

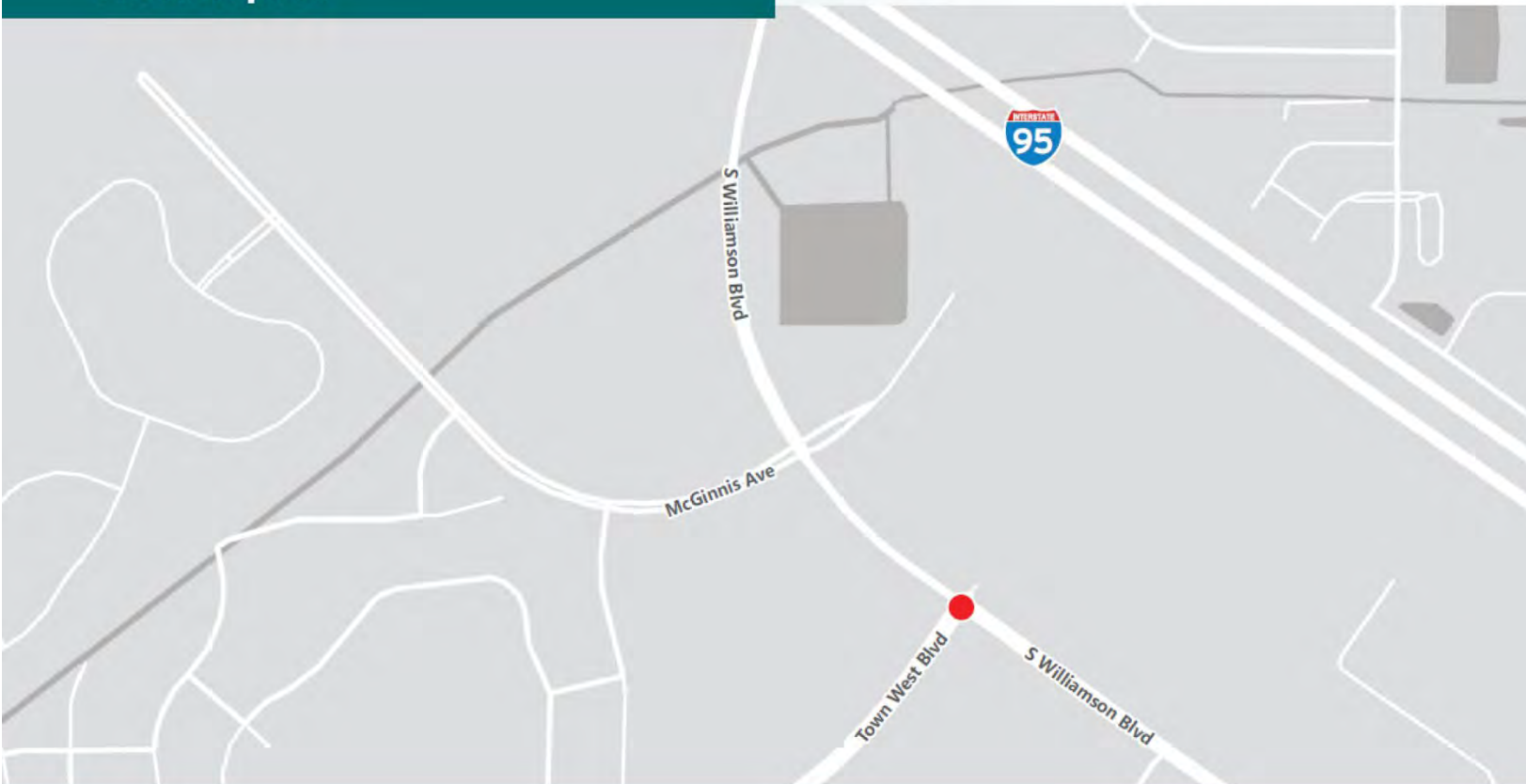
March 2026



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

1540 Cornerstone Blvd., Suite 240

Final Report



Feasibility Study for Intersection Improvements for Williamson Boulevard at Town West Boulevard

Prepared by:



Feasibility Study for Intersection Improvements for Williamson Boulevard at Town West Boulevard

Task Work Order No.: GPC-VHB-04

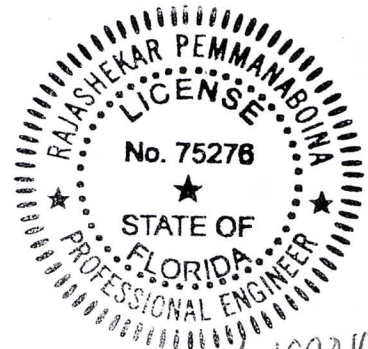
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March 2026

Contents

INTRODUCTION	5
EXISTING CONDITIONS	7
Field Inventory	7
Traffic Volume Data	10
Existing Operational Analysis	12
Historical Crash Data Analysis	12
Summary of Safety Conditions	17
QUALITATIVE ASSESSMENT	18
FUTURE VOLUME DEVELOPMENT	20
Population Projections.....	20
Historical Traffic Trends.....	20
Model Based Growth Rates	21
FEASIBILITY ANALYSIS	24
Background	24
Methodology.....	25
Safety and Operational Benefits	25
Drainage Assessment.....	26
Regulatory Framework	26
ERP & SB 7040 Requirements by Project	27
Utilities Assessment	28
Design Concepts and Costs.....	28
B/C Analysis.....	29
Delay B/C Ratio	29
Safety B/C Ratio	29
RECOMMENDATIONS	31
APPENDICES	32

List of Tables

Table 1: Field Inventory	8
Table 2: 8 Hour Turning Movement Percentages (All Vehicles)	10
Table 3: Crashes by Type and Severity.....	13
Table 4: Crashes by Type and Year.....	13
Table 5: Crashes by Severity and Year.....	13
Table 6: Crashes by Road Surface Condition and Year	13
Table 7: Crashes by Light Condition and Year	13
Table 8: Population Analysis Summary.....	20
Table 9: Historical Trends Analysis Summary.....	21
Table 10: Model-Model Growth Rates.....	21
Table 11: Crash Prediction Analysis Summary	25
Table 12: Future Operational Analysis Summary.....	25
Table 13: Net Present Value (NPV) of Improvements and B/C Ratios Relative to the No Build Alternative.....	30

List of Figures

Figure 1: Project Location Map.....	6
Figure 2: Condition Diagram –Williamson Boulevard at Town West Boulevard	9
Figure 3: Existing Turning Movement Volumes	11
Figure 4: All Crashes by Type and Severity (2020 - 2025)	14
Figure 5: Study Area Crash Diagram by Type (2020 - 2025).....	15
Figure 6: All Crashes by Light Condition (2020 – 2025)	16
Figure 7: All Crashes by Road Surface Condition (2020 – 2025)	16
Figure 8: All Crashes by Weather Condition (2020 – 2025)	17
Figure 9: Future Turning Movement Volumes.....	23

List of Appendices

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

INTRODUCTION

VHB, Inc. was retained to perform a feasibility analysis study for intersection improvements at the Willaimson Boulevard at Town West Boulevard intersection, 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 intersection:

- Extend existing turn lanes or add new turn lanes on Williamson Boulevard and Town West Boulevard

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, intersection analysis, feasibility analysis, B/C analysis, and recommendations. The analysis will particularly consider the benefits and feasibility of extension or addition of turn lanes at the study intersection.

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
Willaimson Boulevard at
Town West Boulevard

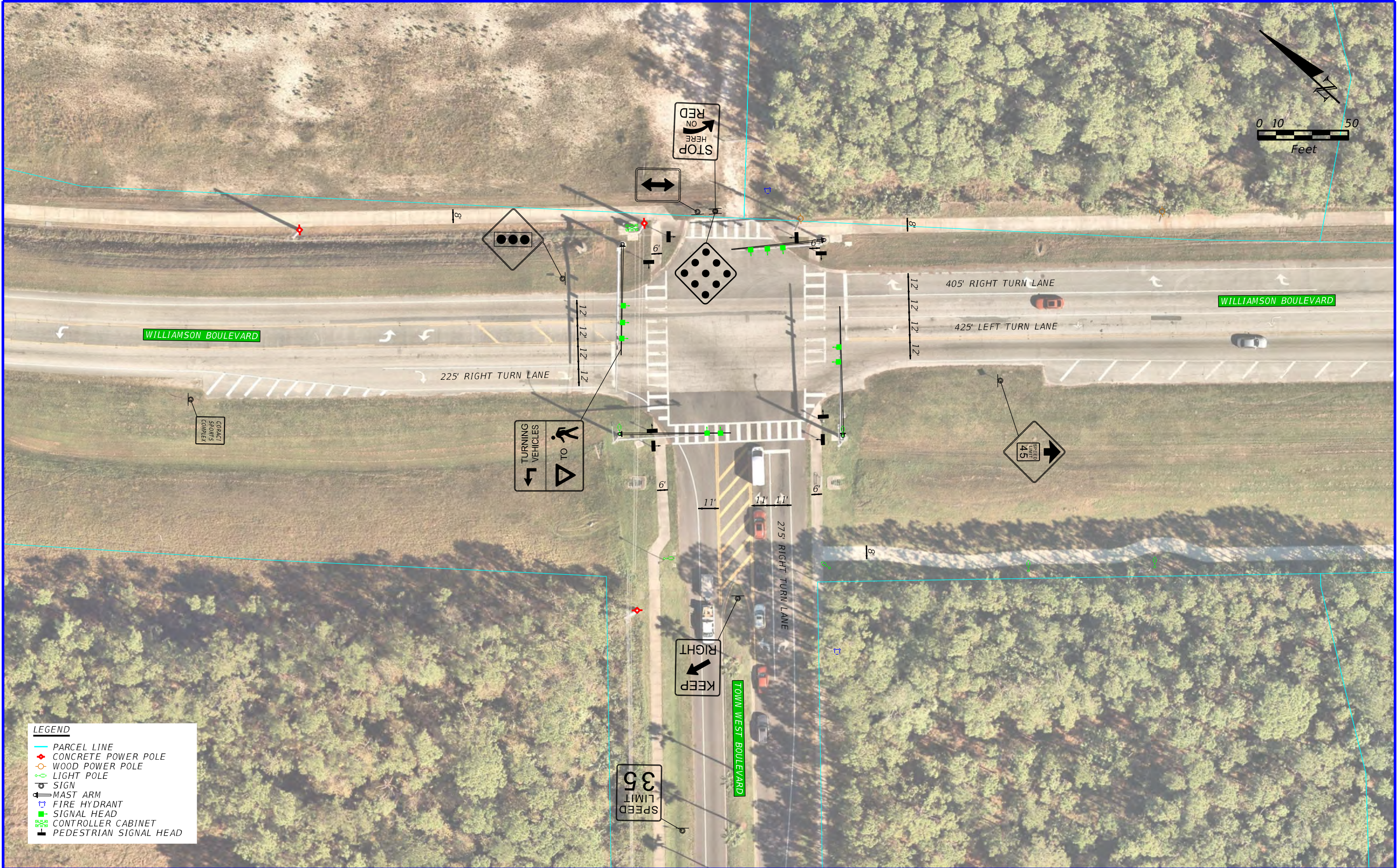
EXISTING CONDITIONS

Field Inventory

The intersection of Williamson Boulevard at Town West Boulevard is located in the City of Port Orange, Volusia County, Florida. The characteristics of the study intersection is presented in **Table 1. Figure 2** depicts the existing conditions including the general roadway geometry, pavement markings, land use, and intersection traffic control of the study intersection. The conditions stated in this report reflect conditions as observed on the date of the qualitative assessment.

Table 1: Field Inventory

Features	Williamson Boulevard at Town West Boulevard
North-South Street	Williamson Boulevard - two-lane divided urban other principal arterial
East-West Street	Town West Boulevard - two-lane divided urban minor collector
Intersection Type	Three-Legged intersection. Future fourth leg based on Thompson Pump Development
Number of Intersection Approach Lanes	Southbound - 1 through lane & 1 exclusive right turn lane Northbound - 1 left turn lane, 1 through lane & 1 exclusive right turn lane Eastbound - 1 Left turn lane and 1 right turn lane
Traffic Control	Signal
Speed Limit	Williamson Boulevard - 55 mph Town West Boulevard - 35 mph
Sidewalks	Williamson Boulevard - on east side of the roadway Town West Boulevard - on both sides of the roadway
Surrounding Development	Northeast: Thompson Pump Development Northwest: Future Commercial Development (assumed 100K Sq. ft.) Southeast: Vacant Land Southwest: Town West Senior Living Apartment
Nearest Signalized intersections	Williamson Boulevard & McGinnis Avenue - 900 feet to the north Williamson Boulevard & Summer Trees Road - 0.75 miles to the south Town West Boulevard & Tomoka Farms Road - 1.56 miles to the west
Roadway Lighting	Limited lighting is provided in the northwest and southwest quadrants and does not cover the entire intersection



REVISIONS				VANASSE HANGEN BRUSTLIN, INC. 225 E. ROBINSON STREET ORLANDO, FL 32801	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			CONDITION DIAGRAM - WILLIAMSON BLVD AT TOWN WEST BLVD	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		Figure 2
					CR 4009	VOLUSIA			

Traffic Volume Data

24-hour volume traffic counts were collected along Williamson Boulevard and Town West Boulevard (at all the three legs of study intersection), 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 intersection. These hours represent the highest eight hours obtained from the volume counts. From this data, the AM and PM peak traffic hours 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 revealed that the traffic in northbound direction peaks during AM conditions, the traffic in southbound direction peaks during PM conditions, the traffic in westbound peaks during AM, and traffic in eastbound peaks during 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 3** shows the existing year 2025 AM and PM peak hour volumes.

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

Study Intersection	Movement	Eastbound	Westbound	Southbound	Northbound
Williamson Boulevard at Town West Boulevard	Left turn/U-turn	40.08%	0.00%	0.00%	27.75%
	Through	0.00%	0.00%	82.42%	72.25%
	Right-turn	59.92%	0.00%	17.58%	0.00%

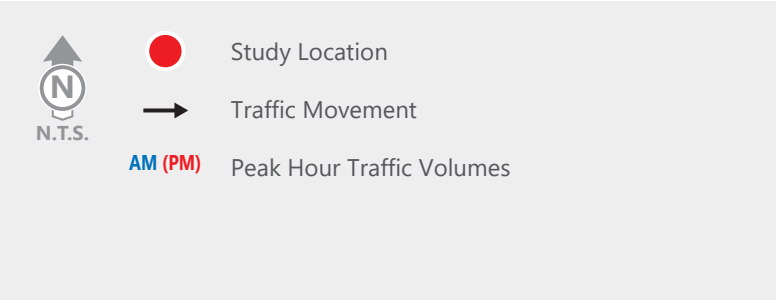
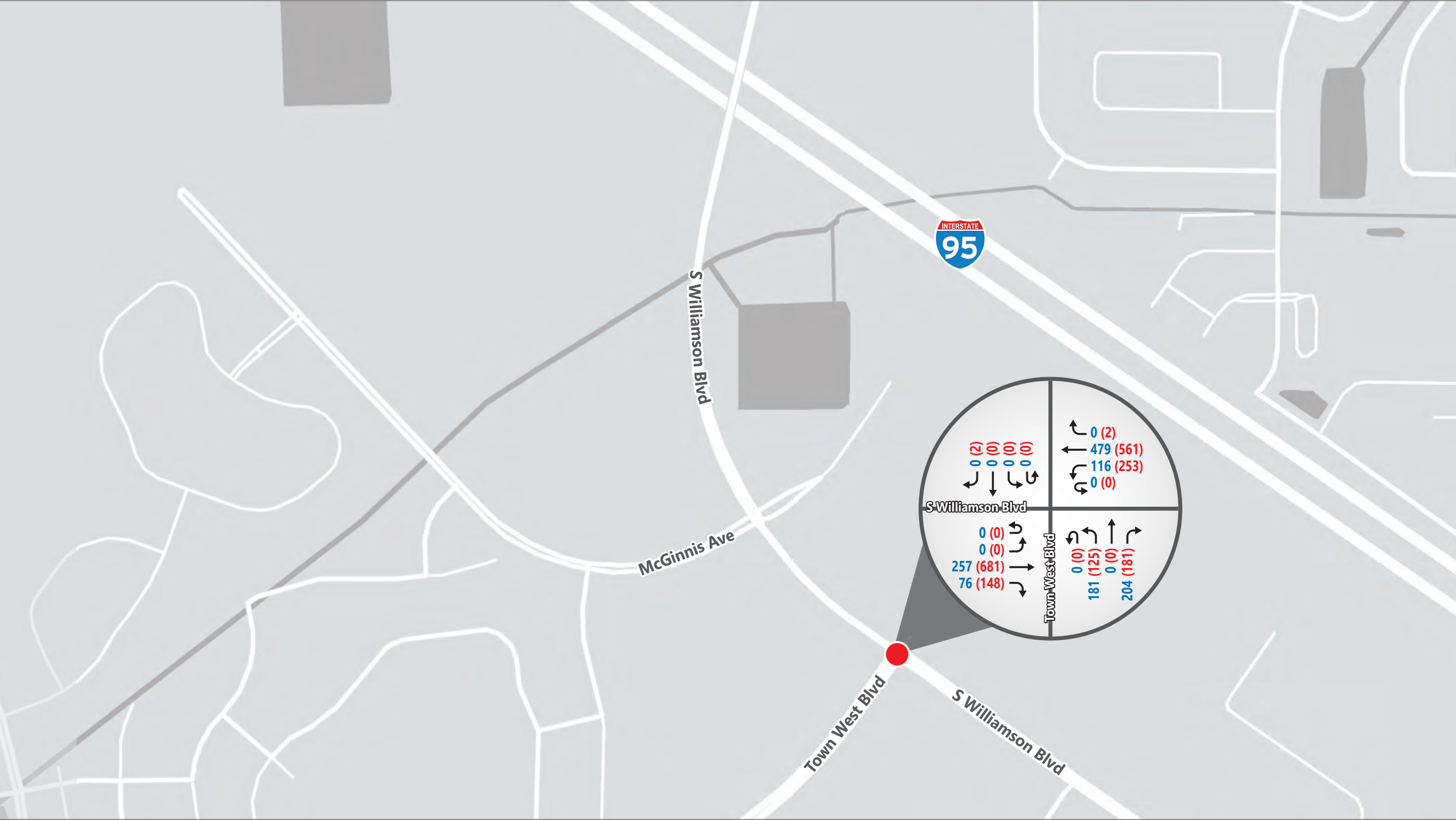


Figure 3
Existing Turning Movement Volumes
Feasibility Study for Intersection
Improvements
Willaimson Boulevard at
Town West Boulevard

Existing Operational Analysis

Synchro 12 was used to evaluate the existing intersection operations at the study intersection. Based on this analysis, the signalized intersection of Williamson Boulevard at Town West Boulevard is found to operate at an overall LOS B and C with delays of 16.2 and 23.5 seconds/vehicle during AM and PM peak hours, respectively. However, it is to be noted that the eastbound left turn movement operates at LOS E during both AM and PM peak hours. The required signal timing information was provided by Volusia County.

Historical Crash Data Analysis

A total of 16 crashes were reported at the study intersection for the period between January 1, 2020 and July 31, 2025. The leading crash types were Rear End (50%, 8), Other (19%, 3), and Head On/Side swipe (12%, 2). In terms of severity, 81% of crashes resulted in no injuries, while 3 involved some level of injury, including 1 serious injury and 1 fatality. There were no pedestrian/bicycle related crashes at this study intersection.

The one fatal crash was a Sideswipe crash that happened when an eastbound vehicle travelling on Williamson Boulevard (east of Town Center Boulevard) attempted to pass a motorcycle. This fatality happened on dry pavement under clear weather and daylight conditions.

The one serious injury crash was a Head On crash that happened when a vehicle was traveling south on Williamson Boulevard with a green light when it drifted into the oncoming lane at the Town West Boulevard intersection and collided head-on with another vehicle, which was stopped in the northbound left turn lane on Williamson Boulevard.

Nearly 6% of crashes occurred under low-light conditions (dark, dusk, or dawn). There were no wet pavement crashes. Distracted driving was involved in about 6% of crashes. There were no alcohol or drug related crashes. **Table 3** and **Figure 4** provide a summary of the crashes by type and severity. **Tables 4** through **7** provide summary of crashes by different conditions and year. **Figure 5** provides a crash diagram (by crash types) of the study area. **Figures 6** through **8** summarizes the crashes by different roadway conditions.

Table 3: Crashes by Type and Severity

Crash Type	Fatalities	Serious Injury	Injury	No Injury	Row Total	Proportion
Animal	0	0	0	1	1	6.2%
Head On	0	1	0	1	2	12.5%
Other	0	0	0	3	3	18.8%
Rear End	0	0	1	7	8	50.0%
Sideswipe	1	0	0	1	2	12.5%
Total	1	1	1	13	16	100.0%

Table 4: Crashes by Type and Year

Crash Type	2020	2021	2022	2023	2024	2025	Total	Proportion
Animal	1	0	0	0	0	0	1	6.2%
Head On	0	1	0	0	1	0	2	12.5%
Other	2	0	0	0	1	0	3	18.8%
Rear End	0	1	4	2	0	1	8	50.0%
Sideswipe	0	0	0	0	1	1	2	12.5%
Total	3	2	4	2	3	2	16	100.0%

Table 5: Crashes by Severity and Year

Crash Severity	2020	2021	2022	2023	2024	2025	Total	Proportion
Fatality	0	0	0	0	0	1	1	6.2%
Injury	0	1	0	0	0	0	1	6.2%
No Injury	3	0	4	2	3	1	13	81.2%
Serious Injury	0	1	0	0	0	0	1	6.2%
Total	3	2	4	2	3	2	16	100.0%

Table 6: Crashes by Road Surface Condition and Year

Road Surface Condition	2020	2021	2022	2023	2024	2025	Total	Proportion
Dry	3	2	4	2	3	2	16	100.0%
Total	3	2	4	2	3	2	16	100.0%

Table 7: Crashes by Light Condition and Year

Road Surface Condition	2020	2021	2022	2023	2024	2025	Total	Proportion
Dark - Not Lighted	1	0	0	0	0	0	1	6.2%
Daylight	2	2	4	2	3	2	15	93.8%
Total	3	2	4	2	3	2	16	100.0%

Figure 4: All Crashes by Type and Severity (2020 - 2025)

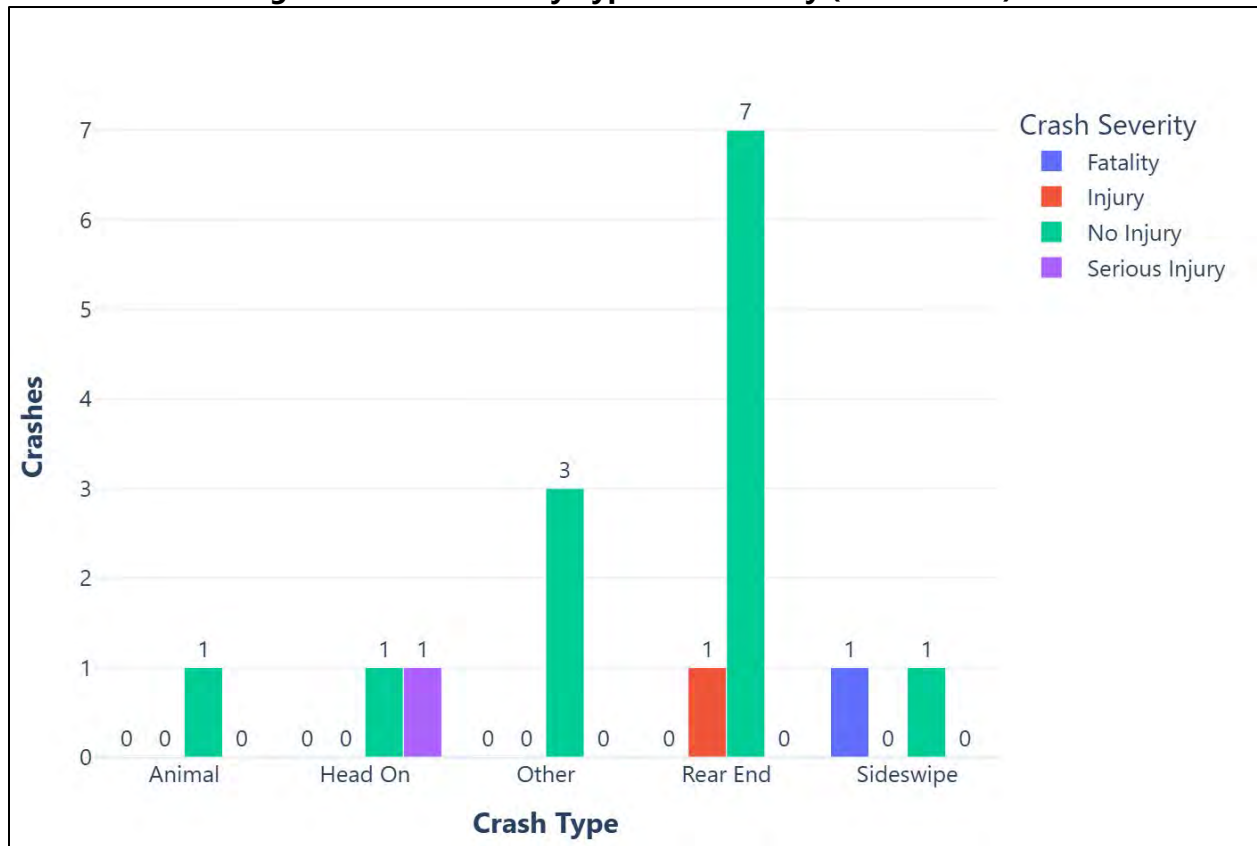


Figure 5: Study Area Crash Diagram by Type (2020 - 2025)



Figure 6: All Crashes by Light Condition (2020 – 2025)

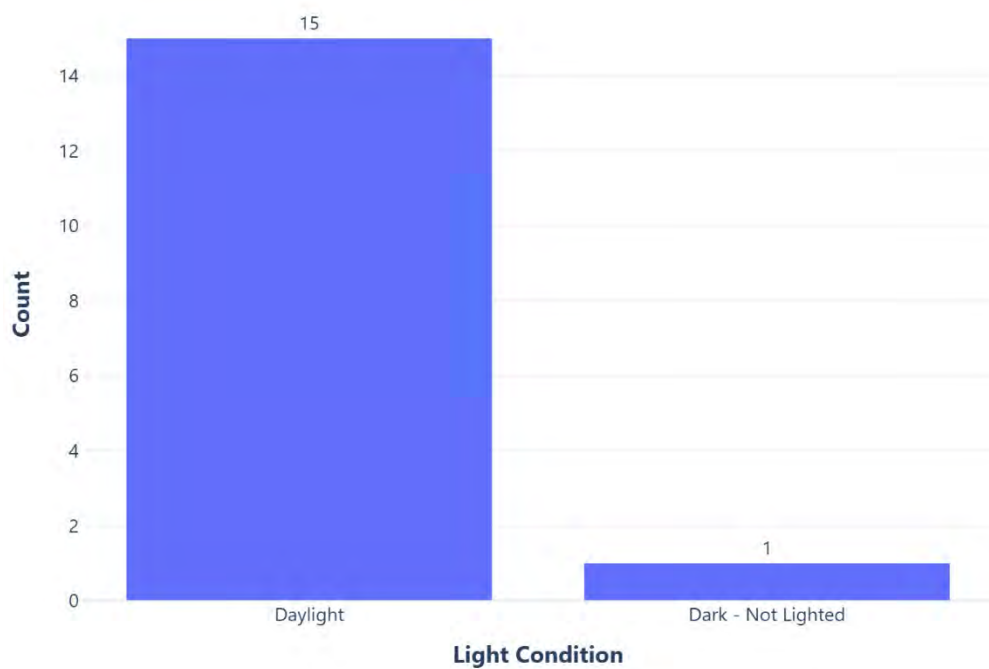
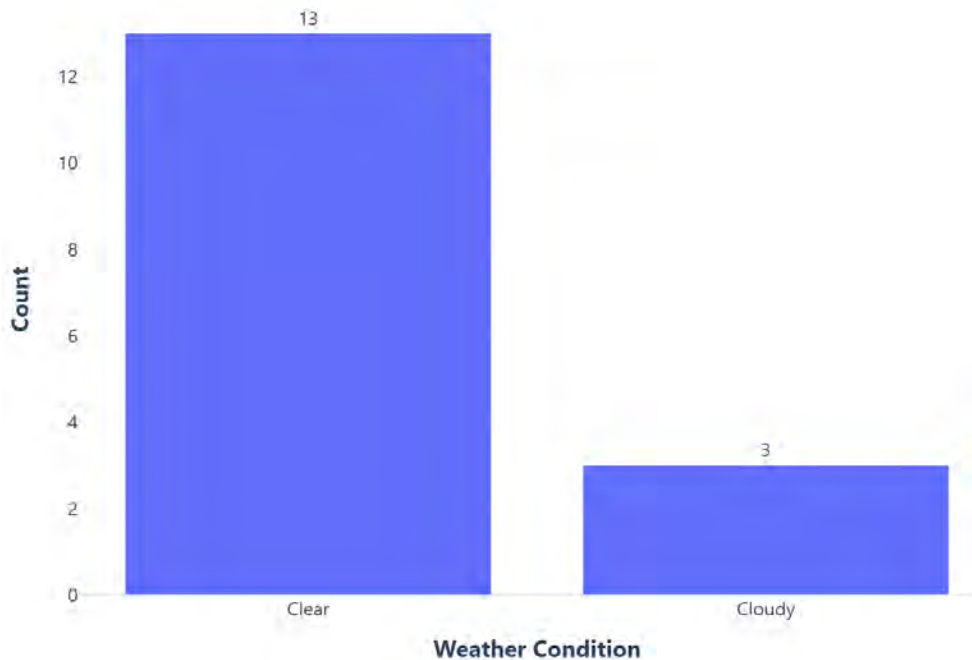


Figure 7: All Crashes by Road Surface Condition (2020 – 2025)



Figure 8: All Crashes by Weather Condition (2020 – 2025)



Summary of Safety Conditions

The following is a summary based on an evaluation of historical crashes at the study intersection.

- There were 16 crashes in approximately 5.6 years with an average of 2.9 crashes per year. Rear end crashes account for over half of all crashes.
- One fatal crash and one severe injury crash were identified within the crash period. The fatal crash was a Sideswipe that happened south of the study intersection, and the one severe injury crash was Head On that happened at the study intersection.
- Other than the rear end crashes (which are typical of signalized intersections), there does not seem to be any other crash trends related to severity or type or other conditions.

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. The field observations are summarized below for the study intersection.

Traffic Observations

- Vehicles traveling along Williamson Boulevard and Town West Boulevard were observed operating at or above the posted speed limit near the study intersection.
- During peak periods, vehicles were observed traveling in platoons, resulting in limited gaps for motorists to complete left-turn movements from Williamson Boulevard onto Town West Boulevard during the permissive phase.
- All signal heads consist of three-section heads with backplates, except for the northbound and eastbound left-turn movements, which are equipped with four-section flashing yellow arrow (FYA) signal heads with backplates. Pedestrian signal heads and push-button detectors are installed and operational for all pedestrian crossing movements on all legs of the intersection.
- Limited roadway lighting is provided only at the intersection of Williamson Boulevard and Town West Boulevard. Corridor lighting is not present along Williamson Boulevard. Along Town West Boulevard, architectural street lighting is provided along the north-side sidewalk and the shared-use path corridor.
- Overhead utility poles are located along the east side of Williamson Boulevard and along the north side of Town West Boulevard.
- On the east leg, vacant land includes dirt and gravel maintenance road that provides access to a power cell tower. The southeast and southwest quadrants of the intersection contain drainage ditches and wetland areas with mature vegetation.
- A total of 12 pedestrians and bicyclists were observed using this facility during the field review.

- Approximately 425 feet west of the intersection, a right-in/right-out driveway serves the Town West Senior Living Facility. A 16-foot-wide raised grass median with palm trees extends to the intersection along Town West Boulevard
- Traffic flow on Williamson Boulevard is moderate, with the majority of vehicles traveling northbound and southbound. Both through movements were able to clear the intersection within a single signal cycle, with no phase failures observed. However, sometimes during peak periods, through-lane congestion and queuing blocked access to the left and right turn lanes
- The northbound left-turn movement from Williamson Boulevard to westbound Town West Boulevard experiences minor to moderate demand during the afternoon peak period. Under permitted left-turn operations and moderate mainline traffic volumes, limited gaps were available for vehicles to complete the left turn under flashing yellow arrow conditions
- Traffic flow on Town West Boulevard is minor to moderate. Both turning movements were able to clear the intersection within a single signal cycle, with no phase failures observed
- During the morning peak period, the eastbound left-turn queue on Town West Boulevard extends beyond the beginning of the right-turn lane. Vehicles were observed using the shoulder and adjacent grass area to bypass queued vehicles in order to access the right-turn lane to Williamson Boulevard

ADA Compliance Review

- Push-button signage is faded at the northwest corner
- Detectable warning surfaces are worn at the southwest corner
- Push-button signage is faded at the southwest corner
- Detectable warning surfaces are worn at the southeast corner
- Push-button signage is faded at the southeast corner
- Crosswalk pavement markings on the south leg are worn

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 8** shows the growth rates derived from the population estimates for the year 2035. As shown in **Table 8**, 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 8: 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 9**. The trends analysis sheets are provided in **Appendix B**. As shown in **Table 9**, It is to be noted that trends analysis growth rate along Williamson Boulevard was not considered in determining the future forecasts, Since the R2 values for the station is less than 75%.

Table 9: Historical Trends Analysis Summary

FDOT Site	Location	Historic Trend Analysis	
		R Square	Annual Growth Rate
#797081	On Williamson Blvd, 1.25 miles north of I-95	8.17%	0.80%
#798219	Town West Blvd, 900 feet west of Williamson Blvd	74.65%	7.38%

Model Based Growth Rates

Table 10 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 10: Model-Model Growth Rates

Location	2015 Model	2045 Model	Growth%
Williamson Boulevard, north of Town West Boulevard	9,354	14,187	1.7%
Williamson Boulevard, south of Town West Boulevard	7,042	10,882	1.8%
Town West Boulevard, west of Williamson Boulevard	7,976	11,392	1.4%

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 2.0% was recommended along Williamson Boulevard based on Model growth and an annual growth rate of 4.24% was recommended along Town West Boulevard based on average of BEBR Medium and Trends growth.

Further, additional trips from the nearby future developments, including Thompson Pump – 20,000 Sq footage of Industrial Operational area (northeast of study intersection), Town West Senior Living Apartment (southwest of the intersection) and 100,000 Sq footage of Commercial development (northwest of the intersection) were included.

In the case of Thompson Pump development, we used ITE land use Code 140 for 20,000 sq. ft. of manufacturing to derive the project AM and PM peak hour trips. In the case of Town West Senior Living development, the retail component of 20,000 sq. ft., which equates to approximately 0.25 Floor Area Ratio (FAR) for the 1.88 acres was used to derive the project AM and PM peak hour trips (assumed by the applicant in the TIA dated March 30, 2022 (included in Appendix B). In the case of commercial development in the northwest quadrant, we used ITE land use Code 820 for

100,000 sq. ft. of retail shopping center to derive the project AM and PM peak hour trips. 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 9** depicts 2027 and 2037 turning movement volumes at the study intersection.

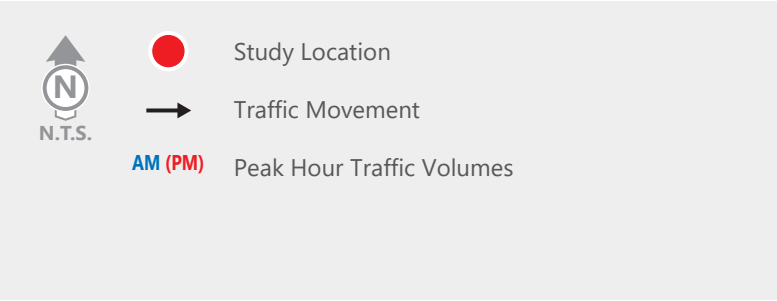
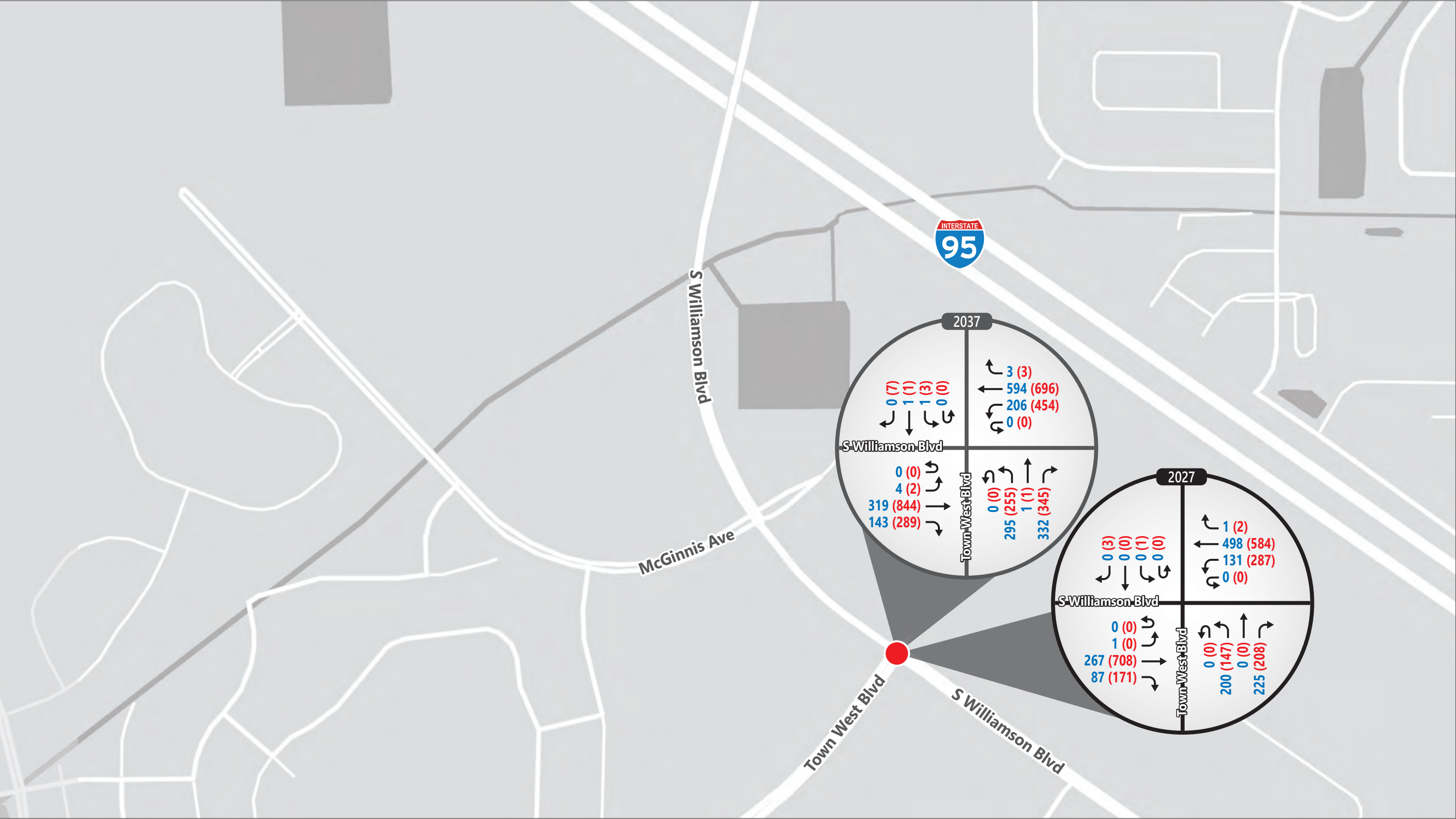


Figure 9
Future Turning Movement Volumes
Feasibility Study for Intersection
Improvements
Willaimson Boulevard at
Town West Boulevard

FEASIBILITY ANALYSIS

Background

The study intersection is currently a three-legged signalized intersection with a dedicated left turn lane, one through lane and a dedicated right lane on the northbound approach along Williamson Boulevard; a through lane and a dedicated right turn lane on the southbound approach along Williamson Boulevard; and a dedicated left turn lane and a right turn lane on the eastbound approach along Town West Boulevard. North and south of this intersection, Williamson Boulevard is a three-lane urban roadway. Town West Boulevard is a two-lane divided roadway west of the study intersection.

This study assumed that the new north leg will be constructed (Thompson Pump development) for the future conditions. Based on existing and future 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:

- Construct a second northbound left turn lane on Williamson Boulevard and extend both left turn lanes to provide approximately 635 feet of storage. To accommodate this improvement, construct a second receiving lane on the west leg of Town West Boulevard and re-align southbound Williamson Boulevard south of the intersection to provide sufficient width for the dual northbound left turn lanes. 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 including the potential surge in traffic demand during game day events.
- Extend southbound left and right turn lanes along Williamson Boulevard
- Extend the eastbound right turn lane on the west leg of Town West Boulevard
- Signalization, drainage, and utility impacts are anticipated due to the construction of the proposed improvements. Right-of-way (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. 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 safety and operational analysis outputs are provided in **Appendix C**.

Table 11 illustrates the number of opening year and design year crashes predicted for the No Build and Build alternatives. **Table 12** illustrates the opening year and design year overall intersection delays for the No Build and Build alternatives.

Table 11: Crash Prediction Analysis Summary

Alternative	Crash Type	Opening Year (2027)	Design Year (2037)
No Build	Total	3.22	4.35
	Fatal & Injury	1.48	2.00
Build	Total	2.64	3.58
	Fatal & Injury	1.22	1.65

Table 12: 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	20.8	C	27.9	C	29.0	C	80.9	F
Build	22.8	C	27.9	C	25.8	C	40.9	D

Based on the summaries presented in Tables 11 and 12, the proposed improvements are expected to enhance both operational performance and safety at the study intersection. Additionally, the extension of the 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 Halifax River. 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 Halifax River which is classified as an impaired waterbody and is not designated as an Outstanding Florida Water (OFW).

- Net Added Impervious: +13,530 SF
- The intersection partially lies within FEMA Zone “AE” a Base Flood Elevation of 27 ft, within the 100-year floodplain, as shown on FEMA Flood Insurance Rate Map No. 12127C0506H (dated September 29, 2014).

- ERP Permit Level
 - o 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)
 - o Individual ERP required due to significant new impervious area
- Key ERP Requirements
 - o Stormwater quantity attenuation (pre/post discharge rates)
 - o Water quality treatment to meet statewide minimum standards
 - o Demonstration of system capacity for design storms per SJRWMD criteria
- Hydraulic and hydrologic modeling required
 - o Project partially lies within FEMA zone AE and must evaluate Floodplain Impact/Compensation
- SB 7040 Compliance
 - o Must meet minimum stormwater treatment performance (TN & TP criteria when applicable)
 - o Comprehensive Operations & Maintenance Plan required
 - o 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. Additional ROW is not anticipated for the proposed improvements. Note that any required compensating storage analysis, stormwater

runoff calculations, floodplain evaluation, and other relevant impacts will be addressed during the design phase. 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 Williamson Boulevard and Town West Boulevard intersection modifications is \$1,165,900 (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 12**) 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 11** 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 13**, 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 13: 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)	\$4,761,277	4.32	0.77	5.08

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 intersection:

- Construct a second northbound left turn lane on Williamson Boulevard and extend both left turn lanes to provide approximately 635 feet of storage. To accommodate this improvement, construct a second receiving lane on the west leg of Town West Boulevard and re-align southbound Williamson Boulevard south of the intersection to provide sufficient width for the dual northbound left turn lanes
- Extend the southbound left and right turn lanes on Williamson Boulevard to provide approximately 350 feet of storage
- Extend the existing eastbound right turn lane on the west leg of Town West Boulevard to provide approximately 315 feet of storage

These modifications can be implemented at an approximate cost of \$1,165,900 and yields a B/C ratio of 5.08, which indicates that the anticipated benefits outweigh the estimated costs for the proposed modifications.

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 #: 064834.00

From: VHB

Re: Responses to Comments on the DRAFT Intersection
improvements at Town West Blvd and S Williamson Blvd

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

1. Correct the base flood elevation in the special flood hazard area to have a Base flood elevation of 27.00 Ft adjacent to intersection work.

Response: Comment noted. The report will be revised to include the text – "The intersection partially lies within FEMA Zone "AE" a Base Flood Elevation of 27 ft, within the 100-year floodplain, as shown on FEMA Flood Insurance Rate Map No. 12127C0506H (dated September 29, 2014)".

2. Clarify whether estimated design costs consider impacts to floodplain and compensating storage calculations.

Response: Comment noted. Compensating storage and floodplain analysis would be captured in the design and design contingency costs.

3. Clarify whether estimated design cost is assumed to cover cost of stormwater runoff calculations and design since added impervious area exceeds threshold for exemption

Response: Comment noted. The calculation of stormwater runoff would be captured in the design and design contingency costs.

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

Comment #1: Page 21

- What is the build-out year of the near future developments?

Response: A specific build-out year for the nearby future developments is not available. However, at the City's request, VHB included the vested trips associated with these developments in the future intersection operational analysis to provide a conservative assessment.

- Town West Senior Living Apartment is already constructed and operational. Is any additional development proposed beyond the existing condition? If not, trips generated by this apartment should already be captured in the existing traffic counts. Please clarify whether these trips were also included as future project trips in the intersection volume projections.

Response: Yes, vested trips beyond the existing condition were included in the future conditions for the Senior Living Apartments based on coordination with the City.

- No development information for commercial use at the northwest corner is provided in Appendix B.

Response: A development information for commercial use is not available at this time. Assumptions for the development potential were made in coordination with the City for a conservative approach. Note that final future volumes were approved by the City.

Engineers | Scientists | Planners | Designers

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- Please provide the process of volume projection process.

Response: Comment noted. The volume projection process will be discussed in the revised report.

Comment #2: *Page 24, Table 11*

- 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 #3: *Page 30, 1st Bullet Point*

- The Synchro results indicate that the northbound left-turn delay increases from 46.9 seconds (LOS D) under the No-Build condition to 73.5 seconds (LOS E) under the Build condition in the 2037 PM peak. Please provide an operational justification for the proposed westbound double left-turn lane.

Response: Comment noted. The most likely reason is the protected phase and timing optimization under the Build scenario. Below is the justification:

- The amount of projected left turn volume under future conditions exceed 300 VPH.
- The City stated the need to accommodate a surge in traffic for this movement during game events at the Coquina Cove Activity Park in addition to the background growth and vested trips from nearby developments.
- The amount of green time that goes to this movement under 2037 PM No-Build causes other movements/overall intersection to fail with extensive queueing and V/C ratio of greater than 1.

Comment #4: *Appendix C, Synchro Outputs, 2037 PM Build*

- The northbound left-turn lane storage length is coded as 390 ft in the Synchro model, which reflects the existing condition. However, the study recommends extending the storage length to 635 ft.

Response: The recommended storage length is based on design feasibility and to accommodate a traffic surge during potential game day events at Coquina Cove Activity Park and based on coordination with the City. The Build Synchro model will be updated to show a storage length of 635 feet, but note that it will not change the delay results.

- The signal timing allocates 31 seconds and 32 seconds of green time to the eastbound and westbound approaches, respectively. However, the projected 2037 eastbound volumes are minimal (2 vph in the AM peak and 10 vph in the PM peak). This timing plan was also applied to the No-Build condition, under which the southbound through movement is shown to fail.

Response: Yes, these times are allocated to accommodate potential pedestrian crossings. However, the signal is actuated and this movement will gap out (the recall mode is none) and not use the entire split time.

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 intersection.

2. Change Twon to Town on Page 28 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 County on the January 2026 draft report.

1. Please clarify whether this study is intended to be relied upon to support future development approvals (e.g., Thompson Pump development and assumed commercial land use), and If so, the study should explicitly state that it has been prepared in general conformance with the Transportation Impact Analysis Guidelines & Methodology (06/22/2016) and identify any deviations.
2. Is the improvement be considered as a concurrency measure with the proposed development on the east side is at site permit level.

Response to 1 and 2: Comments noted. Consistent with the scope of this feasibility study, the future volumes were developed based on coordination with the City providing vested traffic information. The City may or may not use the findings of this study in support of their development review, however the feasibility study itself does not dictate development approvals or future development-related mitigation and concurrency. Any development-related improvements or payments will be agreed upon between the developer and City based on a TIA provided by the applicant. The future improvements recommended in this study are recommendations based on anticipated volumes for a conservative approach.

3. Please confirm whether Seasonal adjustment factors were considered or deemed unnecessary.

Response: Comment noted. A seasonal adjustment factor from Florida Traffic Online based on the count date was used to adjust the field counts.

4. The reported Safety B/C ratio (0.84) is less than 1.0, while the overall B/C ratio is favorable, how this is considered with reference to other safety investment priorities and whether additional low-cost safety countermeasures were evaluated.

Response: Comment noted. The primary objective of the feasibility study is to evaluate the potential impacts and planning-level costs of the improvements proposed by the City. While the reported safety benefit-cost (B/C) ratio is less than 1.0, it should be noted that this value is influenced by the relatively high estimated construction cost associated with the proposed improvements.

In addition, the safety benefits predicted using the FDOT Highway Safety Manual (HSM) tool do not capture all potential safety benefits of the proposed improvements. For example, the HSM tool does not fully account for operational improvements such as extending left-turn lanes, which can reduce crash potential for certain crash types, including rear-end crashes. The safety analysis conducted as part of this study did account for measurable improvements, including the conversion of permissive/protected left-turn phasing to protected-only phasing and proposed lighting upgrades at the study intersection.

Other low-cost safety countermeasures including retroreflective signal backplates are already in place at the study intersection. As such, the overall B/C ratio, combined with operational and safety considerations, supports the proposed improvements within the context of broader safety investment priorities.

Follow-up Comments received on 12/19/2016

City of Port Orange: VHB Response #2 & #3: "Comment noted"

Please confirm the report will be revised to notate design analysis will include evaluation of floodplain, compensating storage, and stormwater calculations. The design should include evaluation of the permitted Williamson Blvd roadway with respect to the sufficiency of the existing stormwater design accommodating the proposed improvements.

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

FDOT: VHB Response #1 – Regarding near future developments, the outparcel for Town West Senior Living Apartments has not been constructed. Please confirm the analysis includes the unconstructed 1.88-acre, approximately 20,000 SF strip retail center since VHB Project #63844.00 was for the initial phase of senior adult housing only.

Response: We have included approximately 20,000 SF strip retail land use in the volume projections.

FDOT: VHB Response #4 – Please confirm that the Feasibility Study is referencing CORACI PARK. The "Coquina Cove Activity Park" is a neighborhood playground that wouldn't be significant to the project.

Response: That is correct. We meant Coraci Park.

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 107

Location : Williamson Boulevard, south of Town West Boulevard

2-Oct-25

Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	16	3	5	9	10	19	34	95	120	117	93	121
30	9	3	5	4	11	18	51	123	127	111	112	142
45	2	2	6	8	11	36	49	121	125	101	115	170
00	11	3	10	6	23	34	77	110	109	139	121	135
Hr Total	38	11	26	27	55	107	211	449	481	468	441	568

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	146	131	148	167	220	204	147	125	90	49	26	20
30	175	148	162	182	207	214	159	123	90	39	23	14
45	150	146	164	196	211	207	134	99	73	41	21	18
00	180	154	189	214	229	210	141	94	55	31	18	10
Hr Total	651	579	663	759	867	835	581	441	308	160	88	62

24 Hour Total : 8,876
AM Peak Hour begins : 11:30
PM Peak Hour begins : 16:00

AM Peak Volume : 626
PM Peak Volume : 867
AM Peak Hour Factor : 0.89
PM Peak Hour Factor : 0.95

2-Oct-25

Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	15	26	7	12	17	24	53	82	157	124	111	117
30	8	19	19	10	14	21	42	120	117	119	106	125
45	14	6	9	13	17	37	41	170	126	127	107	131
00	22	11	10	7	17	33	66	166	113	140	118	144
Hr Total	59	62	45	42	65	115	202	538	513	510	442	517

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	125	158	152	173	171	213	143	156	98	81	56	24
30	132	155	164	147	211	189	177	133	115	68	29	23
45	171	151	166	186	218	175	139	144	102	56	29	18
00	136	178	169	175	187	141	137	105	74	58	20	17
Hr Total	564	642	651	681	787	718	596	538	389	263	134	82

24 Hour Total : 9,155
AM Peak Hour begins : 7:15
PM Peak Hour begins : 16:15

AM Peak Volume : 613
PM Peak Volume : 829
AM Peak Hour Factor : 0.90
PM Peak Hour Factor : 0.95

2-Oct-25

Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	31	29	12	21	27	43	87	177	277	241	204	238
30	17	22	24	14	25	39	93	243	244	230	218	267
45	16	8	15	21	28	73	90	291	251	228	222	301
00	33	14	20	13	40	67	143	276	222	279	239	279
Hr Total	97	73	71	69	120	222	413	987	994	978	883	1,085

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	271	289	300	340	391	417	290	281	188	130	82	44
30	307	303	326	329	418	403	336	256	205	107	52	37
45	321	297	330	382	429	382	273	243	175	97	50	36
00	316	332	358	389	416	351	278	199	129	89	38	27
Hr Total	1,215	1,221	1,314	1,440	1,654	1,553	1,177	979	697	423	222	144

24 Hour Total : 18,031
AM Peak Hour begins : 11:45
PM Peak Hour begins : 16:15

AM Peak Volume : 1,178
PM Peak Volume : 1,680
AM Peak Hour Factor : 0.92
PM Peak Hour Factor : 0.98

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 438

Location : Williamson Boulevard, north of Town West Boulevard

2-Oct-25

Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	17	4	4	8	8	15	25	68	101	108	73	125
30	9	4	5	7	12	14	37	92	118	97	110	127
45	5	3	6	4	7	31	44	63	104	92	106	149
00	14	4	8	5	20	31	60	88	100	128	113	129
Hr Total	45	15	23	24	47	91	166	311	423	425	402	530

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	157	139	149	177	270	215	145	118	93	54	32	20
30	179	149	188	201	213	247	159	126	106	51	36	17
45	171	153	188	208	247	233	154	85	66	31	31	19
00	197	148	194	245	221	202	135	92	52	37	18	11
Hr Total	704	589	719	831	951	897	593	421	317	173	117	67

24 Hour Total : 8,881
 AM Peak Hour begins : 11:45
 PM Peak Hour begins : 15:45

AM Peak Volume : 636
 PM Peak Volume : 975

AM Peak Hour Factor : 0.89
 PM Peak Hour Factor : 0.90

2-Oct-25

Southbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	12	26	7	12	13	21	50	90	161	132	114	108
30	7	18	17	11	13	23	45	158	154	133	101	125
45	15	4	9	13	17	39	55	182	138	117	104	121
00	18	10	12	7	19	31	74	169	123	143	115	127
Hr Total	52	58	45	43	62	114	224	599	576	525	434	481

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	124	150	146	154	139	175	126	132	77	59	43	16
30	122	142	141	112	168	166	139	104	83	55	29	14
45	166	143	152	170	192	179	105	104	84	45	27	18
00	131	155	150	142	155	124	99	79	50	29	13	14
Hr Total	543	590	589	578	654	644	469	419	294	188	112	62

24 Hour Total : 8,355
 AM Peak Hour begins : 7:15
 PM Peak Hour begins : 16:15

AM Peak Volume : 670
 PM Peak Volume : 690

AM Peak Hour Factor : 0.92
 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	29	30	11	20	21	36	75	158	262	240	187	233
30	16	22	22	18	25	37	82	250	272	230	211	252
45	20	7	15	17	24	70	99	245	242	209	210	270
00	32	14	20	12	39	62	134	257	223	271	228	256
Hr Total	97	73	68	67	109	205	390	910	999	950	836	1,011

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	281	289	295	331	409	390	271	250	170	113	75	36
30	301	291	329	313	381	413	298	230	189	106	65	31
45	337	296	340	378	439	412	259	189	150	76	58	37
00	328	303	344	387	376	326	234	171	102	66	31	25
Hr Total	1,247	1,179	1,308	1,409	1,605	1,541	1,062	840	611	361	229	129

24 Hour Total : 17,236
 AM Peak Hour begins : 11:45
 PM Peak Hour begins : 16:30

AM Peak Volume : 1,175
 PM Peak Volume : 1,618

AM Peak Hour Factor : 0.87
 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 441

Location : Town West Boulevard, west of Williamson Boulevard

2-Oct-25

Northbound Volume

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	5	2	5	3	3	11	23	88	84	73	55	56
30	2	1	1	2	1	10	38	108	95	71	45	64
45	2	0	4	4	5	18	44	120	79	51	56	54
00	0	4	4	6	7	17	49	87	67	68	56	54
Hr Total	9	7	14	15	16	56	154	403	325	263	212	228

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	65	61	61	70	70	73	64	62	38	21	10	7
30	62	58	60	53	65	90	58	45	34	14	10	5
45	58	69	66	74	71	91	45	42	27	22	10	9
00	57	69	66	58	81	75	50	35	20	9	7	7
Hr Total	242	257	253	255	287	329	217	184	119	66	37	28

24 Hour Total : 3,976

AM Peak Hour begins : 7:00

PM Peak Hour begins : 16:45

AM Peak Volume : 403

PM Peak Volume : 335

AM Peak Hour Factor : 0.84

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	10	2	2	1	4	7	15	39	56	50	32	60
30	3	3	2	4	0	5	15	30	40	38	39	39
45	7	3	2	0	3	5	14	42	49	47	46	44
00	4	6	1	3	2	13	24	62	49	52	48	52
Hr Total	24	14	7	8	9	30	68	173	194	187	165	195

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	50	52	63	80	106	100	72	65	57	42	28	12
30	67	61	74	72	89	111	88	69	64	35	20	10
45	62	57	75	87	105	93	80	65	46	20	14	9
00	63	67	80	97	88	77	84	58	40	41	9	10
Hr Total	242	237	292	336	388	381	324	257	207	138	71	41

24 Hour Total : 3,988

AM Peak Hour begins : 11:45

PM Peak Hour begins : 16:30

AM Peak Volume : 231

PM Peak Volume : 404

AM Peak Hour Factor : 0.86

PM Peak Hour Factor : 0.91

2-Oct-25

Total Volume for All Lanes

End Time	00	01	02	03	04	05	06	07	08	09	10	11
15	15	4	7	4	7	18	38	127	140	123	87	116
30	5	4	3	6	1	15	53	138	135	109	84	103
45	9	3	6	4	8	23	58	162	128	98	102	98
00	4	10	5	9	9	30	73	149	116	120	104	106
Hr Total	33	21	21	23	25	86	222	576	519	450	377	423

End Time	12	13	14	15	16	17	18	19	20	21	22	23
15	115	113	124	150	176	173	136	127	95	63	38	19
30	129	119	134	125	154	201	146	114	98	49	30	15
45	120	126	141	161	176	184	125	107	73	42	24	18
00	120	136	146	155	169	152	134	93	60	50	16	17
Hr Total	484	494	545	591	675	710	541	441	326	204	108	69

24 Hour Total : 7,964

AM Peak Hour begins : 7:15

PM Peak Hour begins : 16:45

AM Peak Volume : 589

PM Peak Volume : 727

AM Peak Hour Factor : 0.91

PM Peak Hour Factor : 0.90

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Williamson Boulevard
OBSERVER: VHB
WEATHER: Good

CITY: Port Orange
INTERSECTING ROUTE: Town West Boulevard
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	Northbound						Southbound						Eastbound						Westbound								
Start Time	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	EW Total	Grand Total
7:00 AM	0	31	0	13	37	81	0	0	0	0	0	0	81	0	0	44	10	3	57	0	22	58	0	0	80	137	218
7:15 AM	0	50	0	21	38	109	0	0	0	0	0	0	109	0	0	58	10	6	74	0	13	101	0	0	114	188	297
7:30 AM	0	46	0	24	45	115	0	0	0	0	0	0	115	0	0	51	4	5	60	0	31	133	0	0	164	224	339
7:45 AM	0	47	0	15	25	87	0	0	0	0	0	0	87	0	0	59	11	4	74	0	41	114	0	0	155	229	316
Total	0	174	0	73	145	392	0	0	0	0	0	0	392	0	0	212	35	18	265	0	107	406	0	0	513	778	1,170
8:00 AM	0	34	0	22	25	81	0	0	0	0	0	0	81	0	0	69	26	2	97	0	26	125	0	0	151	248	329
8:15 AM	0	52	0	23	22	97	0	0	0	0	0	0	97	0	0	75	13	10	98	0	16	102	0	0	118	216	313
8:30 AM	0	36	0	16	24	76	0	0	0	0	0	0	76	0	0	79	15	8	102	0	23	100	0	0	123	225	301
8:45 AM	0	35	0	13	19	67	0	0	0	0	0	0	67	0	0	76	13	6	95	0	25	87	1	0	113	208	275
Total	0	157	0	74	90	321	0	0	0	0	0	0	321	0	0	299	67	26	392	0	90	414	1	0	505	897	1,218
9:00 AM	0	35	0	14	23	72	0	0	0	0	0	0	72	0	0	75	12	7	94	0	24	93	0	0	117	211	283
9:15 AM	0	29	0	14	23	66	0	0	0	0	0	0	66	0	0	70	12	5	87	0	21	95	0	0	116	203	269
9:30 AM	0	18	0	5	22	45	0	0	0	0	0	0	45	0	0	73	12	3	88	0	26	94	0	0	120	208	253
9:45 AM	0	36	0	12	21	69	0	0	0	0	0	0	69	0	0	97	11	7	115	0	31	103	0	0	134	249	318
Total	0	118	0	45	89	252	0	0	0	0	0	0	252	0	0	315	47	22	384	0	102	385	0	0	487	871	1,123
12:00 PM	0	29	0	7	29	65	0	0	0	0	0	0	65	0	0	113	15	5	133	0	31	90	0	0	121	254	319
12:15 PM	0	25	0	13	22	60	0	0	0	0	0	0	60	0	0	122	24	5	151	0	36	95	0	0	131	282	342
12:30 PM	0	27	0	5	25	57	0	0	0	0	0	0	57	0	0	118	19	5	142	0	33	132	0	0	165	307	364
12:45 PM	0	26	0	8	21	55	0	0	0	0	0	0	55	0	0	149	31	2	182	0	33	103	0	0	136	318	373
Total	0	107	0	33	97	237	0	0	0	0	0	0	237	0	0	502	89	17	608	0	133	420	0	0	553	1,161	1,398
2:00 PM	0	31	0	5	26	62	0	0	0	0	0	0	62	0	0	109	17	6	132	0	38	111	0	0	149	281	343
2:15 PM	0	20	0	12	22	54	0	0	0	0	0	0	54	0	0	132	24	3	159	0	41	120	0	0	161	320	374
2:30 PM	0	24	0	15	24	63	0	0	1	0	0	1	64	0	0	125	22	12	159	0	33	122	1	0	156	315	379
2:45 PM	0	22	0	16	29	67	0	0	0	0	0	0	67	0	0	132	29	3	164	0	46	124	0	0	170	334	401
Total	0	97	0	48	101	246	0	0	1	0	0	1	247	0	0	498	92	24	614	0	158	477	1	0	636	1,250	1,497
3:00 PM	0	25	0	26	15	66	0	0	0	0	0	0	66	0	0	128	29	0	157	0	47	126	0	0	173	330	396
3:15 PM	0	14	0	10	23	47	0	0	0	0	0	0	47	0	0	149	20	3	172	0	46	98	0	0	144	316	363
3:30 PM	0	31	0	33	16	80	0	0	0	0	0	0	80	0	0	148	24	13	185	0	47	133	0	0	180	365	445
3:45 PM	0	21	0	25	12	58	0	0	0	0	0	0	58	0	0	170	28	11	209	0	53	122	0	0	175	384	442
Total	0	91	0	94	66	251	0	0	0	0	0	0	251	0	0	595	101	27	723	0	193	479	0	0	672	1,395	1,646
4:00 PM	0	23	0	20	22	65	0	0	0	0	0	0	65	0	0	174	37	8	219	0	57	112	0	0	169	388	453
4:15 PM	0	25	0	16	22	63	0	0	0	0	0	0	63	0	0	171	22	3	196	0	60	144	0	0	204	400	463
4:30 PM	0	34	0	26	11	71	0	0	0	0	0	0	71	0	0	171	26	8	205	0	69	154	0	0	223	428	499
4:45 PM	0	24	0	30	23	77	0	0	0	0	0	0	77	0	0	171	25	6	202	0	56	132	0	0	188	390	467
Total	0	106	0	92	78	276	0	0	0	0	0	0	276	0	0	687	110	25	822	0	242	542	0	0	784	1,606	1,882
5:00 PM	0	26	0	25	22	73	0	0	0	1	0	1	74	0	0	153	28	6	187	0	64	141	1	0	206	393	467
5:15 PM	0	39	0	23	19	81	0	0	0	0	0	0	81	0	0	179	34	13	226	0	61	128	0	0	189	415	496
5:30 PM	0	52	0	21	21	94	0	0	0	0	0	0	94	0	0	156	32	11	199	0	50	123	0	0	173	372	466
5:45 PM	0	23	0	22	31	76	0	0	0	0	0	0	76	0	0	149	34	6	189	0	38	103	0	0	141	330	406
Total	0	140	0	91	93	324	0	0	0	1	0	1	325	0	0	637	128	36	801	0	213	495	1	0	709	1,510	1,835

VEHICLE TURNING MOVEMENT COUNT

MAJOR ROUTE: Williamson Boulevard
OBSERVER: VHB
WEATHER: Good

CITY: Port Orange
INTERSECTING ROUTE: Town West Boulevard
DATE OF COUNT: 10/2/25
ROAD CONDITION: Good
COUNT PERIODS: 11 AM to 7 PM

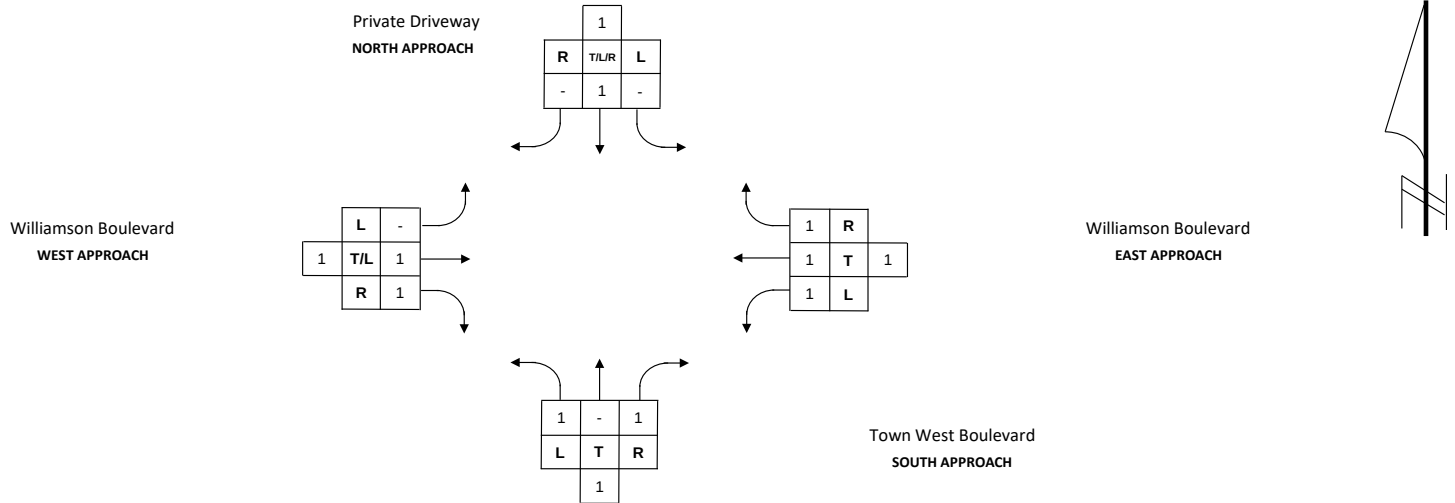
COUNTY: Volusia
COMPLETED BY: MW
DATE COMPLETED: 10/2/25

HEAVY VEHICLES (TRUCKS + BUSES)

Direction	Northbound						Southbound						NS Total	Eastbound						Westbound						EW Total	Grand Total
Start Time	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	1	0	1	1	3	0	0	0	0	0	0	3	0	0	1	1	0	2	0	4	1	0	0	5	7	10
7:15 AM	0	4	0	0	0	4	0	0	0	0	0	0	4	0	0	7	1	1	9	0	0	2	0	0	2	11	15
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	4	0	0	4	7	7
7:45 AM	0	3	0	1	3	7	0	0	0	0	0	0	7	0	0	3	1	0	4	0	2	9	0	0	11	15	22
Total	0	8	0	2	4	14	0	0	0	0	0	0	14	0	0	14	3	1	18	0	6	16	0	0	22	40	54
8:00 AM	0	2	0	1	1	4	0	0	0	0	0	0	4	0	0	0	1	0	1	0	0	3	0	0	3	4	8
8:15 AM	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	3	1	0	4	0	0	2	0	0	2	6	7
8:30 AM	0	1	0	0	1	2	0	0	0	0	0	0	2	0	0	3	2	1	6	0	2	1	0	0	3	9	11
8:45 AM	0	1	0	1	0	2	0	0	0	0	0	0	2	0	0	2	1	0	3	0	2	1	0	0	3	6	8
Total	0	4	0	2	3	9	0	0	0	0	0	0	9	0	0	8	5	1	14	0	4	7	0	0	11	25	34
9:00 AM	0	1	0	1	0	2	0	0	0	0	0	0	2	0	0	4	1	0	5	0	2	2	0	0	4	9	11
9:15 AM	0	3	0	0	0	3	0	0	0	0	0	0	3	0	0	5	0	0	5	0	0	4	0	0	4	9	12
9:30 AM	0	2	0	0	1	3	0	0	0	0	0	0	3	0	0	2	1	0	3	0	3	5	0	0	8	11	14
9:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	0	2	6	0	0	8	15	15
Total	0	6	0	1	1	8	0	0	0	0	0	0	8	0	0	18	2	0	20	0	7	17	0	0	24	44	52
12:00 PM	0	2	0	0	1	3	0	0	0	0	0	0	3	0	0	2	1	0	3	0	1	1	0	0	2	5	8
12:15 PM	0	2	0	0	2	4	0	0	0	0	0	0	4	0	0	5	1	0	6	0	1	1	0	0	2	8	12
12:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1	1	1	3	0	3	6	0	0	9	12	13
12:45 PM	0	1	0	0	1	2	0	0	0	0	0	0	2	0	0	3	1	0	4	0	0	0	0	0	0	4	6
Total	0	5	0	0	5	10	0	0	0	0	0	0	10	0	0	11	4	1	16	0	5	8	0	0	13	29	39
2:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	1	0	2	0	0	0	2	3	4
2:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	3	1	0	4	0	2	3	0	0	5	9	10
2:30 PM	0	0	0	2	0	2	0	0	0	0	0	0	2	0	0	2	2	0	4	0	1	7	0	0	8	12	14
2:45 PM	0	0	0	2	1	3	0	0	0	0	0	0	3	0	0	0	3	0	3	0	3	6	0	0	9	12	15
Total	0	1	0	5	1	7	0	0	0	0	0	0	7	0	0	6	6	0	12	0	8	16	0	0	24	36	43
3:00 PM	0	1	0	3	0	4	0	0	0	0	0	0	4	0	0	3	2	0	5	0	3	1	0	0	4	9	13
3:15 PM	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	2	0	0	5	5	6
3:30 PM	0	3	0	2	0	5	0	0	0	0	0	0	5	0	0	0	1	0	1	0	3	2	0	0	5	6	11
3:45 PM	0	0	3	0	3	0	0	0	0	0	0	0	3	0	0	0	1	1	2	0	1	2	0	0	3	5	8
Total	0	4	0	9	0	13	0	0	0	0	0	0	13	0	0	3	4	1	8	0	10	7	0	0	17	25	38
4:00 PM	0	1	0	1	0	2	0	0	0	0	0	0	2	0	0	2	0	2	4	0	2	2	0	0	4	8	10
4:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	3	0	2	0	0	0	4	7	8
4:30 PM	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	3	0	0	3	0	2	0	0	0	2	5	6
4:45 PM	0	3	0	1	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	1	1	0	0	2	2	6
Total	0	4	0	2	2	8	0	0	0	0	0	0	8	0	0	8	0	2	10	0	7	5	0	0	12	22	30
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	6	0	0	7	8	8
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	1	0	0	1	3	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	1	0	5	0	0	2	0	0	2	7	7
5:45 PM	0	1	0	0	1	2	0	0	0	0	0	0	2	0	0	1	1	0	2	0	0	0	0	0	0	2	4
Total	0	1	0	0	1	2	0	0	0	0	0	0	2	0	0	8	2	0	10	0	1	9	0	0	10	20	22

MetroPlan Orlando
SUMMARY OF VEHICLE MOVEMENTS

MAJOR ROUTE:	Williamson Boulevard	CITY:	Port Orange	COUNTY:	Volusia
OBSERVER:	VHB	INTERSECTING ROUTE:	Town West Boulevard	COMPLETED BY:	MW
WEATHER:	Good	DATE:	10/2/25	DATE COMPLETED:	10/2/25
REMARKS:					



TIME	NORTHBOUND						SOUTHBOUND						TOTAL	EASTBOUND						WESTBOUND						TOTAL
BEGIN/END	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	174	0	73	145	392	0	0	0	0	0	0	392	0	0	212	35	18	265	0	107	406	0	0	513	778
8:00 - 9:00	0	157	0	74	90	321	0	0	0	0	0	0	321	0	0	299	67	26	392	0	90	414	1	0	505	897
9:00 - 10:00	0	118	0	45	89	252	0	0	0	0	0	0	252	0	0	315	47	22	384	0	102	385	0	0	487	871
12:00 - 13:00	0	107	0	33	97	237	0	0	0	0	0	0	237	0	0	502	89	17	608	0	133	420	0	0	553	1,161
14:00 - 15:00	0	97	0	48	101	246	0	0	1	0	0	1	247	0	0	498	92	24	614	0	158	477	1	0	636	1,250
15:00 - 16:00	0	91	0	94	66	251	0	0	0	0	0	0	251	0	0	595	101	27	723	0	193	479	0	0	672	1,395
16:00 - 17:00	0	106	0	92	78	276	0	0	0	0	0	0	276	0	0	687	110	25	822	0	242	542	0	0	784	1,606
17:00 - 18:00	0	140	0	91	93	324	0	0	0	1	0	1	325	0	0	637	128	36	801	0	213	495	1	0	709	1,510
TOTAL	0	804	0	510	692	2,006	0	0	1	1	0	2	2,008	0	0	4,228	721	181	5,130	0	1,403	3,650	2	0	5,055	10,185

Percentage	0.0%	40.1%	0.0%	25.4%	34.5%	100.0%	0.0%	0.0%	50.0%	50.0%	0.0%	100.0%	N/A	0.0%	0.0%	82.4%	14.1%	3.5%	100.0%	0.0%	27.8%	72.2%	0.0%	0.0%	100.0%	N/A
Maximum	0	140	0	94	107	324	0	0	1	1	0	1	325	0	0	687	128	36	822	0	242	542	1	0	784	1,606
Minimum	0	80	0	33	66	213	0	0	0	0	0	0	213	0	0	424	42	9	490	0	109	384	0	0	493	983
Total Heavy Veh	47		0	32	30	109	0		0	0	0	0	109	0		107	41	6	154	90		128	0	0	218	372
% Heavy Veh	5.8%		0.0%	5.2%		5.4%	0.0%		0.0%		0.0%		5.4%	0.0%		2.5%	5.2%		3.0%	6.4%		3.5%	0.0%		4.3%	3.7%

MetroPlan Orlando PEDESTRIAN MOVEMENT SUMMARY

MAJOR ROUTE	Williamson Boulevard
OBSERVER	VHB
COUNTY	Volusia

COUNT HOURS 11 AM to 7 PM

CITY	Port Orange
INTERSECTING ROUTE	Town West Boulevard
DATE OF COUNT	10/2/25
WEATHER	Good
COMPLETED BY	MW
DATE	10/2/25

[illegible]

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

NORTH APPROACH
Private Driveway

WEST APPROACH
Williamson Boulevard

**Williamson Boulevard
EAST APPROACH**

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

**Town West Boulevard
SOUTH APPROACH**

[illegible]

MetroPlan Orlando BICYCLE MOVEMENT SUMMARY

MAJOR ROUTE	Williamson Boulevard
OBSERVER	VHB
COUNTY	Volusia

COUNT HOURS 11 AM to 7 PM

CITY	Port Orange
INTERSECTING ROUTE	Town West Boulevard
DATE OF COUNT	10/2/25
WEATHER	Good
COMPLETED BY	MW
DATE	10/2/25

[illegible]

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	1	0	1
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	1	0	1

WEST APPROACH
Williamson Boulevard

NORTH APPROACH
Private Driveway

**Town West Boulevard
SOUTH APPROACH**

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

[illegible]

Field Photos

(1/6)



Looking North from the intersection



Looking South from the intersection

(3/6)



Looking West from the intersection

(4/6)



Looking South into the intersection

(5/6)



Looking East into the intersection

(6/6)



Looking North 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)

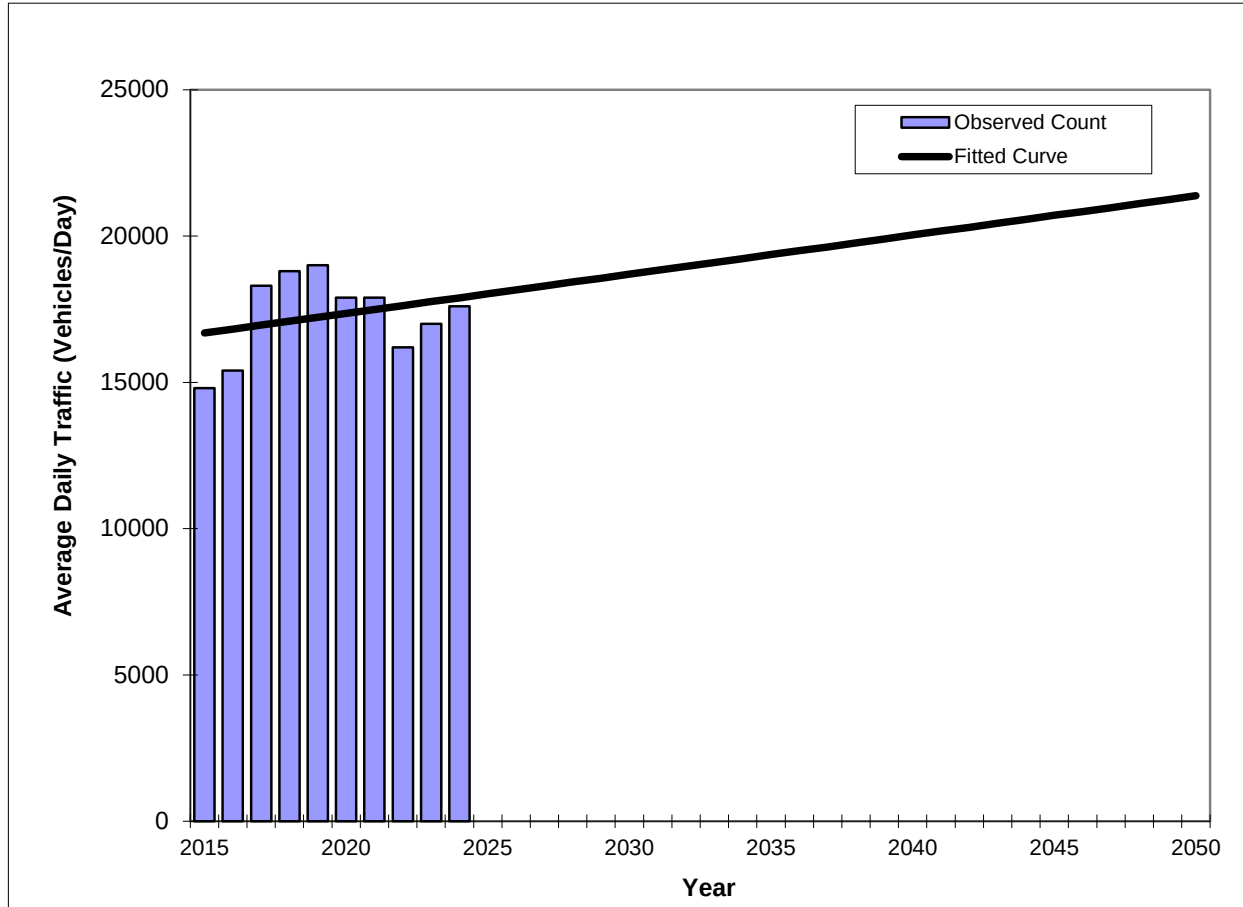
County and State	Estimates April 1, 2024	Projections, April 1					
		2025	2030	2035	2040	2045	2050
SANTA ROSA	207,983						
Low		206,400	217,300	221,800	223,200	222,500	221,000
Medium		212,800	233,100	248,500	260,900	271,000	280,100
High		219,200	249,000	275,200	298,600	319,500	339,200
SARASOTA	479,027						
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 S WILLIAMSON BLVD., 1.25 MILES NORTH OF I-95, (HPMS)

FM #	1234
Location	1

County:	Volusia (79)
Station #:	797081
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	14,800	16,690
2016	15,400	16,820
2017	18,300	16,960
2018	18,800	17,090
2019	19,000	17,220
2020	17,900	17,360
2021	17,900	17,490
2022	16,200	17,620
2023	17,000	17,760
2024	17,600	17,890
2030 Opening Year Trend		
2030	N/A	18,700
2040 Interim Year Trend		
2040	N/A	20,040
2050 Design Year Trend		
2050	N/A	21,380
FSUTMS Forecasts/Trends		

Annual Trend Increase:	134
Trend R-squared:	8.17%
Trend Annual Historic Growth Rate:	0.80%
Trend Growth Rate (2024 to Design Year)	0.75%
Printed:	1/7/2026
Linear Growth Option	

*Axle-Adjusted

Traffic Trends - V2023

-- ON S WILLIAMSON BLVD., 1.25 MILES NORTH OF I-95, (HPMS)

FM #	1234
Location	1

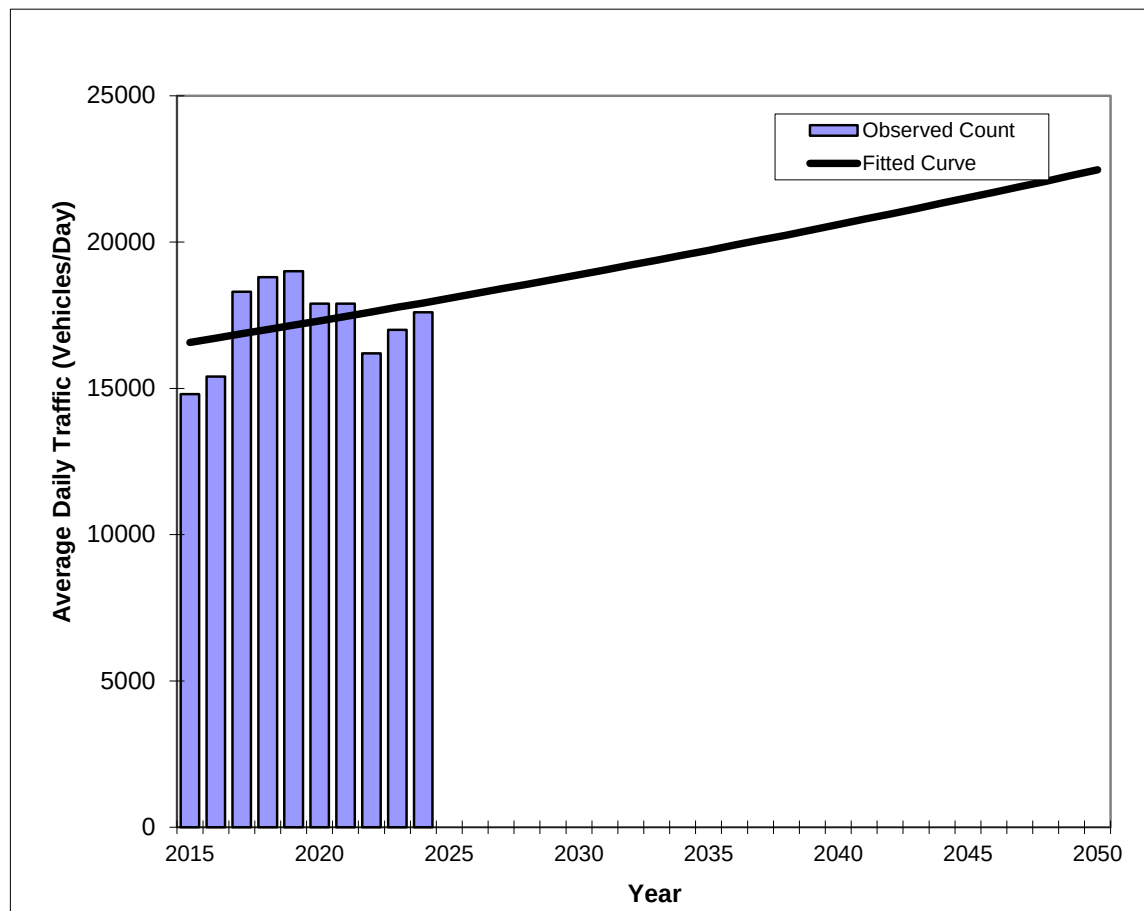
County:

Volusia (79)

Station #:

797081

Roadway:



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	14,800	16,570
2016	15,400	16,720
2017	18,300	16,870
2018	18,800	17,010
2019	19,000	17,160
2020	17,900	17,310
2021	17,900	17,460
2022	16,200	17,610
2023	17,000	17,770
2024	17,600	17,920
2030 Opening Year Trend		
2030	N/A	18,880
2040 Interim Year Trend		
2040	N/A	20,600
2050 Design Year Trend		
2050	N/A	22,470
FSUTMS Forecasts/Trends		

Trend R-squared: 9.77%

Compounded Annual Historic Growth Rate: 0.87%

Compounded Growth Rate (2024 to Design Year) 0.87%

Printed: 1/7/2026

Exponential Growth Option

*Axle-Adjusted

Traffic Trends - V2023

-- ON S WILLIAMSON BLVD., 1.25 MILES NORTH OF I-95, (HPMS)

FM #	1234
Location	1

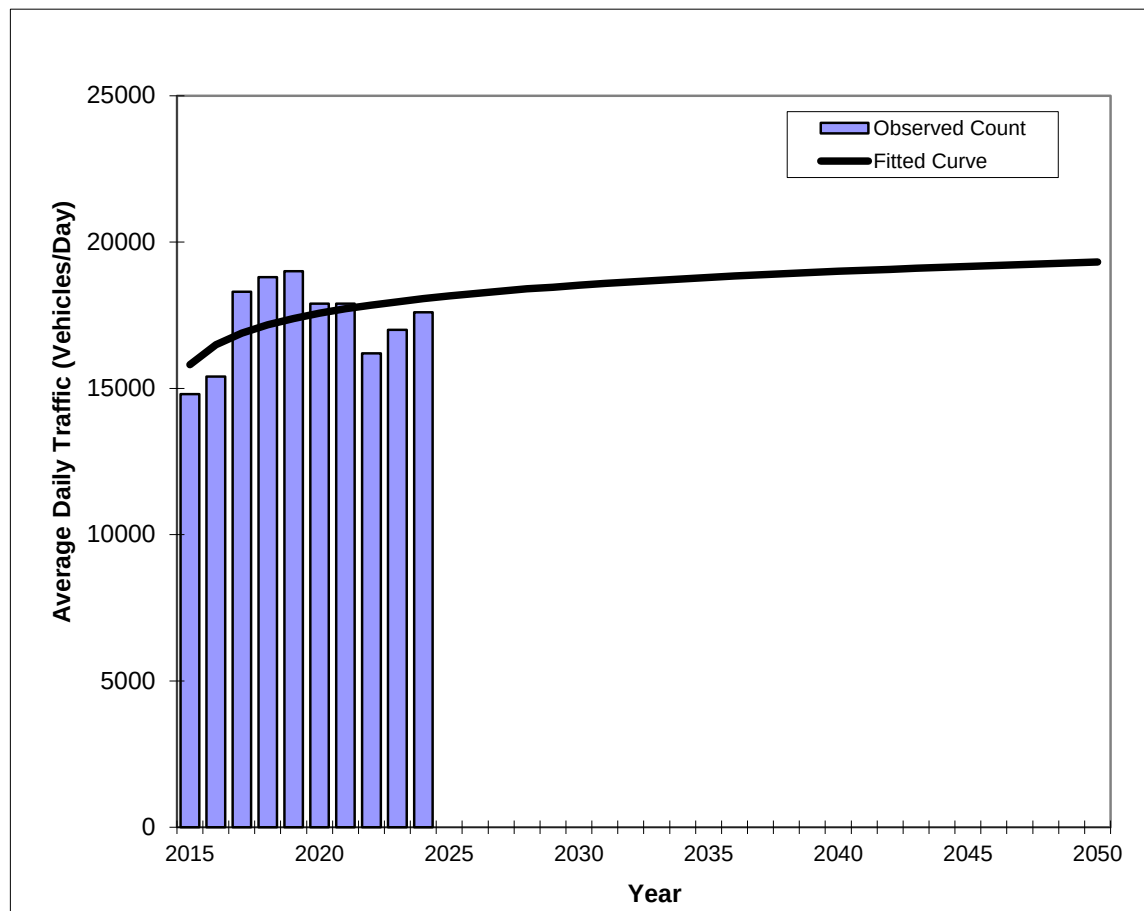
County:

Volusia (79)

Station #:

797081

Roadway:



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	14,800	15,810
2016	15,400	16,490
2017	18,300	16,890
2018	18,800	17,170
2019	19,000	17,390
2020	17,900	17,570
2021	17,900	17,720
2022	16,200	17,850
2023	17,000	17,960
2024	17,600	18,070
2030 Opening Year Trend		
2030	N/A	18,530
2040 Interim Year Trend		
2040	N/A	19,000
2050 Design Year Trend		
2050	N/A	19,320
FSUTMS Forecasts/Trends		

Trend R-squared:	25.60%
Compounded Annual Historic Growth Rate:	1.50%
Compounded Growth Rate (2024 to Design Year)	0.26%
Printed:	1/7/2026
Decaying Exponential Growth Option	

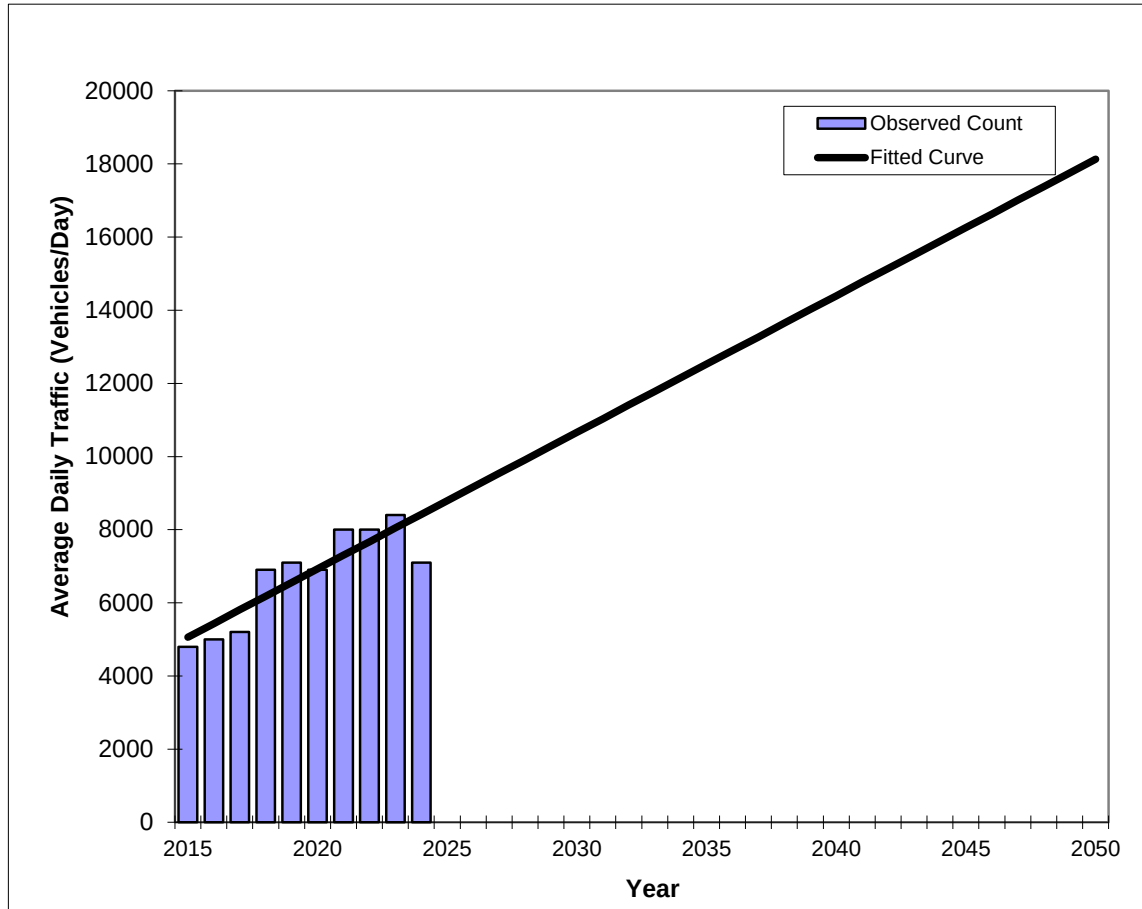
*Axle-Adjusted

Traffic Trends - V2023

COUNTY TOWN W BLVD, 900' W OF WILLIAMSON AVE - OFF SYSTEM HPMS '18

FM #	1234
Location	1

County:	Volusia (79)
Station #:	798219
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	4,800	5,060
2016	5,000	5,430
2017	5,200	5,810
2018	6,900	6,180
2019	7,100	6,550
2020	6,900	6,930
2021	8,000	7,300
2022	8,000	7,670
2023	8,400	8,050
2024	7,100	8,420
2030 Opening Year Trend		
2030	N/A	10,660
2040 Interim Year Trend		
2040	N/A	14,390
2050 Design Year Trend		
2050	N/A	18,130
FSUTMS Forecasts/Trends		

Annual Trend Increase:	373
Trend R-squared:	74.65%
Trend Annual Historic Growth Rate:	7.38%
Trend Growth Rate (2024 to Design Year)	4.44%
Printed:	1/7/2026
Linear Growth Option	

*Axle-Adjusted

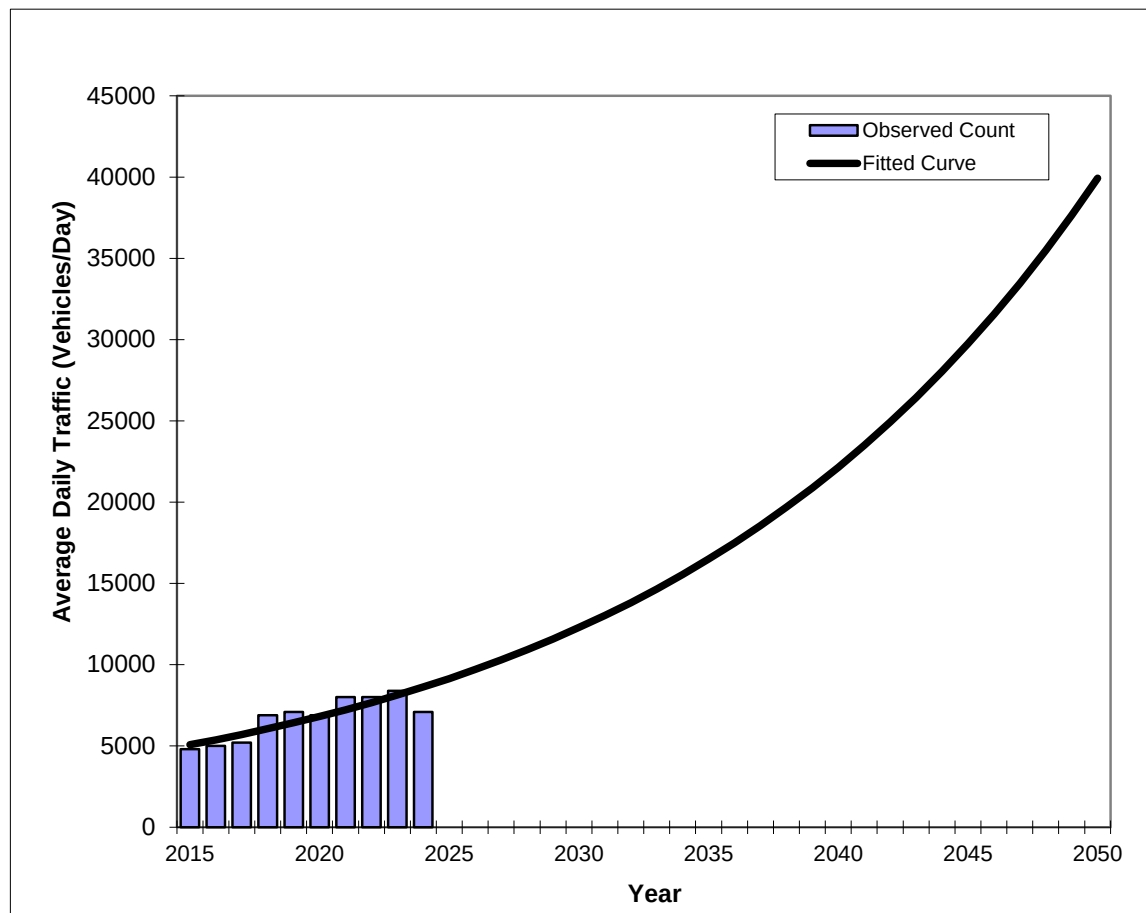
Traffic Trends - V2023

COUNTY TOWN W BLVD, 900' W OF WILLIAMSON AVE - OFF SYSTEM HPMS '18

FM #	1234
Location	1

County:
Station #:
Roadway:

Volusia (79)
798219



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	4,800	5,080
2016	5,000	5,380
2017	5,200	5,710
2018	6,900	6,060
2019	7,100	6,430
2020	6,900	6,820
2021	8,000	7,230
2022	8,000	7,670
2023	8,400	8,130
2024	7,100	8,630
2030 Opening Year Trend		
2030	N/A	12,290
2040 Interim Year Trend		
2040	N/A	22,150
2050 Design Year Trend		
2050	N/A	39,930
FSUTMS Forecasts/Trends		

Trend R-squared: 75.00%
Compounded Annual Historic Growth Rate: 6.06%
Compounded Growth Rate (2024 to Design Year): 6.07%
Printed: 1/7/2026

Exponential Growth Option

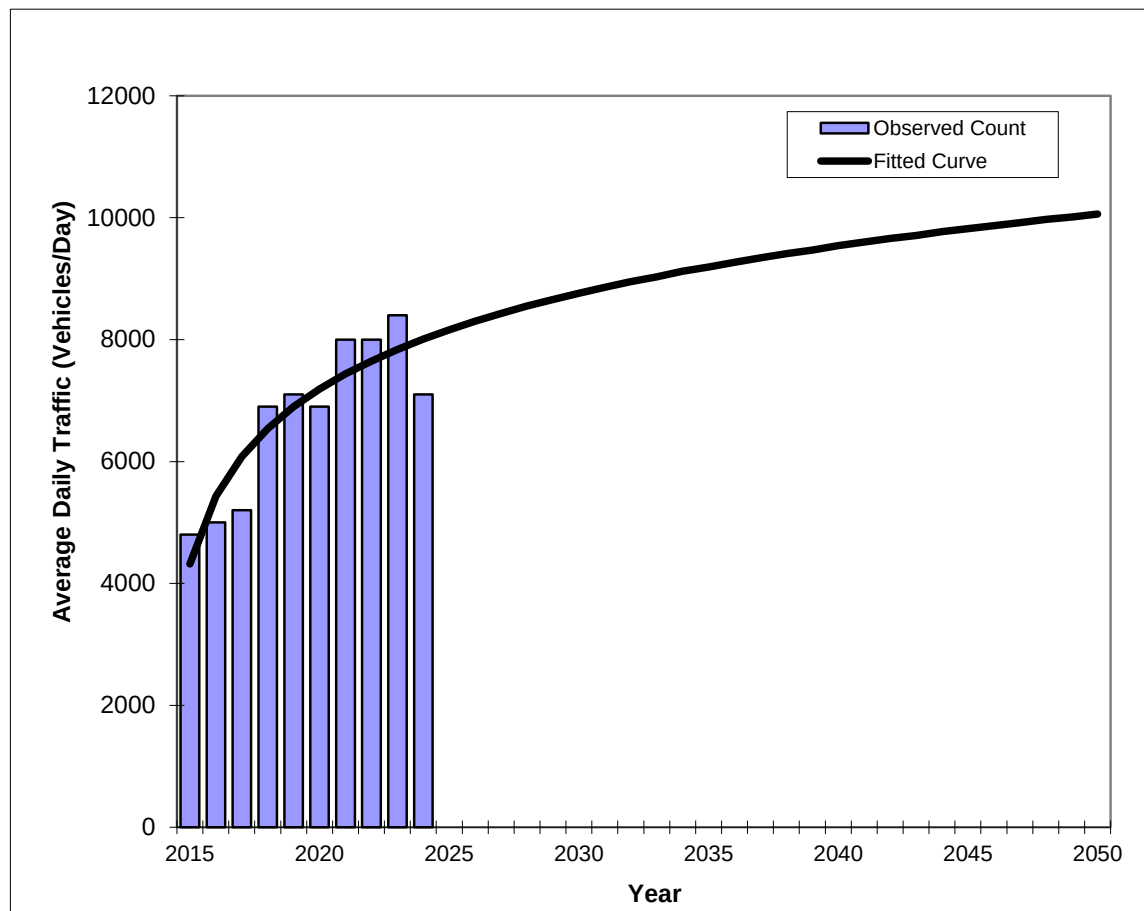
*Axle-Adjusted

Traffic Trends - V2023

COUNTY TOWN W BLVD, 900' W OF WILLIAMSON AVE - OFF SYSTEM HPMS '18

FM #	1234
Location	1

County:	Volusia (79)
Station #:	798219
Roadway:	



Year	Traffic (ADT/AADT)	
	Count*	Trend
2015	4,800	4,320
2016	5,000	5,430
2017	5,200	6,080
2018	6,900	6,540
2019	7,100	6,900
2020	6,900	7,190
2021	8,000	7,440
2022	8,000	7,650
2023	8,400	7,840
2024	7,100	8,010
2030 Opening Year Trend		
2030	N/A	8,760
2040 Interim Year Trend		
2040	N/A	9,540
2050 Design Year Trend		
2050	N/A	10,060
FSUTMS Forecasts/Trends		

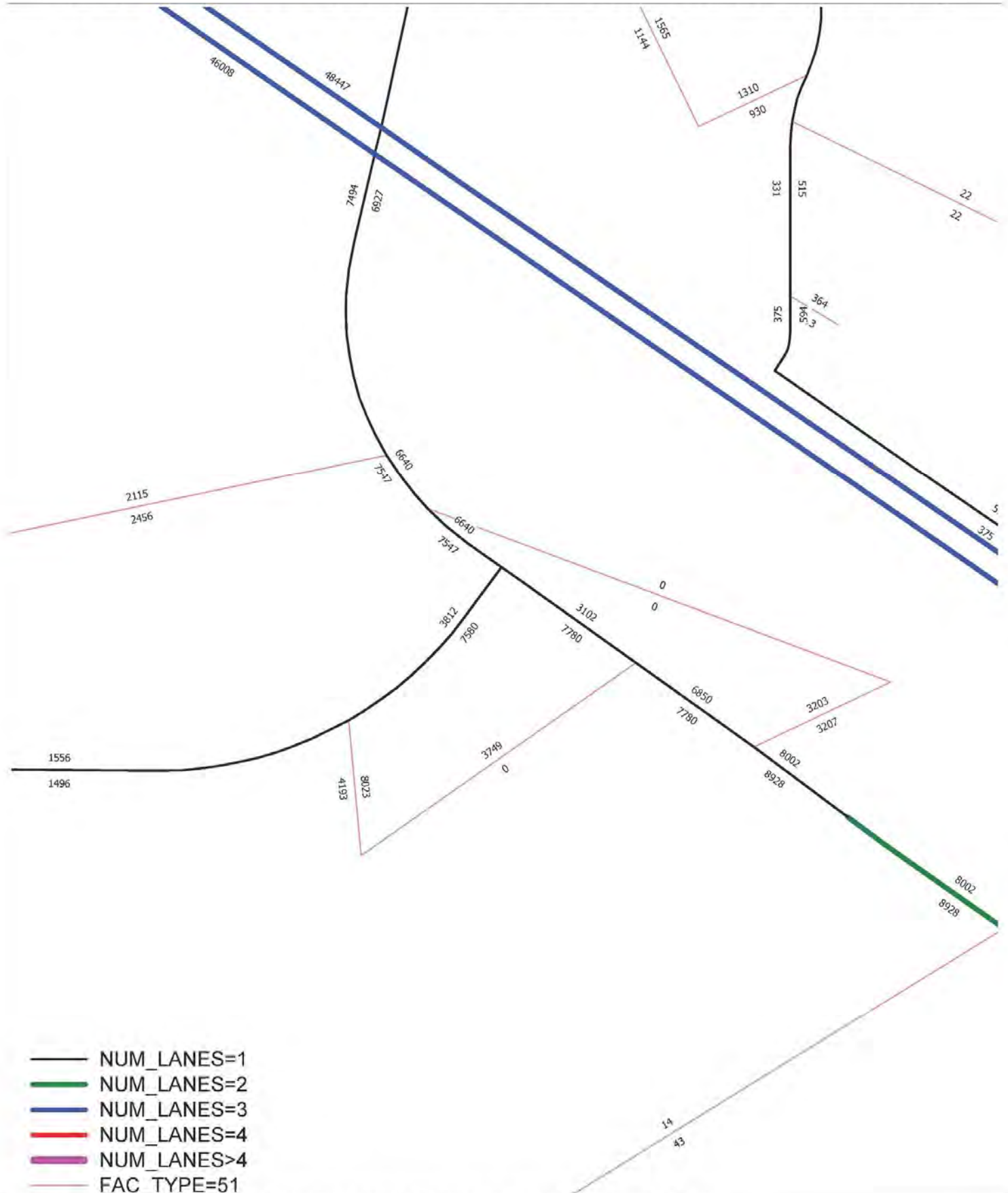
Trend R-squared:	80.38%
Compounded Annual Historic Growth Rate:	7.10%
Compounded Growth Rate (2024 to Design Year)	0.88%
Printed:	1/7/2026
Decaying Exponential Growth Option	

*Axle-Adjusted

cube

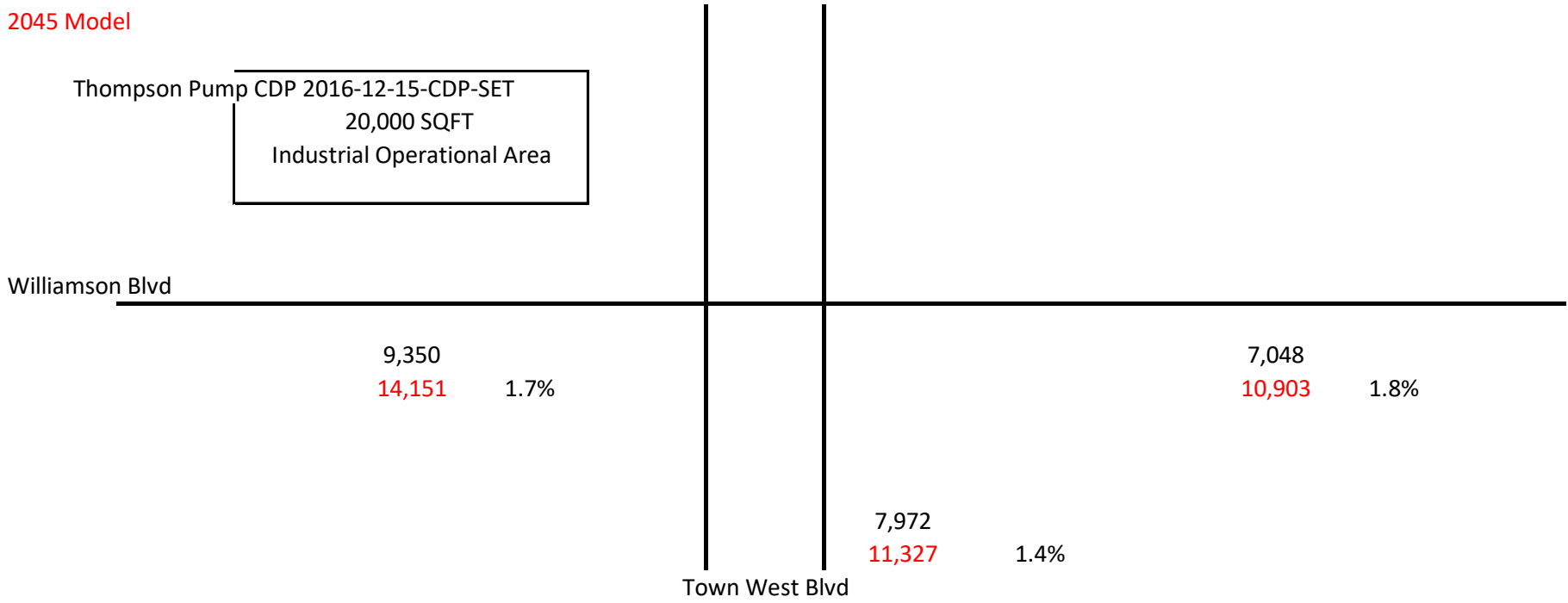
(Licensed to Vanasse Hangen Brustlin Inc)

Year 2045 Base CFRPM7 – Total Volumes (PSWAD)

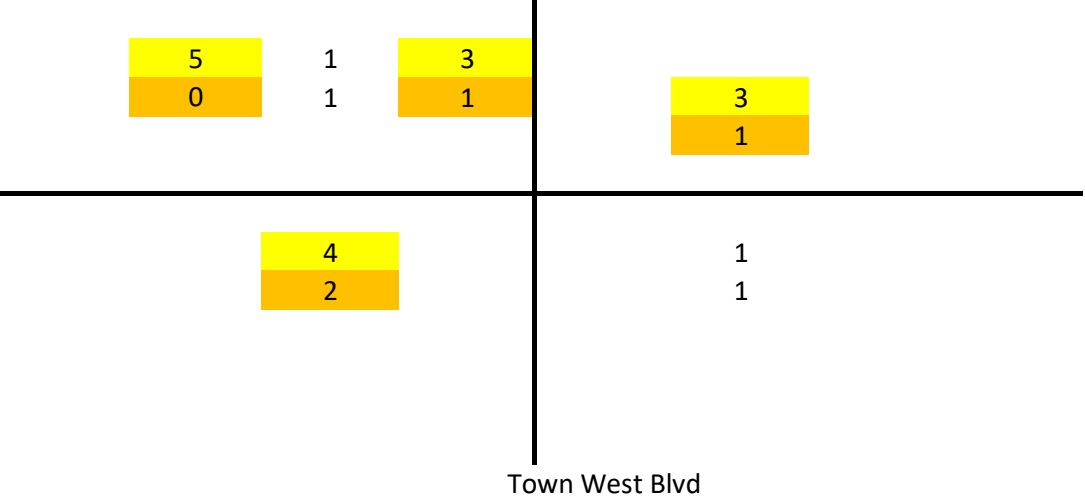


D:\Models\Download\Volusia Projects\OUTPUT2045BA\HWYLOAD_AIIDay_A45.NET

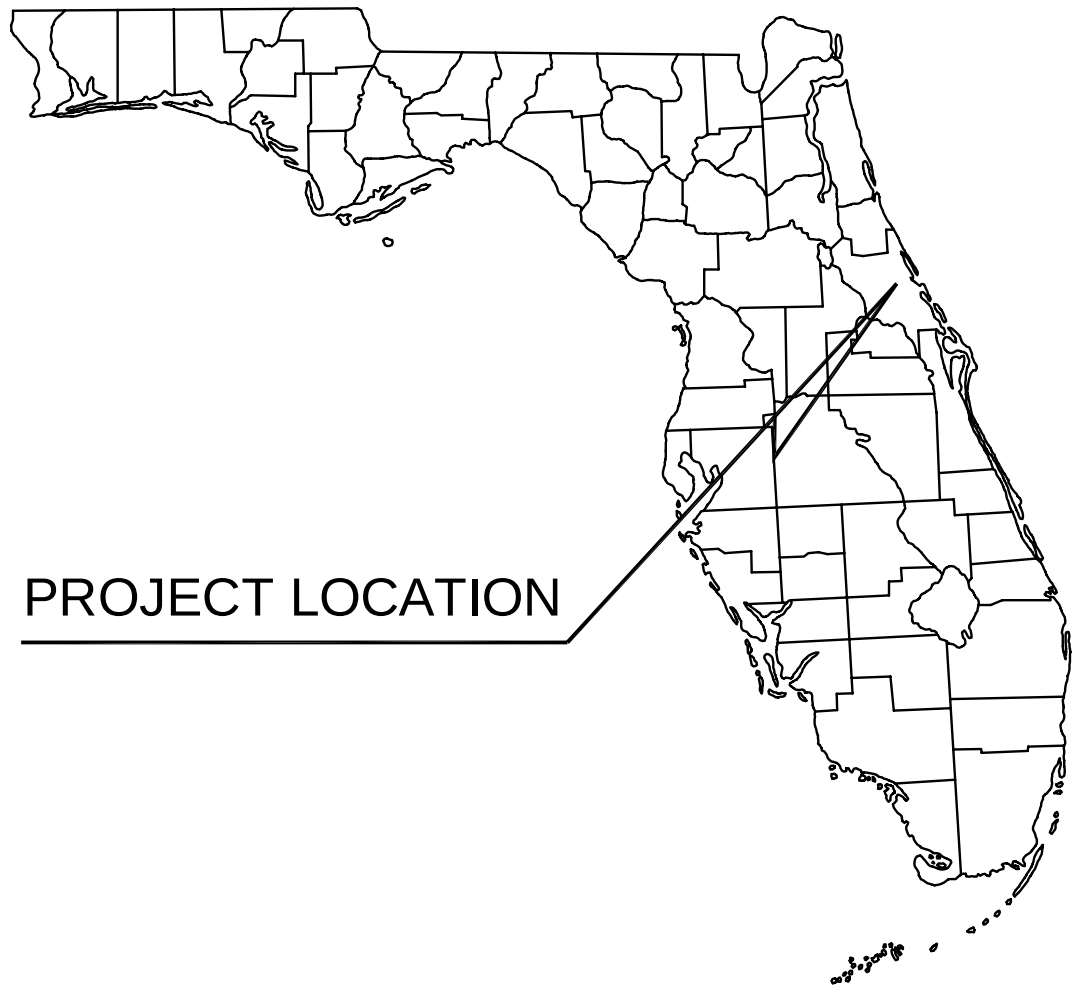
2015 Model
2045 Model



LU Code	Unit	Total	AM Peak		Total	PM Peak	
			Enter	Exit		Enter	Exit
140	20K	10	8	2	13	4	9
ITE 12th Edition							



Drawing name: K:\ORL_GW\149607000-Thompson Pump\CADD\COVER.dwg Layout1 Dec 15, 2016 10:44am by: kelly.starkey
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CONCEPTUAL DEVELOPMENT PLANS FOR THOMPSON PUMP MDA

CITY OF PORT ORANGE, FLORIDA
NOVEMBER 2016
TAX PARCEL: 13-16-32-09-00-0010



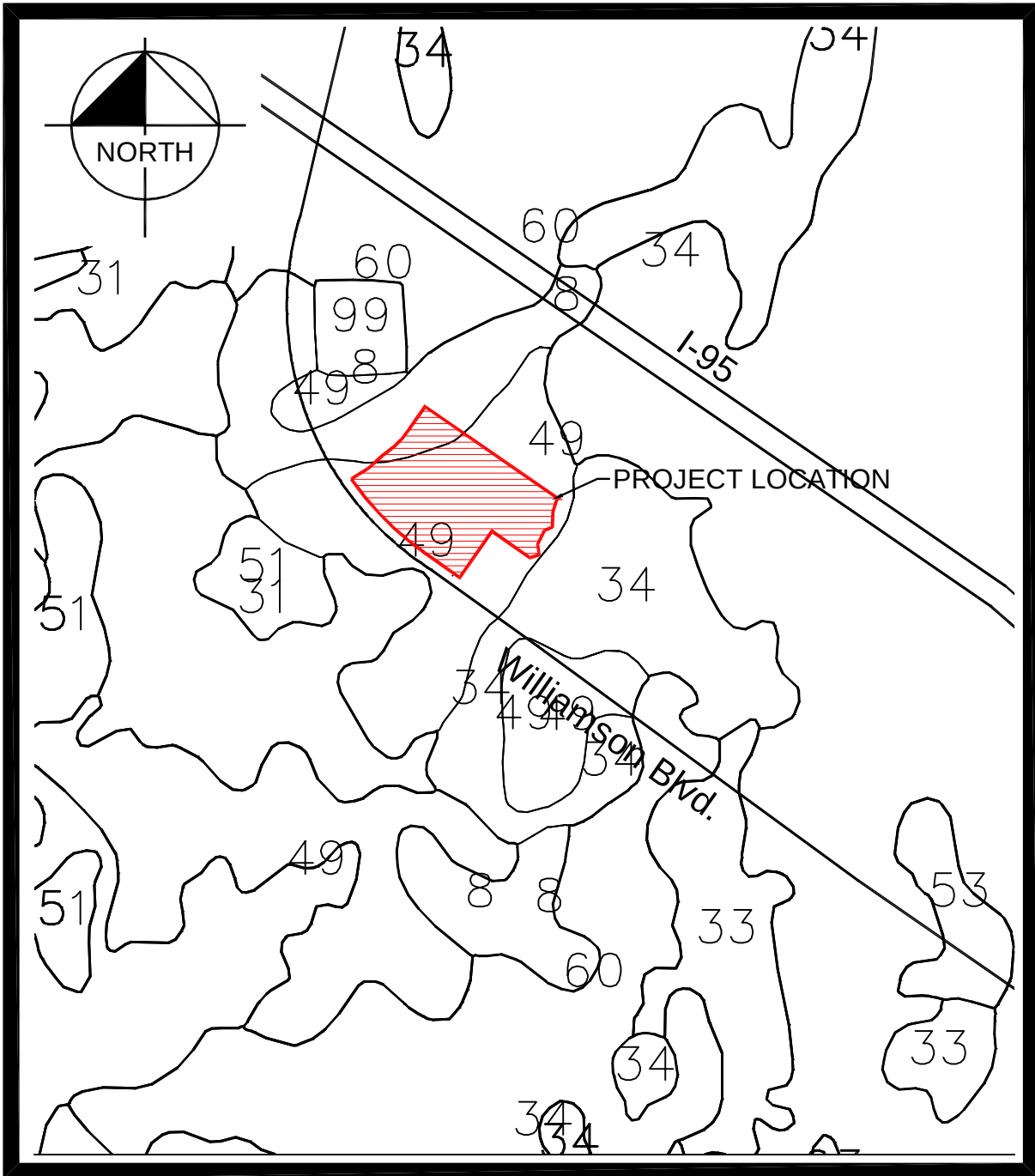
PROJECT TEAM

OWNER
CITY OF PORT ORANGE
1000 CITY CENTER CIRCLE
PORT ORANGE, FL 32129
PHONE: (386) 506-5500

CONTRACT PURCHASER/DEVELOPER
THOMPSON PUMP & MFG. CO. INC.
4620 CITY CENTER DRIVE
PORT ORANGE, FL 32129
CONTACT: CHRIS THOMPSON
PHONE: (386) 527-0595

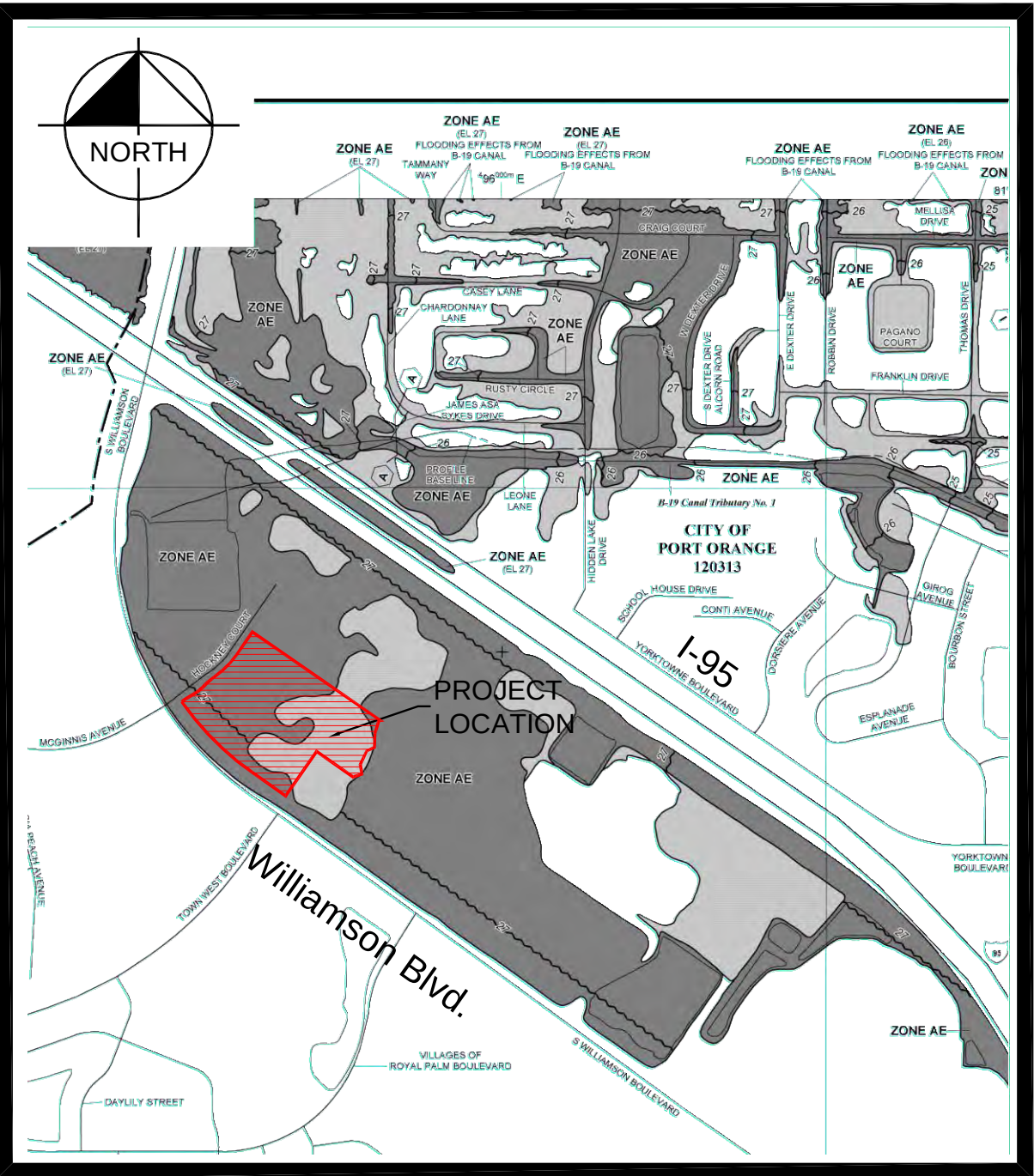
SURVEYOR
SLIGER & ASSOCIATES, INC.
3921 SOUTH NOVA ROAD
PORT ORANGE, FL 32127
CONTACT: JOE ZAPERT
PHONE: (386) 761-5385
FAX: (386) 760-0619

ENGINEER
KIMLEY-HORN AND ASSOCIATES
3660 MAGUIRE BLVD., SUITE 200
ORLANDO, FL 32803
CONTACT: JONATHAN A. MARTIN, P.E.
PHONE: (407) 898-1511



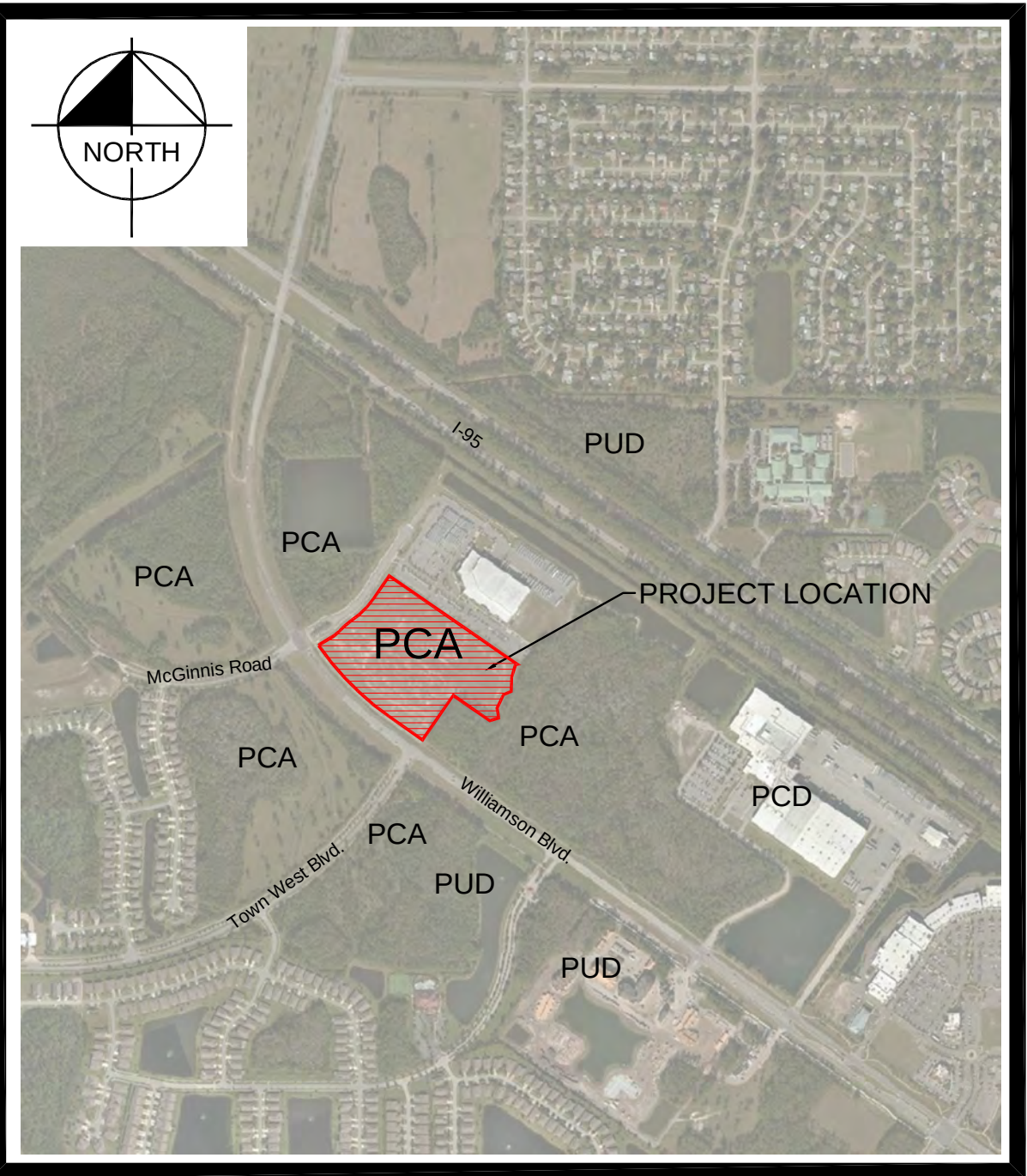
SOILS MAP
APPROXIMATE SCALE 1"=1,000'

LEGEND
8 - Basinger Fine Sand, Depressional, 0 to 1 percent slopes (A/D)
34 - Myakka-St. Johns Complex (A/D)
49 - Pomona Fine Sand (A/D)
60 - Smyrna Fine Sand, wet, fine sand, 0 to 2 percent slopes (A/D)



FLOOD ZONE
APPROXIMATE SCALE 1"=1,000'

LEGEND
ZONE AE - Base flood elevations determined
ZONE X - Areas determined to be outside the 500-year floodplain
SOURCE
FIRM Panel 12127C0506H (Dated February 19, 2014)



ZONING MAP
APPROXIMATE SCALE 1"=1,000'

LEGEND
PCA - Planned Community Agricultural
PCD - Planned Commercial Development
PUD - Planned Unit Development



VICINITY MAP
APPROXIMATE SCALE 1"=1,000'

LEGAL DESCRIPTION

A PORTION OF SECTION 13, TOWNSHIP 16 SOUTH, RANGE 32 EAST, AND SECTION 18, TOWNSHIP 16 SOUTH, RANGE 33 EAST, VOLUSIA COUNTY, FLORIDA; BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCE AT THE SOUTHWEST CORNER OF THE SOUTHEAST 1/4 OF SAID SECTION 18, THENCE S89°57'22"E ALONG THE SOUTH LINE THEREOF, 886.76 FEET TO THE EASTERLY RIGHT OF WAY LINE OF WILLIAMSON BOULEVARD AND THE BEGINNING OF A NON TANGENT CURVE CONCAVE SOUTHWEST, HAVING A RADIUS OF 2965.00 FEET, A CENTRAL ANGLE OF 15°03'12" AND A CHORD BEARING OF N47°17'27"W, THENCE NORTHWESTERLY ALONG SAID EASTERLY RIGHT OF WAY LINE AND THE ARC OF SAID CURVE, 779.00 FEET; THENCE N54°49'03"W ALONG SAID RIGHT OF WAY LINE, 4266.66 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE ALONG SAID RIGHT OF WAY LINE, N54°49'03"W, 260.76 FEET TO THE BEGINNING OF A CURVE, CONCAVE NORTHEASTERLY, HAVING A RADIUS OF 1,809.88 FEET AND A CENTRAL ANGLE OF 20°02'30"; THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE, 633.08 FEET TO THE BEGINNING OF A NON TANGENT CURVE CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 32.00 FEET, A CENTRAL ANGLE OF 21°55'50" AND A CHORD BEARING OF N47°19'58"E; THENCE DEPARTING SAID EASTERLY RIGHT OF WAY LINE, NORTHEASTERLY ALONG THE ARC OF SAID CURVE, 12.25 FEET TO THE SOUTHERLY RIGHT OF WAY LINE OF HOOKNEY COURT; THENCE ALONG SAID SOUTHERLY RIGHT OF WAY LINE, N58°17'53"E, 104.29 FEET TO THE BEGINNING OF A CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 171.00 FEET AND A CENTRAL ANGLE OF 14°55'53"; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, 44.56 FEET; THENCE N43°22'00"E, 35.73 FEET TO THE BEGINNING OF A CURVE CONCAVE SOUTHEASTERLY, HAVING A RADIUS OF 248.00 FEET AND A CENTRAL ANGLE OF 13°12'21"; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, 57.16 FEET TO A POINT OF REVERSE CURVE, CONCAVE NORTHWESTERLY, HAVING A RADIUS OF 535.00 FEET AND A CENTRAL ANGLE OF 21°57'55"; THENCE NORTHEASTERLY ALONG THE ARC OF SAID CURVE, 205.10 FEET; THENCE N34°36'26"E, 175.85 FEET TO THE NORTHWESTERLY CORNER OF THAT PARCEL DESCRIBED IN OFFICIAL RECORDS BOOK 6370, PAGE 114 OF THE PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE DEPARTING SAID SOUTHERLY RIGHT OF WAY LINE AND ALONG THE WESTERLY LINE OF THE AFOREMENTIONED PARCEL, S55°23'33"E, 983.80 FEET TO THE SOUTHWESTERLY CORNER OF SAID PARCEL; THENCE DEPARTING SAID WESTERLY LINE AND CONTINUING ALONG THE NORTHERLY LINE OF A ST. JOHNS RIVER WATER MANAGEMENT DISTRICT CONSERVATION EASEMENT AS RECORDED IN O.R. BOOK 6221, PAGE 983, SAID PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA, THE FOLLOWING SEVEN (7) CALLS: S84°36'06"W, 8.34 FEET; THENCE S16°28'11"W, 86.90 FEET; THENCE S01°50'54"W, 87.63 FEET; THENCE S65°11'31"W, 54.75 FEET; THENCE S24°57'24"W, 93.67 FEET; THENCE S09°14'16"E, 61.11 FEET; THENCE S71°43'17"W, 58.75 FEET TO THE NORTHEASTERLY CORNER OF THAT CERTAIN PARCEL DESCRIBED IN OFFICIAL RECORDS BOOK 5939, PAGE 0062, SAID PUBLIC RECORDS OF VOLUSIA COUNTY, FLORIDA; THENCE DEPARTING SAID NORTHERLY LINE OF A ST. JOHNS RIVER WATER MANAGEMENT DISTRICT CONSERVATION EASEMENT AND CONTINUING ALONG THE NORTHERLY LINE OF THE AFOREMENTIONED PARCEL DESCRIBED IN OFFICIAL RECORDS BOOK 5939, PAGE 0062, N55°23'34"W, 282.36 FEET TO THE NORTHWESTERLY CORNER OF SAID PARCEL; THENCE ALONG THE WESTERLY LINE OF SAID PARCEL, S34°36'26"W, 342.08 FEET TO SAID EASTERLY RIGHT OF WAY LINE OF WILLIAMSON BOULEVARD AND THE POINT OF BEGINNING.

CONTAINING 672,925 SQ. FT. OR 15.45 ACRES, MORE OR LESS

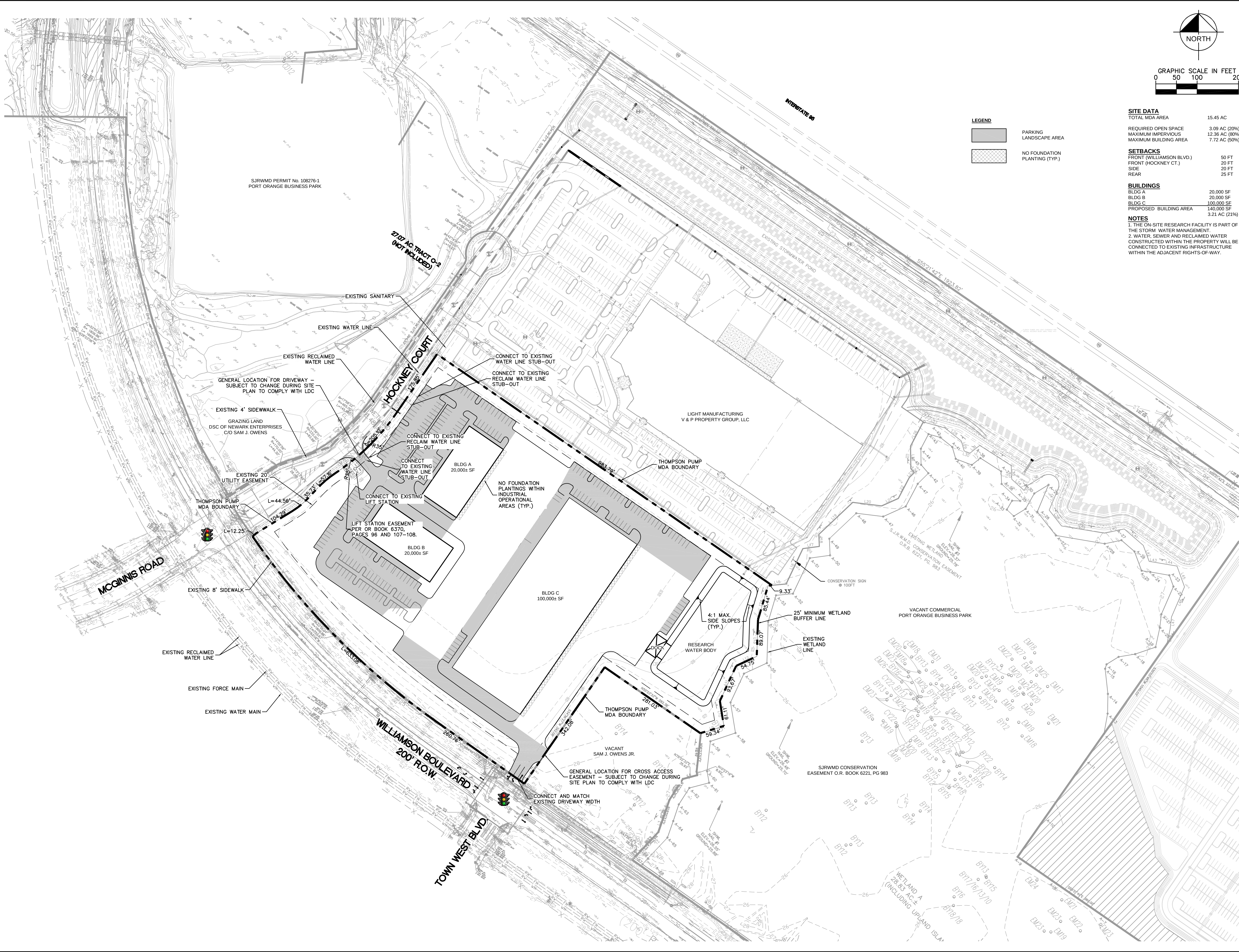
PREPARED BY
Kimley»Horn
© 2016 KIMLEY-HORN AND ASSOCIATES, INC.
3660 Maguire Boulevard, Suite 200, Orlando, FL 32803
Phone: (407) 898-1511 Fax: (407) 894-4791
WWW.KIMLEY-HORN.COM CA 00000696

JONATHAN A. MARTIN, P.E.
FL. P.E. NO. 54055

SHEET INDEX	
SP-00	COVER SHEET
SP-01	CONCEPTUAL DEVELOPMENT PLAN-ALT "A"
SP-02	CONCEPTUAL DEVELOPMENT PLAN-ALT "B"

THOMPSON PUMP
NOVEMBER 2016
ENGINEER'S PROJECT No. 149607000
REVISED: 11/22/16

Plotted By: Starkey, Kelly Sheet Set: kha Layout: Layout1 December 15, 2016 10:45:42am k:\ORL-Civil\149607000-Thompson Pump\CADD\QDP\SP-01.dwg
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Kimley»Horn

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3660 MAGUIRE BOULEVARD, SUITE 200, ORLANDO, FL 32803
PHONE: 407-898-1511
WWW.KIMLEY-HORN.COM CA 00000696

LICENSED PROFESSIONAL

FLORIDA LICENSE NUMBER

DATE: _____

CONCEPTUAL DEVELOPMENT PLAN

ALT "A"

THOMPSON PUMP MDA

CITY OF PORT ORANGE FLORIDA

SHEET NUMBER

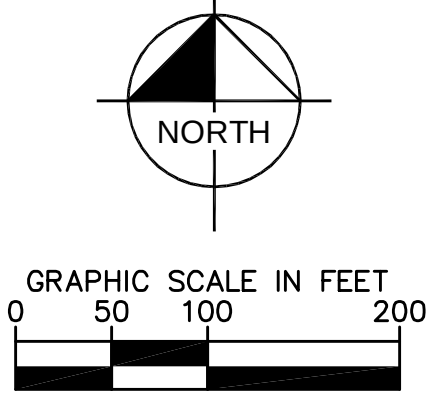
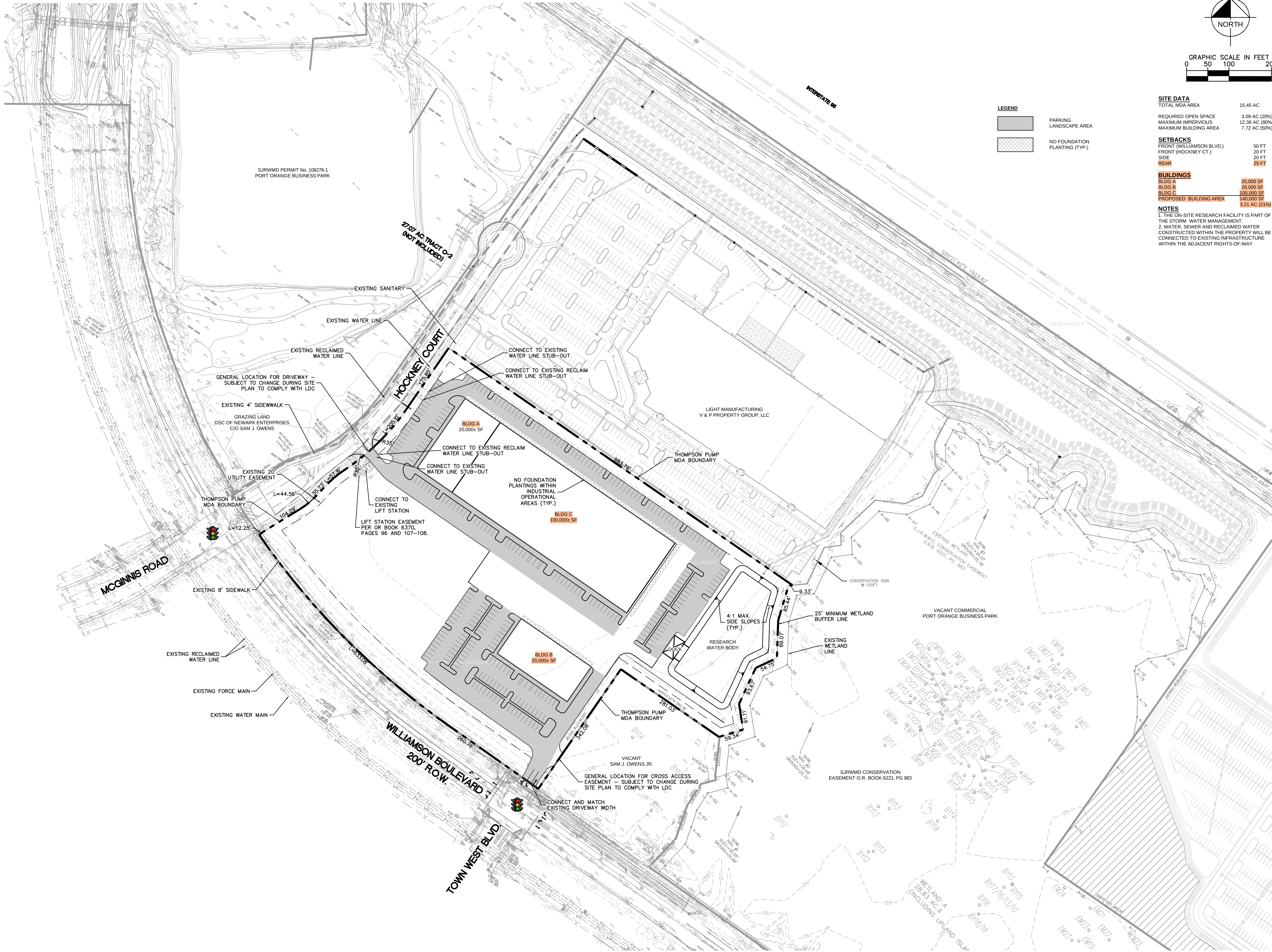
SP-01

REVISIONS

DATE

BY

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LEGEND	
	PARKING
	LANDSCAPE AREA
	NO FOUNDATION PLANTING (TYP.)

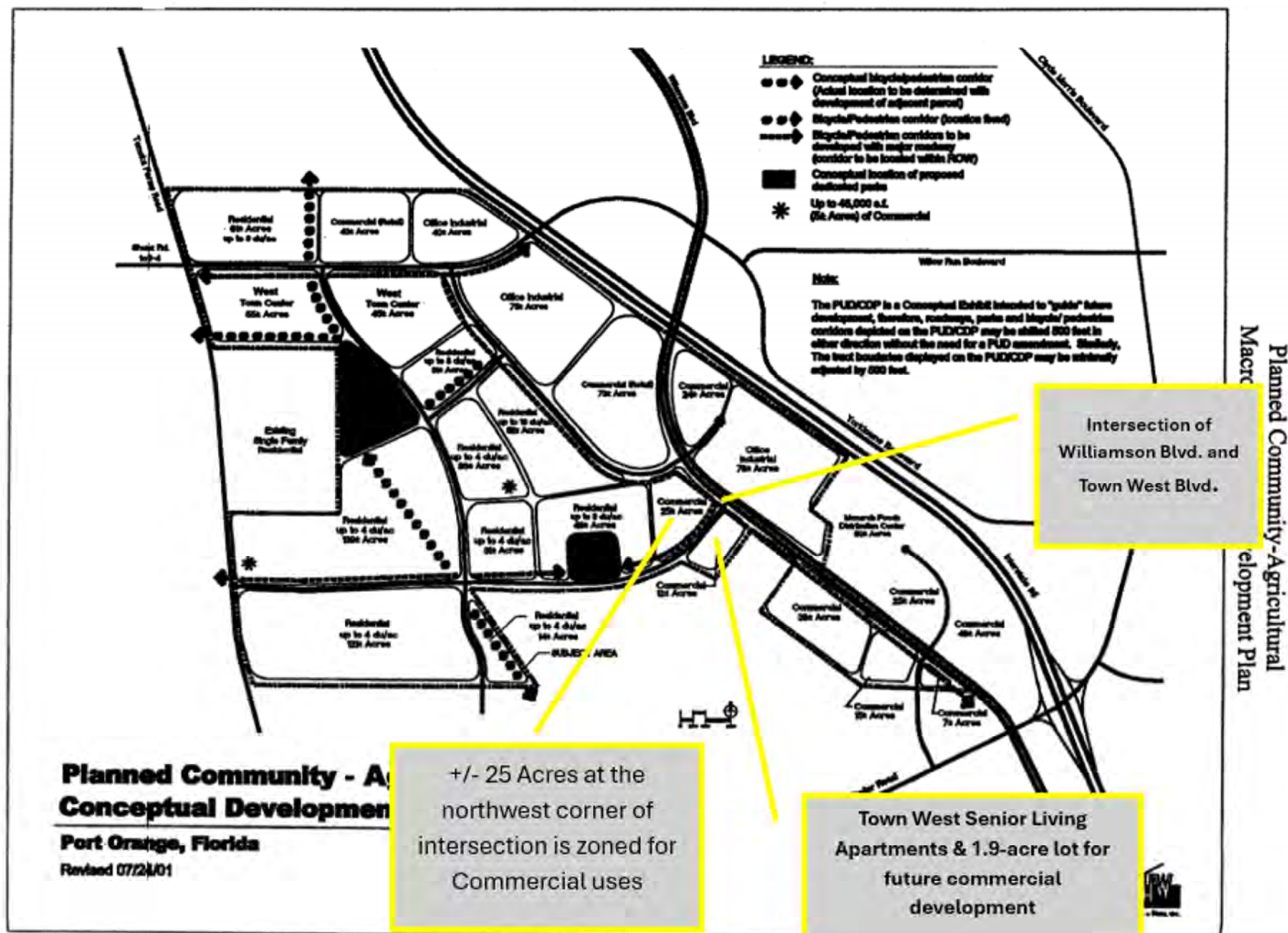
SITE DATA	
TOTAL MDA AREA	15.45 AC
REQUIRED OPEN SPACE	3.09 AC (20%)
MAXIMUM IMPERVIOUS	12.36 AC (80%)
MAXIMUM BUILDING AREA	7.72 AC (50%)
SETBACKS	
FRONT (WILLIAMSON BLVD.)	50 FT
FRONT (HOCKNEY CT.)	20 FT
SIDE	20 FT
REAR	25 FT

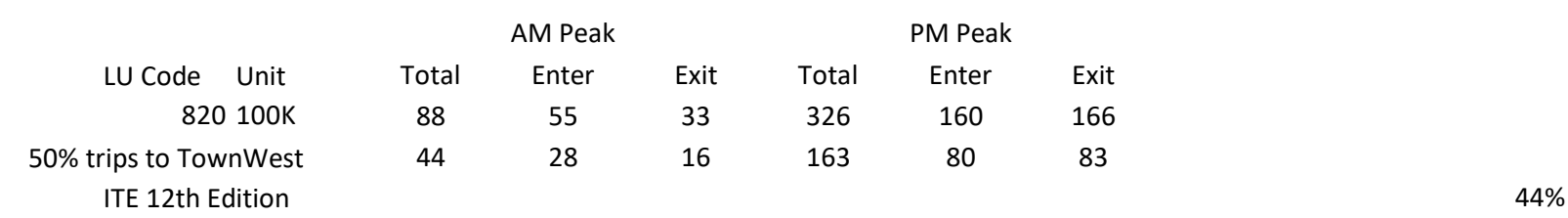
BUILDINGS	
BLDG A	20,000 SF
BLDG B	20,000 SF
BLDG C	100,000 SF
PROPOSED BUILDING AREA	140,000 SF
	3.21 AC (21%)

NOTES
1. THE ON-SITE RESEARCH FACILITY IS PART OF THE STORM WATER MANAGEMENT.
2. WATER SEWER AND RECLAIMED WATER CONSTRUCTED WITHIN THE PROPERTY WILL BE CONNECTED TO EXISTING INFRASTRUCTURE WITHIN THE ADJACENT RIGHTS-OF-WAY.

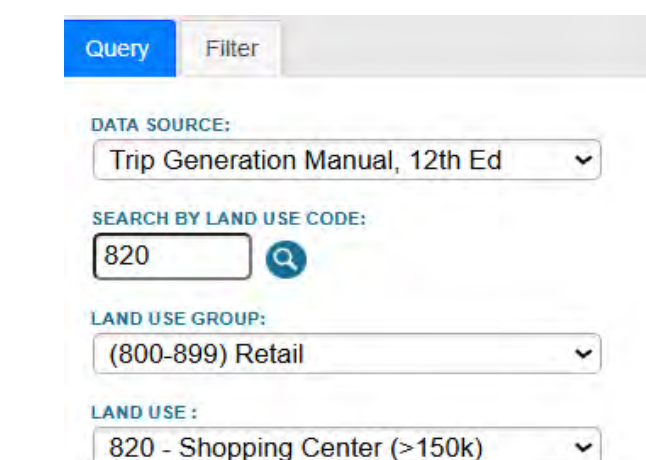
		REVISIONS		DATE	BY
		No.			
KHA PROJECT 149607000		LICENCED PROFESSIONAL		© 2014 KIMLEY-HORN AND ASSOCIATES, INC. 3660 MAGUIRE BOULEVARD, SUITE 200, ORLANDO, FL 32803 PHONE: 407-898-1511 WWW.KIMLEY-HORN.COM CA 00000696	
DATE 11/22/16		FLORIDA LICENSE NUMBER		DATE: _____	
SCALE AS SHOWN		DESIGNED BY _____		DRAWN BY _____	
CHECKED BY _____		CONCEPTUAL DEVELOPMENT PLAN		THOMPSON PUMP MDA	
ALT "B"		CITY OF PORT ORANGE		FLORIDA	
SHEET NUMBER SP-02					

Figure 17:1





Trip distribution	48%
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LAND USE SUBCATEGORY:
All Sites

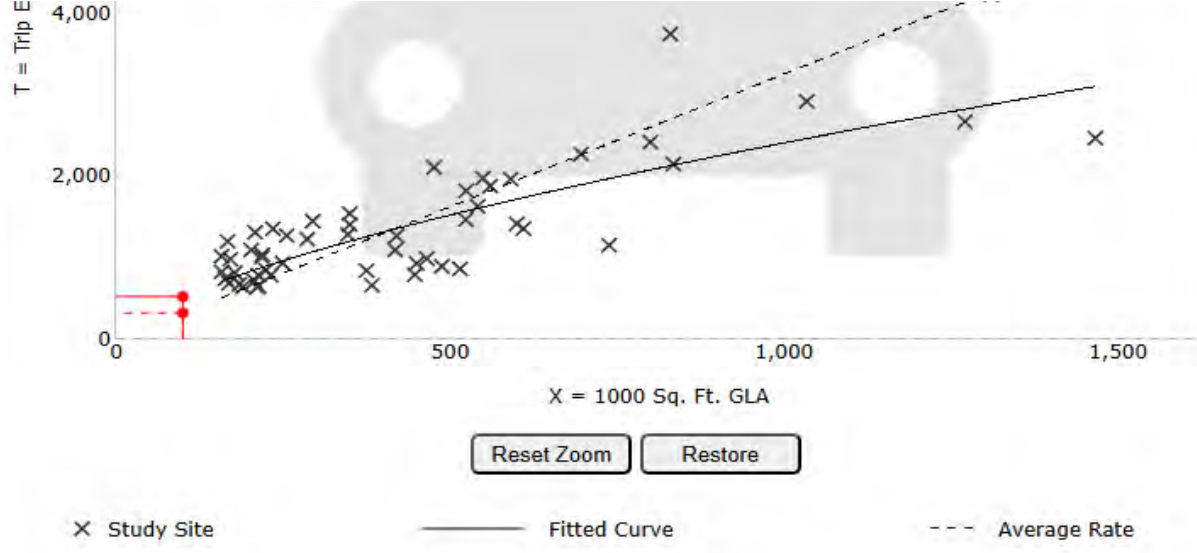
SETTING/LOCATION:
General Urban/Suburban

INDEPENDENT VARIABLE (IV):
1000 Sq. Ft. GLA

TIME PERIOD:
Weekday, Peak Hour of Adjacent Stre

TRIP TYPE:
Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:
100 Calculate



Vehicle
Number of Studies:
55
Avg. 1000 Sq. Ft. GLA:
460
Average Rate:
3.26
Range of Rates:
1.57 - 7.22
Standard Deviation:
1.25
Fitted Curve Equation:
$\ln(T) = 0.66 \ln(X) + 3.23$
R ² :
0.63
Directional Distribution:
49% entering, 51% exiting
Calculated Trip Ends:
Average Rate: 326 (Total), 160 (Entry), 166 (Exit)
Fitted Curve: 528 (Total), 259 (Entry), 269 (Exit)

2021 AM

3

Williamson Boulevard at Town West Boulevard

0				0			
SBR	SBT	SBL	SBU	WBR	0		
0	0	0	0	WBT	455		
				WBL	106		
609				WBU	0		
398				488			
	EBU	0		NBU	NBL	NBT	NBR
	EBL	0		0	154	0	163
	EBT	325					
	EBR	73					
179				317			

Williamson Blvd

Town West Blvd

2021 PM

3

Williamson Boulevard at Town West Boulevard

0				0			
SBR	SBT	SBL	SBU	WBR	0		
0	0	0	0	WBT	572		
				WBL	241		
718				WBU	0		
901				923			
	EBU	0		NBU	NBL	NBT	NBR
	EBL	0		0	146	0	171
	EBT	752					
	EBR	149					
390				317			

Williamson Blvd

Town West Blvd

Future PM

3

Williamson Boulevard at Town West Boulevard

0				0			
SBR	SBT	SBL	SBU	WBR	0		
0	0	0	0	WBT	587		
				WBL	335		
798				WBU	0		
997				1,027			
	EBU	0		NBU	NBL	NBT	NBR
	EBL	0		0	211	0	246
	EBT	781					
	EBR	216					
551				457			

Town West Blvd

Trip distribution

44%

31 PM16 AM

Trip distribution

48%

18 AM34 PM

Trip distribution

8%

15 PM16 AM29 PM32 PM

FROM THE TIA

External New AM Peak			External New PM Peak		
Total	Enter	Exit	Total	Enter	Exit
71	37	34	137	70	67



Memorandum

To: Mr. Tim Burman
Community Development Director
City of Port Orange
1000 City Center Circle
Port Orange, FL 32129

Date: March 30, 2022

Project #: 63844.00

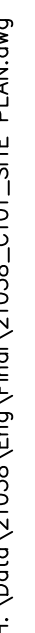
From: Kok Wan Mah, P.E.
VHB, Inc.
225 E. Robinson St., STE 300
Orlando, FL 32801

Re: Town West Senior Living
Trip Generation Summary and Evaluation
Revised for two driveways on Town West Blvd

Introduction

The purpose of this memorandum is to provide a trip generation analysis for the proposed Town West Senior Living project. The project location is on the southeast corner of Williamson Boulevard and Town West Boulevard. The proposed project is a 115 attached senior living facility with retail adjacent to Williamson Boulevard (**Figure 1**). This revised technical memorandum provides an analysis with the revised site plan showing two access driveways on Town West Boulevard; a full access driveway on the west side of the site and a right-in right-out driveway on the central portion of the site. The driveway location and access to the site was discussed and coordinated with Volusia County Traffic Engineering and City of Port Orange.

The intent of the submittal is to provide a summary of the impacts for the 115 senior adult housing units with the retail component. For the purpose of this analysis, the Applicant is requesting approval for the initial phase that includes the senior adult housing. The trips from the retail component are added to provide the evaluation of operations at the site driveways. The development of the commercial phase as well as the land use and intensity are currently unknown, however for the analysis, it is assumed that the retail component is 20,000 square feet, which equates to approximately 0.25 FAR for the 1.88 acres. Although a parent-child analysis is preferred, Section 13 of the R2CTPO TIA Guidelines suggests multiple options for assessing phased development and allows the City Traffic Engineer (CTE) to approve a plan different than those outlined. Through discussions with the City, the Applicant for Town West Senior Living requests that an independent analysis of the subject parcel be conducted in lieu of a parent/child analysis as the "first phase" of the development, followed by an aggregate analysis of the subsequent phase when the commercial parcel is developed. This would be accomplished by an agreement between the developer of the Town West Senior Living and the owner of the commercial land to acknowledge that the mitigation by the subsequent phase will be calculated as the difference between the impacts identified by both parcels, less the impacts paid by the initial parcel. The agreement would be recorded by the City of Port Orange.



Trip Generation Rates

The number of vehicle trips that will originate from, or are destined to, a development is dependent upon the type of land uses contained within that development. Trip rates used in this analysis are from the ITE publication, Trip Generation, 11th Edition. **Table 1** summarizes the land use type, land use code and trip rate for the development.

Table 1 - ITE Trip Rate

Land Use	ITE Code	Unit Rate	PM Peak Hour		
			Equation	In %	Out %
Senior Living Housing - Attached	252	Trips/DU	$T=0.25(X)+0.07$	56%	44%
Strip Retail Center	822	Trips/KSF	$T=6.59(X)$	50%	50%

(x) = number of units

Trip Generation - Proposed

Trip generation volumes can be calculated based upon the size of the development. **Table 2** summarizes the trip generation of the proposed project based on ITE Trip Generation Manual 11th Edition. The analysis at the project driveways does not account for internal capture or pass-by to provide a conservatively high estimate of trips.

Table 2
Town West Senior Living
Trip Generation Summary

PM Peak

Land Use	ITE Code	Size / Units	Daily				PM Peak Hour				Passby Capture				External "New" Trips			
			Total	Total	Enter	Exit	Daily	Total	Enter	Exit	Daily	Total	Enter	Exit	Daily	Total	Enter	Exit
Senior Adult Housing - Attached	252	115 DU	358	29	16	13									29	16	13	
Strip Retail Center	822	20,000 SF	1,089	132	66	66	261	24	12	12	828	108	54	54				
Total			1,447	161	82	79	261	24	12	12	828	137	70	67				

AM Peak

Land Use	ITE Code	Size / Units	Daily				AM Peak Hour			
			Total	Total	Enter	Exit	Daily	Total	Enter	Exit
Senior Adult Housing - Attached	252	115 DU	358	23	8	15				
Strip Retail Center	822	20,000 SF	1,089	48	29	19				
Total			1,447	71	37	34				

Sources:

VHB, Inc.

Notes:

Institute of Transportation (ITE) Trip Generation Manual 11th Edition.

Trip Generation Summary

The proposed project will result in 1,447 daily trips, 71 AM peak-hour trip (37 entering and 34 exiting), and 137 PM peak-hour trips (70 entering and 67 exiting). The proposed trip generation for the senior adult housing is less than the threshold of 100 2-way PM peak-hour trips stated in the River to Sea Transportation Planning Organization (R2CTPO) guidelines requiring a Traffic Impact Analysis (TIA). Intersection analysis to determine recommended lane configuration and operation is provided. Distribution of project traffic was determined based on a model run using the CFRPM v7 model. This is shown on **Figure 2**.

Project Significance

The project study area is determined based on 3% project significance on roadway segments and any critical/near-critical roadway segments within 3-miles of the site. As shown in **Table 3**, the trips produced by the 115 senior adult housing units and commercial component is only significant on the segment of Town West Boulevard fronting the site. **Figure 3** shows the 3-mile radius to determine the critical/near-critical segments to be included in the study area.

Intersection Operational Analysis

A future condition intersection operational analysis was performed to determine the Level of Service (LOS) at the project entrances and the adjacent intersection at Williamson Boulevard and Town West Boulevard. Based on Volusia County 2019 AADT and Historical Counts and a predicted build out date of 2022, growth rates for the impacted roadways were calculated using linear regression with an annual rate of 8.5%. The growth rate was applied to a turning movement count (TMC) collected in the field on May 19, 2021. The peak seasonal factor for the week that the traffic counts were collected was 1.0, therefore, no seasonal adjustment was made to the raw counts. Based on the revised Site Plan (attached), the recommended geometry at the project entrances includes a full access driveway on the west side of the site and a right-in right-out on the central part of the site. The RIRO driveway is approximately 300 feet from the future stop bar at Williamson Boulevard (accounting for the proposed future widening). The full access driveway is located approximately 380 feet west of the RIRO driveway.

The resulting Synchro analysis shows that the proposed project entrance operates at an overall LOS of "A" for the future year 2022 PM peak hour condition. The PM peak-hour was analyzed as the highest of the two peak-hours of the day. Additionally, the entering and exiting volumes for the project site was reviewed to ensure that the highest directional volumes were for the PM peak-hour as well. The intersection at Williamson Boulevard and Town West Boulevard operates with an overall LOS of D for the PM future year 2022 condition. There are no individual movements operating at an unacceptable LOS of have volume-to-capacity (V/C) ratios of greater than 1.0.

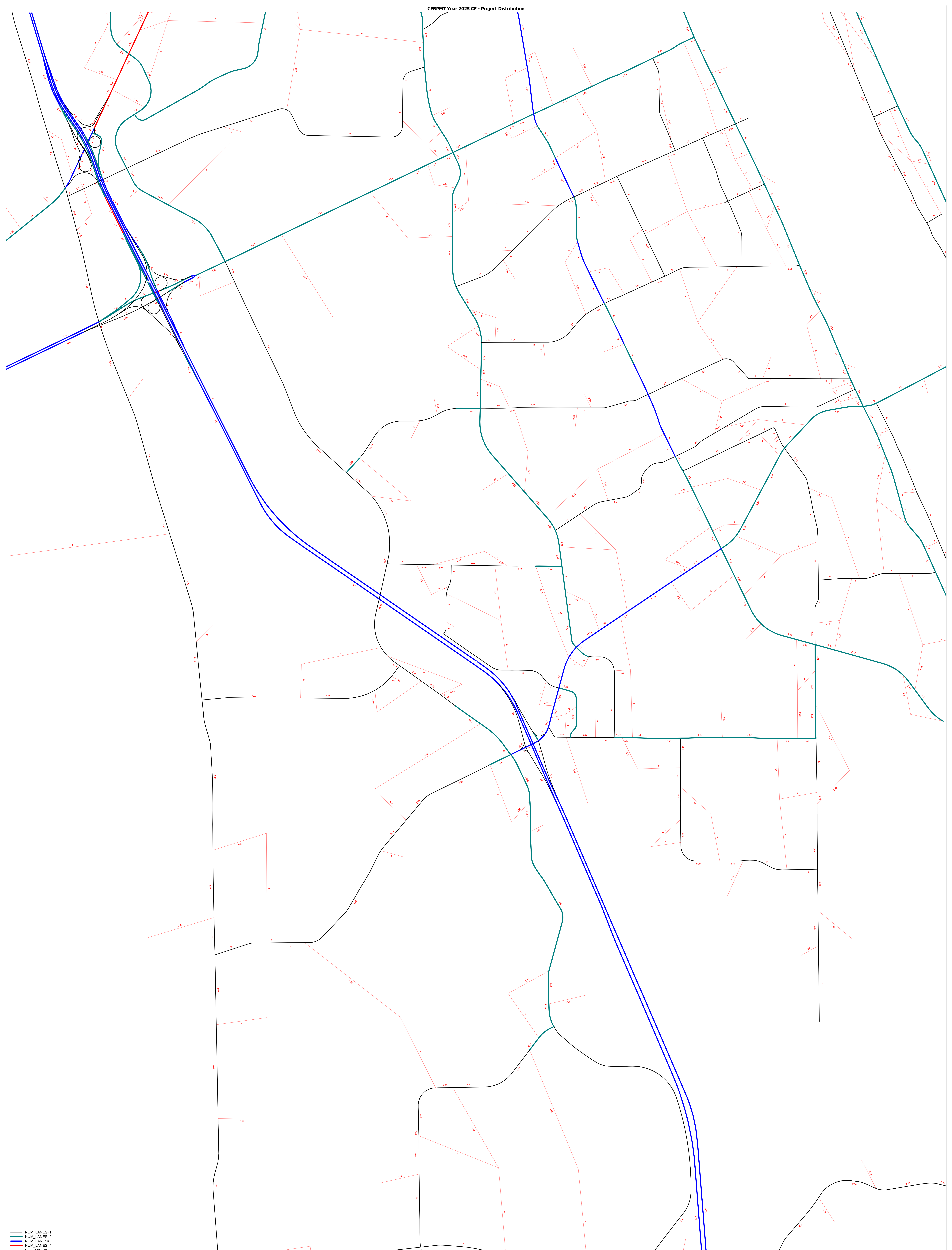


Table 3
Town West Senior Living
Test for Significance Project Impact (3%) - With Critical & Near Critical Roads

PM PEAK HOUR

Roadway	Segment #	No. of Lanes	Critical / Near-Critical	Adopted LOS	LOS MSV	Dis%	Project Trips *	Significance %
Townwest Boulevard								
Tomoka Farms Rd to Williamson Blvd	1850	2		E	1,620	100.00%	137	8.46%
Williamson Blvd								
Taylor Rd to N. Pavilion Driveway	1990	4		E	3,410	47.83%	66	1.94%
N. Pavilion Driveway to Townwest Blvd	1990	2	Critical	E	1,540	48.36%	67	4.35%
Townwest Blvd to Willow Run Blvd	1991	2	Critical	E	1,540	44.23%	61	3.96%
Willow Run Blvd to Madeline Ave	1992	2	Critical	E	1,540	39.57%	55	3.57%
Madeline Ave to SR 400	1993	2	Critical	E	1,540	27.44%	38	2.47%
Taylor Road								
Crane Lk Blvd to Summertree Rd	1812	2	Near Critical	E	1,540	2.86%	4	0.26%
Dunlawton Ave to Clyde Morris Blvd	1823	2	Critical	E	1,020	10.54%	15	1.47%
Clyde Morris Blvd to Hensel Rd	1824	4	Near Critical	E	3,410	6.72%	10	0.29%

Source:

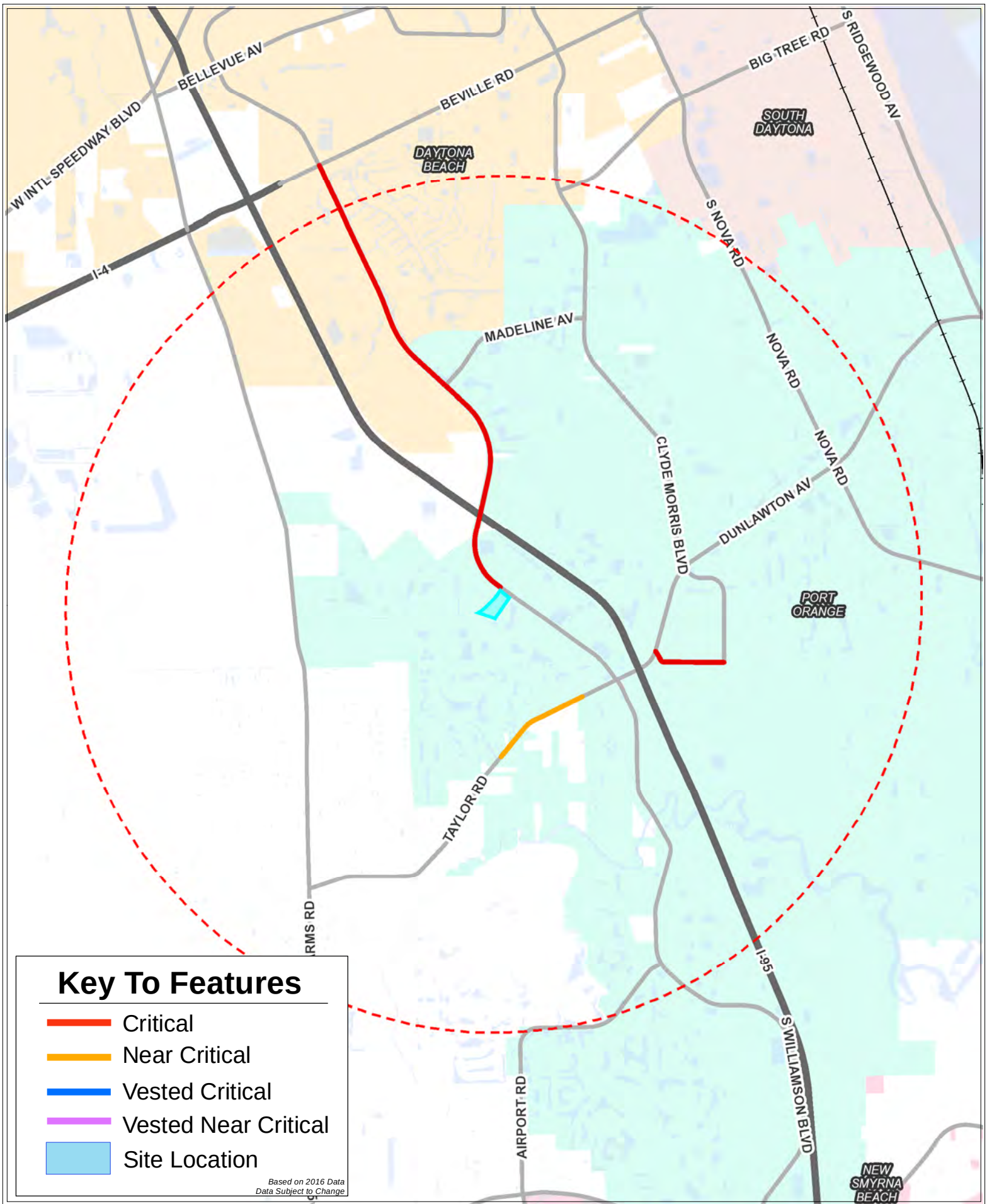
VHB

Volusia County 2019 AADT & Historical Counts

Critical or Near-Critical segment included in analysis

Notes:

* For the purpose of determining significance based on study area, project traffic includes both Senior Adult Housing and retail components



Mapping Tool Provided Courtesy of
Volusia County Public Works and is
a graphic representation only.

Date 12/30/2021

3 mile Critical/Near Critical Roadway Buffer

3-mile buffer



1 inch = 5,310 feet

Project Entrance Turn Lane Queue Analysis

A turn lane queue analysis is provided for the turn lanes proposed on Town West Boulevard. The speed limit on Town West Boulevard is 35mph. The recommended FDOT deceleration for design speed of 40mph is 155'. Although, the proposed left turn lane analysis does not show any appreciable queue for the 95th percentile condition, it is recommended that 25' is added to accommodate one (1) vehicle yielding a total distance of 180'. The turn lanes shown on the attached site plan meet or exceed the minimum required lengths.

Roadway Capacity Evaluation

The future roadway capacity is summarized in **Table 4**. As shown in the table, all four of the critical segments are deficient in background conditions and therefore, will continue to be deficient with project traffic. Although project traffic is not significant on these segments, per Volusia County policy, the project will contribute a proportionate fair share amount towards the deficient critical roadways.

Proportionate Fair Share and Impact Fees

The proportionate fair share (PFS) calculation for this project is based on the PM peak-hour trips generated by the 115 senior adult attached housing units on deficient and critical roadways, as well as at the intersection of Williamson Boulevard at Taylor Road as part of the Summer Trees Road Project. A summary of the PFS is shown in **Table 5** and is calculated at \$278,700.91.

The impact fees for the site were calculated using the latest adopted impact fee schedules for Volusia County and City of Port Orange. This is presented in **Table 6**. The impact fees use the multi-family mid-rise land use. The total impact fees estimated for the Town West Senior Living facility are \$449,615.50, which includes \$373,141 due to Volusia County and \$76,475 due to the City of Port Orange.

Conclusion

The applicant respectfully requests transportation concurrency approval for the proposed 115 attached housing senior living facility. The recommended improvements for the project entrances include a right-in, right-out for the east entrance and a full access connection with a single egress lane for the west connection. Each site driveway will include an exclusive eastbound right turn lane of 250-feet. The westbound left turn lane at the west driveway will be 300 feet. A one-foot non-vehicular easement along Williamson Boulevard will be shown on the site plan and will be recorded prior to completion of the project.

Off-site impacts on critical roadway segments will be mitigated through proportionate fair share in the amount of \$278,700.91.

The Applicant is requesting approval only for the initial phase that includes the senior adult housing. The development timing and land use intensity of the commercial parcel are currently unknown. Therefore, although a parent-child analysis is preferred, the Applicant for Town West Senior Living requests that an independent analysis of the initial parcel be conducted in lieu of a parent/child analysis as the "first phase" of the development, followed by an aggregate analysis of the subsequent phase when the commercial parcel is developed. This would be accomplished by an agreement between the developer of the Town West Senior Living and the owner of the commercial land to acknowledge that the mitigation by the subsequent phase will be calculated as the difference between the impacts identified by both parcels, less the impacts paid by the initial parcel. The agreement would be recorded by the City of Port Orange.

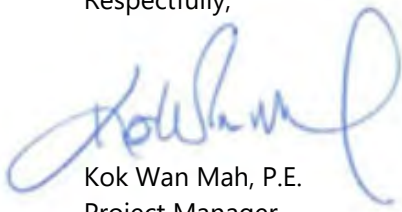
Table 4 Town West Senior Living Future (YR 2022) 2-Way PM Peak Hour Roadway Analysis with Improvements																
Roadway	No. of Lanes	Critical / Near-Critical	Level of Service		2022 2-Way PM Peak Hour *	Count Year	Growth Rate **	Growth Volume	Background Traffic		YR 2023 Project Traffic ***			Total Traffic	Project Deficient Yes/No	Remaining Capacity
			Adopted LOS	MSV					Background Total	Deficient Yes/No	Trips	Dist%	Significance			
Townwest Boulevard																
Tomoka Farms Rd to Williamson Blvd	2		E	1,620	630	2019	8.5%	215	845	NO	29	100.00%	1.79%	874	NO	746
Williamson Blvd																
Taylor Rd to N. Pavilion Driveway	4		E	3,410	1,760	2019	2.7%	187	1947	NO	14	47.83%	0.41%	1,961	NO	1,449
N. Pavilion Driveway to Townwest Blvd	2	Critical	E	1,540	1,760	2019	2.7%	187	1947	YES	15	48.36%	0.97%	1,962	NO	-422
Townwest Blvd to Willow Run Blvd	2	Critical	E	1,540	1,830	2019	3.1%	225	2055	YES	13	44.23%	0.84%	2,068	NO	-528
Willow Run Blvd to Madeline Ave	2	Critical	E	1,540	1,760	2019	3.2%	223	1983	YES	12	39.57%	0.78%	1,995	NO	-455
Madeline Ave to SR 400	2	Critical	E	1,540	1,870	2019	4.2%	311	2181	YES	8	27.44%	0.52%	2,189	NO	-649
Taylor Road																
Crane Lk Blvd to Summertree Rd	2	Near Critical	E	1,540	1,330	2019	2.0%	106	1436	NO	1	2.86%	0.06%	1,437	NO	103
Dunlawton Ave to Clyde Morris Blvd	2	Critical	E	1,020	1,260	2019	4.5%	229	1489	YES	4	10.54%	0.39%	1,493	NO	-473
Clyde Morris Blvd to Hensel Rd	4	Near Critical	E	3,410	3,060	2019	2.0%	245	3305	NO	2	6.72%	0.06%	3,307	NO	103
Source: VHB, Inc.																
Notes: *Data from 2019 Volusia County 2019 AADT and Historical Counts ** Trend derived from latest 5 years of Daily Traffic Counts *** Trips for the Senior Adult Housing component only is shown for purposes of determining prop share																

Table 5 - Summary of Proportionate Fair Share Town West Senior Living													
					Total			(b)	(c)	(a)	(d)=a/(c-b)		
Roadway	Segment	Length (Miles)	Improvement	Cost per Lane Mile	Additional Cost	Improvement Cost	Improvement Cost	Existing Capacity	Improved Capacity	Capacity Increase	Project Trips	Project Percentage	Prop Share
Williamson Blvd	SR 400 (Beville Road) to Madeline Avenue	1.70	Widen 2 to 4 lanes, rural				\$6,700,000.00	1,540	3,410	1,870	8	0.43%	\$28,663.10
	Medeline Avenue to Willow Run	0.81	Widen 2 to 4 lanes, rural	\$7,083,000		\$5,737,230	\$5,737,230.00	1,540	3,410	1,870	12	0.64%	\$36,816.45
	Willow Run to Town West Boulevard	0.85	Widen 2 to 4 lanes, rural	\$7,083,000	\$10,000,000	\$16,020,550	\$16,020,550.00	1,540	3,410	1,870	13	0.70%	\$111,372.81
	Town West Boulevard to N. Pavilion Driveway	0.62	Widen 2 to 4 lanes, rural	\$7,083,000		\$4,369,191	\$4,369,191.48	1,540	3,410	1,870	15	0.80%	\$35,046.99
Taylor Road	Dunlawton Avenue to Clyde Morris Boulevard						\$8,300,000.00	1,258	1,999	741	4	0.54%	\$44,804.32
								\$256,703.67					
					Total			Existing Capacity	Improved Capacity	Capacity Increase	Project Trips	Project Percentage	Prop Share
Intersection	Cross Street	Critical Movement Combination		Cost	Additional Cost	Improvement Cost	Improvement Cost						
Williamson Blvd	at Taylor Road	EBL/WBT/SBL/NBT					\$3,152,938.60			860	6	0.70%	\$21,997.25
		EBL/WBT/NBL/SBT					\$3,152,938.60			860	2	0.23%	\$7,332.42
		WBL/EBT/SBL/NBT					\$3,152,938.60			860	6	0.70%	\$21,997.25
		WBL/EBT/NBL/SBT					\$3,152,938.60			860	2	0.23%	\$7,332.42
							Highest of four critical movement combinations:						\$21,997.25
												TOTAL PFS	\$278,700.91

Table 6 - Summary of Impact Fees				
Town West Senior Adult Impact Fee Calculation				
Volusia County				
Land Use	Size	Units	Rate/Unit (Thoroughfare Road)	Cost per Lane Mile
Multi Family Mid-Rise	115	DU	\$ 3,244.70	\$373,141
			Total	\$373,141
City of Port Orange				
Land Use	Size	Units	Rate/Unit (Thoroughfare Road)	Cost per Lane Mile
Multi Family Mid-Rise	115	DU	\$ 665.00	\$76,475
			Total	\$76,475
			Grand Total	\$449,615.50

We look forward to the City's review and comment.

Respectfully,



Kok Wan Mah, P.E.
Project Manager
VHB, Inc.

Attachments

ITE Trip Generation Summary Sheets

Turning Movement Count

Growth Rate Calculation

Intersection Derivation

Synchro Output Summary Sheets

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Senior Adult Housing - Multifamily (252)

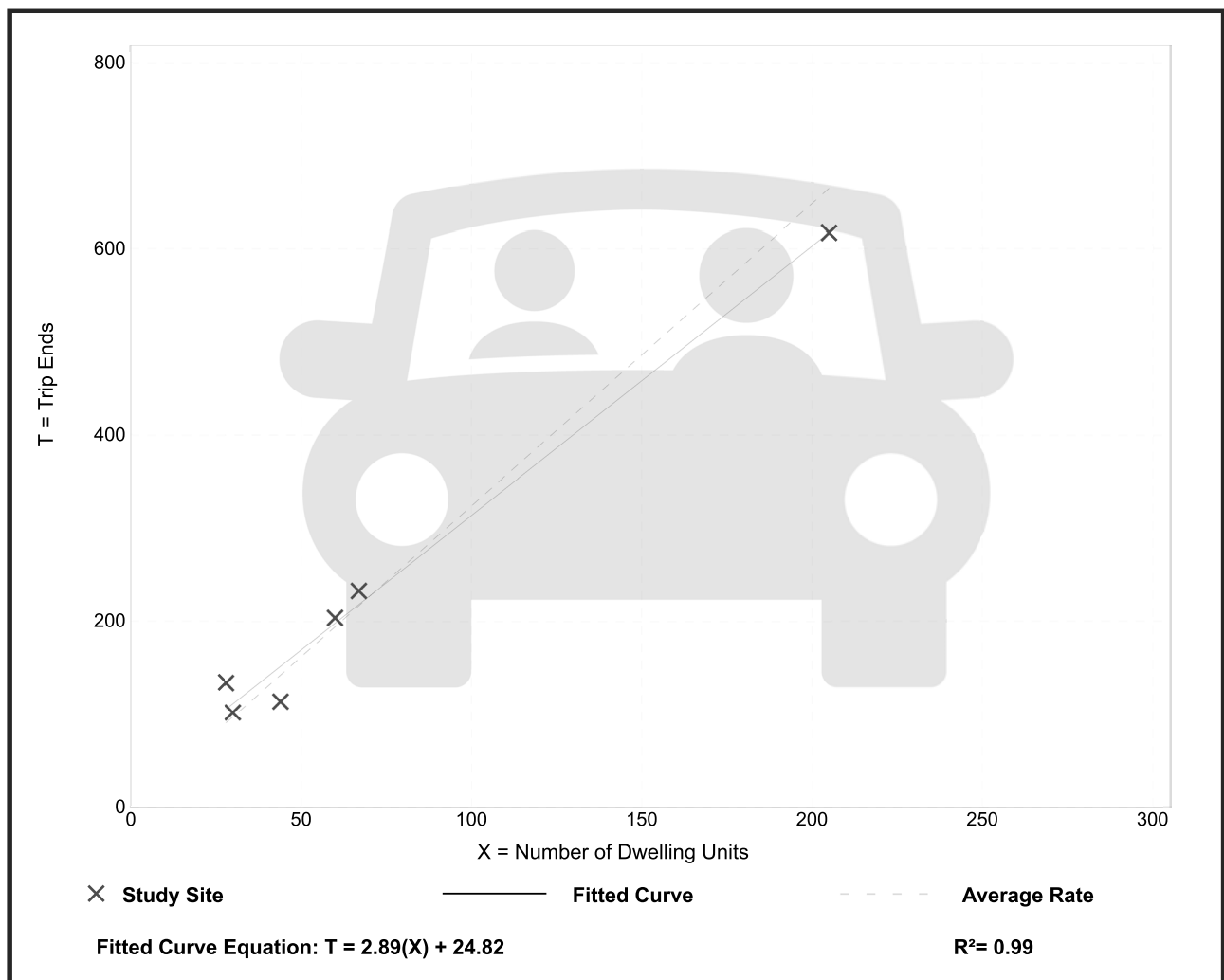
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 6
Avg. Num. of Dwelling Units: 72
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
3.24	2.59 - 4.79	0.53

Data Plot and Equation



Senior Adult Housing - Multifamily (252)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 9

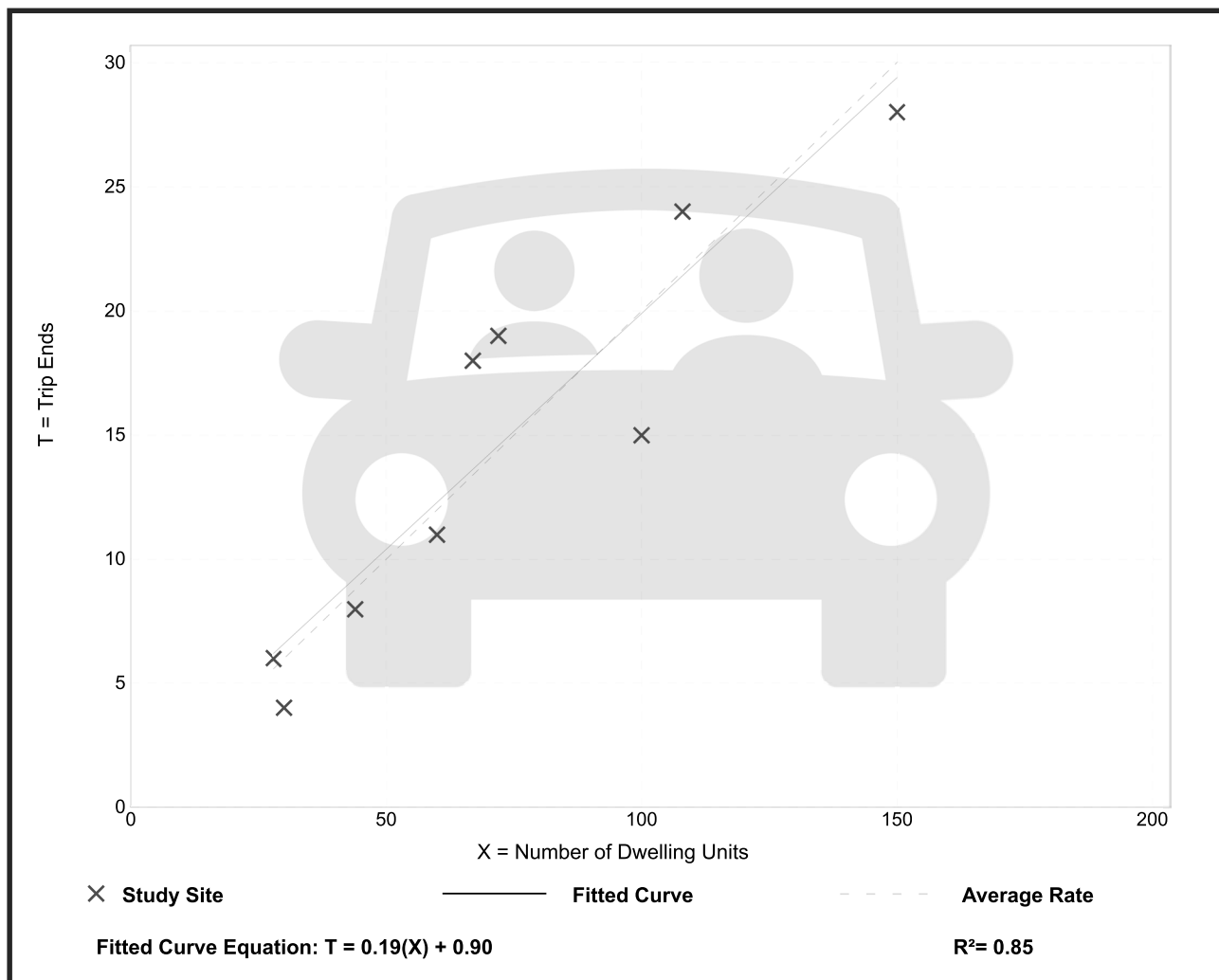
Avg. Num. of Dwelling Units: 73

Directional Distribution: 34% entering, 66% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.20	0.13 - 0.27	0.04

Data Plot and Equation



Senior Adult Housing - Multifamily (252)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 9

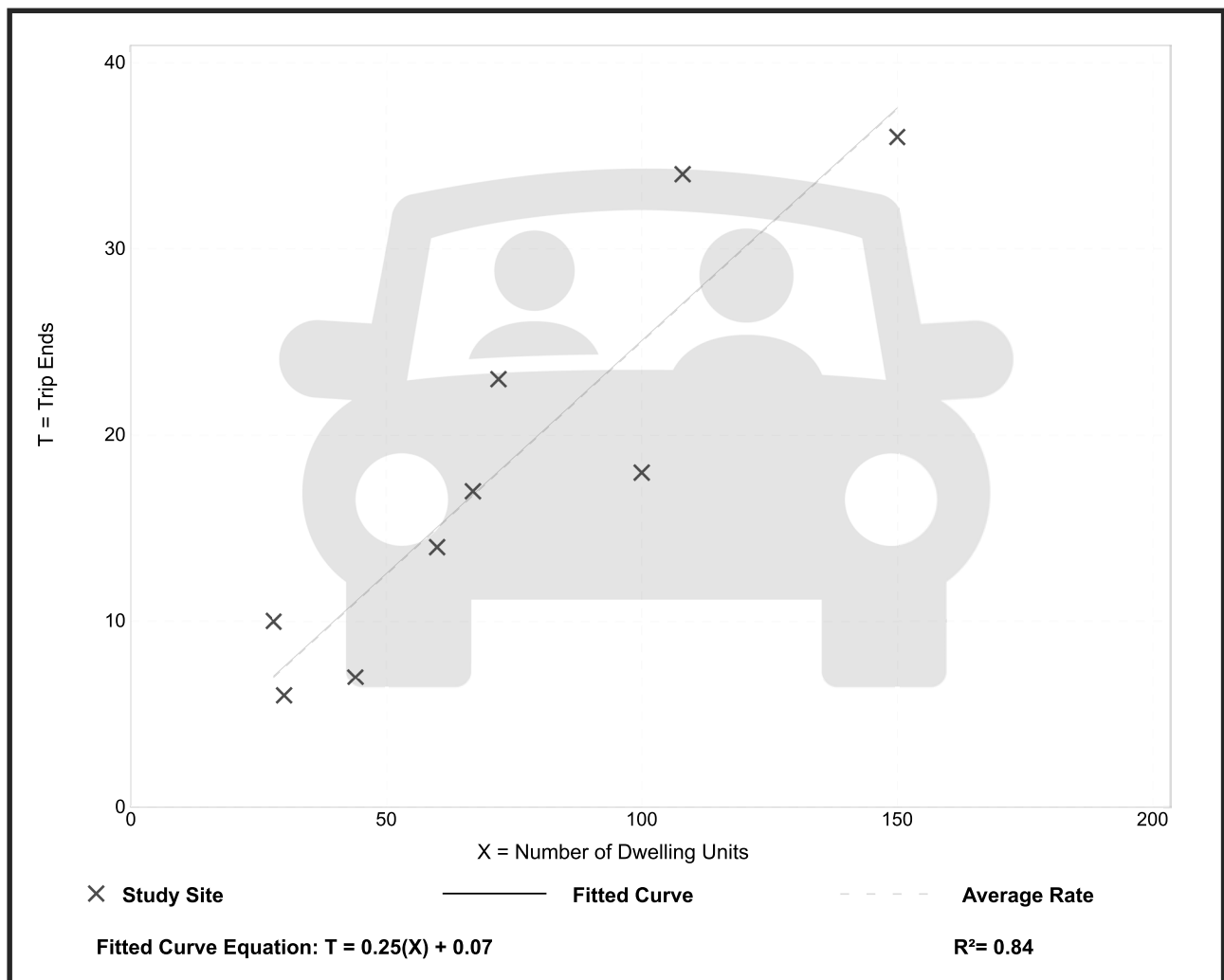
Avg. Num. of Dwelling Units: 73

Directional Distribution: 56% entering, 44% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.25	0.16 - 0.36	0.06

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
On a: Weekday

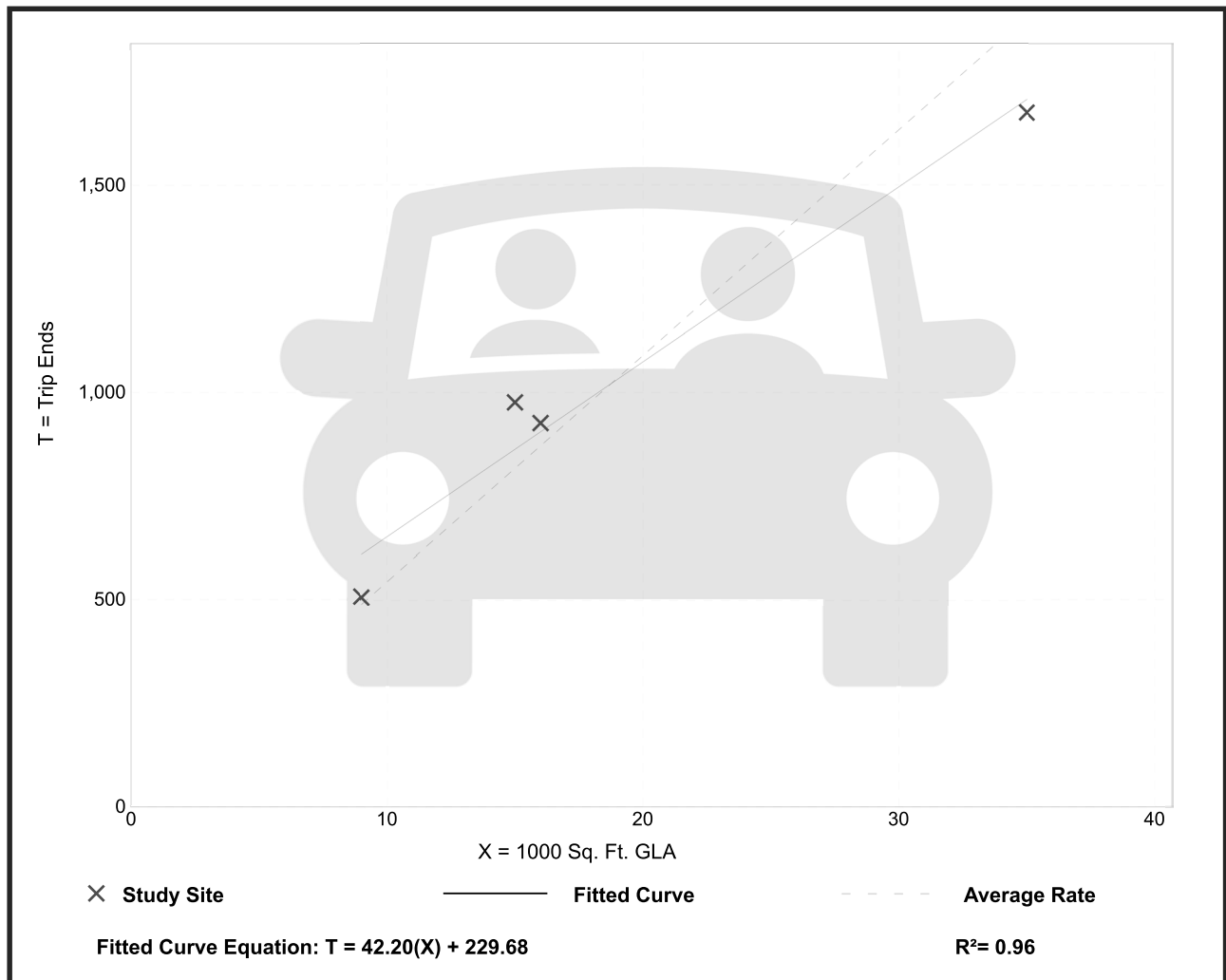
Setting/Location: General Urban/Suburban
Number of Studies: 4
Avg. 1000 Sq. Ft. GLA: 19
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
54.45	47.86 - 65.07	7.81

Data Plot and Equation

Caution – Small Sample Size



Strip Retail Plaza (<40k) (822)

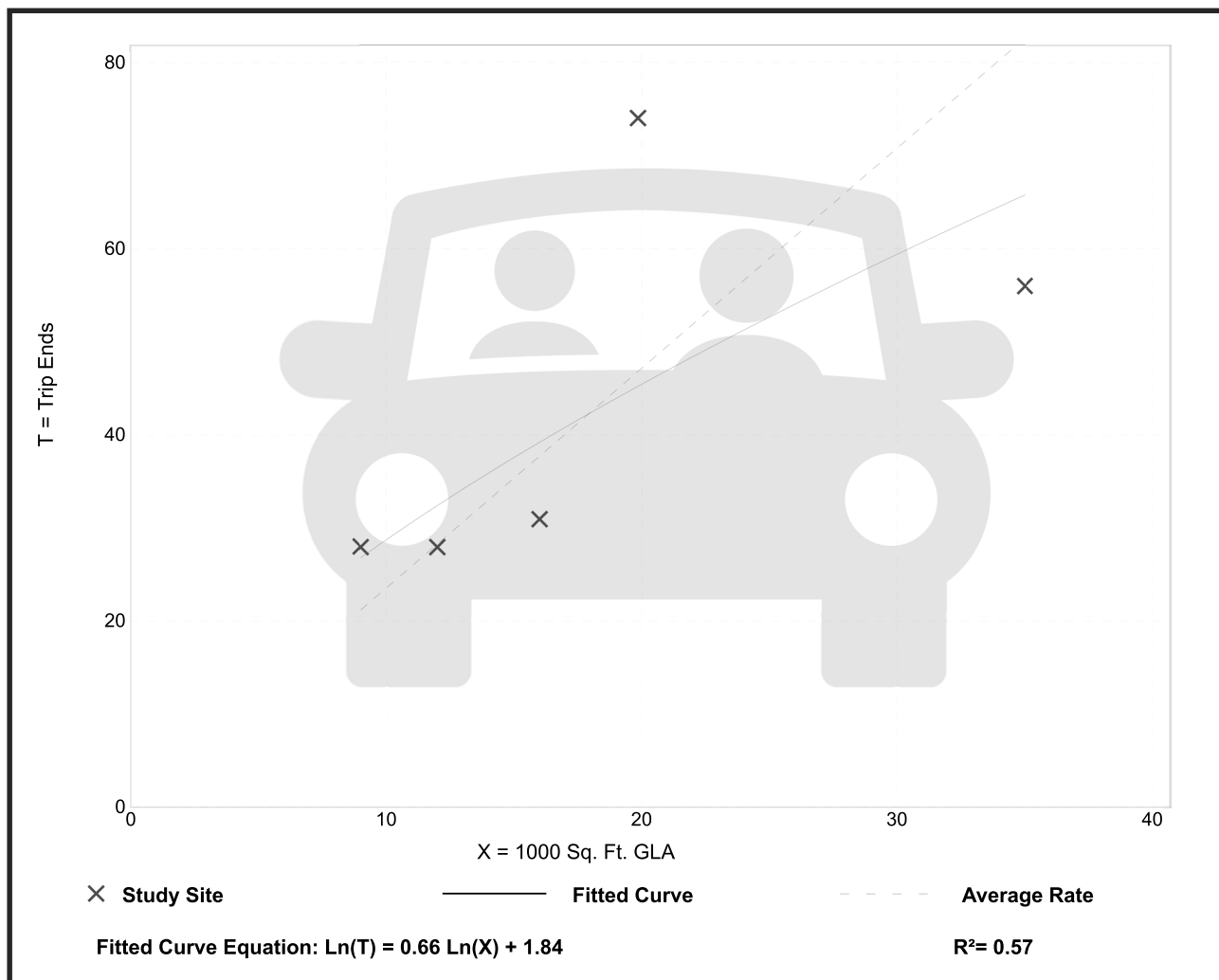
Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 7 and 9 a.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 5
 Avg. 1000 Sq. Ft. GLA: 18
 Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation

Caution – Small Sample Size



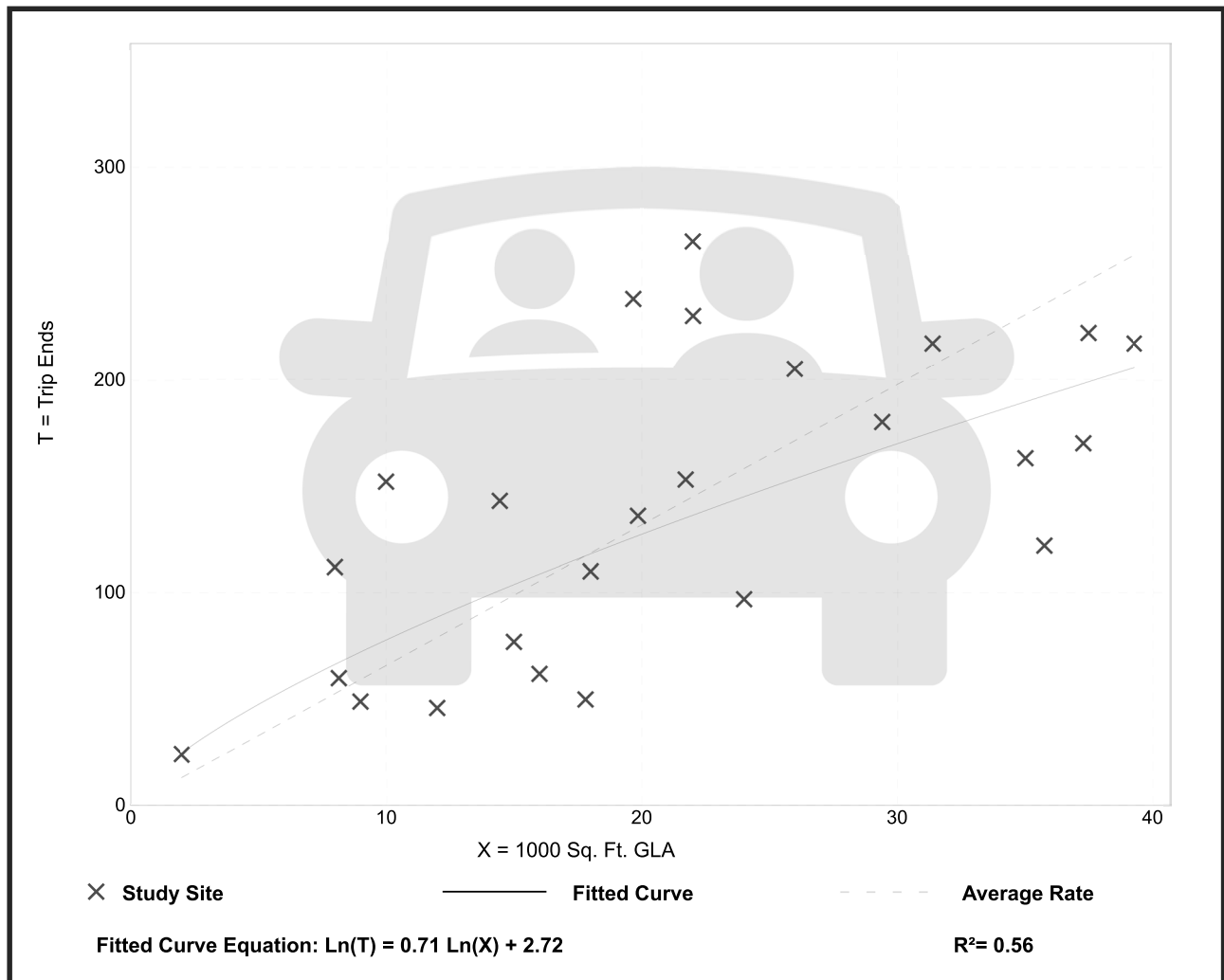
Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA
 On a: Weekday,
 Peak Hour of Adjacent Street Traffic,
 One Hour Between 4 and 6 p.m.
 Setting/Location: General Urban/Suburban
 Number of Studies: 25
 Avg. 1000 Sq. Ft. GLA: 21
 Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



Roadway Count Summary

Vanasse Hangen Brustlin, Inc.

County Volusia City Port Orange
 Intersection Town West Blvd & Williamson Blvd
 Date May 19, 2021

All Vehicles

VHB Project #: 63844

AM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
7:00 AM - 7:15 AM	17	69	0	0	42	12	34	0	39	0	0	0
7:15 AM - 7:30 AM	20	107	0	0	74	15	30	0	61	0	0	0
7:30 AM - 7:45 AM	15	110	0	0	62	19	49	0	46	0	0	0
7:45 AM - 8:00 AM	36	108	0	0	79	13	47	0	53	0	0	0
8:00 AM - 8:15 AM	23	128	0	0	73	17	43	0	34	0	0	0
8:15 AM - 8:30 AM	23	110	0	0	80	22	29	0	39	0	0	0
8:30 AM - 8:45 AM	24	109	0	0	93	21	35	0	37	0	0	0
8:45 AM - 9:00 AM	22	109	0	0	92	20	26	0	29	0	0	0
TOTAL	180	850	0	0	595	139	293	0	338	0	0	0
Peak Hour 7:45 AM - 8:45 AM	106	455	0	0	325	73	154	0	163	0	0	0

PM Peak Hour

Time Period	Northbound			Southbound			Eastbound			Westbound		
	Left	Through	Right	Left	Through	Right	Left	Through	Right	Left	Through	Right
2:00 PM - 2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM - 2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM - 2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM - 3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM - 3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM - 3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM - 3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM - 4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM - 4:15 PM	37	134	0	0	157	31	18	0	28	0	0	0
4:15 PM - 4:30 PM	43	131	0	0	165	47	26	0	35	0	0	0
4:30 PM - 4:45 PM	51	128	0	0	170	30	19	0	44	0	0	0
4:45 PM - 5:00 PM	53	131	0	0	194	28	40	0	32	0	0	0
5:00 PM - 5:15 PM	55	160	0	0	171	36	25	0	41	0	0	0
5:15 PM - 5:30 PM	65	151	0	0	208	43	40	0	42	0	0	0
5:30 PM - 5:45 PM	68	130	0	0	179	42	41	0	56	0	0	0
5:45 PM - 6:00 PM	47	119	0	0	138	39	25	0	42	0	0	0
TOTAL	419	1,084	0	0	1,382	296	234	0	320	0	0	0
Peak Hour 4:45 PM - 5:45 PM	241	572	0	0	752	149	146	0	171	0	0	0

Historical Growth Rate Summary

Roadway	Segment	2015	2016	201	2018	2019	2022	Resulting Growth Rate	R ² Value	Used Growth Rate	2022 AADT
		2015	2016	2017	2018	2019	2022				
Townwest Blvd											
	Tomoka Farms Rd to Williamson Blvd	5,170	5,190	5,860	7,140	7,240	9,165	8.53%	89.81%	8.53%	8,967
Williamson Blvd											
	Taylor Rd to Townwest Blvd	18,450	20,650	18,620	21,610	20,840	22,904	2.66%	41.08%	2.66%	23,332
	Townwest Blvd to Willow Run Blvd	16,650	18,260	16,950	19,150	19,150	20,977	3.08%	61.59%	3.08%	20,917

Source:
Volusia County 2019 AADT & Historical Counts

APPENDIX C:

Synchro Output & Crash Prediction Sheets

Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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	NBLT	SB		WB		NB		EB								
Min Green	5	17	0	5	0	17	0	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	5	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	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	15	0	18	0	15	0	18	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	4.5	0.0	3.0	3.0	4.5	3.0	3.0	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	20	70	0	18	0	70	0	25	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	5.0	5.5	0.0	4.0	4.0	5.5	4.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	2.5	2.0	0.0	2.0	2.0	2.0	2.0	3.0	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	0.0	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

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	NBLT	SB		WB		NB		EB								
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 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	NBLT	SB		WB		NB		EB								
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	NBLT	SB		WB		NB		EB								
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

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

Controller Overlaps
Vehicle Overlaps (MM) 2-2

Overlap	Type	Lag Green	Yellow	Red	Adv. Green
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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
A	1	2	Yellow Ped	13	3.0	0.0	0	No

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

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

Econolite Type -

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

Included	Pedestrian Overlaps
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Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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

Automatic Flash

Entry
8

Exit
2

6

Overlap Exit

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

Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

Econolite Type -

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																
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								

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				X										
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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	Yes
Ped Recall	No	Ped Reservice	No
Local Zero	No	FO Added Ini	No
Override		Green	
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

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

Coordination Pattern Data**Coordinator Pattern Data (MM) 3-2****Coordinator Pattern # 1**

Split Pattern	1	TS2 (Pat-Off)	0-1	Splits In	Seconds
Cycle	120	Std (COS)	111	Offsets In	Seconds
Offset Value	70s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	0		
Actuated Walk	No	Sequence	0		
Rest					
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	NBLT	SB		WB		NB		EB								
Splits (Split Pat 1)	20	49	0	16	0	69	0	35	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	120s	69s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	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	120	Std (COS)	121	Offsets In	Seconds
Offset Value	9s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
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	NBLT	SB		WB		NB		EB								
Splits (Split Pat 2)	17	52	0	16	0	69	0	35	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	120s	69s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	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 # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Seconds
Cycle	130	Std (COS)	131	Offsets In	Seconds
Offset Value	0s	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	NBLT	SB		WB		NB		EB								
Splits (Split Pat 3)	20	73	20	17	0	93	0	37	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	147s	93s	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 # 90

Split Pattern	90	TS2 (Pat-Off)	0-0	Splits In	Seconds
Cycle	200	Std (COS)	552	Offsets In	Seconds
Offset Value	71s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase	No	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	Fixed		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Splits (Split Pat 90)	30	110	0	20	0	140	0	40	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	200s	140s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	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		X				X										
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 91

Split Pattern	91	TS2 (Pat-Off)	0-0	Splits In	Seconds
Cycle	200	Std (COS)	513	Offsets In	Seconds
Offset Value	62s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase	No	Action Plan	0		
Reservice					

Max Select MAXINH Force Off Fixed

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Splits (Split Pat 91)	30	110	0	20	0	140	0	40	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	200s	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		X				X										
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Coordinator Pattern # 92

Split Pattern	92	TS2 (Pat-Off)	0-0	Splits In	Seconds
Cycle	200	Std (COS)	523	Offsets In	Seconds
Offset Value	24s	Dwell/Add Time	0		
Actuated Coord	Yes	Timing Plan	1		
Actuated Walk Rest	No	Sequence	1		
Phase	No	Action Plan	0		
Reservice					
Max Select	MAXINH	Force Off	Fixed		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Splits (Split Pat 92)	30	110	0	20	0	140	0	40	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	200s	140s	0s	0s

Misc. Data

Veh Perm 1	0	Veh Perm 2	0	Veh Perm 2 Disp	0
Split Demand Pat 1	0	Split Demand Pat 2	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		X				X										
Omit Phase									X	X	X	X	X	X	X	X
Special Function Outputs																

Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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	NBLT	SB		WB		NB		EB								
Split (seconds)	20	49	0	16	0	69	0	35	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	120s	69s	0s	0s

Split Pattern # 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Split (seconds)	17	52	0	16	0	69	0	35	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	120s	69s	0s	0s

Split Pattern # 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Split (seconds)	20	73	20	17	0	93	0	37	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	147s	93s	0s	0s

Split Pattern # 90

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Split (seconds)	30	110	0	20	0	140	0	40	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time		X				X										
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	200s	140s	0s	0s

Split Pattern # 91

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Split (seconds)	30	110	0	20	0	140	0	40	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time		X				X										
Omit Phase									X	X	X	X	X	X	X	X

Ring	1	2	3	4
Split Sum	200s	140s	0s	0s

Split Pattern # 92

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	NBLT	SB		WB		NB		EB								
Split (seconds)	30	110	0	20	0	140	0	40	0	0	0	0	0	0	0	0
Coord Phase		X				X										
Vehicle Recall																

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

Ring	1	2	3	4
Split Sum	200s	140s	0s	0s

Volusia County, FL



MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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	No	PC Through	No	Terminate	No
Asap		Yel		Phase	
Ped Dark	No	Track Clear	No	Dwell Flash	Off
		Rsrv			
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing	0	Reservice	0	Fault Type	Hard
Plan					

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

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	10	5.5	3.0
				Yellow	Red

	Min Grn	Ext Grn	Max Grn		
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	8	0.0	0	5.5	3.0

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 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	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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	10	5.5	3.0
	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	5.5	3.0

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 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	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases																
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
 No No No

Term Ovlp		PC Through		Terminate	
Asap		Yel		Phase	
Ped Dark	No	Track Clear	No	Dwell Flash	Off
		Rsrv			
Linked Pmt	0	FL Exit Color	Grn	Exit Options	Off
Exit Timing	0	Reservice	0	Fault Type	Hard
Plan					

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

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	0	10	5.5	3.0
	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	5.5	3.0

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	.	.	.	.	.	.	.	.	.	.	.	.
Dwell Ped																
Dwell Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Veh	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cycling Ped																
Cycling Overlap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Exit Phases								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	10	5.5	3.0
	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	5.5	3.0

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*

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

**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

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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: 0

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

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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

Action Plan - 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

Pattern	2	Override Sys	No
Timing Plan	0	Sequence	1
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

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	0	Ped Det Diag Plan	0
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

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 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 - 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 Plan	0	Ped Det Diag Plan	0
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 - 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

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 - 90

Pattern	90	Override Sys	No
Timing Plan	0	Sequence	1
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 - 91

Pattern	91	Override Sys	No
Timing Plan	0	Sequence	1
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 - 92

Pattern	92	Override Sys	No
Timing Plan	0	Sequence	1
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	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Volusia County, FL

MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

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

Day Plan #1

Event	Action Plan	Start Time
1	1	06:30
2	11	09:00
3	2	14:30
4	11	19:00

Day Plan #2

Event	Action Plan	Start Time
1	11	00:00

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						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
-------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Volusia County, FL

MOVING TRAFFIC FORWARD

432 - Williamson Blvd @ Town West - ASC/3 -
ASC/3

- Econolite Type -

Time Base Exceptions**Exception Day Program (MM) 5-5**

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

Lanes, Volumes, Timings
3: Williamson Boulevard & Town West Boulevard

Existing AM 2025
01/07/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	181	0	204	0	0	0	116	479	0	0	257	76
Future Volume (vph)	181	0	204	0	0	0	116	479	0	0	257	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	0		0	390		360	0		215
Storage Lanes	1		1	0		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1752	0	1553	0	1863	0	1752	1827	1900	0	1827	1538
Flt Permitted	0.950						0.531					
Satd. Flow (perm)	1752	0	1553	0	1863	0	980	1827	1900	0	1827	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			213									159
Link Speed (mph)		35			25			55			55	
Link Distance (ft)		498			120			564			422	
Travel Time (s)		9.7			3.3			7.0			5.2	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	3%	0%	4%	2%	2%	2%	3%	4%	0%	0%	4%	5%
Adj. Flow (vph)	189	0	213	0	0	0	121	499	0	0	268	79
Shared Lane Traffic (%)												
Lane Group Flow (vph)	189	0	213	0	0	0	121	499	0	0	268	79
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1		2		1	2	1		2	1
Detector Template	Left	Thru	Right		Thru		Left	Thru	Right		Thru	Right
Leading Detector (ft)	20	100	20		100		20	100	20		100	20
Trailing Detector (ft)	0	0	0		0		0	0	0		0	0
Detector 1 Position(ft)	0		0		0		0	0	0		0	0
Detector 1 Size(ft)	20		20		6		20	6	20		6	20
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	Prot		Perm				pm+pt	NA	Perm		NA	Perm
Protected Phases	8				4		1	6			2	

Lanes, Volumes, Timings
3: Williamson Boulevard & Town West Boulevard

Existing AM 2025
01/07/2026

	↖	→	↘	↙	←	↖	↙	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8				6		6			2
Detector Phase	8		8		4		1	6	6		2	2
Switch Phase												
Minimum Initial (s)	5.0		5.0		5.0		5.0	17.0	17.0		17.0	17.0
Minimum Split (s)	32.0		32.0		31.0		12.5	29.5	29.5		29.5	29.5
Total Split (s)	35.0		35.0		16.0		20.0	69.0	69.0		49.0	49.0
Total Split (%)	29.2%		29.2%		13.3%		16.7%	57.5%	57.5%		40.8%	40.8%
Maximum Green (s)	28.0		28.0		10.0		12.5	61.5	61.5		41.5	41.5
Yellow Time (s)	4.0		4.0		4.0		5.0	5.5	5.5		5.5	5.5
All-Red Time (s)	3.0		3.0		2.0		2.5	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0		7.0		6.0		7.5	7.5	7.5		7.5	7.5
Lead/Lag	Lag		Lag		Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0		3.0		3.0		3.0	4.5	4.5		4.5	4.5
Recall Mode	None		None		None		None	C-Max	C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	18.0		18.0		18.0			15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0			0	0		0	0
Act Effct Green (s)	18.2		18.2				87.3	87.3			71.8	71.8
Actuated g/C Ratio	0.15		0.15				0.73	0.73			0.60	0.60
v/c Ratio	0.71		0.51				0.16	0.38			0.25	0.08
Control Delay (s/veh)	62.8		10.0				6.0	7.7			13.2	0.2
Queue Delay	0.0		0.0				0.0	0.0			0.0	0.0
Total Delay (s/veh)	62.8		10.0				6.0	7.7			13.2	0.2
LOS	E		B				A	A			B	A
Approach Delay (s/veh)		34.8						7.4			10.3	
Approach LOS		C						A			B	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 70 (58%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow

Natural Cycle: 105

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay (s/veh): 16.2

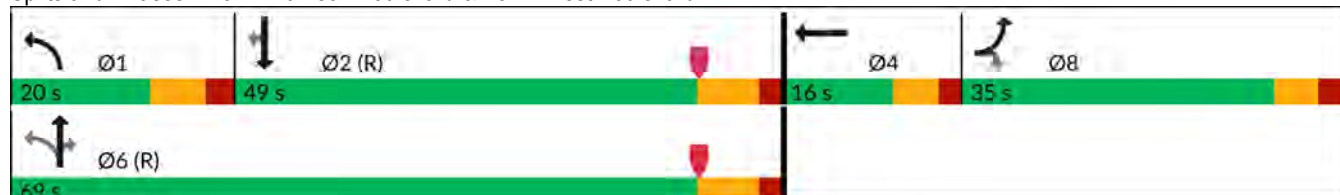
Intersection LOS: B

Intersection Capacity Utilization 46.5%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Lanes, Volumes, Timings
3: Williamson Boulevard & Town West Boulevard

Existing PM 2025
01/07/2026

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	0	181	0	0	2	253	561	2	0	681	148
Future Volume (vph)	125	0	181	0	0	2	253	561	2	0	681	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		0	0		0	390		360	0		215
Storage Lanes	1		1	0		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.865				0.850			0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1752	0	1583	0	1644	0	1770	1863	1615	0	1881	1615
Flt Permitted	0.950						0.098					
Satd. Flow (perm)	1752	0	1583	0	1644	0	183	1863	1615	0	1881	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			187		348				91			159
Link Speed (mph)		35			30			55			55	
Link Distance (ft)		498			120			564			422	
Travel Time (s)		9.7			2.7			7.0			5.2	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	2%	2%	0%	0%	1%	0%
Adj. Flow (vph)	129	0	187	0	0	2	261	578	2	0	702	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	129	0	187	0	2	0	261	578	2	0	702	153
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1		2		1	2	1		2	1
Detector Template	Left	Thru	Right		Thru		Left	Thru	Right		Thru	Right
Leading Detector (ft)	20	100	20		100		20	100	20		100	20
Trailing Detector (ft)	0	0	0		0		0	0	0		0	0
Detector 1 Position(ft)	0		0		0		0	0	0		0	0
Detector 1 Size(ft)	20		20		6		20	6	20		6	20
Detector 1 Type	Cl+Ex		Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)					94			94			94	
Detector 2 Size(ft)					6			6			6	
Detector 2 Type					Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)					0.0			0.0			0.0	
Turn Type	Prot		Perm		NA		pm+pt	NA	Perm		NA	Perm
Protected Phases	8				4		1	6			2	

Lanes, Volumes, Timings
3: Williamson Boulevard & Town West Boulevard

Existing PM 2025
01/07/2026

	↖	→	↗	↖	←	↖	↖	↑	↗	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases			8				6		6			2
Detector Phase	8		8		4		1	6	6		2	2
Switch Phase												
Minimum Initial (s)	5.0		5.0		5.0		5.0	17.0	17.0		17.0	17.0
Minimum Split (s)	32.0		32.0		31.0		12.5	29.5	29.5		29.5	29.5
Total Split (s)	35.0		35.0		16.0		17.0	69.0	69.0		52.0	52.0
Total Split (%)	29.2%		29.2%		13.3%		14.2%	57.5%	57.5%		43.3%	43.3%
Maximum Green (s)	28.0		28.0		10.0		9.5	61.5	61.5		44.5	44.5
Yellow Time (s)	4.0		4.0		4.0		5.0	5.5	5.5		5.5	5.5
All-Red Time (s)	3.0		3.0		2.0		2.5	2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	7.0		7.0		6.0		7.5	7.5	7.5		7.5	7.5
Lead/Lag	Lag		Lag		Lead		Lead				Lag	Lag
Lead-Lag Optimize?	Yes		Yes		Yes		Yes				Yes	Yes
Vehicle Extension (s)	3.0		3.0		3.0		3.0	4.5	4.5		4.5	4.5
Recall Mode	None		None		None		None	C-Max	C-Max		C-Max	C-Max
Walk Time (s)	7.0		7.0		7.0			7.0	7.0		7.0	7.0
Flash Don't Walk (s)	18.0		18.0		18.0			15.0	15.0		15.0	15.0
Pedestrian Calls (#/hr)	0		0		0			0	0		0	0
Act Effect Green (s)	14.2		14.2		5.5		89.0	89.0	89.0		55.8	55.8
Actuated g/C Ratio	0.12		0.12		0.05		0.74	0.74	0.74		0.47	0.47
v/c Ratio	0.63		0.53		0.00		0.55	0.42	0.00		0.80	0.18
Control Delay (s/veh)	63.0		12.2		0.0		23.0	8.1	0.0		36.6	3.8
Queue Delay	0.0		0.0		0.0		0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	63.0		12.2		0.0		23.0	8.1	0.0		36.6	3.8
LOS	E		B		A		C	A	A		D	A
Approach Delay (s/veh)		33.0						12.7			30.8	
Approach LOS		C						B			C	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 9 (8%), Referenced to phase 2:SBT and 6:NBTL, Start of Yellow

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay (s/veh): 23.5

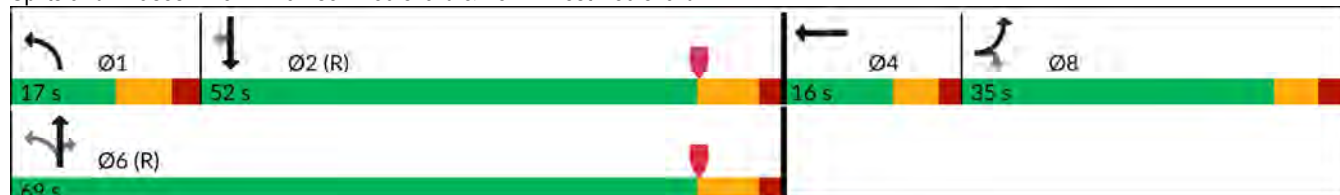
Intersection LOS: C

Intersection Capacity Utilization 79.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

NoBuild AM 2027

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1	225	1	1	0	131	498	1	1	267	87
Future Volume (vph)	200	1	225	1	1	0	131	498	1	1	267	87
Satd. Flow (prot)	0	1758	1553	1770	1863	0	1752	1827	1615	1805	1827	1538
Flt Permitted		0.953		0.950			0.520			0.450		
Satd. Flow (perm)	0	1758	1553	1770	1863	0	959	1827	1615	855	1827	1538
Satd. Flow (RTOR)			234						116			116
Lane Group Flow (vph)	0	209	234	1	1	0	136	519	1	1	278	91
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases			4				6		6	2		2
Total Split (s)	36.0	36.0	36.0	32.0	32.0		20.0	67.0	67.0	15.0	62.0	62.0
Total Lost Time (s)		6.0	6.0	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		23.1	23.1	5.7	5.7		110.8	108.5	108.5	101.3	94.2	94.2
Actuated g/C Ratio		0.15	0.15	0.04	0.04		0.74	0.72	0.72	0.68	0.63	0.63
v/c Ratio		0.77	0.54	0.02	0.01		0.18	0.39	0.00	0.00	0.24	0.09
Control Delay (s/veh)		79.3	10.6	70.0	70.0		7.6	11.5	0.0	9.0	15.1	1.7
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		79.3	10.6	70.0	70.0		7.6	11.5	0.0	9.0	15.1	1.7
LOS		E	B	E	E		A	B	A	A	B	A
Approach Delay (s/veh)		43.0			70.0			10.7			11.8	
Approach LOS		D			E			B			B	
Queue Length 50th (ft)		199	0	1	1		31	154	0	0	106	0
Queue Length 95th (ft)		278	75	8	8		82	419	0	3	230	18
Internal Link Dist (ft)		418			40			484			342	
Turn Bay Length (ft)							390		360	215		215
Base Capacity (vph)		351	497	295	310		775	1320	1200	653	1147	1009
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		0.60	0.47	0.00	0.00		0.18	0.39	0.00	0.00	0.24	0.09

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.77

Intersection Signal Delay (s/veh): 20.8

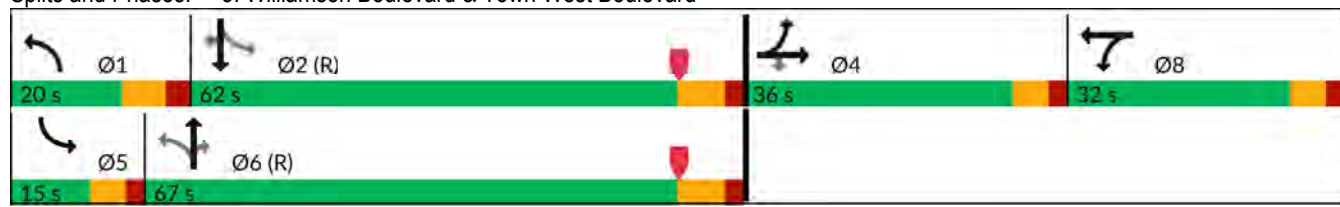
Intersection LOS: C

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

NoBuild PM 2027

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	1	208	1	1	3	287	584	2	1	708	171
Future Volume (vph)	147	1	208	1	1	3	287	584	2	1	708	171
Satd. Flow (prot)	0	1758	1583	1805	1685	0	1770	1863	1615	1805	1881	1615
Flt Permitted		0.953		0.950			0.089			0.437		
Satd. Flow (perm)	0	1758	1583	1805	1685	0	166	1863	1615	830	1881	1615
Satd. Flow (RTOR)			214		3				127			127
Lane Group Flow (vph)	0	153	214	1	4	0	296	602	2	1	730	176
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases			4				6		6	2		2
Total Split (s)	31.0	31.0	31.0	32.0	32.0		25.0	72.0	72.0	15.0	62.0	62.0
Total Lost Time (s)		6.0	6.0	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		18.5	18.5	5.8	5.8		112.3	112.3	112.3	77.7	76.2	76.2
Actuated g/C Ratio		0.12	0.12	0.04	0.04		0.75	0.75	0.75	0.52	0.51	0.51
v/c Ratio		0.71	0.56	0.01	0.06		0.64	0.43	0.00	0.00	0.76	0.20
Control Delay (s/veh)		80.1	12.6	69.0	50.0		35.1	10.9	0.0	24.0	37.2	8.2
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		80.1	12.6	69.0	50.0		35.1	10.9	0.0	24.0	37.2	8.2
LOS		F	B	E	D		D	B	A	C	D	A
Approach Delay (s/veh)		40.8			53.8			18.9			31.6	
Approach LOS		D			D			B			C	
Queue Length 50th (ft)		146	0	1	1		161	160	0	0	514	22
Queue Length 95th (ft)		215	75	8	14		313	504	0	5	#1027	88
Internal Link Dist (ft)		418			40			484			342	
Turn Bay Length (ft)							390		360	215		215
Base Capacity (vph)		294	443	300	283		462	1394	1241	488	955	882
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		0.52	0.48	0.00	0.01		0.64	0.43	0.00	0.00	0.76	0.20

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 25 (17%), 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): 27.9

Intersection LOS: C

Intersection Capacity Utilization 85.5%

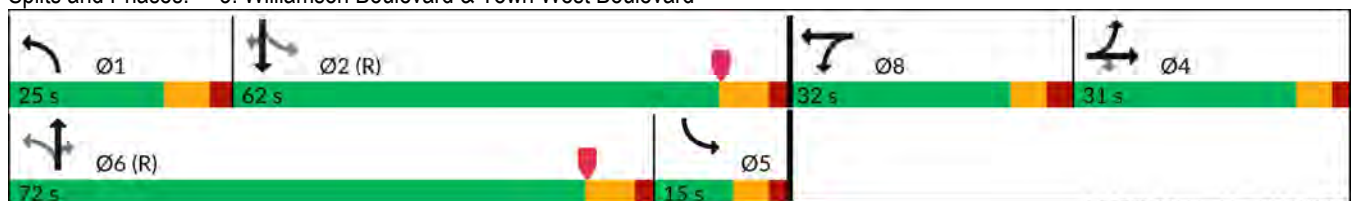
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

NoBuild AM 2037

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1	332	1	1	0	206	594	3	4	319	143
Future Volume (vph)	295	1	332	1	1	0	206	594	3	4	319	143
Satd. Flow (prot)	0	1758	1553	1770	1863	0	1752	1827	1615	1805	1827	1538
Flt Permitted		0.953		0.950			0.499			0.227		
Satd. Flow (perm)	0	1758	1553	1770	1863	0	920	1827	1615	431	1827	1538
Satd. Flow (RTOR)			345						109			128
Lane Group Flow (vph)	0	308	346	1	1	0	215	619	3	4	332	149
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases			4				6		6	2		2
Total Split (s)	37.0	37.0	37.0	37.0	37.0		40.0	71.0	71.0	15.0	46.0	46.0
Total Lost Time (s)		6.0	6.0	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		30.0	30.0	5.7	5.7		111.4	111.4	111.4	75.4	73.9	73.9
Actuated g/C Ratio		0.19	0.19	0.04	0.04		0.70	0.70	0.70	0.47	0.46	0.46
v/c Ratio		0.94	0.60	0.02	0.02		0.27	0.49	0.00	0.02	0.39	0.19
Control Delay (s/veh)		98.8	10.0	75.0	75.0		12.8	14.5	0.0	25.8	31.3	6.8
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		98.8	10.0	75.0	75.0		12.8	14.5	0.0	25.8	31.3	6.8
LOS		F	A	E	E		B	B	A	C	C	A
Approach Delay (s/veh)		51.8			75.0			14.0			23.7	
Approach LOS		D			E			B			C	
Queue Length 50th (ft)		319	1	1	1		66	250	0	2	221	12
Queue Length 95th (ft)		#500	96	8	8		158	542	0	11	355	62
Internal Link Dist (ft)		418			40			484			342	
Turn Bay Length (ft)							390		360	215		215
Base Capacity (vph)		340	579	331	349		809	1271	1157	280	843	778
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		0.91	0.60	0.00	0.00		0.27	0.49	0.00	0.01	0.39	0.19

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay (s/veh): 29.0

Intersection LOS: C

Intersection Capacity Utilization 74.7%

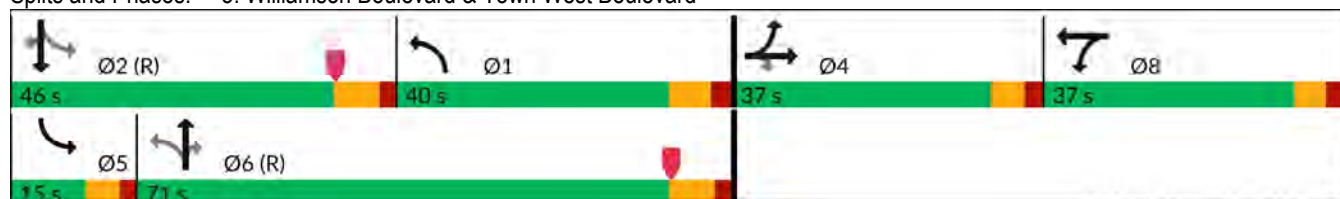
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

NoBuild PM 2037

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1	345	3	1	7	454	696	3	2	844	289
Future Volume (vph)	255	1	345	3	1	7	454	696	3	2	844	289
Satd. Flow (prot)	0	1758	1583	1805	1651	0	1770	1863	1615	1805	1881	1615
Flt Permitted		0.953		0.950			0.067			0.392		
Satd. Flow (perm)	0	1758	1583	1805	1651	0	125	1863	1615	745	1881	1615
Satd. Flow (RTOR)			356		7				109			160
Lane Group Flow (vph)	0	264	356	3	8	0	468	718	3	2	870	298
Turn Type	Split	NA	Perm	Split	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4	4		8	8		1	6		5	2	
Permitted Phases			4				6		6	2		2
Total Split (s)	31.0	31.0	31.0	32.0	32.0		34.0	82.0	82.0	15.0	63.0	63.0
Total Lost Time (s)		6.0	6.0	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		25.0	25.0	6.0	6.0		116.0	113.7	113.7	63.3	56.2	56.2
Actuated g/C Ratio		0.16	0.16	0.04	0.04		0.73	0.71	0.71	0.40	0.35	0.35
v/c Ratio		0.96	0.65	0.04	0.12		0.75	0.54	0.00	0.01	1.32	0.44
Control Delay (s/veh)		111.5	11.5	75.0	44.3		46.9	14.6	0.0	15.0	194.5	19.9
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		111.5	11.5	75.0	44.3		46.9	14.6	0.0	15.0	194.5	19.9
LOS		F	B	E	D		D	B	A	B	F	B
Approach Delay (s/veh)		54.1			52.6			27.3			149.8	
Approach LOS		D			D			C			F	
Queue Length 50th (ft)		278	0	3	1		359	264	0	1	~1135	104
Queue Length 95th (ft)		#465	101	15	21		#604	614	0	4	#1439	199
Internal Link Dist (ft)		418			40			484			342	
Turn Bay Length (ft)							390		360	215		215
Base Capacity (vph)		274	547	282	263		628	1323	1178	369	660	670
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		0.96	0.65	0.01	0.03		0.75	0.54	0.00	0.01	1.32	0.44

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.32

Intersection Signal Delay (s/veh): 80.9

Intersection LOS: F

Intersection Capacity Utilization 107.9%

ICU Level of Service G

Analysis Period (min) 15

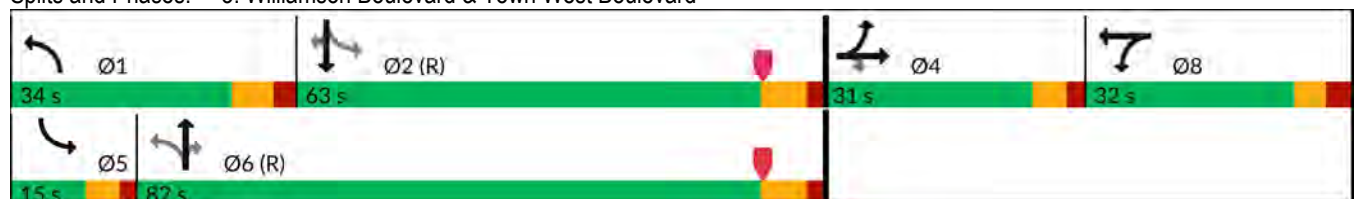
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

Build AM 2027

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1	225	1	1	0	131	498	1	1	267	87
Future Volume (vph)	200	1	225	1	1	0	131	498	1	1	267	87
Satd. Flow (prot)	0	1758	1553	1770	1863	0	3400	1827	1615	1805	1827	1538
Flt Permitted		0.953		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	1553	1770	1863	0	3400	1827	1615	1805	1827	1538
Satd. Flow (RTOR)			234						159			159
Lane Group Flow (vph)	0	209	234	1	1	0	136	519	1	1	278	91
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	1	8	8		1	6		5	2	
Permitted Phases			4						6			2
Total Split (s)	31.0	31.0	22.0	32.0	32.0		22.0	46.0	46.0	11.0	35.0	35.0
Total Lost Time (s)		6.0	7.5	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		19.2	33.8	5.6	5.6		10.1	82.5	82.5	5.0	67.1	67.1
Actuated g/C Ratio		0.16	0.28	0.05	0.05		0.08	0.69	0.69	0.04	0.56	0.56
v/c Ratio		0.74	0.39	0.01	0.01		0.47	0.41	0.00	0.01	0.27	0.10
Control Delay (s/veh)		63.7	4.7	55.0	55.0		57.5	12.2	0.0	56.0	17.1	0.2
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		63.7	4.7	55.0	55.0		57.5	12.2	0.0	56.0	17.1	0.2
LOS		E	A	D	D		E	B	A	E	B	A
Approach Delay (s/veh)		32.6			55.0			21.5			13.1	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)		156	0	1	1		52	136	0	1	102	0
Queue Length 95th (ft)		228	43	7	7		84	398	0	7	224	0
Internal Link Dist (ft)		418			40			484			548	
Turn Bay Length (ft)							390		360	350		350
Base Capacity (vph)		366	653	368	388		410	1256	1159	75	1020	929
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		0.57	0.36	0.00	0.00		0.33	0.41	0.00	0.01	0.27	0.10

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay (s/veh): 22.8

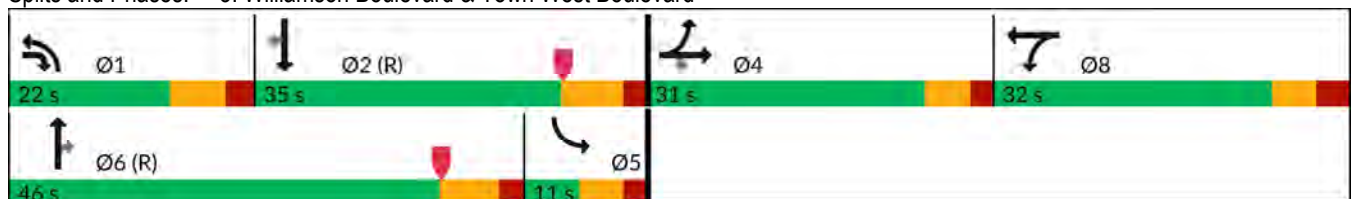
Intersection LOS: C

Intersection Capacity Utilization 64.4%

ICU Level of Service C

Analysis Period (min) 15

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

Build PM 2027

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	147	1	208	1	1	3	287	584	2	1	708	171
Future Volume (vph)	147	1	208	1	1	3	287	584	2	1	708	171
Satd. Flow (prot)	0	1758	1583	1805	1685	0	3433	1863	1615	1805	1881	1615
Flt Permitted		0.953		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	1583	1805	1685	0	3433	1863	1615	1805	1881	1615
Satd. Flow (RTOR)			214		3				116			144
Lane Group Flow (vph)	0	153	214	1	4	0	296	602	2	1	730	176
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	4	4	1	8	8		1	6		5	2	
Permitted Phases			4						6			2
Total Split (s)	31.0	31.0	20.0	32.0	32.0		20.0	72.0	72.0	15.0	67.0	67.0
Total Lost Time (s)		6.0	7.5	7.0	7.0		7.5	7.5	7.5	6.0	7.5	7.5
Act Effct Green (s)		18.3	43.7	5.8	5.8		20.9	113.1	113.1	5.7	87.1	87.1
Actuated g/C Ratio		0.12	0.29	0.04	0.04		0.14	0.75	0.75	0.04	0.58	0.58
v/c Ratio		0.71	0.35	0.01	0.06		0.62	0.43	0.00	0.01	0.67	0.18
Control Delay (s/veh)		81.0	5.1	69.0	50.0		66.9	10.2	0.0	70.0	27.6	5.1
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		81.0	5.1	69.0	50.0		66.9	10.2	0.0	70.0	27.6	5.1
LOS		F	A	E	D		E	B	A	E	C	A
Approach Delay (s/veh)		36.7			53.8			28.8			23.3	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)		146	0	1	1		143	160	0	1	447	12
Queue Length 95th (ft)		217	48	8	14		192	473	0	8	#828	63
Internal Link Dist (ft)		418			40			484			547	
Turn Bay Length (ft)							390		360	350		350
Base Capacity (vph)		293	612	300	283		478	1404	1246	108	1091	997
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		0.52	0.35	0.00	0.01		0.62	0.43	0.00	0.01	0.67	0.18

Intersection Summary

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 21 (14%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay (s/veh): 27.9

Intersection LOS: C

Intersection Capacity Utilization 77.8%

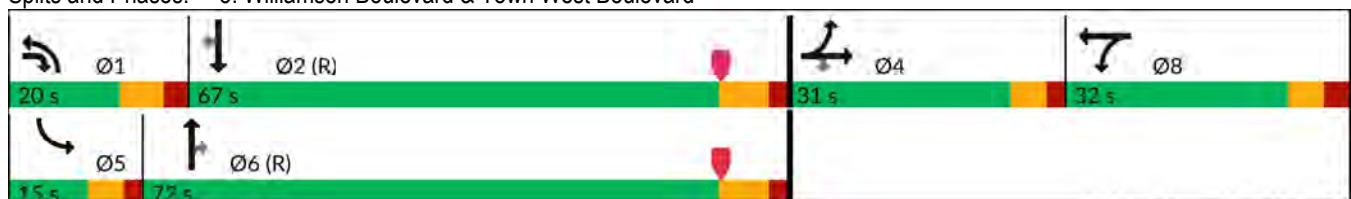
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Queues

3: Williamson Boulevard & Town West Boulevard

Build AM 2037

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	1	332	1	1	1	206	594	3	4	319	143
Future Volume (vph)	295	1	332	1	1	1	206	594	3	4	319	143
Satd. Flow (prot)	0	1758	1553	1770	1723	0	3400	1827	1615	1805	1827	1538
Flt Permitted		0.953		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	1553	1770	1723	0	3400	1827	1615	1805	1827	1538
Satd. Flow (RTOR)			346		1				159			149
Lane Group Flow (vph)	0	308	346	1	2	0	215	619	3	4	332	149
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	4	4	1	8	8		1	6		5	2	4
Permitted Phases			4						6			2
Total Split (s)	31.0	31.0	13.0	32.0	32.0		13.0	46.0	46.0	11.0	44.0	31.0
Total Lost Time (s)		6.0	7.5	7.0	7.0		7.5	7.5	7.5	6.0	7.5	6.0
Act Effct Green (s)		27.0	50.1	5.7	5.7		17.1	74.7	74.7	5.0	52.3	85.6
Actuated g/C Ratio		0.23	0.42	0.05	0.05		0.14	0.62	0.62	0.04	0.44	0.71
v/c Ratio		0.78	0.41	0.01	0.02		0.44	0.54	0.00	0.05	0.42	0.13
Control Delay (s/veh)		57.2	3.5	55.0	46.5		51.0	18.8	0.0	56.8	27.5	1.0
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		57.2	3.5	55.0	46.5		51.0	18.8	0.0	56.8	27.5	1.0
LOS		E	A	D	D		D	B	A	E	C	A
Approach Delay (s/veh)		28.8			49.3			27.0			19.6	
Approach LOS		C			D			C			B	
Queue Length 50th (ft)		225	0	1	1		80	225	0	3	164	0
Queue Length 95th (ft)		306	52	7	10		121	#630	0	15	318	14
Internal Link Dist (ft)		418			40			484			548	
Turn Bay Length (ft)							635		360	350		350
Base Capacity (vph)		415	849	368	359		484	1136	1065	75	795	1155
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		0.74	0.41	0.00	0.01		0.44	0.54	0.00	0.05	0.42	0.13

Intersection Summary

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 17.7 (15%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay (s/veh): 25.8

Intersection LOS: C

Intersection Capacity Utilization 74.7%

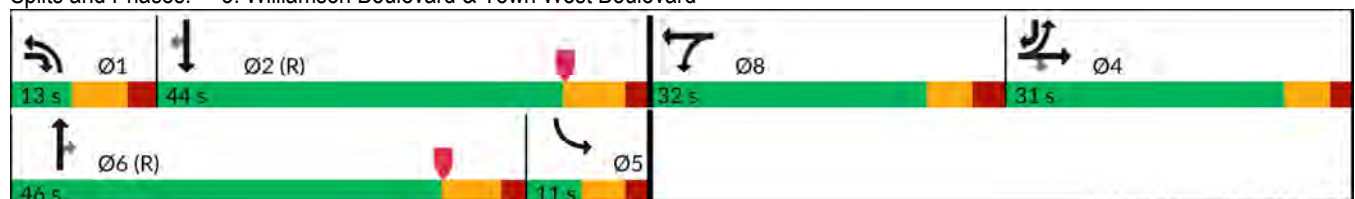
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Synchro 12 Report

Queues

3: Williamson Boulevard & Town West Boulevard

Build PM 2037

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	255	1	345	3	1	7	454	696	3	2	844	289
Future Volume (vph)	255	1	345	3	1	7	454	696	3	2	844	289
Satd. Flow (prot)	0	1758	1583	1805	1651	0	3433	1863	1615	1805	1881	1615
Flt Permitted		0.953		0.950			0.950			0.950		
Satd. Flow (perm)	0	1758	1583	1805	1651	0	3433	1863	1615	1805	1881	1615
Satd. Flow (RTOR)			356		7				109			247
Lane Group Flow (vph)	0	264	356	3	8	0	468	718	3	2	870	298
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA	Perm	Prot	NA	pm+ov
Protected Phases	4	4	1	8	8		1	6		5	2	4
Permitted Phases			4						6			2
Total Split (s)	31.0	31.0	37.0	32.0	32.0		37.0	82.0	82.0	15.0	60.0	31.0
Total Lost Time (s)		6.0	7.5	7.0	7.0		7.5	7.5	7.5	6.0	7.5	6.0
Act Effct Green (s)		25.0	55.5	6.0	6.0		27.5	113.5	113.5	5.8	81.0	113.5
Actuated g/C Ratio		0.16	0.35	0.04	0.04		0.17	0.71	0.71	0.04	0.51	0.71
v/c Ratio		0.96	0.46	0.04	0.12		0.79	0.54	0.00	0.03	0.91	0.24
Control Delay (s/veh)		111.5	4.1	75.0	44.3		73.5	14.7	0.0	75.0	51.7	2.8
Queue Delay		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)		111.5	4.1	75.0	44.3		73.5	14.7	0.0	75.0	51.7	2.8
LOS		F	A	E	D		E	B	A	E	D	A
Approach Delay (s/veh)		49.9			52.6			37.8			39.3	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)		278	0	3	1		244	264	0	2	763	13
Queue Length 95th (ft)		#465	54	15	21		294	620	0	12	#1311	61
Internal Link Dist (ft)		418			40			484			547	
Turn Bay Length (ft)							635		360	350		350
Base Capacity (vph)		274	805	282	263		656	1321	1177	101	952	1217
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		0.96	0.44	0.01	0.03		0.71	0.54	0.00	0.02	0.91	0.24

Intersection Summary

Cycle Length: 160

Actuated Cycle Length: 160

Offset: 59 (37%), Referenced to phase 2:SBT and 6:NBT, Start of Yellow

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay (s/veh): 40.9

Intersection LOS: D

Intersection Capacity Utilization 95.7%

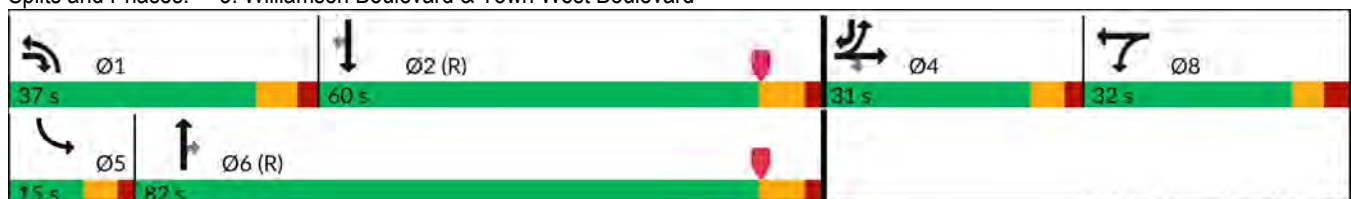
ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Williamson Boulevard & Town West Boulevard



Dynamic Report

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst		Roadway	Williamson Boulevard & Town West Boulevard No Build
Agency or Company		Intersection	
Date Performed		Jurisdiction	
		Analysis Year	2027
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	9,700
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	9,000
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	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
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			5
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	4
Number of bus stops within 300 m (1,000 ft.) of the intersection		0	0
Schools within 300 m (1,000 ft.) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft.) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
CMF 1i	CMF 2i	CMF 3i	CMF 4i	CMF 5i	CMF 6i	CMF _{COMB}
from Table 12-24	from Table 12-25	from Table 12-26	from Equation 12-35	from Equation 12-36	from Equation 12-37	(1)*(2)*(3)*(4)*(5)*(6)
0.66	0.87	0.88	1.00	1.00	1.00	0.51

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	-10.99	1.07	0.23	0.39	2.526	1.000	2.526	0.51	2.27	2.900	
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	0.737	(4) _{FI} /((4) _{FI} +(4) _{PDO}) 0.303	0.765	0.51	2.27	0.878	
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	1.697	(5) _{TOTAL} -(5) _{FI} 0.697	1.761	0.51	2.27	2.021	

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bimv (FI)} (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted N _{bimv (PDO)} (crashes/year)	(6) Predicted N _{bimv (TOTAL)} (crashes/year)
	from Table 12-11	(9) _{FI} from Worksheet 2C	from Table 12-11	(9) _{PDO} from Worksheet 2C	(9) _{PDO} from Worksheet 2C
Total	1.000	0.878	1.000	2.021	2.900
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Rear-end collision	0.450	0.395	0.483	0.976	1.372
Head-on collision	0.049	0.043	0.030	0.061	0.104
Angle collision	0.347	0.305	0.244	0.493	0.798
Sideswipe	0.099	0.087	0.032	0.065	0.152
Other multiple-vehicle collision	0.055	0.048	0.211	0.426	0.475

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N _{bisv}	Proportion of Total Crashes	Adjusted N _{bimv}	Combined CMFs	Calibration Factor, C _i	Predicted N _{bisv}
	from Table 12-12			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	0.221	1.000	0.221	0.51	2.27	0.254
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.070	(4) _{FI} /((4) _{FI} +(4) _{PDO})	0.070	0.51	2.27	0.081
						0.319				
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.149	(5) _{TOTAL} -(5) _{FI}	0.151	0.51	2.27	0.173
						0.681				

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	0.081	1.000	0.173	0.254
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000

Collision with animal	0.002	0.000	0.002	0.000	0.001
Collision with fixed object	0.744	0.060	0.870	0.150	0.211
Collision with other object	0.072	0.006	0.070	0.012	0.018
Other single-vehicle collision	0.040	0.003	0.023	0.004	0.007
Single-vehicle noncollision	0.141	0.011	0.034	0.006	0.017

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)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14						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	0.009	1.00	2.27	0.009
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	2.27	0.009

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	2.900	0.254	3.153	0.015	2.27	0.047
Fatal and injury (FI)	--	--	--	--	2.27	0.047

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)	0.395	0.976	1.372
Head-on collisions (from Worksheet 2D)	0.043	0.061	0.104
Angle collisions (from Worksheet 2D)	0.305	0.493	0.798
Sideswipe (from Worksheet 2D)	0.087	0.065	0.152
Other multiple-vehicle collision (from Worksheet 2D)	0.048	0.426	0.475
Subtotal	0.878	2.021	2.900
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.001
Collision with fixed object (from Worksheet 2F)	0.060	0.150	0.211
Collision with other object (from Worksheet 2F)	0.006	0.012	0.018
Other single-vehicle collision (from Worksheet 2F)	0.003	0.004	0.007
Single-vehicle noncollision (from Worksheet 2F)	0.011	0.006	0.017
Collision with pedestrian (from Worksheet 2G or 2I)	0.009	0.000	0.009
Collision with bicycle (from Worksheet 2J)	0.047	0.000	0.047
Subtotal	0.137	0.173	0.310
Total	1.015	2.194	3.209

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	3.2
Fatal and injury (FI)	1.0
Property damage only (PDO)	2.2

Worksheet 2A -- General Information and Input Data for Urban and Suburban Arterial Intersections			
General Information		Location Information	
Analyst		Roadway	Williamson Boulevard & Town West Boulevard Build
Agency or Company		Intersection	
Date Performed		Jurisdiction	
		Analysis Year	2027
Input Data		Base Conditions	Site Conditions
Intersection type (3ST, 3SG, 4ST, 4SG)		--	4SG
AADT _{major} (veh/day)	AADT _{MAX} = 67,700 (veh/day)	--	9,700
AADT _{minor} (veh/day)	AADT _{MAX} = 33,400 (veh/day)	--	9,000
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
Type of left-turn signal phasing for Leg #2		--	Protected
Type of left-turn signal phasing for Leg #3		--	Protected
Type of left-turn signal phasing for Leg #4 (if applicable)		--	Protected
Number of approaches with right-turn-on-red prohibited [for 3SG, use maximum value of 3]		0	0
Intersection red light cameras (present/not present)		Not Present	Not Present
Sum of all pedestrian crossing volumes (PedVol) -- Signalized intersections only			20
Maximum number of lanes crossed by a pedestrian (n _{lanesx})		--	5
Number of bus stops within 300 m (1,000 ft.) of the intersection		0	0
Schools within 300 m (1,000 ft.) of the intersection (present/not present)		Not Present	Not Present
Number of alcohol sales establishments within 300 m (1,000 ft.) of the intersection		0	0

Worksheet 2B -- Crash Modification Factors for Urban and Suburban Arterial Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
CMF for Left-Turn Lanes	CMF for Left-Turn Signal Phasing	CMF for Right-Turn Lanes	CMF for Right Turn on Red	CMF for Lighting	CMF for Red Light Cameras	Combined CMF
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	0.78	0.88	1.00	0.91	1.00	0.42

Worksheet 2C -- Multiple-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections								
(1)	(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) _{FI} -(6) _{PDO}
Total	-10.99	1.07	0.23	0.39	2.526	1.000	2.526	0.42	2.27	2.381
Fatal and Injury (FI)	-13.14	1.18	0.22	0.33	0.737	(4) _{FI} /(4) _{FI} +(4) _{PDO} 0.303	0.765	0.42	2.27	0.721
Property Damage Only (PDO)	-11.02	1.02	0.24	0.44	1.697	(5) _{TOTAL} -(5) _{FI} 0.697	1.761	0.42	2.27	1.659

Worksheet 2D -- Multiple-Vehicle Collisions by Collision Type for Urban and Suburban Arterial Intersections					
(1) Collision Type	(2) Proportion of Collision Type _(FI)	(3) Predicted N _{bimv (FI)} (crashes/year)	(4) Proportion of Collision Type _(PDO)	(5) Predicted N _{bimv (PDO)} (crashes/year)	(6) Predicted N _{bimv (TOTAL)} (crashes/year)
	from Table 12-11	(9) _{FI} from Worksheet 2C	from Table 12-11	(9) _{PDO} from Worksheet 2C	(9) _{PDO} from Worksheet 2C
Total	1.000	0.721	1.000	1.659	2.381
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Rear-end collision	0.450	0.325	0.483	0.802	1.126
Head-on collision	0.049	0.035	0.030	0.050	0.085
Angle collision	0.347	0.250	0.244	0.405	0.655
Sideswipe	0.099	0.071	0.032	0.053	0.125
Other multiple-vehicle collision	0.055	0.040	0.211	0.350	0.390

Worksheet 2E -- Single-Vehicle Collisions by Severity Level for Urban and Suburban Arterial Intersections										
(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)	(9)
Crash Severity Level	SPF Coefficients			Overdispersion Parameter, k	Initial N _{bisv}	Proportion of Total Crashes	Adjusted N _{bimv}	Combined CMFs	Calibration Factor, C _i	Predicted N _{bisv}
	from Table 12-12			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	0.221	1.000	0.221	0.42	2.27	0.208
Fatal and Injury (FI)	-9.25	0.43	0.29	0.09	0.070	(4) _{FI} /((4) _{FI} +(4) _{PDO})	0.070	0.42	2.27	0.066
						0.319				
Property Damage Only (PDO)	-11.34	0.78	0.25	0.44	0.149	(5) _{TOTAL} -(5) _{FI}	0.151	0.42	2.27	0.142
						0.681				

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	0.066	1.000	0.142	0.208
		(2)*(3) _{FI}		(4)*(5) _{PDO}	(3)+(5)
Collision with parked vehicle	0.001	0.000	0.001	0.000	0.000

Collision with animal	0.002	0.000	0.002	0.000	0.000
Collision with fixed object	0.744	0.049	0.870	0.123	0.173
Collision with other object	0.072	0.005	0.070	0.010	0.015
Other single-vehicle collision	0.040	0.003	0.023	0.003	0.006
Single-vehicle noncollision	0.141	0.009	0.034	0.005	0.014

Worksheet 2G -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Stop-Controlled Intersections						
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Crash Severity Level	Predicted N_{bimv}	Predicted N_{bisv}	Predicted N_{bi}	f_{pedi}	Calibration factor, C_i	Predicted N_{pedi}
	(9) from Worksheet 2C	(9) from Worksheet 2E	(2) + (3)	from Table 12-16		(4)*(5)*(6)
Total	--	--	--	--	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)
1.00	1.00	1.00	1.00

Worksheet 2I -- Vehicle-Pedestrian Collisions for Urban and Suburban Arterial Signalized Intersections										
(1)	(2)					(3)	(4)	(5)	(6)	(7)
Crash Severity Level	SPF Coefficients					Overdispersion Parameter, k	N _{pedbase}	Combined CMF	Calibration factor, C _i	Predicted N _{pedi}
	from Table 12-14						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	0.017	1.00	2.27	0.017
Fatal and Injury (FI)	--	--	--	--	--	--	--	--	2.27	0.017

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	2.381	0.208	2.589	0.015	2.27	0.039
Fatal and injury (FI)	--	--	--	--	2.27	0.039

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)	0.325	0.802	1.126
Head-on collisions (from Worksheet 2D)	0.035	0.050	0.085
Angle collisions (from Worksheet 2D)	0.250	0.405	0.655
Sideswipe (from Worksheet 2D)	0.071	0.053	0.125
Other multiple-vehicle collision (from Worksheet 2D)	0.040	0.350	0.390
Subtotal	0.721	1.659	2.381
SINGLE-VEHICLE			
Collision with parked vehicle (from Worksheet 2F)	0.000	0.000	0.000
Collision with animal (from Worksheet 2F)	0.000	0.000	0.000
Collision with fixed object (from Worksheet 2F)	0.049	0.123	0.173
Collision with other object (from Worksheet 2F)	0.005	0.010	0.015
Other single-vehicle collision (from Worksheet 2F)	0.003	0.003	0.006
Single-vehicle noncollision (from Worksheet 2F)	0.009	0.005	0.014
Collision with pedestrian (from Worksheet 2G or 2I)	0.017	0.000	0.017
Collision with bicycle (from Worksheet 2J)	0.039	0.000	0.039
Subtotal	0.122	0.142	0.264
Total	0.844	1.801	2.645

Worksheet 2L -- Summary Results for Urban and Suburban Arterial Intersections	
(1)	(2)
Crash severity level	Predicted average crash frequency, $N_{predicted\ int}$ (crashes/year)
	(Total) from Worksheet 2K
Total	2.6
Fatal and injury (FI)	0.8
Property damage only (PDO)	1.8

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>Williamson Blvd & Town West Blvd</u>		County: <u>Volusia</u>		
Agency or Company: <u>Volusia-Flagler TPO</u>					City: <u>Port Orange</u>		M.P. - <u>M.P.</u>		
Manual Input from Analysis									
Major Growth Rate = <u>2.0%</u>		Current Year = <u>2027</u>		Project Opening Year = <u>2027</u>		Default Distribution for Crash Severity Level (2010-2014 Florida HSM Crash Distribution) Fatality = <u>0.9%</u> Possible Injury = <u>22.3%</u> Incapacitating = <u>6.2%</u> Property Damage Only = <u>54.0%</u> Non-Incapacitating = <u>16.6%</u> Segment Type = <u>2U</u> 100.0%			
Minor Growth Rate = <u>4.2%</u>		Rate of Return = <u>4.0%</u>		Analysis Period = <u>11</u>					
Opening Year Major AADT = <u>9,700</u>		Intersection Type = <u>4SG</u>							
Opening Year Minor AADT = <u>9,000</u>		Intersection = <u>Intersection1</u>		P <u>2.6</u>					
Crash Data Used = <u>No</u>				Analyze					

	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
1	2027	9,700	9,000	3.22	0.029	0.199	0.534	0.717	1.737							
2	2028	9,894	9,382	3.32	0.030	0.206	0.550	0.739	1.790							
3	2029	10,092	9,779	3.42	0.031	0.212	0.567	0.762	1.845							
4	2030	10,294	10,194	3.52	0.032	0.218	0.585	0.785	1.902							
5	2031	10,500	10,626	3.63	0.033	0.225	0.603	0.810	1.960							
6	2032	10,710	11,077	3.74	0.034	0.232	0.621	0.834	2.020							
7	2033	10,924	11,546	3.86	0.035	0.239	0.640	0.860	2.082							
8	2034	11,142	12,036	3.97	0.036	0.246	0.660	0.886	2.146							
9	2035	11,365	12,546	4.10	0.037	0.254	0.680	0.913	2.212							
10	2036	11,592	13,078	4.22	0.038	0.262	0.701	0.942	2.280							
11	2037	11,824	13,633	4.35	0.039	0.270	0.722	0.970	2.350							
	2038	12,061	14,211		0.000	0.000	0.000	0.000	0.000							
	2039	12,302	14,813		0.000	0.000	0.000	0.000	0.000							
	2040	12,548	15,442		0.000	0.000	0.000	0.000	0.000							
	2041	12,799	16,096		0.000	0.000	0.000	0.000	0.000							
	2042	13,055	16,779		0.000	0.000	0.000	0.000	0.000							
	2043	13,316	17,490		0.000	0.000	0.000	0.000	0.000							
	2044	13,582	18,232		0.000	0.000	0.000	0.000	0.000							
	2045	13,854	19,005		0.000	0.000	0.000	0.000	0.000							
	2046	14,131	19,811		0.000	0.000	0.000	0.000	0.000							
	2047	14,414	20,650		0.000	0.000	0.000	0.000	0.000							
	2048	14,702	21,526		0.000	0.000	0.000	0.000	0.000							
	2049	14,996	22,439		0.000	0.000	0.000	0.000	0.000							
	2050	15,296	23,390		0.000	0.000	0.000	0.000	0.000							
	2051	15,602	24,382		0.000	0.000	0.000	0.000	0.000							
	2052	15,914	25,416		0.000	0.000	0.000	0.000	0.000							
	2053	16,232	26,493		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>Williamson Blvd & Town West Blvd</u>			County: <u>Volusia</u>							
Agency or Company: <u>Volusia-Flagler TPO</u>					City: <u>Port Orange</u>			M.P. - <u>M.P.</u>							
Manual Input from Analysis															
Major Growth Rate = <u>2.0%</u>		Current Year = <u>2027</u>		Project Opening Year = <u>2027</u>		Default Distribution for Crash Severity Level (2010-2014 Florida HSM Crash Distribution) <table style="width:100%; border: none;"> <tr> <td style="width: 50%;">Fatality = <u>0.9%</u></td> <td style="width: 50%;">Possible Injury = <u>22.3%</u></td> </tr> <tr> <td>Incapacitating = <u>6.2%</u></td> <td>Property Damage Only = <u>54.0%</u></td> </tr> <tr> <td>Non-Incapacitating = <u>16.6%</u></td> <td>Segment Type = <u>2U</u> 100.0%</td> </tr> </table>				Fatality = <u>0.9%</u>	Possible Injury = <u>22.3%</u>	Incapacitating = <u>6.2%</u>	Property Damage Only = <u>54.0%</u>	Non-Incapacitating = <u>16.6%</u>	Segment Type = <u>2U</u> 100.0%
Fatality = <u>0.9%</u>	Possible Injury = <u>22.3%</u>														
Incapacitating = <u>6.2%</u>	Property Damage Only = <u>54.0%</u>														
Non-Incapacitating = <u>16.6%</u>	Segment Type = <u>2U</u> 100.0%														
Minor Growth Rate = <u>4.2%</u>		Rate of Return = <u>4.0%</u>		Analysis Period = <u>11</u>											
Opening Year Major AADT = <u>9,700</u>		Intersection Type = <u>4SG</u>													
Opening Year Minor AADT = <u>9,000</u>		Intersection = <u>Intersection2</u>		P <u>0.1</u>											
Crash Data Used = <u>No</u>				Analyze											

	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
1	2027	9,700	9,000	2.64	0.024	0.164	0.439	0.590	1.428							
2	2028	9,894	9,382	2.73	0.025	0.169	0.453	0.608	1.472							
3	2029	10,092	9,779	2.81	0.025	0.174	0.466	0.627	1.517							
4	2030	10,294	10,194	2.90	0.026	0.180	0.481	0.646	1.564							
5	2031	10,500	10,626	2.98	0.027	0.185	0.495	0.666	1.612							
6	2032	10,710	11,077	3.08	0.028	0.191	0.511	0.686	1.661							
7	2033	10,924	11,546	3.17	0.029	0.197	0.526	0.707	1.712							
8	2034	11,142	12,036	3.27	0.029	0.203	0.542	0.729	1.764							
9	2035	11,365	12,546	3.37	0.030	0.209	0.559	0.751	1.818							
10	2036	11,592	13,078	3.47	0.031	0.215	0.576	0.774	1.874							
11	2037	11,824	13,633	3.58	0.032	0.222	0.594	0.798	1.932							
	2038	12,061	14,211		0.000	0.000	0.000	0.000	0.000							
	2039	12,302	14,813		0.000	0.000	0.000	0.000	0.000							
	2040	12,548	15,442		0.000	0.000	0.000	0.000	0.000							
	2041	12,799	16,096		0.000	0.000	0.000	0.000	0.000							
	2042	13,055	16,779		0.000	0.000	0.000	0.000	0.000							
	2043	13,316	17,490		0.000	0.000	0.000	0.000	0.000							
	2044	13,582	18,232		0.000	0.000	0.000	0.000	0.000							
	2045	13,854	19,005		0.000	0.000	0.000	0.000	0.000							
	2046	14,131	19,811		0.000	0.000	0.000	0.000	0.000							
	2047	14,414	20,650		0.000	0.000	0.000	0.000	0.000							
	2048	14,702	21,526		0.000	0.000	0.000	0.000	0.000							
	2049	14,996	22,439		0.000	0.000	0.000	0.000	0.000							
	2050	15,296	23,390		0.000	0.000	0.000	0.000	0.000							
	2051	15,602	24,382		0.000	0.000	0.000	0.000	0.000							
	2052	15,914	25,416		0.000	0.000	0.000	0.000	0.000							
	2053	16,232	26,493		0.000	0.000	0.000	0.000	0.000							

APPENDIX D:
Supporting Utility Documents

Ticket 335504371-0

Ticket has 1 Attachment:

File: TicketMap-335504371-0.jpeg [open](#) [download](#)

Ticket : 335504371 Rev:000 Taken: 12/01/25 10:52ET

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

Address : 1600
Street : TOWN WEST BLVD

Locat: ENTIRE PROPERTY
:
Remarks : *** LOOKUP BY ADDRESS ***
*** Boundary: n 29.115280 s 29.113670 w -81.046306 e -81.044644
:
Grids : 2906A8102A 2906A8102B

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 10:52ET Oper: MIC Chan: WEB
Mbrs : CP0562 CVITV3 FPLFN FPLVOL MF2332 SBF02 SL1086

* Responses are current as of 12/01/2025 10:55 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	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	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	



A map showing a road intersection. A blue oval highlights a specific area at the intersection. The road is labeled with two address ranges: '1601-1659 Town West Blvd' and '1610-1640 Town West Blvd'. The road itself is depicted with a white center line and grey shoulders. The surrounding area is light grey, with some faint lines indicating property boundaries or other roads.

1601-1659 Town West Blvd
1610-1640 Town West Blvd



Outlook

[External] Responses for Sunshine 811 locate request 335504371

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 335504371

FL : VOLUSIA County, PORT ORANGE
1600 TOWN WEST BLVD

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 - NORTH FIBER

- Clear No Facilities

FLORIDA POWER & LIGHT--VOLUSIA

- Clear No Facilities

METRO FIBERNET LLC

- Clear No Facilities

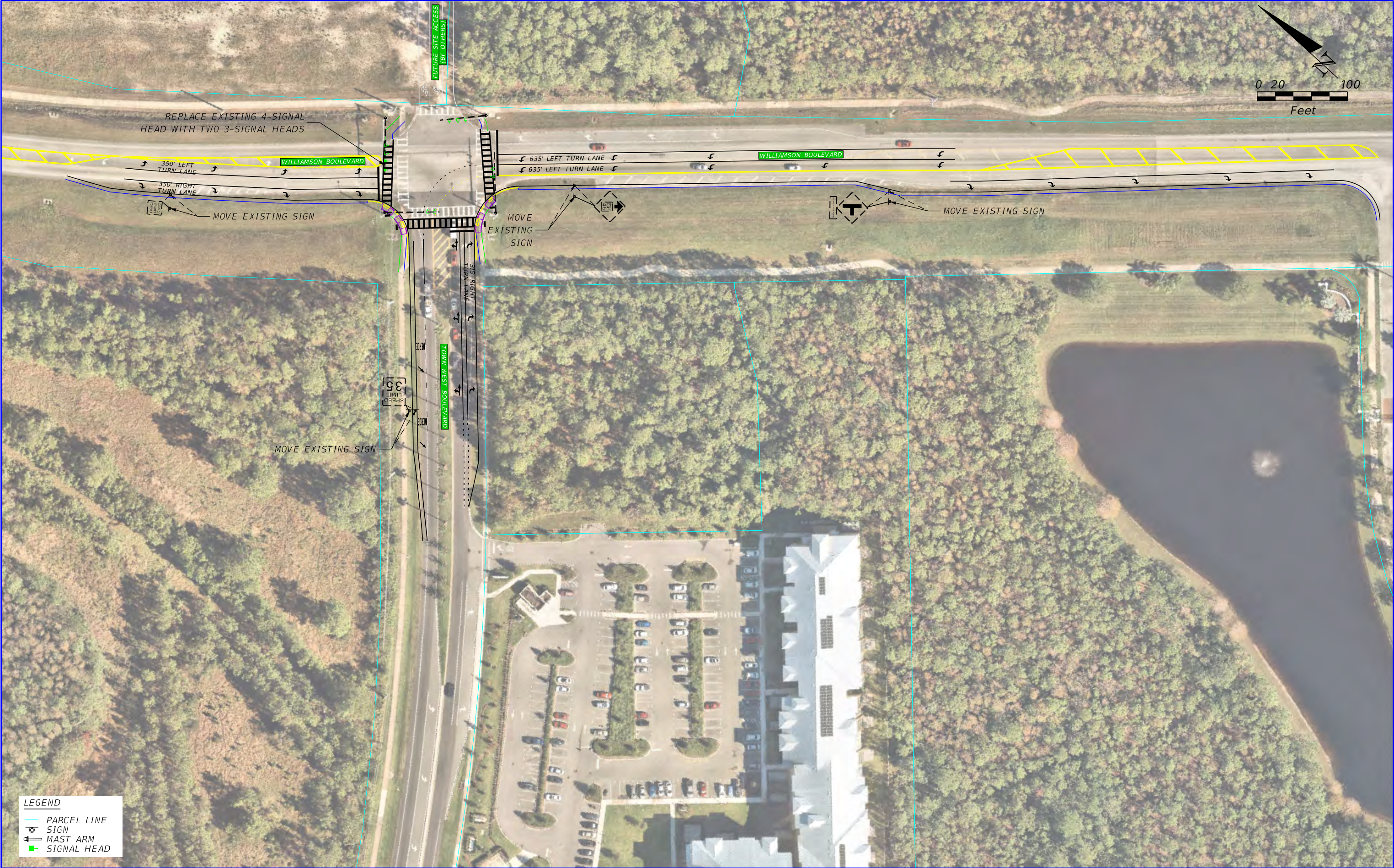
UNITI FIBER LLC

- Clear No Facilities

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%7Ca14148316bf34e192c5208de32f0dfda%7C365c5e99f68f4beb89d9abecb41b1a1b%7C0%7C0%7C639004207292963771%7CUnknown%7CTWFpbGZsb3d8eyJFbXB0eU1hcGkiOnRydWUsIlYiOiIlwLjAuMDAwMCIslIAiOiJXaW4zMilslkFOljoITWFpbCIsIlldUljoyfQ%3D%3D%7C0%7C%7C%7C&sdata=CExdrIX7uWGke0Up0hgMKRF6h8bA6jdO5LX6r33gJgo%3D&reserved=0> or by calling 1 - (800) 852 - 8057.

APPENDIX E:
Concepts, Costs & FDOT ICE Tool Output



LEGEND

- PARCEL LINE
- SIGN
- MAST ARM
- SIGNAL HEAD

REVISIONS				VANASSE HANGEN BRUSTLIN, INC. 225 E. ROBINSON STREET ORLANDO, FL 32801	VOLUSIA-FLAGLER TPO			CONCEPT PLAN - WILLIAMSON BLVD AT TOWN WEST BLVD		SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID			
					CR 4009	VOLUSIA				

Sunday, March 29, 2026

[illegible]

2) Design cost estimates were provided by the City of Port Orange (via email on 03/17/2026)

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:		Williamson Boulevard and Town
Project Reference:		NA
Intersection:		Williamson Boulevard and Town
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	\$ -	\$ -	\$ 1,165,900
Post-Opening Costs	\$ 62,464	\$ 62,464	\$ 62,464
Auto Passenger Delay	\$ 16,386,863	\$ 16,386,863	\$ 11,970,334
Truck Delay	\$ 2,279,555	\$ 2,279,555	\$ 1,665,178
Safety	\$ 5,018,395	\$ 5,018,395	\$ 4,122,124
Total cost	\$23,747,277	\$23,747,277	\$18,986,000

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			\$ 4,416,528
Truck Delay			\$ 614,378
Safety			\$ 896,271
Net Present Value of Benefits			\$ 5,927,177

Net Present Value of Costs			\$ 1,165,900
Net Present Value of Improvement			\$ 4,761,277
Benefit-Cost (B/C) Ratio			5.08
Delay B/C			4.32
Safety B/C			0.77

