: I-4 at MP 127 (No Build)				
Analyst: VHB		Date: 6/27/2022		Area type: Urban
First year of analysis: 2045		Total length of freeway segments for Study Period (mi): 6.000		
Last year of analysis: 2045				
Site Description				
Freeway Segments				
Number	Lanes	Study Period Length (mi)	Study Period Description	
1	6	3.000	I-4 EB	
2	6	3.000	I-4 WB	
3	0	0.000	0	
4	0	0.000	0	
5	0	0.000	0	
6	0	0.000	0	
7	0	0.000	0	
8	0	0.000	0	
9	0	0.000	0	
10	0	0.000	0	
11	0	0.000	0	
12	0	0.000	0	
13	0	0.000	0	
14	0	0.000	0	
15	0	0.000	0	
16	0	0.000	0	
17	0	0.000	0	
18	0	0.000	0	
19	0	0.000	0	
20	0	0.000	0	
Ramp Segments				
Number	Study Period Description	Number	Study Period Description	
1	0	21	0	
2	0	22	0	
3	0	23	0	
4	0	24	0	
5	0	25	0	
6	0	26	0	
7	0	27	0	
8	0	28	0	
9	0	29	0	
10	0	30	0	
11	0	31	0	
12	0	32	0	
13	0	33	0	
14	0	34	0	
15	0	35	0	
16	0	36	0	
17	0	37	0	
18	0	38	0	
19	0	39	0	
20	0	40	0	
Crossroad Ramp Terminals				
Number	Config.	Control	Study Period Description	
1	0	0	0	
2	0	0	0	
3	0	0	0	
4	0	0	0	
5	0	0	0	
6	0	0	0	

Output Summary							
General Information							
Project description: I-4 at MP 127 (Build)							
Analyst: VHB		Date: 6/27/2022		Area type: Urban			
First year of analysis: 2045							
Last year of analysis: 2045							
Crash Data Description							
Freeway segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp segments	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Ramp terminals	Segment crash data available?	No	First year of crash data:				
	Project-level crash data available?	No	Last year of crash data:				
Estimated Crash Statistics							
Crashes for Entire Facility							
Estimated number of crashes during Study Period, crashes:		74.3	0.6	1.4	9.3	15.1	47.9
Estimated average crash freq. during Study Period, crashes/yr:		74.3	0.6	1.4	9.3	15.1	47.9
Crashes by Facility Component							
	Nbr. Sites	Total	K	A	B	C	PDO
Freeway segments, crashes:	10	73.8	0.6	1.4	9.2	14.9	47.7
Ramp segments, crashes:	4	0.5	0.0	0.0	0.1	0.1	0.2
Crossroad ramp terminals, crashes:	0	0.0	0.0	0.0	0.0	0.0	0.0
Crashes for Entire Facility by Year							
	Year	Total	K	A	B	C	PDO
Estimated number of crashes during the Study Period, crashes:		74.3	0.6	1.4	9.3	15.1	47.9
2045							
2046							
2047							
2048							
2049							
2050							
2051							
2052							
2053							
2054							
2055							
2056							
2057							
2058							
2059							
2060							
2061							
2062							
2063							
2064							
2065							
2066							
2067							
2068							
Distribution of Crashes for Entire Facility							
Crash Type	Crash Type Category	Estimated Number of Crashes During the Study Period					
		Total	K	A	B	C	PDO
Multiple vehicle	Head-on crashes:	0.2	0.0	0.0	0.1	0.1	0.1
	Right-angle crashes:	1.1	0.0	0.0	0.2	0.3	0.6
	Rear-end crashes:	35.8	0.3	0.7	4.8	7.8	22.2
	Sideswipe crashes:	11.8	0.1	0.2	1.2	1.9	6.5
	Other multiple-vehicle crashes:	1.3	0.0	0.0	0.2	0.3	0.8
	Total multiple-vehicle crashes:	50.3	0.4	1.0	6.4	10.4	32.1
Single vehicle	Crashes with animal:	0.4	0.0	0.0	0.0	0.0	0.3
	Crashes with fixed object:	17.3	0.1	0.3	2.1	3.3	11.4
	Crashes with other object:	2.6	0.0	0.0	0.1	0.2	2.2
	Crashes with parked vehicle:	0.4	0.0	0.0	0.0	0.1	0.2
	Other single-vehicle crashes:	3.4	0.0	0.1	0.6	1.0	1.7
	Total single-vehicle crashes:	24.0	0.2	0.4	2.9	4.6	15.9
Total crashes:		74.3	0.6	1.4	9.3	15.1	47.9

Evaluation Site Summary							
General Information							
Project description: I-4 at MP 127 (Build)							
Analyst: VHB		Date: 6/27/2022		Area type: Urban			
First year of analysis: 2045		Total length of freeway segments for Study Period (mi): 5.995					
Last year of analysis: 2045							
Site Description							
Freeway Segments							
Number	Lanes	Study Period Length (mi)	Study Period Description				
1	6	0.760	I-4 S. of site				
2	6	0.379	I-4 off ramp to Site				
3	6	0.720	I-4 B/W ramps				
4	6	0.379	I-4 on ramp from Site				
5	6	0.760	I-4 N of Site				
6	6	0.760	I-4 N of Site				
7	6	0.379	I-4 off ramp to Site				
8	6	0.720	I-4 B/W ramps				
9	6	0.379	I-4 on ramp from Site				
10	6	0.760	I-4 S. of site				
11	0	0.000	0				
12	0	0.000	0				
13	0	0.000	0				
14	0	0.000	0				
15	0	0.000	0				
16	0	0.000	0				
17	0	0.000	0				
18	0	0.000	0				
19	0	0.000	0				
20	0	0.000	0				
Ramp Segments							
Number	Study Period Description	Number	Study Period Description				
1	I-4 EB Off Ramp	21	0				
2	I-4 EB On Ramp	22	0				
3	I-4 WB Off Ramp	23	0				
4	I-4 WB On Ramp	24	0				
5	0	25	0				
6	0	26	0				
7	0	27	0				
8	0	28	0				
9	0	29	0				
10	0	30	0				
11	0	31	0				
12	0	32	0				
13	0	33	0				
14	0	34	0				
15	0	35	0				
16	0	36	0				
17	0	37	0				
18	0	38	0				
19	0	39	0				
20	0	40	0				
Crossroad Ramp Terminals							
Number	Config.	Control	Study Period Description				
1	0	0	0				
2	0	0	0				
3	0	0	0				
4	0	0	0				
5	0	0	0				
6	0	0	0				