

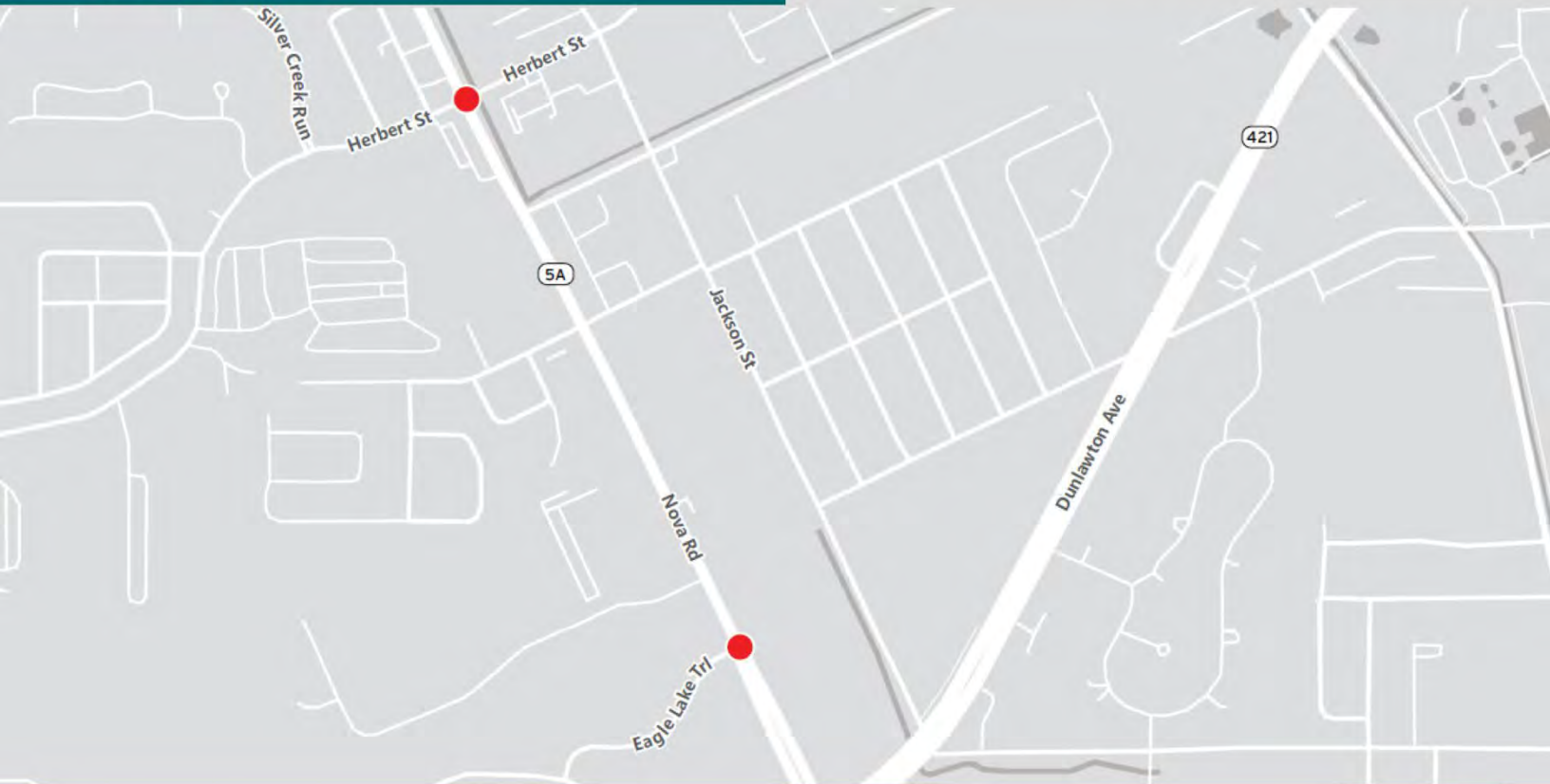
March 2026



**Volusia-Flagler Transportation
Planning Organization (TPO)**

1540 Cornerstone Blvd., Suite 240

Final Report



Feasibility Study for Intersection Improvements for

Nova Road at Herbert Street and Nova Road at Eagle Lake Trail

Prepared by:



Feasibility Study for Intersection Improvements

for

Nova Road at Herbert Street and
Nova Road at Eagle Lake Trail

Task Work Order No.: GPC-VHB-02

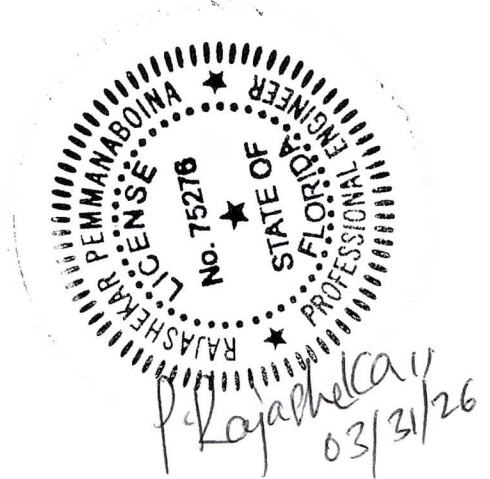
Prepared for:



Prepared by:



Vanasse Hangen Brustlin, Inc.
Orlando, FL



March 2026

Contents

INTRODUCTION.....	6
EXISTING CONDITIONS	8
Field Inventory	8
Traffic Volume Data	12
Existing Operational Analysis.....	14
Historical Crash Data Analysis	14
Nova Road at Herbert Street.....	14
Summary of Safety Conditions – Nova Road at Herbert Street.....	19
Nova Road at Eagle Lake Trail.....	20
Summary of Safety Conditions – Nova Road at Eagle Lake Trail.....	25
QUALITATIVE ASSESSMENT	27
Nova Road and Herbert Street.....	27
Nova Road and Eagle Lake Circle.....	29
FUTURE VOLUME DEVELOPMENT.....	30
Population Projections.....	30
Historical Traffic Trends.....	31
Model Based Growth Rates	31
FEASIBILITY ANALYSIS – NOVA ROAD AND HERBERT STREET.....	33
Methodology.....	33
Safety and Operational Benefits	33
Drainage Assessment.....	34
Regulatory Framework.....	35
ERP & SB 7040 Requirements by Project	36
Utilities Assessment	37
Design Concepts and Costs.....	37
B/C Analysis.....	38
Delay B/C Ratio.....	38
Safety B/C Ratio.....	38
FEASIBILITY ANALYSIS – NOVA ROAD AND EAGLE LAKE TRAIL.....	40
Methodology.....	40
Safety and Operational Benefits	41
Drainage Assessment.....	42
ERP & SB 7040 Requirements by Project	42

Feasibility Study for Intersection Improvements

Nova Road at Herbert Street and

Nova Road at Eagle Lake Trail

Utilities Assessment	43
Design Concepts and Costs.....	43
B/C Analysis.....	43
Delay B/C Ratio	44
Safety B/C Ratio.....	44
RECOMMENDATIONS	45
Nova Road and Herbert Street.....	45
Nova Road at Eagle Lake Trail:.....	45
APPENDICES	46

List of Tables

Table 1: Field Inventory.....	9
Table 2: 8 Hour Turning Movement Percentages (All Vehicles)	12
Table 3: Crashes by Type and Severity – Nova Road at Herbert Street.....	15
Table 4: Crashes by Type and Year – Nova Road at Herbert Street.....	15
Table 5: Crashes by Severity and Year – Nova Road at Herbert Street.....	15
Table 6: Crashes by Road Surface Condition and Year – Nova Road at Herbert Street.....	16
Table 7: Crashes by Light Condition and Year – Nova Road at Herbert Street.....	16
Table 8: Crashes by Type and Severity – Nova Road at Eagle Lake Trail	21
Table 9: Crashes by Type and Year – Nova Road at Eagle Lake Trail.....	21
Table 10: Crashes by Severity and Year – Nova Road at Eagle Lake Trail.....	21
Table 11: Crashes by Road Surface Condition and Year – Nova Road at Eagle Lake Trail.....	21
Table 12: Crashes by Light Condition and Year – Nova Road at Eagle Lake Trail	22
Table 13: Population Analysis Summary	30
Table 14: Historical Trends Analysis Summary	31
Table 15: Model-Model Growth Rates.....	31
Table 16: Crash Prediction Analysis Summary	34
Table 17: Future Operational Analysis Summary.....	34
Table 18: Net Present Value (NPV) of Improvements and B/C Ratios Relative to the No Build Alternative.	39
Table 19: Crash Prediction Analysis Summary	41
Table 20: Future Operational Analysis Summary.....	41
Table 21: Net Present Value (NPV) of Improvements and B/C Ratios Relative to the No Build Alternative.	44

List of Figures

Figure 1: Project Location Map7

Figure 2: Condition Diagram – Nova Road at Herbert Street..... 10

Figure 3: Condition Diagram – Nova Road at Eagle Lake Trail 11

Figure 4: Existing Turning Movement Volumes 13

Figure 5: All Crashes by Type and Severity (2020 - 2025) 16

Figure 6: Crash Diagram by Type (2020 - 2024) – Nova Road at Herbert Street..... 17

Figure 7: All Crashes by Light Condition (2020 - 2024) – Nova Road at Herbert Street..... 18

Figure 8: All Crashes by Road Surface Condition (2020 - 2024) – Nova Road at Herbert Street 18

Figure 9: All Crashes by Weather Condition (2020 - 2024) – Nova Road at Herbert Street..... 19

Figure 10: All Crashes by Type and Severity (2020 - 2025)..... 22

Figure 11: Crash Diagram by Type (2020 - 2024) – Nova Road at Eagle Lake Trail..... 23

Figure 12: All Crashes by Light Condition (2020 - 2024) – Nova Road at Eagle Lake Trail..... 24

Figure 13: All Crashes by Road Surface Condition (2020 - 2024) – Nova Road at Eagle Lake Trail 24

Figure 14: All Crashes by Weather Condition (2020 - 2024) – Nova Road at Eagle Lake Trail..... 25

Figure 15: Future Turning Movement Volumes 32

List of Appendices

- Appendix A-1: Responses to Comments
- Appendix A-2: Traffic Data & Field Photos
- Appendix B: BEBR, TRENDS and Model Growth Rates
- Appendix C: Synchro Output & Crash Prediction Sheets
- Appendix D: Supporting Utility Documents
- Appendix E: Concepts, Costs & FDOT ICE Tool Output

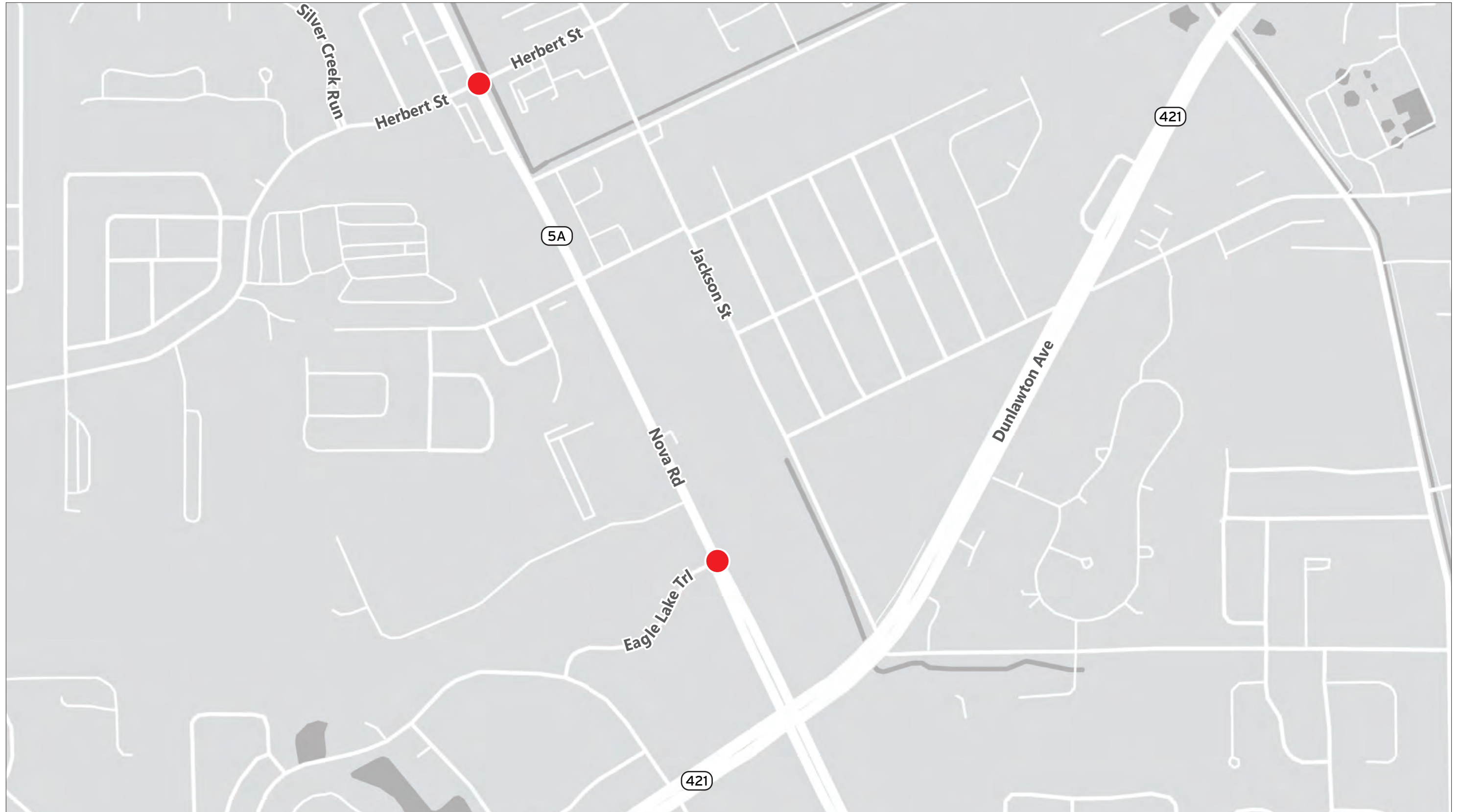
INTRODUCTION


VHB, Inc. was retained to perform a feasibility analysis for improvements at the Nova Road (SR 5A) at Herbert Street and Nova Road at Eagle Lake Trail intersections, located in the City of Port Orange, Volusia County, Florida, as illustrated in **Figure 1**. This study was initiated by the City of Port Orange to evaluate the feasibility of construction of the following improvements at the study intersections:

1. Nova Road at Herbert Street: extension of left turn lanes and addition of right turn lanes on Herbert Street both east and west of Nova Road.
2. Nova Road at Eagle Lake Trail: Eagle Lake Trail provides alternative connectivity to businesses, medial offices, and Halifax hospital on Dunlawton Avenue – any proposed improvements at this intersection to improve safety.

The analysis methods used in completing this study are consistent with the Manual on Uniform Traffic Control Devices (MUTCD), the Manual on Uniform Traffic Studies (MUTS), the Traffic Engineering Manual (TEM) and engineering judgment. The remainder of this report documents existing conditions, vehicle and pedestrian counts, qualitative assessment, crash analysis, future volume development, feasibility analysis, and recommendations. The analysis will particularly consider the benefits and feasibility of proposed improvements at the study intersections.

This report has been revised to incorporate updates made to the Draft Report (dated January 2026) in response to the comments that were received from the city of Port Orange, Volusia County, Volusia-Flagler TPO, and Florida Department of Transportation (FDOT). Responses to those comments are provided in Appendix A-1.



 N.T.S.


 Study Location



Figure 1
Project Location
Feasibility Study for Intersection
Improvements
Nova Road at Herbert Street and
Nova Road at Eagle Lake Trail

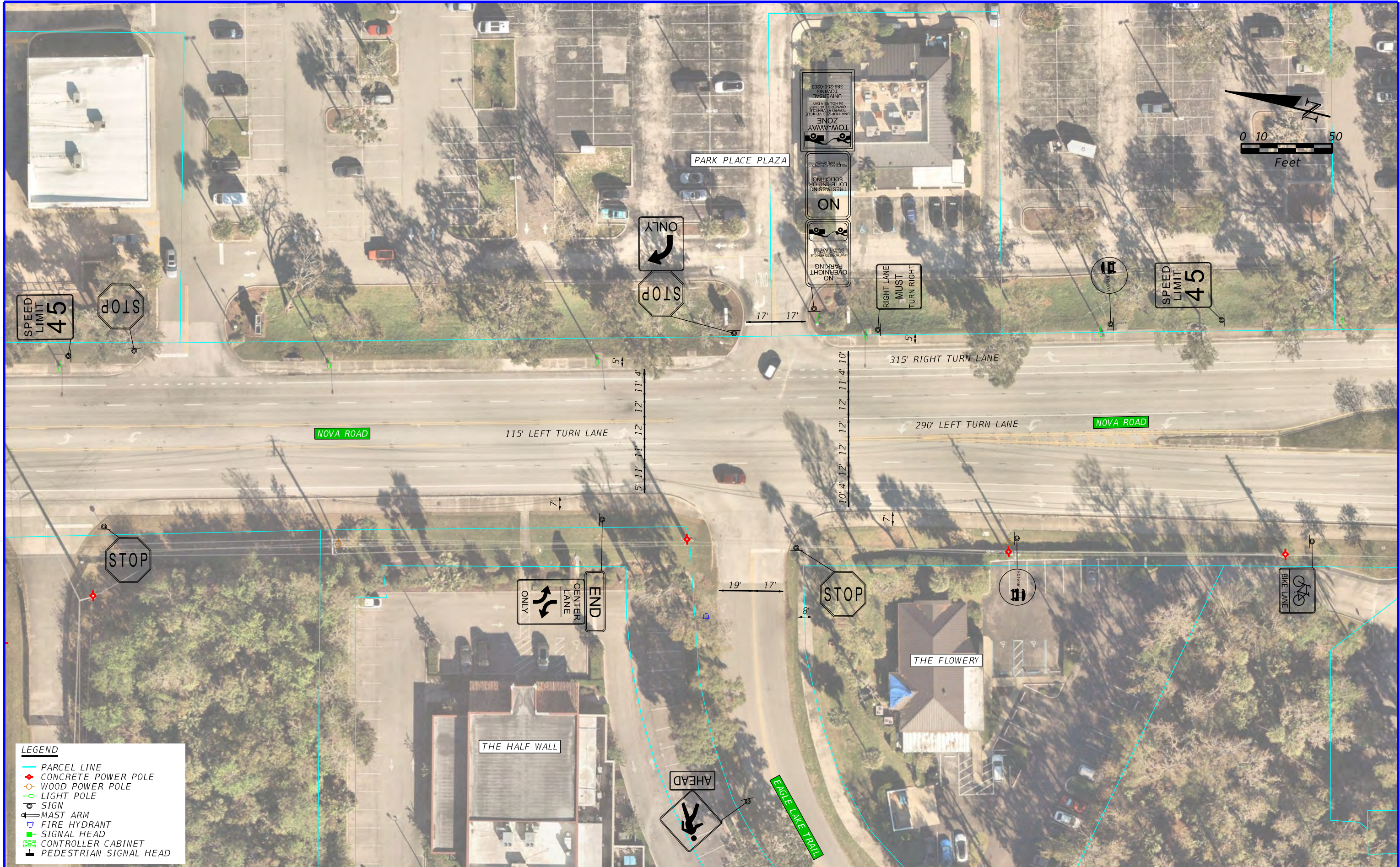
EXISTING CONDITIONS

Field Inventory

The intersections of Nova Road at Herber Street and Nova Road at Eagle Lake Trail are located in the City of Port Orange, Volusia County, Florida. The characteristics of the study intersections are presented in **Table 1. Figures 2** and **3** depict the existing conditions including the general roadway geometry, pavement markings, land use, and intersection traffic control of the study intersections - Nova Road at Herber Street and Nova Road at Eagle Lake Trail, respectively. The conditions stated in this report reflect conditions as observed on the date of the qualitative assessment.

Table 1: Field Inventory

Features	Nova Road at Herbert Street	Nova Road at Eagle Lake Trail
North-South Street	Nova Road four-lane divided urban principal arterial	Nova Road four-lane divided urban principal arterial
East – West Street	Herbert Street two-lane minor collector	Eagle Lake Trail a local road connecting businesses, medial offices, and Halifax hospital on Dunlawton Avenue
Intersection Type	Four-Legged intersection	Four-Legged intersection
Number of Intersection Approach Lanes	Northbound – 1 left turn lane, 2 through lane & 1 shared through/right lane Southbound – 1 left turn lane, 2 through lanes & 1 exclusive right turn lane Eastbound - 1 left turn lane, 1 shared through/right turn lane Westbound – 1 left turn lane, 1 shared through/right turn lane	Northbound – 1 left turn lane, 2 through lanes & 1 exclusive right turn lane Southbound – 1 left turn lane, 1 through lane & 1 shared through/right lane Eastbound - 1 shared left/through/right turn lane Westbound – 1 exclusive right turn lane
Traffic Control	Signal	Two Way Stop Control
Speed Limit	Nova Road – 45 mph (speed limit becomes 50 mph north of Herbert St) Herbert Street – 30 mph	Nova Road - 45 mph Eagle Lake Trail – No Posted Speed Sign – assume 25 mph
Sidewalks & Bicycle Lanes	Nova Road - on both sides of the roadway Herbert Street, east of Nova Road - on both sides of the roadway Herbert Street, west of Nova Road – on southside of the roadway 5 ft Bicycle lanes along Nova Road on both northbound & southbound approaches	Nova Road - on both sides of the roadway Eagle Lake Trail, west of Nova Road - on southside of the roadway Eagle Lake Trail, east of Nova Road – access to commercial shops - no sidewalks 5 ft Bicycle lanes along Nova Road on both northbound & southbound approaches
Surrounding Development	Northwest: commercial shops Northeast: Cumberland Farms Gas station Southwest: Circle K gas station Southeast: Splash Express Car Wash	Northwest: The Half Wall – Port Orange Northeast: Commercial Shops Southwest: The Flowery Dispensary Port Orange Southeast: Commercial Shops
Nearest Signalized intersections	Nova Road & Madeline Avenue – 0.51 miles to the north Nova Road & Dunlawton Avenue = 0.78 miles to the south Herbert Street & Clyde Morris Boulevard – 1.13 miles to the west Herbert Street & Ridgewood Avenue – 1.49 miles to the east	Nova Road & Herbert Street – 0.59 miles to the north Nova Road & Dunlawton Avenue = 0.19 miles to the south No nearby signals along Eagle Lake Trail west and east of the intersection
Roadway Lighting	Lighting is provided along the east side of Nova Road south of the study intersection. Limited lighting is provided at the study intersection	Lighting is provided along the east side of Nova Road near the study intersection



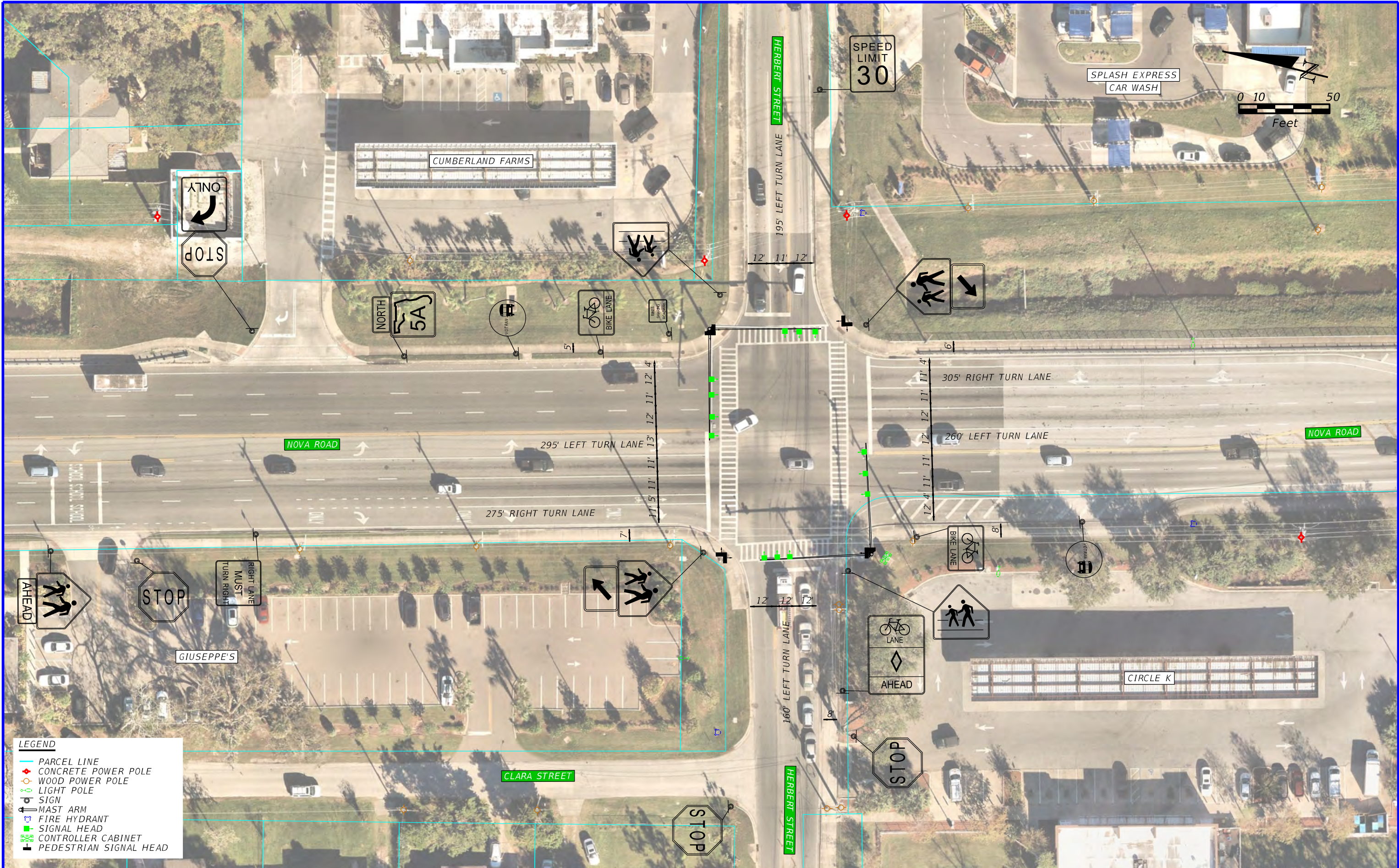
REVISIONS	
DATE	DESCRIPTION

VANASSE HANGEN BRUSTLIN, INC.
 225 E. ROBINSON STREET
 ORLANDO, FL 32801

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NOVA	VOLUSIA	

CONDITION DIAGRAM -
 NOVA ROAD AT
 EAGLE LAKE TRAIL

SHEET NO.
 Figure 2



LEGEND

- PARCEL LINE
- ◆ CONCRETE POWER POLE
- WOOD POWER POLE
- LIGHT POLE
- SIGN
- ⊥ MAST ARM
- ⊠ FIRE HYDRANT
- SIGNAL HEAD
- ⊞ CONTROLLER CABINET
- ⊟ PEDESTRIAN SIGNAL HEAD

REVISIONS	
DATE	DESCRIPTION

VANASSE HANGEN BRUSTLIN, INC.
 225 E. ROBINSON STREET
 ORLANDO, FL 32801

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NOVA	VOLUSIA	

**CONDITION DIAGRAM -
 NOVA ROAD AT
 HERBERT STREET**

SHEET NO.
Figure 3

Traffic Volume Data

24-hour volume traffic counts were collected along Nova Road and Herbert Street (at all the four legs of study intersection), and along Nova Road, south of Eagle Lake Trail and along Eagle Lake Trail, west of Nova Road on 10/02/2025, representing typical commuter weekdays. The 24-hour volume traffic counts were supplemented with 8-hour intersection turning movement counts. The turning movement counts were collected on 10/2/2025 (Thursday) between 7:00 AM – 10:00 AM and 12:00 PM – 1:00 PM and 2:00 PM - 6:00 PM at the study intersections. These hours represent the highest eight hours obtained from the volume counts. From this data, the AM and PM peak traffic hours for Nova Road & Herbert Street were found to occur from 7:30 AM to 8:30 AM and 4:15 PM to 5:15 PM, respectively. Whereas, the AM and PM peak traffic hours for Nova Road & Eagle Lake Trail were found to occur from 7:30 AM to 8:30 AM and 4:30 PM to 5:30 PM, respectively. The overall peak hour for the intersections was found to occur during the PM peak hour. The turning movements at Nova Road & Herbert Street and Nova Road & Eagle Lake Trail revealed that the traffic in westbound direction peaks during AM conditions and the traffic in eastbound direction peaks during PM conditions and traffic in southbound peaks during both AM and PM conditions.

The 24-hour volume counts, 8-hour turning movement counts and pedestrian/bicycle counts are provided in greater detail in **Appendix A-2**. The following table summarizes the distribution of weekday turning movements at the study intersection. **Figure 4** shows the existing year 2025 AM and PM peak hour volumes.

Table 2: 8 Hour Turning Movement Percentages (All Vehicles)

Study Intersection	Movement	Northbound	Southbound	Eastbound	Westbound
Nova Road at Herbert Street	Left turn/U-turn	9.99%	6.00%	30.68%	39.62%
	Through	81.28%	83.99%	32.12%	39.19%
	Right-turn	8.73%	10.01%	37.20%	21.19%
Nova Road at Eagle Lake Trail	Left turn/U-turn	5.01%	3.09%	58.72%	25.00%
	Through	91.35%	93.35%	3.10%	2.24%
	Right-turn	3.64%	3.56%	38.18%	72.76%

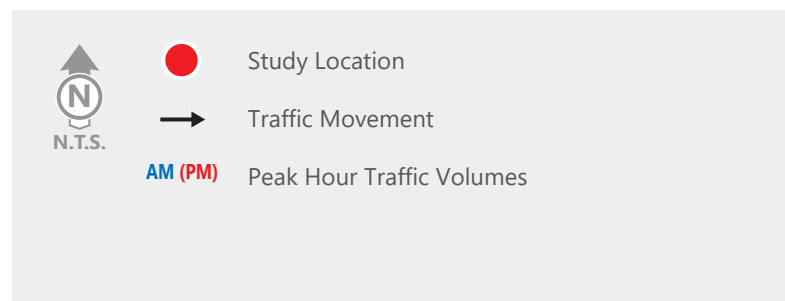


Figure 4
Existing Turning Movement Volumes
Feasibility Study for Intersection
Improvements
 Nova Road at Herbert Street and
 Nova Road at Eagle Lake Trail

Existing Operational Analysis

Synchro 12 was used to evaluate the existing intersection operations at the two study intersections. Based on this analysis, the signalized intersection of Nova Road and Herbert Street is found to operate at an overall LOS C with delays of 27.8 and 33.7 seconds/vehicle during h AM and PM peak hours, respectively. However, it is to be noted that sidestreets approaches operate at LOS E during both AM and PM peak hours. The eastbound left turn movement at the stop-controlled intersection of Nova Road and Eagle Lake Trail is found to operate at LOS F during both AM and PM peak hours. The required signal timing information was provided by Volusia County.

Historical Crash Data Analysis

Nova Road at Herbert Street

A total of 93 crashes were reported at the intersection of Nova Road at Herbert Street for the five year period between January 1, 2020 and December 31, 2024. The leading crash types were rear end (31%, 29), left turn (24%, 22), and angle (13%, 12). There were five bicycle- and two pedestrian-related crashes.

In terms of severity, 50 crashes resulted in no injuries, while 43 involved some level of injury, including 7 serious injuries and 0 fatalities. Also note that left turn crashes accounted for the majority of all injury crashes including serious injury and injury. The seven serious injury crashes involved four left turn and three bicycle-related crashes. Approximately 14% of these crashes happened in low-light conditions.

Nearly 28 (30%) of crashes occurred under low-light conditions (dark, dusk, or dawn). There were five wet pavement crashes. Distracted driving was involved in about 2% of crashes. There was one alcohol related crash. **Table 3** and **Figure 5** provide summary of crashes by crash type and severity. **Tables 4** through **7** provide summary of crashes by different conditions and year. **Figure 6** provides a crash diagram (by crash types) of the study area. **Figures 7** through **9** summarizes the crashes by different roadway conditions.

Table 3: Crashes by Type and Severity – Nova Road at Herbert Street

Crash Type	Fatalities	Serious Injury	Injury	No Injury	Row Total	Proportion
Angle	0	0	6	6	12	12.9%
Bicycle	0	3	2	0	5	5.4%
Head On	0	0	0	1	1	1.1%
Left Turn	0	4	15	3	22	23.7%
Off Road	0	0	0	3	3	3.2%
Other	0	0	1	4	5	5.4%
Pedestrian	0	0	2	0	2	2.2%
Rear End	0	0	9	20	29	31.2%
Right Turn	0	0	0	3	3	3.2%
Sideswipe	0	0	0	10	10	10.8%
Unknown	0	0	1	0	1	1.1%
Total	0	7	36	50	93	100.0%

Table 4: Crashes by Type and Year – Nova Road at Herbert Street

Crash Type	2020	2021	2022	2023	2024	Total	Proportion
Angle	0	2	1	6	3	12	12.9%
Bicycle	1	0	0	3	1	5	5.4%
Head On	0	0	0	0	1	1	1.1%
Left Turn	5	2	9	1	5	22	23.7%
Off Road	1	1	0	0	1	3	3.2%
Other	1	1	0	2	1	5	5.4%
Pedestrian	0	2	0	0	0	2	2.2%
Rear End	2	8	4	8	7	29	31.2%
Right Turn	1	2	0	0	0	3	3.2%
Sideswipe	3	1	1	4	1	10	10.8%
Unknown	0	0	0	1	0	1	1.1%
Total	14	19	15	25	20	93	100.0%

Table 5: Crashes by Severity and Year – Nova Road at Herbert Street

Crash Severity	2020	2021	2022	2023	2024	Total	Proportion
Injury	4	5	7	13	7	36	38.7%
No Injury	8	13	6	11	12	50	53.8%
Serious Injury	2	1	2	1	1	7	7.5%
Total	14	19	15	25	20	93	100%

Table 6: Crashes by Road Surface Condition and Year – Nova Road at Herbert Street

Road Surface Condition	2020	2021	2022	2023	2024	Total	Proportion
Dry	13	18	14	22	20	87	93.5%
Unknown	1	0	0	0	0	1	1.1%
Wet	0	1	1	3	0	5	5.4%
Total	14	19	15	25	20	93	100.0%

Table 7: Crashes by Light Condition and Year – Nova Road at Herbert Street

Light Condition	2020	2021	2022	2023	2024	Total	Proportion
Dark - Lighted	3	7	2	6	3	21	22.6%
Dark - Not Lighted	0	0	2	4	0	6	6.5%
Daylight	10	11	11	15	17	64	68.8%
Dusk	0	1	0	0	0	1	1.1%
Unknown	1	0	0	0	0	1	1.1%
Total	14	19	15	25	20	93	100.0%

Figure 5: All Crashes by Type and Severity (2020 - 2025)

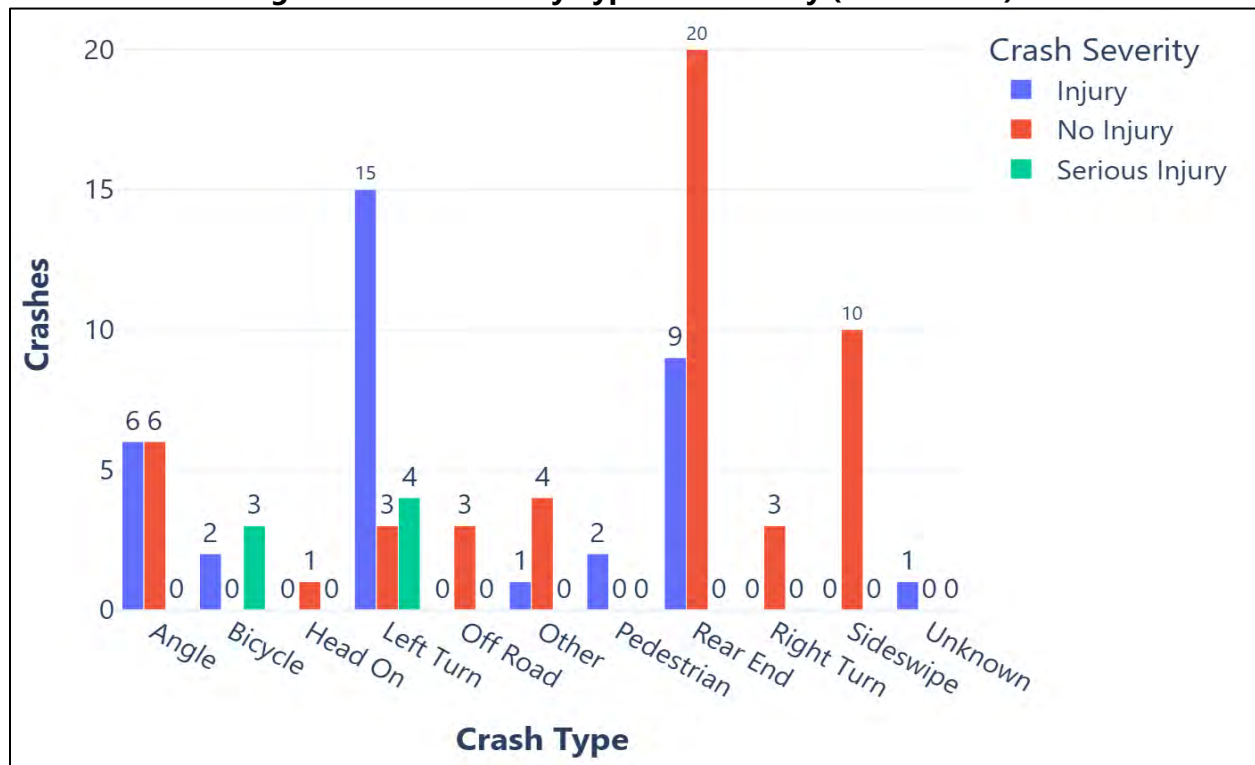


Figure 6: Crash Diagram by Type (2020 - 2024) – Nova Road at Herbert Street



Figure 7: All Crashes by Light Condition (2020 - 2024) – Nova Road at Herbert Street

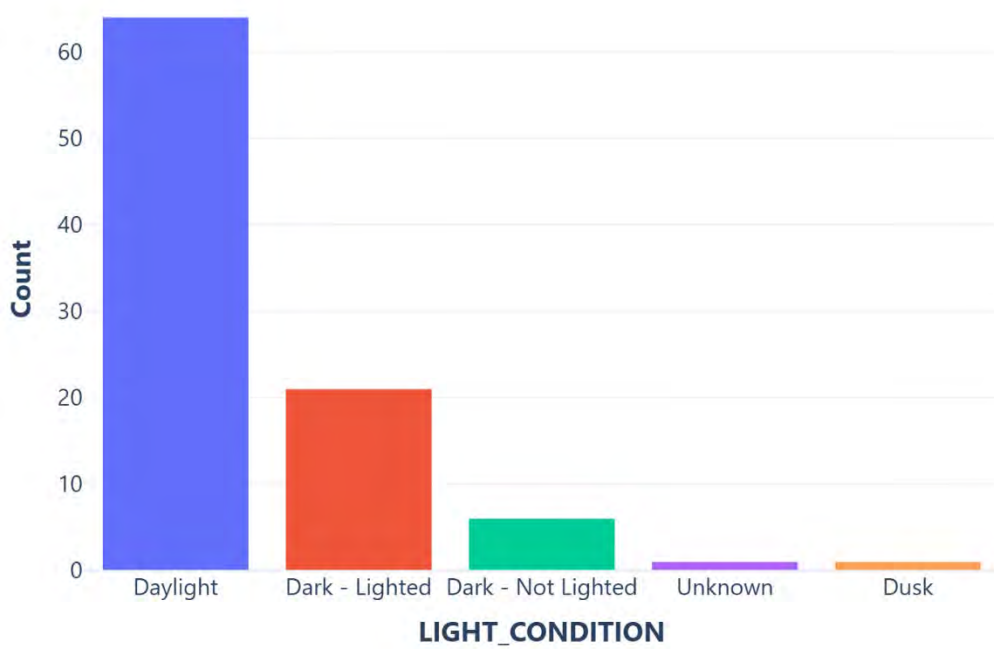


Figure 8: All Crashes by Road Surface Condition (2020 - 2024) – Nova Road at Herbert Street

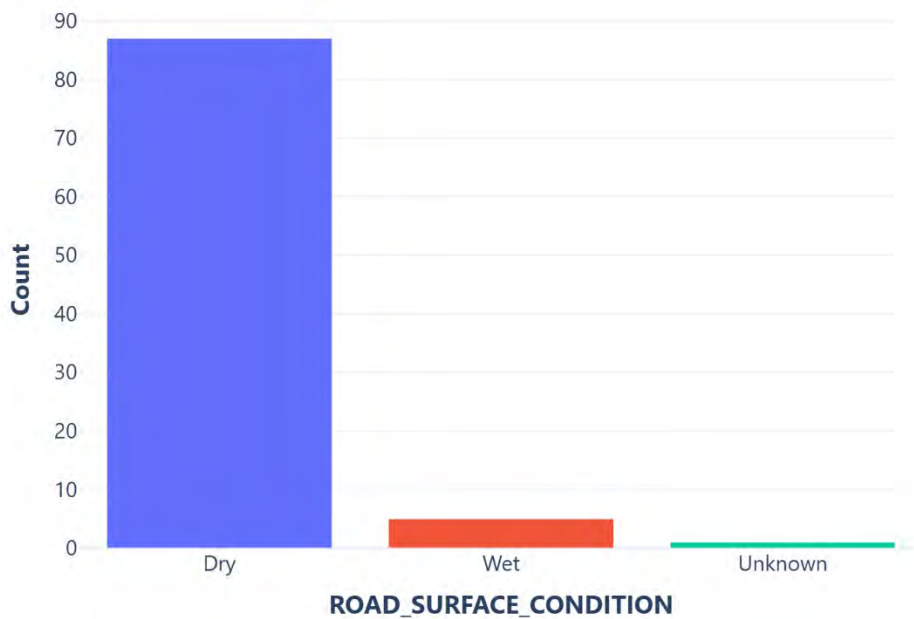
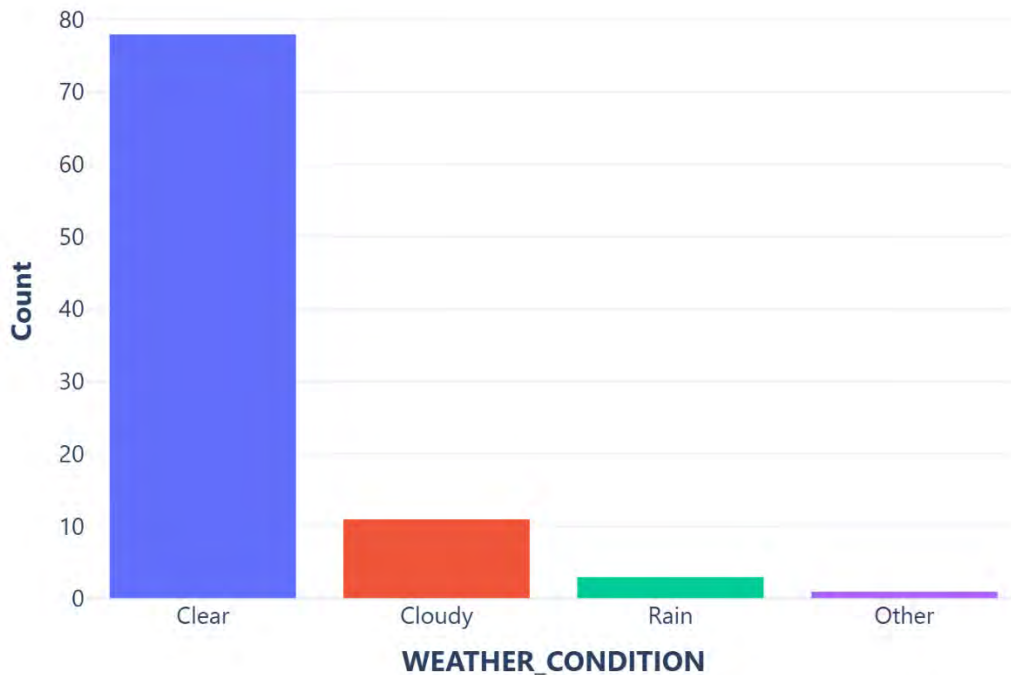


Figure 9: All Crashes by Weather Condition (2020 - 2024) – Nova Road at Herbert Street



Summary of Safety Conditions – Nova Road at Herbert Street

The following are the key takeaways based on an evaluation of historical crashes at the study intersection of Nova Road at Herbert Street for the five year period between 2020 and 2024.

- **Rear-End and Left-Turn Crashes:** These two crash types account for over half of all crashes, with left-turn crashes being particularly severe.
- **Low-Light and Wet Conditions:** While most crashes occurred in daylight and on dry roads, low-light and wet conditions remain significant contributors to crash risk.
- **Vulnerable Road Users:** Bicycle and pedestrian crashes, though fewer in number, are disproportionately severe, with bicycles involved in nearly half of all serious injury crashes.
- **Distracted Driving and DUI:** These factors were relatively minor contributors but remain critical areas for targeted interventions.

- This analysis highlights the need for targeted safety measures, particularly for left-turn movements, low-light conditions, and vulnerable road users. Enhanced lighting, improved intersection design, and public awareness campaigns could help mitigate these risks.

Nova Road at Eagle Lake Trail

A total of 19 crashes were reported at the intersection of Nova Road at Eagle Lake Trail for the five year period between January 1, 2020 and December 31, 2024. The leading crash types were left turn (21%, 4), angle (21%, 4), and bicycle/rear end/sideswipe (11%, 2). There were no pedestrian-related crashes recorded within this period.

In terms of severity, 74% of crashes resulted in no injuries, while 5 involved some level of injury, including 1 serious injury and 0 fatalities. The one serious injury crash is a bicycle-related crash. The remaining four injury crashes included one each of angle, bicycle-related, left turn and off road crashes.

Approximately 2 (11%) of these crashes happened in low-light (dark, dusk, or dawn) conditions. There were two wet pavement crashes. There were no alcohol- or drug-related crashes. **Table 8** and **Figure 10** provide summary of crashes by crash type and severity. **Tables 9** through **12** provide summary of crashes by different conditions and year. **Figure 11** provides a crash diagram (by crash types) of the study area. **Figures 12** through **14** summarizes the crashes by different roadway conditions.

Table 8: Crashes by Type and Severity – Nova Road at Eagle Lake Trail

Crash Type	Fatalities	Serious Injury	Injury	No Injury	Row Total	Proportion
Angle	0	0	1	3	4	21.1%
Bicycle	0	1	1	0	2	10.5%
Left Turn	0	0	1	3	4	21.1%
Off Road	0	0	1	1	2	10.5%
Other	0	0	0	1	1	5.3%
Rear End	0	0	0	2	2	10.5%
Right Turn	0	0	0	1	1	5.3%
Sideswipe	0	0	0	2	2	10.5%
Unknown	0	0	0	1	1	5.3%
Column Total	0	1	4	14	19	100.0%

Table 9: Crashes by Type and Year – Nova Road at Eagle Lake Trail

Crash Type	2020	2021	2022	2023	2024	Total	Proportion
Angle	0	0	1	2	1	4	21.1%
Bicycle	2	0	0	0	0	2	10.5%
Left Turn	0	0	3	0	1	4	21.1%
Off Road	1	0	0	1	0	2	10.5%
Other	0	0	1	0	0	1	5.3%
Rear End	2	0	0	0	0	2	10.5%
Right Turn	0	0	1	0	0	1	5.3%
Sideswipe	0	1	1	0	0	2	10.5%
Unknown	1	0	0	0	0	1	5.3%
Total	6	1	7	3	2	19	100.0%

Table 10: Crashes by Severity and Year – Nova Road at Eagle Lake Trail

Crash Severity	2020	2021	2022	2023	2024	Total	Proportion
Injury	2	0	0	0	2	4	21.1%
No Injury	3	1	7	3	0	14	73.7%
Serious Injury	1	0	0	0	0	1	5.3%
Total	6	1	7	3	2	19	100.0%

Table 11: Crashes by Road Surface Condition and Year – Nova Road at Eagle Lake Trail

Road Surface Condition	2020	2021	2022	2023	2024	Total	Proportion
Dry	5	0	7	3	2	17	89.5%
Wet	1	1	0	0	0	2	10.5%
Total	6	1	7	3	2	19	100.0%

Table 12: Crashes by Light Condition and Year – Nova Road at Eagle Lake Trail

Light Condition	2020	2021	2022	2023	2024	Total	Proportion
Dark - Lighted	1	0	0	0	0	1	5.3%
Daylight	5	1	6	3	2	17	89.5%
Dusk	0	0	1	0	0	1	5.3%
Total	6	1	7	3	2	19	100.0%

Figure 10: All Crashes by Type and Severity (2020 - 2025)

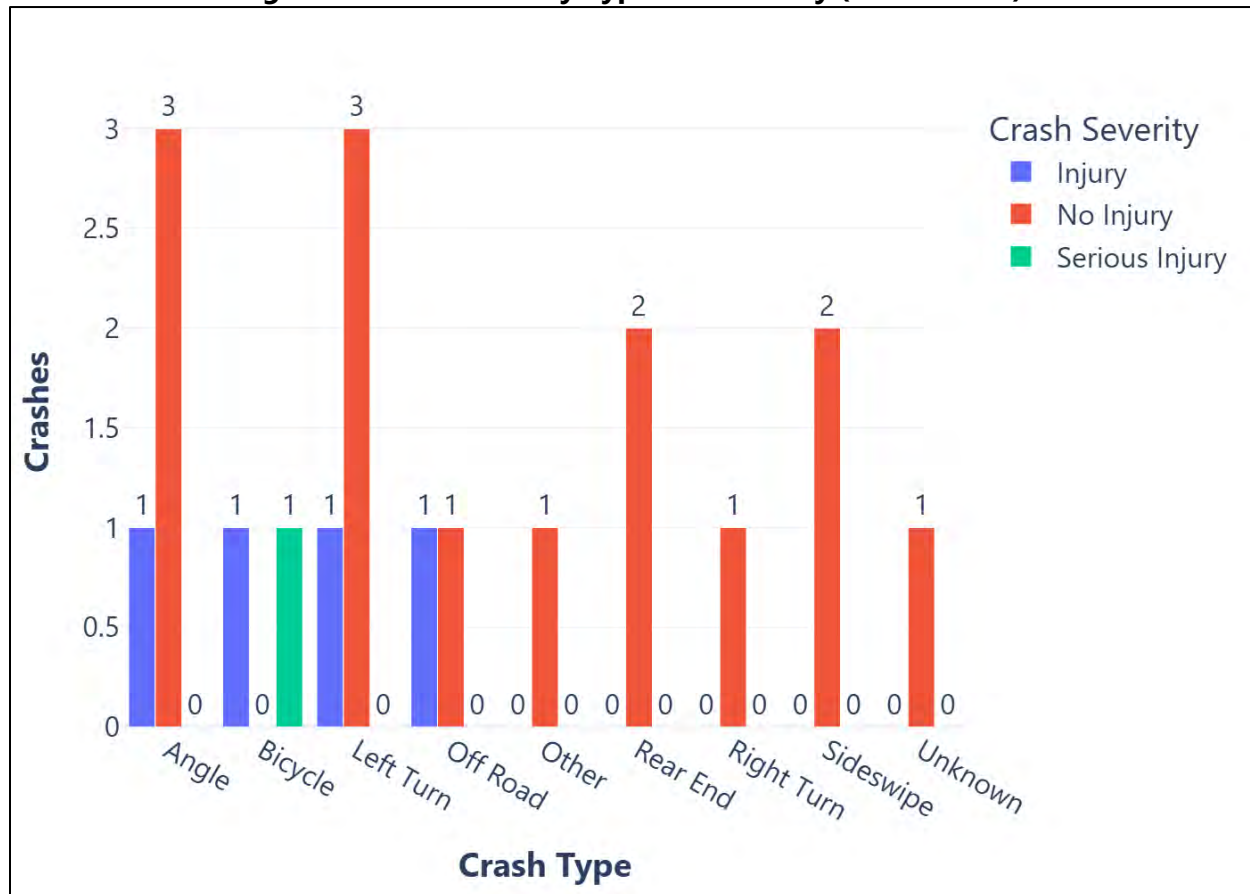


Figure 11: Crash Diagram by Type (2020 - 2024) – Nova Road at Eagle Lake Trail

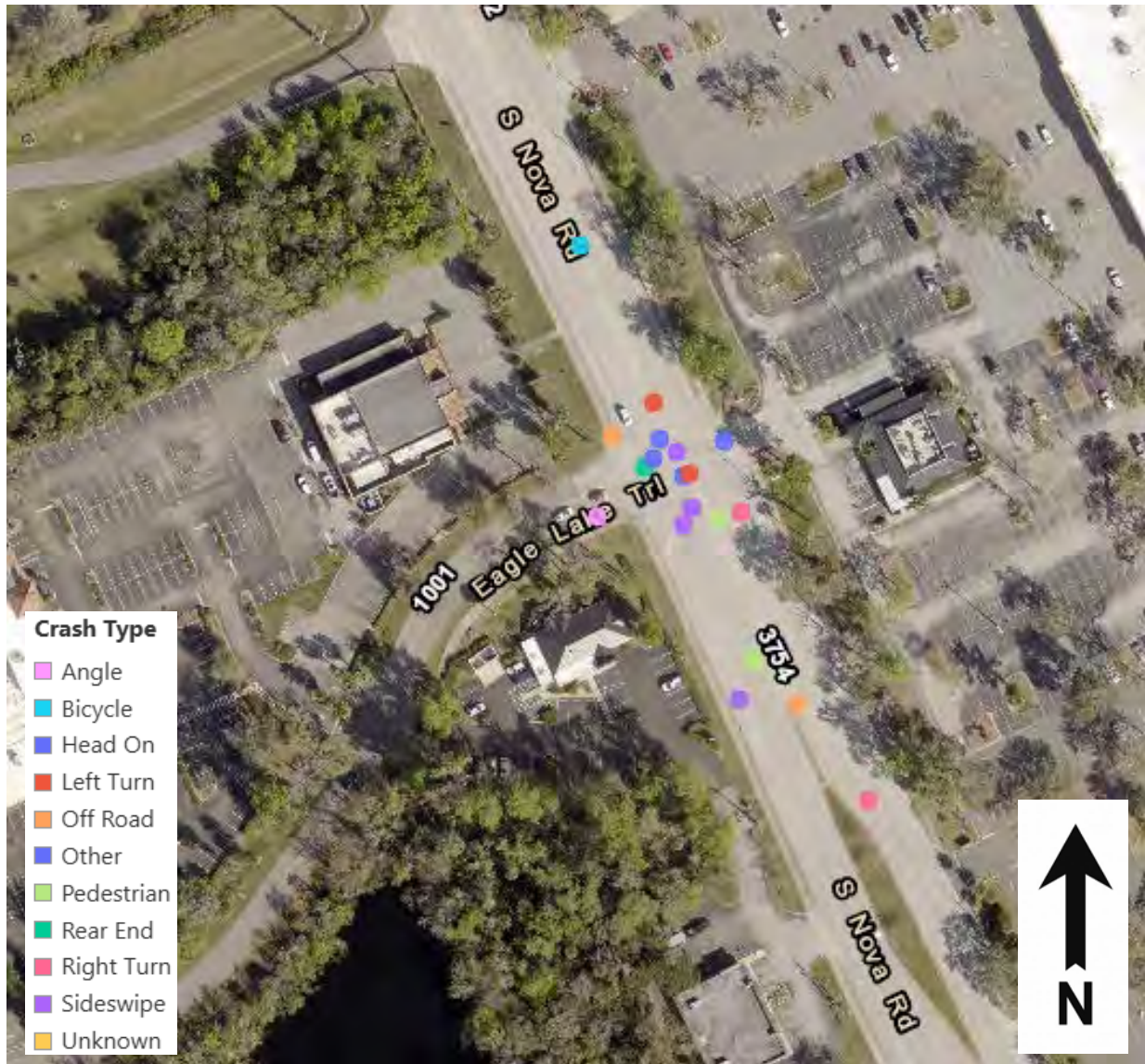


Figure 12: All Crashes by Light Condition (2020 - 2024) – Nova Road at Eagle Lake Trail

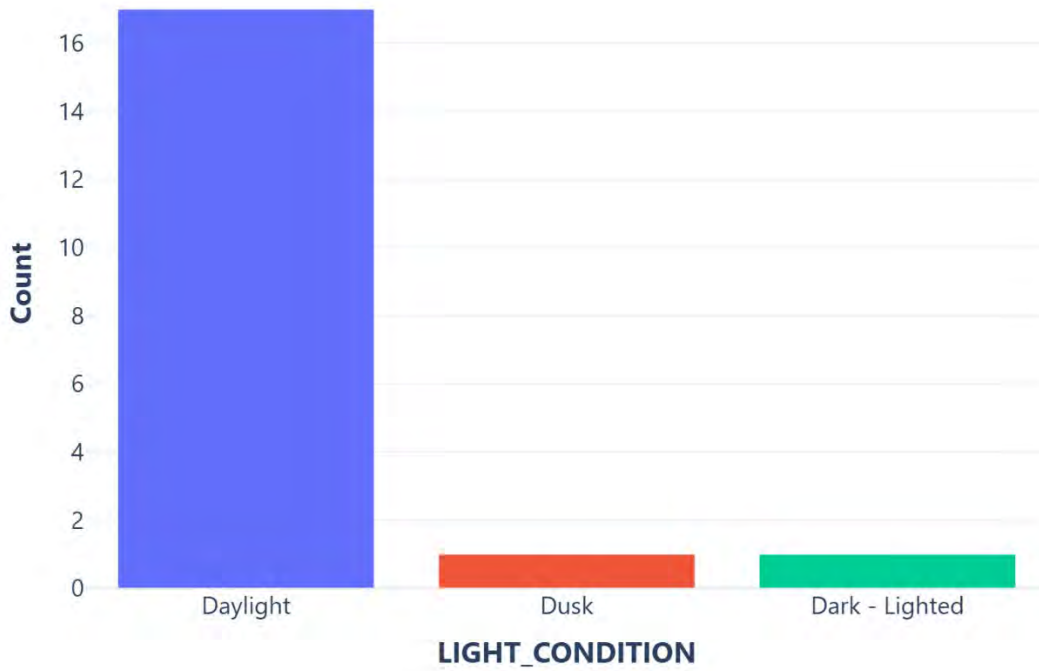


Figure 13: All Crashes by Road Surface Condition (2020 - 2024) – Nova Road at Eagle Lake Trail

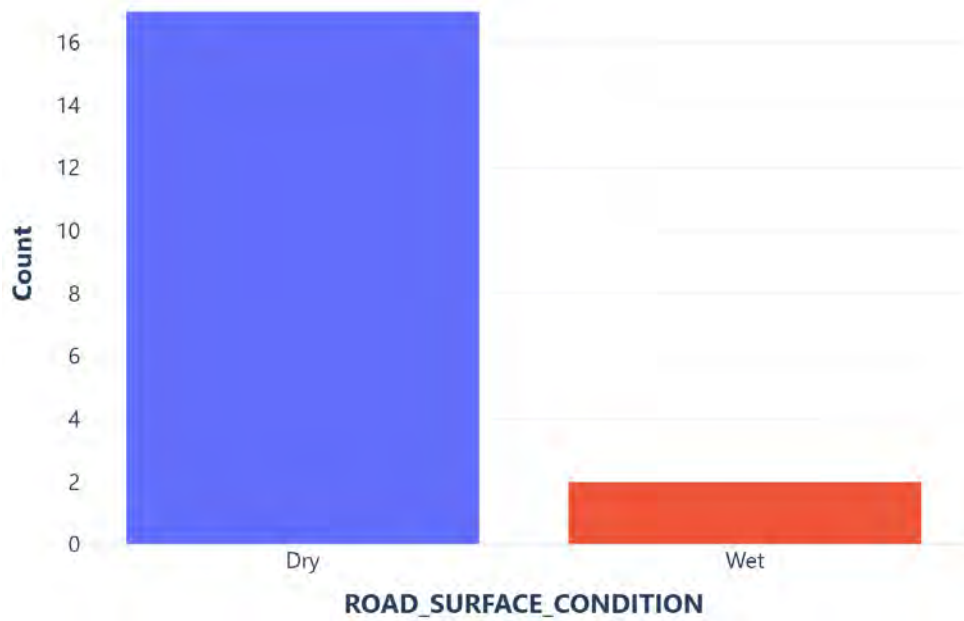
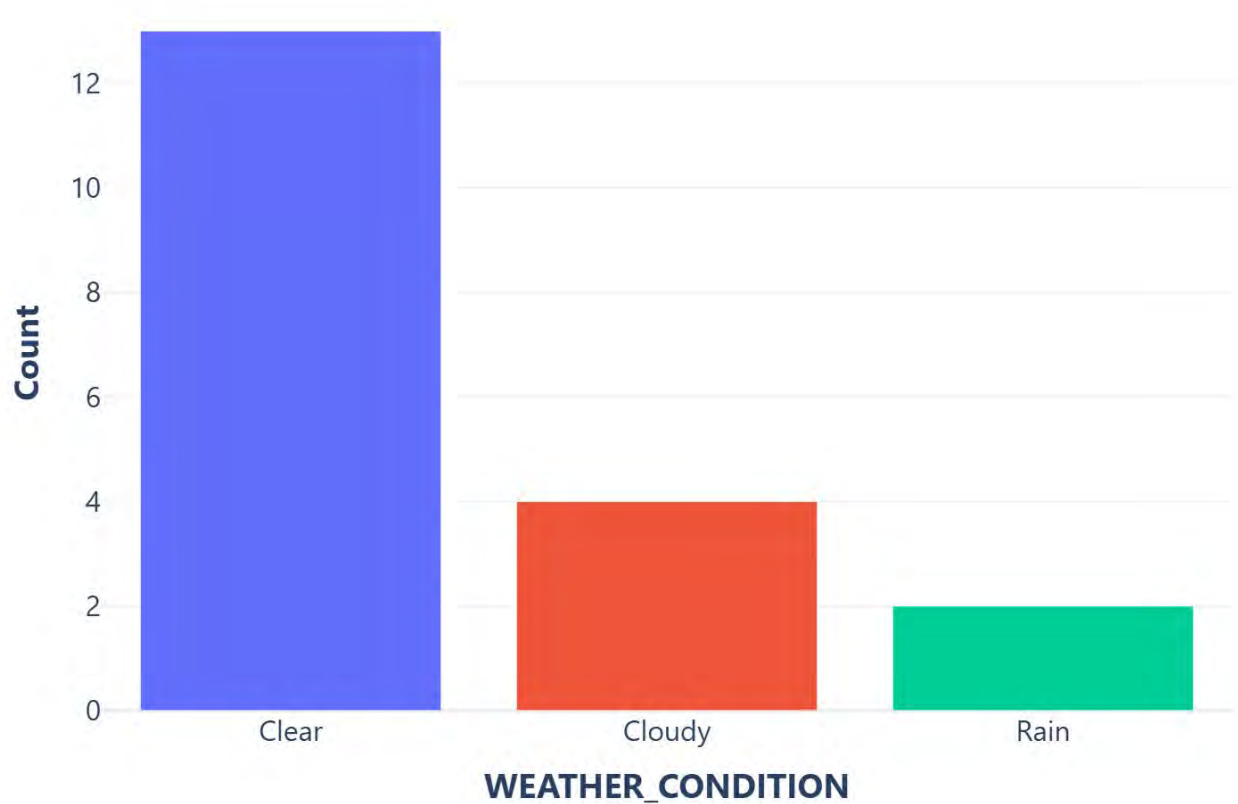


Figure 14: All Crashes by Weather Condition (2020 - 2024) – Nova Road at Eagle Lake Trail



Summary of Safety Conditions – Nova Road at Eagle Lake Trail

The following are the key takeaways based on an evaluation of historical crashes at the study intersection for the five-year period between 2020 and 2024.

- **Angle and Left-Turn Crashes:** These two crash types account for 40% of all crashes.
- **Low-Light and Wet Conditions:** While most crashes occurred in daylight and on dry roads, low-light and wet conditions remain significant contributors to crash risk.
- **Vulnerable Road Users:** Bicycle crashes, though fewer in number, are disproportionately severe, with one bicycle involved serious injury crash.
- The crash patterns indicate an opportunity to improve safety through a combination of operational, geometric, and multimodal treatments. Potential strategies include:

Feasibility Study for Intersection Improvements

Nova Road at Herbert Street and

Nova Road at Eagle Lake Trail

- Looking for opportunities to reduce conflicts between Nova Road and Eagle Lake Trail traffic to address left-turn and angle crashes.
- Enhancing lighting to improve visibility during low-light conditions.
- Evaluating access management to reduce rear-end crashes.
- Providing targeted safety improvements for bicyclists and pedestrians.

QUALITATIVE ASSESSMENT

A qualitative assessment (QA) was conducted at study intersection in the field to evaluate the existing operating conditions occurring on a typical weekday, and to identify areas where improvements would be potentially beneficial to the overall safety and efficiency of the location. A registered professional engineer performed the QA during the AM and PM peak hour periods while making sure to cover the start and release times of the nearby schools. The field observations are summarized in below for the two study intersections.

Nova Road and Herbert Street

Traffic Observations

- Vehicles along Nova Road and Herbert Street were generally observed traveling at or above the posted speed limit
- New signal heads were recently installed on all mast arms, and pedestrian signal upgrades are currently under construction in all quadrants. These changes include converting the left-turn signal heads from five-section to four-section configurations and adding an additional three-section signal head for the through movements.
- Both eastbound and westbound approaches on Herbert Street have a left-turn lane and a shared through/right lane.
- Through-lane queues were observed blocking left-turn access during peak periods on the eastbound, westbound and northbound approaches
- The northbound left turning vehicles were observed to stack in the striped-out portion of the median along Nova Road
- Some conflicts were observed between vehicles at the intersections of Herbert Street and Clara Street and Herbert Street and Cumberland Farms Store Driveway. Along Herbert Street west of Nova Road, currently there are delineators installed to keep motorists from crossing the double yellow line from the private driveways
- All left turn movements are permissive plus protected with flashing yellow arrow signal heads

- Several schools including Sugar Mill Elementary, Silver Sands Middle and other schools are located near the study intersection
- Some pedestrians/bicyclists were observed to cross both Nova Road and Herbert Street mostly during the PM peak hour
- Limited lighting is provided, but it does not meet FDOT criteria for a signalized intersection

ADA Compliance Review

- The detectable warning surface is missing a section at the northwest corner of the intersection.
- The detectable warning surface is significantly worn at the northeast corner of the intersection.
- The detectable warning surface shows moderate wear at the southeast corner of the intersection.
- A large portion of the detectable warning surface is missing at the southwest corner of the intersection.
- Crosswalk pavement markings at the Nova Road driveway serving Cumberland Farms are faded and in need of restriping.
- Crosswalk pavement markings at the Herbert Street driveway serving Cumberland Farms are faded and in need of restriping.
- The bus stop along eastbound Herbert Street east of Nova Road lacks ADA-compliant boarding and passenger amenities.
- The bus stop along southbound Nova Road south of Herbert Street lacks ADA-compliant boarding and passenger amenities.
- The bus stop along northbound Nova Road north of Herbert Street lacks ADA-compliant boarding and passenger amenities.
- No detectable warning surfaces or marked crosswalk are provided at the Circle K driveway on Herbert Street.
- A section of sidewalk is missing immediately west of the Circle K driveway on Herbert Street

Nova Road and Eagle Lake Circle

Traffic Observations

- Vehicles along Nova Road and Eagle Lake were generally observed traveling at or above the posted speed limit, with platooning during peak periods resulting in limited gaps for left turns from Eagle Lake Trail onto northbound Nova Road
- Roadway lighting exists on the east side of Nova Road, while overhead utilities run along the west side. Eagle Lake Trail has no overhead utilities on either side.
- The strip mall driveway has been resurfaced and the right-turn arrow was not replaced. Although signage restricts left turns onto southbound Nova Road, there is no physical barrier

ADA Compliance Review

- Detectable warning surfaces are missing at the Eagle Lake Trail crosswalk.
- Detectable warning surfaces are missing at the northern Park Place Plaza driveway crosswalk.
- Detectable warning surfaces are missing at the Park Place Plaza driveway crosswalk located in front of La Fiesta.
- The bus stop on northbound Nova Road south of the La Fiesta driveway lacks a Votran sign and passenger amenities.
- The bus stop on southbound Nova Road south of the Eagle Lake Trail crossing lacks passenger amenities and consists of a sign only.

FUTURE VOLUME DEVELOPMENT

The following sources were used to derive a reasonable growth rate for the study intersection.

- **Population Projections:** The population estimates obtained from the most current Bureau of Economic and Business Research (BEBR), Florida Population Studies, Volume 58 Bulletin 201, dated August 2025 was used.
- **Historical Traffic Trends Analysis:** Historical traffic trends analysis based on least squares regression analysis was conducted for the surrounding roadways using traffic data from the 2024 Florida Traffic Online (FTO).
- **Travel Demand Models:** The above discussed CFRPM7.0 model was used in the traffic forecasting process.

Population Projections

Low, medium, and high population projections for Volusia County were obtained from the latest BEBR publication (Volume 58, Bulletin 201 dated August 2025). **Table 13** shows the growth rates derived from the population estimates for the year 2035. As shown in **Table 13**, the BEBR reported an annual growth rate of 0.01%, 1.10%, and 2.20% per year for the low, medium, and high population estimates for Volusia County. The BEBR projection estimates are provided in **Appendix B**.

Table 13: Population Analysis Summary

Volusia County BEBR	2024	2035	Growth%
Low	594,643	595,100	0.01%
Medium	594,643	666,800	1.10%
High	594,643	738,400	2.20%

Historical Traffic Trends

Based on the historical count (2015 to 2024) information obtained from the 2024 FTO counts, linear regression trends analyses were performed for the study roadways, and the results are summarized in **Table 14**. The trends analysis sheets are provided in **Appendix B**. As shown in **Table 14**, It is to be noted that trends analysis growth rates were not considered in determining the future forecasts, Since the R2 values for all stations is less than 75%.

Table 14: Historical Trends Analysis Summary

FDOT Site	Location	Historic Trend Analysis	
		R Square	Annual Growth Rate
#791017	On Nova Road, 0.442 miles north of SR 421	10.60%	-1.82%
#791016	On Nova Road, 0.374 miles south of SR 421	44.58%	1.73%
#791014	On SR-421, 0.252 miles west of Nova Road	11.12%	0.48%
#791015	On SR-421, 0.4385 miles east of Nova Road	6.13%	0.24%

Model Based Growth Rates

Table 15 summarizes the growth rates derived using 2015 base year and the horizon year 2045 model volumes from CFRPM 7.0 model. The model plots are included in **Appendix B**.

Table 15: Model-Model Growth Rates

Location	2015 Model	2045 Model	Growth%
Nova Road, north of Herbert Street	41,110	43,834	0.2%
Nova Road, b/w Herbert Street & Dunlawton Avenue	37,183	39,086	0.2%
Herbert Street, west of Nova Road	2,565	3,072	0.7%
Herbert Street, east of Nova Road	6,784	7,611	0.4%
Dunlawton Avenue, west of Nova Road	44,442	49,353	0.4%
Dunlawton Avenue, east of Nova Road	30,005	32,918	0.3%

Based on the comparison of annual growth rates from the three primary sources (historical trends analysis, CFRPM7.0 models, and BEBR population estimates) an annual growth rate of 1.1% was recommended based on BEBR Medium growth. All the supporting development information is provided in **Appendix B**. For the purpose of this Feasibility Study, an opening year 2027 and design year 2037 were assumed. **Figure 15** depicts 2027 and 2037 turning movement volumes for the study intersections.

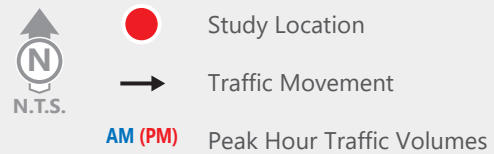
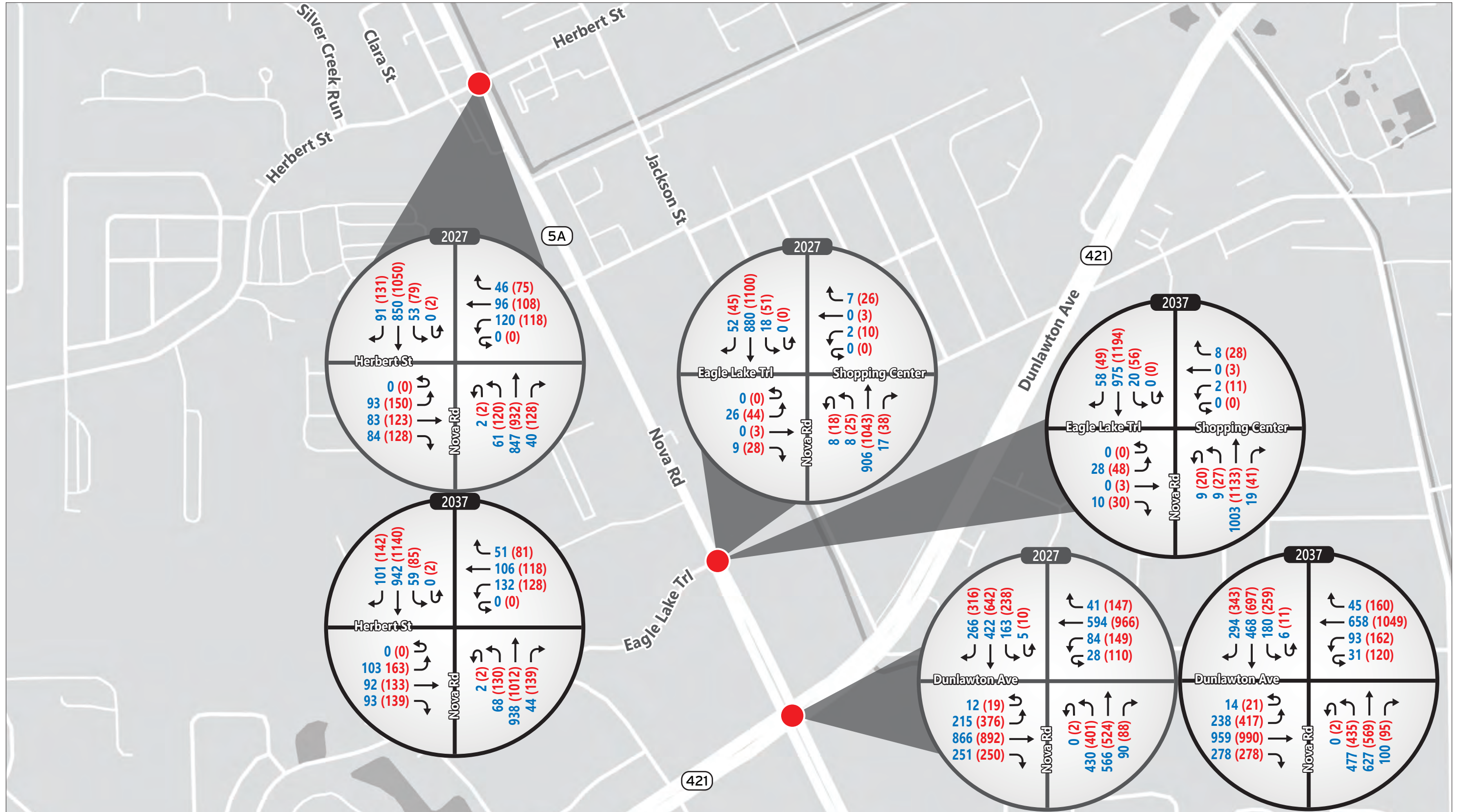


Figure 15
Future Turning Movement Volumes
Feasibility Study for Intersection
Improvements
 Nova Road at Herbert Street and
 Nova Road at Eagle Lake Trail

FEASIBILITY ANALYSIS – NOVA ROAD AND HERBERT STREET

The study intersection is a four-legged signalized intersection with a dedicated left turn lane, two through lanes and a shared through-right lane on the northbound approach; a dedicated left turn lane, two through lanes and a dedicated right turn lane on the southbound approach; and a dedicated left turn lane and shared through-right lane on the eastbound and westbound approaches. North of this intersection, Nova Road is a seven-lane undivided urban roadway, while south of the intersection it is a five-lane undivided urban roadway. Herbert Street is a two-lane undivided road east and west of the study intersection. Based on existing traffic volumes, field observations, historical crash data analysis and input from the City, County and FDOT, this study accounted for the following elements to improve operations and safety:

- Extend the existing exclusive northbound, eastbound, and westbound left turn lanes
- Construct a new exclusive right turn lane in the eastbound and westbound directions. Note that the recommended turn lane storage was based on the 95th percentile queue length from the year 2037 Synchro analysis, design feasibility, and coordination with the City of Port Orange.
- Signalization, drainage, and utility impacts are anticipated due to the construction of the new right turn lanes
- Additional right-of-way (ROW) is anticipated in the south-west quadrant (just south of Herbert Street) at this intersection

Methodology

The methodology for determining the feasibility of implementing the proposed improvements includes performing a comparison of before (or No Build) and after (Or Build) operating and safety conditions and preparing a B/C analysis for any proposed improvements.

Safety and Operational Benefits

To quantify safety benefits of the proposed improvements, FDOT analysis spreadsheet that uses predictive method for Urban and Suburban Arterials from the Highway Safety Manual (HSM) was used. To quantify the operational benefits of the proposed improvements at the study intersections, overall intersection delays (seconds per vehicle) were evaluated using Synchro 12

software. The required signal timing information was provided by Volusia County. The safety and operational analysis outputs are provided in **Appendix C**.

Table 16 illustrates the number of opening year and design year crashes predicted for the No Build and Build alternatives. **Table 17** illustrates the opening year and design year overall intersection delays for the No Build and Build alternatives.

Table 16: Crash Prediction Analysis Summary

Alternative	Crash Type	Opening Year (2027)	Design Year (2037)
No Build	Total	11.49	13.21
	Fatal & Injury	5.28	6.07
Build	Total	9.65	11.10
	Fatal & Injury	4.44	5.10

Table 17: Future Operational Analysis Summary

Alternative	2027 AM		2027 PM		2037 AM		2037 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
No Build	27.8	C	34.9	C	29.8	C	37.7	D
Build	19.5	B	23.4	C	21.5	C	26.1	C

Based on the summaries presented in Tables 16 and 17, the proposed improvements are expected to enhance both operational performance and safety at the study intersection. Additionally, the extension of the side street left-turn lanes is anticipated to provide further operational and safety benefits, even though these improvements are not directly captured in the Synchro or HSM analyses. Turn lane extensions are anticipated to reduce queue spillback, lower rear-end crash potential, and maintain smoother through movement traffic flow.

Drainage Assessment

The proposed intersection improvements are located within the jurisdiction of the St. Johns River Water Management District (SJRWMD). The final outfall for the study intersection discharges to Bald Eagle Creek. The receiving water body is classified as impaired and not designated as Outstanding Florida Waters (OFW).

Regulatory Framework

SJRWMD Design Criteria

- Water Quality Volume: 0.5 inch of runoff over the entire site or 1.25 inches of runoff over impervious areas (whichever is greater).
- Additional Water Quality Volume: On-line retention of an additional 0.5 inch of runoff from the drainage area beyond the above requirement.
- Water Quantity: Post-development peak discharge rates must be equal to or less than pre-development rates for the 25-year / 24-hour storm.

Florida Department of Transportation (FDOT) Criteria

- For retention systems discharging to FDOT right-of-way or storm systems, the post-development discharge may not exceed the pre-development discharge rates for FDOT-required storms events.
- Open basins must be analyzed for the 3-, 5-, 10-, 25-, 50- and 100-year storm events, with respective durations of 1-, 2-, 4-, 8-, 24- and 72-hours.
- Proposed ponds must have a minimum of 1-foot of freeboard for all FDOT storms.

Permit Exemption Criteria

The project may qualify for an ERP exemption if any of the following conditions are met:

- The project does not significantly alter existing drainage pattern and consists solely of minor roadway safety improvements with no work on wetlands, as per Florida Administrative Code (F.A.C.) sections 62-330.051(4)(c).
- The project results in no more than 4,000 square feet of impervious and semi-impervious surface areas subject to vehicular traffic, as per F.A.C. section 62-330.20 2(b).

Water Quality Rule SB 7040 – Statewide Stormwater Rule

The Statewide Stormwater Rule establishes enhanced stormwater treatment and nutrient control requirements across all Florida Water Management Districts. The following key provisions apply to this project:

- Projects must demonstrate compliance with nutrient reduction goals established under Total Maximum Daily Loads (TMDLs) and Basin Management Action Plans (BMAPs) for impaired waters such as Bald Eagle Creek and Halifax River.
- Required water-quality treatment volumes have increased—typically 0.95 inches of runoff for developed areas, with an additional 50 percent for OFW discharges. Designs must also meet volumetric and performance-based efficiency targets, generally achieving about 80 percent removal of suspended solids and 60 percent removal of nutrients.
- Permit holders must maintain long-term performance and maintenance documentation, and any modification to a permit issued before 2020 must be reassessed under the current standards.
- Projects adding less than 4,000 square feet of impervious area may remain exempt only if no additional discharge or nutrient loading occurs. Even exempt projects located near nutrient-impaired basins must demonstrate no increase in pollutant loads to maintain compliance.
- Project must provide formal Operation and Maintenance (O&M) plan with cost estimates.

ERP & SB 7040 Requirements by Project

Final discharge point is Bald Eagle Creek which is classified as an impaired waterbody and is not designated as an Outstanding Florida Water (OFW).

- Net Added Impervious: +6,529 SF
- The intersections lie entirely within FEMA Zone “X” and outside the 100-year floodplain, as shown on FEMA Flood Insurance Rate Map No. 12127C0369J (dated September 29, 2017)
- ERP Permit Level
 - The overall increase in impervious area is more than 4,000 square feet; therefore, the project does not qualify for an exemption from Water Management District permitting, pursuant to F.A.C. section 62-330.20(2)(b)
 - Individual ERP required due to new impervious coverage
 - Stormwater review required under both SJRWMD and Statewide Rule
- Key ERP Requirements
 - Stormwater quantity attenuation (pre/post discharge rates)

- Water quality treatment to meet statewide minimum standards
- Demonstration of system capacity for design storms per SJRWMD criteria
- SB 7040 Compliance
 - Must meet minimum stormwater treatment performance (TN & TP criteria when applicable)
 - Comprehensive Operations & Maintenance Plan required
 - Annual reporting obligation once rule is effective (12/28/2025)

Utilities Assessment

A Sunshine One-call ticket was processed in December 2025 to identify a listing of potential utilities provided near the study intersection. A list of the various utility companies/agencies shown to have facilities located within the study area is provided in **Appendix D**. It should be noted that listing in the Sunshine ticket does not guarantee definite presence within the corridor.

Design Concepts and Costs

The planning-level design concepts and the corresponding cost estimates were developed for the proposed improvements at the study intersection. The concepts and corresponding costs are provided in **Appendix E**. The cost estimates were based on FDOT's current 12-month moving market average cost obtained on October 31, 2025.

The categories of cost included Design and Construction. Potential ROW cost was not included, however, the construction of a new right turn lane on the west leg of Herbert Street will require approximately 2,480 square feet of proposed ROW. Note that any required compensating storage analysis, stormwater calculations, and potential stormwater infrastructure improvements due to drainage impacts as well as the potential replacement of existing mast arms and other utility impacts will be addressed during the design phase. Also note that flooding and drainage impacts at this study intersection would be considered in the design and construction, including the project's location within the 500-year floodplain and adjacent AE Zone and the area's poor drainage conditions. Percentages were applied to account for the following:

- Project unknowns in construction

- Maintenance of Traffic (MOT)
- Mobilization (MOB)
- Construction Engineering and Inspection (CEI)
- Utility relocation

The estimated cost for the Nova Road and Herbert Street intersection modifications is \$2,037,550 (present day value). The design cost estimates provided by the City of Port Orange were used in the overall cost estimate.

B/C Analysis

To complete the B/C analysis, the anticipated operational and safety benefits of the Build alternative over the 10-year period between opening year 2027 and design year 2037, relative to the No Build alternative, were combined with the estimated construction costs and evaluated using the ICE Economic Analysis. The ICE Economic Analysis Tool provides the net present value (NPV) (for which higher is better) and B/C ratios (overall, delay and safety) of the proposed improvements.

Delay B/C Ratio

For the delay B/C ratio, traffic operational benefits for the Build option relative to the No Build (existing control) were estimated between the years 2027 and 2037 (using the delays shown in **Table 17**) and compared with the corresponding construction cost. The benefits are defined in terms of cost savings associated with a reduction in delay values. The value of delay time per hour (2024 values of \$24.01 for autos and \$80.16 for trucks) from the 2025 Urban Mobility Report published by Texas A&M Transportation Institute was used to determine the cost savings for each improvement option.

Safety B/C Ratio

The safety benefits of the proposed improvements were estimated relative to the No Build (existing control) option using the crash predictions as shown in **Table 16** and crash costs within the FDOT ICE tool. Then these benefits were compared with the corresponding costs to determine the B/C ratio for the proposed improvements.

As shown in **Table 18**, delay, safety, and overall B/C ratios and the Net Present Value (NPV) for the proposed improvements are higher when compared to the No Build alternative. Its favorable net present value (NPV) and benefit–cost (B/C) ratio demonstrate that the long-term operational and safety benefits substantially surpass the initial construction costs. A higher B/C ratio reflects greater benefit per dollar invested, while a higher NPV reflects a greater total net economic gain over the analysis period. The output from the FDOT ICE tool along with the cost estimates are provided in **Appendix E**.

Table 18: Net Present Value (NPV) of Improvements and B/C Ratios Relative to the No Build Alternative

Control Strategy	NPV of Improvement	Delay B/C Ratio	Safety B/C Ratio	Overall B/C Ratio
Build Alternative (Improved Traffic Signal)	\$7,748,960	3.51	1.30	4.80

FEASIBILITY ANALYSIS – NOVA ROAD AND EAGLE LAKE TRAIL

The study intersection is a four-legged stop-controlled intersection with a dedicated left turn lane, two through lanes and a dedicated right turn lane on the northbound approach; a dedicated left turn lane, one through lane and a shared through-right turn lane on the southbound approach; a shared left-through-right lane on the eastbound approach; a right-turn-only lane on the westbound approach. North of this intersection, Nova Road is a five-lane undivided urban roadway, while south of the intersection it is a seven-lane undivided urban roadway. Eagle Lake Trail is a two-lane undivided road east and west of the study intersection.

Based on existing traffic volumes, field observations, historical crash data analysis and input from the City, County, and FDOT, this study evaluated restricting the eastbound left turn/through movements at this intersection to improve safety and operations. The existing left turn/through movements will instead have to turn right and then do a U-turn at the signalized intersection of Nova Road and Dunlawton Avenue. It is to be noted that based on the future operational analysis of the Nova Road and Dunlawton Avenue intersection, the addition of U-turn movements results in only a minor increase in overall intersection delay. In order to improve safety at the intersection, the following elements will need to be accounted for:

- Create a 175-foot dedicated southbound left turn lane from the two-way left-turn lane.
- Construct a new traffic separator with delineators in the median to prevent left turns from Eagle Lake Trail and Park Place Plaza. Based on coordination with the City of Port Orange, porkchop-shaped traffic separators were added on each side street to prevent unsafe left turns that could bypass the median.
- Underground utility conflicts and ROW impacts are not anticipated.

Methodology

The methodology for determining the feasibility of implementing the proposed improvements includes performing a comparison of before (or No Build) and after (Or Build) operating and safety conditions and preparing a B/C analysis for any proposed improvements.

Safety and Operational Benefits

To quantify safety benefits of the proposed improvements, FDOT analysis spreadsheet that uses predictive method for Urban and Suburban Arterials from the Highway Safety Manual (HSM) was used. Since HSM analysis does not include the proposed improvement, a crash modification factor (CMF) for installing a restricted crossing U-turn from the CMF Clearinghouse Web Application was used. To quantify the operational benefits of the proposed improvements at the study intersections, overall intersection delays (seconds per vehicle) were evaluated using Synchro 12 software (Highway Capacity Manual 7th Edition results for two-way stop control). The safety and operational analysis outputs are provided in **Appendix C. Table 19** illustrates the number of opening year and design year crashes predicted for the No Build and Build alternatives. **Table 20** illustrates the opening year and design year overall intersection delays for the No Build and Build alternatives.

Table 19: Crash Prediction Analysis Summary

Alternative	Crash Type	Opening Year (2027)	Design Year (2037)
No Build	Total	3.43	3.83
	Fatal & Injury	1.58	1.76
Build*	Total	1.32	1.48
	Fatal & Injury	0.61	0.68

*Note: *A CMF of 0.385 based on CMF ID 10690 was used to derive predicted number of crashes for the proposed improvement

Table 20: Future Operational Analysis Summary

Alternative	2027 AM		2027 PM		2037 AM		2037 PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
No Build	2.2	A	18.6	B	3.8	A	35.3	D
Build	0.5	A	1.2	A	0.6	A	1.3	A

Note: Overall intersection delay is shown in this table

Based on the summaries presented in Tables 19 and 20, the proposed improvements are expected to enhance both operational performance and safety at the study intersection. The safety benefits are anticipated through the restriction of left turn movements from Eagle Lake Trail and Park Place Plaza (CMF ID 10690 - install restricted crossing u-turn). Historical crash data indicate multiple left-turn and angle crashes at the study intersection, which this improvement is expected to address.

Drainage Assessment.

The proposed intersection improvements are located within the jurisdiction of the St. Johns River Water Management District (SJRWMD). The final outfall for this project discharges to Bald Eagle Creek. The receiving water body is classified as impaired and are not designated as Outstanding Florida Waters (OFW). The regulatory framework is the same as discussed for the Nova Road and Herbert Street intersection.

ERP & SB 7040 Requirements by Project

Final discharge point is Bald Eagle Creek which is classified as an impaired waterbody and is not designated as an Outstanding Florida Water (OFW).

- Net Added Impervious: -165 SF (Net Reduction)
- The intersection lies entirely within FEMA Zone "X" and outside the 100-year floodplain, as shown on FEMA Flood Insurance Rate Map No. 12127C0369J (dated September 29, 2017).
- ERP Permit Level
 - There is no increase in impervious area; therefore, the project qualifies for an exemption from Water Management District permitting, pursuant to F.A.C. section 62-330.20(2)(b)
 - Despite net reduction, ERP review still required if modifying a permitted system
- Key ERP Considerations
 - Documentation of impervious removal
 - Confirmation that stormwater treatment is not degraded
 - Verification that drainage patterns remain compliant
- SB7040 Compliance:
 - Overall impervious coverage is reduced by the added pervious area and in addition, the pervious area provides infiltration benefits. Therefore, an increase in pollutant loading compared to existing conditions is not anticipated.
 - Based on this, the project may qualify for an exemption from new net improvement obligations; however:

- Maintenance of existing system performance must be documented
- Operations & Maintenance documentation is still required

Utilities Assessment

A Sunshine One-call ticket was processed in December 2025 to identify a listing of potential utilities provided near the study intersection. A list of the various utility companies/agencies shown to have facilities located within the study area is provided in **Appendix D**. It should be noted that listing in the Sunshine ticket does not guarantee definite presence within the corridor.

Design Concepts and Costs

The planning-level design concepts and the corresponding cost estimates were developed for the proposed improvements at the study intersection. The concepts and corresponding costs are provided in **Appendix E**. The cost estimates were based on FDOT's current 12-month moving market average cost obtained on October 31, 2025.

The categories of cost included Design and Construction. Potential right of way cost was not included. Percentages were applied to account for the following:

- Design phase
- Project unknowns in construction
- Maintenance of Traffic (MOT)
- Mobilization (MOB)

The estimated cost for the Nova Road and Herbert Street intersection modifications is \$65,000 (present day value). Note that percentage used for the design phase was developed based on coordination with the City of Port Orange.

B/C Analysis

To complete the B/C analysis, the anticipated operational and safety benefits of the Build alternative over the 10-year period between opening year 2027 and design year 2037, relative to the No Build alternative, were combined with the estimated construction costs and evaluated using the ICE Economic Analysis. The ICE Economic Analysis Tool provides the net present value

(NPV) (for which higher is better) and B/C ratios (overall, delay and safety) of the proposed improvements.

Delay B/C Ratio

For the delay B/C ratio, traffic operational benefits for the Build option relative to the No Build (existing control) were estimated between the years 2027 and 2037 (using the delays shown in **Table 20**) and compared with the corresponding construction cost. The benefits are defined in terms of cost savings associated with a reduction in delay values. The value of delay time per hour (2024 values of \$24.01 for autos and \$80.16 for trucks) from the 2025 Urban Mobility Report published by Texas A&M Transportation Institute was used to determine the cost savings for each improvement option.

Safety B/C Ratio

The safety benefits of the proposed improvements were estimated relative to the No Build (existing control) option using the crash predictions as shown **Table 19** and crash costs within the FDOT ICE tool. Then these benefits were compared with the corresponding costs to determine the B/C ratio for the proposed improvements.

As shown in **Table 21**, delay, safety, and overall B/C ratios and the Net Present Value (NPV) for the proposed improvements are higher when compared to the No Build alternative. Its favorable net present value (NPV) and benefit–cost (B/C) ratio demonstrate that the long-term operational and safety benefits substantially surpass the initial construction costs. A higher B/C ratio reflects greater benefit per dollar invested, while a higher NPV reflects a greater total net economic gain over the analysis period. The output from the FDOT ICE tool along with the cost estimates are provided in **Appendix E**.

Table 21: Net Present Value (NPV) of Improvements and B/C Ratios Relative to the No Build Alternative

Control Strategy	NPV of Improvement	Delay B/C Ratio	Safety B/C Ratio	Overall B/C Ratio
Build Alternative (Unsignalized RCUT)	\$11,261,037	112.51	40.44	152.95

RECOMMENDATIONS

Based upon the crash analysis, qualitative assessment, field observations, intersection analysis, B/C analysis and engineering judgment, the following modifications are recommended to improve the safety and operation of the study intersections:

Nova Road and Herbert Street

- Provide exclusive eastbound (320 feet storage) and westbound (165 feet storage) right turn lanes
- Extend the eastbound (to 350 feet storage), westbound (to 320 feet storage), and northbound (to 330 feet storage) left turn lanes
- It is suggested to upgrade the existing lighting at the study intersection to LED lighting to meet the signalized intersection criteria as stated in the latest FDM.
- Consider addressing the current ADA concerns at the time when the proposed improvements are constructed. Please note that the recent signal improvements completed (around November 2025) at this intersection addressed the ADA concerns and included Accessible Pedestrian Signal improvements. However, the other concerns listed in the Qualitative Assessment Section still need to be addressed.

These modifications can be implemented at an approximate cost of \$2,037,550 and yields a B/C ratio of 4.80, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications.

Nova Road at Eagle Lake Trail:

- Create a 175-foot dedicated southbound left turn lane from the two-way left-turn lane.
- Construct a new traffic separator with delineators in the median to prevent left turns and through movement from Eagle Lake Trail and Park Place Plaza.
- Consider addressing the current ADA concerns at the time when the proposed improvements are constructed.

These modifications can be implemented at an approximate cost of \$65,000 and yields a B/C ratio of 152.95, which indicates that the anticipated benefits significantly outweigh the estimated costs for this recommended alternative.

APPENDICES

APPENDIX A-1:
Responses to Comments



Memorandum

To: Stephan Harris, Volusia-Flagler TPO
Johnnie Yongue, City of Port Orange

Date: 02/13/2026

Project #: 064834.02

From: VHB

Re: Responses to Comments on the DRAFT Nova Road Intersection Improvements at Eagle Lake Trail and Herbert Street

Provided below are VHB's responses to comments received from the City of Port Orange on the January 2026 draft report.

1. Confirm the speed limits of Nova Rd Ave at the Eagle Lake Trail intersection, Nova is posted 45 Mph and Eagle Lake Trail itself is designated a 25-mph road on City of Port Orange street map. Nova Road becomes a 50-mph road north of the Herbert Street intersection.

Response: Comment noted. At Eagle Lake Trail intersection, Nova Road is posted as a 45 mph speed limit. But we will note that posted speed becomes 50-mph north of the study intersection. There are not any posted speed limit signs on Eagle Lake Trail; however, 25 mph seems reasonable for a low-volume, local roadway.

2. Clarify what the 20% contingency for the Herbert and Nova intersection design is anticipated to consist

Response: Comment noted. Contingency can consist of multiple items, including but not limited to changes in quantities, additional design elements required as the project progresses to 100% design and construction phases, and increase in unit costs. Typically the percent contingency decreases as the project progresses to final design and construction.

3. Clarify whether anticipated design costs consider drainage improvements along the Herbert and Nova intersection. Drainage impacts would likely create ROW impact and would have a dramatic effect on the BC ratio and should be considered.

Response: Comment noted. The physical items which improve drainage that are not already listed on the cost estimate would be captured in the construction contingency costs. The costs for analyzing these drainage improvements would be captured in the design and design contingency line items.

4. Consider area flooding and drainage impacts in the design and construction of the Herbert and Nova intersection. The description of the area indicates this is Zone X, the turn lanes will be constructed within 500-year floodplain and adjacent AE zone with a base elevation of 7 Feet, this area is prone to poor drainage.

Response: Comment noted. Flooding and drainage impacts at the Herbert Street and Nova Road intersection would be considered in the design and construction, including the project's location within the 500-year floodplain and adjacent AE Zone and the area's poor drainage conditions.

5. Clarify any anticipated contingencies to justify the added 20% design cost for the Eagle Lake Tr and Nova intersection.

Response: Comment noted. In general, projects with a small overall cost are given a high % contingency in planning phases due to the unknown nature of many items. While the exact purpose of a contingency cannot be anticipated, this may include but is not limited to the following: changes in quantities, additional design elements required as the project progresses to 100% design and construction phases and increase in unit costs.

6. SUGGESTION: Consider additional countermeasures to prevent unsafe left turns. Median length may allow vehicles to slip past.

Response: Comment noted. Additional countermeasures will be evaluated as needed including adding a small, "porkchop" shaped traffic separator at each side street (similar to the below image). This would further force side street traffic to make a right turn movement onto Nova Road. Additionally, the currently proposed median delineators could be extended along the double yellow pavement markings to prevent left turn movements from the side streets.



Provided below are VHB's responses to comments received from FDOT on the January 2026 draft report.:

Comment #1: Page 27, 2nd Bullet Point (New signal heads were recently installed on all mast arms, and pedestrian signal upgrades are currently under construction in all quadrants.)

- Please clarify the signal head changes. (Based on StreetView and the photos in the report, it appears that the left-turn 5-section heads were changed to 4-section heads, and an additional 3-section signal head was added for the through lane.)

Response: Comment noted. These changes will be added to the revised report.

- Was the safety history reviewed separately for conditions before and after the signal head change? Was this information incorporated into the benefit/cost analysis when calculating the crash reduction?

Response: Comment noted. The five-year historical crash data analyzed as part of this study predates these improvements (which were completed in early November 2025), and were likely implemented to specifically address angle, left-turn, and rear-end crash patterns. Since these improvements were not part of the cost estimates, they were not included in the B/C analysis. Note that the study goal is to assess the feasibility of the improvements recommended by the City.

Comment #2: Page 31, Typo in the last sentence. Figure 15 depicts 2027 and 2035 turning movement volumes for the study intersections.

- Correct it to '2037'

Response: Comment noted. The report will be revised as needed.

Comment #3: *Page 44, 1st & 2nd Bullet Point (Nova Road and Herbert Street); Page 44, 1st Bullet Point (Nova Road and Eagle Lake Trail)*

- Please explain how the proposed storage lengths were determined.

Response: The proposed storage lengths were determined based on a combination of future conditions analysis, design feasibility and input from the City.

- Was the 95th-percentile queue length calculated? Synchro analysis result doesn't show it.

Response: Synchro outputs will be revised to show the 95th percentile queue lengths. However, note that the storage lengths were not just based on the 95th percentile queue lengths.

- How was the operational impact of the proposed storage length extension evaluated?

Response: Note that the study goal is to assess the feasibility of the improvements recommended by the City. Consistent with the scope, a Synchro analysis was conducted. However, this analysis cannot evaluate the operational impact of storage length extensions.

Comment #4: *Page 44, 3rd Bullet Point (Nova Road and Herbert Street)*

- It appears that a lighting system is provided south of the signalized intersection; however, crash history indicates a high number of nighttime crashes at the intersection itself. If providing lighting north of the intersection is not justified, it appears that lighting should at least be installed at the intersection to address nighttime safety concerns.

Response: Comment noted. The study recommends that intersection lighting be updated to meet the FDM guidelines of a signalized intersection.

Comment #5: *Page 34, Table 16 (Nova Road and Herbert Street); Page 40, Table 19 (Nova Road and Eagle Lake Trail)*

- Please provide the analysis supporting the Fatal & Injury values in the Appendix.

Response: Comment noted. The corresponding sheets will be provided in the Appendix.

Comment #6: *Page 40, Table 20 (Nova Road and Eagle Lake Trail)*

- Please explain how the LOS values were determined because they are not matching the synchro sheets provided in the Appendix.

Response: Please look at the overall intersection delay values (not the individual movement delays) for this intersection (top of the Synchro outputs) in the Appendix, which are used in the ICE Economic Analysis Tool as well.

Comment #7: *Page 40, Table 20 (Nova Road and Eagle Lake Trail)*

- Please explain why no improvements were analyzed for the Nova Road at Dunlawton Ave intersection for the southbound dual left turn lanes with the future u-turn volumes added from the directional median at Eagle Lake Trail.

Response: As mentioned in the study, the addition of U-turns to the Dunlawton Avenue/Nova Road intersection is anticipated to only slightly increase the overall delay. Moreover, the SB left turn movement already has two dedicated left lanes at the Dunlawton Avenue/Nova Road intersection.

Provided below are VHB's responses to comments received from the TPO on the January 2026 draft report.

1. Include picture of study intersection on front cover.

Response: Comment noted. The report will be revised to include the front cover with a picture of the study intersections.

2. Change Port Orange to Sugar Mill on Page 27 of the report.

Response: Comment noted. The report will be revised as needed.

3. Appendix A: Assign numbers to all field photos and indicate facing direction of each photo.

Response: Comment noted. The report appendix will be revised as needed.

4. Appendix E: Round estimated cost numbers to the nearest dollar.

Response: Comment noted. The estimated cost numbers will be rounded to the nearest dollar values.

5. Remove estimated costs for Contingency and Design Contingency.

Response: Comment noted. At the planning-level cost estimating stage, contingencies for both design and construction are included as an industry standard to account for items such as, but not limited to, potential changes in quantities, additional design elements identified as the project advances to 100% design and increases in unit costs. Contingency percentages typically decrease as the project progresses through final design and into construction. As such, we suggest keeping these contingency costs in the overall estimate.

Provided below are VHB's responses to comments received from the Volusia County on the January 2026 draft report.

1. Extensive utility work and replacement of the existing two double mast arms.

Response: Comment noted.

2. The crash analysis identifies a predominance of rear-end and angle crashes; however, the study does not sufficiently evaluate whether these crash types are associated with:

- a. Queue spillback from downstream signal operations,
- b. Unbalanced approach speeds on Nova Road,
- c. Signal timing inefficiencies or clearance interval deficiencies.

Response: Comment noted.

Nova Road and Herbert Street: Based on a review of the available crash data and, more importantly, field observations, queue spillback from adjacent downstream signals was not observed at the study intersection.

Similarly, no issues related to unbalanced approach speeds or signal timing/clearance timing deficiencies along Nova Road were observed during field reviews.

With respect to signal timing and clearance intervals, it should be noted that FDOT recently implemented safety and signal upgrades at this intersection (completed in early November 2025). These improvements included converting five-section signal heads to four-section flashing yellow arrow (FYA) heads, along with pedestrian crossing enhancements and other operational improvements. The five-year historical crash data analyzed as part of this study predates these improvements, and the recent FDOT upgrades were likely implemented to specifically address angle, left-turn, and rear-end crash patterns. As such, the full operational and safety effects of these improvements are not yet reflected in the available crash data. Also note that the proposed improvements at this intersection are anticipated to reduce the number of rear-end rashes at this intersection.

Nova Road and Eagle Lake Trail: The proposed improvement specifically targets the predominant left and angle crashes at this intersection.

3. Please quantify the frequency and extent of queue spillback risk and discuss potential impacts to:
 - a. Upstream driveways,
 - b. Adjacent intersections,
 - c. Rear-end crash potential.

Response: Comment noted.

Nova Road and Herbert Street: Both the frequency of queue spillback to adjacent driveways (noting that there are no major nearby intersections) and the potential for rear-end crashes are anticipated to be considerably reduced compared to existing conditions as a result of the proposed improvements. In addition, the recent safety and signal improvements completed by FDOT are also expected to further reduce crash potential at this intersection, although the benefits of these improvements are not yet fully reflected in the available historical crash data.

Nova Road and Eagle Lake Trail: The study already accounted for the impacts to the Nova Road and Dunlawton Avenue intersection resulting from the restriction of left-turn movements from the side street. The proposed improvements at this intersection are not expected to impact other nearby driveways or intersections.



Follow-up Comments received on 2/19/2026

VHB Response #2 & #3: "Comment noted"

Please confirm the report will be revised to notate design analysis will be needed for floodplain, compensating storage, stormwater calculations, and potential stormwater infrastructure improvements due to drainage system impacts.

Additionally, because Volusia County staff comments noted the extensive utility work and replacement of existing 2 double mast arms, please confirm the report narrative includes analysis and design of these elements.

Response: Yes, this will be added in the revised Report.

VHB Response #4: "Comment noted"

Confirm the report will be revised to include "Flooding and drainage impacts at the Herbert Street and Nova Road intersections will be considered in the design and construction, including the project's location within the 500-year floodplain and adjacent AE zone and the area's poor drainage conditions."

Response: Yes, this will be added in the revised Report.

VHB Response #5: "Comment noted"

In our experience, the Feasibility Study will be exclusively relied upon to forecast and analyze design costs, and also, the project is noted as "small". Please confirm the minimum design tasks that will be required of the design consultant and their subconsultants including roadway, drainage, utility coordination, survey, geotechnical, signal design, cultural resources, stormwater infrastructure modification or replacement, etc. As the TPO has inferred, contingency line items are typically not included or considered in the evaluation of funding. We request adding line items for the additional elements described herein, including survey, geotechnical, and cultural resources under design and providing an estimated fee for each.

Response: The city provided updated design phase costs on 03/17/2026 based on additional coordination. These updated design phase costs were used in the final study.

VHB Response #6: "Comment noted"

Confirm the report will be revised to include "Additional countermeasures will be evaluated as needed including adding a small "porkchop" shaped traffic separator at each side street. Additionally, the currently proposed median delineators could be extended along the double yellow pavement markings to prevent left turn movements from the side streets."

Response: Yes, this will be added in the revised Report.

APPENDIX A-2:
Traffic Data & Field Photos

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : October 2, 2025
 Stop Date : October 2, 2025
 County : Volusia

Start Time : 00:00
 Stop Time : 24:00
 Station Number : -
 Equipment ID : 444

Location : Nova Road, north of Herbert Street

2-Oct-25 Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	23	12	5	10	21	16	70	144	235	241	230	214
30	18	13	9	7	11	50	76	222	257	209	210	187
45	15	13	10	18	16	42	118	275	216	222	225	206
00	15	5	12	11	15	70	132	311	211	207	206	234
Hr Total	71	43	36	46	63	178	396	952	919	879	871	841

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	239	261	273	299	257	325	219	166	187	95	83	34
30	203	226	263	237	331	321	217	172	131	82	50	44
45	234	253	241	239	338	233	199	159	138	72	49	25
00	234	229	263	246	260	253	172	147	105	67	51	27
Hr Total	910	969	1,040	1,021	1,186	1,132	807	644	561	316	233	130

24 Hour Total : 14,244
 AM Peak Hour begins : 7:30
 PM Peak Hour begins : 16:15

AM Peak Volume : 1,078
 PM Peak Volume : 1,254
 AM Peak Hour Factor : 0.87
 PM Peak Hour Factor : 0.93

2-Oct-25 Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	24	12	16	9	16	35	57	162	255	217	194	199
30	21	10	9	6	11	40	101	207	265	231	212	227
45	22	14	7	10	18	45	102	262	238	220	226	201
00	27	19	9	10	27	55	122	319	260	184	212	256
Hr Total	94	55	41	35	72	175	382	950	1,018	852	844	883

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	228	261	244	290	297	353	205	168	158	105	71	35
30	239	230	266	269	322	284	263	166	119	74	79	42
45	292	260	266	311	307	330	208	178	93	62	51	22
00	268	261	260	315	318	261	224	118	98	57	32	25
Hr Total	1,027	1,012	1,036	1,185	1,244	1,228	900	630	468	298	233	124

24 Hour Total : 14,786
 AM Peak Hour begins : 7:30
 PM Peak Hour begins : 16:15

AM Peak Volume : 1,101
 PM Peak Volume : 1,300
 AM Peak Hour Factor : 0.86
 PM Peak Hour Factor : 0.92

2-Oct-25 Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	47	24	21	19	37	51	127	306	490	458	424	413
30	39	23	18	13	22	90	177	429	522	440	422	414
45	37	27	17	28	34	87	220	537	454	442	451	407
00	42	24	21	21	42	125	254	630	471	391	418	490
Hr Total	165	98	77	81	135	353	778	1,902	1,937	1,731	1,715	1,724

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	467	522	517	589	554	678	424	334	345	200	154	69
30	442	456	529	506	653	605	480	338	250	156	129	86
45	526	513	507	550	645	563	407	337	231	134	100	47
00	502	490	523	561	578	514	396	265	203	124	83	52
Hr Total	1,937	1,981	2,076	2,206	2,430	2,360	1,707	1,274	1,029	614	466	254

24 Hour Total : 29,030
 AM Peak Hour begins : 7:30
 PM Peak Hour begins : 16:15

AM Peak Volume : 2,179
 PM Peak Volume : 2,554
 AM Peak Hour Factor : 0.87
 PM Peak Hour Factor : 0.94

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : October 2, 2025
 Stop Date : October 2, 2025
 County : Volusia

Start Time : 00:00
 Stop Time : 24:00
 Station Number : -
 Equipment ID : 622

Location : Herbert Street, west of Nova Road

2-Oct-25

Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	6	2	1	2	2	7	34	55	71	92	54	58
30	4	5	0	4	5	15	31	74	71	88	59	82
45	8	4	3	4	4	8	29	110	83	124	76	63
00	2	1	1	0	4	20	37	68	94	69	78	60
Hr Total	20	12	5	10	15	50	131	307	319	373	267	263

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	69	69	47	51	47	100	72	55	87	29	16	9
30	60	48	58	54	115	77	60	59	45	28	4	5
45	60	66	71	52	118	88	55	86	42	19	15	10
00	62	62	51	32	71	67	48	64	21	17	6	2
Hr Total	251	245	227	189	351	332	235	264	195	93	41	26

24 Hour Total : 4,221
 AM Peak Hour begins : 8:45
 PM Peak Hour begins : 16:15

AM Peak Volume : 398
 PM Peak Volume : 404
 AM Peak Hour Factor : 0.80
 PM Peak Hour Factor : 0.86

2-Oct-25

Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	2	5	0	4	2	5	26	68	111	47	37
30	4	6	10	2	4	8	26	46	44	100	55	48
45	3	5	1	5	4	16	23	63	61	46	46	37
00	10	4	2	2	3	7	36	78	112	50	42	66
Hr Total	24	17	18	9	15	33	90	213	285	307	190	188

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	45	57	74	93	74	116	88	46	23	24	12	1
30	77	69	65	71	105	125	82	70	31	22	15	12
45	69	69	77	106	105	119	55	62	28	17	6	10
00	63	67	88	89	91	88	58	48	37	15	11	5
Hr Total	254	262	304	359	375	448	283	226	119	78	44	28

24 Hour Total : 4,169
 AM Peak Hour begins : 8:30
 PM Peak Hour begins : 16:45

AM Peak Volume : 384
 PM Peak Volume : 451
 AM Peak Hour Factor : 0.86
 PM Peak Hour Factor : 0.90

2-Oct-25

Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	13	4	6	2	6	9	39	81	139	203	101	95
30	8	11	10	6	9	23	57	120	115	188	114	130
45	11	9	4	9	8	24	52	173	144	170	122	100
00	12	5	3	2	7	27	73	146	206	119	120	126
Hr Total	44	29	23	19	30	83	221	520	604	680	457	451

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	114	126	121	144	121	216	160	101	110	53	28	10
30	137	117	123	125	220	202	142	129	76	50	19	17
45	129	135	148	158	223	207	110	148	70	36	21	20
00	125	129	139	121	162	155	106	112	58	32	17	7
Hr Total	505	507	531	548	726	780	518	490	314	171	85	54

24 Hour Total : 8,390
 AM Peak Hour begins : 8:45
 PM Peak Hour begins : 16:15

AM Peak Volume : 767
 PM Peak Volume : 821
 AM Peak Hour Factor : 0.93
 PM Peak Hour Factor : 0.92

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : October 2, 2025
 Stop Date : October 2, 2025
 County : Volusia

Start Time : 00:00
 Stop Time : 24:00
 Station Number : -
 Equipment ID : 601

Location : Herbert Street, east of Nova Road

2-Oct-25 Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	4	4	5	0	1	1	11	38	32	37	31	32
30	7	1	0	0	0	5	12	58	46	41	29	40
45	3	1	5	3	2	8	23	58	38	38	45	48
00	3	1	2	2	1	5	32	54	42	38	49	45
Hr Total	17	7	12	5	4	19	78	208	158	154	154	165

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	57	58	47	55	39	77	54	44	38	16	11	12
30	50	44	49	43	62	60	71	30	29	27	7	4
45	38	51	59	59	84	56	46	33	24	13	11	7
00	57	64	58	72	63	39	42	36	14	15	6	3
Hr Total	202	217	213	229	248	232	213	143	105	71	35	26

24 Hour Total : 2,915
 AM Peak Hour begins : 7:00 AM Peak Volume : 208 AM Peak Hour Factor : 0.90
 PM Peak Hour begins : 16:15 PM Peak Volume : 286 PM Peak Hour Factor : 0.85

2-Oct-25 Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	3	1	0	1	2	1	11	24	52	61	35	34
30	9	2	3	2	3	2	27	64	41	42	40	41
45	1	2	3	2	3	11	27	80	57	36	49	43
00	6	0	0	5	7	10	25	90	54	51	34	53
Hr Total	19	5	6	10	15	24	90	258	204	190	158	171

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	48	36	54	63	69	64	49	36	21	21	14	4
30	56	55	47	58	65	79	49	35	30	11	7	6
45	53	48	73	64	55	58	39	31	28	12	10	3
00	51	45	88	54	66	59	45	36	17	14	5	2
Hr Total	208	184	262	239	255	260	182	138	96	58	36	15

24 Hour Total : 3,083
 AM Peak Hour begins : 7:15 AM Peak Volume : 286 AM Peak Hour Factor : 0.79
 PM Peak Hour begins : 14:30 PM Peak Volume : 282 PM Peak Hour Factor : 0.80

2-Oct-25 Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	7	5	5	1	3	2	22	62	84	98	66	66
30	16	3	3	2	3	7	39	122	87	83	69	81
45	4	3	8	5	5	19	50	138	95	74	94	91
00	9	1	2	7	8	15	57	144	96	89	83	98
Hr Total	36	12	18	15	19	43	168	466	362	344	312	336

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	105	94	101	118	108	141	103	80	59	37	25	16
30	106	99	96	101	127	139	120	65	59	38	14	10
45	91	99	132	123	139	114	85	64	52	25	21	10
00	108	109	146	126	129	98	87	72	31	29	11	5
Hr Total	410	401	475	468	503	492	395	281	201	129	71	41

24 Hour Total : 5,998
 AM Peak Hour begins : 7:15 AM Peak Volume : 488 AM Peak Hour Factor : 0.85
 PM Peak Hour begins : 16:30 PM Peak Volume : 548 PM Peak Hour Factor : 0.97

Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

Start Date : October 2, 2025
 Stop Date : October 2, 2025
 County : Volusia

Start Time : 00:00
 Stop Time : 24:00
 Station Number : -
 Equipment ID : 531

Location : Eagle Lake Trail, west of Nova Road

2-Oct-25

Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	4	2	0	0	1	0	0	10	7	23	9	11
30	0	0	2	0	1	2	6	7	7	9	6	14
45	0	1	0	0	0	1	10	11	5	10	13	7
00	1	0	0	1	1	2	4	9	10	11	6	18
Hr Total	5	3	2	1	3	5	20	37	29	53	34	50

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	15	15	17	11	15	16	12	3	7	2	7	0
30	16	9	13	10	16	17	11	5	7	1	1	2
45	10	7	6	14	14	8	11	11	6	4	3	3
00	10	11	9	14	11	9	15	4	4	2	5	2
Hr Total	51	42	45	49	56	50	49	23	24	9	16	7

24 Hour Total : 663
 AM Peak Hour begins : 11:45
 PM Peak Hour begins : 15:30

AM Peak Volume : 59
 PM Peak Volume : 59
 AM Peak Hour Factor : 0.82
 PM Peak Hour Factor : 0.92

2-Oct-25

Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	1	0	0	0	0	0	2	0	13	10	6	11
30	2	1	0	0	1	0	1	6	12	10	5	9
45	1	1	0	0	1	0	4	11	4	9	7	6
00	0	1	0	0	0	2	5	14	10	6	8	1
Hr Total	4	3	0	0	2	2	12	31	39	35	26	27

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	11	10	13	17	16	8	6	8	3	4	1	3
30	8	4	9	5	11	5	12	4	9	0	4	0
45	6	8	12	13	11	12	10	8	2	2	1	3
00	10	5	5	11	15	5	5	4	4	2	3	1
Hr Total	35	27	39	46	53	30	33	24	18	8	9	7

24 Hour Total : 510
 AM Peak Hour begins : 7:30
 PM Peak Hour begins : 16:00

AM Peak Volume : 50
 PM Peak Volume : 53
 AM Peak Hour Factor : 0.89
 PM Peak Hour Factor : 0.83

2-Oct-25

Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	5	2	0	0	1	0	2	10	20	33	15	22
30	2	1	2	0	2	2	7	13	19	19	11	23
45	1	2	0	0	1	1	14	22	9	19	20	13
00	1	1	0	1	1	4	9	23	20	17	14	19
Hr Total	9	6	2	1	5	7	32	68	68	88	60	77

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	26	25	30	28	31	24	18	11	10	6	8	3
30	24	13	22	15	27	22	23	9	16	1	5	2
45	16	15	18	27	25	20	21	19	8	6	4	6
00	20	16	14	25	26	14	20	8	8	4	8	3
Hr Total	86	69	84	95	109	80	82	47	42	17	25	14

24 Hour Total : 1,173
 AM Peak Hour begins : 8:45
 PM Peak Hour begins : 15:30

AM Peak Volume : 91
 PM Peak Volume : 110
 AM Peak Hour Factor : 0.69
 PM Peak Hour Factor : 0.89

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Herbert Street
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS: 8 to 9 AM & 1 to 6 PM

COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

ALL VEHICLES / ALL MOVEMENTS

Direction	Northbound						Southbound						Eastbound						Westbound						EW Total	Grand Total	
	NBU	NBL	NBT	NBR	NBRTOR	Total	SBU	SBL	SBT	SBR	SBRTOR	Total	NS Total	EBU	EBL	EBT	EBR	EBRTOR	Total	WBU	WBL	WBT	WBR	WBRTOR			Total
7:00 AM	0	5	123	12	0	140	1	8	117	7	2	135	275	0	13	21	8	2	44	0	8	3	4	4	19	63	338
7:15 AM	0	13	149	15	4	181	0	8	143	8	7	166	347	0	23	32	13	0	68	0	28	12	13	2	55	123	470
7:30 AM	0	10	205	10	0	225	0	14	210	14	4	242	467	0	37	23	17	6	83	0	39	25	13	0	77	160	627
7:45 AM	1	20	225	9	2	257	0	14	227	13	12	266	523	0	21	24	10	2	57	0	38	28	12	1	79	136	659
Total	1	48	702	46	6	803	1	44	697	42	25	809	1,612	0	94	100	48	10	252	0	113	68	42	7	230	482	2,094
8:00 AM	0	15	190	4	1	210	0	11	197	17	11	236	446	0	17	13	13	6	49	0	17	24	8	4	53	102	548
8:15 AM	0	14	200	10	2	226	0	12	189	6	11	218	444	0	15	20	26	1	62	0	21	16	4	2	43	105	549
8:30 AM	0	24	184	5	2	215	0	10	176	13	8	207	422	0	17	20	18	2	57	0	23	29	4	2	58	115	537
8:45 AM	0	23	152	5	2	182	0	14	193	28	10	245	427	0	24	24	20	3	71	0	17	32	7	1	57	128	555
Total	0	76	726	24	7	833	0	47	755	64	40	906	1,739	0	73	77	77	12	239	0	78	101	23	9	211	450	2,189
9:00 AM	0	22	189	7	3	221	0	7	151	31	12	201	422	0	22	16	24	8	70	0	9	32	10	4	55	125	547
9:15 AM	0	21	160	7	3	191	1	9	164	26	8	208	399	0	24	15	24	3	66	0	12	24	5	3	44	110	509
9:30 AM	0	12	155	7	3	177	0	10	172	14	4	200	377	0	36	22	33	1	92	0	17	13	3	2	35	127	504
9:45 AM	0	11	168	10	3	192	0	5	155	15	3	178	370	0	6	21	18	2	47	0	23	11	3	5	42	89	459
Total	0	66	672	31	12	781	1	31	642	86	27	787	1,568	0	88	74	99	14	275	0	61	80	21	14	176	451	2,019
12:00 PM	0	11	193	20	2	226	0	6	189	6	6	207	433	0	22	24	17	8	71	0	22	18	10	2	52	123	556
12:15 PM	0	25	158	19	3	205	0	10	203	18	5	236	441	0	16	16	16	5	53	0	25	26	4	1	56	109	550
12:30 PM	0	25	156	13	5	199	0	13	223	14	2	252	451	0	18	16	18	7	59	0	29	21	8	4	62	121	572
12:45 PM	0	30	196	24	2	252	0	11	243	13	2	269	521	0	16	18	12	4	50	0	29	12	8	1	50	100	621
Total	0	91	703	76	12	882	0	40	858	51	15	964	1,846	0	72	74	63	24	233	0	105	77	30	8	220	453	2,299
2:00 PM	0	23	237	17	3	280	0	16	222	12	5	255	535	0	15	17	6	2	40	0	29	16	8	2	55	95	630
2:15 PM	0	19	193	23	5	240	0	10	222	17	4	253	493	0	13	21	18	5	57	0	27	18	7	4	56	113	606
2:30 PM	0	18	203	24	0	245	0	15	234	20	1	270	515	0	17	24	16	2	59	0	22	26	11	1	60	119	634
2:45 PM	0	27	217	23	0	267	0	15	213	15	4	247	514	0	9	18	15	3	45	0	41	32	14	3	90	135	649
Total	0	87	850	87	8	1,032	0	56	891	64	14	1,025	2,057	0	54	80	55	12	201	0	119	92	40	10	261	462	2,519
3:00 PM	0	33	219	18	4	274	0	20	237	16	3	276	550	0	16	13	20	3	52	0	27	31	9	5	72	124	674
3:15 PM	0	20	207	24	6	257	0	8	255	18	3	284	541	0	14	10	14	6	44	0	27	19	13	5	64	108	649
3:30 PM	0	26	175	20	2	223	0	20	227	28	8	283	506	0	11	20	16	2	49	0	24	27	9	3	63	112	618
3:45 PM	0	33	197	32	3	265	0	24	251	35	5	315	580	0	7	12	8	5	32	0	30	18	7	7	62	94	674
Total	0	112	798	94	15	1,019	0	72	970	97	19	1,158	2,177	0	48	55	58	16	177	0	108	95	38	20	261	438	2,615
4:00 PM	0	31	232	20	1	284	0	21	230	19	6	276	560	0	14	6	10	13	43	0	24	18	15	3	60	103	663
4:15 PM	0	26	204	20	5	255	0	15	248	30	4	297	552	0	51	33	28	2	114	0	32	19	19	2	72	186	738
4:30 PM	0	25	244	29	3	301	0	20	249	18	3	290	591	0	42	25	30	3	100	0	27	22	8	4	61	161	752
4:45 PM	1	37	207	25	2	272	0	17	253	22	6	298	570	0	24	28	20	5	77	0	28	31	21	1	81	158	728
Total	1	119	887	94	11	1,112	0	73	980	89	19	1,161	2,273	0	131	92	88	23	334	0	111	90	63	10	274	608	2,881
5:00 PM	0	27	247	37	2	313	1	24	266	36	7	334	647	0	28	32	28	7	95	0	26	32	14	3	75	170	817
5:15 PM	0	29	237	32	0	298	0	22	228	35	4	289	587	0	27	16	17	8	68	0	26	35	21	1	83	151	738
5:30 PM	0	44	174	13	1	232	1	16	231	19	8	275	507	0	20	30	25	7	82	0	33	26	10	1	70	152	659
5:45 PM	0	34	208	22	3	267	0	19	219	23	4	265	532	0	14	16	16	14	60	0	27	17	12	4	60	120	652
Total	0	134	866	104	6	1,110	2	81	944	113	23	1,163	2,273	0	89	94	86	36	305	0	112	110	57	9	288	593	2,866

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Herbert Street
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS: 8 to 9 AM & 1 to 6 PM

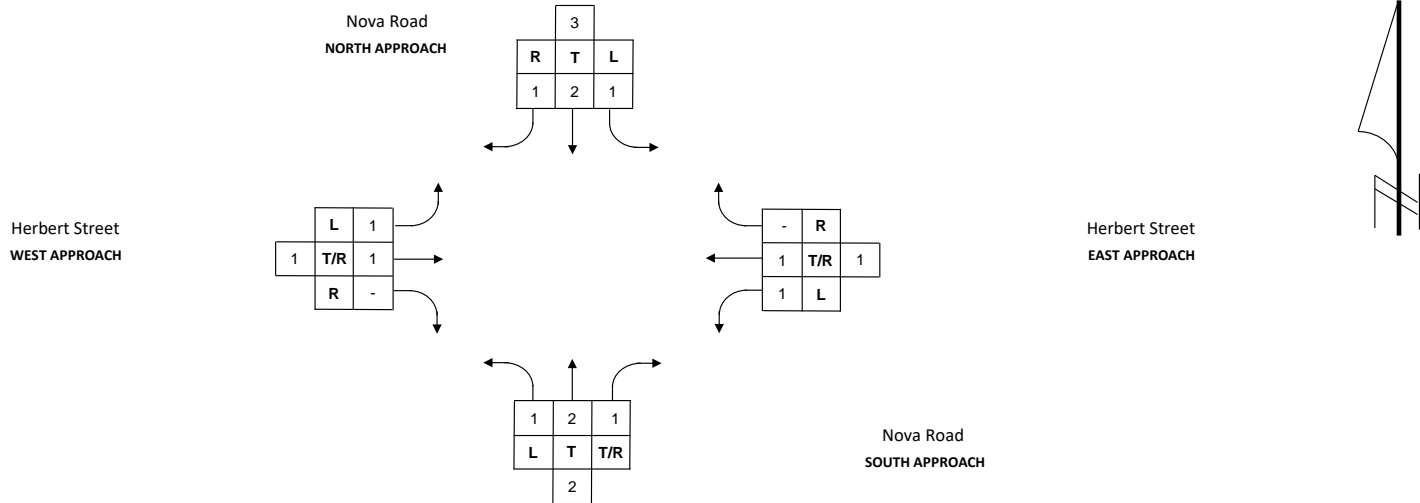
COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

HEAVY VEHICLES (TRUCKS + BUSES)

Direction Start Time	Northbound					Total	Southbound					NS Total	Eastbound					Total	Westbound					EW Total	Grand Total				
	NBU	NBL	NBT	NBR	NBRTOR		SBU	SBL	SBT	SBR	SBRTOR		EBU	EBL	EBT	EBR	EBRTOR		WBU	WBL	WBT	WBR	WBRTOR						
7:00 AM	0	0	1	0	0	1	0	0	8	0	0	0	8	9	0	0	2	0	0	0	2	0	0	0	0	0	0	2	11
7:15 AM	0	0	1	3	0	4	0	0	3	0	0	3	7	0	0	0	0	0	0	0	0	1	0	0	0	0	1	8	
7:30 AM	0	0	3	0	0	3	0	1	4	1	0	6	9	0	0	1	1	3	0	0	0	0	0	0	0	0	3	12	
7:45 AM	0	1	0	0	0	1	0	0	2	0	0	2	3	0	1	0	0	0	0	1	0	0	0	0	0	0	1	4	
Total	0	1	5	3	0	9	0	1	17	1	0	19	28	0	1	3	1	6	0	1	0	0	0	0	1	7	35		
8:00 AM	0	0	2	0	0	2	0	0	9	0	1	10	12	0	1	0	0	0	1	0	0	1	0	0	0	1	2	14	
8:15 AM	0	0	6	1	0	7	0	0	7	0	0	7	14	0	0	0	1	0	1	0	1	0	0	0	0	1	2	16	
8:30 AM	0	0	2	0	0	2	0	0	6	0	1	7	9	0	0	0	1	0	1	0	0	1	0	0	0	1	2	11	
8:45 AM	0	1	5	0	0	6	0	0	1	1	0	2	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Total	0	1	15	1	0	17	0	0	23	1	2	26	43	0	1	0	2	0	3	0	1	2	0	0	3	6	49		
9:00 AM	0	2	2	0	0	4	0	0	2	1	0	3	7	0	0	0	0	0	0	0	0	2	0	0	0	2	2	9	
9:15 AM	0	0	8	1	0	9	0	0	7	0	0	7	16	0	0	0	1	0	1	0	0	0	0	0	0	0	1	17	
9:30 AM	0	0	2	0	0	2	0	1	3	0	0	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
9:45 AM	0	1	2	0	0	3	0	0	5	0	0	5	8	0	0	0	2	0	0	2	0	0	0	0	0	0	2	10	
Total	0	3	14	1	0	18	0	1	17	1	0	19	37	0	0	0	3	0	3	0	2	0	0	0	2	5	42		
12:00 PM	0	0	3	1	0	4	0	0	4	0	0	4	8	0	1	0	0	0	1	0	0	0	0	0	0	0	1	9	
12:15 PM	0	0	3	1	0	4	0	0	6	0	0	6	10	0	0	1	0	0	1	0	0	1	2	0	0	3	4	14	
12:30 PM	0	1	3	0	1	5	0	0	3	1	0	4	9	0	1	0	0	0	0	1	0	0	0	0	0	0	1	10	
12:45 PM	0	1	4	1	0	6	0	1	5	2	0	8	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
Total	0	2	13	3	1	19	0	1	18	3	0	22	41	0	2	1	0	3	0	1	2	0	0	0	3	6	47		
2:00 PM	0	0	3	1	0	4	0	0	3	0	0	3	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
2:15 PM	0	0	4	1	0	5	0	0	3	0	0	3	8	0	0	0	1	0	1	0	1	0	0	0	0	1	2	10	
2:30 PM	0	2	4	1	0	7	0	0	4	1	0	5	12	0	0	1	0	0	1	0	0	3	2	0	0	5	6	18	
2:45 PM	0	1	1	0	0	2	0	1	4	2	0	7	9	0	0	0	1	0	1	0	1	0	1	1	0	2	3	12	
Total	0	3	12	3	0	18	0	1	14	3	0	18	36	0	0	1	2	0	3	0	2	4	2	0	8	11	47		
3:00 PM	0	1	5	0	0	6	0	0	4	0	0	4	10	0	0	0	1	0	1	0	0	0	0	0	0	0	1	11	
3:15 PM	0	0	4	0	1	5	0	0	6	0	0	6	11	0	1	0	1	0	2	0	0	0	1	0	0	1	3	14	
3:30 PM	0	0	3	0	0	3	0	0	2	1	0	3	6	0	0	1	0	1	0	0	2	0	0	0	2	3	9		
3:45 PM	0	0	3	0	0	3	0	0	1	0	0	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	
Total	0	1	15	0	1	17	0	0	13	1	0	14	31	0	1	0	3	0	4	0	0	2	1	0	3	7	38		
4:00 PM	0	0	2	0	0	2	0	1	2	0	0	3	5	0	0	0	1	0	1	0	1	1	0	0	0	2	3	8	
4:15 PM	0	0	5	1	0	6	0	0	1	2	0	3	9	0	0	0	1	0	1	0	0	0	0	0	0	0	1	10	
4:30 PM	0	0	2	0	0	2	0	0	2	2	0	4	6	0	3	1	2	0	6	0	0	1	0	0	0	1	7	13	
4:45 PM	0	0	1	0	0	1	0	0	3	0	1	4	5	0	2	1	0	0	3	0	0	0	0	0	0	0	3	8	
Total	0	0	10	1	0	11	0	1	8	4	1	14	25	0	5	2	4	0	11	0	1	2	0	0	3	14	39		
5:00 PM	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	1	1	2	
5:15 PM	0	0	5	1	0	6	0	0	1	0	0	1	7	0	0	0	1	0	1	0	1	0	0	0	0	1	2	9	
5:30 PM	0	0	3	0	0	3	0	0	4	0	0	4	7	0	0	0	1	0	1	0	0	0	0	0	0	0	1	8	
5:45 PM	0	0	3	0	0	3	0	0	2	0	0	2	5	0	0	0	0	0	0	0	1	0	0	0	0	1	1	6	
Total	0	0	12	1	0	13	0	0	7	0	0	7	20	0	0	0	2	0	2	0	2	0	1	0	3	5	25		

**MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS**

MAJOR ROUTE: Nova Road	CITY: Port Orange	COUNTY: Volusia
OBSERVER: VHB	INTERSECTING ROUTE: Herbert Street	COMPLETED BY: MW
WEATHER: Good	DATE: 10/2/25	DATE COMPLETED: 10/2/25
REMARKS:	ROAD CONDITION: Good	



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR		TOT	E/W
7:00 - 8:00	1	48	702	46	6	803	1	44	697	42	25	809	1,612	0	94	100	48	10	252	0	113	68	42	7	230	482
8:00 - 9:00	0	76	726	24	7	833	0	47	755	64	40	906	1,739	0	73	77	77	12	239	0	78	101	23	9	211	450
9:00 - 10:00	0	66	672	31	12	781	1	31	642	86	27	787	1,568	0	88	74	99	14	275	0	61	80	21	14	176	451
12:00 - 13:00	0	91	703	76	12	882	0	40	858	51	15	964	1,846	0	72	74	63	24	233	0	105	77	30	8	220	453
14:00 - 15:00	0	87	850	87	8	1,032	0	56	891	64	14	1,025	2,057	0	54	80	55	12	201	0	119	92	40	10	261	462
15:00 - 16:00	0	112	798	94	15	1,019	0	72	970	97	19	1,158	2,177	0	48	55	58	16	177	0	108	95	38	20	261	438
16:00 - 17:00	1	119	887	94	11	1,112	0	73	980	89	19	1,161	2,273	0	131	92	88	23	334	0	111	90	63	10	274	608
17:00 - 18:00	0	134	866	104	6	1,110	2	81	944	113	23	1,163	2,273	0	89	94	86	36	305	0	112	110	57	9	288	593
TOTAL	1	766	6,241	580	90	7,678	5	477	6,746	619	185	8,032	15,710	0	598	626	570	155	1,949	0	744	736	313	85	1,878	3,827

Percentage	0.0%	10.0%	81.3%	7.6%	1.2%	100.0%	0.1%	5.9%	84.0%	7.7%	2.3%	100.0%	N/A	0.0%	30.7%	32.1%	29.2%	8.0%	100.0%	0.0%	39.6%	39.2%	16.7%	4.5%	100.0%	N/A
Maximum	1	134	887	104	20	1,112	2	81	980	113	40	1,163	2,273	0	131	94	99	36	334	0	119	110	63	20	288	608
Minimum	0	66	650	24	6	781	0	31	642	41	14	787	1,568	0	48	55	43	12	177	0	61	80	21	5	176	398
Total Heavy Veh	19		158	17	3	197	10		174	17	5	206	403	19		11	19	1	50	12		17	5	0	34	84
% Heavy Veh	2.5%		2.5%	3.0%		2.6%	2.1%		2.6%	2.7%		2.6%	2.6%	3.2%		1.8%	2.8%		2.6%	1.6%		2.3%	1.3%		1.8%	2.2%

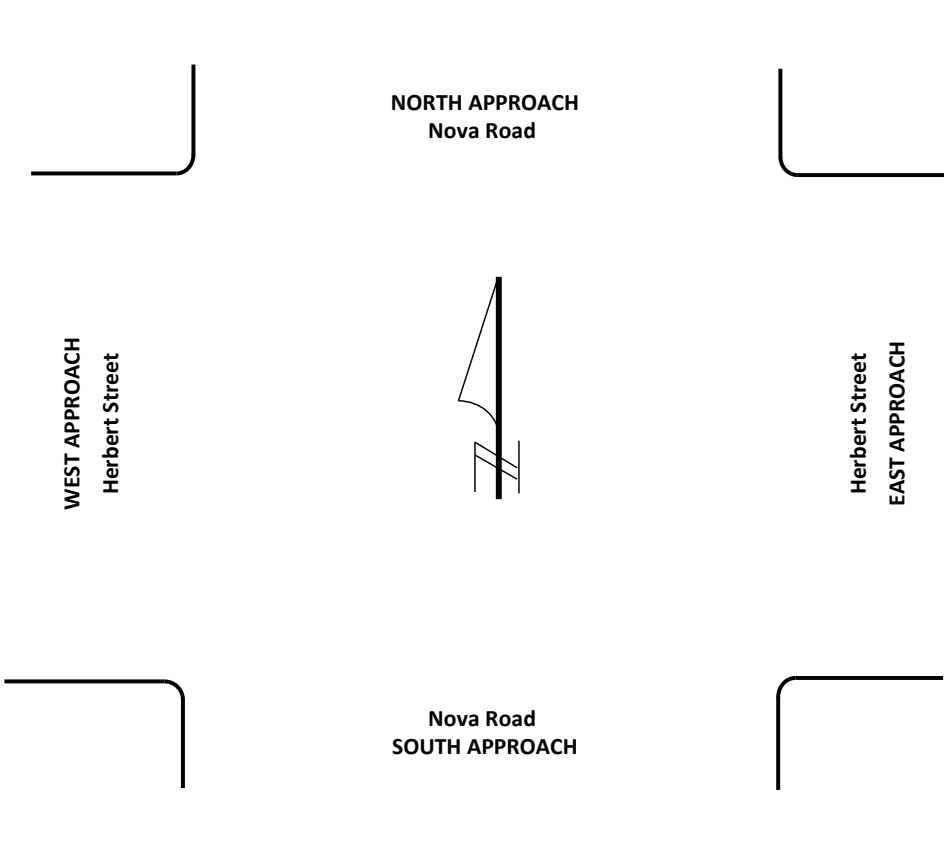
**MetroPlan Orlando
PEDESTRIAN MOVEMENT SUMMARY**

MAJOR ROUTE Nova Road
OBSERVER VHB
COUNTY Volusia
COUNT HOURS 8 to 9 AM & 1 to 6 PM

CITY Port Orange
INTERSECTING ROUTE Herbert Street
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total	
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2
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
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2

0-1	1-2	2-3	3-4
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	0	0
0	0	0	0
0	0	0	0
0	0	0	0
2	0	0	2
0	0	0	0
1	0	1	1
0	0	0	0
1	1	2	2
0	3	3	3
0	0	0	0
0	0	0	0
0	3	3	3
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
4	7	11	



0-1	1-2	2-3	3-4
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	0	0
0	0	0	0
0	1	1	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	1	1
0	1	1	1
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	4	5	

0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total	
0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	2	0	0	0	0	0	0	0	5
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5	0	1	0	0	0	0	0	0	8
0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	2	5	2	1	0	0	0	0	0	0	13

**MetroPlan Orlando
BICYCLE MOVEMENT SUMMARY**

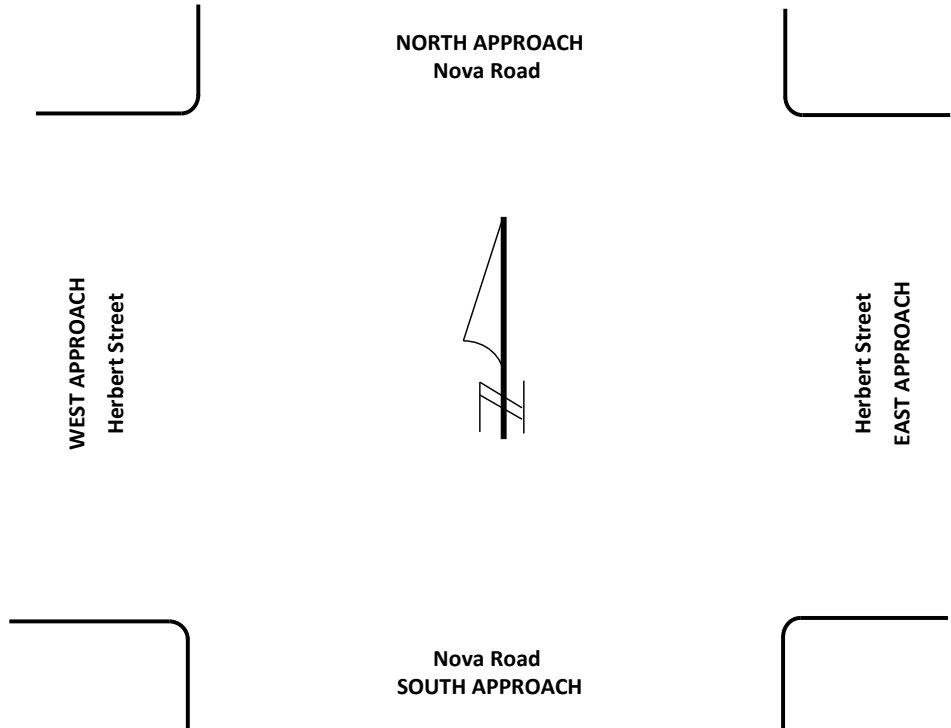
MAJOR ROUTE Nova Road
OBSERVER VHB
COUNTY Volusia

CITY Port Orange
INTERSECTING ROUTE Herbert Street
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

COUNT HOURS 8 to 9 AM & 1 to 6 PM

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	2
0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	1	0	1	0	0	0	0	0	5

0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	1	0	1
10-11	2	0	2
11-12	0	0	0
12-13	1	1	2
13-14	1	1	2
14-15	0	0	0
15-16	1	0	1
16-17	0	1	1
17-18	0	0	0
18-19	0	0	0
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	6	3	9



0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	1	1
15-16	1	2	3
16-17	0	0	0
17-18	0	0	0
18-19	1	0	1
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	2	3	5

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	1	2	0	0	0	0	0	6
0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	4	1	2	0	0	0	0	0	10
0	0	0	0	0	0	0	1	2	1	0	1	1	0	0	0	4	2	4	0	0	0	0	0	16

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Eagle Lake Trail
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS: 11 AM to 7 PM

COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

ALL VEHICLES / ALL MOVEMENTS

Direction Start Time	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	2	0	0	126	0	128	0	0	129	1	0	130	258	0	3	1	1	0	5	0	0	0	1	0	1	6	264
7:15 AM	0	1	0	178	1	180	0	1	160	6	0	167	347	0	6	2	1	0	9	0	0	0	0	1	0	1	10
7:30 AM	3	0	0	227	5	235	0	3	220	12	0	235	470	0	8	0	2	0	10	0	0	0	0	1	0	1	11
7:45 AM	1	3	0	246	4	254	0	4	249	14	0	267	521	0	5	0	2	0	7	0	0	0	0	1	0	1	8
Total	6	4	0	777	10	797	0	8	758	33	0	799	1,596	0	22	3	6	0	31	0	0	0	0	4	0	4	35
8:00 AM	3	0	0	200	3	206	0	6	183	11	0	200	406	0	5	0	2	0	7	0	1	0	0	2	0	3	10
8:15 AM	0	4	0	204	4	212	0	4	200	13	0	217	429	0	6	0	2	0	8	0	0	0	0	2	0	2	10
8:30 AM	1	2	0	187	4	194	0	8	199	5	0	212	406	0	4	0	2	0	6	0	0	0	0	3	0	3	9
8:45 AM	1	9	0	178	3	191	0	5	204	9	0	218	409	0	2	0	6	0	8	0	1	0	0	3	0	4	12
Total	5	15	0	769	14	803	0	23	786	38	0	847	1,650	0	17	0	12	0	29	0	2	0	0	10	0	12	41
9:00 AM	4	9	0	196	7	216	0	5	173	10	0	188	404	0	17	2	8	0	27	0	0	0	0	0	0	0	27
9:15 AM	0	1	0	172	6	179	0	4	185	14	0	203	382	0	9	1	6	0	16	0	0	0	0	0	0	0	16
9:30 AM	4	8	0	174	7	193	0	7	210	12	0	229	422	0	3	0	8	0	11	0	0	0	0	6	0	6	17
9:45 AM	8	4	0	176	8	196	0	7	192	7	0	206	402	0	8	0	4	0	12	0	0	0	0	5	0	5	17
Total	16	22	0	718	28	784	0	23	760	43	0	826	1,610	0	37	3	26	0	66	0	0	0	0	11	0	11	77
12:00 PM	10	5	0	205	11	231	0	5	234	12	0	251	482	0	14	0	4	0	18	0	0	0	0	7	0	7	25
12:15 PM	9	4	0	182	8	203	0	8	209	6	0	223	426	0	8	0	10	0	18	0	0	0	0	8	0	8	26
12:30 PM	10	10	0	196	10	226	0	5	259	6	0	270	496	0	6	1	7	0	14	0	1	0	0	7	0	8	22
12:45 PM	9	5	0	216	10	240	0	7	234	15	0	256	496	0	5	1	4	0	10	0	0	0	0	5	0	5	15
Total	38	24	0	799	39	900	0	25	936	39	0	1,000	1,900	0	33	2	25	0	60	0	0	0	0	27	0	28	88
2:00 PM	10	9	0	217	6	242	0	9	233	11	0	253	495	0	13	0	7	0	20	0	2	1	0	7	0	10	30
2:15 PM	11	5	0	224	9	249	0	11	209	8	0	228	477	0	14	0	9	0	23	0	1	0	0	10	0	11	34
2:30 PM	6	7	0	201	5	219	0	7	230	7	0	244	463	0	7	0	6	0	13	0	3	0	0	7	0	10	23
2:45 PM	6	8	0	264	5	283	0	11	248	6	0	265	548	0	7	0	3	0	10	0	0	0	0	10	0	10	20
Total	33	29	0	906	25	993	0	38	920	32	0	990	1,983	0	41	0	25	0	66	0	6	1	0	34	0	41	107
3:00 PM	3	11	0	245	8	267	0	11	237	9	0	257	524	0	14	0	7	0	21	0	2	0	0	7	0	9	30
3:15 PM	5	3	0	214	3	225	0	6	290	8	0	304	529	0	5	0	8	0	13	0	3	1	0	8	0	12	25
3:30 PM	7	7	0	184	6	204	0	8	229	12	0	249	453	0	16	0	3	0	19	0	2	2	0	3	0	7	26
3:45 PM	4	8	0	234	12	258	0	8	251	13	0	272	530	0	8	2	7	0	17	0	3	0	0	7	0	10	27
Total	19	29	0	877	29	954	0	33	1,007	42	0	1,092	2,036	0	43	2	25	0	70	0	10	3	0	25	0	38	108
4:00 PM	6	9	0	269	13	297	0	4	275	13	0	292	589	0	9	1	6	0	16	0	4	0	0	4	0	8	24
4:15 PM	4	10	0	244	12	270	0	4	260	9	0	273	543	0	16	0	5	0	21	0	0	0	0	5	0	5	26
4:30 PM	4	6	0	240	5	255	0	12	277	13	0	302	557	0	12	0	8	0	20	0	1	0	0	3	0	4	24
4:45 PM	6	5	0	258	13	282	0	10	266	8	0	284	566	0	5	1	5	0	11	0	2	1	0	4	0	7	18
Total	20	30	0	1,011	43	1,104	0	30	1,078	43	0	1,151	2,255	0	42	2	24	0	68	0	7	1	0	16	0	24	92
5:00 PM	3	5	0	268	10	286	0	11	266	12	0	289	575	0	15	1	6	0	22	0	3	1	0	9	0	13	35
5:15 PM	4	7	0	244	8	263	0	16	256	10	0	282	545	0	10	0	7	0	17	0	3	0	0	8	0	11	28
5:30 PM	3	5	0	199	8	215	0	8	243	14	0	265	480	0	10	0	4	0	14	0	1	0	0	8	0	9	23
5:45 PM	2	4	0	229	10	245	0	14	268	7	0	289	534	0	10	0	2	0	12	0	1	0	0	2	0	3	15
Total	12	21	0	940	36	1,009	0	49	1,033	43	0	1,125	2,134	0	45	1	19	0	65	0	8	1	0	27	0	36	101

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Eagle Lake Trail
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS: 11 AM to 7 PM

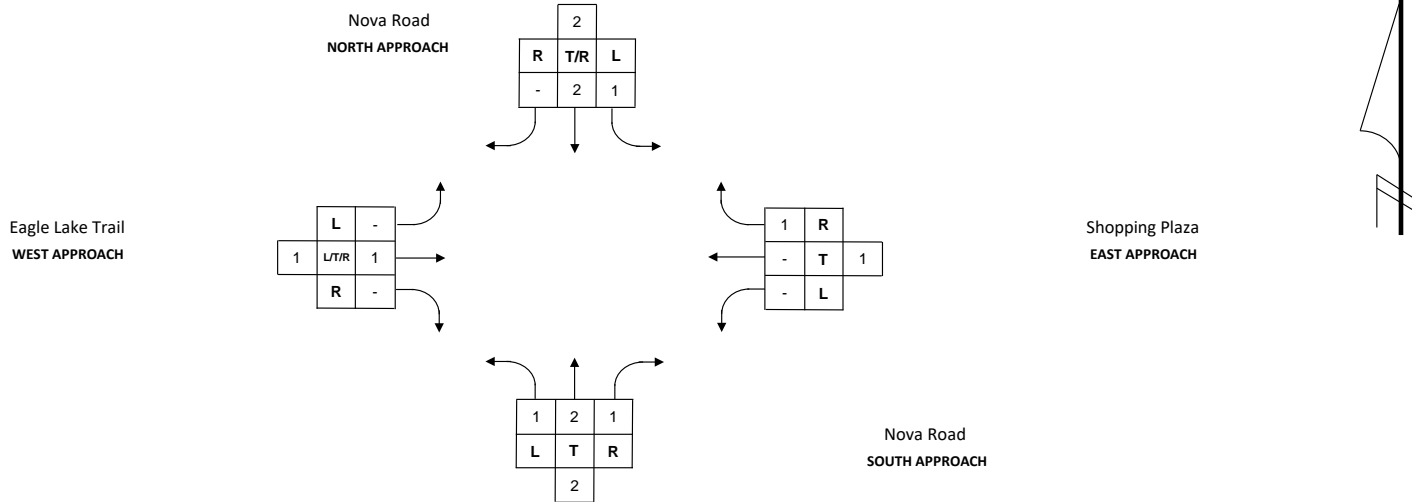
COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

HEAVY VEHICLES (TRUCKS + BUSES)

Direction Start Time	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	0	1	0	0	1	0	0	7	0	0	7	8	0	0	0	0	0	0	0	0	0	0	0	0		
7:15 AM	0	0	8	0	0	8	0	0	2	0	0	2	10	0	1	0	0	0	1	0	0	0	1	0	2		
7:30 AM	0	0	0	0	0	0	0	0	4	1	0	5	5	0	2	0	2	0	4	0	0	0	0	0	4		
7:45 AM	0	0	2	0	0	2	0	0	4	0	0	4	6	0	0	0	0	0	0	0	0	0	0	0	6		
Total	0	0	11	0	0	11	0	0	17	1	0	18	29	0	3	0	2	5	0	0	0	1	0	1	6	35	
8:00 AM	0	0	2	0	0	2	0	0	6	0	0	6	8	0	0	0	0	0	0	0	0	0	0	0	8		
8:15 AM	0	0	5	0	0	5	0	0	6	0	0	6	11	0	0	0	1	0	0	0	0	0	0	0	1	12	
8:30 AM	0	0	2	0	0	2	0	0	9	0	0	9	11	0	0	0	0	0	0	0	0	0	0	0	0	11	
8:45 AM	0	0	4	0	0	4	0	0	2	1	0	3	7	0	0	0	0	0	0	0	0	1	0	1	8		
Total	0	0	13	0	0	13	0	0	23	1	0	24	37	0	0	0	1	0	0	0	1	0	0	1	2	39	
9:00 AM	0	0	5	0	0	5	0	0	1	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
9:15 AM	0	0	8	0	0	8	0	0	7	0	0	7	15	0	0	0	0	0	0	0	0	0	0	0	0	15	
9:30 AM	0	0	2	0	0	2	0	0	5	0	0	5	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
9:45 AM	0	0	3	1	0	4	0	0	4	0	0	4	8	0	0	0	0	0	0	0	0	0	0	0	0	8	
Total	0	0	18	1	0	19	0	0	17	0	0	17	36	0	0	0	0	0	0	0	0	0	0	0	0	36	
12:00 PM	0	0	3	0	0	3	0	0	3	0	0	3	6	0	0	0	0	0	0	0	0	0	0	0	0	6	
12:15 PM	0	0	4	1	0	5	0	0	7	0	0	7	12	0	0	0	0	0	0	0	0	0	0	0	0	12	
12:30 PM	0	0	3	0	0	3	0	0	3	0	0	3	6	0	0	0	0	0	0	0	0	1	0	1	7		
12:45 PM	0	1	4	0	0	5	0	0	3	0	0	3	8	0	0	2	0	0	2	0	0	0	0	0	2	10	
Total	0	1	14	1	0	16	0	0	16	0	0	16	32	0	2	0	0	2	0	0	0	1	0	1	3	35	
2:00 PM	0	0	3	0	0	3	0	0	1	0	0	1	4	0	1	0	0	0	1	0	0	0	0	0	1	5	
2:15 PM	0	0	6	0	0	6	0	0	4	0	0	4	10	0	0	0	0	0	0	0	0	0	0	0	0	10	
2:30 PM	0	0	4	0	0	4	0	0	5	1	0	6	10	0	0	0	0	0	0	0	0	0	0	0	0	10	
2:45 PM	0	0	4	0	0	4	0	0	4	0	0	4	8	0	0	1	0	1	0	0	0	0	0	0	1	9	
Total	0	0	17	0	0	17	0	0	14	1	0	15	32	0	1	0	1	0	2	0	0	0	0	0	2	34	
3:00 PM	0	0	5	0	0	5	0	0	3	1	0	4	9	0	0	0	1	0	1	0	0	0	0	0	1	10	
3:15 PM	0	0	6	0	0	6	0	0	3	0	0	3	9	0	0	0	0	0	0	0	0	0	0	0	0	9	
3:30 PM	0	0	2	0	0	2	0	0	3	0	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
3:45 PM	0	0	3	0	0	3	0	0	1	1	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
Total	0	0	16	0	0	16	0	0	10	2	0	12	26	0	0	0	1	0	1	0	0	0	0	0	1	29	
4:00 PM	0	0	2	0	0	2	0	0	5	0	0	5	7	0	0	0	1	0	1	0	0	0	0	0	1	8	
4:15 PM	0	0	6	0	0	6	0	0	4	0	0	4	10	0	0	0	1	0	1	0	0	0	0	0	1	11	
4:30 PM	0	0	1	0	0	1	0	0	6	0	0	6	7	0	0	0	0	0	0	0	0	0	0	0	0	7	
4:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
Total	0	0	9	0	0	9	0	0	17	0	0	17	26	0	0	0	2	0	2	0	0	0	0	0	2	28	
5:00 PM	0	0	2	0	0	2	0	0	1	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	3	
5:15 PM	0	0	4	0	0	4	0	0	1	0	0	1	5	0	0	0	0	0	0	0	0	0	0	0	0	5	
5:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	2	
5:45 PM	0	0	2	0	0	2	0	0	4	2	0	6	8	0	1	0	0	0	1	0	0	0	0	0	1	9	
Total	0	0	8	0	0	8	0	0	8	2	0	10	18	0	1	0	0	0	0	0	0	0	0	0	1	19	

MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS

MAJOR ROUTE: Nova Road OBSERVER: VHB WEATHER: Good REMARKS: _____	CITY: Port Orange INTERSECTING ROUTE: Eagle Lake Trail DATE: 10/2/25 ROAD CONDITION: Good	COUNTY: Volusia COMPLETED BY: MW DATE COMPLETED: 10/2/25
--	--	---



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR		TOT	E/W
7:00 - 8:00	6	4	777	10	0	797	0	8	758	33	0	799	1,596	0	22	3	6	0	31	0	0	0	4	0	4	35
8:00 - 9:00	5	15	769	14	0	803	0	23	786	38	0	847	1,650	0	17	0	12	0	29	0	2	0	10	0	12	41
9:00 - 10:00	16	22	718	28	0	784	0	23	760	43	0	826	1,610	0	37	3	26	0	66	0	0	0	11	0	11	77
12:00 - 13:00	38	24	799	39	0	900	0	25	936	39	0	1,000	1,900	0	33	2	25	0	60	0	1	0	27	0	28	88
14:00 - 15:00	33	29	906	25	0	993	0	38	920	32	0	990	1,983	0	41	0	25	0	66	0	6	1	34	0	41	107
15:00 - 16:00	19	29	877	29	0	954	0	33	1,007	42	0	1,082	2,036	0	43	2	25	0	70	0	10	3	25	0	38	108
16:00 - 17:00	20	30	1,011	43	0	1,104	0	30	1,078	43	0	1,151	2,255	0	42	2	24	0	68	0	7	1	16	0	24	92
17:00 - 18:00	12	21	940	36	0	1,009	0	49	1,033	43	0	1,125	2,134	0	45	1	19	0	65	0	8	1	27	0	36	101
TOTAL	169	211	6,925	276	0	7,581	0	250	7,552	288	0	8,090	15,671	0	303	16	197	0	516	0	67	6	195	0	268	784

Percentage	2.2%	2.8%	91.3%	3.6%	0.0%	100.0%	0.0%	3.1%	93.3%	3.6%	0.0%	100.0%	N/A	0.0%	58.7%	3.1%	38.2%	0.0%	100.0%	0.0%	25.0%	2.2%	72.8%	0.0%	100.0%	N/A
Maximum	38	33	1,011	43	0	1,104	0	49	1,078	43	0	1,151	2,255	0	45	4	31	0	70	0	13	3	34	0	41	108
Minimum	9	17	719	25	0	775	0	21	819	27	0	868	1,643	0	31	0	18	0	59	0	1	0	16	0	24	88
Total Heavy Veh	2		173	3	0	178	0		187	13	0	200	378	8		1	9	0	18	1		0	5	0	6	24
% Heavy Veh	0.5%		2.5%	1.1%		2.3%	0.0%		2.5%	4.5%		2.5%	2.4%	2.6%		6.3%	4.6%		3.5%	1.5%		2.6%		2.2%	3.1%	

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Dunlawton Avenue
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS:

COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

ALL VEHICLES / ALL MOVEMENTS

Direction Start Time	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	1	58	70	5	1	135	0	25	56	13	35	129	264	2	42	115	31	0	190	7	6	118	4	2	137	327	591
7:15 AM	1	71	102	11	7	192	0	35	70	19	24	148	340	4	53	172	35	0	264	4	16	116	12	6	154	418	758
7:30 AM	0	102	149	13	7	271	1	35	115	40	33	224	495	4	42	208	52	0	306	4	15	137	5	2	163	469	964
7:45 AM	0	108	152	12	12	284	1	42	113	37	33	226	510	2	61	212	56	0	331	11	24	152	9	1	197	528	1,038
Total	2	339	473	41	27	882	2	137	354	109	125	727	1,609	12	198	707	174	0	1,091	26	61	523	30	11	651	1,742	3,351
8:00 AM	0	104	113	8	11	236	1	34	86	24	37	182	418	1	46	210	65	0	322	4	24	143	11	3	185	507	925
8:15 AM	0	102	134	10	14	260	1	46	94	11	42	194	454	4	58	208	70	0	340	7	18	143	6	2	176	516	970
8:30 AM	0	83	109	15	13	220	0	42	88	33	34	197	417	5	51	201	65	0	322	11	23	135	11	3	183	505	922
8:45 AM	0	85	100	11	9	205	2	39	89	30	43	203	408	5	59	233	62	0	359	11	29	137	12	5	194	553	961
Total	0	374	456	44	47	921	4	161	357	98	156	776	1,697	15	214	852	262	0	1,343	33	94	558	40	13	738	2,081	3,778
9:00 AM	0	84	106	12	13	215	1	48	81	26	26	182	397	1	63	199	48	0	311	11	18	148	21	2	200	511	908
9:15 AM	0	81	111	12	16	220	2	53	69	32	36	192	412	3	47	206	39	0	295	13	15	120	14	1	163	458	870
9:30 AM	0	86	95	11	11	203	2	43	120	31	30	226	429	8	64	199	53	0	324	11	34	107	20	4	176	500	929
9:45 AM	1	88	97	15	12	213	2	51	87	26	27	193	406	6	59	203	41	0	309	13	28	97	17	5	160	469	875
Total	1	339	409	50	52	851	7	195	357	115	119	793	1,644	18	233	807	181	0	1,239	48	95	472	72	12	699	1,938	3,582
12:00 PM	0	91	112	17	15	235	0	59	101	41	30	231	466	7	88	227	54	0	376	26	39	268	20	1	354	730	1,196
12:15 PM	1	98	90	10	19	218	0	76	113	30	24	243	461	10	75	229	48	0	362	20	35	205	16	0	276	638	1,099
12:30 PM	1	115	142	16	9	283	1	65	111	39	34	250	533	7	69	220	52	0	348	20	32	215	18	1	286	634	1,167
12:45 PM	0	106	120	14	7	247	1	52	94	28	45	220	467	5	90	286	56	0	437	25	25	217	17	2	286	723	1,190
Total	2	410	464	57	50	983	2	252	419	138	133	944	1,927	29	322	962	210	0	1,523	91	131	905	71	4	1,202	2,725	4,652
2:00 PM	1	94	118	15	15	243	1	73	126	20	57	277	520	4	74	191	56	0	325	15	31	171	20	5	242	567	1,087
2:15 PM	1	107	123	13	11	255	0	50	107	29	43	229	484	6	100	226	52	0	384	17	33	218	21	4	293	677	1,161
2:30 PM	2	124	131	13	7	277	3	57	125	23	47	255	532	6	75	236	74	0	391	21	33	187	26	0	267	658	1,190
2:45 PM	1	104	177	12	14	308	0	57	143	36	45	281	589	3	68	203	58	0	332	23	49	189	25	7	293	625	1,214
Total	5	429	549	53	47	1,083	4	237	501	108	192	1,042	2,125	19	317	856	240	0	1,432	76	146	765	92	16	1,095	2,527	4,652
3:00 PM	0	104	124	11	15	254	2	59	126	41	38	266	520	7	76	220	52	0	355	22	26	226	23	3	300	655	1,175
3:15 PM	1	108	123	5	12	249	1	59	115	38	54	267	516	6	76	262	56	0	400	13	33	203	30	4	283	683	1,199
3:30 PM	0	113	107	5	16	241	1	65	139	30	39	274	515	3	89	248	71	0	411	17	33	224	24	5	303	714	1,229
3:45 PM	0	88	157	17	16	278	0	60	144	41	37	282	560	2	75	233	84	0	394	16	40	222	25	7	310	704	1,264
Total	1	413	511	38	59	1,022	4	243	524	150	168	1,089	2,111	18	316	963	263	0	1,560	68	132	875	102	19	1,106	2,756	4,857
4:00 PM	0	89	120	7	14	230	5	61	135	35	47	283	513	3	106	252	73	0	434	15	39	260	32	2	348	782	1,295
4:15 PM	0	117	128	13	12	270	2	53	163	28	36	282	552	10	100	244	65	0	419	23	29	223	28	9	312	731	1,283
4:30 PM	0	90	139	6	14	249	2	57	173	34	52	318	567	4	93	232	60	0	389	24	31	193	26	4	278	667	1,234
4:45 PM	0	71	117	10	13	211	0	62	154	35	34	285	496	2	76	197	65	0	340	32	38	228	33	3	334	674	1,170
Total	0	367	504	36	53	960	9	233	625	132	169	1,168	2,128	19	375	925	263	0	1,582	94	137	904	119	18	1,272	2,854	4,982
5:00 PM	1	110	123	8	9	251	5	58	131	45	41	280	531	2	103	210	57	0	372	27	46	291	36	3	403	775	1,306
5:15 PM	0	96	135	5	13	249	3	60	119	37	34	253	502	5	87	224	70	0	386	21	25	248	24	0	318	704	1,206
5:30 PM	1	68	105	4	15	193	3	37	126	45	40	251	444	4	74	208	57	0	343	13	45	171	20	2	251	594	1,038
5:45 PM	0	70	105	11	18	204	5	61	152	32	41	291	495	6	89	199	59	0	353	14	34	169	13	14	244	597	1,092
Total	2	344	468	28	55	897	16	216	528	159	156	1,075	1,972	17	353	841	243	0	1,454	75	150	879	93	19	1,216	2,670	4,642

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Nova Road
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Dunlawton Avenue
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS:

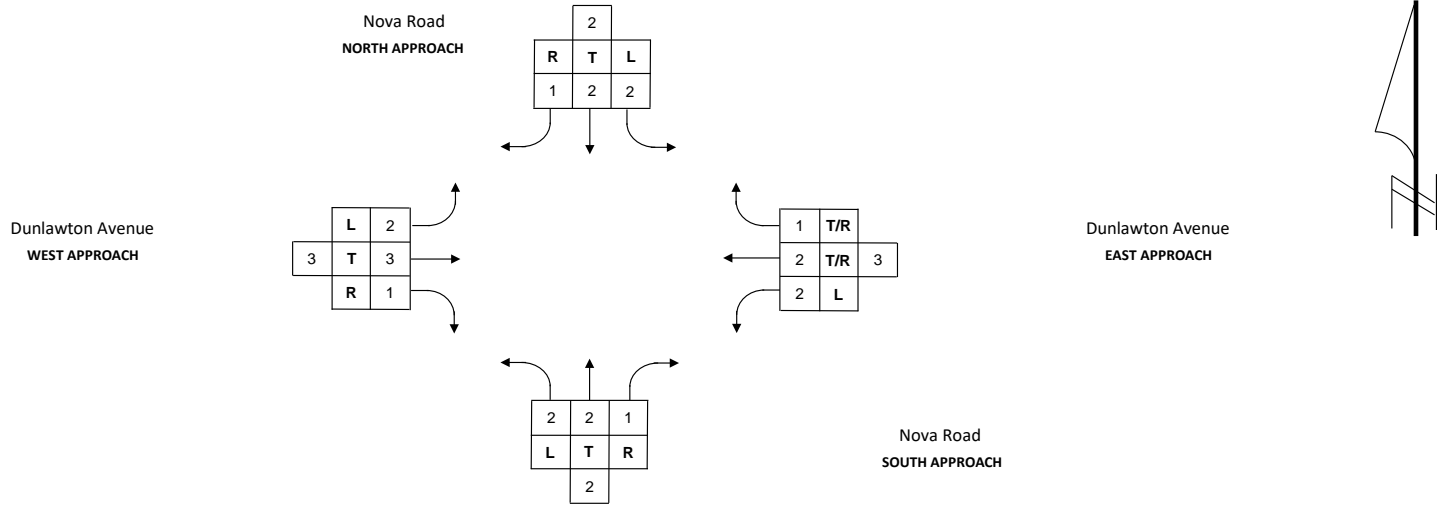
COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

HEAVY VEHICLES (TRUCKS + BUSES)

Direction Start Time	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	3	1	0	0	4	0	1	3	0	4	8	0	0	2	0	0	2	0	0	5	0	0	5	7	15	
7:15 AM	0	1	2	0	1	4	0	1	1	0	2	6	0	1	3	0	0	4	0	1	1	1	2	5	9	15	
7:30 AM	0	2	0	0	0	2	0	1	4	0	5	7	0	0	4	1	0	5	0	1	3	0	0	4	9	16	
7:45 AM	0	2	1	0	0	3	0	0	1	1	3	6	0	1	3	3	0	7	0	0	0	0	0	0	7	13	
Total	0	8	4	0	1	13	0	3	9	1	14	27	0	2	12	4	0	18	0	2	9	1	2	14	32	59	
8:00 AM	0	4	2	0	0	6	0	1	5	0	6	12	0	1	4	1	0	6	0	0	7	0	0	7	13	25	
8:15 AM	0	2	2	2	0	6	0	1	3	0	6	12	0	3	3	3	0	9	0	1	6	0	0	7	16	28	
8:30 AM	0	1	0	1	0	2	0	1	4	0	7	9	1	0	2	1	0	4	0	0	2	0	0	2	6	15	
8:45 AM	0	3	2	0	0	5	0	0	0	0	0	5	0	0	3	3	2	0	8	0	0	5	0	0	5	13	18
Total	0	10	6	3	0	19	0	3	12	0	4	19	38	1	7	12	7	0	27	0	1	20	0	21	48	86	
9:00 AM	0	5	5	0	0	10	0	1	1	0	2	12	0	0	6	1	0	7	0	0	7	3	0	10	17	29	
9:15 AM	0	3	5	0	1	9	0	0	3	1	2	6	15	0	1	6	1	0	8	0	1	4	0	0	5	13	28
9:30 AM	0	4	1	0	0	5	0	0	4	0	1	5	10	0	0	6	0	0	6	0	1	0	2	1	4	10	20
9:45 AM	0	3	1	0	0	4	0	2	4	0	6	10	0	1	4	5	0	10	0	1	4	0	1	6	16	26	
Total	0	15	12	0	1	28	0	3	12	1	3	19	47	0	2	22	7	0	31	0	3	15	5	2	25	56	103
12:00 PM	0	6	2	0	0	8	0	0	3	0	3	11	0	1	6	1	0	8	0	1	8	1	0	10	18	29	
12:15 PM	0	1	2	0	1	4	0	1	3	1	1	6	10	0	4	3	1	0	8	0	0	5	0	0	5	13	23
12:30 PM	0	1	1	0	1	3	0	0	2	0	0	2	5	0	1	3	2	0	6	0	0	9	0	1	10	16	21
12:45 PM	0	3	2	0	0	5	0	0	1	0	0	6	0	0	2	3	0	0	5	0	1	3	0	0	4	9	15
Total	0	11	7	0	2	20	0	1	9	1	1	12	32	0	8	15	4	0	27	0	2	25	1	1	29	56	88
2:00 PM	0	4	2	0	0	6	0	0	0	0	0	6	0	0	2	1	0	3	0	1	4	1	0	6	9	15	
2:15 PM	0	1	2	0	1	4	0	1	1	0	2	6	0	1	1	0	0	2	0	0	2	1	0	3	5	11	
2:30 PM	0	1	5	0	0	6	0	1	3	1	0	5	11	0	2	3	1	0	6	0	0	4	0	0	4	10	21
2:45 PM	0	3	3	0	0	6	0	0	5	1	0	6	12	1	0	5	3	0	9	0	0	4	0	0	4	13	25
Total	0	9	12	0	1	22	0	2	9	2	0	13	35	1	3	11	5	0	20	0	1	14	2	0	17	37	72
3:00 PM	0	5	1	0	0	6	0	2	1	1	1	5	11	0	1	1	0	2	0	0	4	0	0	4	6	17	
3:15 PM	0	1	4	0	1	6	0	0	2	0	1	3	9	0	2	3	2	0	7	0	0	3	0	0	3	10	19
3:30 PM	0	3	3	0	0	6	0	1	2	0	0	3	9	0	0	3	1	0	4	0	0	1	0	0	1	5	14
3:45 PM	0	0	3	1	1	5	0	0	1	0	0	6	0	0	1	7	0	0	8	1	0	4	0	0	5	13	19
Total	0	9	11	1	2	23	0	3	6	1	2	12	35	0	4	14	3	0	21	1	0	12	0	0	13	34	69
4:00 PM	0	5	1	0	0	6	0	1	2	3	2	8	14	0	0	4	1	0	5	0	0	5	0	0	5	10	24
4:15 PM	0	1	5	1	0	7	0	0	0	0	1	8	0	0	6	0	0	6	0	0	2	0	0	2	8	16	
4:30 PM	0	3	0	0	0	3	0	0	2	1	2	8	0	0	4	1	0	5	1	0	1	0	0	2	7	15	
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	0	0	6	0	0	0	6	9	9
Total	0	9	6	1	0	16	0	1	4	4	5	14	30	0	0	16	3	0	19	1	0	14	0	0	15	34	64
5:00 PM	0	5	2	0	1	8	0	0	0	0	0	8	0	1	0	1	0	2	0	0	5	0	0	0	5	7	15
5:15 PM	0	0	2	0	1	3	0	0	0	0	1	4	0	1	0	0	0	1	0	0	1	0	0	1	2	6	6
5:30 PM	0	1	0	0	0	1	0	0	0	2	2	4	5	0	0	1	1	0	2	0	1	1	0	0	2	4	9
5:45 PM	0	2	0	0	0	2	0	0	1	1	1	3	5	0	3	2	0	0	5	0	0	2	0	1	3	8	13
Total	0	8	4	0	2	14	0	0	1	3	4	8	22	0	5	3	2	0	10	0	1	9	0	1	11	21	43

MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS

MAJOR ROUTE: Nova Road OBSERVER: VHB WEATHER: Good REMARKS: _____	CITY: Port Orange INTERSECTING ROUTE: Dunlawton Avenue DATE: 10/2/25 ROAD CONDITION: Good	COUNTY: Volusia COMPLETED BY: MW DATE COMPLETED: 10/2/25
--	--	---



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR		TOT	E/W
7:00 - 8:00	2	339	473	41	27	882	2	137	354	109	125	727	1,609	12	198	707	174	0	1,091	26	61	523	30	11	651	1,742
8:00 - 9:00	0	374	456	44	47	921	4	161	357	98	156	776	1,697	15	214	852	262	0	1,343	33	94	558	40	13	738	2,081
9:00 - 10:00	1	339	409	50	52	851	7	195	357	115	119	793	1,644	18	233	807	181	0	1,239	48	95	472	72	12	699	1,938
12:00 - 13:00	2	410	464	57	50	983	2	252	419	138	133	944	1,927	29	322	962	210	0	1,523	91	131	905	71	4	1,202	2,725
14:00 - 15:00	5	429	549	53	47	1,083	4	237	501	108	192	1,042	2,125	19	317	856	240	0	1,432	76	146	765	92	16	1,095	2,527
15:00 - 16:00	1	413	511	38	59	1,022	4	243	524	150	168	1,089	2,111	18	316	963	263	0	1,560	68	132	875	102	19	1,196	2,756
16:00 - 17:00	0	367	504	36	53	960	9	233	625	132	169	1,168	2,128	19	375	925	263	0	1,582	94	137	904	119	18	1,272	2,854
17:00 - 18:00	2	344	468	28	55	897	16	216	528	159	156	1,075	1,972	17	353	841	243	0	1,454	75	150	879	93	19	1,216	2,670
TOTAL	17	2,929	3,789	371	367	7,473	57	1,759	3,839	1,082	1,230	7,967	15,440	138	2,569	6,832	1,803	0	11,342	622	1,082	6,556	702	125	9,087	20,429

Percentage	0.2%	39.2%	50.7%	5.0%	4.9%	100.0%	0.7%	22.1%	48.2%	13.6%	15.4%	100.0%	N/A	1.2%	22.7%	60.2%	15.9%	0.0%	100.0%	6.8%	11.9%	72.1%	7.7%	1.4%	100.0%	N/A
Maximum	5	429	549	72	59	1,083	16	252	625	159	192	1,168	2,128	29	375	963	263	0	1,582	94	150	905	119	19	1,272	2,854
Minimum	0	252	400	28	18	720	2	156	373	97	105	818	1,538	9	260	722	169	0	1,160	63	109	541	54	4	780	1,940
Total Heavy Veh	111		95	7	14	227	23		95	19	30	167	394	55		169	51	0	275	19		201	17	6	243	518
% Heavy Veh	3.8%		2.5%		2.8%	3.0%	1.3%		2.5%	2.1%		2.1%	2.6%	2.0%		2.5%	2.8%		2.4%	1.1%		3.1%	2.8%		2.7%	2.5%

**MetroPlan Orlando
BICYCLE MOVEMENT SUMMARY**

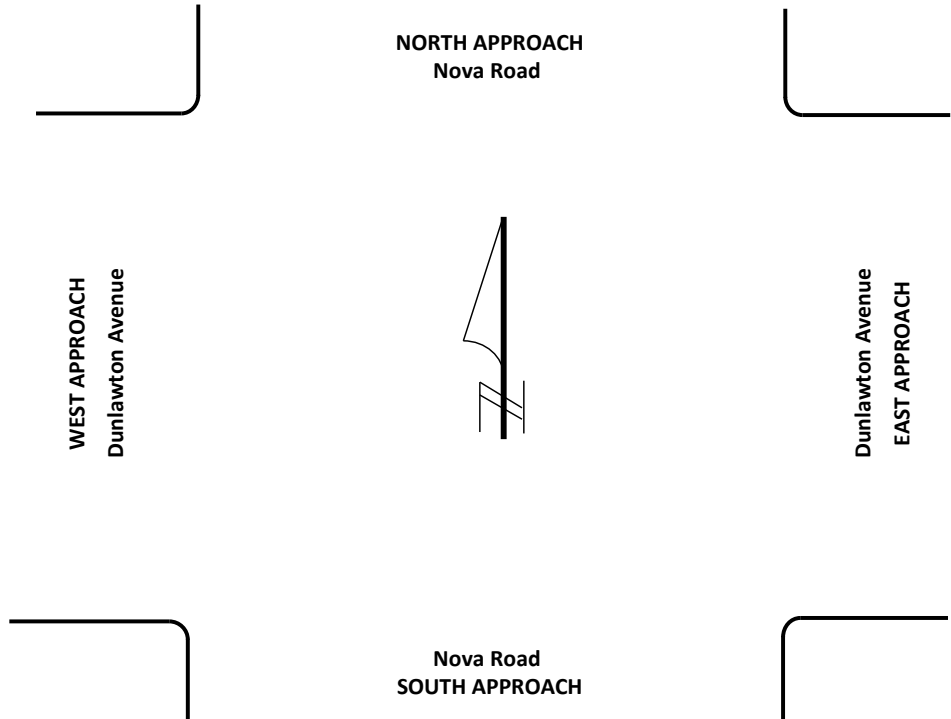
MAJOR ROUTE Nova Road
OBSERVER VHB
COUNTY Volusia

CITY Port Orange
INTERSECTING ROUTE Dunlawton Avenue
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

COUNT HOURS

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
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	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1

0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	1	0	1
11-12	0	0	0
12-13	1	0	1
13-14	0	0	0
14-15	0	1	1
15-16	1	1	2
16-17	0	0	0
17-18	0	0	0
18-19	1	0	1
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	4	2	6



0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	0	0
15-16	0	0	0
16-17	0	0	0
17-18	0	0	0
18-19	2	1	3
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	2	1	3

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	1	0	2	0	0	0	2	1	0	0	1	0	0	0	0	0	7
0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	0	1	0	0	0	0	0	5
0	0	0	0	0	0	0	0	1	0	2	0	0	2	3	2	0	0	2	0	0	0	0	0	12

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Herbert Street
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Clara Street
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS: 7 to 9 AM & 11 to 5 PM

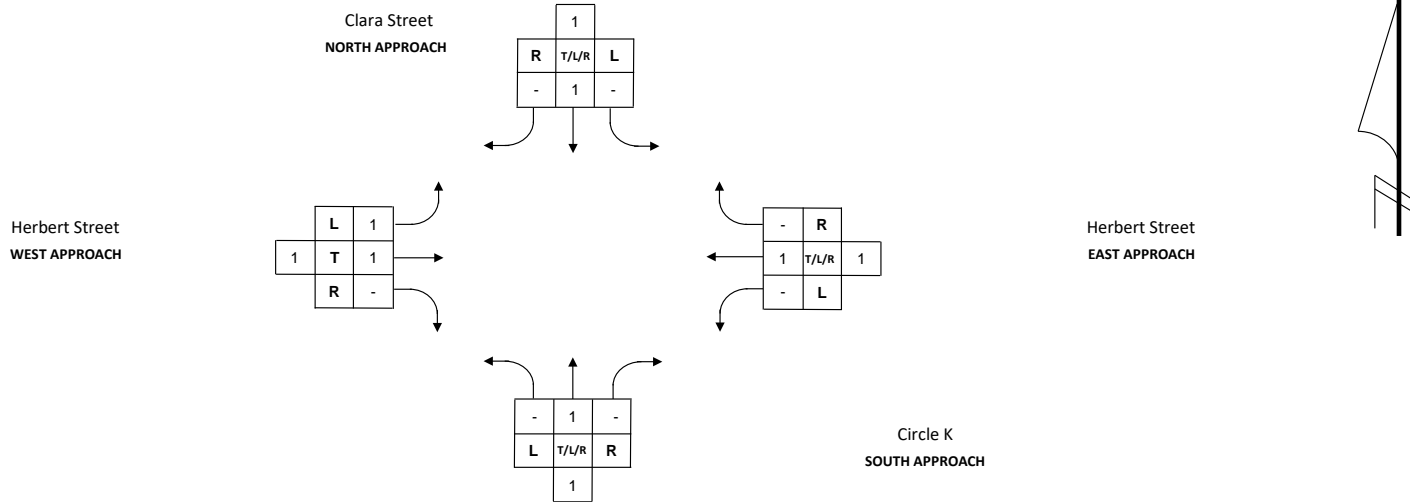
COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

ALL VEHICLES / ALL MOVEMENTS

Direction Start Time	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	7	1	3	0	11	0	0	0	0	0	0	11	0	0	50	7	0	57	0	4	63	0	0	67	124	135
7:15 AM	0	2	0	4	0	6	0	0	0	0	0	0	6	0	0	51	2	0	53	0	3	44	0	0	47	100	106
7:30 AM	0	2	0	4	0	6	0	0	0	1	0	1	7	0	0	61	4	0	65	0	1	60	1	0	62	127	134
7:45 AM	0	3	0	2	0	5	0	0	0	0	0	0	5	0	1	67	4	0	72	0	1	101	1	0	103	175	180
Total	0	14	1	13	0	28	0	0	0	1	0	1	29	0	1	229	17	0	247	0	9	268	2	0	279	526	555
8:00 AM	0	1	0	1	0	2	0	0	0	0	0	0	2	0	0	73	5	0	78	0	3	91	1	0	95	173	175
8:15 AM	0	4	0	5	0	9	0	0	0	0	0	0	9	0	0	63	6	0	69	0	4	79	0	0	83	152	161
8:30 AM	0	2	0	2	0	4	0	0	0	1	0	1	5	0	1	88	7	0	96	0	1	43	0	0	44	140	145
8:45 AM	0	3	1	3	0	7	0	0	0	1	0	1	8	0	0	46	5	0	51	0	1	43	0	0	44	95	103
Total	0	10	1	11	0	22	0	0	0	2	0	2	24	0	1	270	23	0	294	0	9	256	1	0	266	560	584
9:00 AM	0	5	0	0	0	5	0	1	0	0	0	1	6	0	1	44	3	0	48	0	2	42	0	0	44	92	98
9:15 AM	0	3	0	5	0	8	0	0	0	1	0	1	9	0	0	38	5	0	43	0	4	51	1	0	56	99	108
9:30 AM	0	1	0	4	0	5	0	0	0	0	0	0	5	0	0	51	2	0	53	0	1	50	1	0	52	105	110
9:45 AM	0	2	0	3	0	5	0	0	0	1	0	1	6	0	2	46	5	0	53	0	2	38	1	0	41	94	100
Total	0	11	0	12	0	23	0	1	0	2	0	3	26	0	3	179	15	0	197	0	9	181	3	0	193	390	416
12:00 PM	0	4	0	3	0	7	0	3	0	0	0	3	10	0	1	54	6	0	61	0	1	49	5	0	55	116	126
12:15 PM	0	2	0	4	0	6	0	3	0	3	0	6	12	0	0	42	4	0	46	0	3	50	1	0	54	100	112
12:30 PM	0	3	1	2	0	6	0	4	0	2	0	6	12	0	1	50	2	0	53	0	2	63	0	0	65	118	130
12:45 PM	0	5	0	3	0	8	0	2	0	5	0	7	15	0	2	53	4	0	59	0	5	45	0	0	50	109	124
Total	0	14	1	12	0	27	0	10	0	10	0	22	49	0	4	199	16	0	219	0	11	207	6	0	224	443	492
2:00 PM	0	0	0	3	0	3	0	3	1	0	0	4	7	0	0	48	2	0	50	0	1	73	6	0	80	130	137
2:15 PM	0	5	0	3	0	8	0	1	0	1	0	2	10	0	2	40	4	0	46	0	2	60	2	0	64	110	120
2:30 PM	0	5	1	1	0	7	0	1	0	2	0	3	10	0	2	43	5	0	50	0	6	78	0	0	84	134	144
2:45 PM	0	3	0	3	0	6	0	2	0	0	0	2	8	0	1	32	0	0	33	0	4	80	6	0	90	123	131
Total	0	13	1	10	0	24	0	7	1	3	0	11	35	0	5	163	11	0	179	0	13	291	14	0	318	497	532
3:00 PM	0	4	0	5	0	9	0	0	0	1	0	1	10	0	0	34	1	0	35	0	5	61	8	0	74	109	119
3:15 PM	0	2	1	17	0	20	0	1	0	1	0	2	22	0	1	88	2	0	91	0	4	74	6	0	84	175	197
3:30 PM	0	2	0	9	0	11	0	1	1	1	0	3	14	0	1	95	8	0	104	0	2	64	5	0	71	175	189
3:45 PM	0	3	0	8	0	11	0	0	0	2	0	4	15	0	3	59	5	0	67	0	9	69	5	0	83	150	165
Total	0	11	1	39	0	51	0	2	3	5	0	10	61	0	5	276	16	0	297	0	20	268	24	0	312	609	670
4:00 PM	0	4	0	5	0	9	0	1	1	1	0	3	12	0	2	91	5	0	98	0	6	96	4	0	106	204	216
4:15 PM	0	6	2	7	0	15	0	1	0	3	0	4	19	0	4	64	5	0	73	0	4	93	4	0	101	174	193
4:30 PM	0	7	0	1	0	8	0	4	2	3	0	9	17	0	7	73	3	0	83	0	2	86	5	0	93	176	193
4:45 PM	0	3	0	1	0	4	0	1	1	2	0	4	8	0	1	62	4	0	67	0	1	80	6	0	87	154	162
Total	0	20	2	14	0	36	0	7	4	9	0	20	56	0	14	290	17	0	321	0	13	355	19	0	387	708	764
5:00 PM	0	7	0	2	0	9	0	2	0	5	0	7	16	0	2	51	7	0	60	0	4	58	1	0	63	123	139
5:15 PM	0	5	0	6	0	11	0	7	1	2	0	10	21	0	2	43	3	0	48	1	3	70	5	0	79	127	148
5:30 PM	0	3	0	3	0	6	0	4	0	0	0	4	10	0	2	39	1	0	42	0	4	50	3	0	57	99	109
5:45 PM	0	4	2	4	0	10	0	1	1	1	0	3	13	0	1	35	5	0	41	0	4	50	7	0	61	102	115
Total	0	19	2	15	0	36	0	14	2	8	0	24	60	0	7	168	16	0	191	1	15	228	16	0	260	451	511

MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS

MAJOR ROUTE: Herbert Street OBSERVER: VHB WEATHER: Good REMARKS: _____	CITY: Port Orange INTERSECTING ROUTE: Clara Street DATE: 10/2/25 ROAD CONDITION: Good	COUNTY: Volusia COMPLETED BY: MW DATE COMPLETED: 10/2/25
---	--	---



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR		TOT	E/W
7:00 - 8:00	0	14	1	13	0	28	0	0	0	1	0	1	29	0	1	229	17	0	247	0	9	268	2	0	279	526
8:00 - 9:00	0	10	1	11	0	22	0	0	0	2	0	2	24	0	1	270	23	0	294	0	9	256	1	0	266	560
9:00 - 10:00	0	11	0	12	0	23	0	1	0	2	0	3	26	0	3	179	15	0	197	0	9	181	3	0	193	390
12:00 - 13:00	0	14	1	12	0	27	0	12	0	10	0	22	49	0	4	199	16	0	219	0	11	207	6	0	224	443
13:00 - 14:00	0	13	0	7	0	20	0	4	1	6	0	11	31	0	4	188	13	0	205	0	10	248	6	0	264	469
14:00 - 15:00	0	13	1	10	0	24	0	7	1	3	0	11	35	0	5	163	11	0	179	0	13	291	14	0	318	497
15:00 - 16:00	0	11	1	39	0	51	0	2	3	5	0	10	61	0	5	276	16	0	297	0	20	268	24	0	312	609
16:00 - 17:00	0	20	2	14	0	36	0	7	4	9	0	20	56	0	14	290	17	0	321	0	13	355	19	0	387	708
TOTAL	0	99	7	128	0	234	0	37	10	44	0	91	325	0	37	1,819	129	0	1,985	0	91	2,096	94	0	2,281	4,266

Percentage	0.0%	42.3%	3.0%	54.7%	0.0%	100.0%	0.0%	40.7%	11.0%	48.4%	0.0%	100.0%	N/A	0.0%	1.9%	91.6%	6.5%	0.0%	100.0%	0.0%	4.0%	91.9%	4.1%	0.0%	100.0%	N/A
Maximum	0	20	2	39	0	51	0	12	4	10	0	22	61	0	14	290	23	0	321	0	20	355	24	0	387	708
Minimum	0	4	0	7	0	20	0	0	0	1	0	1	24	0	1	163	11	0	179	0	6	203	1	0	224	443
Total Heavy Veh	3		0	3	0	6	0		0	3	0	3	9	2		43	2	0	47	1		52	2	0	55	102
% Heavy Veh	3.0%		0.0%	2.3%	0.0%	2.6%	0.0%		0.0%	6.8%	0.0%	3.3%	2.8%	5.4%		2.4%	1.6%	2.4%	1.1%	2.5%		2.1%	0.0%	2.4%	2.4%	

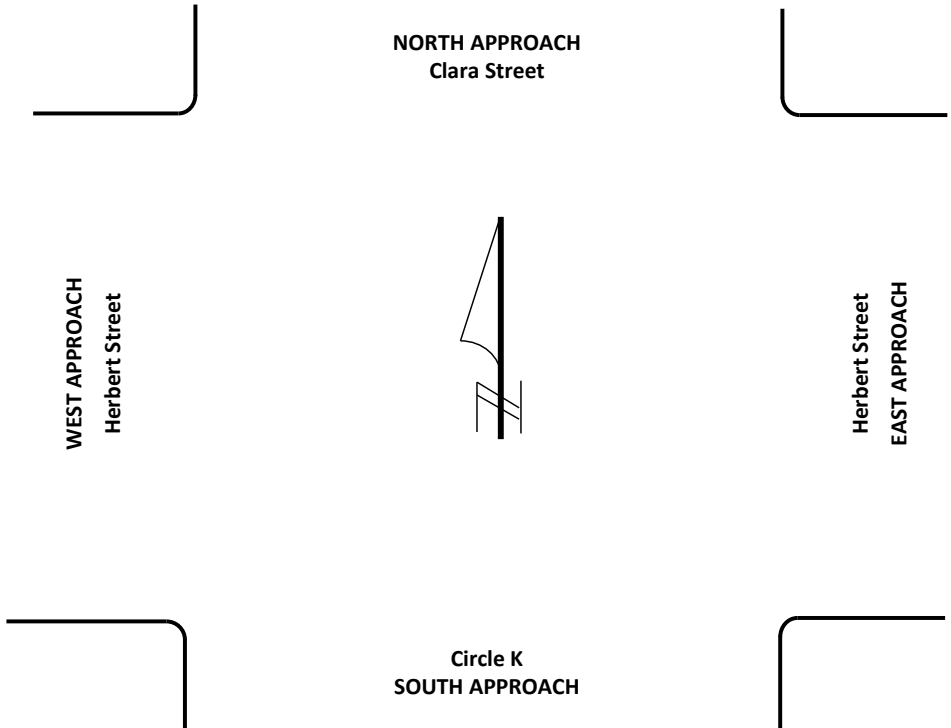
**MetroPlan Orlando
PEDESTRIAN MOVEMENT SUMMARY**

MAJOR ROUTE Herbert Street
OBSERVER VHB
COUNTY Volusia
COUNT HOURS 7 to 9 AM & 11 to 5 PM

CITY Port Orange
INTERSECTING ROUTE Clara Street
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1

0-1	1-2	2-3	3-4
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	0	0
0	0	0	0
0	0	0	0
1	1	2	
0	0	0	
1	0	1	
0	0	0	
0	0	0	
0	5	5	
1	0	1	
0	0	0	
2	2	4	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
5	9	14	



0-1	1-2	2-3	3-4
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	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
0	0	0	0
0	0	0	0
0	1	1	
1	0	1	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
0	0	0	
1	1	2	

0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	1	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	10	0	0	1	0	0	0	0	0	
0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	10	2	1	2	0	0	0	0	0	

**MetroPlan Orlando
BICYCLE MOVEMENT SUMMARY**

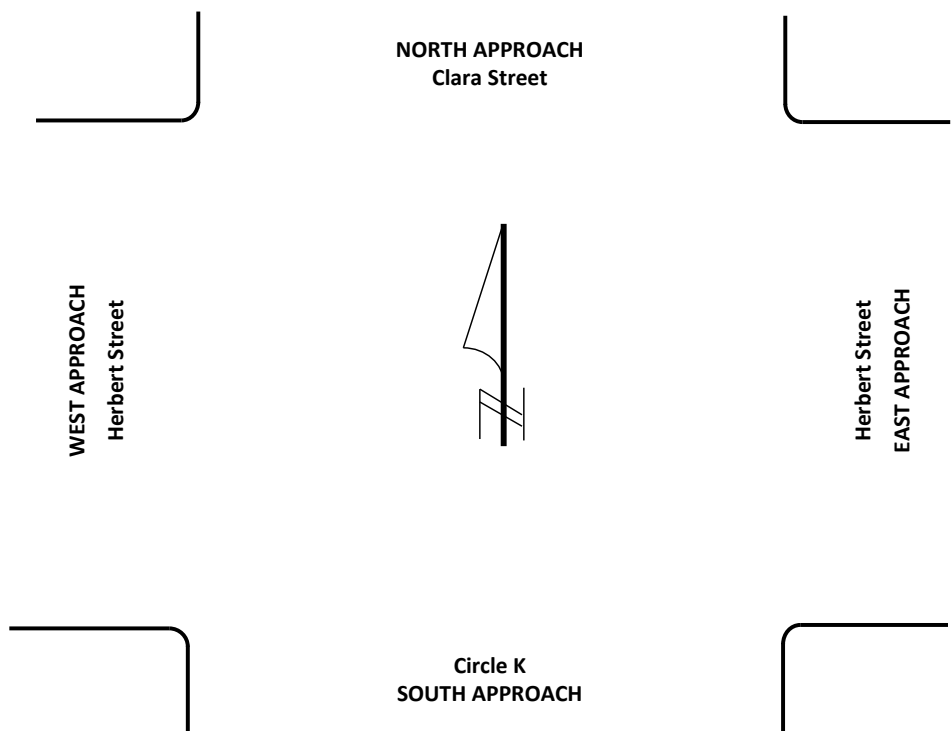
MAJOR ROUTE Herbert Street
OBSERVER VHB
COUNTY Volusia

COUNT HOURS 7 to 9 AM & 11 to 5 PM

CITY Port Orange
INTERSECTING ROUTE Clara Street
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2
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	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2

0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	1	0	1
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	0	0
15-16	0	0	0
16-17	0	0	0
17-18	0	1	1
18-19	0	0	0
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	1	1	2



0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	0	0
15-16	0	0	0
16-17	0	0	0
17-18	0	0	0
18-19	0	0	0
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	0	0	0

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	0	6
0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	1	1	0	0	0	0	0	6
0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	4	1	4	0	0	0	0	0	12

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Herbert Street
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Car Wash-Cumberland Farms driveways
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS:

COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

ALL VEHICLES / ALL MOVEMENTS

Direction Start Time	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	0	0	0	0	0	0	5	0	4	0	9	9	0	2	34	0	0	36	0	0	21	5	0	26	62	71
7:15 AM	0	0	0	0	0	0	0	5	0	2	0	7	7	0	3	53	0	0	56	0	0	48	9	0	57	113	120
7:30 AM	0	0	0	0	0	0	0	5	0	3	0	8	8	0	0	52	0	0	52	0	0	75	6	0	81	133	141
7:45 AM	0	0	0	0	0	0	0	3	0	2	0	5	5	0	2	51	0	0	53	0	0	80	10	0	90	143	148
Total	0	0	0	0	0	0	0	18	0	11	0	29	29	0	7	190	0	0	197	0	0	224	30	0	254	451	480
8:00 AM	0	0	0	0	0	0	0	1	0	5	0	6	6	0	0	31	0	0	31	0	0	51	5	0	56	87	93
8:15 AM	0	0	0	0	0	0	0	1	0	6	0	7	7	0	0	38	1	0	39	0	0	36	5	0	41	80	87
8:30 AM	0	0	0	0	0	0	0	0	0	4	0	4	4	0	3	37	0	0	40	0	0	50	3	0	53	93	97
8:45 AM	0	2	0	0	0	2	0	3	0	7	0	10	12	0	2	44	0	0	46	0	1	52	8	0	61	107	119
Total	0	2	0	0	0	2	0	5	0	22	0	27	29	0	5	150	1	0	156	0	1	189	21	0	211	367	396
9:00 AM	0	0	0	0	0	0	0	3	0	3	0	6	6	0	1	34	0	0	35	0	0	53	8	0	61	96	102
9:15 AM	0	1	0	0	0	1	0	3	0	5	0	8	9	0	1	38	0	0	39	0	0	38	2	0	40	79	88
9:30 AM	0	0	0	0	0	0	0	1	0	3	0	4	4	0	3	36	1	0	40	0	0	32	3	0	35	75	79
9:45 AM	0	0	0	0	0	0	0	3	0	0	0	3	3	0	3	32	2	0	37	0	0	46	5	0	51	88	91
Total	0	1	0	0	0	1	0	10	0	11	0	21	22	0	8	140	3	0	151	0	0	169	18	0	187	338	360
12:00 PM	0	4	0	1	0	5	0	6	0	4	0	10	15	0	0	53	6	0	59	0	1	48	6	0	55	114	129
12:15 PM	0	3	0	3	0	6	0	2	1	5	0	8	14	0	1	42	4	0	47	0	3	46	6	0	55	102	116
12:30 PM	0	5	0	3	0	8	0	2	1	6	0	9	17	0	2	34	8	0	44	0	1	53	2	0	56	100	117
12:45 PM	0	7	0	2	0	9	0	1	0	1	0	2	11	0	1	44	3	0	48	0	4	43	2	0	49	97	108
Total	0	19	0	9	0	28	0	11	2	16	0	29	57	0	4	173	21	0	198	0	9	190	16	0	215	413	470
2:00 PM	0	4	1	5	0	10	0	0	0	4	0	4	14	0	3	42	10	0	55	0	5	46	9	0	60	115	129
2:15 PM	0	6	0	4	0	10	0	2	0	3	0	5	15	0	2	45	9	0	56	0	2	45	6	0	53	109	124
2:30 PM	0	4	1	3	0	8	0	4	0	5	0	9	17	0	0	54	14	0	68	0	4	51	7	0	62	130	147
2:45 PM	0	7	0	8	0	15	0	5	0	5	0	10	25	0	4	43	6	0	53	0	7	81	6	0	94	147	172
Total	0	21	2	20	0	43	0	11	0	17	0	28	71	0	9	184	39	0	232	0	18	223	28	0	269	501	572
3:00 PM	0	4	0	7	0	11	0	2	1	6	0	9	20	0	4	42	8	0	54	0	1	60	8	0	69	123	143
3:15 PM	0	11	0	6	0	17	0	2	0	4	0	6	23	0	1	36	7	0	44	0	7	52	4	0	63	107	130
3:30 PM	0	11	0	1	0	12	0	6	0	2	0	8	20	0	1	49	10	0	60	0	7	48	6	0	61	121	141
3:45 PM	0	6	0	7	0	13	0	5	0	7	0	12	25	0	0	60	12	0	72	0	2	48	5	0	55	127	152
Total	0	32	0	21	0	53	0	15	1	19	0	35	88	0	6	197	37	0	230	0	17	208	23	0	248	478	566
4:00 PM	0	7	0	5	0	12	0	2	0	0	0	2	14	0	3	40	6	0	49	0	8	55	3	0	66	115	129
4:15 PM	0	10	0	2	0	12	0	3	0	5	0	8	20	0	2	58	9	0	69	0	5	56	8	0	69	138	158
4:30 PM	0	10	0	7	0	17	0	5	0	8	0	13	30	0	3	67	15	0	85	0	4	47	4	0	55	140	170
4:45 PM	0	13	0	7	0	20	0	4	0	6	0	10	30	0	5	52	17	0	74	0	5	54	4	0	63	137	167
Total	0	40	0	21	0	61	0	14	0	19	0	39	94	0	13	217	47	0	277	0	22	212	19	0	253	530	624
5:00 PM	0	11	0	2	0	13	0	3	0	1	0	4	17	0	3	71	18	0	92	0	2	76	3	0	81	173	190
5:15 PM	0	19	0	2	0	21	0	4	0	4	0	8	29	0	0	55	19	0	74	0	12	79	5	0	96	170	199
5:30 PM	0	18	0	11	0	29	0	1	0	4	0	5	34	0	2	49	8	0	59	0	6	65	3	0	74	133	167
5:45 PM	0	11	0	3	0	14	0	1	0	0	0	1	15	1	4	33	16	0	54	0	5	62	5	0	72	126	141
Total	0	59	0	18	0	77	0	9	0	9	0	18	95	1	9	208	61	0	279	0	25	282	16	0	323	602	697

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Herbert Street
 OBSERVER: VHB
 WEATHER: Good

CITY: Port Orange
 INTERSECTING ROUTE: Car Wash-Cumberland Farms driveways
 DATE OF COUNT: 10/2/25
 ROAD CONDITION: Good
 COUNT PERIODS:

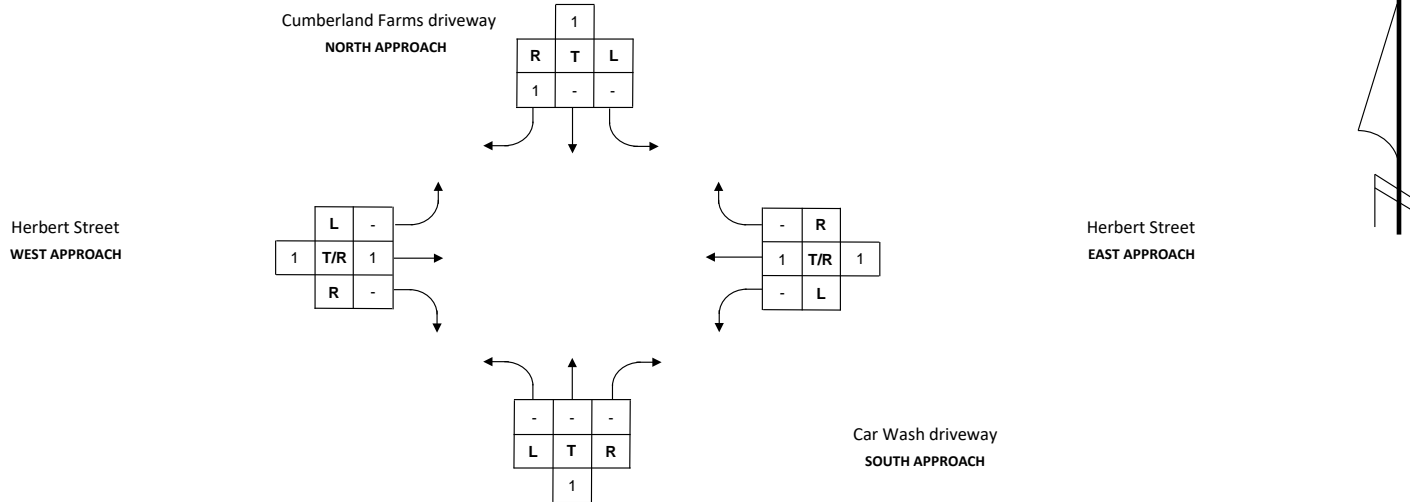
COUNTY: Volusia
 COMPLETED BY: MW
 DATE COMPLETED: 10/2/25

HEAVY VEHICLES (TRUCKS + BUSES)

Direction Start Time	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0		
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0		
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0		
7:45 AM	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6	0	7	0	0	0	0	0	0	7		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	1		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1		
8:45 AM	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	3	0	0	3	4		
9:00 AM	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		
9:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	0	2		
9:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1		
9:45 AM	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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	3	0	0	3	5		
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1		
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	3	0	0	0	3		
12:30 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	0		
12:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	2	0	0	2	0	0	0	0	2		
Total	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	5	0	5	0	0	3	0	0	3	8		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1		
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1		
2:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	2	0	2	0	0	4	0	0	0	4		
2:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	1	0	0	1	0	0	0	0	0	1		
Total	0	0	0	0	0	0	0	0	0	2	0	2	2	0	0	5	0	5	0	0	4	1	0	5	10		
3:00 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	0		
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	1	0	0	0	2		
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	3	0	0	4	5		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	2	0	0	3		
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	1	0	0	0	0	1		
4:45 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	0		
Total	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	4	0	4	0	4	2	0	0	6	10		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	1		
5:15 PM	0	1	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	1	2		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1		
Total	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	2	0	1	2	1	4	6	7	

MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS

MAJOR ROUTE: Herbert Street OBSERVER: VHB WEATHER: Good REMARKS: _____	CITY: Port Orange INTERSECTING ROUTE: Car Wash-Cumberland Farms driveways DATE: 10/2/25 ROAD CONDITION: Good	COUNTY: Volusia COMPLETED BY: MW DATE COMPLETED: 10/2/25
---	---	---



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR	TOT		N/S	U	L	T	R	RTOR	TOT	U	L	T	R	RTOR		TOT	E/W
7:00 - 8:00	0	0	0	0	0	0	0	18	0	11	0	29	29	0	7	190	0	0	197	0	0	224	30	0	254	451
8:00 - 9:00	0	2	0	0	0	2	0	5	0	22	0	27	29	0	5	150	1	0	156	0	1	189	21	0	211	367
9:00 - 10:00	0	1	0	0	0	1	0	10	0	11	0	21	22	0	8	140	3	0	151	0	0	169	18	0	187	338
12:00 - 13:00	0	19	0	9	0	28	0	11	2	16	0	29	57	0	4	173	21	0	198	0	9	190	16	0	215	413
14:00 - 15:00	0	21	2	20	0	43	0	11	0	17	0	28	71	0	9	184	39	0	232	0	18	223	28	0	269	501
15:00 - 16:00	0	32	0	21	0	53	0	15	1	19	0	35	88	0	6	187	37	0	230	0	17	208	23	0	248	478
16:00 - 17:00	0	40	0	21	0	61	0	14	0	19	0	33	94	0	13	217	47	0	277	0	22	212	19	0	253	530
17:00 - 18:00	0	59	0	18	0	77	0	9	0	9	0	18	95	1	9	208	61	0	279	0	25	282	16	0	323	602
TOTAL	1	261	5	140	0	407	0	153	7	178	0	338	745	1	95	2,174	316	0	2,586	0	123	2,372	239	0	2,734	5,320

Percentage	0.2%	64.1%	1.2%	34.4%	0.0%	100.0%	0.0%	45.3%	2.1%	52.7%	0.0%	100.0%	N/A	0.0%	3.7%	84.1%	12.2%	0.0%	100.0%	0.0%	4.5%	86.8%	8.7%	0.0%	100.0%	N/A
Maximum	1	59	2	27	0	77	0	18	2	22	0	35	95	1	13	217	61	0	279	0	25	282	30	0	323	602
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	
Total Heavy Veh	2		0	0	0	2	2		0	4	0	6	8	2		41	1	0	44	2		29	4	0	35	79
% Heavy Veh	0.8%		0.0%	0.0%	0.0%	0.5%	1.3%		0.0%	2.2%	0.0%	1.8%	1.1%	2.1%		1.9%	0.3%	1.7%	1.6%		1.2%	1.7%	0.0%	1.3%	1.5%	

MetroPlan Orlando
BICYCLE MOVEMENT SUMMARY

MAJOR ROUTE Herbert Street
OBSERVER VHB
COUNTY Volusia

CITY Port Orange
INTERSECTING ROUTE Car Wash-Cumberland Farms driveways
DATE OF COUNT 10/2/25
WEATHER Good
COMPLETED BY MW
DATE 10/2/25

COUNT HOURS

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	2	0	0	0	0	0	0	0	3
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	0	4

0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	0	0
15-16	0	0	0
16-17	0	0	0
17-18	0	0	0
18-19	0	0	0
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	0	0	0

WEST APPROACH
 Herbert Street

NORTH APPROACH
 Cumberland Farms driveway

SOUTH APPROACH
 Car Wash driveway

EAST APPROACH
 Herbert Street

0-1	0	0	0
1-2	0	0	0
2-3	0	0	0
3-4	0	0	0
4-5	0	0	0
5-6	0	0	0
6-7	0	0	0
7-8	0	0	0
8-9	0	0	0
9-10	0	0	0
10-11	0	0	0
11-12	0	0	0
12-13	0	0	0
13-14	0	0	0
14-15	0	0	0
15-16	0	0	0
16-17	0	0	0
17-18	0	0	0
18-19	0	1	1
19-20	0	0	0
20-21	0	0	0
21-22	0	0	0
22-23	0	0	0
23-24	0	0	0
Total	0	1	1

12-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	Total
0	0	0	0	0	0	0	1	1	1	0	0	1	1	1	0	0	0	1	0	0	0	0	0	7
0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	5	0	0	0	0	0	0	0	9
0	0	0	0	0	0	0	1	2	1	0	0	2	2	2	0	5	0	1	0	0	0	0	0	16

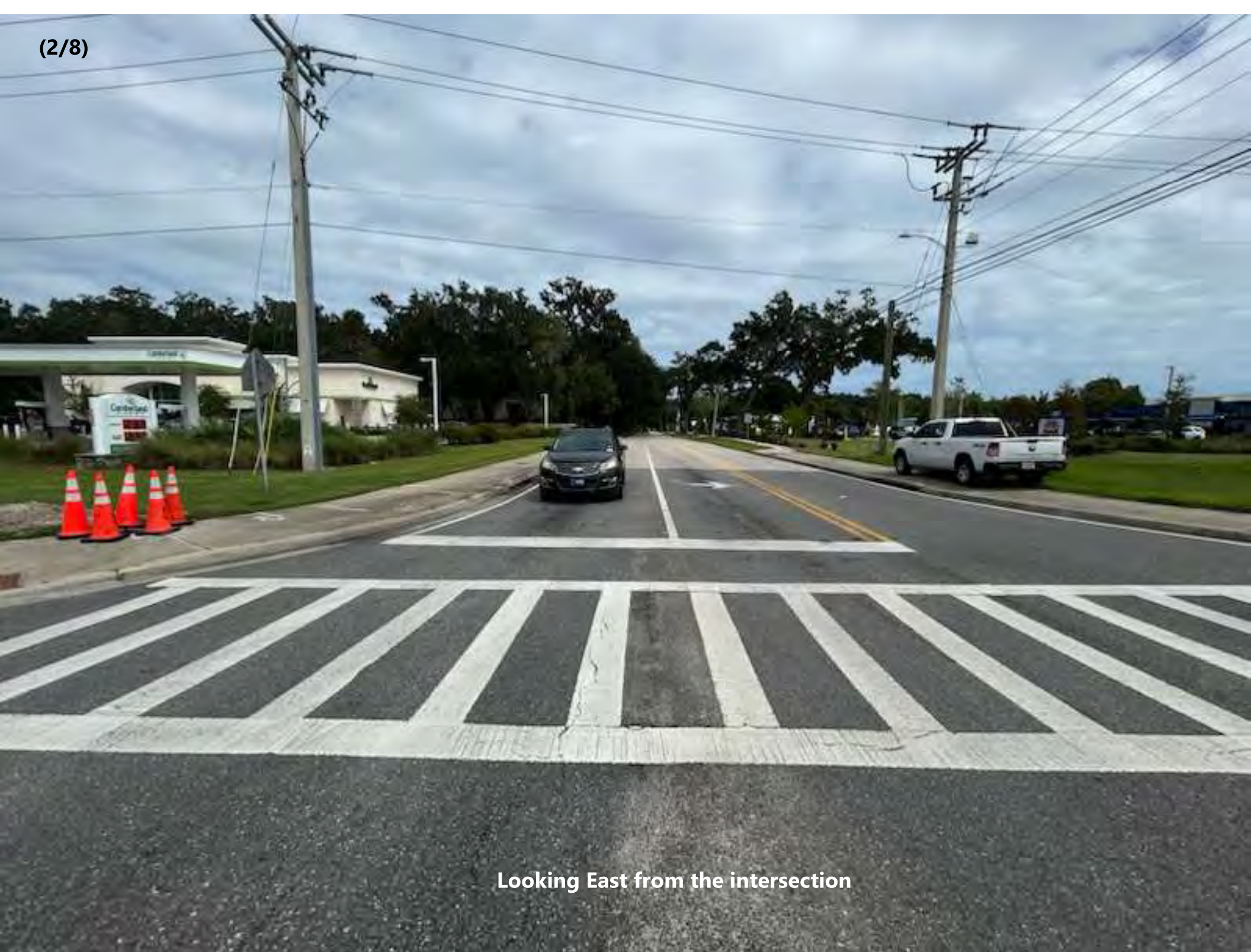
Nova Road and Herbert Street
Existing Field Photos

(1/8)



Looking North from the intersection

(2/8)



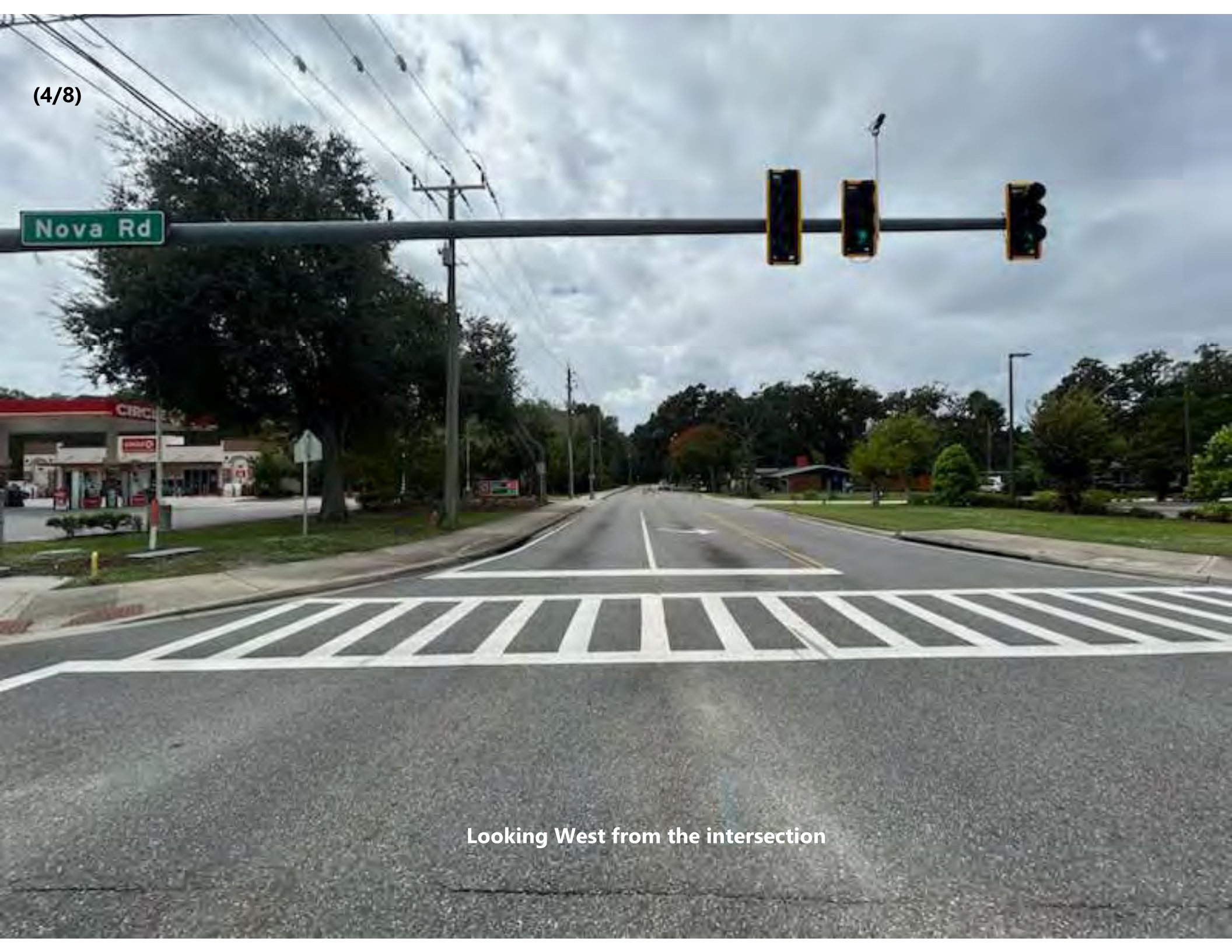
Looking East from the intersection

(3/8)



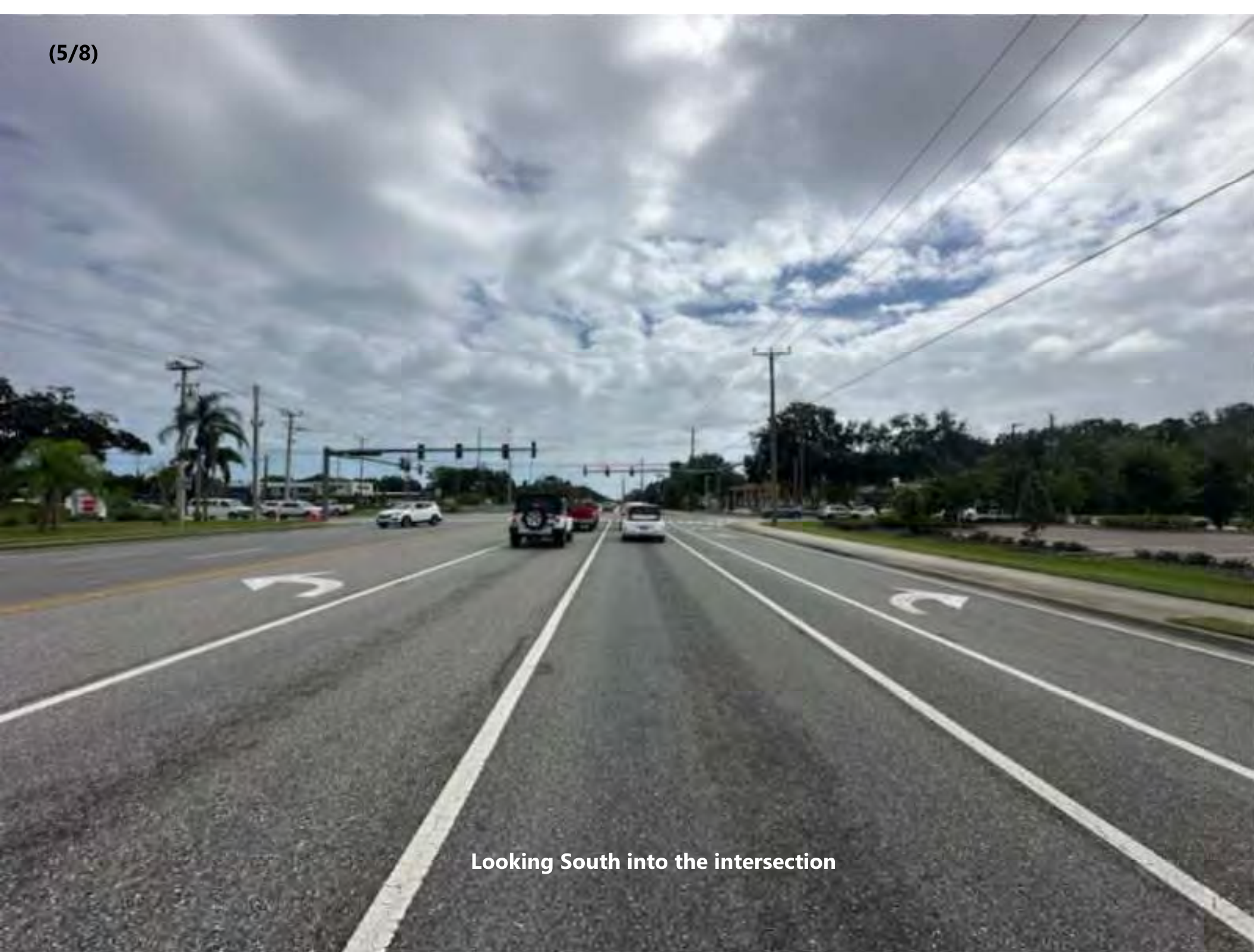
Looking South from the intersection

(4/8)



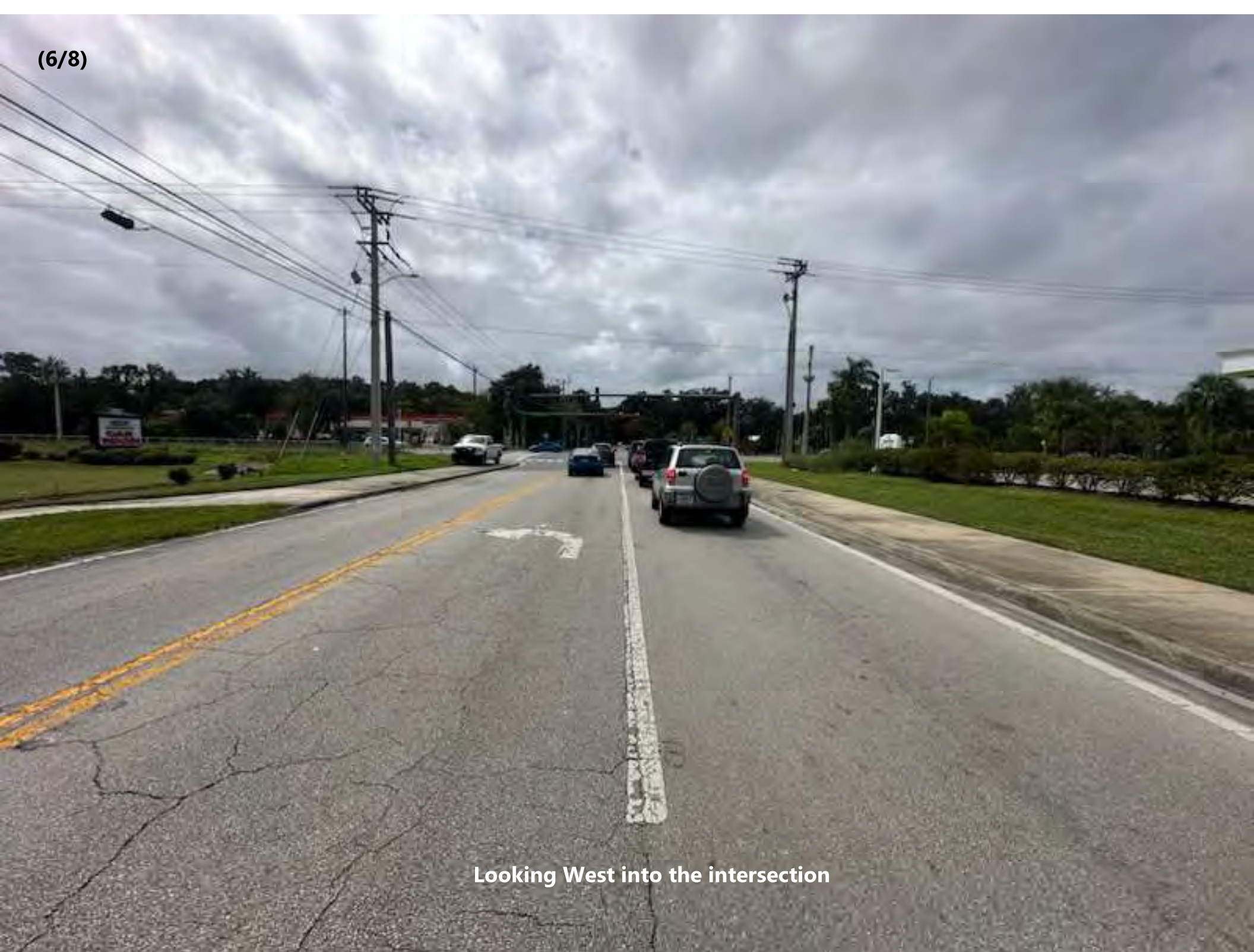
Looking West from the intersection

(5/8)



Looking South into the intersection

(6/8)



Looking West into the intersection

(7/8)



Looking North into the intersection

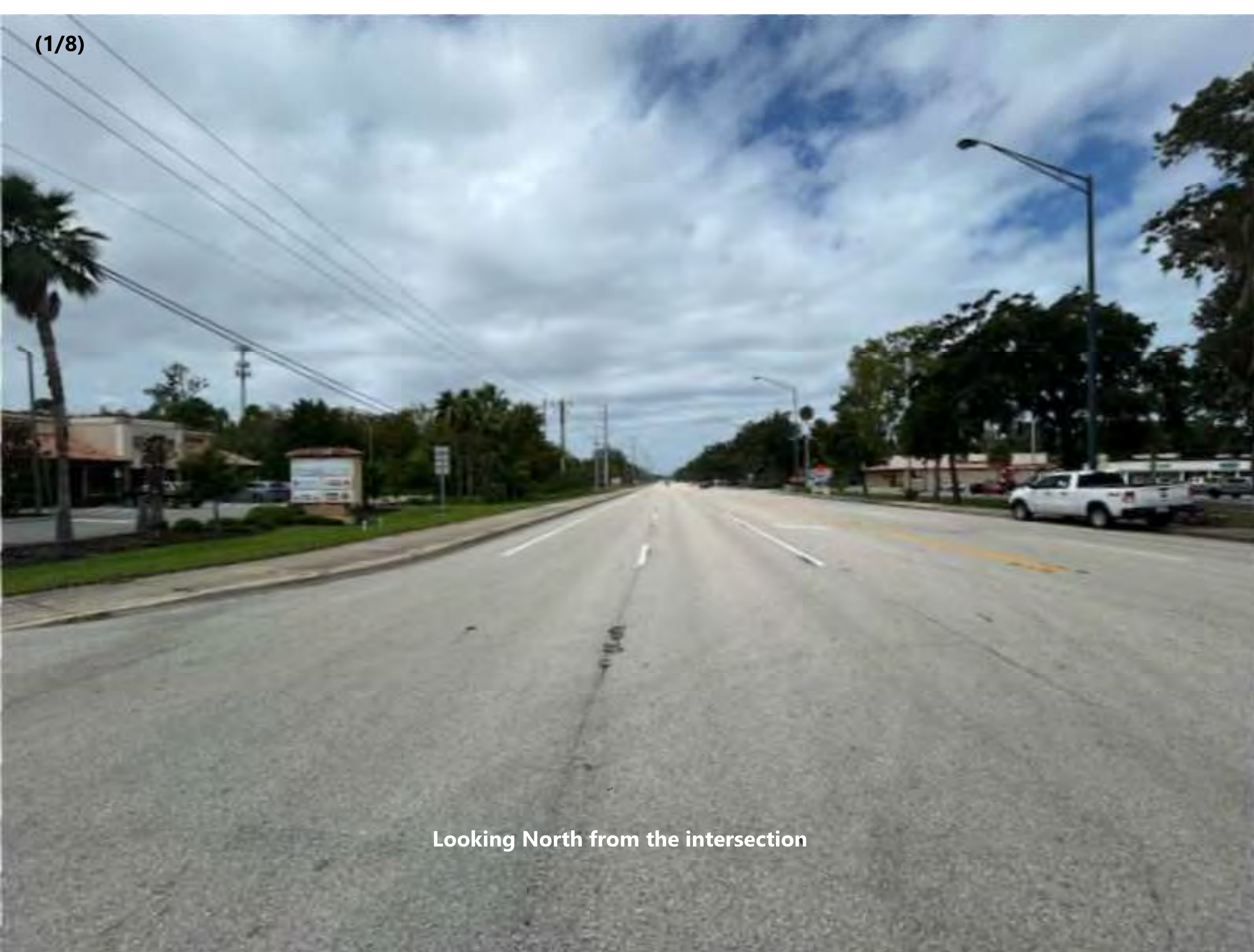
(8/8)



Looking East into the intersection

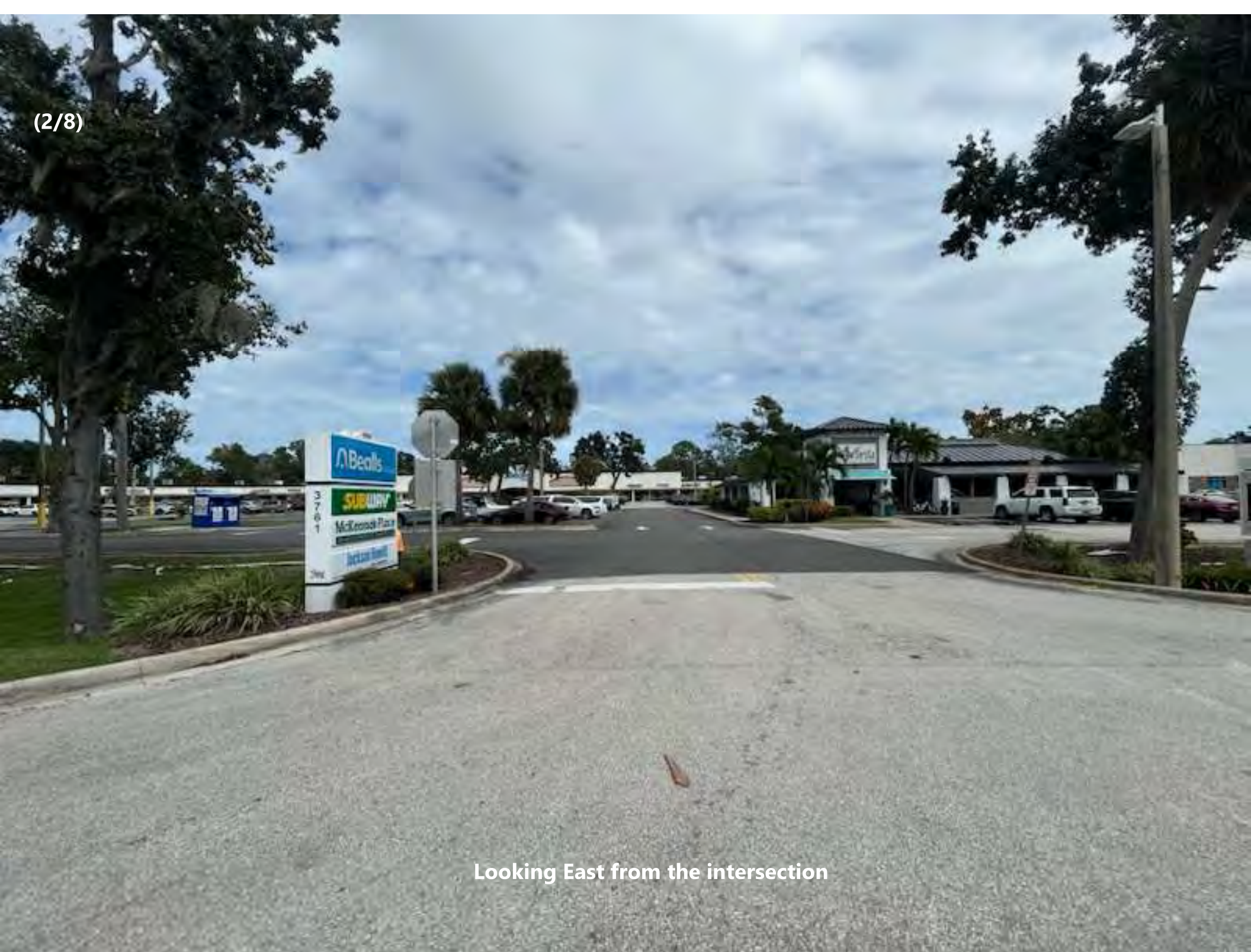
Nova Road and Eagle Lake Trail
Existing Field Photos

(1/8)



Looking North from the intersection

(2/8)



Looking East from the intersection

(3/8)



Looking South from the intersection

(4/8)

Looking West from the intersection



(5/8)



Looking South into the intersection

(6/8)



Looking West into the intersection

(7/8)



Looking North into the intersection

(8/8)



Looking East into the intersection

APPENDIX B:
BEER, TRENDS and Model Growth Rates

Projections of Florida Population by County, 2025–2050, with Estimates for 2024

Stefan Rayer, Population Program Director
Conor Comfort, Research Demographer

The Bureau of Economic and Business Research (BEBR) at the University of Florida has produced population projections for Florida and its counties since the 1970s. This report presents our 2025 set of projections and describes the methodology used to construct those projections. To account for uncertainty regarding future population growth, we publish three series of projections: low, medium, and high. We recommend using the medium series for most purposes; this series has historically provided the most accurate forecasts for Florida counties. It should be noted that these projections refer solely to the resident population of Florida; they do not include temporary or seasonal residents whose usual place of residence is in another jurisdiction.

State Projections

The starting point for the state-level projections was the decennial census count for April 1, 2020. Projections were made in one-year intervals using a cohort-component methodology in which births, deaths, and migration are projected separately for each age-sex cohort in Florida.

Survival rates were applied by single year of age and sex to project future deaths in the population. These rates were based on the CDC Florida Life Tables for 2019. We adjusted the survival rates for 2020–2030 to make them consistent with recent mortality trends, and to align the projected deaths with those from the State of Florida’s Demographic Estimating Conference (DEC) held June 30, 2025. After 2030, we made small

adjustments to the survival rates based on projected changes in survival rates released by the U.S. Census Bureau.

Domestic migration rates by age and sex were based on Public Use Microdata Sample (PUMS) files from the 2021–2023 American Community Survey (ACS) 1-year estimates and 2019–2023 ACS 5-year estimates. We calculated a weighted average of those two sets; projections based on input data from more than one period tend to be more accurate than those based on a single period. By combining 1-year ACS estimates, which are more current, with 5-year ACS estimates, which are more stable, we make use of the different strengths of each type of ACS data.

We applied smoothing techniques to the migration rates by single year of age and sex to adjust for data irregularities caused by small sample sizes. The smoothed in- and out-migration rates were weighted to account for recent changes in Florida’s population growth rates. Projections of domestic in-migration were made by applying weighted in-migration rates to the projected population of the United States (minus Florida), using the most recent set of national projections produced by the U.S. Census Bureau. Projections of out-migration were made by applying weighted out-migration rates to the Florida population. In both instances, rates were calculated separately for males and females for each age up to 90 and over.

The distribution of foreign immigrants by age and sex was also based on averages of the patterns observed

Projections of Florida Population by County, 2025–2050, with Estimates for 2024 (continued)

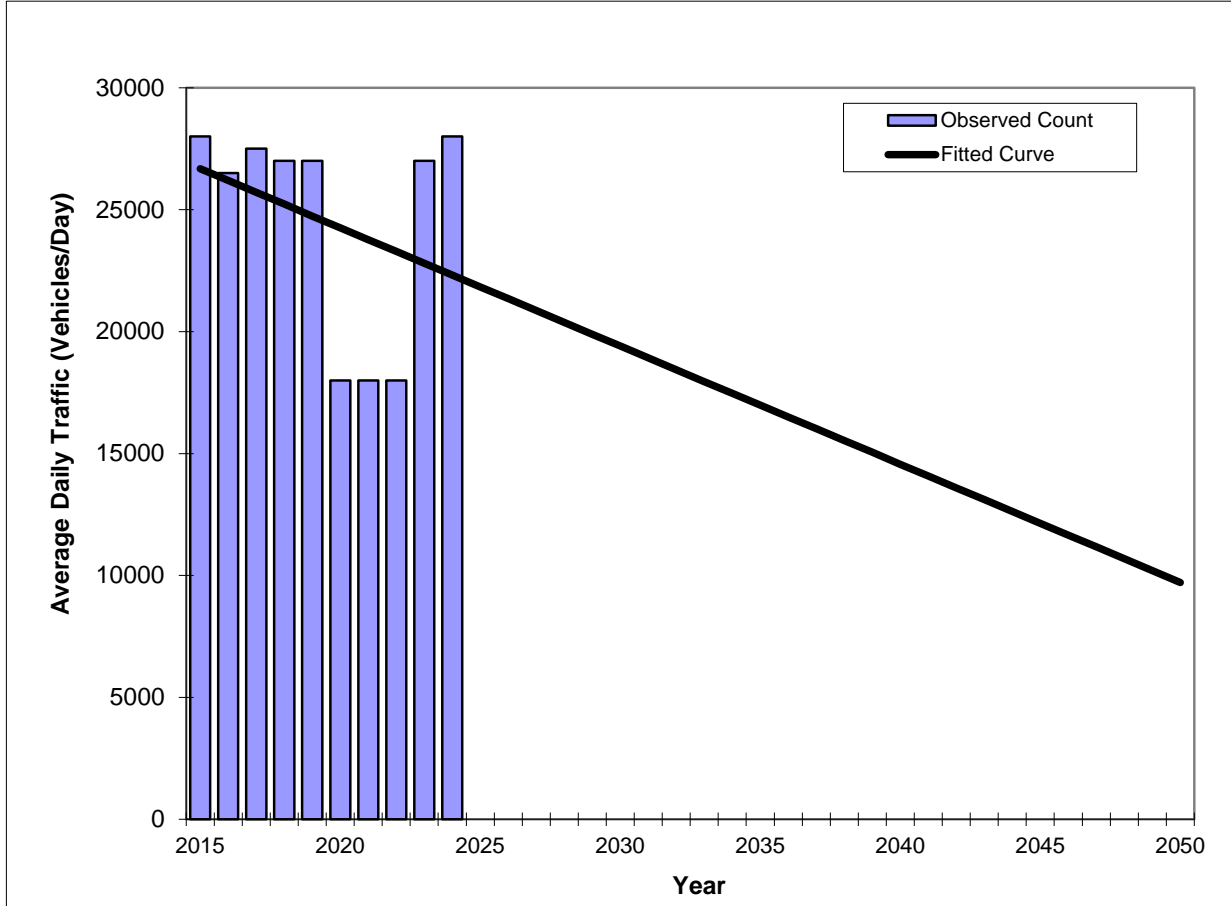
County and State	Estimates April 1, 2024	Projections, April 1					
		2025	2030	2035	2040	2045	2050
SANTA ROSA	207,983						
Low		206,400	217,300	221,800	223,200	222,500	221,000
Medium		212,800	233,100	248,500	260,900	271,000	280,100
High		219,200	249,000	275,200	298,600	319,500	339,200
SARASOTA	479,027						
Low		472,800	488,100	493,700	495,100	490,500	484,000
Medium		487,400	523,700	553,200	578,700	597,400	613,500
High		502,100	559,300	612,700	662,400	704,400	742,900
SEMINOLE	493,282						
Low		486,300	492,600	490,200	484,100	476,300	467,600
Medium		498,800	522,400	539,600	552,300	562,300	570,200
High		511,300	552,200	589,000	620,500	648,300	672,800
SUMTER	156,743						
Low		156,000	170,600	179,800	183,800	184,600	183,800
Medium		162,500	187,400	209,000	225,900	240,000	252,800
High		169,000	204,300	238,100	268,000	295,500	321,800
SUWANNEE	46,519						
Low		45,600	45,400	44,700	43,600	42,600	41,600
Medium		47,000	48,700	50,000	51,000	51,900	52,700
High		48,400	52,100	55,400	58,400	61,200	63,800
TAYLOR	21,802						
Low		21,300	20,900	20,300	19,700	19,100	18,600
Medium		21,900	22,400	22,700	23,000	23,300	23,500
High		22,600	23,900	25,200	26,400	27,500	28,500
UNION	16,100						
Low		15,900	16,000	15,800	15,500	15,200	14,800
Medium		16,300	17,200	17,700	18,200	18,500	18,800
High		16,800	18,400	19,600	20,800	21,800	22,800
VOLUSIA	594,643						
Low		585,000	595,300	595,100	588,900	578,800	567,600
Medium		603,000	638,700	666,800	688,400	705,000	719,400
High		621,100	682,200	738,400	787,900	831,200	871,200
WAKULLA	37,313						
Low		36,700	38,200	38,500	38,400	37,900	37,200
Medium		38,100	41,400	43,900	46,000	47,700	49,100
High		39,400	44,700	49,300	53,600	57,500	61,000
WALTON	87,728						
Low		86,900	93,400	97,000	98,600	98,400	97,300
Medium		90,500	102,700	112,700	121,200	127,900	133,900
High		94,200	111,900	128,400	143,800	157,400	170,400
WASHINGTON	26,568						
Low		25,900	25,500	24,900	24,200	23,400	22,600
Medium		26,800	27,700	28,400	28,900	29,400	29,800
High		27,800	29,900	31,900	33,700	35,400	37,000
FLORIDA	23,014,551						
Low		22,891,400	23,842,600	24,421,900	24,720,600	24,811,900	24,793,900
Medium		23,358,500	24,836,000	25,980,800	26,870,200	27,568,800	28,174,900
High		23,825,700	25,829,500	27,539,600	29,019,800	30,325,700	31,555,900

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.442 MI. N OF SR-421 (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791017
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	28,000	26,680
2016	26,500	26,200
2017	27,500	25,710
2018	27,000	25,230
2019	27,000	24,740
2020	18,000	24,260
2021	18,000	23,770
2022	18,000	23,290
2023	27,000	22,800
2024	28,000	22,320
2030 Opening Year Trend		
2030	N/A	19,410
2040 Interim Year Trend		
2040	N/A	14,560
2050 Design Year Trend		
2050	N/A	9,710
FSUTMS Forecasts/Trends		

Annual Trend Decrease:	485
Trend R-squared:	10.60%
Trend Annual Historic Growth Rate:	-1.82%
Trend Growth Rate (2024 to Design Year)	-2.17%
Printed:	1/6/2026
Linear Growth Option	

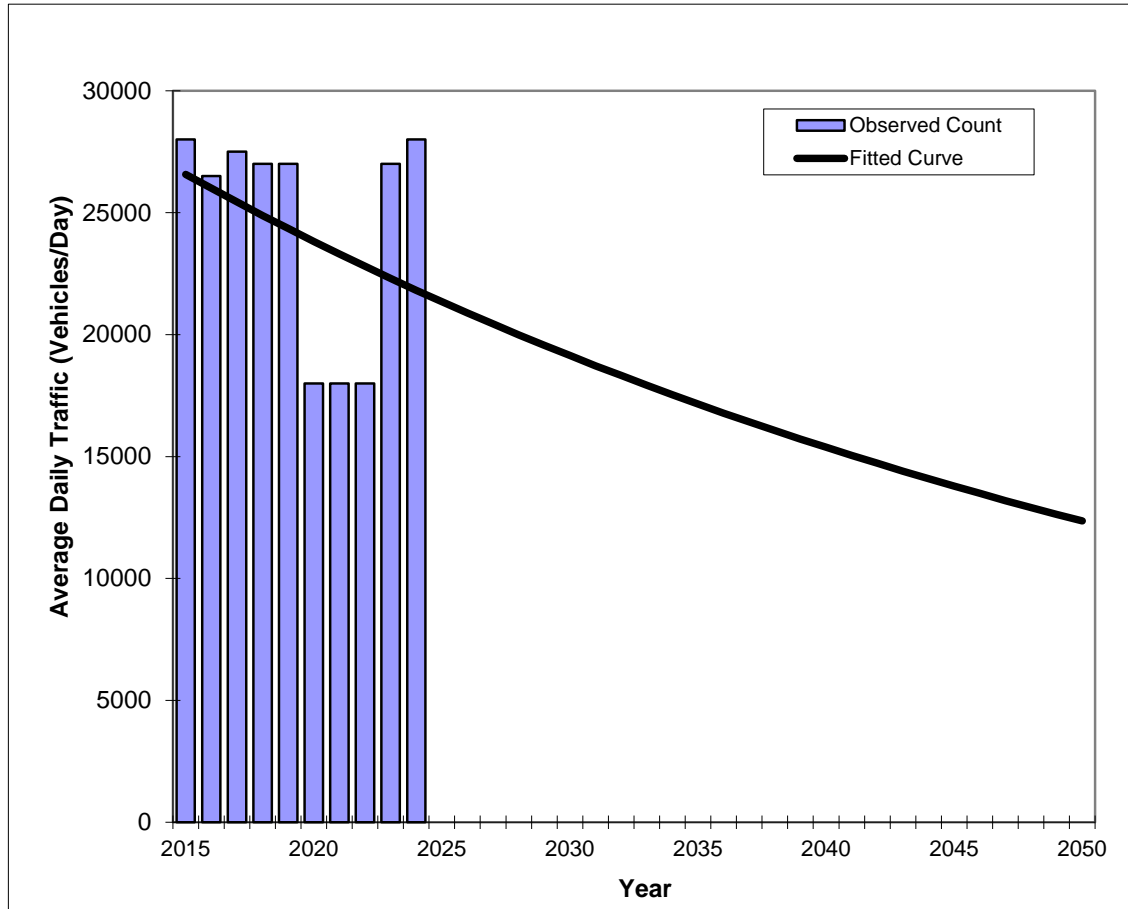
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.442 MI. N OF SR-421 (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791017
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	28,000	26,570
2016	26,500	26,000
2017	27,500	25,440
2018	27,000	24,880
2019	27,000	24,350
2020	18,000	23,820
2021	18,000	23,300
2022	18,000	22,800
2023	27,000	22,310
2024	28,000	21,820
2030 Opening Year Trend		
2030	N/A	19,140
2040 Interim Year Trend		
2040	N/A	15,380
2050 Design Year Trend		
2050	N/A	12,360
FSUTMS Forecasts/Trends		

Trend R-squared:	10.80%
Compounded Annual Historic Growth Rate:	-2.16%
Compounded Growth Rate (2024 to Design Year)	-2.16%
Printed:	1/6/2026
Exponential Growth Option	

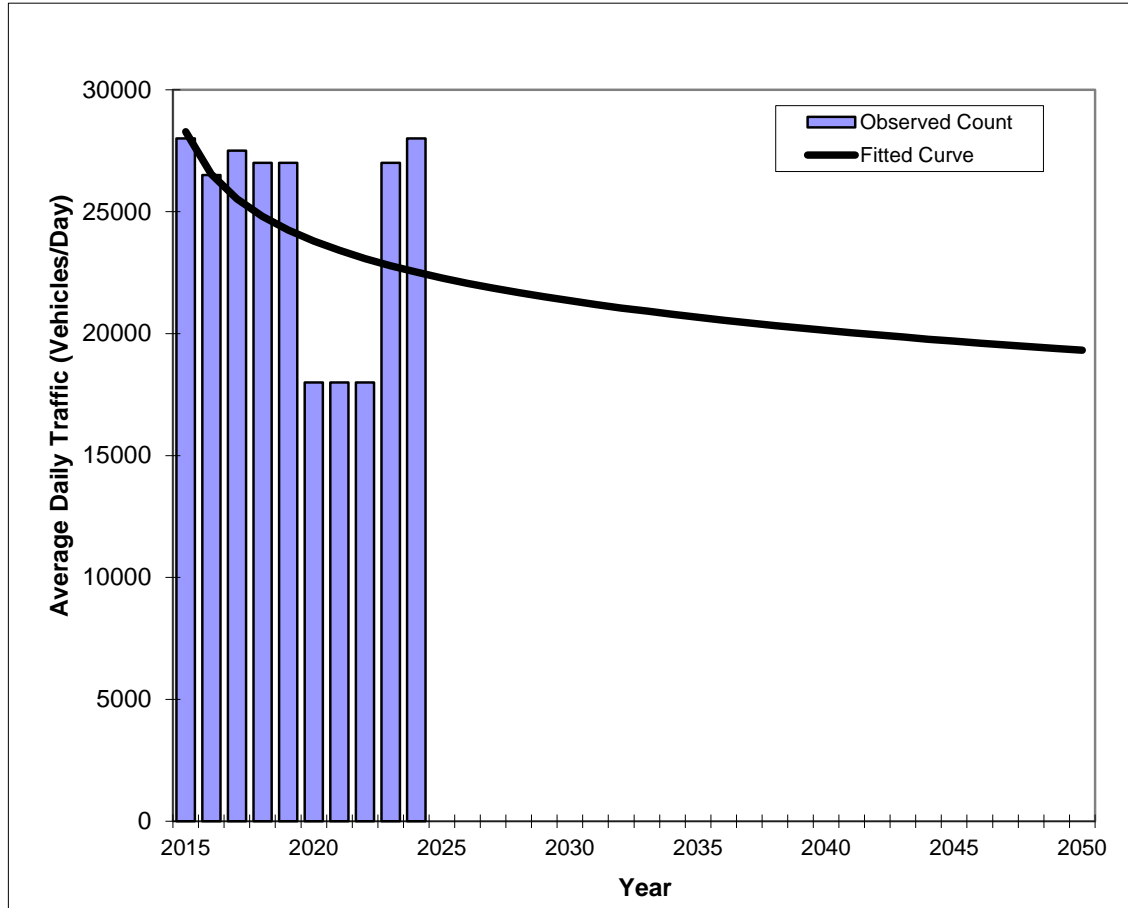
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.442 MI. N OF SR-421 (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791017
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	28,000	28,280
2016	26,500	26,540
2017	27,500	25,530
2018	27,000	24,810
2019	27,000	24,250
2020	18,000	23,800
2021	18,000	23,410
2022	18,000	23,080
2023	27,000	22,780
2024	28,000	22,520
2030 Opening Year Trend		
2030	N/A	21,350
2040 Interim Year Trend		
2040	N/A	20,130
2050 Design Year Trend		
2050	N/A	19,320
FSUTMS Forecasts/Trends		

Trend R-squared:	16.51%
Compounded Annual Historic Growth Rate:	-2.50%
Compounded Growth Rate (2024 to Design Year)	-0.59%
Printed:	1/6/2026
Decaying Exponential Growth Option	

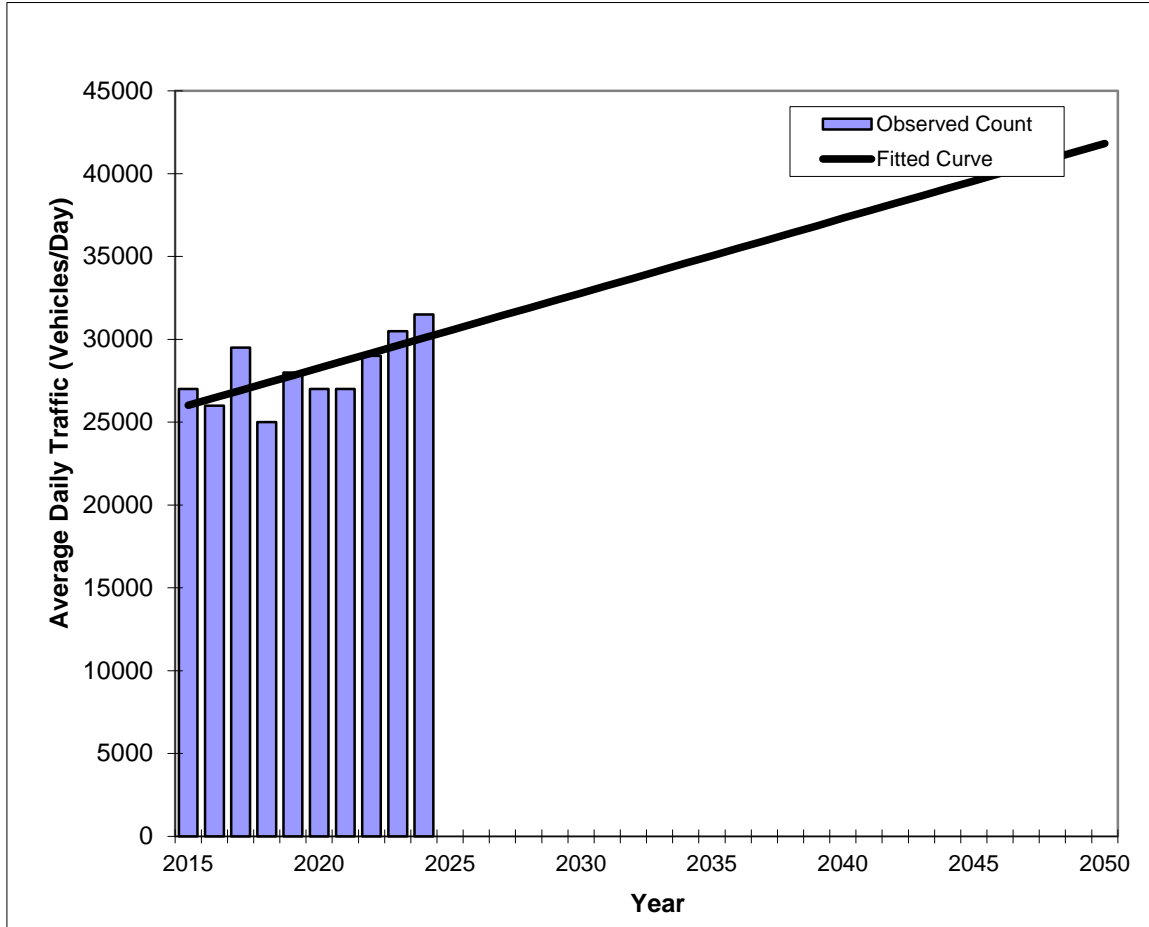
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.374 MI. S OF SR-421 (LP)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791016
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	27,000	26,020
2016	26,000	26,470
2017	29,500	26,920
2018	25,000	27,370
2019	28,000	27,820
2020	27,000	28,280
2021	27,000	28,730
2022	29,000	29,180
2023	30,500	29,630
2024	31,500	30,080
2030 Opening Year Trend		
2030	N/A	32,790
2040 Interim Year Trend		
2040	N/A	37,310
2050 Design Year Trend		
2050	N/A	41,820
FSUTMS Forecasts/Trends		

Annual Trend Increase:	452
Trend R-squared:	44.58%
Trend Annual Historic Growth Rate:	1.73%
Trend Growth Rate (2024 to Design Year)	1.50%
Printed:	1/6/2026
Linear Growth Option	

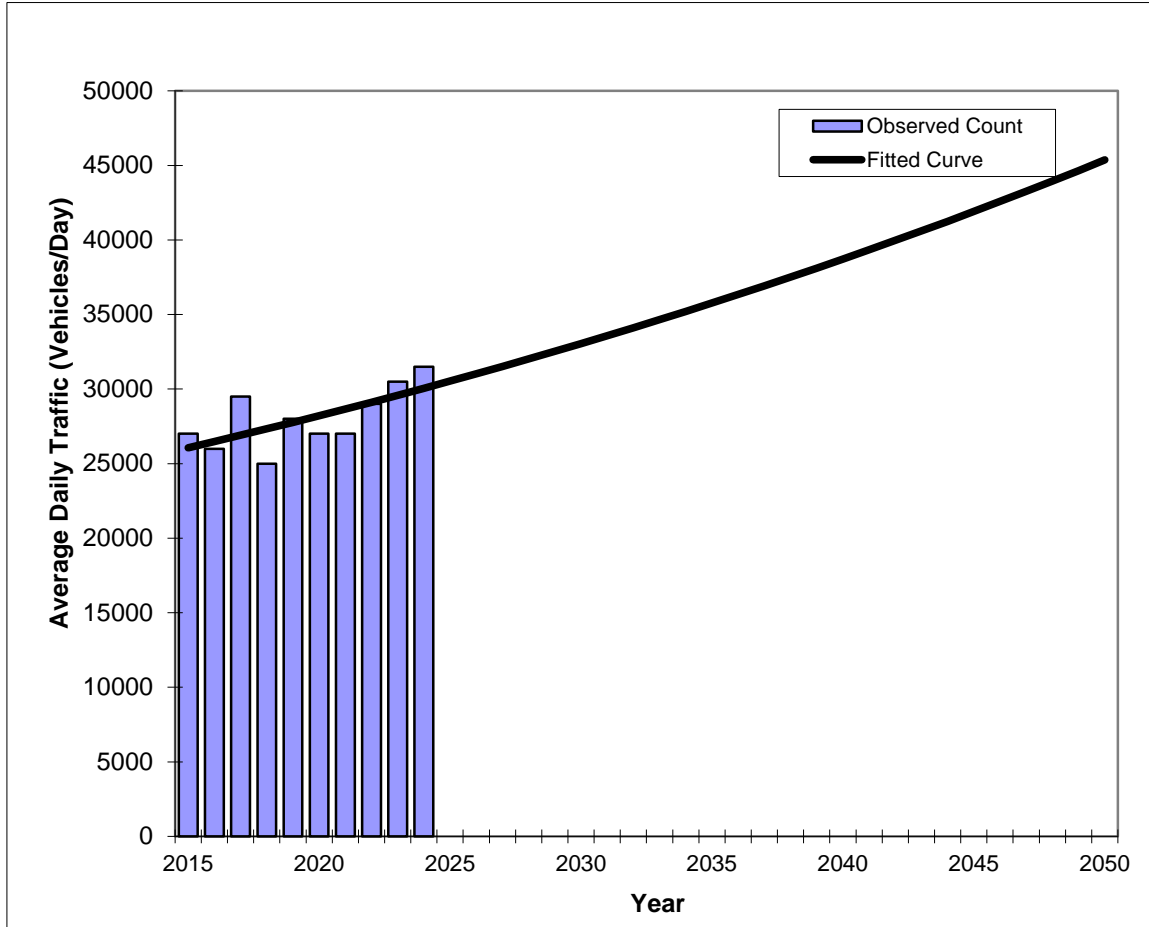
*Δvle, Δadjusted

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.374 MI. S OF SR-421 (LP)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791016
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	27,000	26,060
2016	26,000	26,470
2017	29,500	26,900
2018	25,000	27,330
2019	28,000	27,760
2020	27,000	28,210
2021	27,000	28,660
2022	29,000	29,110
2023	30,500	29,580
2024	31,500	30,050
2030 Opening Year Trend		
2030	N/A	33,050
2040 Interim Year Trend		
2040	N/A	38,720
2050 Design Year Trend		
2050	N/A	45,370
FSUTMS Forecasts/Trends		

Trend R-squared:	43.64%
Compounded Annual Historic Growth Rate:	1.60%
Compounded Growth Rate (2024 to Design Year)	1.60%
Printed:	1/6/2026
Exponential Growth Option	

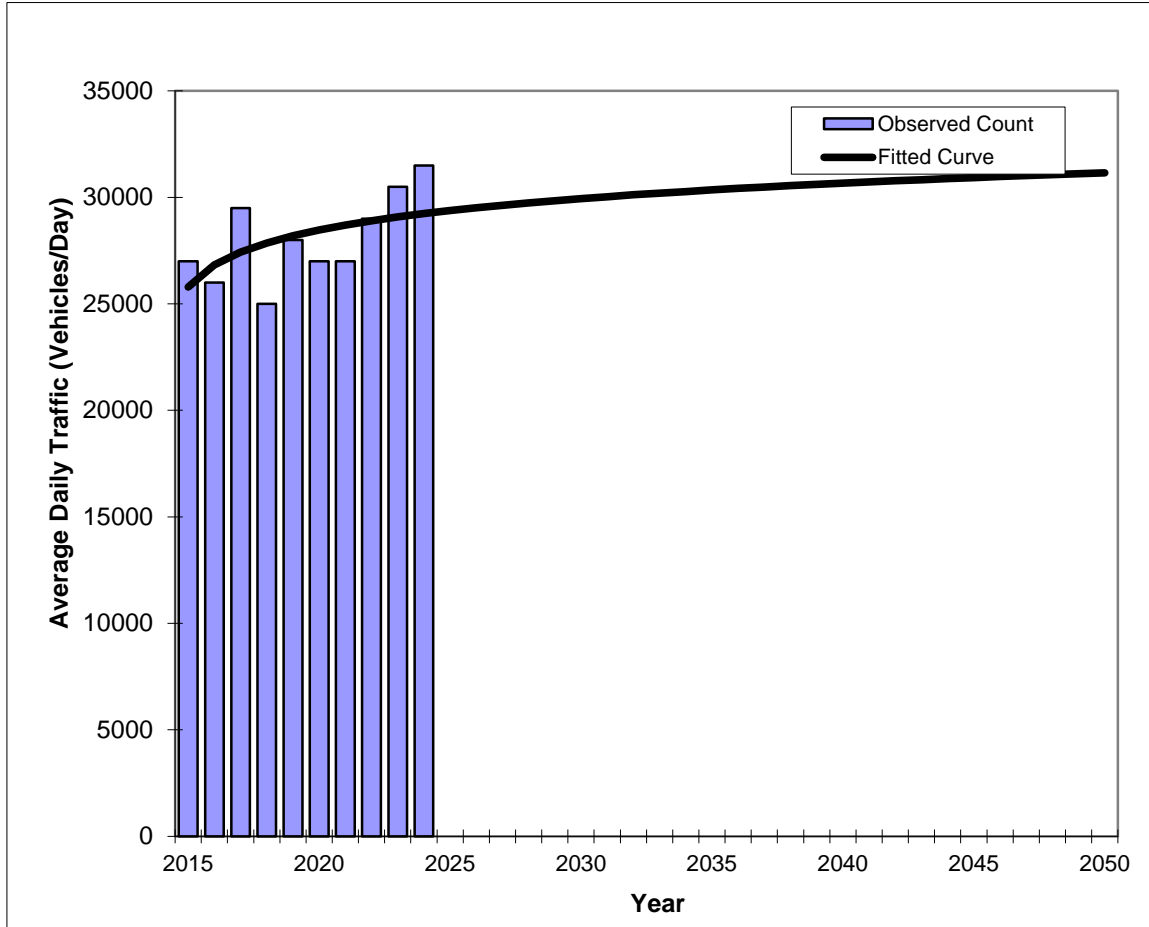
*Delta Adjusted

Traffic Trends - V2023

-- ON SR-5A (NOVA RD), 0.374 MI. S OF SR-421 (LP)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791016
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	27,000	25,790
2016	26,000	26,830
2017	29,500	27,430
2018	25,000	27,860
2019	28,000	28,200
2020	27,000	28,470
2021	27,000	28,700
2022	29,000	28,900
2023	30,500	29,080
2024	31,500	29,240
2030 Opening Year Trend		
2030	N/A	29,940
2040 Interim Year Trend		
2040	N/A	30,670
2050 Design Year Trend		
2050	N/A	31,150
FSUTMS Forecasts/Trends		

Trend R-squared:	28.74%
Compounded Annual Historic Growth Rate:	1.40%
Compounded Growth Rate (2024 to Design Year)	0.24%
Printed:	1/6/2026
Decaying Exponential Growth Option	

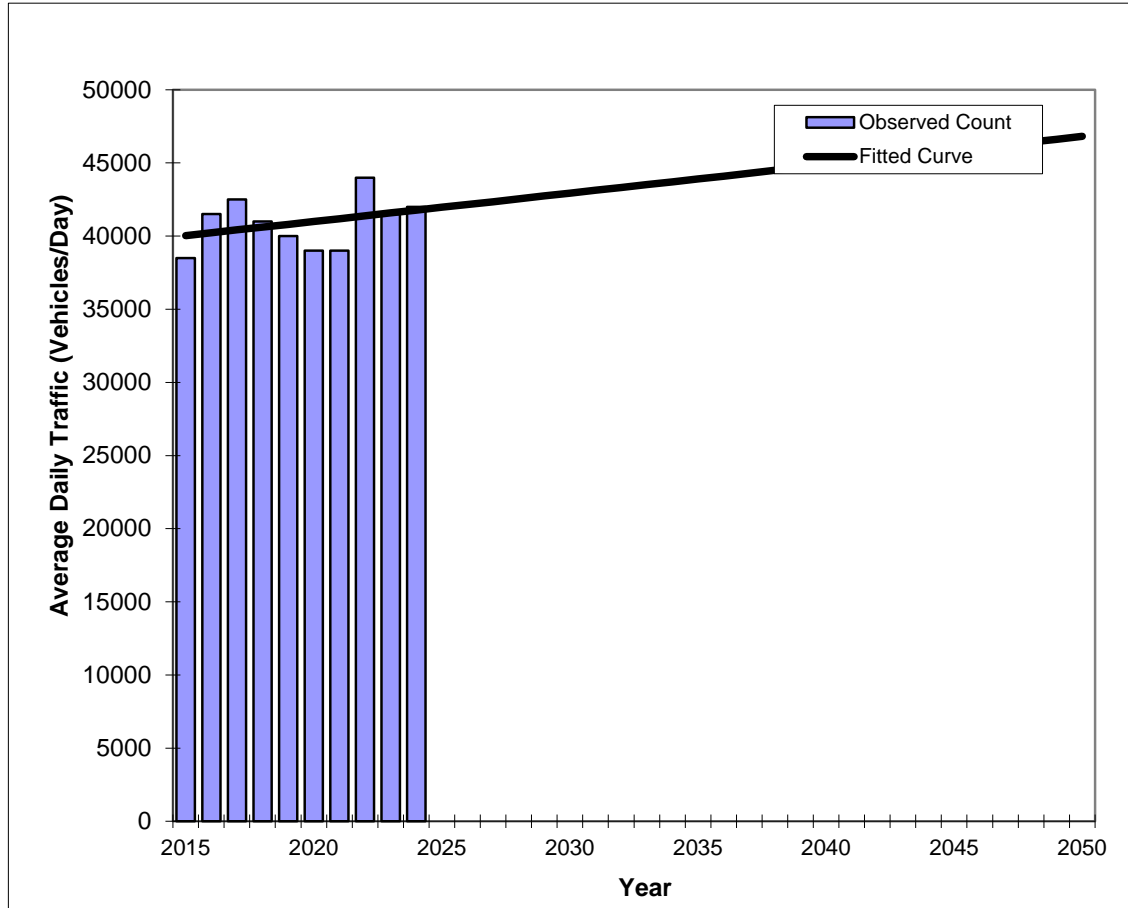
*Value Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.252 MI. W OF SR-5A (UV) BLT'24

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791014
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	38,500	40,030
2016	41,500	40,220
2017	42,500	40,420
2018	41,000	40,610
2019	40,000	40,800
2020	39,000	41,000
2021	39,000	41,190
2022	44,000	41,380
2023	41,500	41,580
2024	42,000	41,770
2030 Opening Year Trend		
2030	N/A	42,940
2040 Interim Year Trend		
2040	N/A	44,880
2050 Design Year Trend		
2050	N/A	46,820
FSUTMS Forecasts/Trends		

Annual Trend Increase:	194
Trend R-squared:	11.12%
Trend Annual Historic Growth Rate:	0.48%
Trend Growth Rate (2024 to Design Year)	0.47%
Printed:	1/6/2026
Linear Growth Option	

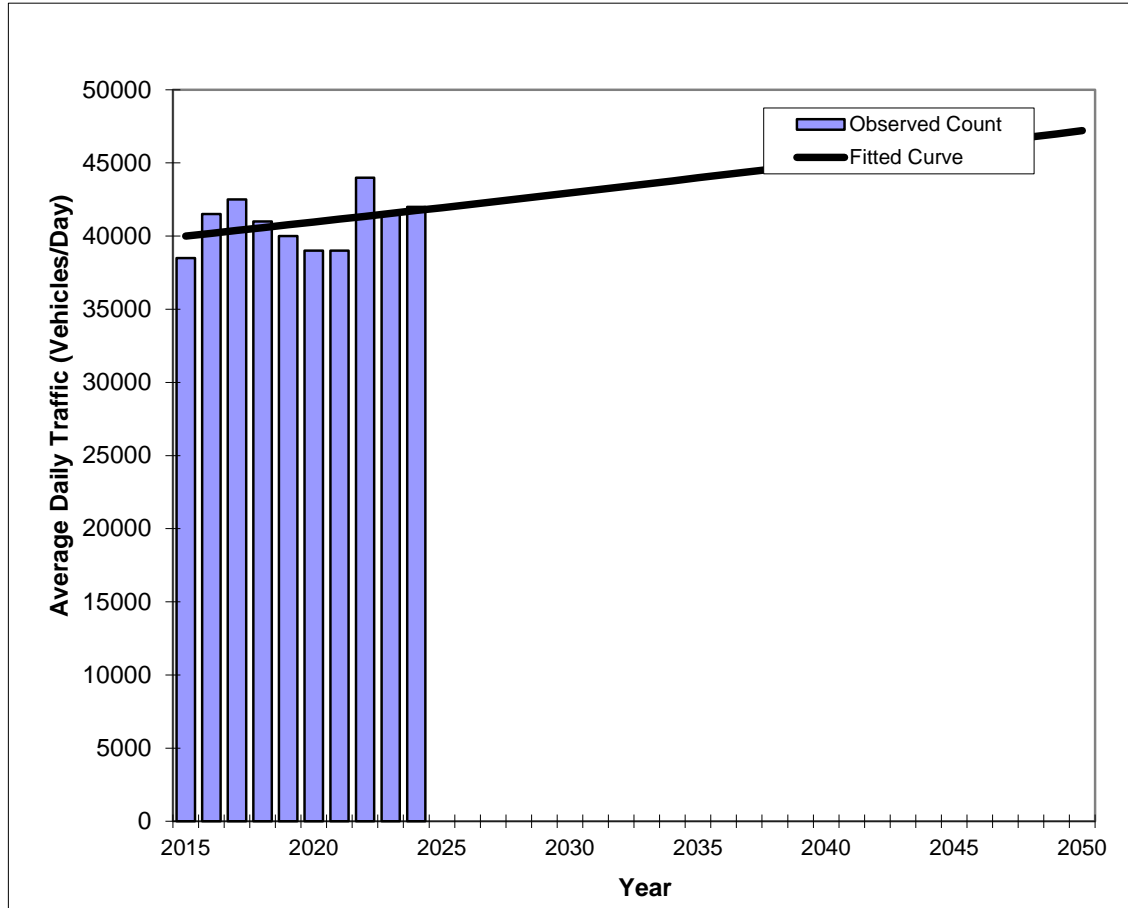
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.252 MI. W OF SR-5A (UV) BLT'24

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791014
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	38,500	40,000
2016	41,500	40,190
2017	42,500	40,390
2018	41,000	40,580
2019	40,000	40,770
2020	39,000	40,960
2021	39,000	41,160
2022	44,000	41,350
2023	41,500	41,550
2024	42,000	41,750
2030 Opening Year Trend		
2030	N/A	42,950
2040 Interim Year Trend		
2040	N/A	45,030
2050 Design Year Trend		
2050	N/A	47,210
FSUTMS Forecasts/Trends		

Trend R-squared:	11.13%
Compounded Annual Historic Growth Rate:	0.48%
Compounded Growth Rate (2024 to Design Year)	0.47%
Printed:	1/6/2026
Exponential Growth Option	

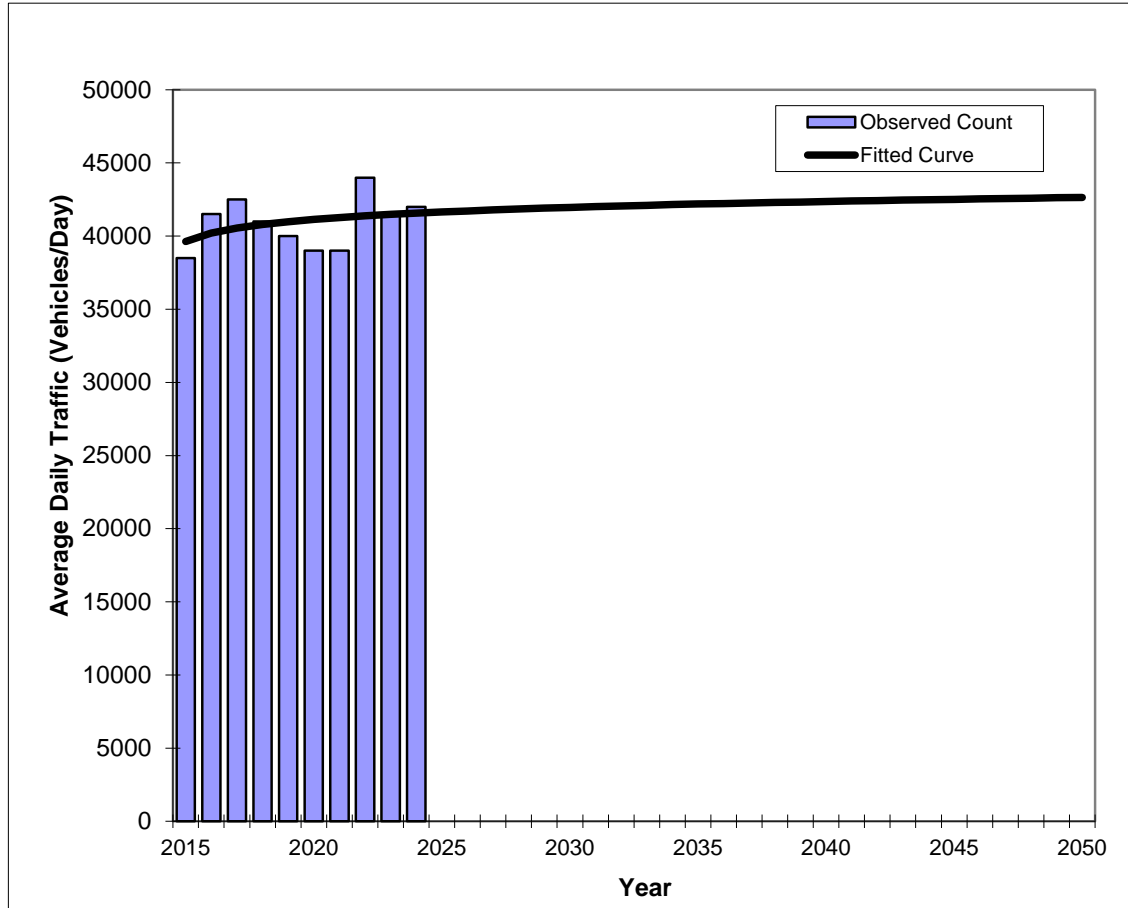
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.252 MI. W OF SR-5A (UV) BLT'24

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791014
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	38,500	39,630
2016	41,500	40,210
2017	42,500	40,550
2018	41,000	40,800
2019	40,000	40,980
2020	39,000	41,140
2021	39,000	41,270
2022	44,000	41,380
2023	41,500	41,480
2024	42,000	41,560
2030 Opening Year Trend		
2030	N/A	41,960
2040 Interim Year Trend		
2040	N/A	42,370
2050 Design Year Trend		
2050	N/A	42,640
FSUTMS Forecasts/Trends		

Trend R-squared:	12.22%
Compounded Annual Historic Growth Rate:	0.53%
Compounded Growth Rate (2024 to Design Year)	0.10%
Printed:	1/6/2026
Decaying Exponential Growth Option	

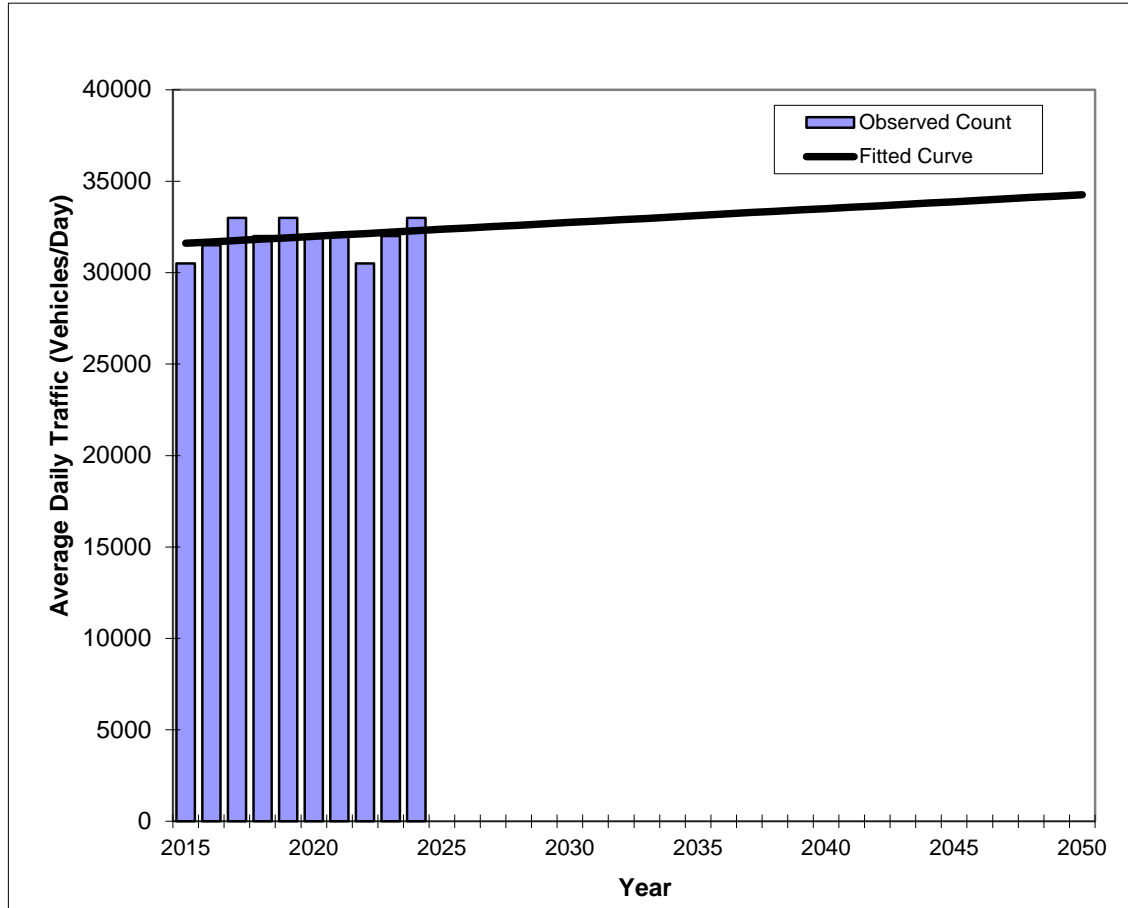
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.4385 MI. E OF SR-5A (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791015
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	30,500	31,610
2016	31,500	31,680
2017	33,000	31,760
2018	32,000	31,840
2019	33,000	31,910
2020	32,000	31,990
2021	32,000	32,060
2022	30,500	32,140
2023	32,000	32,220
2024	33,000	32,290
2030 Opening Year Trend		
2030	N/A	32,750
2040 Interim Year Trend		
2040	N/A	33,500
2050 Design Year Trend		
2050	N/A	34,260
FSUTMS Forecasts/Trends		

Annual Trend Increase:	76
Trend R-squared:	6.13%
Trend Annual Historic Growth Rate:	0.24%
Trend Growth Rate (2024 to Design Year)	0.23%
Printed:	1/6/2026
Linear Growth Option	

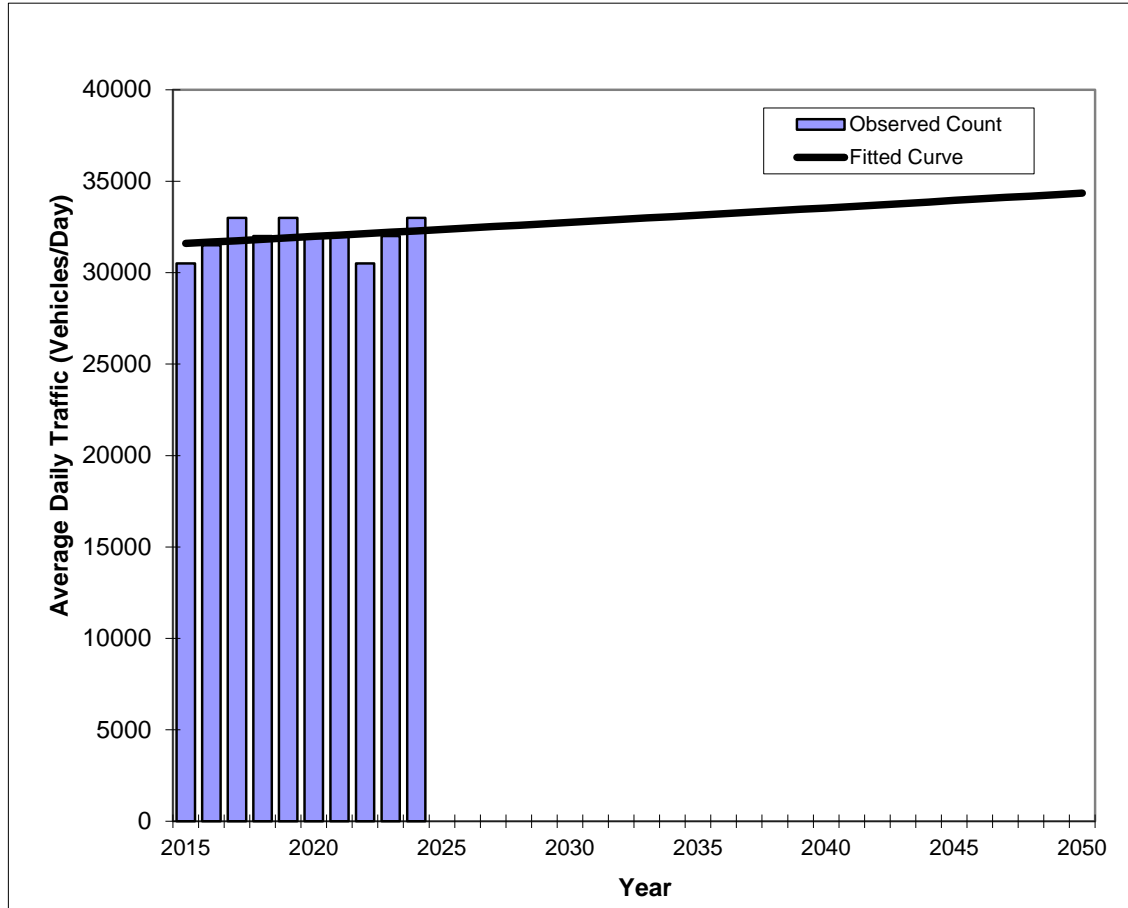
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.4385 MI. E OF SR-5A (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791015
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	30,500	31,600
2016	31,500	31,670
2017	33,000	31,750
2018	32,000	31,820
2019	33,000	31,900
2020	32,000	31,980
2021	32,000	32,050
2022	30,500	32,130
2023	32,000	32,210
2024	33,000	32,280
2030 Opening Year Trend		
2030	N/A	32,750
2040 Interim Year Trend		
2040	N/A	33,540
2050 Design Year Trend		
2050	N/A	34,350
FSUTMS Forecasts/Trends		

Trend R-squared:	6.16%
Compounded Annual Historic Growth Rate:	0.24%
Compounded Growth Rate (2024 to Design Year)	0.24%
Printed:	1/6/2026
Exponential Growth Option	

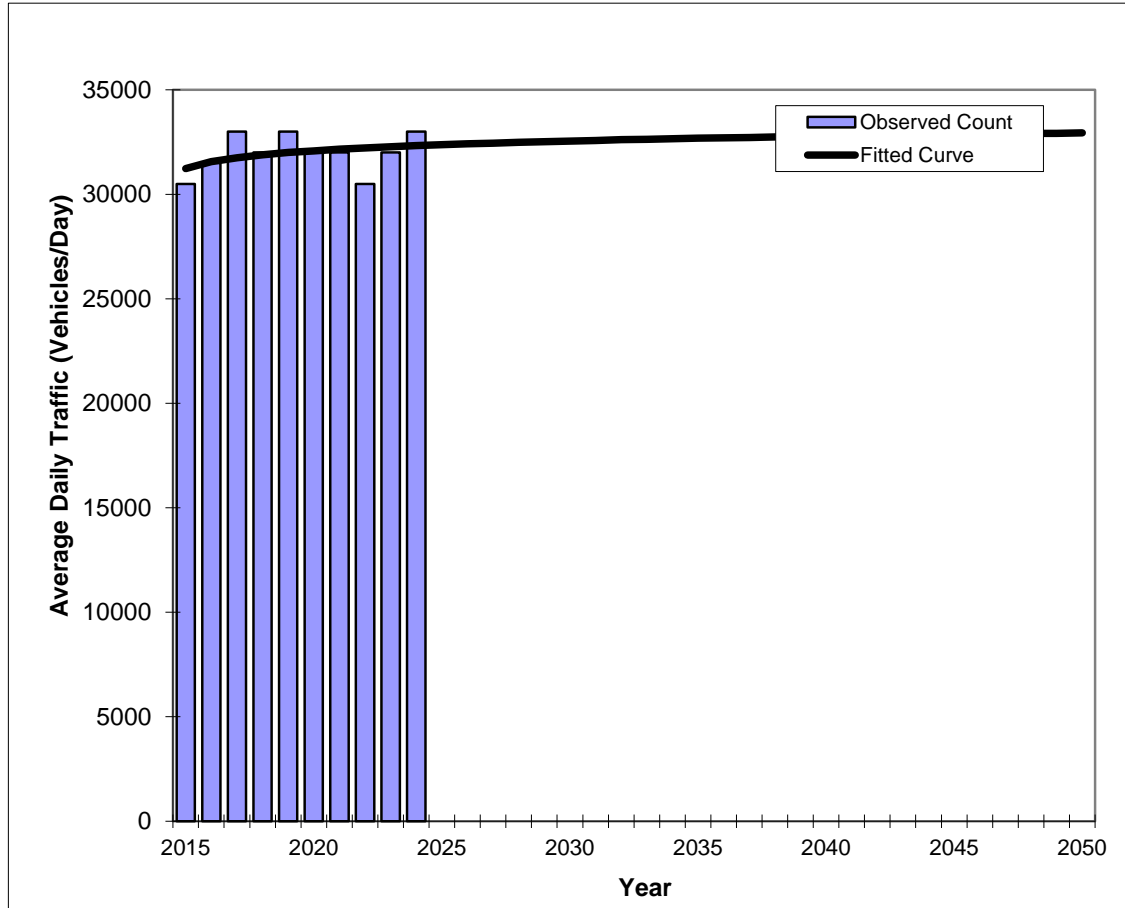
*Axle-Adjusted

Traffic Trends - V2023

-- ON SR-421, 0.4385 MI. E OF SR-5A (UVL)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	791015
Roadway:	

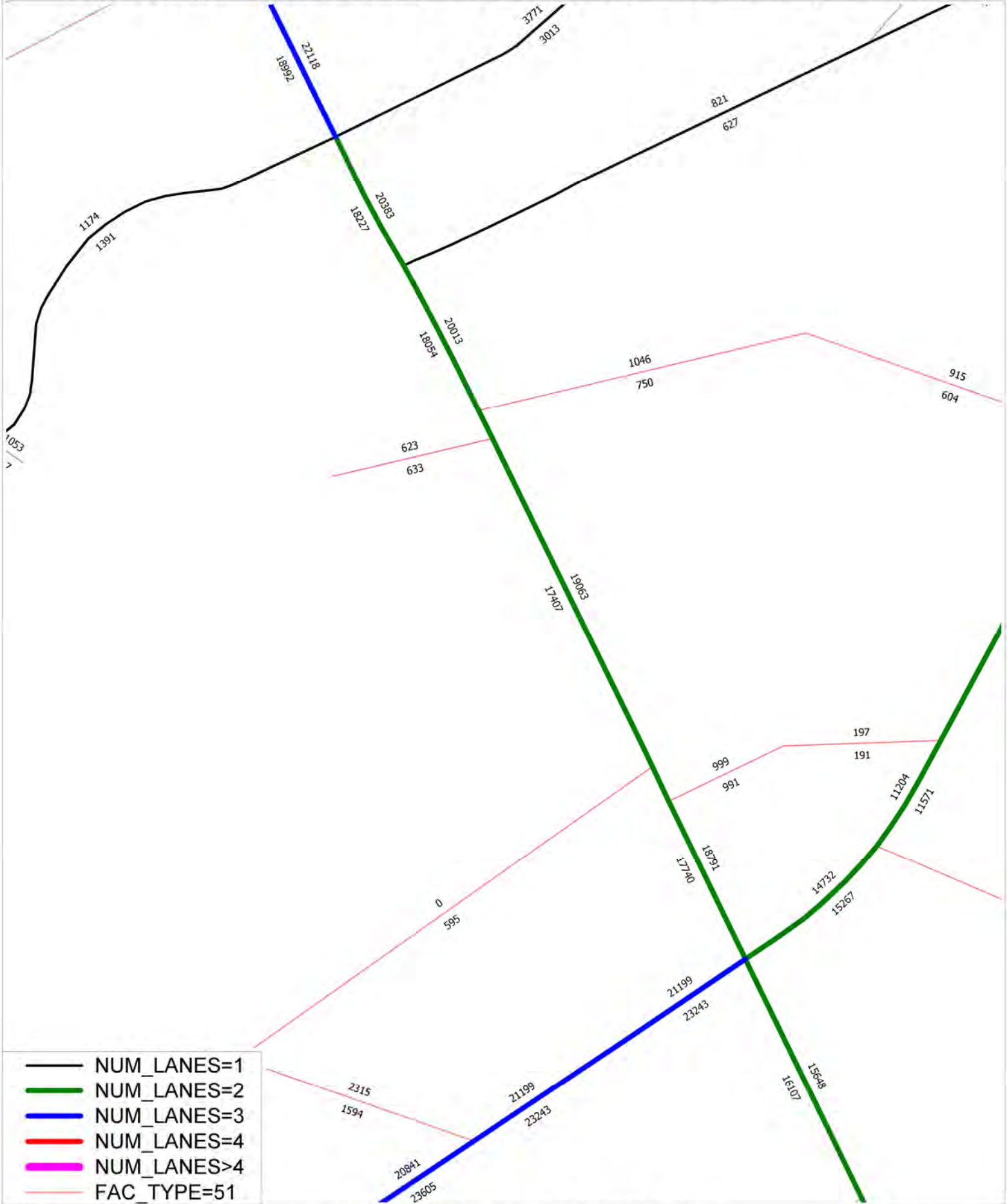


Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	30,500	31,230
2016	31,500	31,560
2017	33,000	31,750
2018	32,000	31,890
2019	33,000	32,000
2020	32,000	32,080
2021	32,000	32,160
2022	30,500	32,220
2023	32,000	32,280
2024	33,000	32,330
2030 Opening Year Trend		
2030	N/A	32,550
2040 Interim Year Trend		
2040	N/A	32,780
2050 Design Year Trend		
2050	N/A	32,940
FSUTMS Forecasts/Trends		

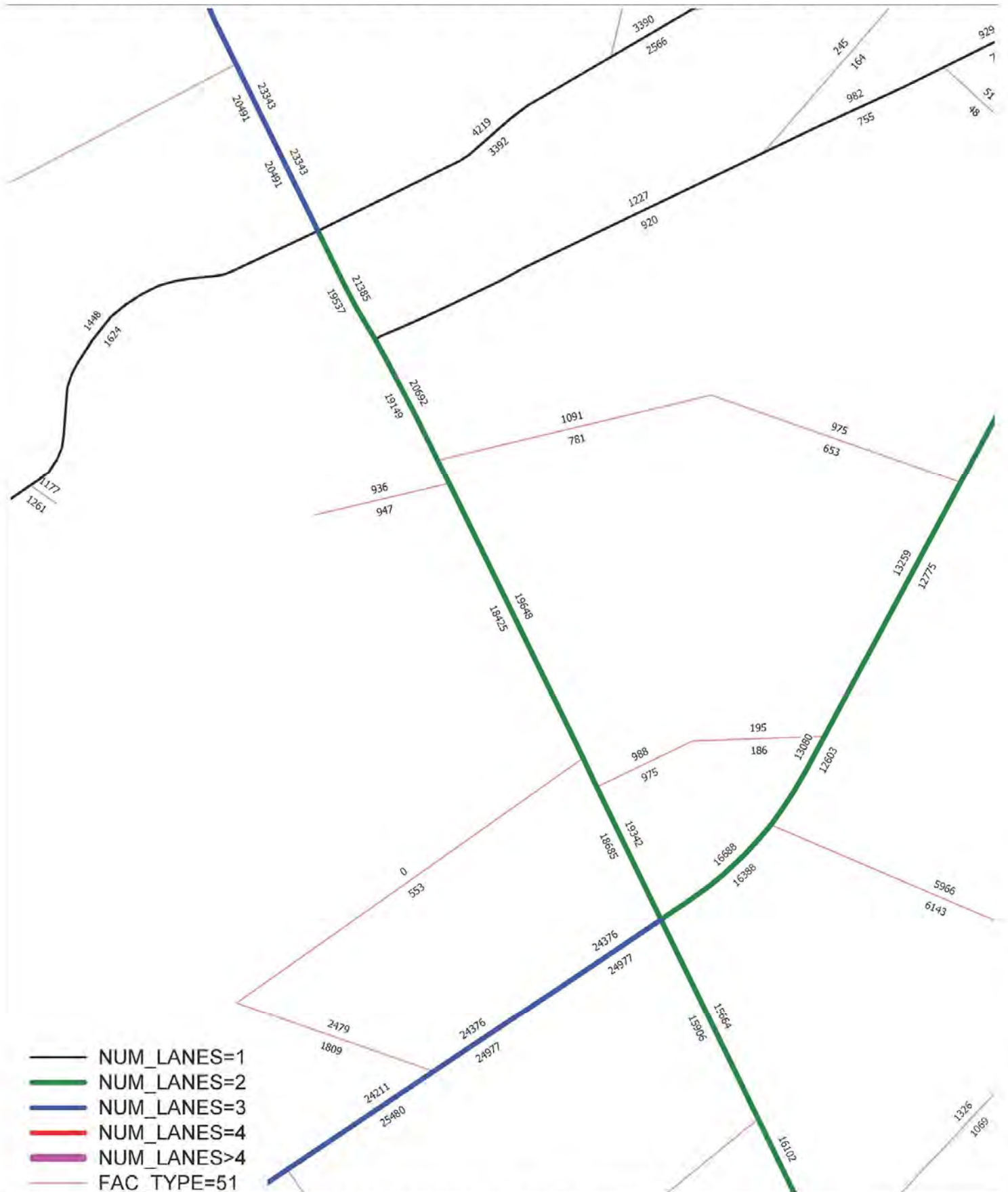
Trend R-squared:	14.16%
Compounded Annual Historic Growth Rate:	0.39%
Compounded Growth Rate (2024 to Design Year)	0.07%
Printed:	1/6/2026
Decaying Exponential Growth Option	

*Axle-Adjusted

Year 2015 Base CFRPM7 - Total Traffic Volumes (PSWAD)



Year 2045 Base CFRPM7 – Total Volumes (PSWAD)



D:\Models\Download\Volusia Projects\OUTPUT2045BA\HWYLOAD_AIIDay_A45.NET



(Licensed to Vanasse Hangen Brustlin Inc)

APPENDIX C:

Synchro Output & Crash Prediction Sheets

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	16	5	11	5	16	5	11	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk	0	7	0	10	0	7	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	19	0	33	0	19	0	33	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	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	0.0	0.0	0.0
Max1	25	60	25	45	25	60	25	60	35	35	35	35	35	35	35	35
Max2	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	90	0	0	0	90	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.8	4.8	3.7	4.0	4.8	4.8	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.0	2.0	2.0	2.2	2.0	2.0	2.2	2.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	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	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	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	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	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	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Min Gap	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	0.0	0.0	0.0
---------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Plan 2 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	16	5	11	5	16	5	11	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	10	0	7	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	19	0	33	0	19	0	33	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	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	0.0	0.0	0.0
Max1	15	45	14	22	15	45	15	22	35	35	35	35	35	35	35	35
Max2	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	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	0.0	0.0	0.0
Yellow	4.8	4.8	3.7	4.0	4.8	4.8	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.0	2.0	2.0	2.2	2.0	2.0	2.2	2.2	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	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	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	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	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	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	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	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	0.0	0.0	0.0

Plan 3 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	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	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	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	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	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	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	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	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	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	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	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	0.0	0.0	0.0

Plan 4 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	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	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	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	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	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	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	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	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	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	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	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	0.0	0.0	0.0

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

Econolite Type - Cobalt

Controller Overlaps
Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
---------	------	-----------	--------	-----	------------

Phases

Overlap	Phase	Included	Protect	Ped Protect	Not Overlap	Modifier	Lag X Phases	Lag 2 Phases	Flash Green
---------	-------	----------	---------	-------------	-------------	----------	--------------	--------------	-------------

PPLT FYA

Overlap	Protected Phase (Left Turn)	Permissive Phase (Opposing Thru)	Flashing Arrow Output	Flashing Arrow Output CH	Delay Start of FYA	Delay Start of Clearance	Action Plan SF Bit Disable	Ped Protected Enable
---------	-----------------------------	----------------------------------	-----------------------	--------------------------	--------------------	--------------------------	----------------------------	----------------------

Guaranteed Minimum Time Data (MM) 2-4

Phase	Min Green	Walk	Ped Clear	Yellow	Red Clear	Overlap Green
A01	5	0	7	4.0	2.0	5
B02	5	0	7	4.0	2.0	5
C03	5	0	7	4.0	2.0	5
D04	5	0	7	4.0	2.0	5
E05	5	0	7	4.0	2.0	5
F06	5	0	7	4.0	2.0	5
G07	5	0	7	4.0	2.0	5
H08	5	0	7	4.0	2.0	5
I09	5	0	7	3.0	0.0	5
J10	5	0	7	3.0	0.0	5
K11	5	0	7	3.0	0.0	5
L12	5	0	7	3.0	0.0	5
M13	5	0	7	3.0	0.0	5
N14	5	0	7	3.0	0.0	5
O15	5	0	7	3.0	0.0	5
P16	5	0	7	3.0	0.0	5

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Controller Pedestrian Overlaps Vehicle / Pedestrian Overlaps (MM) 2-3

Included	Pedestrian Overlaps
----------	---------------------

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

Econolite Type - Cobalt

Controller Start / Flash Data (MM) 2-5**Start Up**

Phase	Phase Setting
1	.
2	G
3	.
4	.
5	.
6	G
7	.
8	.
9	.
10	.
11	.
12	.
13	.
14	.
15	.
16	.

Overlap

Flash Thru Mon: No
Flash Time: 0
All Red: 0
Power Start Seq: 1
MUTCD Enabled: No
Y->G: n/a

Automatic Flash

Entry
4
8

Exit
2

6

Overlap Exit

Flash Thru Mon: No
Exit Flash: G
Minimum Flash: 0
Mimimum Recall: No
Cycle Through Phase: No

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Controller Options

Controller Options (MM) 2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Grn Ph	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Guar Passage																
Non-Act I	X				X											
Non-Act II																
Dual Entry			X				X									
Cond Service																
Cond Reservice																
Ped Re-Service	X				X											
Rest In Walk																
Flashing Walk																
Ped Clr-Yel																
Ped Clr-Red																
IGRN + Veh Ext	X	X	X	X	X	X	X	X								

Ped Clear Protect: Off Unit Red Revert: 2.0 MUTCD 3 Seconds Don't Walk: No

Pre-Timed Mode (MM) 2-7

Enable Pre-Timed Mode: No Free Input Disables Pre-Timed: Yes

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed																

Phase Recall Options (MM) 2-8

Plan # 1

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector	X					X										
Vehicle Recall	X					X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

Econolite Type - Cobalt

Coordination Options

Options (MM) 3-1

Manual Pattern	Auto	ECPI Coord	Yes
System Source	SYS	System Format	PTN
Splits In	Seconds	Offsets In	Seconds
Transition	Smooth	Max Select	MAXINH
Dwell / Add Time	0		
Delay Coord Wk-LZ	No	Force Off	Fixed
Offset Reference	Yellow	Use Ped Time	No
Ped Recall	No	Ped Reservice	No
Local Zero Override	No	FO Added Ini Green	No
Re-sync Count	0	Multisync	No

Auto Perm Minimum Green (Seconds) (MM) 3-4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Split Demand (MM) 3-5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Demand 1																
Demand 2																

Demand	1	2
Detector	0	0
Call Time (Sec)	0	0
Cycle Count	0	0

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Coordination Pattern Data Coordinator Pattern Data (MM) 3-2

Coordinator Pattern # 1

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Seconds
Cycle	150	Std (COS)	111	Offsets In	Seconds
Offset Value	88s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase Reservice	No	Action Plan	0		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 1)	20	72	20	38	20	72	20	38	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	150s	150s	0s	0s

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Split Demand Pat 1	0	Split Demand Pat 2	0
		Veh Perm 2 Disp	0
		Crossing Arterial Pat	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Seconds
Cycle	140	Std (COS)	121	Offsets In	Seconds
Offset Value	87s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 2)	20	75	20	25	20	75	20	25	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	140s	140s	0s	0s

Misc. Data
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand 0 Split Demand 0 Crossing Arterial 0
 Pat 1 Pat 2 Pat

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Seconds
Cycle	160	Std (COS)	131	Offsets In	Seconds
Offset Value	15s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk Rest	No	Sequence	0		
Phase	No	Action Plan	0		
Reservice					
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Splits (Split Pat 3)	20	70	20	50	20	70	20	50	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	160s	160s	0s	0s

Misc. Data
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand 0 Split Demand 0 Crossing Arterial 0
 Pat 1 Pat 2 Pat

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Coordination Split Pattern Split Pattern Data (MM) 3-3

Split Pattern # 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (seconds)	20	72	20	38	20	72	20	38	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	150s	150s	0s	0s

Split Pattern # 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (seconds)	20	75	20	25	20	75	20	25	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	140s	140s	0s	0s

Split Pattern # 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	N-L	S-T	E-L	W-T	S-L	N-T	W-L	E-T	N	N	N	N	N	N	N	N
Split (seconds)	20	70	20	50	20	70	20	50	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																

Pedestrian Recall																	
Recall to Max. Time																	
Omit Phase									X	X	X	X	X	X	X	X	

Ring	1	2	3	4
Split Sum	160s	160s	0s	0s

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Preempt Plan

Preempt Plan (MM) 4-1

Preempt Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	X	.	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases		X				X										
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	0	CLR > GRN	No
Term Ovlp Asap	No	PC Through Yel	No	Terminate Phase	No
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	5	4.8	2.2
	Min Grn	Ext Grn	Max Grn	Yellow	Red

Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	8	0.0	0	4.8	2.2

Preemption Active On Preempt Act No
 Out Dwell
 Other - Priority Off Non-Priority Pmt Off
 Preempt
 Inhibit Extension 0.0 Ped Priority Off
 Time Return
 Veh Priority Off Queue Delay Off
 Return
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Preempt Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	X	.	.	X	.	.	.	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases		X				X										
Exit Calls																
Special Function																

Enable Yes Preempt Override Yes Interlock Enable No
 Det Lock Yes Delay 0 Inhibit 0
 Override Flash Yes Duration 0 CLR > GRN No
 Term Ovlp No PC Through Yel No Terminate Phase No
 Ped Dark No Track Clear Rsrv No Dwell Flash Off
 Linked Pmt 0 FL Exit Color Grn Exit Options Off
 Exit Timing Plan 0 Reservice 0 Fault Type Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	5	4.8	2.2
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	8	0.0	0	4.8	2.2

Preemption Active Out On Preempt Act Dwell No
 Other - Priority Preempt Off Non-Priority Pmt Off
 Inhibit Extension Time 0.0 Ped Priority Return Off
 Veh Priority Return Off Queue Delay Off
 Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Preempt Plan 5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	.	X	.	.	.	.	X	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases				X				X								
Exit Calls																
Special Function																

Enable Yes Preempt Override Yes Interlock Enable No
 Det Lock Yes Delay 0 Inhibit 0
 Override Flash Yes Duration 0 CLR > GRN No
 Term Ovlp No PC Through No Terminate Phase No
 Asap No Yel No Dwell Flash Off
 Ped Dark No

Track Clear
Rsrv

Linked Pmt 0 FL Exit Color Grn Exit Options Off

Exit Timing 0 Reservice 0 Fault Type Hard

Plan 0

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	5	4.8	2.2
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	8	0.0	0	4.8	2.2

Preemption Active On Preempt Act No
Out Dwell

Other - Priority Off Non-Priority Pmt Off
Preempt

Inhibit Extension 0.0 Ped Priority Off
Time Return

Veh Priority Off Queue Delay Off
Return

Conditional Delay Off

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Preempt Plan 6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Trk Clr Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trk Clr Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Veh	.	.	.	X	.	.	X	.	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases				X				X								
Exit Calls																
Special Function																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Det Lock	Yes	Delay	0	Inhibit	0
Override Flash	Yes	Duration	0	CLR > GRN	No
Term Ovlp	No	PC Through	No	Terminate	No
Asap		Yel		Phase	
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Pmt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	5	4.8	2.2
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	8	0.0	0	4.8	2.2

Preemption Active	On	Preempt Act	No
Out		Dwell	
Other - Priority	Off	Non-Priority Pmt	Off
Preempt			
Inhibit Extension	0.0	Ped Priority	Off
Time		Return	
Veh Priority	Off	Queue Delay	Off
Return			
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Preempt Preempt Filtering
Enable Preempt Filtering &
TSP/SCP (MM) 4-2

Input	Solid	Pulsing
1	PREEMPTION 1	...BYPASSED...
2	...BYPASSED...	...BYPASSED...
3	PREEMPTION 3	PREEMPTION 7
4	PREEMPTION 4	PREEMPTION 8
5	PREEMPTION 5	PREEMPTION 9
6	PREEMPTION 6	PREEMPTION 10
7	...BYPASSED...	...BYPASSED...
8	...BYPASSED...	...BYPASSED...
9	...BYPASSED...	...BYPASSED...
10	...BYPASSED...	...BYPASSED...

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Preempt TSP/SCP Plan and Split

TSP / SCP Plan (MM) 4-3

TSP/SCP Plan	Enable Option	Signal Type	Det Lock	Delay Time	Max Presence	PMT Enables Reservice	No Delay in TSP	Action SF Inhibit	Reservice Cycles	Bus Heading
1	No	Solid	No	0	0	No	False	0	0	NB
2	No	Solid	No	0	0	No	False	0	0	SB
3	No	Solid	No	0	0	No	False	0	0	EB
4	No	Solid	No	0	0	No	False	0	0	WB
5	No	Solid	No	0	0	No	False	0	0	.
6	No	Solid	No	0	0	No	False	0	0	.

Mode: TSP

Free Default Pattern: 120

Headway Allowance: 100

TSP/SCP Plan	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1
2
3
4
5
6

TSP / SCP Split Pattern (MM) 4-4

TSP/SCP Split Pattern	Max Type	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	Max Reduction	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255	255

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Time Base Clock/Calendar

Clock/Calendar Data (MM) 5-1

Manual Action Plan: 0
SYNC Reference Time: 00:00
SYNC Reference: Reference Time
Day Light Savings: No
Time Reset Input Set Time: 3:30:00
Standard Time From GMT: 0

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Time Base Action Plan Action Plan (MM) 5-2

Action Plan - 1 - "1"

Pattern	1	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	1	Ped Det Diag Plan	1
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Action Plan - 2 - "2"

Pattern	2	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	1	Ped Det Diag Plan	1
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Action Plan - 3 - "3"

Pattern	3	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	1	Ped Det Diag Plan	1
Dimming Enable	No	Pmt Veh Priority Ret	No
	No	Pmt Queue Delay	No

Pmt Ped Priority
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Action Plan - 4 - "4"

Pattern 4 Override Sys No
 Timing Plan 0 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 0 Ped Det Diag 0
 Plan
 Dimming Enable No Pmt Veh Priority No
 Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15
LP 16-30
LP 31-45
LP 46-60
LP 61-75
LP 76-90
LP 91-100

Action Plan - 5 - "5"

Pattern 5 Override Sys No
 Timing Plan 0 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 0 Ped Det Diag 0
 Plan
 Dimming Enable No Pmt Veh Priority No
 Ret
 Pmt Queue Delay No

Pmt Ped Priority
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Action Plan - 6 - "6"

Pattern	6	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	0	Ped Det Diag Plan	0
Dimming Enable	No	Pmt Veh Priority Ret	No
Pmt Ped Priority Ret	No	Pmt Queue Delay	No
Pmt Cond Delay	No		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Action Plan - 11 - "11"

Pattern	Free	Override Sys	No
Timing Plan	0	Sequence	0
Veh Detector Plan	0	Det Log	None
Flash	No	Red Rest	No
Veh Det Diag Plan	1	Ped Det Diag Plan	1
Dimming Enable	No	Pmt Veh Priority Ret	No
	No	Pmt Queue Delay	No

Pmt Ped Priority
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Action Plan - 12 - "12"

Pattern Auto Override Sys No
 Timing Plan 0 Sequence 0
 Veh Detector Plan 0 Det Log None
 Flash No Red Rest No
 Veh Det Diag 1 Ped Det Diag 1
 Plan
 Dimming Enable No Pmt Veh Priority No
 Ret
 Pmt Ped Priority No Pmt Queue Delay No
 Ret
 Pmt Cond Delay No

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ped Recall																
Walk 2																
Veh Ext 2																
Veh Recall																
Max Recall																
Max 2																
Max 3																
CS Inhibit																
Omit																
Spec Func (1-8)																
Aux Func (1-3)																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
LP 1-15	
LP 16-30	
LP 31-45	
LP 46-60	
LP 61-75	
LP 76-90	
LP 91-100	

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Time Base Day Plan/Schedule
Day Plan (MM) 5-3
Day Plan #1 - "1"

Event	Action Plan	Start Time
1	1	07:00
2	2	10:00
3	3	14:00
4	11	19:00

Day Plan #2 - "2"

Event	Action Plan	Start Time
1	2	10:00
2	11	19:00

Day Plan #3 - "3"

Event	Action Plan	Start Time
1	2	11:00
2	11	18:00

Day Plan #4 - "4"

Event	Action Plan	Start Time
1	11	06:30
2	12	20:00

Schedule (MM) 5-4**Schedule Number - 1**

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
							X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 3

Day Plan No.: 3

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

	X	X	X	X	X	X	X	X	X	X	X	X	X
--	---	---	---	---	---	---	---	---	---	---	---	---	---

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Volusia County, FL



MOVING TRAFFIC FORWARD

155 - SR-5A @ Herbert St - Cobalt -

- Econolite Type - Cobalt

Time Base Exceptions

Exception Day Program (MM) 5-5

Excep Day	Float/Fixed	Mon/Mon	DOW/DOM	WOM/Year	Day Plan
-----------	-------------	---------	---------	----------	----------

Timings
3: Nova Road & Herbert Street

Existing AM 2025



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	89
Future Volume (vph)	89
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Satd. Flow (RTOR)	110
Lane Group Flow (vph)	99
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Total Split (s)	70.0
Total Lost Time (s)	6.8
Act Effct Green (s)	92.5
Actuated g/C Ratio	0.58
v/c Ratio	0.10
Control Delay (s/veh)	2.7
Queue Delay	0.0
Total Delay (s/veh)	2.7
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Intersection Summary	

Intersection													
Int Delay, s/veh	1.9												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↖	↗	↖	↖	↗	↗
Traffic Vol, veh/h	25	0	9	2	0	7	8	8	886	17	18	861	51
Future Vol, veh/h	25	0	9	2	0	7	8	8	886	17	18	861	51
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	12	0	44	0	0	0	0	0	1	0	0	2	4
Mvmt Flow	28	0	10	2	0	8	9	9	1007	19	20	978	58

Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	1588	2111	518	1573	-	503	1036	1036	0	0	1026	0	0
Stage 1	1048	1048	-	1043	-	-	-	-	-	-	-	-	-
Stage 2	540	1063	-	530	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.5	7.78	7.5	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4	3.74	3.5	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	66	52	406	76	0	519	320	679	-	-	685	-	-
Stage 1	226	307	-	249	0	-	-	-	-	-	-	-	-
Stage 2	469	302	-	505	0	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	60	48	406	69	-	519	427	427	-	-	685	-	-
Mov Cap-2 Maneuver	60	48	-	69	-	-	-	-	-	-	-	-	-
Stage 1	219	298	-	238	-	-	-	-	-	-	-	-	-
Stage 2	442	290	-	478	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Ctrl Dly, s/v	91		12.05		0.24			0.2		
HCM LOS	F		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	427	-	-	77	519	685	-	-
HCM Lane V/C Ratio	0.043	-	-	0.499	0.015	0.03	-	-
HCM Ctrl Dly (s/v)	13.8	-	-	91	12	10.4	-	-
HCM Lane LOS	B	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.1	0	0.1	-	-

Timings
18: Nova Road & Dunlawton Ave

Existing AM 2025



Lane Group	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔
Traffic Volume (vph)	159	413	260
Future Volume (vph)	159	413	260
Satd. Flow (prot)	3403	3505	1583
Flt Permitted	0.950		
Satd. Flow (perm)	3403	3505	1583
Satd. Flow (RTOR)			158
Lane Group Flow (vph)	174	439	277
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Total Split (s)	70.0	81.0	81.0
Total Lost Time (s)	8.0	6.8	6.8
Act Effct Green (s)	16.1	32.7	32.7
Actuated g/C Ratio	0.08	0.17	0.17
v/c Ratio	0.60	0.73	0.69
Control Delay (s/veh)	92.5	81.4	39.4
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	92.5	81.4	39.4
LOS	F	F	D
Approach Delay (s/veh)		70.5	
Approach LOS		E	
Intersection Summary			

Timings
3: Nova Road & Herbert Street

Existing PM 2025



Lane Group	SBT	SBR
Lane Configurations	↑↑	↗
Traffic Volume (vph)	1027	128
Future Volume (vph)	1027	128
Satd. Flow (prot)	3574	1538
Flt Permitted		
Satd. Flow (perm)	3574	1538
Satd. Flow (RTOR)		110
Lane Group Flow (vph)	1104	138
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Total Split (s)	70.0	70.0
Total Lost Time (s)	6.8	6.8
Act Effct Green (s)	82.1	82.1
Actuated g/C Ratio	0.51	0.51
v/c Ratio	0.60	0.16
Control Delay (s/veh)	31.1	7.3
Queue Delay	0.0	0.0
Total Delay (s/veh)	31.1	7.3
LOS	C	A
Approach Delay (s/veh)	27.7	
Approach LOS	C	
Intersection Summary		

Intersection													
Int Delay, s/veh	15.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↖	↕	↗	↖	↕	↕
Traffic Vol, veh/h	43	3	27	10	3	25	18	24	1021	37	50	1076	44
Future Vol, veh/h	43	3	27	10	3	25	18	24	1021	37	50	1076	44
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	45	3	28	10	3	26	19	25	1064	39	52	1121	46

Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	1869	2438	583	1817	2422	532	1167	1167	0	0	1102	0	0
Stage 1	1248	1248	-	1151	1151	-	-	-	-	-	-	-	-
Stage 2	621	1190	-	666	1271	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	45	32	460	50	33	497	264	606	-	-	641	-	-
Stage 1	187	247	-	214	275	-	-	-	-	-	-	-	-
Stage 2	447	264	-	420	241	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	~ 32	26	460	34	27	497	374	374	-	-	641	-	-
Mov Cap-2 Maneuver	~ 32	26	-	34	27	-	-	-	-	-	-	-	-
Stage 1	171	227	-	189	243	-	-	-	-	-	-	-	-
Stage 2	369	233	-	357	221	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	\$ 485.88		12.64		0.61		0.47	
HCM LOS	F		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	374	-	-	48	497	641	-	-
HCM Lane V/C Ratio	0.117	-	-	1.601	0.052	0.081	-	-
HCM Ctrl Dly (s/v)	15.9	-	-	\$ 485.9	12.6	11.1	-	-
HCM Lane LOS	C	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	7.4	0.2	0.3	-	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Timings
18: Nova Road & Dunlawton Ave

Existing PM 2025



Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	10	233	628	309
Future Volume (vph)	10	233	628	309
Satd. Flow (prot)	0	3502	3610	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3502	3610	1583
Satd. Flow (RTOR)				236
Lane Group Flow (vph)	0	253	654	322
Turn Type	Prot	Prot	NA	Perm
Protected Phases	3	3	8	
Permitted Phases				8
Total Split (s)	35.0	35.0	53.0	53.0
Total Lost Time (s)		8.0	6.8	6.8
Act Effct Green (s)		19.9	42.4	42.4
Actuated g/C Ratio		0.10	0.22	0.22
v/c Ratio		0.69	0.81	0.60
Control Delay (s/veh)		91.9	78.5	21.8
Queue Delay		0.0	0.0	0.0
Total Delay (s/veh)		91.9	78.5	21.8
LOS		F	E	C
Approach Delay (s/veh)			66.4	
Approach LOS			E	
Intersection Summary				

Queues

Future AM 2027 NB

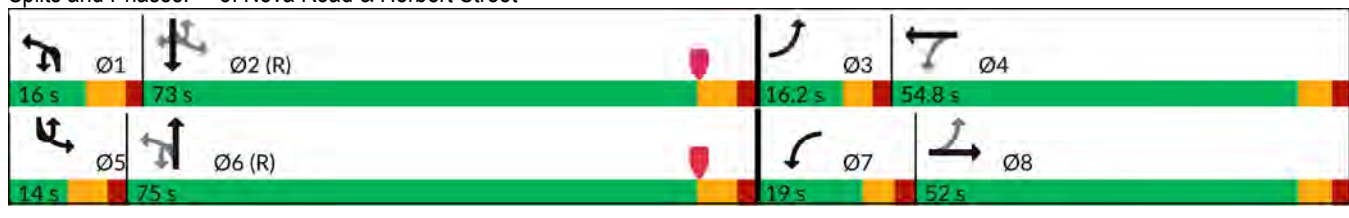
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	93	83	84	120	96	46	2	61	847	40	53	850
Future Volume (vph)	93	83	84	120	96	46	2	61	847	40	53	850
Satd. Flow (prot)	1752	1698	0	1770	1785	0	0	1754	5091	0	1736	3505
Flt Permitted	0.525			0.305				0.238			0.254	
Satd. Flow (perm)	968	1698	0	568	1785	0	0	439	5091	0	464	3505
Satd. Flow (RTOR)		32			15				5			
Lane Group Flow (vph)	103	185	0	133	158	0	0	70	985	0	59	944
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA
Protected Phases	3	8		7	4		1	1	6		5	2
Permitted Phases	8			4			6	6			2	
Total Split (s)	16.2	52.0		19.0	54.8		16.0	16.0	75.0		14.0	73.0
Total Lost Time (s)	5.7	6.2		6.2	6.2			6.8	6.8		6.8	6.8
Act Effct Green (s)	31.7	21.0		36.1	23.7			102.3	95.7		100.3	92.8
Actuated g/C Ratio	0.20	0.13		0.23	0.15			0.64	0.60		0.63	0.58
v/c Ratio	0.43	0.74		0.60	0.57			0.20	0.32		0.17	0.46
Control Delay (s/veh)	52.2	71.7		59.7	64.4			11.8	17.7		11.5	21.3
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay (s/veh)	52.2	71.7		59.7	64.4			11.8	17.7		11.5	21.3
LOS	D	E		E	E			B	B		B	C
Approach Delay (s/veh)		64.8			62.2				17.3			19.1
Approach LOS		E			E				B			B
Queue Length 50th (ft)	86	157		114	141			24	189		20	290
Queue Length 95th (ft)	133	234		167	209			50	255		44	402
Internal Link Dist (ft)		99			187				3059			646
Turn Bay Length (ft)				170				200			210	
Base Capacity (vph)	245	508		225	552			360	3047		354	2033
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	0.42	0.36		0.59	0.29			0.19	0.32		0.17	0.46

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 15 (9%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay (s/veh): 27.8 Intersection LOS: C
 Intersection Capacity Utilization 65.5% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



3: Nova Road & Herbert Street



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	91
Future Volume (vph)	91
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Satd. Flow (RTOR)	107
Lane Group Flow (vph)	101
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Total Split (s)	73.0
Total Lost Time (s)	6.8
Act Effct Green (s)	92.8
Actuated g/C Ratio	0.58
v/c Ratio	0.11
Control Delay (s/veh)	3.0
Queue Delay	0.0
Total Delay (s/veh)	3.0
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	28
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	954
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11
Intersection Summary	

Intersection													
Int Delay, s/veh	2.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↘	↕	↗	↘	↕	↕
Traffic Vol, veh/h	26	0	9	2	0	7	8	8	906	17	18	880	52
Future Vol, veh/h	26	0	9	2	0	7	8	8	906	17	18	880	52
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	12	0	44	0	0	0	0	0	1	0	0	2	4
Mvmt Flow	30	0	10	2	0	8	9	9	1030	19	20	1000	59

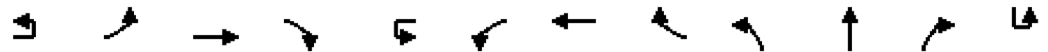
Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	1622	2156	530	1607	-	515	1059	1059	0	0	1049	0	0
Stage 1	1070	1070	-	1066	-	-	-	-	-	-	-	-	-
Stage 2	551	1085	-	541	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.5	7.78	7.5	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4	3.74	3.5	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	62	48	398	72	0	510	309	665	-	-	671	-	-
Stage 1	219	300	-	241	0	-	-	-	-	-	-	-	-
Stage 2	462	295	-	498	0	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	56	45	398	65	-	510	415	415	-	-	671	-	-
Mov Cap-2 Maneuver	56	45	-	65	-	-	-	-	-	-	-	-	-
Stage 1	212	291	-	231	-	-	-	-	-	-	-	-	-
Stage 2	434	282	-	470	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Ctrl Dly, s/v	103.83		12.17		0.24			0.2		
HCM LOS	F		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	415	-	-	72	510	671	-	-
HCM Lane V/C Ratio	0.044	-	-	0.55	0.016	0.03	-	-
HCM Ctrl Dly (s/v)	14.1	-	-	103.8	12.2	10.5	-	-
HCM Lane LOS	B	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	0	0.1	-	-

Queues
18: Nova Road & Dunlawton Ave

Future AM 2027 NB



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		⇐⇐	⇐⇐⇐	⇐		⇐⇐	⇐⇐⇐		⇐⇐	⇐⇐	⇐	
Traffic Volume (vph)	12	215	866	251	28	84	594	41	430	566	90	5
Future Volume (vph)	12	215	866	251	28	84	594	41	430	566	90	5
Satd. Flow (prot)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Flt Permitted		0.950				0.950			0.950			
Satd. Flow (perm)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Satd. Flow (RTOR)				234			5				160	
Lane Group Flow (vph)	0	242	921	267	0	119	676	0	457	602	96	0
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases				6								4
Total Split (s)	32.0	32.0	63.0	63.0	22.0	22.0	53.0		50.0	78.0	78.0	27.0
Total Lost Time (s)		8.0	6.8	6.8		8.0	6.8		7.7	6.8	6.8	
Act Effct Green (s)		18.8	82.2	82.2		14.0	77.4		31.8	48.3	48.3	
Actuated g/C Ratio		0.10	0.43	0.43		0.07	0.41		0.17	0.25	0.25	
v/c Ratio		0.72	0.42	0.33		0.48	0.33		0.80	0.66	0.19	
Control Delay (s/veh)		95.2	39.4	7.8		91.2	40.9		87.0	66.7	0.8	
Queue Delay		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay (s/veh)		95.2	39.4	7.8		91.2	40.9		87.0	66.7	0.8	
LOS		F	D	A		F	D		F	E	A	
Approach Delay (s/veh)			43.0				48.4			69.2		
Approach LOS			D				D			E		
Queue Length 50th (ft)		154	290	24		75	209		287	361	0	
Queue Length 95th (ft)		201	379	104		113	292		340	395	0	
Internal Link Dist (ft)			625				632			856		
Turn Bay Length (ft)		385		250		350			500		1000	
Base Capacity (vph)		430	2199	804		250	2037		756	1339	687	
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		0.56	0.42	0.33		0.48	0.33		0.60	0.45	0.14	

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 16 (8%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay (s/veh): 55.4 Intersection LOS: E
 Intersection Capacity Utilization 72.1% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 18: Nova Road & Dunlawton Ave



18: Nova Road & Dunlawton Ave



Lane Group	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗
Traffic Volume (vph)	163	422	266
Future Volume (vph)	163	422	266
Satd. Flow (prot)	3402	3505	1583
Flt Permitted	0.950		
Satd. Flow (perm)	3402	3505	1583
Satd. Flow (RTOR)			260
Lane Group Flow (vph)	178	449	283
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Total Split (s)	27.0	55.0	55.0
Total Lost Time (s)	8.0	6.8	6.8
Act Effct Green (s)	15.9	32.7	32.7
Actuated g/C Ratio	0.08	0.17	0.17
v/c Ratio	0.62	0.75	0.58
Control Delay (s/veh)	93.7	82.3	14.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	93.7	82.3	14.3
LOS	F	F	B
Approach Delay (s/veh)		63.4	
Approach LOS		E	
Queue Length 50th (ft)	112	285	25
Queue Length 95th (ft)	157	336	119
Internal Link Dist (ft)		907	
Turn Bay Length (ft)	400		800
Base Capacity (vph)	340	889	595
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.52	0.51	0.48
Intersection Summary			

Queues

Future PM 2027 NB

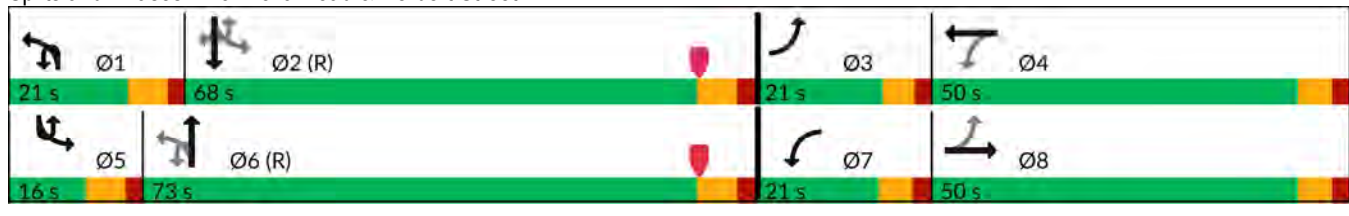
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	150	123	128	118	108	75	2	120	932	128	2	79
Future Volume (vph)	150	123	128	118	108	75	2	120	932	128	2	79
Satd. Flow (prot)	1736	1703	0	1805	1740	0	0	1805	5037	0	0	1805
Flt Permitted	0.397			0.257				0.143				0.198
Satd. Flow (perm)	725	1703	0	488	1740	0	0	272	5037	0	0	376
Satd. Flow (RTOR)		32			22				19			
Lane Group Flow (vph)	161	270	0	127	197	0	0	131	1140	0	0	87
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases	3	8		7	4		1	1	6		5	5
Permitted Phases	8			4			6	6			2	2
Total Split (s)	21.0	50.0		21.0	50.0		21.0	21.0	73.0		16.0	16.0
Total Lost Time (s)	5.7	6.2		6.2	6.2			6.8	6.8			6.8
Act Effct Green (s)	44.1	29.0		41.4	28.2			95.0	83.0			88.6
Actuated g/C Ratio	0.28	0.18		0.26	0.18			0.59	0.52			0.55
v/c Ratio	0.55	0.81		0.54	0.61			0.47	0.43			0.30
Control Delay (s/veh)	48.5	72.7		49.0	60.7			20.2	25.5			17.6
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay (s/veh)	48.5	72.7		49.0	60.7			20.2	25.5			17.6
LOS	D	E		D	E			C	C			B
Approach Delay (s/veh)		63.7			56.1				25.0			
Approach LOS		E			E				C			
Queue Length 50th (ft)	128	244		99	171			55	265			36
Queue Length 95th (ft)	177	330		143	241			103	358			72
Internal Link Dist (ft)		99			187				3059			
Turn Bay Length (ft)				170				200				210
Base Capacity (vph)	299	489		253	492			308	2621			298
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	0.54	0.55		0.50	0.40			0.43	0.43			0.29

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 15 (9%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay (s/veh): 34.9 Intersection LOS: C
 Intersection Capacity Utilization 78.3% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



Queues

Future PM 2027 NB

3: Nova Road & Herbert Street



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1050	131
Future Volume (vph)	1050	131
Satd. Flow (prot)	3574	1538
Flt Permitted		
Satd. Flow (perm)	3574	1538
Satd. Flow (RTOR)		110
Lane Group Flow (vph)	1129	141
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Total Split (s)	68.0	68.0
Total Lost Time (s)	6.8	6.8
Act Effct Green (s)	79.8	79.8
Actuated g/C Ratio	0.50	0.50
v/c Ratio	0.63	0.17
Control Delay (s/veh)	33.7	8.2
Queue Delay	0.0	0.0
Total Delay (s/veh)	33.7	8.2
LOS	C	A
Approach Delay (s/veh)	30.0	
Approach LOS	C	
Queue Length 50th (ft)	453	17
Queue Length 95th (ft)	640	69
Internal Link Dist (ft)	646	
Turn Bay Length (ft)		
Base Capacity (vph)	1782	822
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.63	0.17
Intersection Summary		

Intersection													
Int Delay, s/veh	18.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↖	↕	↗	↖	↕	↕
Traffic Vol, veh/h	44	3	28	10	3	26	18	25	1043	38	51	1100	45
Future Vol, veh/h	44	3	28	10	3	26	18	25	1043	38	51	1100	45
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	46	3	29	10	3	27	19	26	1086	40	53	1146	47

Major/Minor	Minor2		Minor1			Major1			Major2				
Conflicting Flow All	1910	2491	596	1857	2475	543	1193	1193	0	0	1126	0	0
Stage 1	1276	1276	-	1176	1176	-	-	-	-	-	-	-	-
Stage 2	634	1216	-	681	1299	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 42	30	452	46	30	489	254	592	-	-	628	-	-
Stage 1	179	240	-	207	267	-	-	-	-	-	-	-	-
Stage 2	438	256	-	411	234	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	~ 29	24	452	31	24	489	365	365	-	-	628	-	-
Mov Cap-2 Maneuver	~ 29	24	-	31	24	-	-	-	-	-	-	-	-
Stage 1	164	220	-	181	235	-	-	-	-	-	-	-	-
Stage 2	358	225	-	347	214	-	-	-	-	-	-	-	-

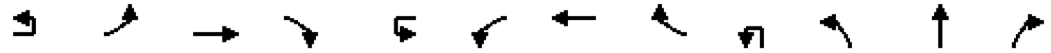
Approach	EB		WB			NB			SB		
HCM Ctrl Dly, s/v	\$ 579.56		12.79			0.62			0.48		
HCM LOS	F		B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	365	-	-	44	489	628	-	-
HCM Lane V/C Ratio	0.123	-	-	1.792	0.055	0.085	-	-
HCM Ctrl Dly (s/v)	16.3	-	-	\$ 579.6	12.8	11.3	-	-
HCM Lane LOS	C	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.4	-	-	8	0.2	0.3	-	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Queues
18: Nova Road & Dunlawton Ave

Future PM 2027 NB

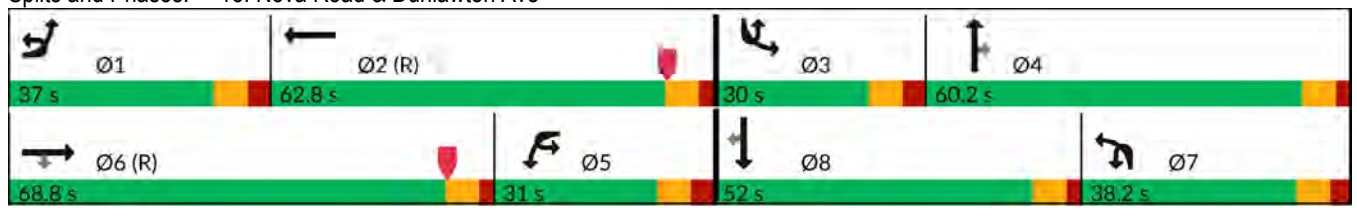


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		⇌	⇌⇌	⇌		⇌	⇌⇌			⇌	⇌	⇌
Traffic Volume (vph)	19	384	912	256	110	149	966	147	2	401	524	88
Future Volume (vph)	19	384	912	256	110	149	966	147	2	401	524	88
Satd. Flow (prot)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Satd. Flow (RTOR)				237			15					160
Lane Group Flow (vph)	0	420	950	267	0	270	1159	0	0	420	546	92
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	Prot	NA	Perm
Protected Phases	1	1	6		5	5	2		7	7	4	
Permitted Phases				6								4
Total Split (s)	37.0	37.0	68.8	68.8	31.0	31.0	62.8		38.2	38.2	60.2	60.2
Total Lost Time (s)		8.0	6.8	6.8			8.0	6.8		7.7	6.8	6.8
Act Effct Green (s)		26.8	66.9	66.9			23.0	63.1		28.1	50.9	50.9
Actuated g/C Ratio		0.14	0.35	0.35			0.12	0.33		0.15	0.27	0.27
v/c Ratio		0.86	0.53	0.38			0.64	0.69		0.83	0.58	0.17
Control Delay (s/veh)		97.2	51.0	9.1			87.3	58.2		93.7	62.6	0.7
Queue Delay		0.0	0.0	0.0			0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)		97.2	51.0	9.1			87.3	58.2		93.7	62.6	0.7
LOS		F	D	A			F	E		F	E	A
Approach Delay (s/veh)			56.0				63.7				69.5	
Approach LOS			E				E				E	
Queue Length 50th (ft)		266	358	26			168	477		264	306	0
Queue Length 95th (ft)		331	411	106			223	543		329	374	0
Internal Link Dist (ft)			625				632				856	
Turn Bay Length (ft)		385		250			350			500		1000
Base Capacity (vph)		529	1809	711			420	1670		545	996	556
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		0.79	0.53	0.38			0.64	0.69		0.77	0.55	0.17

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 156 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay (s/veh): 63.1 Intersection LOS: E
 Intersection Capacity Utilization 88.9% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 18: Nova Road & Dunlawton Ave



Queues
18: Nova Road & Dunlawton Ave

Future PM 2027 NB



Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	10	238	642	316
Future Volume (vph)	10	238	642	316
Satd. Flow (prot)	0	3502	3610	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3502	3610	1583
Satd. Flow (RTOR)				263
Lane Group Flow (vph)	0	258	669	329
Turn Type	Prot	Prot	NA	Perm
Protected Phases	3	3	8	
Permitted Phases				8
Total Split (s)	30.0	30.0	52.0	52.0
Total Lost Time (s)		8.0	6.8	6.8
Act Effct Green (s)		19.6	42.6	42.6
Actuated g/C Ratio		0.10	0.22	0.22
v/c Ratio		0.72	0.83	0.59
Control Delay (s/veh)		93.9	79.5	18.1
Queue Delay		0.0	0.0	0.0
Total Delay (s/veh)		93.9	79.5	18.1
LOS		F	E	B
Approach Delay (s/veh)			66.4	
Approach LOS			E	
Queue Length 50th (ft)		163	416	67
Queue Length 95th (ft)		215	495	181
Internal Link Dist (ft)			907	
Turn Bay Length (ft)		400		800
Base Capacity (vph)		405	858	577
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.64	0.78	0.57
Intersection Summary				

Queues

Future AM 2037 NB

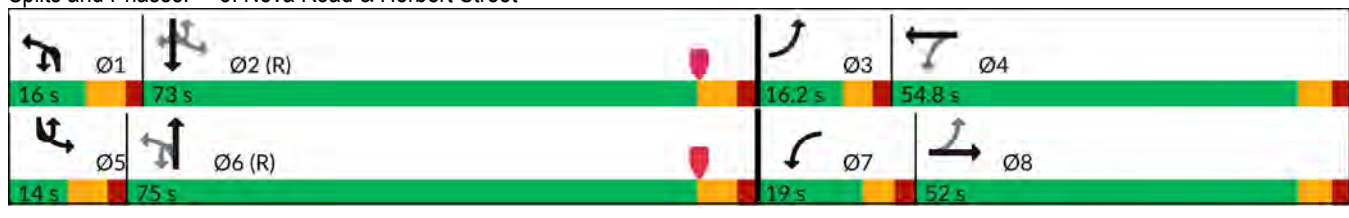
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	103	92	93	132	106	51	2	68	938	44	59	942
Future Volume (vph)	103	92	93	132	106	51	2	68	938	44	59	942
Satd. Flow (prot)	1752	1698	0	1770	1783	0	0	1754	5091	0	1736	3505
Flt Permitted	0.493			0.283				0.200			0.215	
Satd. Flow (perm)	909	1698	0	527	1783	0	0	369	5091	0	393	3505
Satd. Flow (RTOR)		32			16				5			
Lane Group Flow (vph)	114	205	0	147	175	0	0	78	1091	0	66	1047
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	NA
Protected Phases	3	8		7	4		1	1	6		5	2
Permitted Phases	8			4			6	6			2	
Total Split (s)	16.2	52.0		19.0	54.8		16.0	16.0	75.0		14.0	73.0
Total Lost Time (s)	5.7	6.2		6.2	6.2			6.8	6.8		6.8	6.8
Act Effct Green (s)	33.7	23.0		38.1	25.7			99.0	90.8		98.2	90.4
Actuated g/C Ratio	0.21	0.14		0.24	0.16			0.62	0.57		0.61	0.57
v/c Ratio	0.47	0.76		0.66	0.59			0.26	0.38		0.22	0.53
Control Delay (s/veh)	51.9	72.3		61.6	63.4			13.4	20.3		12.9	24.0
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0		0.0	0.0
Total Delay (s/veh)	51.9	72.3		61.6	63.4			13.4	20.3		12.9	24.0
LOS	D	E		E	E			B	C		B	C
Approach Delay (s/veh)		65.0			62.6				19.8			21.5
Approach LOS		E			E				B			C
Queue Length 50th (ft)	94	178		125	156			28	223		23	348
Queue Length 95th (ft)	141	258		179	226			57	298		50	478
Internal Link Dist (ft)		99			187				3059			646
Turn Bay Length (ft)				170				200			210	
Base Capacity (vph)	248	508		226	552			313	2892		309	1980
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	0.46	0.40		0.65	0.32			0.25	0.38		0.21	0.53

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 15 (9%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay (s/veh): 29.8 Intersection LOS: C
 Intersection Capacity Utilization 69.7% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



3: Nova Road & Herbert Street



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	101
Future Volume (vph)	101
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Satd. Flow (RTOR)	107
Lane Group Flow (vph)	112
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Total Split (s)	73.0
Total Lost Time (s)	6.8
Act Effct Green (s)	90.4
Actuated g/C Ratio	0.57
v/c Ratio	0.12
Control Delay (s/veh)	4.0
Queue Delay	0.0
Total Delay (s/veh)	4.0
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	2
Queue Length 95th (ft)	38
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	932
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.12
Intersection Summary	

Intersection													
Int Delay, s/veh	3.8												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↘	↕	↗	↘	↕	↕
Traffic Vol, veh/h	28	0	10	2	0	8	9	9	1003	19	20	975	58
Future Vol, veh/h	28	0	10	2	0	8	9	9	1003	19	20	975	58
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	12	0	44	0	0	0	0	0	1	0	0	2	4
Mvmt Flow	32	0	11	2	0	9	10	10	1140	22	23	1108	66

Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	1797	2389	587	1780	-	570	1174	1174	0	0	1161	0	0
Stage 1	1186	1186	-	1181	-	-	-	-	-	-	-	-	-
Stage 2	611	1202	-	599	-	-	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.5	7.78	7.5	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.5	-	6.5	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4	3.74	3.5	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	45	34	362	53	0	470	261	602	-	-	609	-	-
Stage 1	185	264	-	205	0	-	-	-	-	-	-	-	-
Stage 2	424	260	-	460	0	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	40	31	362	47	-	470	356	356	-	-	609	-	-
Mov Cap-2 Maneuver	40	31	-	47	-	-	-	-	-	-	-	-	-
Stage 1	178	255	-	193	-	-	-	-	-	-	-	-	-
Stage 2	392	245	-	429	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Ctrl Dly, s/v	198.48		12.81		0.27			0.21		
HCM LOS	F		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	356	-	-	52	470	609	-	-
HCM Lane V/C Ratio	0.057	-	-	0.824	0.019	0.037	-	-
HCM Ctrl Dly (s/v)	15.7	-	-	198.5	12.8	11.1	-	-
HCM Lane LOS	C	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	3.5	0.1	0.1	-	-

Queues

Future PM 2037 NB

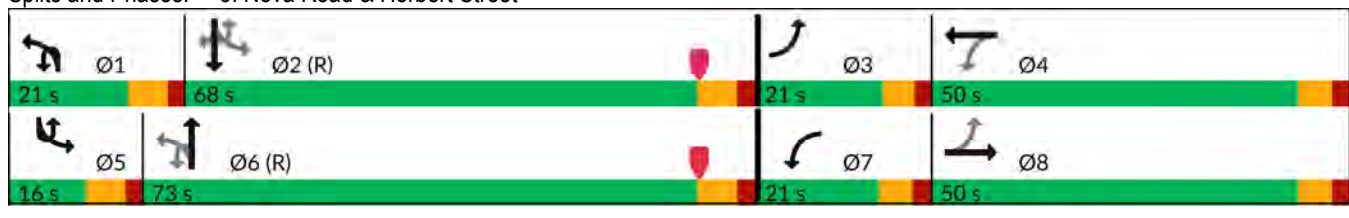
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	163	133	139	128	118	81	2	130	1012	139	2	85
Future Volume (vph)	163	133	139	128	118	81	2	130	1012	139	2	85
Satd. Flow (prot)	1736	1703	0	1805	1742	0	0	1805	5037	0	0	1805
Flt Permitted	0.385			0.237				0.103				0.169
Satd. Flow (perm)	703	1703	0	450	1742	0	0	196	5037	0	0	321
Satd. Flow (RTOR)		32			21				19			
Lane Group Flow (vph)	175	292	0	138	214	0	0	142	1237	0	0	93
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases	3	8		7	4		1	1	6		5	5
Permitted Phases	8			4			6	6			2	2
Total Split (s)	21.0	50.0		21.0	50.0		21.0	21.0	73.0		16.0	16.0
Total Lost Time (s)	5.7	6.2		6.2	6.2			6.8	6.8			6.8
Act Effct Green (s)	46.5	31.2		44.1	30.5			93.3	80.2			85.1
Actuated g/C Ratio	0.29	0.20		0.28	0.19			0.58	0.50			0.53
v/c Ratio	0.59	0.82		0.58	0.61			0.58	0.49			0.37
Control Delay (s/veh)	47.8	72.1		48.6	59.8			27.0	28.2			20.2
Queue Delay	0.0	0.0		0.0	0.0			0.0	0.0			0.0
Total Delay (s/veh)	47.8	72.1		48.6	59.8			27.0	28.2			20.2
LOS	D	E		D	E			C	C			C
Approach Delay (s/veh)		63.0			55.4				28.0			
Approach LOS		E			E				C			
Queue Length 50th (ft)	137	266		106	187			63	307			40
Queue Length 95th (ft)	185	353		149	257			127	410			79
Internal Link Dist (ft)		99			187				3059			
Turn Bay Length (ft)				170				200				210
Base Capacity (vph)	305	489		252	492			268	2534			263
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	0.57	0.60		0.55	0.43			0.53	0.49			0.35

Intersection Summary

Cycle Length: 160
 Actuated Cycle Length: 160
 Offset: 15 (9%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 37.7 Intersection LOS: D
 Intersection Capacity Utilization 83.1% ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



Queues

Future PM 2037 NB

3: Nova Road & Herbert Street



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1140	142
Future Volume (vph)	1140	142
Satd. Flow (prot)	3574	1538
Flt Permitted		
Satd. Flow (perm)	3574	1538
Satd. Flow (RTOR)		110
Lane Group Flow (vph)	1226	153
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Total Split (s)	68.0	68.0
Total Lost Time (s)	6.8	6.8
Act Effct Green (s)	76.1	76.1
Actuated g/C Ratio	0.48	0.48
v/c Ratio	0.72	0.19
Control Delay (s/veh)	38.6	10.0
Queue Delay	0.0	0.0
Total Delay (s/veh)	38.6	10.0
LOS	D	B
Approach Delay (s/veh)	34.5	
Approach LOS	C	
Queue Length 50th (ft)	544	25
Queue Length 95th (ft)	735	82
Internal Link Dist (ft)	646	
Turn Bay Length (ft)		
Base Capacity (vph)	1699	789
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.72	0.19
Intersection Summary		

Intersection													
Int Delay, s/veh	35.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕				↗		↖	↗	↗	↖	↗	↗
Traffic Vol, veh/h	48	3	30	11	3	28	20	27	1133	41	56	1194	49
Future Vol, veh/h	48	3	30	11	3	28	20	27	1133	41	56	1194	49
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	-	250	-	840	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	50	3	31	11	3	29	21	28	1180	43	58	1244	51

Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	2076	2707	647	2018	2690	590	1295	1295	0	0	1223	0	0
Stage 1	1386	1386	-	1278	1278	-	-	-	-	-	-	-	-
Stage 2	690	1321	-	740	1411	-	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.5	6.9	7.5	6.5	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.5	-	6.5	5.5	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	~ 32	21	418	35	22	456	218	542	-	-	577	-	-
Stage 1	153	212	-	179	239	-	-	-	-	-	-	-	-
Stage 2	406	228	-	379	206	-	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-	-
Mov Cap-1 Maneuver	~ 19	16	418	21	17	456	316	316	-	-	577	-	-
Mov Cap-2 Maneuver	~ 19	16	-	21	17	-	-	-	-	-	-	-	-
Stage 1	138	191	-	151	202	-	-	-	-	-	-	-	-
Stage 2	317	193	-	310	186	-	-	-	-	-	-	-	-

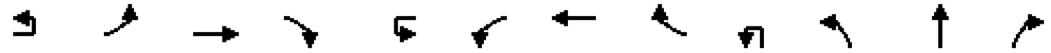
Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	\$ 1127.51	13.44	0.71	0.51
HCM LOS	F	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	316	-	-	29	456	577	-	-
HCM Lane V/C Ratio	0.155	-	-	2.871	0.064	0.101	-	-
HCM Ctrl Dly (s/v)	18.5	-	-	\$ 1127.5	13.4	11.9	-	-
HCM Lane LOS	C	-	-	F	B	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	10	0.2	0.3	-	-

Notes	
~: Volume exceeds capacity	\$: Delay exceeds 300s
+: Computation Not Defined	*: All major volume in platoon

Queues
18: Nova Road & Dunlawton Ave

Future PM 2037 NB



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		⇌	⇌⇌	⇌		⇌	⇌⇌			⇌	⇌	⇌
Traffic Volume (vph)	21	417	990	278	120	162	1049	160	2	435	569	95
Future Volume (vph)	21	417	990	278	120	162	1049	160	2	435	569	95
Satd. Flow (prot)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Satd. Flow (RTOR)				237			15					160
Lane Group Flow (vph)	0	456	1031	290	0	294	1260	0	0	455	593	99
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	Prot	NA	Perm
Protected Phases	1	1	6		5	5	2		7	7	4	
Permitted Phases				6								4
Total Split (s)	37.0	37.0	68.8	68.8	31.0	31.0	62.8		38.2	38.2	60.2	60.2
Total Lost Time (s)		8.0	6.8	6.8			8.0	6.8		7.7	6.8	6.8
Act Effct Green (s)		27.9	64.6	64.6			23.0	59.7		29.2	52.6	52.6
Actuated g/C Ratio		0.15	0.34	0.34			0.12	0.31		0.15	0.28	0.28
v/c Ratio		0.90	0.59	0.42			0.70	0.80		0.87	0.61	0.18
Control Delay (s/veh)		100.3	54.0	11.8			89.9	64.2		96.2	62.6	0.7
Queue Delay		0.0	0.0	0.0			0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)		100.3	54.0	11.8			89.9	64.2		96.2	62.6	0.7
LOS		F	D	B			F	E		F	E	A
Approach Delay (s/veh)			59.0				69.0				70.6	
Approach LOS			E				E				E	
Queue Length 50th (ft)		291	400	46			185	541		288	338	0
Queue Length 95th (ft)		#377	452	136			242	603		#359	408	0
Internal Link Dist (ft)			625				632				856	
Turn Bay Length (ft)		385		250			350			500		1000
Base Capacity (vph)		529	1745	694			420	1580		545	1000	558
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		0.86	0.59	0.42			0.70	0.80		0.83	0.59	0.18

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 156 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay (s/veh): 66.4 Intersection LOS: E
 Intersection Capacity Utilization 94.4% 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: 18: Nova Road & Dunlawton Ave



Queues
18: Nova Road & Dunlawton Ave

Future PM 2037 NB



Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	11	259	697	343
Future Volume (vph)	11	259	697	343
Satd. Flow (prot)	0	3502	3610	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3502	3610	1583
Satd. Flow (RTOR)				255
Lane Group Flow (vph)	0	281	726	357
Turn Type	Prot	Prot	NA	Perm
Protected Phases	3	3	8	
Permitted Phases				8
Total Split (s)	30.0	30.0	52.0	52.0
Total Lost Time (s)		8.0	6.8	6.8
Act Effect Green (s)		20.2	43.9	43.9
Actuated g/C Ratio		0.11	0.23	0.23
v/c Ratio		0.75	0.87	0.64
Control Delay (s/veh)		95.6	82.2	23.4
Queue Delay		0.0	0.0	0.0
Total Delay (s/veh)		95.6	82.2	23.4
LOS		F	F	C
Approach Delay (s/veh)			69.6	
Approach LOS			E	
Queue Length 50th (ft)		177	461	113
Queue Length 95th (ft)		233	544	237
Internal Link Dist (ft)			907	
Turn Bay Length (ft)		400		800
Base Capacity (vph)		405	858	570
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.69	0.85	0.63
Intersection Summary				

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↘	↕	↗	↘	↕	
Traffic Vol, veh/h	0	0	35	0	0	9	8	8	932	17	18	882	52
Future Vol, veh/h	0	0	35	0	0	9	8	8	932	17	18	882	52
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	250	-	840	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	12	0	44	0	0	0	0	0	1	0	0	2	4
Mvmt Flow	0	0	40	0	0	10	9	9	1059	19	20	1002	59

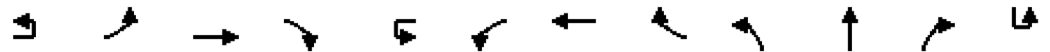
Major/Minor	Minor2		Minor1			Major1			Major2				
Conflicting Flow All	-	-	531	-	-	530	1061	1061	0	0	1078	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.78	-	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.74	-	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	398	0	0	499	308	664	-	-	654	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	398	-	-	499	392	392	-	-	654	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Ctrl Dly, s/v	15.05		12.36			0.24			0.2		
HCM LOS	C		B								

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	392	-	-	398	499	654	-	-
HCM Lane V/C Ratio	0.046	-	-	0.1	0.02	0.031	-	-
HCM Ctrl Dly (s/v)	14.6	-	-	15.1	12.4	10.7	-	-
HCM Lane LOS	B	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.1	-	-

Queues
18: Nova Road & Dunlawton Ave

Future AM 2027 Build

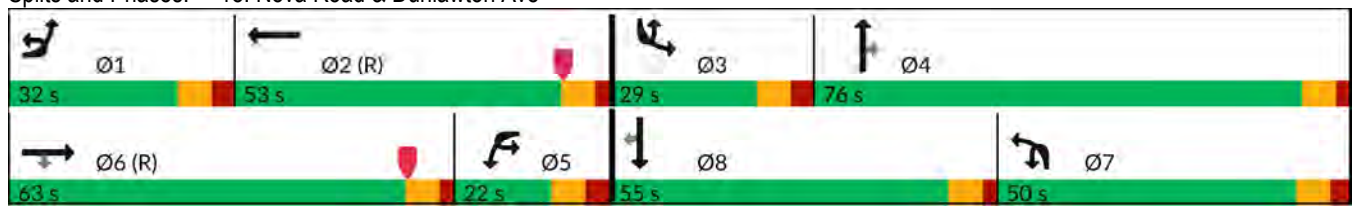


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		⇌	⇌⇌	⇌		⇌	⇌⇌		⇌	⇌	⇌	
Traffic Volume (vph)	12	215	866	251	28	84	594	41	430	566	90	31
Future Volume (vph)	12	215	866	251	28	84	594	41	430	566	90	31
Satd. Flow (prot)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Flt Permitted		0.950				0.950			0.950			
Satd. Flow (perm)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Satd. Flow (RTOR)				234			5				160	
Lane Group Flow (vph)	0	242	921	267	0	119	676	0	457	602	96	0
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases				6								4
Total Split (s)	32.0	32.0	63.0	63.0	22.0	22.0	53.0		50.0	76.0	76.0	29.0
Total Lost Time (s)		8.0	6.8	6.8		8.0	6.8		7.7	6.8	6.8	
Act Effct Green (s)		18.8	82.2	82.2		14.0	77.4		31.8	46.7	46.7	
Actuated g/C Ratio		0.10	0.43	0.43		0.07	0.41		0.17	0.25	0.25	
v/c Ratio		0.72	0.42	0.33		0.48	0.33		0.80	0.68	0.19	
Control Delay (s/veh)		95.2	39.4	7.8		91.2	40.9		87.0	68.6	0.8	
Queue Delay		0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0	
Total Delay (s/veh)		95.2	39.4	7.8		91.2	40.9		87.0	68.6	0.8	
LOS		F	D	A		F	D		F	E	A	
Approach Delay (s/veh)			43.0				48.4			70.3		
Approach LOS			D				D			E		
Queue Length 50th (ft)		154	290	24		75	209		287	364	0	
Queue Length 95th (ft)		201	379	104		113	292		340	401	0	
Internal Link Dist (ft)			625				632			856		
Turn Bay Length (ft)		385		250		350			500		1000	
Base Capacity (vph)		430	2199	804		250	2037		756	1301	672	
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		0.56	0.42	0.33		0.48	0.33		0.60	0.46	0.14	

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 16 (8%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay (s/veh): 55.9 Intersection LOS: E
 Intersection Capacity Utilization 72.1% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 18: Nova Road & Dunlawton Ave



18: Nova Road & Dunlawton Ave



Lane Group	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↔
Traffic Volume (vph)	163	422	266
Future Volume (vph)	163	422	266
Satd. Flow (prot)	3416	3505	1583
Flt Permitted	0.950		
Satd. Flow (perm)	3416	3505	1583
Satd. Flow (RTOR)			260
Lane Group Flow (vph)	206	449	283
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Total Split (s)	29.0	55.0	55.0
Total Lost Time (s)	8.0	6.8	6.8
Act Effct Green (s)	17.5	32.7	32.7
Actuated g/C Ratio	0.09	0.17	0.17
v/c Ratio	0.66	0.75	0.58
Control Delay (s/veh)	93.3	82.3	14.3
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	93.3	82.3	14.3
LOS	F	F	B
Approach Delay (s/veh)		64.2	
Approach LOS		E	
Queue Length 50th (ft)	130	285	25
Queue Length 95th (ft)	176	336	119
Internal Link Dist (ft)		907	
Turn Bay Length (ft)	400		800
Base Capacity (vph)	377	889	595
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.55	0.51	0.48
Intersection Summary			

Queues

Future PM 2027 Build

3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	150	123	128	118	108	75	2	120	932	128	2	79
Future Volume (vph)	150	123	128	118	108	75	2	120	932	128	2	79
Satd. Flow (prot)	1736	1845	1568	1805	1863	1568	0	1805	5037	0	0	1805
Flt Permitted	0.657			0.567				0.156				0.214
Satd. Flow (perm)	1200	1845	1568	1077	1863	1568	0	296	5037	0	0	407
Satd. Flow (RTOR)			148			148			21			
Lane Group Flow (vph)	161	132	138	127	116	81	0	131	1140	0	0	87
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases	3	8		7	4		1	1	6		5	5
Permitted Phases	8		8	4		4	6	6			2	2
Total Split (s)	10.8	49.2	49.2	11.2	49.6	49.6	13.0	13.0	43.8		15.8	15.8
Total Lost Time (s)	5.7	6.2	6.2	6.2	6.2	6.2		6.8	6.8			6.8
Act Effct Green (s)	21.0	15.4	15.4	20.8	15.8	15.8		77.2	66.1			70.1
Actuated g/C Ratio	0.18	0.13	0.13	0.17	0.13	0.13		0.64	0.55			0.58
v/c Ratio	0.69	0.56	0.42	0.59	0.48	0.24		0.40	0.41			0.27
Control Delay (s/veh)	58.5	57.7	9.9	52.1	53.9	1.7		11.4	16.5			10.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Delay (s/veh)	58.5	57.7	9.9	52.1	53.9	1.7		11.4	16.5			10.4
LOS	E	E	A	D	D	A		B	B			B
Approach Delay (s/veh)		42.7			40.2				16.0			
Approach LOS		D			D				B			
Queue Length 50th (ft)	108	98	0	84	85	0		32	173			21
Queue Length 95th (ft)	163	155	49	132	138	0		65	243			46
Internal Link Dist (ft)		99			187				3059			
Turn Bay Length (ft)				320		165		200				210
Base Capacity (vph)	232	661	656	216	673	661		330	2782			349
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	0.69	0.20	0.21	0.59	0.17	0.12		0.40	0.41			0.25

Intersection Summary

Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay (s/veh): 23.4 Intersection LOS: C
 Intersection Capacity Utilization 74.5% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



3: Nova Road & Herbert Street



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1050	131
Future Volume (vph)	1050	131
Satd. Flow (prot)	3574	1538
Flt Permitted		
Satd. Flow (perm)	3574	1538
Satd. Flow (RTOR)		143
Lane Group Flow (vph)	1129	141
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Total Split (s)	46.6	46.6
Total Lost Time (s)	6.8	6.8
Act Effct Green (s)	62.5	62.5
Actuated g/C Ratio	0.52	0.52
v/c Ratio	0.61	0.16
Control Delay (s/veh)	23.0	3.4
Queue Delay	0.0	0.0
Total Delay (s/veh)	23.0	3.4
LOS	C	A
Approach Delay (s/veh)	20.2	
Approach LOS	C	
Queue Length 50th (ft)	307	0
Queue Length 95th (ft)	448	36
Internal Link Dist (ft)	646	
Turn Bay Length (ft)		
Base Capacity (vph)	1861	869
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.61	0.16
Intersection Summary		

Intersection													
Int Delay, s/veh	1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↘	↕	↗	↘	↕	
Traffic Vol, veh/h	0	0	75	0	0	39	18	25	1087	41	51	1110	48
Future Vol, veh/h	0	0	75	0	0	39	18	25	1087	41	51	1110	48
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	250	-	840	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	78	0	0	41	19	26	1132	43	53	1156	50

Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	-	-	603	-	-	566	1206	1206	0	0	1175	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	447	0	0	472	249	586	-	-	602	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	447	-	-	472	330	330	-	-	602	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Ctrl Dly, s/v	14.75		13.34		0.65			0.49		
HCM LOS	B		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	330	-	-	447	472	602	-	-
HCM Lane V/C Ratio	0.136	-	-	0.175	0.086	0.088	-	-
HCM Ctrl Dly (s/v)	17.6	-	-	14.8	13.3	11.6	-	-
HCM Lane LOS	C	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.6	0.3	0.3	-	-

Queues

Future AM 2037 Build

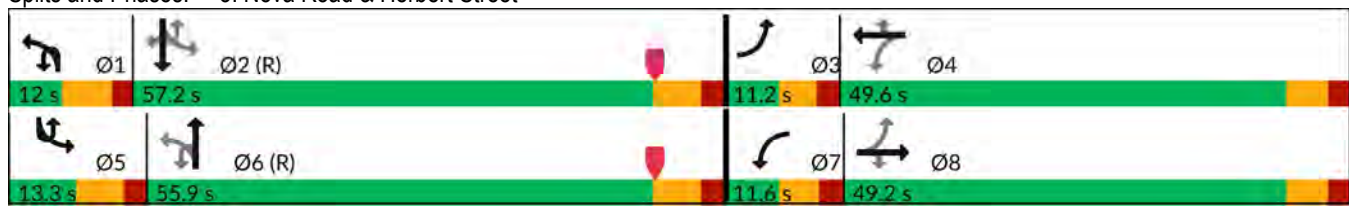
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	103	92	93	132	106	51	4	68	938	44	59	942
Future Volume (vph)	103	92	93	132	106	51	4	68	938	44	59	942
Satd. Flow (prot)	1752	1863	1538	1770	1863	1615	0	1755	5091	0	1736	3505
Flt Permitted	0.613			0.639				0.210			0.228	
Satd. Flow (perm)	1131	1863	1538	1190	1863	1615	0	388	5091	0	417	3505
Satd. Flow (RTOR)			137			137			6			
Lane Group Flow (vph)	114	102	103	147	118	57	0	80	1091	0	66	1047
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA		pm+pt	NA
Protected Phases	3	8		7	4		1	1	6		5	2
Permitted Phases	8		8	4		4	6	6			2	
Total Split (s)	11.2	49.2	49.2	11.6	49.6	49.6	12.0	12.0	55.9		13.3	57.2
Total Lost Time (s)	5.7	6.2	6.2	6.2	6.2	6.2		6.8	6.8		6.8	6.8
Act Effct Green (s)	20.6	14.6	14.6	20.4	15.0	15.0		85.7	79.4		83.7	76.6
Actuated g/C Ratio	0.16	0.11	0.11	0.16	0.12	0.12		0.66	0.61		0.64	0.59
v/c Ratio	0.56	0.49	0.35	0.70	0.55	0.19		0.24	0.35		0.19	0.51
Control Delay (s/veh)	56.1	61.6	6.5	65.8	63.6	1.3		8.7	13.8		8.3	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Total Delay (s/veh)	56.1	61.6	6.5	65.8	63.6	1.3		8.7	13.8		8.3	17.3
LOS	E	E	A	E	E	A		A	B		A	B
Approach Delay (s/veh)		41.8			53.6				13.4			15.4
Approach LOS		D			D				B			B
Queue Length 50th (ft)	83	82	0	109	96	0		19	163		16	256
Queue Length 95th (ft)	133	136	26	168	154	0		40	221		35	357
Internal Link Dist (ft)		99			187				3059			646
Turn Bay Length (ft)				320		165		200			210	
Base Capacity (vph)	205	616	600	210	621	630		334	3113		342	2064
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	0.17	0.17	0.70	0.19	0.09		0.24	0.35		0.19	0.51

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.70
 Intersection Signal Delay (s/veh): 21.5 Intersection LOS: C
 Intersection Capacity Utilization 68.4% ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



3: Nova Road & Herbert Street



Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	101
Future Volume (vph)	101
Satd. Flow (prot)	1568
Flt Permitted	
Satd. Flow (perm)	1568
Satd. Flow (RTOR)	132
Lane Group Flow (vph)	112
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Total Split (s)	57.2
Total Lost Time (s)	6.8
Act Effct Green (s)	76.6
Actuated g/C Ratio	0.59
v/c Ratio	0.11
Control Delay (s/veh)	1.7
Queue Delay	0.0
Total Delay (s/veh)	1.7
LOS	A
Approach Delay (s/veh)	
Approach LOS	
Queue Length 50th (ft)	0
Queue Length 95th (ft)	20
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	977
Starvation Cap Reductn	0
Spillback Cap Reductn	0
Storage Cap Reductn	0
Reduced v/c Ratio	0.11
Intersection Summary	

Intersection													
Int Delay, s/veh	0.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↘	↕	↗	↘	↕	
Traffic Vol, veh/h	0	0	38	0	0	10	9	9	1031	19	20	977	58
Future Vol, veh/h	0	0	38	0	0	10	9	9	1031	19	20	977	58
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	250	-	840	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	12	0	44	0	0	0	0	0	1	0	0	2	4
Mvmt Flow	0	0	43	0	0	11	10	10	1172	22	23	1110	66

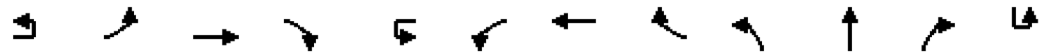
Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	-	-	588	-	-	586	1176	1176	0	0	1193	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.78	-	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.74	-	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	361	0	0	459	260	601	-	-	592	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	361	-	-	459	332	332	-	-	592	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Ctrl Dly, s/v	16.33		13.05		0.28		0.21	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	332	-	-	361	459	592	-	-
HCM Lane V/C Ratio	0.062	-	-	0.12	0.025	0.038	-	-
HCM Ctrl Dly (s/v)	16.6	-	-	16.3	13	11.3	-	-
HCM Lane LOS	C	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.4	0.1	0.1	-	-

Queues
18: Nova Road & Dunlawton Ave

Future AM 2037 Build

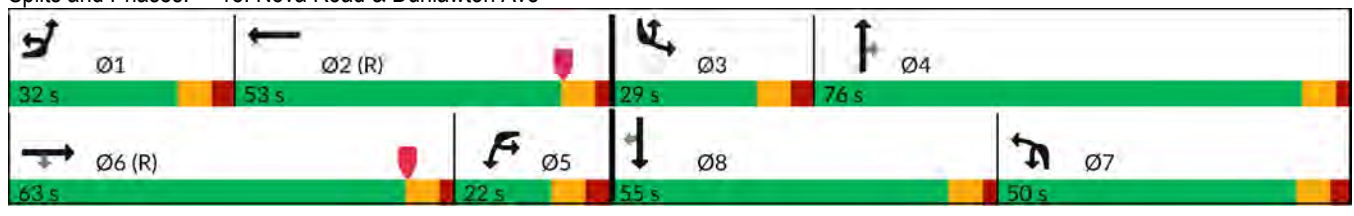


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBU
Lane Configurations		⇌	⇌⇌	⇌		⇌	⇌⇌		⇌	⇌	⇌	
Traffic Volume (vph)	14	238	959	278	31	93	658	45	477	627	100	34
Future Volume (vph)	14	238	959	278	31	93	658	45	477	627	100	34
Satd. Flow (prot)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Flt Permitted		0.950				0.950			0.950			
Satd. Flow (perm)	0	3405	5085	1553	0	3400	4995	0	3400	3574	1568	0
Satd. Flow (RTOR)				234			5				160	
Lane Group Flow (vph)	0	268	1020	296	0	132	748	0	507	667	106	0
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	NA	Perm	Prot
Protected Phases	1	1	6		5	5	2		7	4		3
Permitted Phases				6								4
Total Split (s)	32.0	32.0	63.0	63.0	22.0	22.0	53.0		50.0	76.0	76.0	29.0
Total Lost Time (s)		8.0	6.8	6.8			8.0	6.8	7.7	6.8	6.8	
Act Effct Green (s)		20.2	76.3	76.3			14.0	70.1	34.7	51.8	51.8	
Actuated g/C Ratio		0.11	0.40	0.40			0.07	0.37	0.18	0.27	0.27	
v/c Ratio		0.74	0.50	0.39			0.53	0.41	0.82	0.68	0.20	
Control Delay (s/veh)		94.8	45.2	11.6			92.9	47.3	85.5	65.0	1.0	
Queue Delay		0.0	0.0	0.0			0.0	0.0	0.0	0.0	0.0	
Total Delay (s/veh)		94.8	45.2	11.6			92.9	47.3	85.5	65.0	1.0	
LOS		F	D	B			F	D	F	E	A	
Approach Delay (s/veh)			47.3				54.2			67.8		
Approach LOS			D				D			E		
Queue Length 50th (ft)		170	348	48			83	252	319	398	0	
Queue Length 95th (ft)		219	452	149			124	347	371	426	2	
Internal Link Dist (ft)			625				632			856		
Turn Bay Length (ft)		385		250			350		500		1000	
Base Capacity (vph)		434	2040	763			250	1845	756	1301	672	
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		0.62	0.50	0.39			0.53	0.41	0.67	0.51	0.16	

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 16 (8%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay (s/veh): 58.0 Intersection LOS: E
 Intersection Capacity Utilization 77.1% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 18: Nova Road & Dunlawton Ave



18: Nova Road & Dunlawton Ave



Lane Group	SBL	SBT	SBR
Lane Configurations	↔↔	↑↑	↗
Traffic Volume (vph)	180	468	294
Future Volume (vph)	180	468	294
Satd. Flow (prot)	3415	3505	1583
Flt Permitted	0.950		
Satd. Flow (perm)	3415	3505	1583
Satd. Flow (RTOR)			244
Lane Group Flow (vph)	227	498	313
Turn Type	Prot	NA	Perm
Protected Phases	3	8	
Permitted Phases			8
Total Split (s)	29.0	55.0	55.0
Total Lost Time (s)	8.0	6.8	6.8
Act Effct Green (s)	18.4	35.7	35.7
Actuated g/C Ratio	0.10	0.19	0.19
v/c Ratio	0.69	0.76	0.63
Control Delay (s/veh)	94.0	80.3	21.6
Queue Delay	0.0	0.0	0.0
Total Delay (s/veh)	94.0	80.3	21.6
LOS	F	F	C
Approach Delay (s/veh)		65.6	
Approach LOS		E	
Queue Length 50th (ft)	143	314	76
Queue Length 95th (ft)	193	364	184
Internal Link Dist (ft)		907	
Turn Bay Length (ft)	400		800
Base Capacity (vph)	377	889	583
Starvation Cap Reductn	0	0	0
Spillback Cap Reductn	0	0	0
Storage Cap Reductn	0	0	0
Reduced v/c Ratio	0.60	0.56	0.54
Intersection Summary			

Queues

Future PM 2037 Build

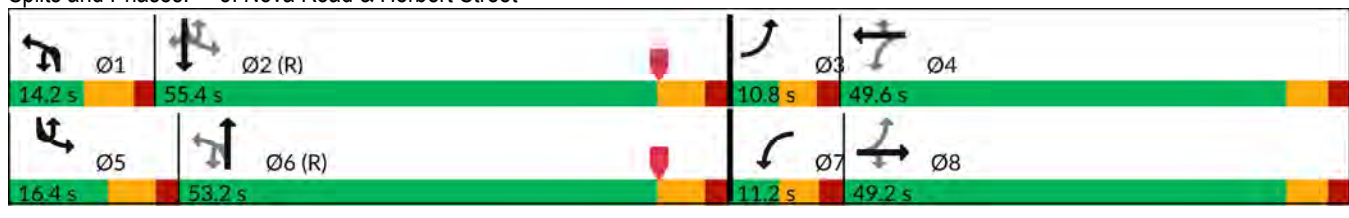
3: Nova Road & Herbert Street

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBU	SBL
Lane Configurations												
Traffic Volume (vph)	163	133	139	128	118	81	2	130	1012	139	2	85
Future Volume (vph)	163	133	139	128	118	81	2	130	1012	139	2	85
Satd. Flow (prot)	1736	1845	1568	1805	1863	1568	0	1805	5037	0	0	1805
Flt Permitted	0.595			0.510				0.130				0.193
Satd. Flow (perm)	1087	1845	1568	969	1863	1568	0	247	5037	0	0	367
Satd. Flow (RTOR)			149			137			21			
Lane Group Flow (vph)	175	143	149	138	127	87	0	142	1237	0	0	93
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	pm+pt	NA		pm+pt	pm+pt
Protected Phases	3	8		7	4		1	1	6		5	5
Permitted Phases	8		8	4		4	6	6			2	2
Total Split (s)	10.8	49.2	49.2	11.2	49.6	49.6	14.2	14.2	53.2		16.4	16.4
Total Lost Time (s)	5.7	6.2	6.2	6.2	6.2	6.2		6.8	6.8			6.8
Act Effct Green (s)	22.2	16.6	16.6	22.0	17.0	17.0		87.4	74.5			77.3
Actuated g/C Ratio	0.17	0.13	0.13	0.17	0.13	0.13		0.67	0.57			0.59
v/c Ratio	0.83	0.61	0.45	0.70	0.52	0.27		0.44	0.43			0.31
Control Delay (s/veh)	78.2	63.8	11.8	65.4	59.5	3.3		12.1	16.6			11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0			0.0
Total Delay (s/veh)	78.2	63.8	11.8	65.4	59.5	3.3		12.1	16.6			11.1
LOS	E	E	B	E	E	A		B	B			B
Approach Delay (s/veh)		52.6			48.0				16.1			
Approach LOS		D			D				B			
Queue Length 50th (ft)	130	116	0	100	102	0		37	201			24
Queue Length 95th (ft)	191	177	60	153	159	10		72	277			50
Internal Link Dist (ft)		99			187				3059			
Turn Bay Length (ft)				320		165		200				210
Base Capacity (vph)	211	610	618	196	621	614		320	2896			330
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	0.83	0.23	0.24	0.70	0.20	0.14		0.44	0.43			0.28

Intersection Summary

Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay (s/veh): 26.1 Intersection LOS: C
 Intersection Capacity Utilization 78.3% ICU Level of Service D
 Analysis Period (min) 15

Splits and Phases: 3: Nova Road & Herbert Street



3: Nova Road & Herbert Street



Lane Group	SBT	SBR
Lane Configurations	↑↑	↑
Traffic Volume (vph)	1140	142
Future Volume (vph)	1140	142
Satd. Flow (prot)	3574	1538
Flt Permitted		
Satd. Flow (perm)	3574	1538
Satd. Flow (RTOR)		132
Lane Group Flow (vph)	1226	153
Turn Type	NA	Perm
Protected Phases	2	
Permitted Phases		2
Total Split (s)	55.4	55.4
Total Lost Time (s)	6.8	6.8
Act Effct Green (s)	69.5	69.5
Actuated g/C Ratio	0.53	0.53
v/c Ratio	0.64	0.17
Control Delay (s/veh)	24.6	4.8
Queue Delay	0.0	0.0
Total Delay (s/veh)	24.6	4.8
LOS	C	A
Approach Delay (s/veh)	21.7	
Approach LOS	C	
Queue Length 50th (ft)	371	8
Queue Length 95th (ft)	529	49
Internal Link Dist (ft)	646	
Turn Bay Length (ft)		
Base Capacity (vph)	1910	883
Starvation Cap Reductn	0	0
Spillback Cap Reductn	0	0
Storage Cap Reductn	0	0
Reduced v/c Ratio	0.64	0.17
Intersection Summary		

Intersection													
Int Delay, s/veh	1.3												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBU	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			↗			↗		↘	↕	↗	↘	↕	
Traffic Vol, veh/h	0	0	81	0	0	42	20	27	1181	44	56	1205	52
Future Vol, veh/h	0	0	81	0	0	42	20	27	1181	44	56	1205	52
Conflicting Peds, #/hr	0	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	Free
RT Channelized	-	-	None	-	-	None	-	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	-	250	-	840	175	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	0	0	1	0
Mvmt Flow	0	0	84	0	0	44	21	28	1230	46	58	1255	54

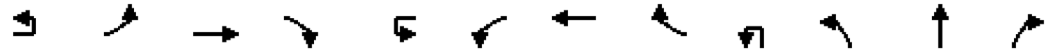
Major/Minor	Minor2		Minor1		Major1			Major2					
Conflicting Flow All	-	-	655	-	-	615	1309	1309	0	0	1276	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	6.9	-	-	6.9	6.4	4.1	-	-	4.1	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.3	-	-	3.3	2.5	2.2	-	-	2.2	-	-
Pot Cap-1 Maneuver	0	0	414	0	0	439	214	535	-	-	551	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	414	-	-	439	280	280	-	-	551	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB		WB		NB			SB		
HCM Ctrl Dly, s/v	15.92		14.11		0.76			0.52		
HCM LOS	C		B							

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	280	-	-	414	439	551	-	-
HCM Lane V/C Ratio	0.175	-	-	0.204	0.1	0.106	-	-
HCM Ctrl Dly (s/v)	20.6	-	-	15.9	14.1	12.3	-	-
HCM Lane LOS	C	-	-	C	B	B	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.8	0.3	0.4	-	-

Queues
18: Nova Road & Dunlawton Ave

Future PM 2037 Build



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBU	NBL	NBT	NBR
Lane Configurations		⇌	⇌⇌	⇌		⇌	⇌⇌			⇌	⇌⇌	⇌
Traffic Volume (vph)	21	417	990	278	120	162	1049	160	2	435	569	95
Future Volume (vph)	21	417	990	278	120	162	1049	160	2	435	569	95
Satd. Flow (prot)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Flt Permitted		0.950				0.950				0.950		
Satd. Flow (perm)	0	3469	5136	1583	0	3472	4997	0	0	3400	3539	1568
Satd. Flow (RTOR)				237			15					160
Lane Group Flow (vph)	0	456	1031	290	0	294	1260	0	0	455	593	99
Turn Type	Prot	Prot	NA	Perm	Prot	Prot	NA		Prot	Prot	NA	Perm
Protected Phases	1	1	6		5	5	2		7	7	4	
Permitted Phases				6								4
Total Split (s)	37.0	37.0	68.8	68.8	31.0	31.0	62.8		38.2	38.2	56.2	56.2
Total Lost Time (s)		8.0	6.8	6.8			8.0	6.8		7.7	6.8	6.8
Act Effct Green (s)		27.9	64.6	64.6			23.0	59.7		29.2	49.4	49.4
Actuated g/C Ratio		0.15	0.34	0.34			0.12	0.31		0.15	0.26	0.26
v/c Ratio		0.90	0.59	0.42			0.70	0.80		0.87	0.65	0.19
Control Delay (s/veh)		100.3	54.0	11.8			89.9	64.2		96.2	66.2	0.8
Queue Delay		0.0	0.0	0.0			0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)		100.3	54.0	11.8			89.9	64.2		96.2	66.2	0.8
LOS		F	D	B			F	E		F	E	A
Approach Delay (s/veh)			59.0				69.0				72.5	
Approach LOS			E				E				E	
Queue Length 50th (ft)		291	400	46			185	541		288	346	0
Queue Length 95th (ft)		#377	452	136			242	603		#359	421	0
Internal Link Dist (ft)			625				632				856	
Turn Bay Length (ft)		385		250			350			500		1000
Base Capacity (vph)		529	1745	694			420	1580		545	935	532
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		0.86	0.59	0.42			0.70	0.80		0.83	0.63	0.19

Intersection Summary

Cycle Length: 190
 Actuated Cycle Length: 190
 Offset: 156 (82%), Referenced to phase 2:WBT and 6:EBT, Start of Yellow
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay (s/veh): 66.9 Intersection LOS: E
 Intersection Capacity Utilization 94.4% 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: 18: Nova Road & Dunlawton Ave



Queues
18: Nova Road & Dunlawton Ave



Lane Group	SBU	SBL	SBT	SBR
Lane Configurations				
Traffic Volume (vph)	62	259	697	343
Future Volume (vph)	62	259	697	343
Satd. Flow (prot)	0	3502	3610	1583
Flt Permitted		0.950		
Satd. Flow (perm)	0	3502	3610	1583
Satd. Flow (RTOR)				255
Lane Group Flow (vph)	0	335	726	357
Turn Type	Prot	Prot	NA	Perm
Protected Phases	3	3	8	
Permitted Phases				8
Total Split (s)	34.0	34.0	52.0	52.0
Total Lost Time (s)		8.0	6.8	6.8
Act Effect Green (s)		23.4	43.9	43.9
Actuated g/C Ratio		0.12	0.23	0.23
v/c Ratio		0.78	0.87	0.64
Control Delay (s/veh)		93.4	82.2	23.4
Queue Delay		0.0	0.0	0.0
Total Delay (s/veh)		93.4	82.2	23.4
LOS		F	F	C
Approach Delay (s/veh)			70.1	
Approach LOS			E	
Queue Length 50th (ft)		211	461	113
Queue Length 95th (ft)		269	544	237
Internal Link Dist (ft)			907	
Turn Bay Length (ft)		400		800
Base Capacity (vph)		479	858	570
Starvation Cap Reductn		0	0	0
Spillback Cap Reductn		0	0	0
Storage Cap Reductn		0	0	0
Reduced v/c Ratio		0.70	0.85	0.63
Intersection Summary				

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst		Roadway	Nova Rd and Herbert St No Build
Agency or Company		Intersection	
Date Performed		Jurisdiction	
		Analysis Year	2025
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AAADT _{major} (veh/day)	AAADT _{MAX} = 67,700 (veh/day)	--	26,900
AAADT _{minor} (veh/day)	AAADT _{MAX} = 33,400 (veh/day)	--	8,300
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	2.27
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	1
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 / Permissive
Type of left-turn signal phasing for Leg #2		--	Protected / Permissive
Type of left-turn signal phasing for Leg #3		--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected / 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	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			66
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	3
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
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)
0.66	0.96	0.96	1.00	1.00	1.01	0.62

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	from Table 12-10	from Equation 12-		(4) / (5) * (5)	(7) from		(6) * (7) * (8)

Urban and Suburban Arterial Predictive Method

	a	b	c	from Table 12-10	21	(4) _{FI} /((4) _{FI} +(4) _{PDO})	(5) _{TOTAL} -(5) _{FI}	Worksheet 2B	(6)	(7)	(8)
Total	-10.99	1.07	0.23	0.39	7.385	1.000	7.385	0.62	2.27	10.322	
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	2.414	(4) _{FI} /((4) _{FI} +(4) _{PDO}) 0.339	2.502	0.62	2.27	3.497	
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	4.710	(5) _{TOTAL} -(5) _{FI} 0.661	4.882	0.62	2.27	6.825	

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	3.497	1.000	6.825	10.322
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Rear-end collision	0.450	1.574	0.483	3.296	4.870
Head-on collision	0.049	0.171	0.030	0.205	0.376
Angle collision	0.347	1.214	0.244	1.665	2.879
Sideswipe	0.099	0.346	0.032	0.218	0.565
Other multiple-vehicle collision	0.055	0.192	0.211	1.440	1.632

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	0.433	1.000	0.433	0.62	2.27	0.605					
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.106	(4) _{FI} /((4) _{FI} +(4) _{PDO}) 0.246	0.107	0.62	2.27	0.149					
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.324	(5) _{TOTAL} -(5) _{FI} 0.754	0.326	0.62	2.27	0.456					

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bisv (FI)} (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted N _{bisv (PDO)} (crashes/year)	(6) 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	0.149	1.000	0.456	0.605
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001

Urban and Suburban Arterial Predictive Method

Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.111	0.870	0.397	0.507
Collision with other object	0.072	0.011	0.070	0.032	0.043
Other single-vehicle collision	0.040	0.006	0.023	0.010	0.016
Single-vehicle noncollision	0.141	0.021	0.034	0.016	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	--	--	--	--	2.27	--
Fatal and injury (FI)	--	--	--	--	2.27	--

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)
4.15	1.00	1.12	4.65

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										from Equation 12-29	(4) from Worksheet 2H	(4)*(5)*(6)
	a	b	c	d	e								
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.030	4.65	2.27	0.137			
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	2.27	0.137			

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	10.322	0.605	10.927	0.015	2.27	0.164
Fatal and injury (FI)	--	--	--	--	2.27	0.164

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

Urban and Suburban Arterial Predictive Method

(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)	1.574	3.296	4.870
Head-on collisions (from Worksheet 2D)	0.171	0.205	0.376
Angle collisions (from Worksheet 2D)	1.214	1.665	2.879
Sideswipe (from Worksheet 2D)	0.346	0.218	0.565
Other multiple-vehicle collision (from Worksheet 2D)	0.192	1.440	1.632
Subtotal	3.497	6.825	10.322
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)	0.111	0.397	0.507
Collision with other object (from Worksheet 2F)	0.011	0.032	0.043
Other single-vehicle collision (from Worksheet 2F)	0.006	0.010	0.016
Single-vehicle noncollision (from Worksheet 2F)	0.021	0.016	0.037
Collision with pedestrian (from Worksheet 2G or 2I)	0.137	0.000	0.137
Collision with bicycle (from Worksheet 2J)	0.164	0.000	0.164
Subtotal	0.450	0.456	0.906
Total	3.948	7.281	11.228

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	11.2
Fatal and injury (FI)	3.9
Property damage only (PDO)	7.3

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst		Roadway	Nova Rd and Herbert St Build
Agency or Company		Intersection	
Date Performed		Jurisdiction	
		Analysis Year	2025
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	26,900
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	8,300
Intersection lighting (present/not present)		Not Present	Present
Calibration factor, C _i		1.00	2.27
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 / Permissive
Type of left-turn signal phasing for Leg #2		--	Protected / Permissive
Type of left-turn signal phasing for Leg #3		--	Protected / Permissive
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected / 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	
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			66
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	3
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
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)
0.66	0.96	0.88	1.00	0.91	1.01	0.52

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	from Table 12-10	from Equation 12-		(4) / (5) * (5)	(7) from		(6) * (7) * (8)

Urban and Suburban Arterial Predictive Method

	a	b	c	from Table 12-10	21	(7)/TOTAL (7)	Worksheet 2B	(9) (7) (9)	
Total	-10.99	1.07	0.23	0.39	7.385	1.000	0.52	2.27	8.663
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	2.414	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.339	0.52	2.27	2.935
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	4.710	$(5)_{TOTAL}-(5)_{FI}$ 0.661	0.52	2.27	5.728

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	2.935	1.000	5.728	8.663
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Rear-end collision	0.450	1.321	0.483	2.767	4.088
Head-on collision	0.049	0.144	0.030	0.172	0.316
Angle collision	0.347	1.019	0.244	1.398	2.416
Sideswipe	0.099	0.291	0.032	0.183	0.474
Other multiple-vehicle collision	0.055	0.161	0.211	1.209	1.370

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	0.433	1.000	0.433	0.52	2.27	0.508					
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.106	$(4)_{FI}/((4)_{FI}+(4)_{PDO})$ 0.246	0.107	0.52	2.27	0.125					
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.324	$(5)_{TOTAL}-(5)_{FI}$ 0.754	0.326	0.52	2.27	0.383					

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bisv (FI)} (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted N _{bisv (PDO)} (crashes/year)	(6) 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	0.125	1.000	0.383	0.508
		$(2)*(3)_{FI}$		$(4)*(5)_{PDO}$	$(3)+(5)$
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.001

Urban and Suburban Arterial Predictive Method

Collision with animal	0.002	0.000	0.002	0.001	0.001
Collision with fixed object	0.744	0.093	0.870	0.333	0.426
Collision with other object	0.072	0.009	0.070	0.027	0.036
Other single-vehicle collision	0.040	0.005	0.023	0.009	0.014
Single-vehicle noncollision	0.141	0.018	0.034	0.013	0.031

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	--	--	--	--	2.27	--
Fatal and injury (FI)	--	--	--	--	2.27	--

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)
4.15	1.00	1.12	4.65

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									from Equation 12-29	(4) from Worksheet 2H	(4)*(5)*(6)
	a	b	c	d	e					
Total	-9.53	0.40	0.26	0.45	0.04	0.24	0.030	4.65	2.27	0.137
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	2.27	0.137

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	8.663	0.508	9.171	0.015	2.27	0.138
Fatal and injury (FI)	--	--	--	--	2.27	0.138

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

Urban and Suburban Arterial Predictive Method

(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)	1.321	2.767	4.088
Head-on collisions (from Worksheet 2D)	0.144	0.172	0.316
Angle collisions (from Worksheet 2D)	1.019	1.398	2.416
Sideswipe (from Worksheet 2D)	0.291	0.183	0.474
Other multiple-vehicle collision (from Worksheet 2D)	0.161	1.209	1.370
Subtotal	2.935	5.728	8.663
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)	0.093	0.333	0.426
Collision with other object (from Worksheet 2F)	0.009	0.027	0.036
Other single-vehicle collision (from Worksheet 2F)	0.005	0.009	0.014
Single-vehicle noncollision (from Worksheet 2F)	0.018	0.013	0.031
Collision with pedestrian (from Worksheet 2G or 2I)	0.137	0.000	0.137
Collision with bicycle (from Worksheet 2J)	0.138	0.000	0.138
Subtotal	0.400	0.383	0.782
Total	3.335	6.111	9.446

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	9.4
Fatal and injury (FI)	3.3
Property damage only (PDO)	6.1

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections

General Information		Location Information	
Analyst		Roadway	Nova Rd and Eagle Lake Tr No Build
Agency or Company		Intersection	
Date Performed		Jurisdiction	
		Analysis Year	2025
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4ST
AA _{DT} _{major} (veh/day)	AA _{DT} _{MAX} = 46,800 (veh/day)	--	25,100
AA _{DT} _{minor} (veh/day)	AA _{DT} _{MAX} = 5,900 (veh/day)	--	1,600
Intersection lighting (present/not present)		Not Present	Not Present
Calibration factor, C _i		1.00	1.87
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
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)
0.53	1.00	0.86	1.00	1.00	0.97	0.44

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	from Table 12-10	from Equation 12-		(4) / (5)	(7) from		(6) * (7) * (8)

Urban and Suburban Arterial Predictive Method

	a	b	c	from Table 12-10	21	(4) _{FI} /((4) _{FI} + (4) _{PDO})	(5) _{TOTAL} -(5) _{FI}	Worksheet 2B	(6)	(7)	(8)
Total	-8.90	0.82	0.25	0.40	3.496	1.000	3.496	0.44	1.87	2.889	
Fatal and Injury (FI)	-11.13	0.93	0.28	0.48	1.429	(4) _{FI} /((4) _{FI} + (4) _{PDO}) 0.401	1.403	0.44	1.87	1.159	
Property Damage Only (PDO)	-8.74	0.77	0.23	0.40	2.133	(5) _{TOTAL} -(5) _{FI} 0.599	2.093	0.44	1.87	1.730	

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	1.159	1.000	1.730	2.889
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Rear-end collision	0.338	0.392	0.374	0.647	1.039
Head-on collision	0.041	0.048	0.030	0.052	0.099
Angle collision	0.440	0.510	0.335	0.579	1.089
Sideswipe	0.121	0.140	0.044	0.076	0.216
Other multiple-vehicle collision	0.060	0.070	0.217	0.375	0.445

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	-5.33	0.33	0.12	0.65	0.332	1.000	0.332	0.44	1.87	0.275					
Fatal and Injury (FI)	--	--	--	--	0.093	(4) _{FI} /((4) _{FI} + (4) _{PDO}) 0.304	0.101	0.44	1.87	0.084					
Property Damage Only (PDO)	-7.04	0.36	0.25	0.54	0.213	(5) _{TOTAL} -(5) _{FI} 0.696	0.231	0.44	1.87	0.191					

Worksheet 2F -- Single-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections

(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bisv (FI)} (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted N _{bisv (PDO)} (crashes/year)	(6) 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	0.084	1.000	0.191	0.275
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000

Urban and Suburban Arterial Predictive Method

Collision with animal	0.001	0.000	0.026	0.005	0.005
Collision with fixed object	0.679	0.057	0.847	0.162	0.219
Collision with other object	0.089	0.007	0.070	0.013	0.021
Other single-vehicle collision	0.051	0.004	0.007	0.001	0.006
Single-vehicle noncollision	0.179	0.015	0.049	0.009	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	2.889	0.275	3.164	0.022	1.87	0.130
Fatal and injury (FI)	--	--	--	--	1.87	0.130

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									from Equation 12-29	(4) from Worksheet 2H	(4)*(5)*(6)
	a	b	c	d	e		--	--	--	1.87
Total	--	--	--	--	--	--	--	--	1.87	--
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	1.87	--

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	2.889	0.275	3.164	0.018	1.87	0.057
Fatal and injury (FI)	--	--	--	--	1.87	0.057

Worksheet 2K -- Crash Severity Distribution for Urban and Suburban Arterial Intersections

Urban and Suburban Arterial Predictive Method

(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)	0.392	0.647	1.039
Head-on collisions (from Worksheet 2D)	0.048	0.052	0.099
Angle collisions (from Worksheet 2D)	0.510	0.579	1.089
Sideswipe (from Worksheet 2D)	0.140	0.076	0.216
Other multiple-vehicle collision (from Worksheet 2D)	0.070	0.375	0.445
Subtotal	1.159	1.730	2.889
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.005	0.005
Collision with fixed object (from Worksheet 2F)	0.057	0.162	0.219
Collision with other object (from Worksheet 2F)	0.007	0.013	0.021
Other single-vehicle collision (from Worksheet 2F)	0.004	0.001	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.015	0.009	0.024
Collision with pedestrian (from Worksheet 2G or 2I)	0.130	0.000	0.130
Collision with bicycle (from Worksheet 2J)	0.057	0.000	0.057
Subtotal	0.271	0.191	0.462
Total	1.430	1.921	3.351

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	3.4
Fatal and injury (FI)	1.4
Property damage only (PDO)	1.9

Present Worth Analysis
Urban/Suburban Arterial - Signalized 4 Leg Intersection
No-Build Alternative

General Information					Site Information				
Analyst: <u>VHB</u>		Date: _____			Location ID: <u>Nova Road and Herbert Street</u>		County: <u>Volusia</u>		
Agency or Company: _____		Volusia-Flagler TPO			City: <u>Port Orange</u>		M.P. - M.P. _____		
Manual Input from Analysis									
Major Growth Rate =	1.1%	Current Year =	2025	Project Opening Year =	2027	Default Distribution for Crash Severity Level (2010-2014 Florida HSM Crash Distribution) Fatality = 0.8% Possible Injury = 23.9% Incapacitating = 5.5% Property Damage Only = 54.0% Non-Incapacitating = 15.8% Segment Type = 4D 100.0%			
Minor Growth Rate =	1.1%	Rate of Return =	4.0%	Analysis Period =	11				
Opening Year Major AADT =	26,900	Intersection Type =	4SG	P <input type="button" value="Analyze"/> 2.6					
Opening Year Minor AADT =	8,300	Intersection =	Intersection1							Crash Data Used =	No

	Year	Major AADT	Minor AADT	Annual Number of Crashes					Annual Cost						
				Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Total Cost	Present Value
	2025	26,900	8,300	0.000	0.000	0.000	0.000	0.000							
	2026	27,196	8,391	0.000	0.000	0.000	0.000	0.000							
1	2027	27,495	8,484	11.49	0.092	0.632	1.815	2.745	6.203						
2	2028	27,798	8,577	11.65	0.093	0.641	1.840	2.784	6.290						
3	2029	28,103	8,671	11.81	0.094	0.650	1.866	2.823	6.378						
4	2030	28,412	8,767	11.98	0.096	0.659	1.892	2.863	6.468						
5	2031	28,725	8,863	12.15	0.097	0.668	1.919	2.903	6.559						
6	2032	29,041	8,961	12.32	0.099	0.677	1.946	2.944	6.651						
7	2033	29,360	9,059	12.49	0.100	0.687	1.973	2.985	6.744						
8	2034	29,683	9,159	12.66	0.101	0.697	2.001	3.027	6.839						
9	2035	30,010	9,260	12.84	0.103	0.706	2.029	3.069	6.935						
10	2036	30,340	9,361	13.02	0.104	0.716	2.058	3.112	7.032						
11	2037	30,674	9,464	13.21	0.106	0.726	2.086	3.156	7.131						
	2038	31,011	9,568	0.000	0.000	0.000	0.000	0.000	0.000						
	2039	31,352	9,674	0.000	0.000	0.000	0.000	0.000	0.000						
	2040	31,697	9,780	0.000	0.000	0.000	0.000	0.000	0.000						
	2041	32,046	9,888	0.000	0.000	0.000	0.000	0.000	0.000						
	2042	32,398	9,996	0.000	0.000	0.000	0.000	0.000	0.000						
	2043	32,755	10,106	0.000	0.000	0.000	0.000	0.000	0.000						
	2044	33,115	10,218	0.000	0.000	0.000	0.000	0.000	0.000						
	2045	33,479	10,330	0.000	0.000	0.000	0.000	0.000	0.000						
	2046	33,847	10,444	0.000	0.000	0.000	0.000	0.000	0.000						
	2047	34,220	10,559	0.000	0.000	0.000	0.000	0.000	0.000						
	2048	34,596	10,675	0.000	0.000	0.000	0.000	0.000	0.000						
	2049	34,977	10,792	0.000	0.000	0.000	0.000	0.000	0.000						
	2050	35,362	10,911	0.000	0.000	0.000	0.000	0.000	0.000						
	2051	35,751	11,031	0.000	0.000	0.000	0.000	0.000	0.000						

Present Worth Analysis
Urban/Suburban Arterial - Signalized 4 Leg Intersection
Build Alternative

General Information					Site Information				
Analyst: <u>VHB</u>		Date: _____			Location ID: <u>Nova Road and Herbert Street</u>		County: <u>Volusia</u>		
Agency or Company: <u>VHB</u>					City: <u>Port Orange</u>		M.P. - M.P. _____		
Manual Input from Analysis									
Major Growth Rate = <u>1.1%</u>		Current Year = <u>2025</u>		Project Opening Year = <u>2027</u>		Default Distribution for Crash Severity Level (2010-2014 Florida HSM Crash Distribution) Fatality = <u>0.8%</u> Possible Injury = <u>23.9%</u> Incapacitating = <u>5.5%</u> Property Damage Only = <u>54.0%</u> Non-Incapacitating = <u>15.8%</u> Segment Type = <u>4D</u> 100.0%			
Minor Growth Rate = <u>1.1%</u>		Rate of Return = <u>4.0%</u>		Analysis Period = <u>11</u>					
Opening Year Major AADT = <u>26,900</u>		Intersection Type = <u>4SG</u>		P <input type="button" value="Analyze"/>					
Opening Year Minor AADT = <u>8,300</u>		Intersection = <u>Intersection2</u>		Crash Data Used = <u>No</u> 0.1					

	Year	Major AADT	Minor AADT	Annual Number of Crashes					Annual Cost						
				Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Total Cost	Present Value
	2025	26,900	8,300	0.000	0.000	0.000	0.000	0.000							
	2026	27,196	8,391	0.000	0.000	0.000	0.000	0.000							
1	2027	27,495	8,484	9.65	0.077	0.531	1.525	2.307	5.213						
2	2028	27,798	8,577	9.79	0.078	0.538	1.547	2.340	5.286						
3	2029	28,103	8,671	9.93	0.079	0.546	1.568	2.372	5.360						
4	2030	28,412	8,767	10.07	0.081	0.554	1.590	2.406	5.436						
5	2031	28,725	8,863	10.21	0.082	0.561	1.613	2.439	5.512						
6	2032	29,041	8,961	10.35	0.083	0.569	1.635	2.474	5.589						
7	2033	29,360	9,059	10.50	0.084	0.577	1.658	2.508	5.667						
8	2034	29,683	9,159	10.64	0.085	0.585	1.682	2.544	5.747						
9	2035	30,010	9,260	10.79	0.086	0.594	1.705	2.579	5.828						
10	2036	30,340	9,361	10.94	0.088	0.602	1.729	2.615	5.909						
11	2037	30,674	9,464	11.10	0.089	0.610	1.753	2.652	5.992						
	2038	31,011	9,568	0.000	0.000	0.000	0.000	0.000	0.000						
	2039	31,352	9,674	0.000	0.000	0.000	0.000	0.000	0.000						
	2040	31,697	9,780	0.000	0.000	0.000	0.000	0.000	0.000						
	2041	32,046	9,888	0.000	0.000	0.000	0.000	0.000	0.000						
	2042	32,398	9,996	0.000	0.000	0.000	0.000	0.000	0.000						
	2043	32,755	10,106	0.000	0.000	0.000	0.000	0.000	0.000						
	2044	33,115	10,218	0.000	0.000	0.000	0.000	0.000	0.000						
	2045	33,479	10,330	0.000	0.000	0.000	0.000	0.000	0.000						
	2046	33,847	10,444	0.000	0.000	0.000	0.000	0.000	0.000						
	2047	34,220	10,559	0.000	0.000	0.000	0.000	0.000	0.000						
	2048	34,596	10,675	0.000	0.000	0.000	0.000	0.000	0.000						
	2049	34,977	10,792	0.000	0.000	0.000	0.000	0.000	0.000						
	2050	35,362	10,911	0.000	0.000	0.000	0.000	0.000	0.000						
	2051	35,751	11,031	0.000	0.000	0.000	0.000	0.000	0.000						

Present Worth Analysis
Urban/Suburban Arterial - Unsignalized 4 Leg Intersection
No-Build Alternative

General Information					Site Information				
Analyst: <u>VHB</u>		Date: _____			Location ID: <u>Nova Rd and Eagle Lake Circle</u>		County: <u>Volusia</u>		
Agency or Company: _____		Voluisa-Flagler TPO			City: <u>Port Orange</u>		M.P. - M.P. _____		
Manual Input from Analysis									
Major Growth Rate =	1.1%	Current Year =	2025	Project Opening Year =	2027	Default Distribution for Crash Severity Level (2010-2014 Florida HSM Crash Distribution) Fatality = 0.8% Possible Injury = 23.9% Incapacitating = 5.5% Property Damage Only = 54.0% Non-Incapacitating = 15.8% Segment Type = 4D 100.0%			
Minor Growth Rate =	1.1%	Rate of Return =	4.0%	Analysis Period =	11				
Opening Year Major AADT =	25,100	Intersection Type =	4ST	P <input type="button" value="Analyze"/>					
Opening Year Minor AADT =	1,600	Intersection =	Intersection1							2.6
Crash Data Used =					No				

	Year	Major AADT	Minor AADT	Annual Number of Crashes						Annual Cost					
				Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Fatality	Incap.	Non-Inc.	Possible Injury	PDO	Total Cost	Present Value
	2025	25,100	1,600	0.000	0.000	0.000	0.000	0.000							
	2026	25,376	1,618	0.000	0.000	0.000	0.000	0.000							
1	2027	25,655	1,635	3.43	0.027	0.188	0.541	0.819	1.850						
2	2028	25,937	1,653	3.46	0.028	0.191	0.547	0.828	1.871						
3	2029	26,223	1,672	3.50	0.028	0.193	0.553	0.837	1.891						
4	2030	26,511	1,690	3.54	0.028	0.195	0.560	0.846	1.913						
5	2031	26,803	1,709	3.58	0.029	0.197	0.566	0.856	1.934						
6	2032	27,098	1,727	3.62	0.029	0.199	0.572	0.865	1.955						
7	2033	27,396	1,746	3.66	0.029	0.201	0.579	0.875	1.977						
8	2034	27,697	1,766	3.70	0.030	0.204	0.585	0.885	1.999						
9	2035	28,002	1,785	3.74	0.030	0.206	0.592	0.895	2.022						
10	2036	28,310	1,805	3.79	0.030	0.208	0.598	0.905	2.044						
11	2037	28,621	1,824	3.83	0.031	0.211	0.605	0.915	2.067						
	2038	28,936	1,845	0.000	0.000	0.000	0.000	0.000	0.000						
	2039	29,254	1,865	0.000	0.000	0.000	0.000	0.000	0.000						
	2040	29,576	1,885	0.000	0.000	0.000	0.000	0.000	0.000						
	2041	29,901	1,906	0.000	0.000	0.000	0.000	0.000	0.000						
	2042	30,230	1,927	0.000	0.000	0.000	0.000	0.000	0.000						
	2043	30,563	1,948	0.000	0.000	0.000	0.000	0.000	0.000						
	2044	30,899	1,970	0.000	0.000	0.000	0.000	0.000	0.000						
	2045	31,239	1,991	0.000	0.000	0.000	0.000	0.000	0.000						
	2046	31,583	2,013	0.000	0.000	0.000	0.000	0.000	0.000						
	2047	31,930	2,035	0.000	0.000	0.000	0.000	0.000	0.000						
	2048	32,281	2,058	0.000	0.000	0.000	0.000	0.000	0.000						
	2049	32,636	2,080	0.000	0.000	0.000	0.000	0.000	0.000						
	2050	32,995	2,103	0.000	0.000	0.000	0.000	0.000	0.000						
	2051	33,358	2,126	0.000	0.000	0.000	0.000	0.000	0.000						

CMF / CRF Details

CMF ID: 10690

CMF Name: Install restricted crossing U-turn intersections

Description: The Restricted Crossing U-Turn (RCUT), also known as a "super"

Prior Condition: No Prior Condition(s)


Category: Intersection geometry

Study ID: [Development of Safety Performance Functions for Restricted Crossing U-Turn Intersections, Ulak et al. 2020](#)

Star Quality Rating

Star Quality Rating:	4 Stars
----------------------	----------------

Crash Modification Factor (CMF)

Star Quality Rating:  [\[VIEW SCORE DETAILS\]](#)

Rating Points Total: 125

Crash Modification Factor (CMF)

Value: $CMF = TDLL^{-0.156}$
TDLL = total deceleration lane length (ft)

Adjusted Standard Error:

Unadjusted Standard Error:

Crash Reduction Factor (CRF)

Value: $CRF = 100 * (1 - TDLL^{-0.156})$
TDLL = total deceleration lane length (ft)

Applicability	
Crash Type:	All
Crash Severity:	All
Roadway Types:	All
Minimum Number of Lanes:	
Maximum Number of Lanes:	
Number of Lanes Direction:	
Number of Lanes Comment:	
Road Division Type:	Divided by Median
Minimum Speed Limit:	
Maximum Speed Limit:	
Speed Unit:	
Speed Limit Comment:	
Area Type:	Urban and suburban
Traffic Volume:	
Average Traffic Volume:	
Time of Day:	All
<i>If countermeasure is intersection-based.</i>	
Intersection Type:	Roadway/roadway (not interchange related)
Intersection Geometry:	3-leg,4-leg
Traffic Control:	Stop-controlled
Major Road Traffic Volume:	Minimum of 9700 to Maximum of 100467 Annual Average Daily Traffic (AADT)
Minor Road Traffic Volume:	Minimum of 1000 to Maximum of 18218 Annual Average Daily Traffic (AADT)

Average Major Road Volume:	38138 Annual Average Daily Traffic (AADT)
Average Minor Road Volume:	6828 Annual Average Daily Traffic (AADT)

Development Details	
Date Range of Data Used:	
Municipality:	
State:	AL,GA,IL,IN,LA,MD,MI,MN,MS,MO,NC,SC,TN,WI
Country:	
Type of Methodology Used:	Regression cross-section
Sample Size (crashes):	788 crashes
Sample Size (sites):	198 sites

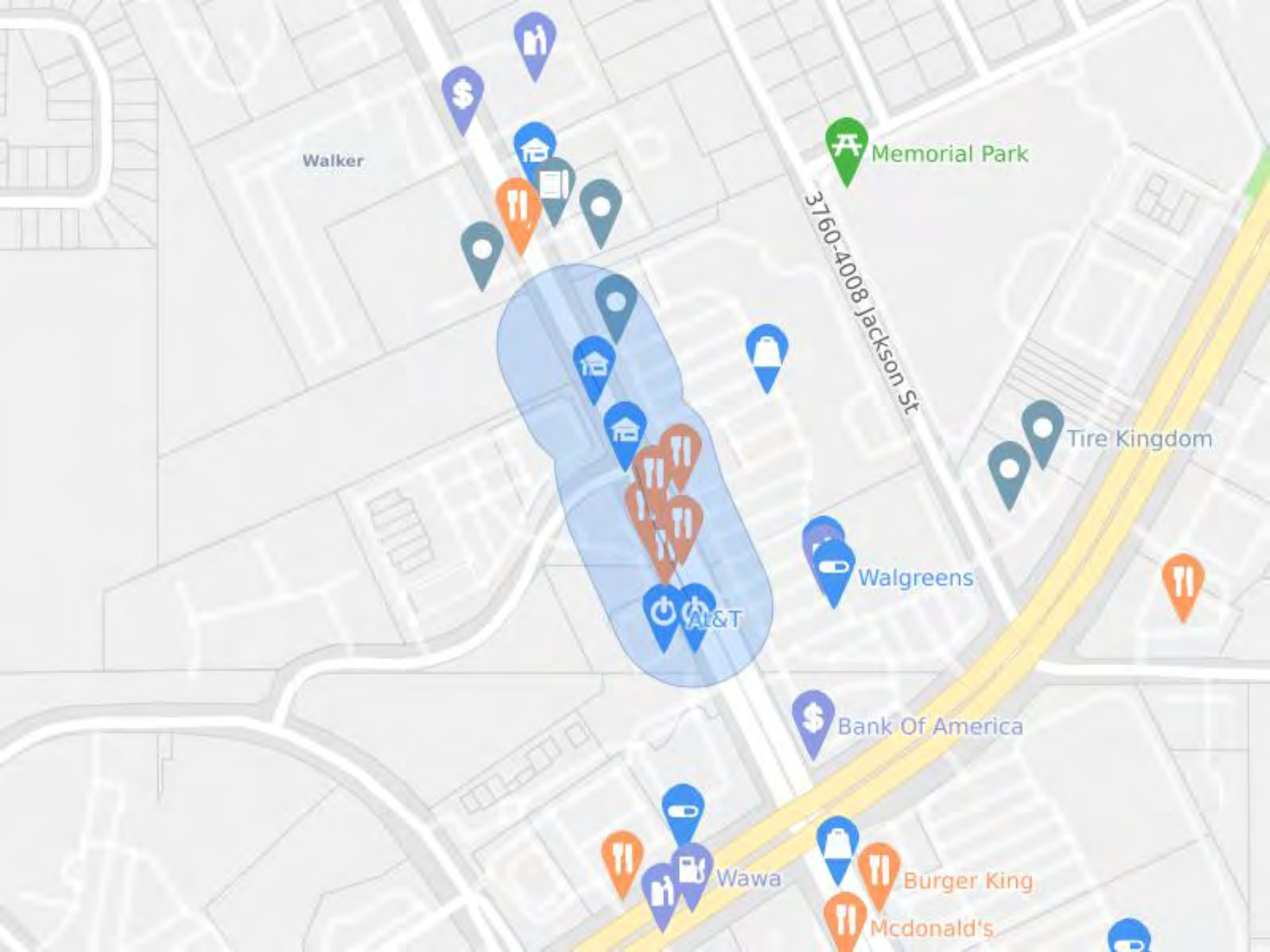
Other Details	
Included in HSM:	No
Date Added to Clearinghouse:	Feb 25, 2021
Comments:	This CMFunction is for Total Deceleration Lane Length.

This site is funded by the U.S. Department of Transportation Federal Highway Administration and maintained by the University of North Carolina Highway Safety Research Center

The information contained in the Crash Modification Factors (CMF) Clearinghouse is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The U.S. Government assumes no liability for the use of the information contained in the CMF Clearinghouse. The information contained in the CMF Clearinghouse does not constitute a standard, specification, or regulation, nor is it a substitute for sound engineering judgment.

APPENDIX D:
Supporting Utility Documents

Nova Road and Eagle Lake Trail
Utility Coordination



Walker

Memorial Park

3760-4008 Jackson St

Tire Kingdom

Walgreens

AT&T

Bank Of America

Wawa

Burger King

McDonald's



Ticket has 1 Attachment:

File: TicketMap-335504414-0.jpeg [open](#) [download](#)

Ticket : 335504414 Rev:001 Taken: 12/01/25 11:51ET

State: FL Cnty: VOLUSIA GeoPlace: PORT ORANGE
 CallerPlace: PORT ORANGE
 Subdivision:

Address : 3770
 Street : S NOVA RD

Locat: ENTIRE PROPERTY
 :
 Remarks : CENTER CORRECTION TO GRID
 *** LOOKUP BY MANUAL ***
 *** Boundary: n 29.131137 s 29.129387 w -81.007919 e -81.006166
 :
 Grids : 2907A8100C

Work date: 12/03/25 Time: 23:59ET Hrs notc: 060 Category: 3 Duration: 00 DAYS
 Due Date : 12/03/25 Time: 23:59ET Exp Date : 12/31/25 Time: 23:59ET
 Work type: DESIGN Boring: U White-lined: U
 Ug/Oh/Both: U Machinery: N Depth: UNK Permits: U N/A
 Done for : VHB

Company : VHB Type: OTHR
 Co addr : 225 E ROBINSON STREET
 City : ORLANDO State: FL Zip: 32801
 Caller : MICHAEL ZOELLNER Phone: 321-427-9930
 Contact : MICHAEL ZOELLNER Phone: 321-427-9930
 BestTime:
 Email : MZOELLNER@VHB.COM

Submitted: 12/01/25 11:51ET Oper: SPR
 Mbrs : CPO562 CVITV3 FLW941 FPLFN FPLVOL MF2332 PGSVOL SBF02 SL1086

* Responses are current as of 12/01/2025 11:53 AM

Ex. Circum	Service Area	Utility Type(s)	Contact	Alternate Contact	Emergency Contact	Positive Response
No	CITY OF PORT ORANGE FLORIDA CPO562	RECLAIMED WATER, SEWER, WATER	KEITH GUNTER (386) 506-5954	MARK SWANSON (386) 566-2117	CITY OF PORT ORANGE WATER PRODUCTION FACILITY (386) 756-5380	
No	CHARTER COMMUNICATIONS CVITV3	CATV	USIC DISPATCH OFFICE * (800) 778-9140	USIC DISPATCH OFFICE * (800) 778-9140	FLORIDA REGIONAL OPERATIONS CENTER (844) 220-2369	
No	ZAYO GROUP / FORMERLY LIGHTWAVE, LLC FLW941	FIBER	LOCATE CENTER / NEIL SCARBOROUGH (800) 961-6500	STAKE CENTER / LOUIS SIMONE (772) 579-8956	JON RAY (813) 417-2184	No Conflict - utility is outside of the requested work site Date: 12/01/2025 11:17 AM Respondent: ESSENCE DUNLAP ZAYO IS CLEAR OF THE DIG SCOPE
No	FLORIDA POWER & LIGHT - NORTH FIBER FPLFN	FIBER			DANIEL PEREZ (305) 302-9748	
No	FLORIDA POWER & LIGHT--VOLUSIA FPLVOL	ELECTRIC	USIC DISPATCH CENTER (800) 778-9140		USIC DISPATCH CENTER (800) 778-9140	
No	METRO FIBERNET LLC MF2332	FIBER	USIC DISPATCH CENTER (800) 778-9140	MANAGER ON DUTY (883) 220-7311	KORTERRA SUPPORT (952) 522-5225	
No	TECO PEOPLES GAS- DAYTONA PGSVOL	GAS	TEDDY LEVIN (904) 410-6455	HEATH MCARDLE (407) 487-9004	TECO PEOLPES GAS CUSTOMER SERVICE***	
No	A T & T/ DISTRIBUTION SBF02	TELEPHONE	DINO FARRUGGIO (561) 683-2729	UTILIQUEST LLC * (888) 357-1922	AT&T NETWORK OPERATIONS CENTER (800) 247-2020	
No	UNITI FIBER LLC SL1086	FIBER	SOUTHERN LIGHT EMERGENCY RESPONSE DISPATCH (877) 652-2321		NOC UNITI FIBER (877) 652-2321	



[External] Responses for Sunshine 811 locate request 335504414

From Sunshine 811 Exactix <no-reply@exactix.sunshine811.com>

Date Wed 2025-12-03 11:52 PM

To Michael Zoellner <mzoellner@vhb.com>

The following facility operators have responded for this locate request:

Ticket 335504414
FL : VOLUSIA County, PORT ORANGE
3770 S NOVA RD

A T & T/ DISTRIBUTION
- Marked

CHARTER COMMUNICATIONS
- Clear No Facilities

CITY OF PORT ORANGE FLORIDA
- Active Facilities are present - the member has active facilities within the area described by the noticed demolition. DO NOT demolish until the member notifies you the site is clear

FLORIDA POWER & LIGHT - NORTH FIBER
- Clear No Facilities

FLORIDA POWER & LIGHT--VOLUSIA
- Clear No Facilities

METRO FIBERNET LLC
- Clear No Facilities

TECO PEOPLES GAS- DAYTONA
- Marked with Exceptions - High priority subsurface installation in conflict.
Excavator MUST notify the member of the excavation or demolition start date and time. See s.556.116(1) and (2), F.S.

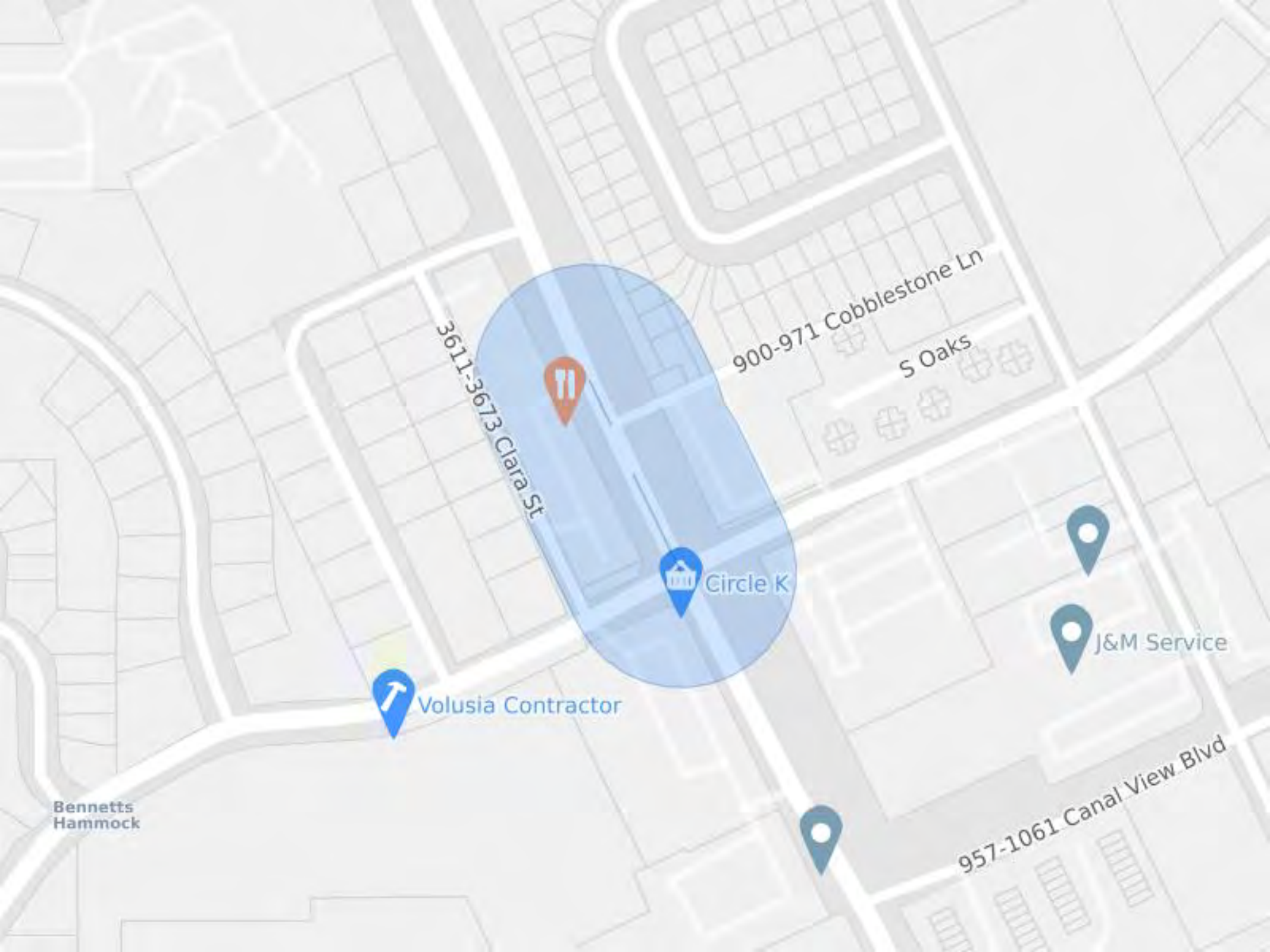
UNITI FIBER LLC
- Clear No Facilities

ZAYO GROUP / FORMERLY LIGHTWAVE, LLC
- No Conflict - utility is outside of the requested work site

The most up-to-date response status can always be gathered at

<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fexactix.sunshine811.com%2F&data=05%7C02%7Cmzoellner%40vhb.com%7C4ec336d9467e47112c9208de32f0e00e%7C365c5e99f68f4beb89d9abecb41b1a1b%7C0%7C0%7C639004207304151721%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOilwLjAuMDAwMCIslIAiOiJXaW4zMilslkFOljoiTWFpbCIsIldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=lyscrK29hyvdATitY%2BwOofBOuL1GBb6rT8acGQIW2Gs%3D&reserved=0> or by calling 1 - (800) 852 - 8057.

Nova Road and Herbert Street
Utility Coordination



3611-3673 Clara St

900-971 Cobblestone Ln
S Oaks

Circle K

Volusia Contractor

J&M Service

957-1061 Canal View Blvd

Bennetts Hammock

Ticket 335504540-0

Ticket has 1 Attachment:

File: TicketMap-335504540-0.jpeg [open](#) [download](#)

Ticket : 335504540 Rev:000 Taken: 12/01/25 10:58ET

State: FL Cnty: VOLUSIA GeoPlace: PORT ORANGE
 CallerPlace: PORT ORANGE
 Subdivision:

Address : 3657
 Street : S NOVA RD

Locat: ENTIRE PROPERTY

:

Remarks : *** LOOKUP BY ADDRESS ***

*** Boundary: n 29.139209 s 29.137191 w -81.012026 e -81.010275

:

Grids : 2908C8100B 2908D8100B

Work date: 12/03/25 Time: 23:59ET Hrs notc: 061 Category: 3 Duration: 00 DAYS

Due Date : 12/03/25 Time: 23:59ET Exp Date : 12/31/25 Time: 23:59ET

Work type: DESIGN Boring: U White-lined: U

Ug/Oh/Both: U Machinery: N Depth: UNK Permits: U N/A

Done for : VHB

Company : VHB Type: OTHR

Co addr : 225 E ROBINSON STREET

City : ORLANDO State: FL Zip: 32801

Caller : MICHAEL ZOELLNER Phone: 321-427-9930

Contact : MICHAEL ZOELLNER Phone: 321-427-9930

BestTime:

Email : MZOELLNER@VHB.COM

Submitted: 12/01/25 10:58ET Oper: MIC Chan: WEB

Mbrs : CP0562 CVITV3 FLW941 FPLVOL L3C900 MF2332 PGSVOL SBF02 WT2422

* Responses are current as of 12/01/2025 11:01 AM

Ex_Circum	Service Area	Utility Type(s)	Contact	Alternate Contact	Emergency Contact	Positive Response
No	CITY OF PORT ORANGE FLORIDA CP0562	RECLAIMED WATER, SEWER, WATER	KEITH GUNTER (386) 506-5954	MARK SWANSON (386) 566-2117	CITY OF PORT ORANGE WATER PRODUCTION FACILITY (386) 756-5380	
No	CHARTER COMMUNICATIONS CVITV3	CATV	USIC DISPATCH OFFICE * (800) 778-9140	USIC DISPATCH OFFICE * (800) 778-9140	FLORIDA REGIONAL OPERATIONS CENTER (844) 220-2369	
No	ZAYO GROUP / FORMERLY LIGHTWAVE, LLC FLW941	FIBER	LOCATE CENTER / NEIL SCARBOROUGH (800) 961-6500	STAKE CENTER / LOUIS SIMONE (772) 579-8956	JON RAY (813) 417-2184	
No	FLORIDA POWER & LIGHT--VOLUSIA FPLVOL	ELECTRIC	USIC DISPATCH CENTER (800) 778-9140		USIC DISPATCH CENTER (800) 778-9140	
No	LUMEN L3C900	FIBER	TECH ON DUTY (877) 366-8344 x3	TECH ON DUTY (877) 366-8344 x3	TECH ON DUTY (877) 366-8344 x3	
No	METRO FIBERNET LLC MF2332	FIBER	USIC DISPATCH CENTER (800) 778-9140	MANAGER ON DUTY (883) 220-7311	KORTERRA SUPPORT (952) 522-5225	
No	TECO PEOPLES GAS- DAYTONA PGSVOL	GAS	TEDDY LEVIN (904) 410-6455	HEATH MCARDLE (407) 487-9004	TECO PEOLPES GAS CUSTOMER SERVICE***	
No	A T & T/ DISTRIBUTION SBF02	TELEPHONE	DINO FARRUGGIO (561) 683-2729	UTILIQUEST LLC * (888) 357-1922	AT&T NETWORK OPERATIONS CENTER (800) 247-2020	
No	WIRE 3, LLC WT2422	FIBER	ERIC JEHNSEN (810) 955-1937		ERIC JEHNSEN (810) 955-1937	



[External] Responses for Sunshine 811 locate request 335504540

From Sunshine 811 Exactix <no-reply@exactix.sunshine811.com>

Date Wed 2025-12-03 11:52 PM

To Michael Zoellner <mzoellner@vhb.com>

The following facility operators have responded for this locate request:

Ticket 335504540

FL : VOLUSIA County, PORT ORANGE
3657 S NOVA RD

A T & T/ DISTRIBUTION

- No Conflict - utility is outside of the requested work site

CHARTER COMMUNICATIONS

- Clear No Facilities

CITY OF PORT ORANGE FLORIDA

- Active Facilities are present - the member has active facilities within the area described by the noticed demolition. DO NOT demolish until the member notifies you the site is clear

FLORIDA POWER & LIGHT--VOLUSIA

- Clear No Facilities

LUMEN

- Active Facilities are present - the member has active facilities within the area described by the noticed demolition. DO NOT demolish until the member notifies you the site is clear

METRO FIBERNET LLC

- Clear No Facilities

TECO PEOPLES GAS- DAYTONA

- Clear No Facilities

WIRE 3, LLC

- No Conflict - utility is outside of the requested work site

ZAYO GROUP / FORMERLY LIGHTWAVE, LLC

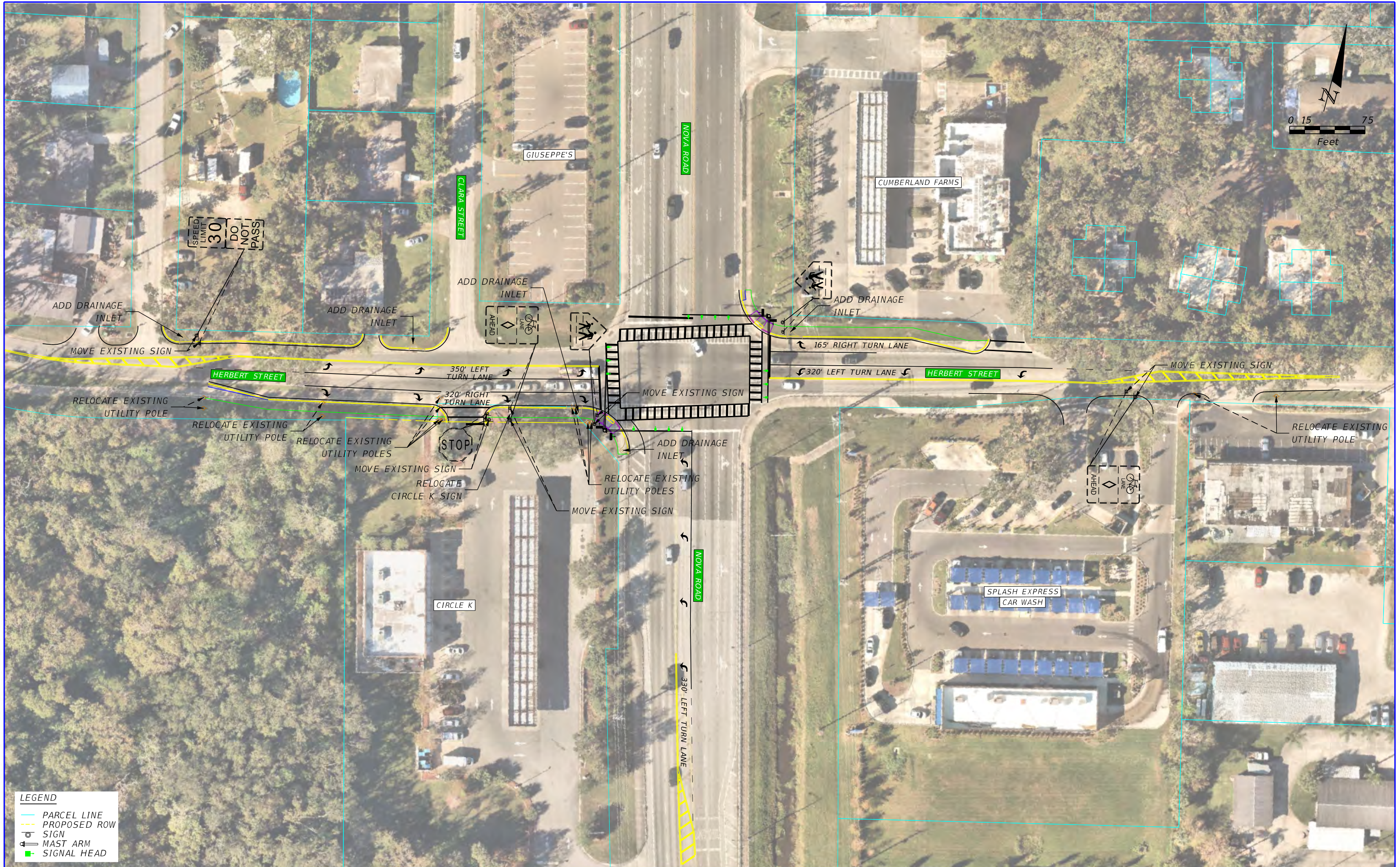
- No Conflict - utility is outside of the requested work site

The most up-to-date response status can always be gathered at

<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fexactix.sunshine811.com%2F&data=05%7C02%7Cmzoellner%40vhb.com%7C904dacde73ea4c362f7f08de32f0e0a4%7C365c5e99f68f4beb89d9abecb41b1a1b%7C0%7C0%7C639004207321108528%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOilwLjAuMDAwMCIslIAiOiJXaW4zMilslkFOljoITWFpbCIsIldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=Ke1orrBfd6YEtnghbmAJPQB3NHaGgtKKGnlKGY9ZFXI%3D&reserved=0>

or by calling 1 - (800) 852 - 8057.

APPENDIX E:
Concepts, Costs & FDOT ICE Tool Output



LEGEND

- PARCEL LINE
- PROPOSED ROW
- SIGN
- MAST ARM
- SIGNAL HEAD

195' LEFT TURN LANE		REVISIONS	
DATE	DESCRIPTION	DATE	DESCRIPTION

VANASSE HANGEN BRUSTLIN, INC.
 225 E. ROBINSON STREET
 ORLANDO, FL 32801

VOLUSIA-FLAGLER TPO		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NOVA	VOLUSIA	

**CONCEPT PLAN -
 NOVA ROAD AT
 HERBERT STREET**

SHEET NO.



REVISIONS	
DATE	DESCRIPTION

VANASSE HANGEN BRUSTLIN, INC.
 225 E. ROBINSON STREET
 ORLANDO, FL 32801

VOLUSIA-FLAGLER TPO		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
NOVA	VOLUSIA	

**CONCEPT PLAN -
 NOVA ROAD AT
 EAGLE LAKE TRAIL**

SHEET NO.

From: [Epstein, Lisa](#)
To: [Raja Pemmanaboina](#)
Cc: [Tomlinson, Margaret](#); [Yongue, Johnnie](#); [Babuji Ambikapathy](#); [Stephan Harris](#)
Subject: RE: [External] FW: Nova at Herbert & Eagle Lake Trail, Ridgewood at Dunlawton & Town West at S. Williamson
Date: Tuesday, March 17, 2026 11:02:54 AM
Attachments: [image001.png](#)
[image002.png](#)

Good morning Raj – Thank you for following up after our previous discussion and your interest in our input.

We'd like you to include the following costs to the Feasibility studies under “design phase” in whatever format you feel comfortable with.

Ridgewood Ave at Dunlawton

Design Costs (35%) \$249,550
plus Design subconsultants \$200,450 (Survey \$110,000, Geotech \$15,000, Cultural \$12,450, Utilities \$20,000, Signalization \$43,000)
Total Design Phase Costs \$450,000

Williamson Blvd at Town West Blvd

Design Costs (25%) \$147,800
plus Design subconsultants \$130,600 (Survey \$50,000, Geotech \$10,000, Cultural \$15,600, Utilities \$25,000, Signalization \$30,000)
Total Design Phase Costs \$278,400

Nova Road at Herbert Street and Eagle Lake Trail

Herbert Design Costs (20%) \$217,800 + Eagle Lake Trail Design Costs (35%) \$10,500 = 228,300
plus Design subconsultants \$186,000 (Survey \$100,000, Geotech \$15,000, Cultural \$10,000, Utilities \$18,000, Signalization \$43,000)
Total Design Phase Costs \$414,300

Generally, we are seeing that to perform a desktop analysis and produce clearance memos and letters for environmental permitting or contamination, a consultant will want to log around 75-120 hours and charge between \$10k and \$20k, and to perform site visits and take measurements, run calculations, tests and produce a report a structural engineer, signals engineer, or lighting engineer will propose 100-200 hours and charge around \$20k-\$40k, depending upon the project scope.

Hope this information is helpful. Let us know any questions, comments or additional discussion.

Lisa Epstein
Engineering Project Manager
(386) 506-5667
City of Port Orange / Community Development



From: Raja Pemmanaboina <RPemmanaboina@VHB.com>
Sent: Thursday, March 12, 2026 11:49 AM

To: Epstein, Lisa <lepstein@port-orange.org>

Cc: Tomlinson, Margaret <mtomlinson@port-orange.org>; Yongue, Johnnie <jyongue@port-orange.org>; Babuji Ambikapathy <BAmbikapathy@VHB.com>

Subject: [EXT] RE: [External] FW: Nova at Herbert & Eagle Lake Trail, Ridgewood at Dunlawton & Town West at S. Williamson

Thank you, Lisa.

Just to clarify, during our last meeting with the City, it was mentioned that the City would provide updated project unknown costs (or percentages) that they are comfortable with so we can finalize the studies. So, I was wondering about the timeline for providing that information.

Raja Pemmanaboina, P.E., PTOE, RSP1

Project Manager

Licensed in FL

P 407.965.0572

www.vhb.com

From: Epstein, Lisa <lepstein@port-orange.org>

Sent: Thursday, March 12, 2026 11:36 AM

To: Raja Pemmanaboina <RPemmanaboina@VHB.com>

Cc: Tomlinson, Margaret <mtomlinson@port-orange.org>; Yongue, Johnnie <jyongue@port-orange.org>; Babuji Ambikapathy <BAmbikapathy@VHB.com>

Subject: FW: [External] FW: Nova at Herbert & Eagle Lake Trail, Ridgewood at Dunlawton & Town West at S. Williamson

Thank you, Raj, for this information.

By copy of this email, I'm letting staff know that VHB would like to continue the conversation regarding the City's thoughts on estimating "contingency" / "project unknowns" budget costs.

Lisa Epstein

Engineering Project Manager

(386) 506-5667

City of Port Orange / Community Development



From: Raja Pemmanaboina <RPemmanaboina@VHB.com>

Sent: Thursday, March 12, 2026 10:51 AM

To: Epstein, Lisa <lepstein@port-orange.org>

Cc: Babuji Ambikapathy <BAmbikapathy@VHB.com>; Stephan Harris <sharris@r2ctpo.org>

Subject: [EXT] RE: [External] FW: Nova at Herbert & Eagle Lake Trail, Ridgewood at Dunlawton & Town West at S. Williamson

Good morning, Lisa,

Outputs

This sheet compiles the data from summary tables in individual alternatives sheets. To populate the output sheet press the "Setup Worksheets" button in

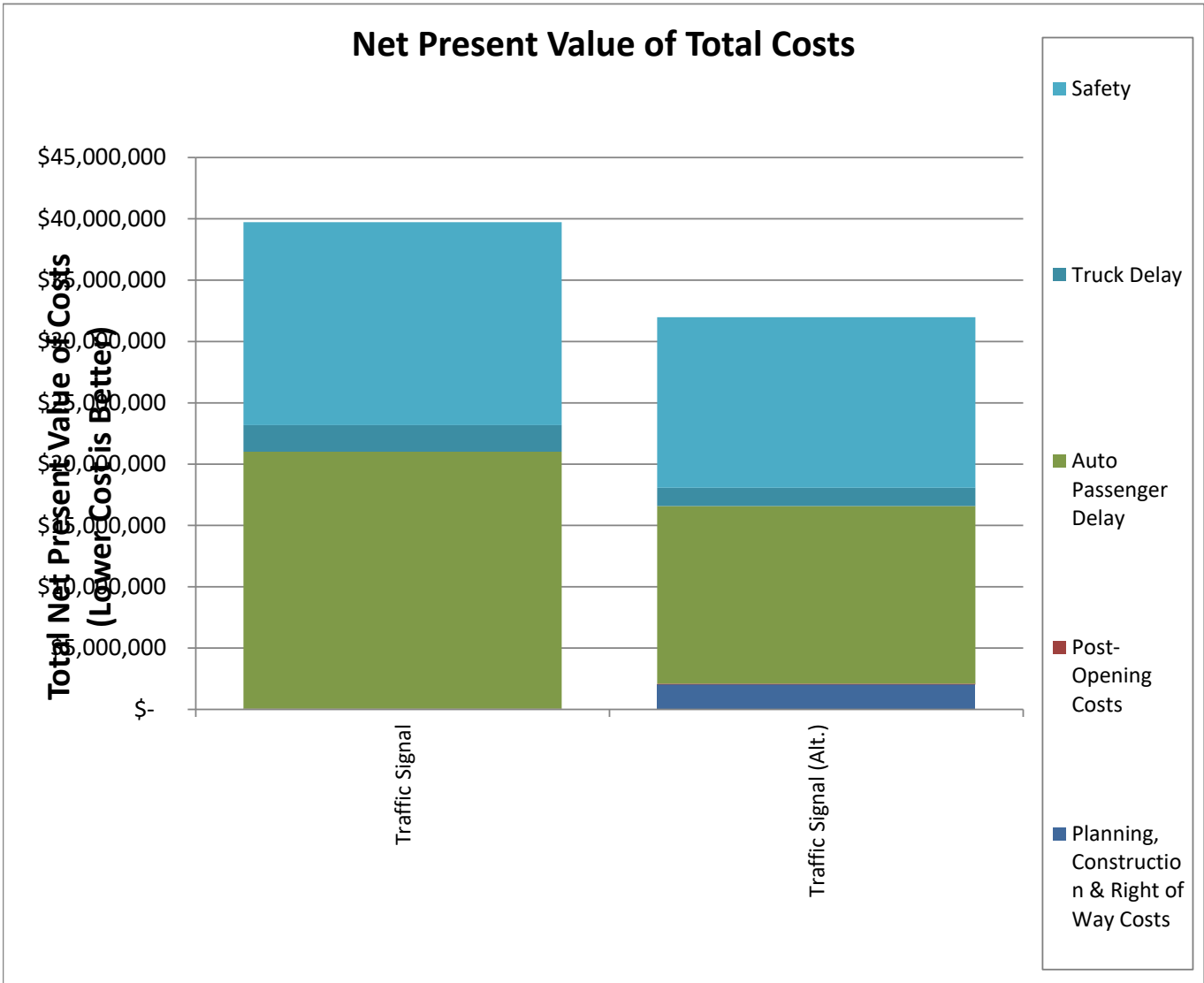
Agency:		Volusia-Flagler TPO
Project Name:		Nova Road and Herbert Street Fe
Project Reference:		NA
Intersection:		Nova Road and Herbert Street
City:		Port Orange
State:		FL
Performing Department or Organization:		
Date:		11/17/2025
Analyst:		VHB
Analysis Type		At-Grade Intersection

Analysis Summary

Cost Categories	Net Present Value of Costs		
	Base Case - Traffic Signal	Traffic Signal	Traffic Signal (Alt.)
Planning, Construction & Right of Way Costs	\$ -	\$ -	\$ 2,037,550
Post-Opening Costs	\$ 62,464	\$ 62,464	\$ 62,464
Auto Passenger Delay	\$ 20,957,867	\$ 20,957,867	\$ 14,479,168
Truck Delay	\$ 2,164,024	\$ 2,164,024	\$ 1,495,060
Safety	\$ 16,549,109	\$ 16,549,109	\$ 13,910,263
Total cost	\$39,733,465	\$39,733,465	\$31,984,505

Select Base Case for Benefit-Cost Comparison: (Choose from list)	Traffic Signal		
Benefit Categories	Net Present Value of Benefits Relative to Base Case		
		Traffic Signal	Traffic Signal (Alt.)
Auto Passenger Delay			\$ 6,478,700
Truck Delay			\$ 668,964
Safety			\$ 2,638,846
Net Present Value of Benefits			\$ 9,786,510

Net Present Value of Costs			\$ 2,037,550
Net Present Value of Improvement			\$ 7,748,960
Benefit-Cost (B/C) Ratio			4.80
Delay B/C			3.51
Safety B/C			1.30



Outputs

This sheet compiles the data from summary tables in individual alternatives sheets. To populate the output sheet press the "Setup Worksheets" button in

Agency:		Volusia-Flagler TPO
Project Name:		Nova Road and Eagle Lake Trail F
Project Reference:		NA
Intersection:		Nova Road and Eagle Lake Trail
City:		Port Orange
State:		FL
Performing Department or Organization:		
Date:		11/17/2025
Analyst:		VHB
Analysis Type		At-Grade Intersection

Analysis Summary

Cost Categories	Net Present Value of Costs		
	Base Case - Two-Way Stop Control	Two-Way Stop Control	Unsignalized Restricted Crossing U-Turn (RCUT)
Planning, Construction & Right of Way Costs	\$ -	\$ -	\$ 65,000
Post-Opening Costs	\$ 9,111	\$ 9,111	\$ 18,222
Auto Passenger Delay	\$ 8,288,471	\$ 8,288,471	\$ 481,916
Truck Delay	\$ 564,734	\$ 564,734	\$ 32,835
Safety	\$ 4,877,323	\$ 4,877,323	\$ 1,880,629
Total cost	\$13,739,639	\$13,739,639	\$2,478,602

Select Base Case for Benefit-Cost Comparison: (Choose from list)	Two-Way Stop Control		
Benefit Categories	Net Present Value of Benefits Relative to Base Case		
		Two-Way Stop Control	Unsignalized Restricted Crossing U-Turn (RCUT)
Auto Passenger Delay			\$ 7,806,555
Truck Delay			\$ 531,899
Safety			\$ 2,996,694
Net Present Value of Benefits			\$ 11,335,148

Net Present Value of Costs			\$ 74,111
Net Present Value of Improvement			\$ 11,261,037
Benefit-Cost (B/C) Ratio			152.95
Delay B/C			112.51
Safety B/C			40.44

