NORTHEAST POLK US 27 Mobility Study

September 2019
Revised November 2019
Revised August 2020

NE Polk US 27 Mobility Study
Existing Conditions Report

Florida Department of Transportation

Existing Conditions Report

NE Polk US 27 Mobility Study
from SR 60 to the Lake County Line
Polk County, FL
Financial Management Number: 440320-1-22-01

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Contents

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1 STUDY OVERVIEW

1.1 INTRODUCTION

The NE Polk US 27 Mobility Study is intended to support the Florida Department of Transportation (FDOT) District One and its transportation partners in defining a multimodal program of improvement projects and strategies. The overall objective of the Study is to improve the mobility, safety, and livability along the US 27 corridor. This multimodal plan will address congestion and mobility issues on US 27 by developing Context-Sensitive Solutions, and documenting improvement strategies.

The purpose of the NE Polk US 27 Mobility Study is to engage local and regional project stakeholders to identify mobility needs and establish planning goals and values that lead to implementation of improvement strategies. Through a collaborative regional consensus process, a multimodal program of projects and strategies is being defined that will improve mobility, safety, and livability for all users. This includes an emphasis on freight. Addressing congestion and mobility issues requires context-sensitive solutions that not only look at improving mobility and safety but also balance those improvements with defined community values. The study outcome will include a set of recommended multimodal strategies and improvements.

The Mobility Study is being conducted in three phases.

- *Phase One: Define the Problem.* The goal of this effort is to define the problem(s) through initial stakeholder outreach, data collection, and reviews of previous studies. Existing travel demand and operations characteristics were assessed, and land use and community characteristics evaluated. A roadway safety audit was conducted, and existing or short-term issues and opportunities identified.

- *Phase Two: Define Guiding Principles.* The focus of this effort is establishing a vision for the corridor. This involves developing guiding principles and forming purpose and need statements. In addition, evaluation criteria and measures of success are being defined, and future travel demand and operations characteristics evaluated. The long-range needs are being identified in this phase.

- In the last phase, *Phase Three: Define and Select Alternatives*, efforts will be centered on defining, assessing, evaluating, documenting, and preparing alternatives for implementation. This phase will identify the viable alternatives to be carried forward and determine the appropriate method for programming and implementing projects.

The purpose of the Existing Conditions Report is to document the data collection, research and existing conditions analysis completed for US 27 during Phase I as part of the NE Polk US 27 Mobility Study.

1.2 STUDY AREA

US 27 is part of the Strategic Intermodal System (SIS) and is a critical north/south route for freight traffic throughout the state. The NE Polk US 27 Mobility Study corridor spans a 32-mile section of US 27 from SR 60 (which is the southern limit of the study area) to US 192 at the Polk County/Lake County line (which is the northern limit of the study area). Depicted in **Figure 1-1**, the broader study area includes the study section of US 27, as well as other key crossroads and parallel roadways that have an impact on US 27 and are impacted by conditions on US 27.

Table 1-1 presents the preliminary list of study intersections along the study section of US 27. The intersections along US 27 were reviewed looking at Annual Average Daily Traffic (AADT) available from the FDOT Traffic Online application, number of lanes on the cross streets, pavement condition, signalization/channelization, and access to residential areas. All 33 existing signalized intersections between SR 60 and US 192 were identified as the key study intersections to be analyzed in Phase 1, along with the unsignalized interchanges of US 192 and US 17. In addition, through coordination with FDOT District One Traffic Operations staff, all 14 unsignalized intersections with full median openings on US 27 between SR 60 and US 192 were identified as key study intersections. **Figure 1-2** depicts the location and lane configuration of each study intersection along the US 27 corridor where existing conditions were assessed.

FIGURE 1-1: STUDY AREA REGIONAL MAP

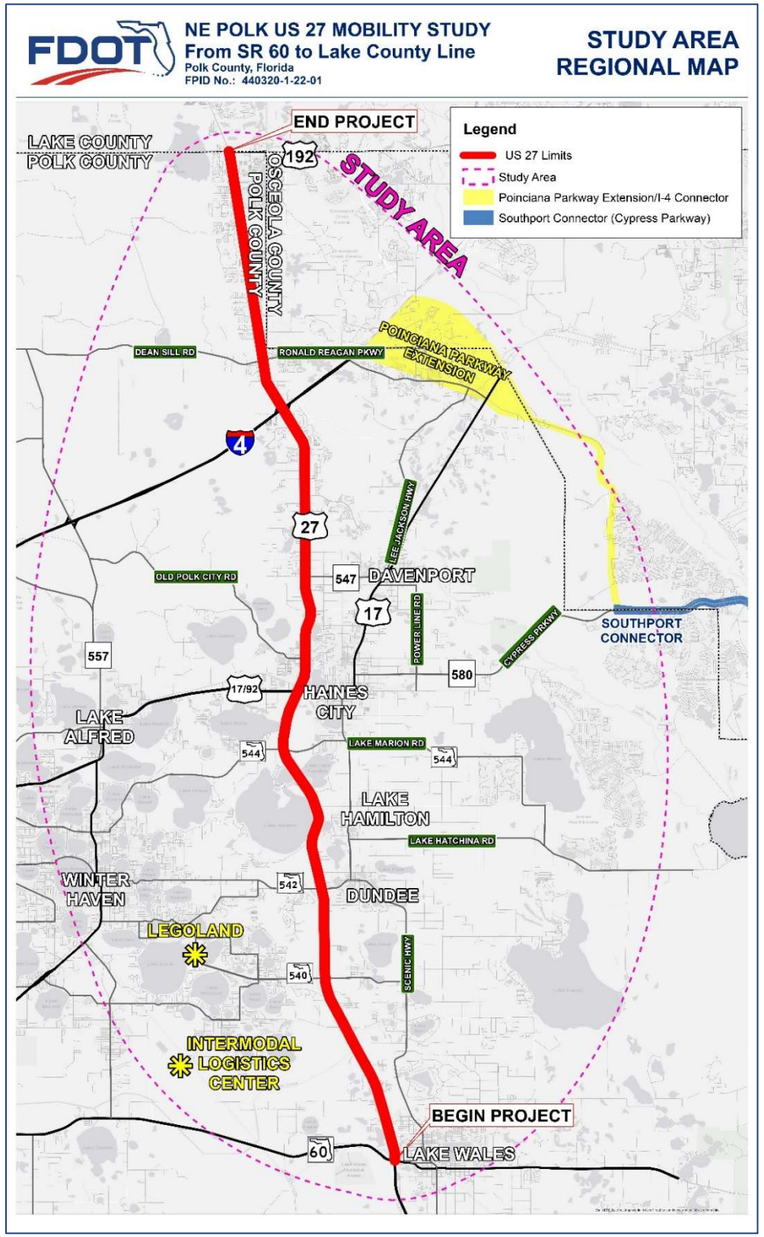
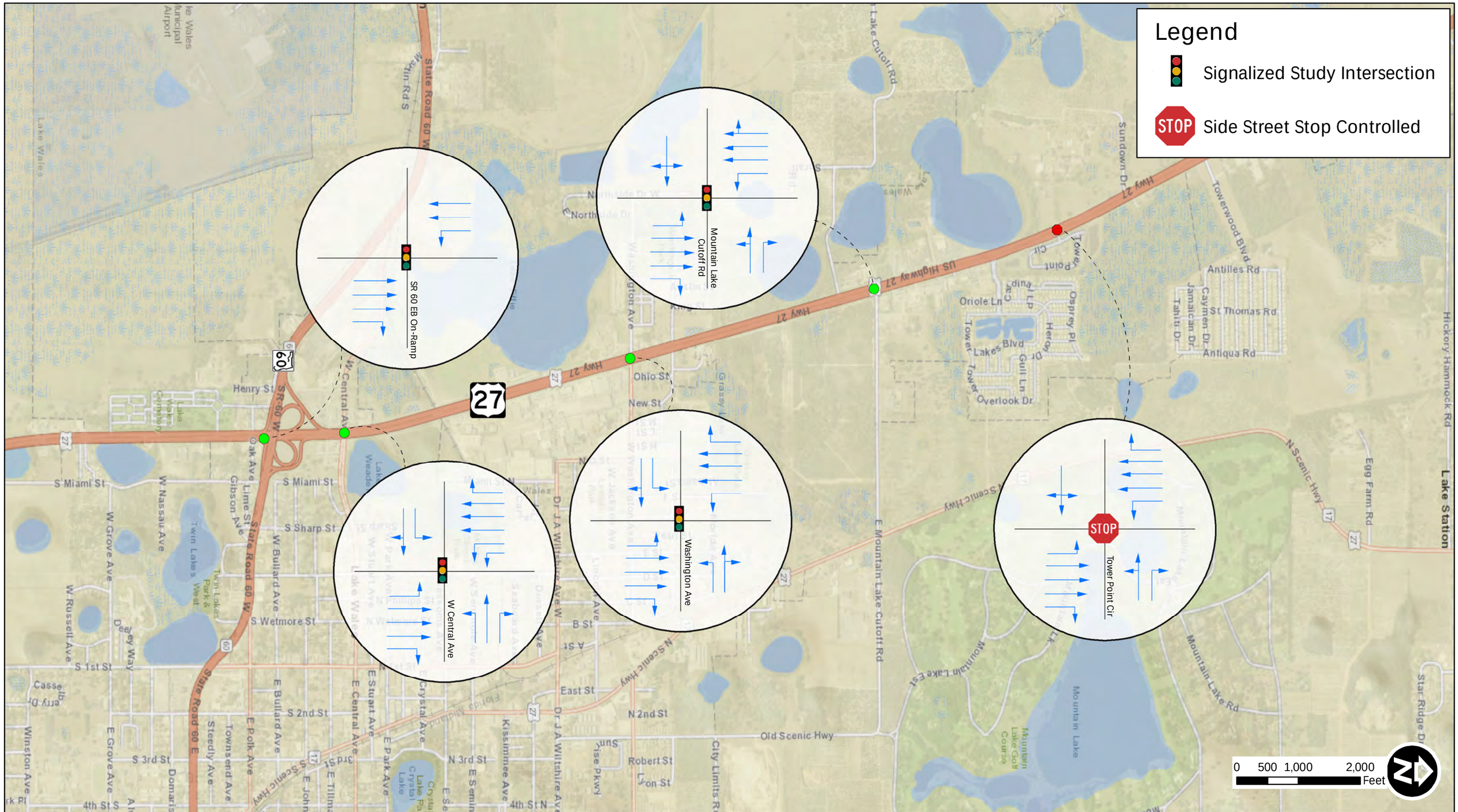
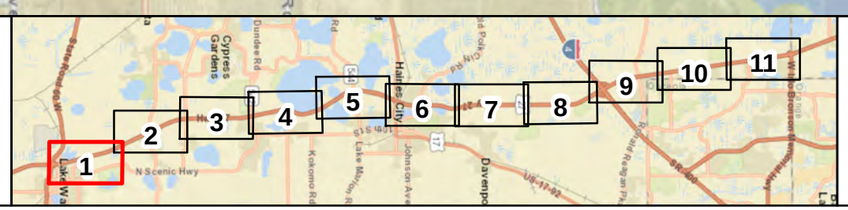


TABLE 1-1: LIST OF STUDY INTERSECTIONS

No.	Intersections (Crossroads)	Paved	Signalized	No. of Directional Lanes on Crossroad	Type
1	US 192	✓	×	3	Interchange
2	Polo Park Blvd/Polo Park Blvd E	✓	✓	2	Four-leg
3	Florence Villa Grove Rd/Legacy Park Blvd	✓	✓	1	Four-leg
4	Sand Mine Rd	✓	✓	2	Four-leg
5	Student Dr/Highland Reserve Blvd	✓	✓	1	Four-leg
6	Mcfee Dr/California Blvd	✓	✓	2	Four-leg
7	Terra Del Sol/Central Grove Rd	✓	×	1	Four-leg
8	Four Corners Blvd/Bella Citta Blvd/Tri County Rd	✓	✓	1+	Four-leg
9	Cardiff Ave/Tri County 1 Rd	✓	×	1	Four-leg
10	Laurel Estates Driveway	✓	×	1	T
11	Deen Still Rd/Ronald Reagan Pkwy	✓	✓	3	Four-leg
12	Waverly Barn Rd/Dunson Rd	✓	✓	1	Four-leg
13	Access Rd/Ritchie Bros Driveway	✓	✓	1	Four-leg
14	I-4 WB Ramps	✓	✓	1+	Four-leg
15	I-4 EB Ramps/Frontage Rd	✓	✓	1+	Four-leg
16	Home Run Blvd/Victor Posner Blvd	✓	✓	2+	Four-leg
17	Heller Bros Blvd/Deer Creek Blvd	✓	✓	2	Four-leg
18	Minute Maid Ramp Rd 2/Citrus Ridge Dr	✓	✓	1	Four-leg
19	Cottonwood Rd/Holly Hill Grove Rd 2	✓	✓	1	Four-leg
20	Ridgewood Lakes Blvd	✓	✓	2	T
21	Holly Hill Tank Rd/Florida Development Rd	✓	×	1	Four-leg
22	Massee Rd/Holly Hill Rd	✓	✓	2	Four-leg
23	La Casa Del Sol Blvd	✓	×	1	T
24	Holly Hill Cutoff Rd/North Blvd W	✓	×	1	Four-leg
25	Sanders Rd/CR 547/Davenport Blvd	✓	✓	1	Four-leg
26	South Blvd	✓	×	1	Four-leg
27	Section 7 Airport Rd/Parson Rd/Patterson Rd	some	×	1	Four-leg
28	Bates Rd	✓	✓	1+	Four-leg
29	Glen Este Blvd/Southern Dunes Blvd	✓	✓	2+	Four-leg
30	CR 17/Old Polk City Rd / Main St W	✓	✓	1+	Four-leg
31	Commerce Ave / Pilot Travel Center Entrance	✓	✓	1+	Four-leg
32	W Johnson Ave	✓	×	1	Four-leg
33	US 17	✓	N/A	2	Interchange
34	SR 544/Scenic Hwy	✓	✓	2+	Four-leg
35	Paradise Island Pl/Sunshine Dr	✓	×	1	Four-leg
36	Kokomo Rd	✓	×	1	T
37	Crump Rd/W Main St	✓	✓	1+	Four-leg
38	Frederick Ave	✓	×	1	Four-leg
39	SR 542/Dundee Rd	✓	✓	1+	Four-leg
40	Lincoln Ave	✓	×	1	T
41	SR 540/Cypress Gardens Blvd/Waverly Rd	✓	✓	1+	Four-leg
42	Shoppes On The Ridge	✓	✓	2	Four-leg
43	Thompson Nursery Rd / Chalet Suzanne Rd	✓	✓	2+	Four-leg
44	Eagle Ridge Mall Ent S	✓	✓	2	T
45	Tower Point Ent / Vanguard School Ent	✓	×	1	Four-leg
46	E Mountain Lake Cut Off Rd N	✓	✓	1+	T
47	Washington Ave	✓	✓	1+	Four-leg
48	W Central Ave	✓	✓	1+	Four-leg
49	SR 60 (SBL US 27 onto SR 60)	✓	✓	2	Ramp Signal





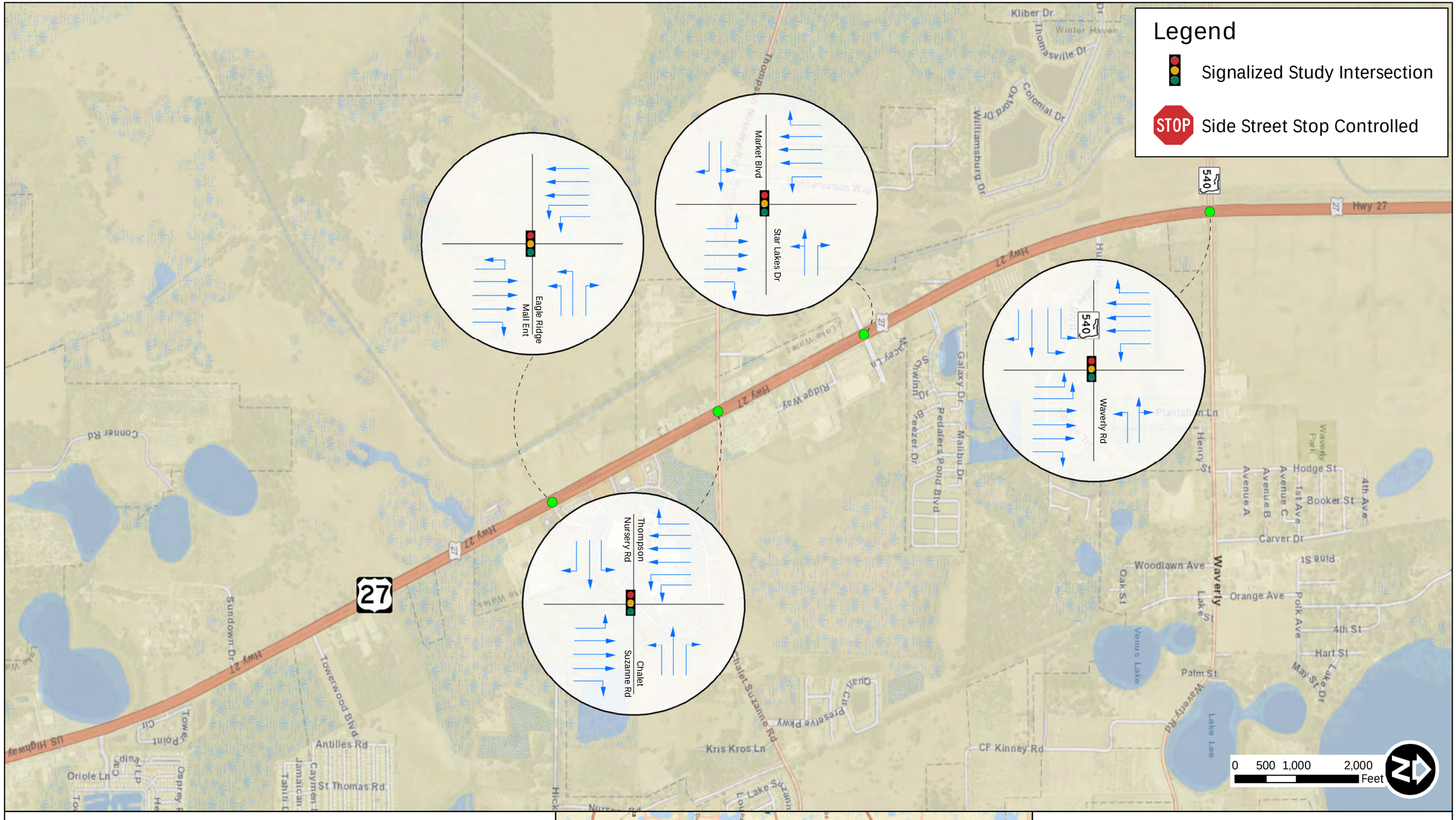
NORTHEAST POLK US 27 Mobility Study

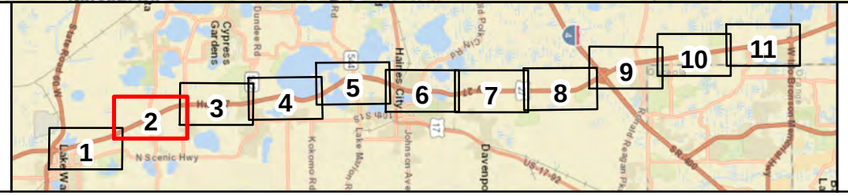
Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 1-2
EXISTING (2018) INTERSECTION LANE CONFIGURATION

Sheet 1 of 11





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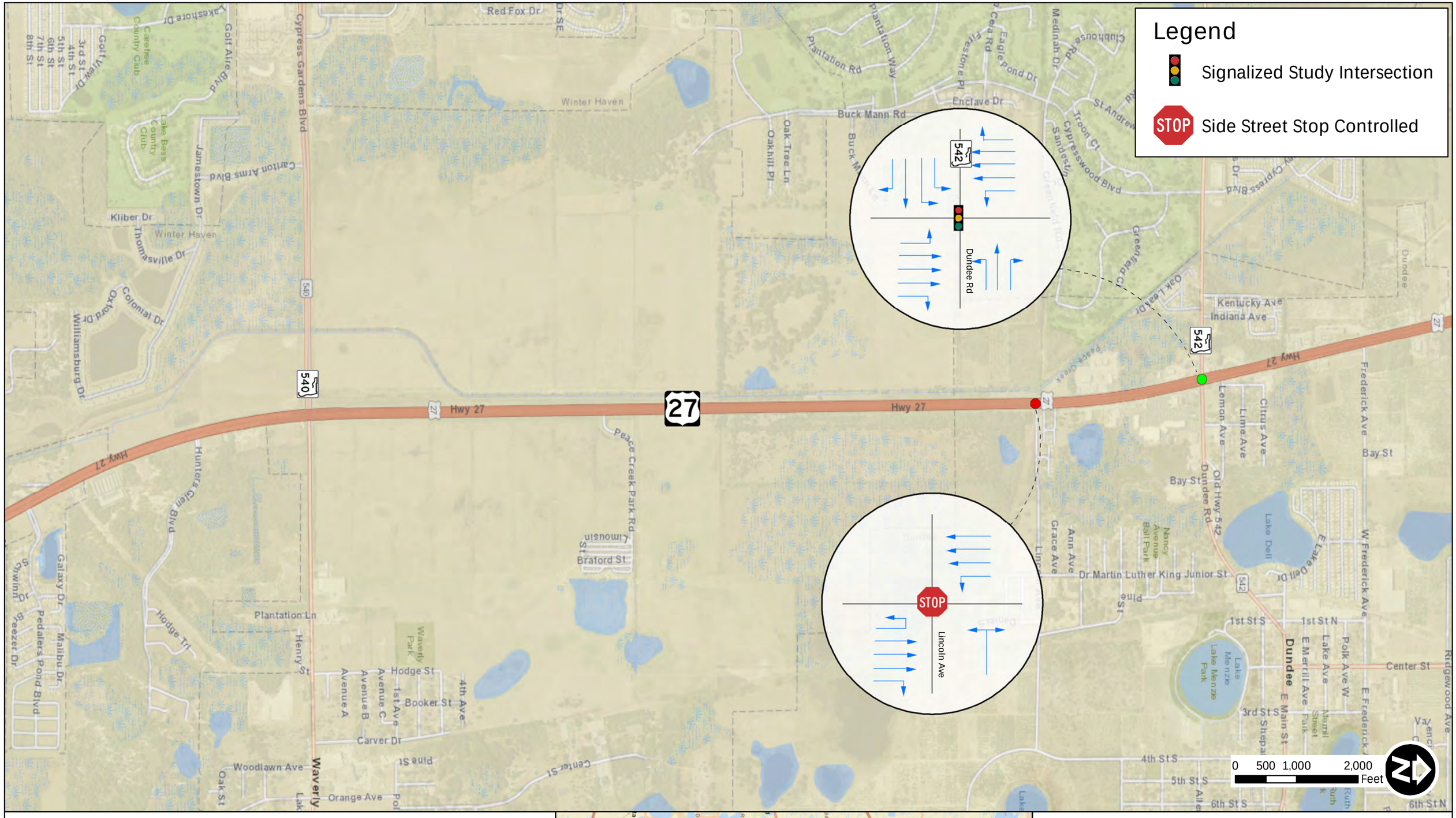

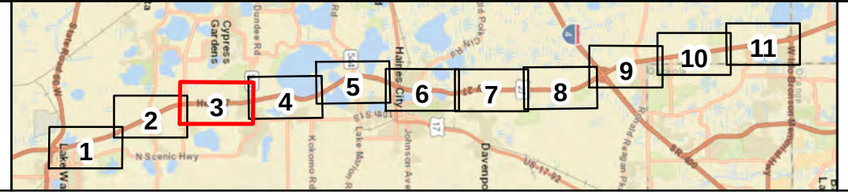

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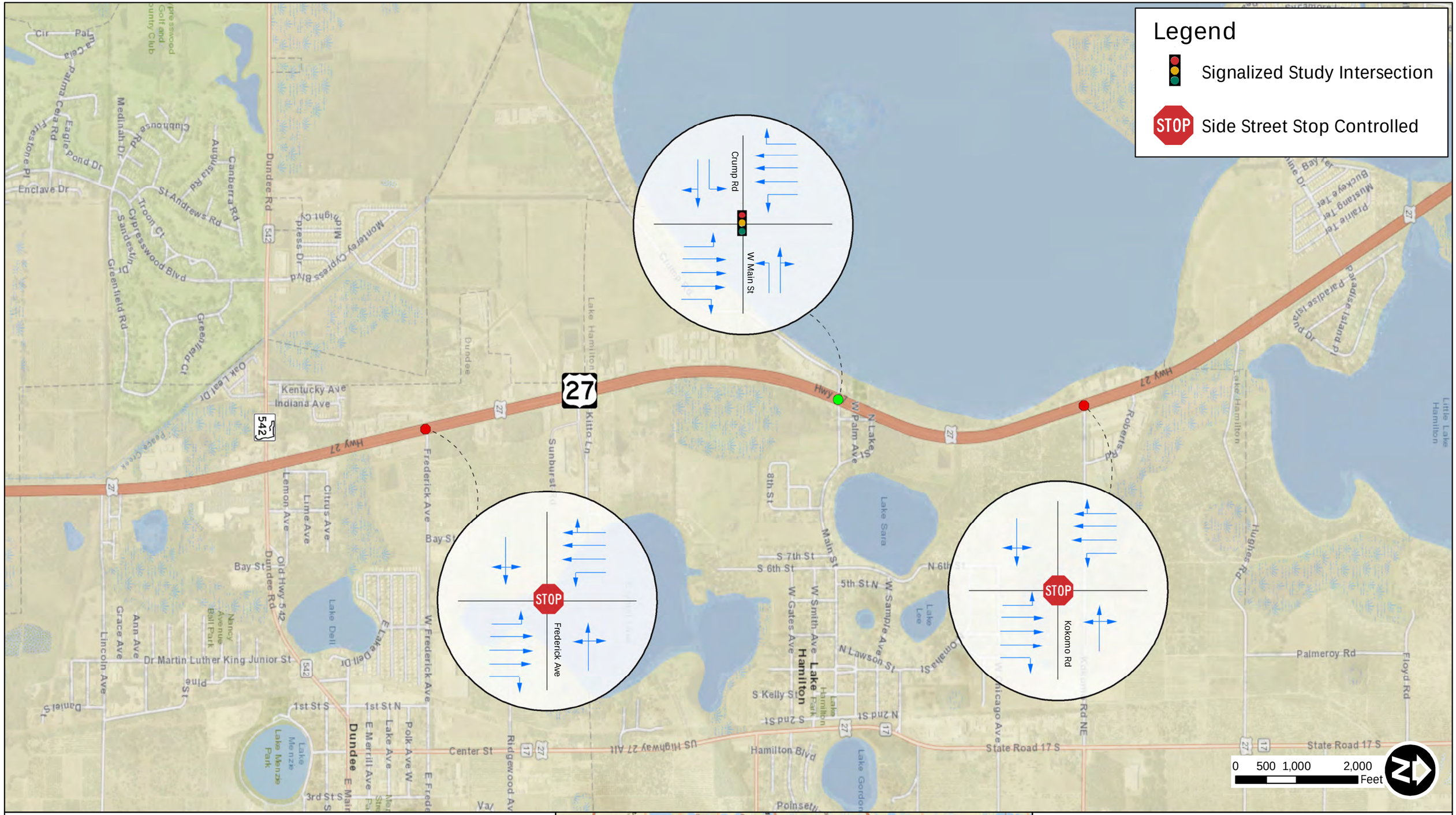

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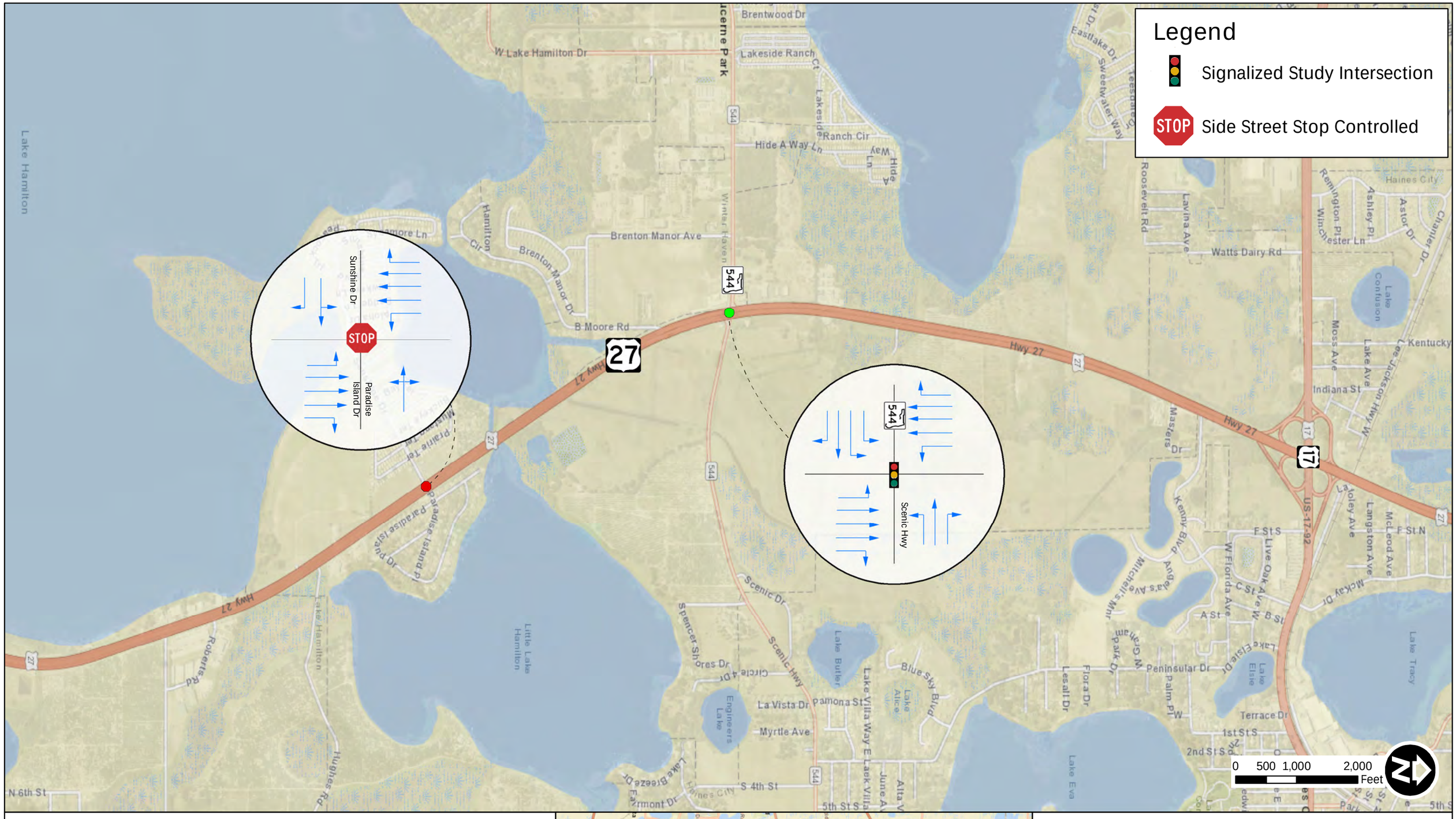

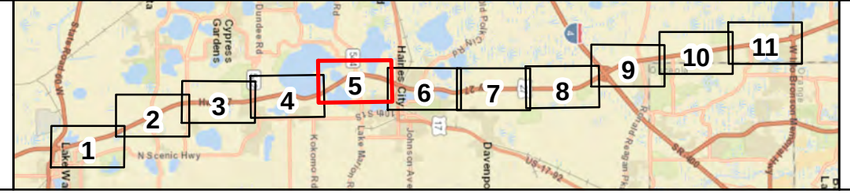

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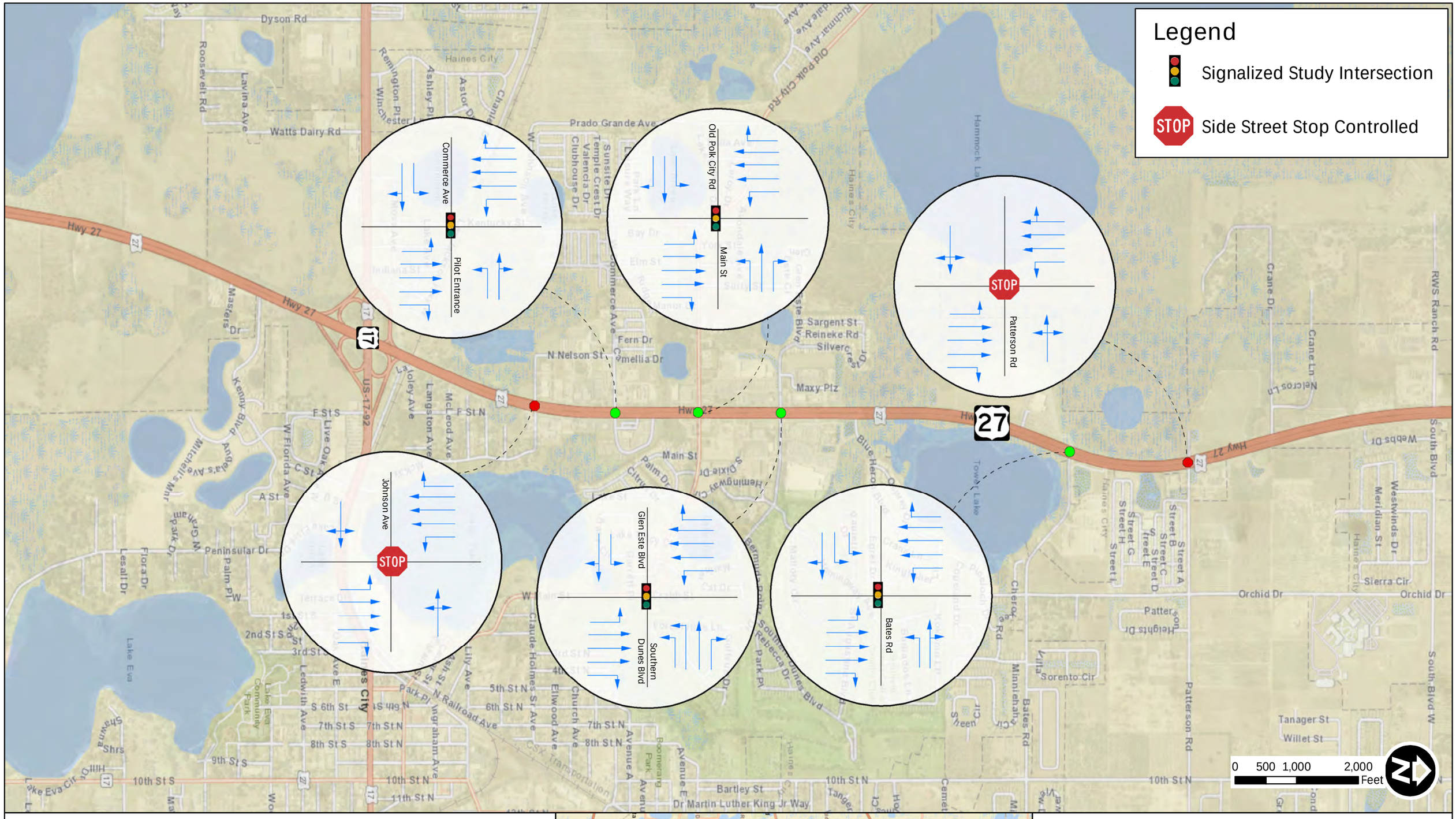

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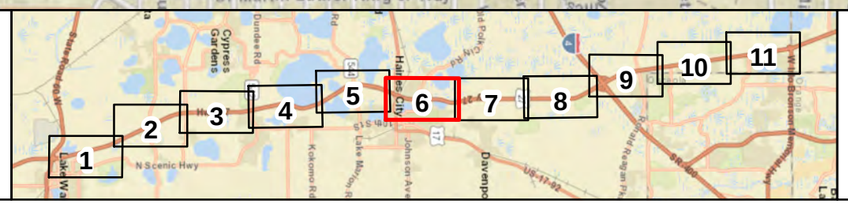

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Sheet 6 of 11

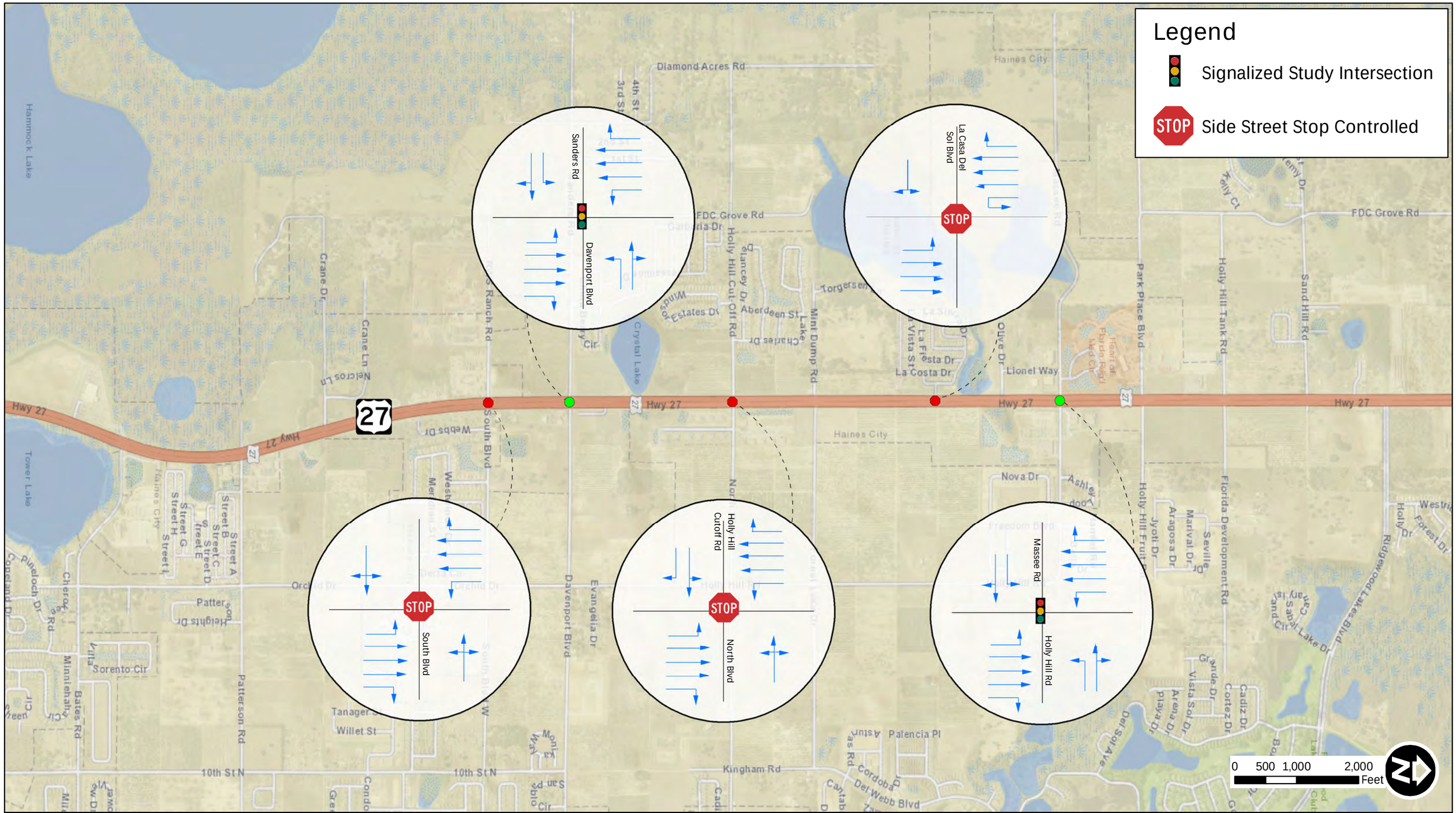

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FIGURE 1-2
EXISTING (2018) INTERSECTION LANE CONFIGURATION

Sheet 7 of 11

Legend

- Signalized Study Intersection
- STOP Side Street Stop Controlled

Holly Hill Tank Rd

Florida Development Rd

Cottonwood Dr

Home Run Blvd

Posner Blvd

Ridgewood Lakes Blvd

Citrus Ridge Dr

Heller Brothers Blvd

Deer Creek Blvd

Hwy 27

0 500 1,000 2,000 Feet

N

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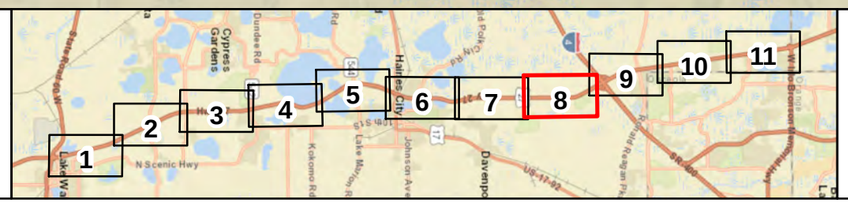

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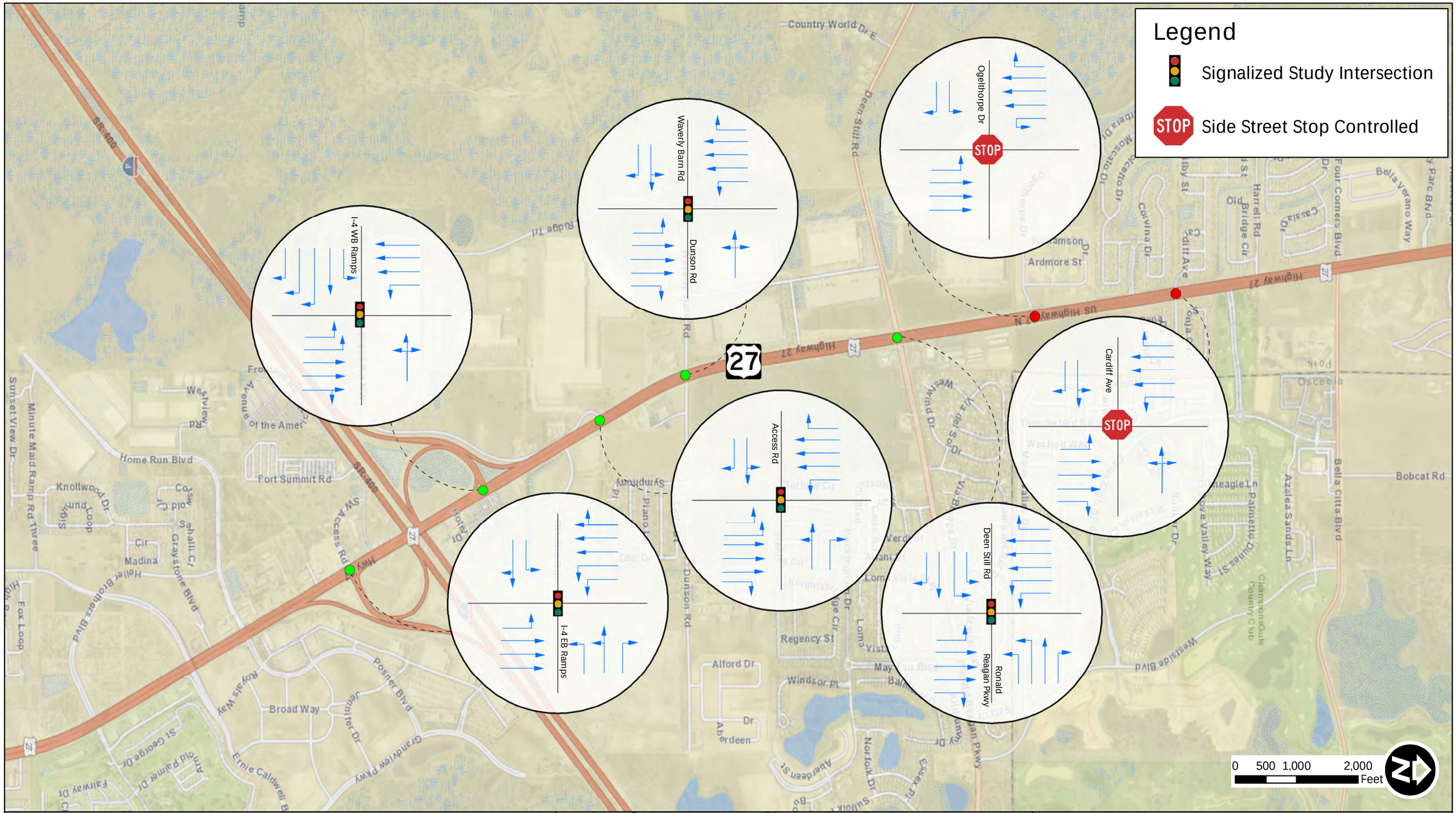

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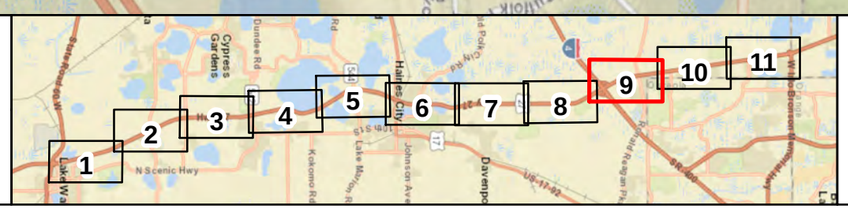


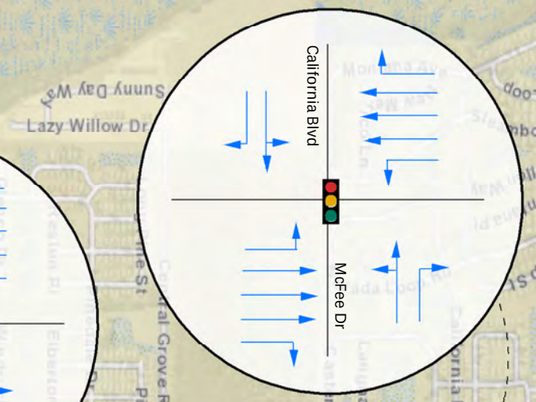
FIGURE 1-2
EXISTING (2018) INTERSECTION LANE CONFIGURATION

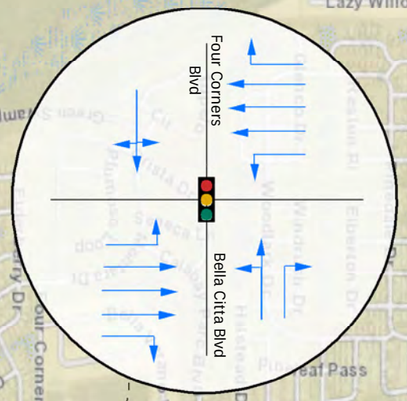
Sheet 9 of 11

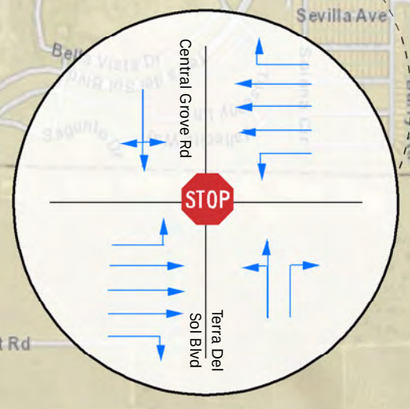
Legend

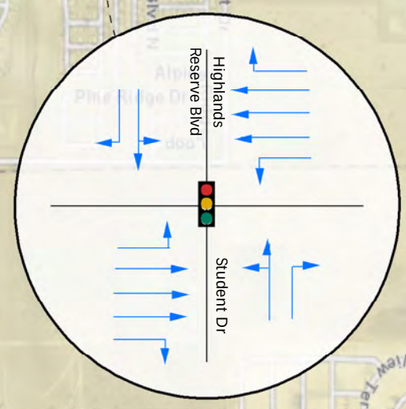
Signalized Study Intersection

STOP Side Street Stop Controlled









0 500 1,000 2,000 Feet

N

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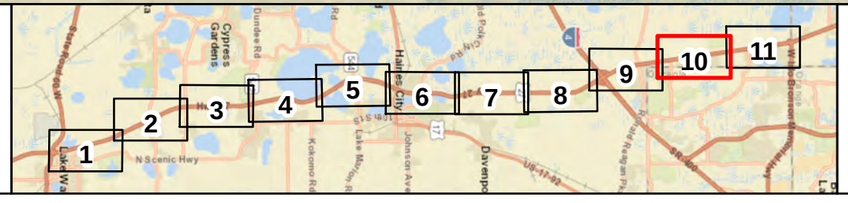

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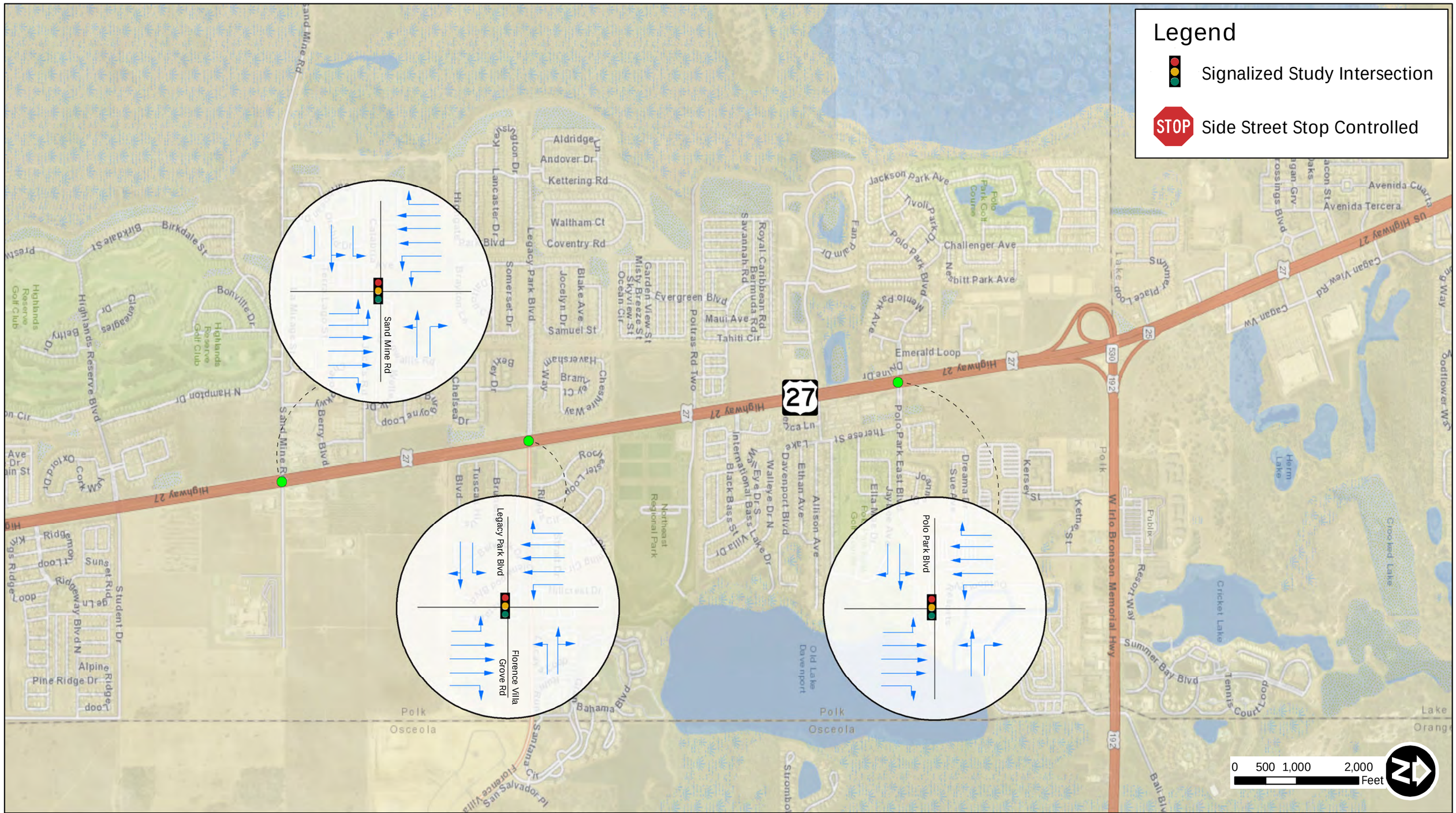

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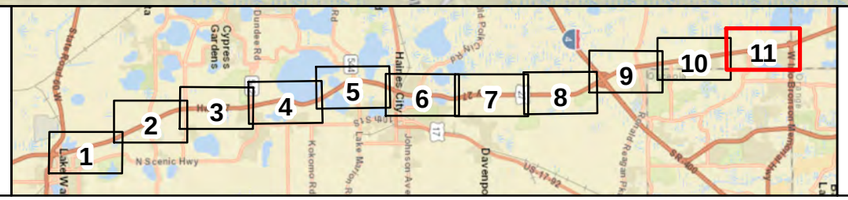


FIGURE 1-2
EXISTING (2018) INTERSECTION LANE CONFIGURATION

2 OTHER STUDIES AND PLANNED IMPROVEMENTS

2.1 PREVIOUS STUDIES

Available studies and reports previously developed by FDOT and other agencies for transportation facilities within the study area were reviewed. The information from these studies provides historical context and insight into the issues and opportunities surrounding the US 27 corridor and study area. In addition, valid data and analysis documented in other studies was considered and utilized wherever possible for the NE Polk US 27 Mobility Study. This includes traffic count data available from previous FDOT District One Traffic Operations reports, and physical characteristics information for locations along the US 27 corridor from the FDOT Central Office US 27 Multimodal Corridor Study.

Table 2-1 provides a list of the previous and ongoing studies that were reviewed. **Table A-1** in **Appendix A** contains more information about each of the reference files that were reviewed along with brief notes regarding the key information available from each source.

In January and February 2019, available comprehensive plans for Polk County and the municipalities within the study area were obtained. The land use elements and transportation elements were reviewed to ascertain information related to the US 27 corridor and study area. The following comprehensive plans were reviewed:

- Polk County 2030 Comprehensive Plan
- City of Davenport 2030 Comprehensive Plan
- Town of Dundee 2030 Comprehensive Plan
- Village of Highland Park Comprehensive Plan
- Town of Lake Hamilton Comprehensive Plan
- City of Lake Wales 2015 Comprehensive Plan
- City of Winter Haven Comprehensive Plan

Most of the comprehensive plans identified significant expected development within the regional study area along with emerging regional activity centers. In addition, most of the comprehensive plans identified roadway improvement projects needed on US 27 or adjacent to US 27. These included the widening of US 27, nearby intersections, and various interchange projects. Key information from other select studies is summarized below.

Polk Transportation Planning Organization (TPO) Momentum 2040 Long Range Transportation Plan (LRTP)

Polk TPO's long range plan, adopted December 2015, includes the county's multimodal goals, objectives, performance measures, and transportation projects that are needed and can be funded through a year 2040 planning horizon. The Cost Feasible portion of the Plan includes US 27 road widening from the Highlands County line to SR-60, and improvements from Highlands County Line to President's Drive.

Eight US 27 intersection projects are listed as illustrative projects or partially funded through 2040. Improvements to the SR 60 and US 27 interchange are identified as unfunded needs. The plan includes Central Polk Parkway as an illustrative project, and a Complete Streets Future Candidate Corridor is identified on US 17/92 ending at US 27, near Haines City. A SunRail Staging Concept is shown in the LRTP utilizing part of US 27 for an extension, express bus service and a planned station. Several unfunded multi-use trail segments and bicycle/pedestrian corridors end at or intersect US 27, while segments of US 27 are also considered for complete streets or other bicycle/pedestrian improvements.

FDOT District One, Freight Mobility & Trade Plan, 2016

The District's plan defined a regional freight transportation network and identified regional freight investment priorities needed to sustain economic growth in the region. It also provided input to the Florida Freight Mobility and Trade Plan (FMTP) Investment Element. This plan may be used to support requests for federal and state funding for enhancements or improvements to the existing regional freight network. Freight Mobility Corridors (FMCs), Intermodal Logistics Centers (ILCs) and Freight Activity Centers (FACs) within the regional study area are identified, including US 27 as a FMC, the Central Florida CSX ILC located north of SR 60 and west of US 27, and multiple FACs located adjacent to the US 27 corridor between SR 60 and US 192.

TABLE 2-1: PREVIOUS AND ONGOING STUDIES

No.	Name	Type of Document	Date of Document
1	Polk TPO Momentum 2040 Long Range Transportation Plan	County-wide multimodal improvement funding plan	December 2015
2	US 27 PD&E Study (US 27 from the Highlands County line to north of SR 60) PER	FDOT D1 Improvement Project-Concept Plans & Cost	February 2016
3	FDOT D1 Freight Mobility & Trade Plan	Freight Data	2016
4	Central Florida Regional Freight Mobility Study	MetroPlan Orlando Plan of Freight Improvements	2011 / 2012
5	Southeast Florida Regional Freight Plan	Broward, Miami-Dade, Palm Beach MPOs and FDOT	2014
6	My Ride Polk County/TPO Transit Development Plan FY 2017 - FY 2026	Transit Data & Improvements	08/09/17
7	A Technical Report for Evaluation of SunRail Extensions into Polk County	Technical Memorandum for Polk TPO	latest available
8	FDOT Regional Express Lane Network - Central Florida, and West Central Florida Regions	Central Florida Express Lanes Map	latest available from www.floridaexpresslanes.com
9	FDOT Regional Express Lane Network - West Florida Region	West Central Florida Express Lanes Map	latest available from www.floridaexpresslanes.com
10	FDOT Strategic Intermodal System (SIS) Plans (1st 5, 2nd 5, CFP, Needs Plan)	Statewide & Districtwide Multimodal Improvement Funding Plan	Adopted as of July 1, 2018
11	Local Comprehensive Plans Existing & Future Land Use Plans and/or Zoning Maps	City and County wide Land Use Plan	latest available
12	Local Comprehensive Plans Transportation Elements	City and County wide Transportation Network Plan	latest available
13	Local Capital Improvement Plans	County or City-wide Multimodal Improvement Funding Plan	latest available
14	Special District Plans/Maps	CRAs, special funding district boundaries - development or transportation plans	latest available
15	Polk TPO Transportation Improvement Program (TIP) draft FY 2019/2020	Funding plan for transportation projects in Polk County for the next five-year period	July 18, 2019
16	FDOT Five Year Work Program	Statewide & Districtwide Multimodal Improvement Funding Plan	Latest available July 2019, for FY 2020 through FY 2024
17	US 27 PD&E/Design/18-kip ESAL Traffic Forecast Reports	FDOT D1 Traffic Forecast Reports or Tech Memos	completed within last 5 years
18	US 27 Intersection Analysis from Washington Avenue to Home Run Boulevard	FDOT D1 Safety Study	October 2017
19	US 27 Safety Studies	FDOT D1 Safety Studies	completed within last 5 years
20	Central Polk Parkway - FDOT D1 PD&E Study	FDOT D1 SEIR	March 2011
21	FDOT Central Office US 27 Multimodal Corridor Study	FDOT Planning Study	2017-2019
22	Turnpike Feasibility Study of US 27 Managed Lanes	FDOT/Turnpike Feasibility Study	2017-Ongoing
23	US 27 Multimodal Planning and Conceptual Engineering (PACE) Study	FDOT D4 Conceptual Engineering Study (Highway and Rail)	December 2012
24	US 27 Transportation Alternatives Study	FDOT Central Office Planning Study	January 2013
25	Central Florida Regional Planning Council Comprehensive Economic Development Strategy	RPC Plan with Development potential noted in Polk County	2017
26	Central Florida Regional Planning Council Heartland 2060	Overview of 7 Heartland Counties including Polk County	2010
27	How Shall We Grow Document	7 M/TPOs & FDOT Plan - vision for 2050 includes Polk County	2006
28	Central Florida Expressway Authority 2040 Master Plan (Poinciana Parkway Segment)	Master Plan	May 2016
29	Central Florida Expressway Authority Concept Studies (Poinciana Parkway Segment)	Feasibility Studies	April 2017-ongoing
30	Poinciana Parkway PD&E Study - Alternative Corridor Evaluation Study	FDOT D5 ACE Study	November 2015
31	Central Polk Parkway - New Facility from SR 570 to US 17 (FPID 440897-2) PD&E Study	FTE PD&E Study draft documents	February 2018 - ongoing
32	I-4 Beyond the Ultimate Segment 5 Line and Grade Plans (from west of US 27 to west of CR 532)	FDOT Design Plans	March 2017
33	I-4 Beyond the Ultimate Segment 5 (from west of US 27 to west of CR 532) PER	FDOT PD&E Study PER	June 2017
34	I-4 at CR 532 (Champions Gate) IMR	Interchange Access Request (D5)	2018-ongoing
35	I-4 Selected Interchanges Analysis Report including I-4 interchanges at US 27 and CR 532 (Champions Gate)	Interchange Analysis to Identify Interim Improvements	2018-ongoing

FDOT District Four, US 27 Multimodal Planning and Conceptual Engineering (PACE) Study, 2012

This District Four study developed traffic forecasts, conceptual engineering alternatives, cost estimates, and noted environmental impacts to help determine the feasibility of rail along US 27 in south Florida (Miami-Dade, Broward, and Palm Beach counties). Roadway and railroad improvements were studied along 72 miles of US 27 from the Homestead Extension of Florida's Turnpike (HEFT) in Miami-Dade County to the Palm Beach/Hendry County line. Future US 27 roadway widening was shown to be needed, and construction of a new railroad along Krome Avenue to a potential future ILC near Belle Glade was found to be physically feasible. Implementation was predicated on potential future development of a new ILC near Lake Okeechobee, and private funding necessary to operate and maintain freight train service along the railroad.

FDOT District One, Central Polk Parkway PD&E Study, 2011 to present

The Central Polk Parkway (CPP) project was first proposed in 2008. FDOT conducted a PD&E Study for a new 6-lane limited access facility extending from Polk Parkway/SR 570 to SR 60 (western portion), and from SR 60 north to I-4 (eastern portion). A State Environmental Impact (SEIR) document was produced in 2011. The new roadway was planned as a tolled facility and broken into eight segments. The project was considered a long-term alternative that could relieve traffic congestion on US 27 and other roads in the study area. FDOT cancelled work on the project in December 2015, primarily due to the cost of the project and low traffic volumes. However, in January 2018, the Polk TPO voted to support an 8-mile segment of the road from SR 570/Polk Parkway to SR 60 (the western portion). Consequently, Florida's Turnpike Enterprise has funded Project Development and Environment, Design, and Right of Way phases for the CPP from SR 570 to US 17 (the first segment of the western portion).

Central Florida Expressway Authority (CFX) Poinciana Parkway PD&E Study, Ongoing

CFX is currently conducting a Project Development and Environment (PD&E) Study for an extension of the Poinciana Parkway, a new toll road. CFX is evaluating alternatives for a new alignment connecting the existing Poinciana Parkway to CR 532, an interchange with US 17/92, and a potential future I-4 connection. Project information is being shared with FDOT District One for consideration in the NE Polk US 27 Mobility Study.

My Ride - Polk TPO Transit Development Plan (TDP) for FY 2017 – FY 2026

The Transportation Development Plan (TDP) is a guiding document for the Polk County TPO Transportation Improvement Program (TIP), as well as the FDOT five-year work program, for public transportation in the county. The TDP provided transit route information, 2017 average weekday ridership, and population distribution information across Polk County. Six routes are noted in the TDP that run on a portion of the US 27 corridor. They are:

- Route 15 (Winter Haven/Haines City),
- Route 27x (Dundee/Eagle Ridge Mall),
- Route 30 (Legoland),
- Route 35 (Lake Wales/Babson Park/Frostproof),
- Route 416 (Poinciana/Haines City LYNX), and
- Route 427 (US 27/Haines City LYNX).

According to the TDP, for transit market share to increase, service expansion would need to occur. Route 15 [Winter Haven/Haines City] and Route 427 [US 27/Haines City] rank as a priority for service improvements to traditional fixed routes. An express feeder route between the Winter Haven Terminal and Poinciana SunRail Station was also identified as a service expansion priority. A SunRail express feeder is proposed for five stops, along with Park 'n Ride lots.

A Technical Report for Evaluation of SunRail Extensions into Polk County

This technical memorandum prepared for the Polk TPO evaluates a possible extension of SunRail into Polk County, in support of the 2040 Long Range Transportation Plan Update. The memorandum covers the following topics:

- potential staging alternatives
- conceptual site considerations
- conceptual feeder bus services
- ridership propensity analysis
- financial estimates
- institutional considerations.

A proposed SunRail spur was discussed, and alternatives were considered for extending SunRail into Polk County. A potential staging sequence for development of a SunRail extension with 4 phases was noted. Station locations were screened, and 10 possible locations were identified. Conceptual feeder bus services were also identified to support the various staging alternatives.

Since a SunRail extension would utilize existing train tracks through the study area, there is little impact expected to the primary roadway network. However, proposed station locations influence connections along the secondary roadway network and bus service between destinations, as well as where economic development nodes may evolve. These things become important considerations as the study looks at alternative routes that alleviate traffic demand on US 27, especially in the larger context of east/west regional connections.

Given improvements to US 27, the project would significantly enhance connections from Polk County to Orlando International Airport for both passengers and employees. In addition, a spur could potentially provide long distance passenger train options to West Palm Beach, Fort Lauderdale, and Miami if the proposed Virgin Trains Orlando extension project ties into SunRail at the Orlando airport. These connections may increase the value of a SunRail extension into Polk County.

2.2 ONGOING STUDIES BY OTHERS

FDOT Central Office and the Florida's Turnpike Enterprise are conducting studies of portions of US 27 that overlap with the NE Polk US 27 Mobility Study area. While these two studies have different project limits and different objectives than the NE Polk US 27 Mobility Study, their information is being considered in the NE Polk US 27 Mobility Study.

FDOT Central Office conducted a *US 27 Multimodal Corridor Study*, which concluded in early February 2019. The study area was from Miami-Dade County to Central Florida and included the portion of US 27 from the Florida Turnpike interchange in Lake County to the Palmetto Expressway near the city of Hialeah, Dade County. The study area also covered surrounding counties impacted by growth and development along the US 27 corridor. The study was initiated to gather existing conditions data, provide analysis, and gather stakeholders, and. an Existing Conditions Data Study report, dated February 15, 2019, was produced. This report included a series of maps summarizing existing conditions along the corridor, and information for the portion of US 27 from SR 60 to US 192 is being used for the FDOT District One NE Polk US 27 Mobility Study.

Florida's Turnpike Enterprise is evaluating the feasibility of adding limited access lanes to US 27 between SR 60 and I-4. Potential constraints being assessed include the US 27 and I-4 interchange; the US 27 and SR 60 interchange; bridge structures along US 27; and access/driveways along US 27 considering modifications may be needed to accommodate the limited access lanes. This US 27 Feasibility Study, which began in the spring of 2018, has a smaller study area than the NE Polk US 27 Mobility Study and is focused on just one improvement concept: limited access lanes on US 27. Relevant information from the Turnpike's US 27 Feasibility Study will be considered as appropriate in the NE Polk US 27 Mobility Study.

2.3 PLANNED AND PROGRAMMED IMPROVEMENTS

Ongoing and upcoming planned and programmed (aka committed) transportation projects were identified from each of the funding plans that were reviewed. Planned and programmed improvements will be assumed to be in place following the year(s) after construction is funded. This will be considered during the future conditions analysis of the US 27 corridor and surrounding study area.

The latest available local public agency funding plans were obtained in January and February 2019, from each agency's website. The available Capital Improvement Plans/Programs (CIP), or Transportation Improvement Plans/Programs (TIP) for Polk County and for each of the municipalities were obtained, along with the FDOT Five Year Work Program, FDOT Strategic Intermodal System (SIS) funding plans, and the Polk TPO Transportation Improvement Program (TIP). These funding plans were reviewed to identify planned and programmed/funded transportation projects within the study area.

The following local public agency transportation funding plans were reviewed:

- Haines City adopted FY 18/19 budget
- City of Davenport proposed operating budget & Five-Year Capital Improvement Plan
- City of Lake Wales Five Year Capital Improvement Plan
- Winter Haven FY 18/19 operating & FY 19/20 planned operating budget
- Town of Lake Hamilton Capital Improvement Program FY 2017-2022
- Town of Dundee 2018-2019 Annual Adopted Budget
- Highland Park Final 2016 – 2017 Budget Summary
- Polk County FY 2018 & 2019 Biennial Budget

Many of the local municipal plans included transportation projects within the study area. Local public agency projects found from these plans, are noted in **Table A-1** in **Appendix A**. In addition, the Polk TPO 2040 Long Range Transportation Plan includes maps of proposed local public agency roadway projects. These include maps for the Haines City / Davenport area, and the NE Polk County area which show proposed road improvements located within the regional study area. A copy of these two maps is included in **Appendix A**.

The Polk TPO's latest adopted 5-year Transportation Improvement Plan (TIP) and 2040 LRTP were reviewed and all multimodal improvements in the study area noted. A copy of the relevant LRTP maps and tables is included in **Appendix A**. In addition, projects within the study area from the FDOT District One adopted Work Program for fiscal years 2020 through 2024, and from the SIS 1st Five Year Plan, SIS 2nd Five Year Plan, SIS Cost Feasible Plan, and SIS Multimodal Unfunded Needs Plan were noted. A summary table with the planned and programmed project names, numbers, limits, and brief description of the work was created. **Table 2-2** is provided on the following page.

TABLE 2-2: PLANNED AND PROGRAMMED IMPROVEMENT PROJECTS

Plan	Project #	Project Description	Project Location	Limits (from)	(to)	Funded Phase(s)	Funded Year(s)
Polk TPO TIP Draft FY 2019/2020 (online 7/18/19) & FDOT 5 Year Work Program FY 2020-2024	442116-1	Intersection Lighting	US 27	at Polo Park		PE, CON	2020, 2021
	442115-1	Intersection Lighting	US 27	at Florence Villa Grove Rd		PE, CON	2020, 2021
	442117-1	Intersection Lighting	US 27	at Sandmine Rd		PE, CON	2020, 2021
	201210-3	Add Lanes & Reconstruct	I-4 (SR 400)	West of US 27	east of CR 532	PE, ROW	2020
	445257-1	Miscellaneous Construction	US 17 / 92	south of Ronald Reagan Pkwy		PE, CON	2020
	441553-1	Resurfacing	US 27	Blue Heron Bay	Holly Hill Cutoff	PE, CON, ENV	2020-2022
	444682-1	Flexible Pavement Reconstruct	SR 600 (US 17/92)	west of 9th Street	17th Street	PE, CON	2020, 2024
	431351-1	PD&E/EMO Study	US 17 / 92 Hinson Ave	SR 17 (10th st)	17th St	PL, PD&E	2020
	442333-1	Sidewalk	US 17 / 92	south of Hinson Ave	Johnson Ave	PE, CON	2020, 2022
	440273-1	PD&E/EMO Study	SR 544 (Lucerne Park Rd)	Ave T NW	SR 17	PD&E	2020
	442413-1	Bike Path / Trail	Haines City Trail PH II	Grace Ave	CR544 & Ridge Scenic	PE, CON, ENV	2021-2023
	410666-3	Add Lanes & Reconstruct	SR 542	Buckeye Loop Road	US 27	PE, ROW, RR & Utili, CON, ENV	2020
	440347-1	Sidewalk	SR 17 (Scenic Highway)	East Central Park	Lake Marie Park	PE, CON	2020-2021
	419243-4	Interchange - Add Lanes	US 27	at SR 60		PE, ROW, RR & Util, CON, ENV	2020-2021
FDOT 5 Year Work Program FY 2020-2024	431351-2	Add Lanes & Reconstruct	US 17 / 92 Hinson Ave	SR 17 (10th st)	17th St	PE	2020
	403890-1	Add Lanes & Rehab Pvmt	US 27	Blue Heron Bay Blvd	0.5 mile north of CR 547	ROW, CON	2020
	444625-1	Feasibility Study	SR 600 (US 17/92)	US 27	CR 54	PD&E	2020
	442512-2	PD&E/EMO Study	I-4 (SR 400)	west of SR 570 (Polk Pkwy)	west of US 27 interchange	PD&E	2020
	442805-1	PD&E/EMO Study	PD&E Study for feasibility of toll lanes on US 27	SR 60	I-4	PD&E	2020
	438014-1	Resurfacing	US 27	Ernie Caldwell Blvd	north of Ritchie Bros Entrance	PE, CON, ENV	2020

TABLE 2-2: PLANNED AND PROGRAMMED IMPROVEMENT PROJECTS (CONTINUED)

Plan	Project #	Project Description	Project Location	Limits (from)	(to)	Funded Phase(s)	Funded Year(s)
Polk TPO 2040 Long Range Transportation Plan (adopted 12/10/15, amended 6/9/16)	Tier II (2019 - 2030)						
	26	SR 542/Dundee Rd (Buckeye Loop Rd to US 27)				CON	2019-2020
	42	I-4 (Hillsborough Co/L to Osceola Co/L)				ROW, CON	2019-2020
	96	US 17/92/Hinson Ave (10th St to 17th St)				ROW, CON	2021-2025
	300E	CPP East Corridor (US 17/92 to Interstate 4)				ROW, CON	2019-2025
	312A	312A North Ridge Trail (Deen Still Road to Four Corners Blvd)				CON	2021-2025
	312B	North Ridge Trail (Four Corners Blvd to Sand Mine Road)				CON	2026-2030
	98B	US 27 (CR 630A to Presidents Drive)				ROW, CON	2021-2030
	98C	US 27 (Presidents Dr to SR 60)				CON	2019-2020
	Tier III (2031 - 2040)						
	43	I-4 (Hillsborough Co/L to West of US 27)				PD&E, PE, ROW, CON	2021-2040
	56	SR 544/Lucerne Park Rd (Avenue T to US 27)				PD&E, PE, ROW, CON	2019-2040
	57A	SR 544/Lucerne Park Rd (US 27 to SR 17)				PD&E, PE, ROW, CON	2019-2040
	98A	US 27 (Highlands Co/L to CR 630A)				ROW, CON	2021-2040
	385	30th Street @ Hinson Avenue				PE, ROW, CON	2019-2025
	348	Central Polk Parkway @ US 17/92 - SEE 300E				ROW, CON	2019-2025
	349	Central Polk Parkway @ Interstate 4 -- SEE 300E				ROW, CON	2019-2025

TABLE 2-2: PLANNED AND PROGRAMMED IMPROVEMENT PROJECTS (CONTINUED)

Plan	Project #	Project Description	Project Location	Limits (from)	(to)	Funded Phase(s)	Funded Year(s)
Polk TPO 2040 Long Range Transportation Plan (adopted 12/10/15, amended 6/9/16)	Illustrative Projects						
	299A-D, 300 A-D	Central Polk Parkway (SR 570/Polk Parkway to US 17/92)				n/a	n/a
	102	US 27 @ Dundee Road (SR 542)				n/a	n/a
	100	US 27 @ Cypress Gardens Boulevard (SR 540)				n/a	n/a
	99	US 27 @ SR 60				n/a	n/a
	343	US 27 @ SR 544 (Lucerne Park Road)				n/a	n/a
	344	US 27 @ CR 17				n/a	n/a
	345	US 27 @ CR 547 (Bay Street)				n/a	n/a
	346	US 27 @ Ronald Reagan Parkway				n/a	n/a
FDOT SIS 1st Five Year Plan (2019-2023) adopted July 2018	4192432	US 27 (SR 25) from Highlands County Line to CR 630a				PE, ENV, ROW	2019 - 2023
	4192434	US 27 at SR 60				ENV, ROW, CON	2019-2022
	4192433	US 27 from CR 630a to Presidents Drive				PE, ENV, ROW	2019-2021
	4425122	I-4 (SR 400) from W of SR 570 (Polk Parkway) to W of US 27 Interchange				PD&E	2019
	4425121	I-4 (SR 400) from W of SR 570 (Polk Parkway) to W of US 27 Interchange				Study	2019
	4408973	Central Polk Parkway - from US 17 (SR 35) to SR 60 (TURNPIKE)				PE, ROW	2019
FDOT SIS Cost Feasible Plan (2029-2045), 2018 edition	3331	I-4 from west of US 27 / SR 25 to Polk / Osceola County Line				ROW, CON	FY 2029 to FY 2035
	3382	US 27 from north of Kokomo Rd. to Polk / Lake County Line				PE, ROW	FY 2029 to FY 2035
	3330	I-4 from west of SR 570 Polk Parkway (West) to west of US 27 / SR 25				PE, ROW, CON	FY 2029 to FY 2045
	3353	SR 60 from SR 60A / Van Fleet Dr. to SR 25 / US 27				PD&E, PE	FY 2029 to FY 2040

TABLE 2-2: PLANNED AND PROGRAMMED IMPROVEMENT PROJECTS (CONTINUED)

Plan	Project #	Project Description	Project Location	Limits (from)	(to)	Funded Phase(s)	Funded Year(s)
FDOT 2045 SIS Multimodal Unfunded Needs Plan, June 2017	360	I-4 from East of US 27 / SR 25 to Polk / Osceola County Line				n/a	n/a
	359	I-4 at US 27 / SR 25				n/a	n/a
	393	US 27 from I-4 to Polk / Lake County Line				n/a	n/a
	821	US 27 from CR 547 / Sanders Rd. to I-4				n/a	n/a
	388	US 27 from South of B Moore Rd. to CR 547 / Sanders Rd.				n/a	n/a
	35	US 27 at US 17 / 92				n/a	n/a
	820	US 27 from North of Kokomo Rd. to South of B. Moore Rd.				n/a	n/a
	484	SR 60 from SR 60A / Van Fleet Dr. to SR 25 / US 27				n/a	n/a
	2969	SunRail from Phase II South terminus at Poinciana Parkway to Old Station Location				n/a	n/a
	2970	SunRail from Haines City SunRail Terminus to Lakeland SunRail Station				n/a	n/a
	2971	SunRail from Auburndale SunRail Station to Lakeland SunRail Station				n/a	n/a

3 TRANSPORTATION DATA

3.1 HISTORIC TRAFFIC COUNT DATA

Historic traffic count data available from FDOT, TPO, Polk County, and others was obtained for the project. The major sources of traffic count data from recent projects were mapped to serve as a single source of information. Major recent projects with valuable count data used for this study include:

- All count data from Florida Traffic Online (FTO) sites in the study area
- US 27 Intersection Analysis Study from Washington Avenue to Home Run Boulevard/Posner Boulevard (by FDOT District 1)
- I-4 Selected Interchanges Analysis Report (by FDOT District 1)
- I-4 Beyond the Ultimate Project (Systems Access Modification Report) (by FDOT District 5)
- US 27 PD&E Study from the Highlands County line to SR 60 (by FDOT District 1)

3.2 TRAFFIC DATA COLLECTED

Traffic counts were conducted in association with this study, including 24-, 48-, and 72-hour volume/classification counts and intersection turning movement counts. Such turning movement counts were collected during the AM peak period (6:30am-10:30am) and PM peak period (3:00pm-7:00pm) on a typical weekday in November and December 2018. This data included pedestrian and bicycle counts at each location.

The locations where each type of traffic volume count was collected along with the data sources are depicted in **Figure 3-1**. A list of these counts, along with the source, location, dates and times when each count was conducted, is documented in **Appendix B**. These traffic counts were used to determine the project specific AM and PM peak study hours used in subsequent analyses. The resultant project specific AM peak hour was determined to be between 7:15 AM and 8:15 AM, while the project specific PM peak hour is between 4:45 PM and 5:45 PM.

3.2.1 Machine Counts

AADT data from FTO and 24-hour, 48-hour, and 72-hour vehicle counts conducted between 2016 and 2019 at the locations identified in **Figure 3-1** were used in the development of the existing year traffic. The count data is included in **Appendix C**.

3.2.2 Intersection Turning Movement Counts

Recent intersection turning movement counts that were conducted as part of other studies along the US 27 corridor were obtained and used for this study. Additional intersection turning movement counts were necessary to be collected to augment previous data. These counts come from the following sources:

- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

For study intersections where data was not available, 8-hour turning movement counts were conducted in November and December of 2018. All study intersection turning movement counts and their sources are noted in **Figure 3-1**. The intersection turning movement count data can be found in **Appendix C**.

Legend

Volume Count Sources

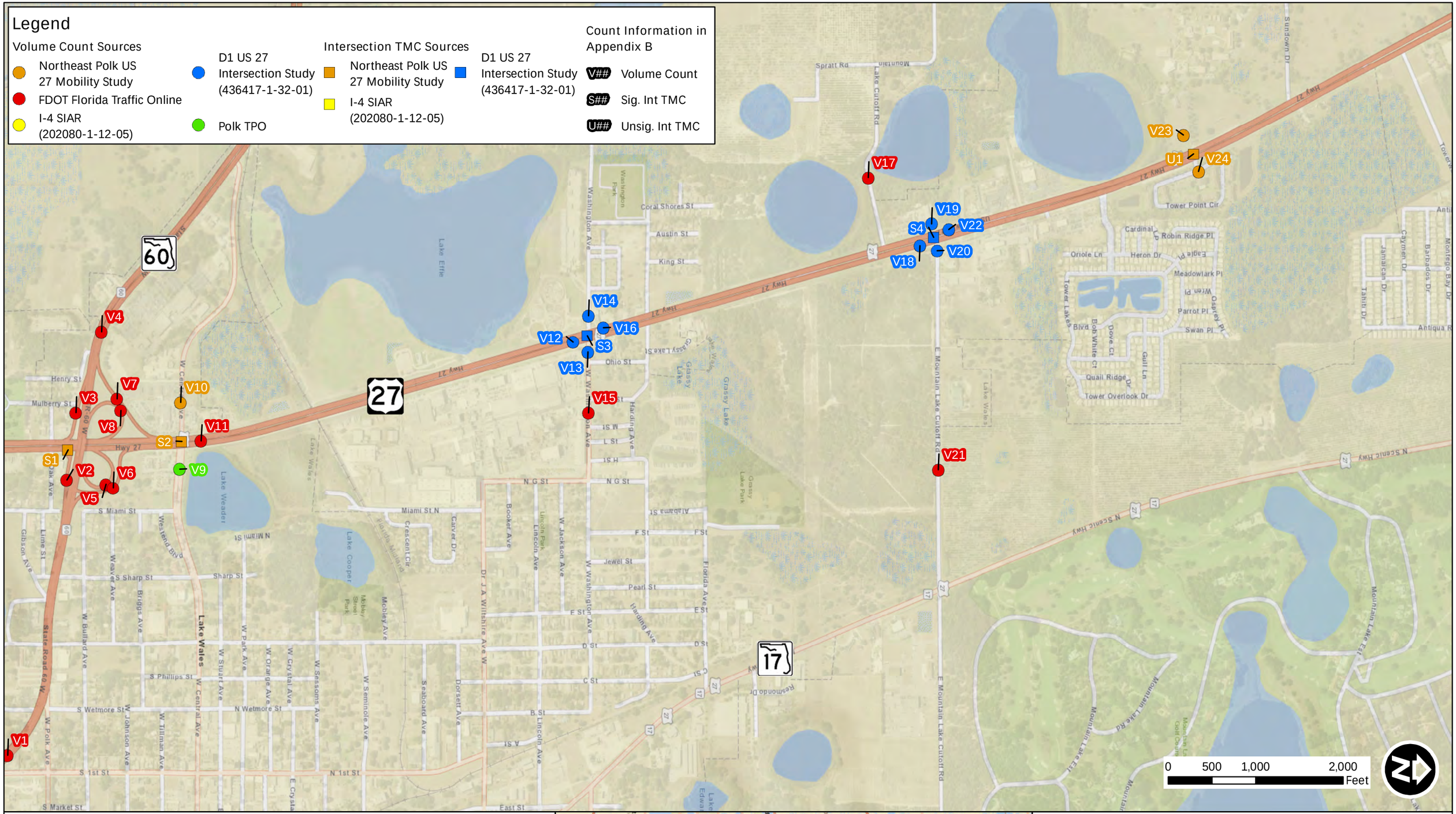
- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

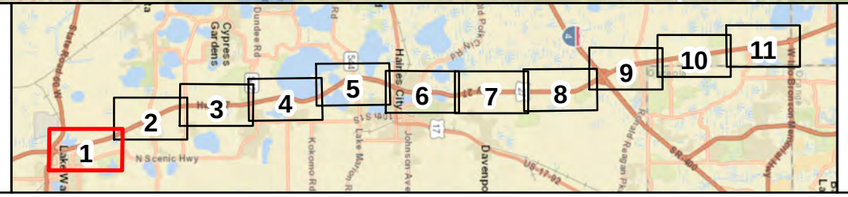
Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Sheet 1 of 11

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

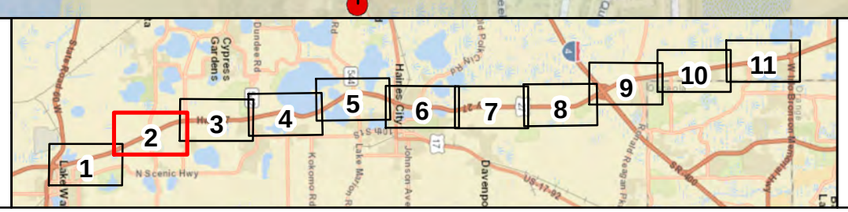
Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V37 V39 V36 S8 V38 V34 S7 V35 V30 S6 V32 V28 V29 V31 V27 S5 V26 V25 V33

0 500 1,000 2,000 Feet

N



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V37 V39 V36 S8 V38 V40 U2 V41 V46 V43 V45 S9 V47 V42 V44

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

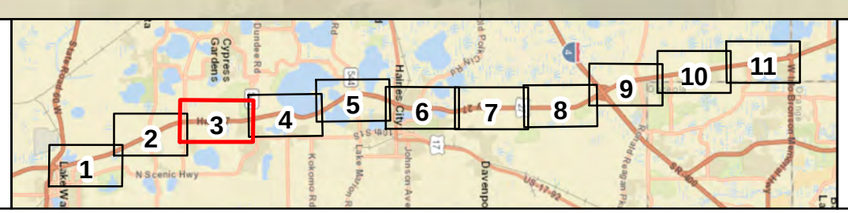


FIGURE 3-1
TRAFFIC COUNT DATA

Sheet 3 of 11

Legend

Volume Count Sources

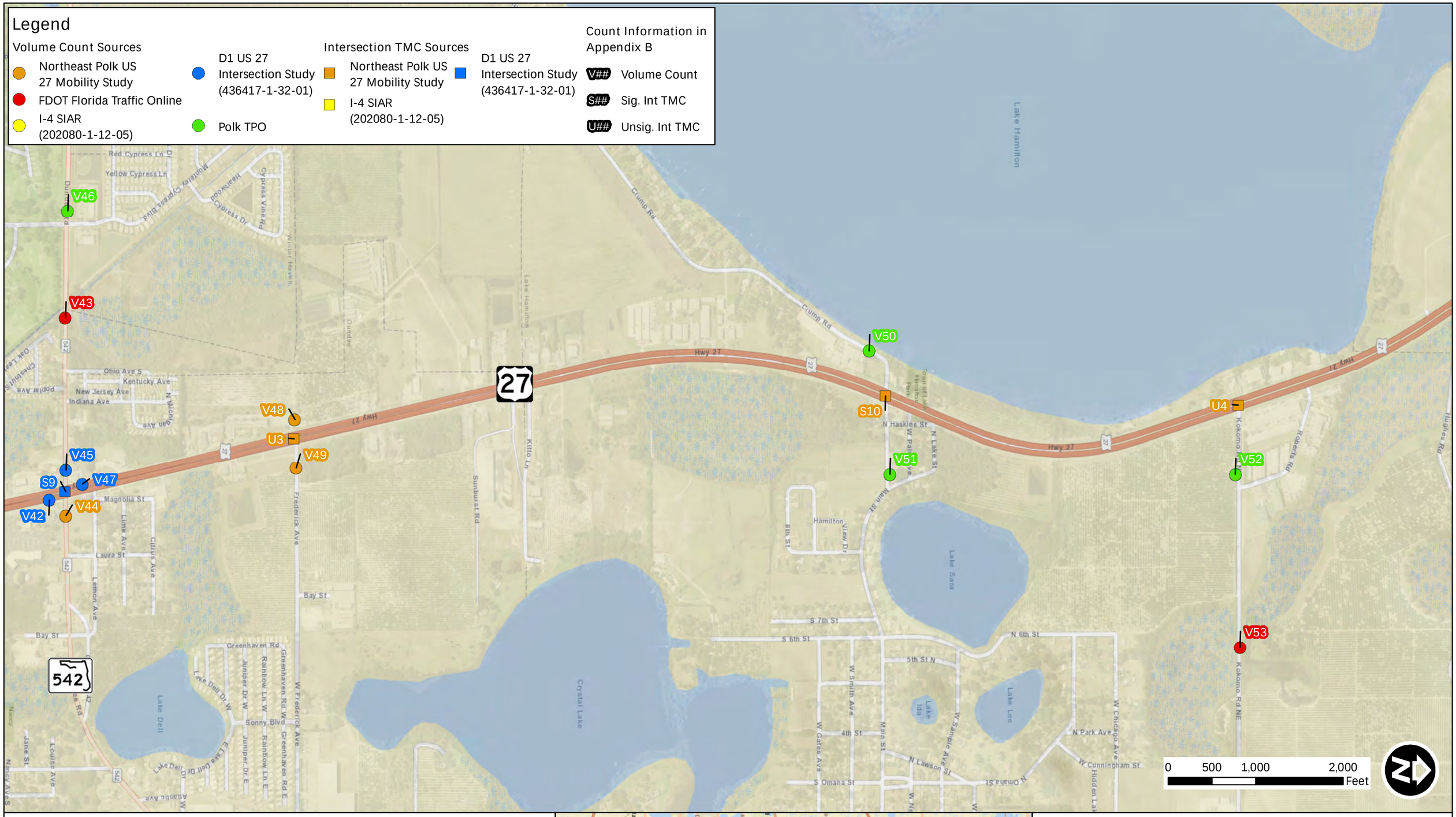
- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

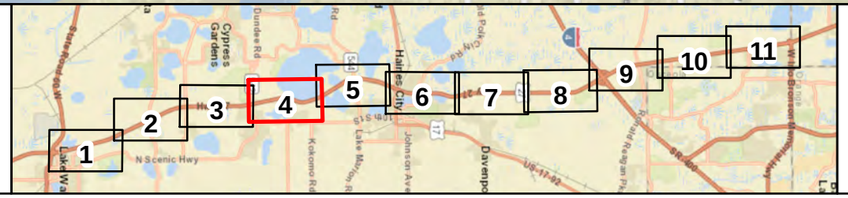
Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V59 V60 V61 S11 V57 V58 V62 V55 U5 V56 V54

0 500 1,000 2,000 Feet

1 2 3 4 5 6 7 8 9 10 11

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V63 V64 V65 V66 V67 V68 V69 V70 V71 V72 V73 V74 V75 V76 V77 V78 V79 V80 V81 V82 V83 V84 V85 V86 V87 V88 V89 V90

U6 U7

S12 S13 S14 S15

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

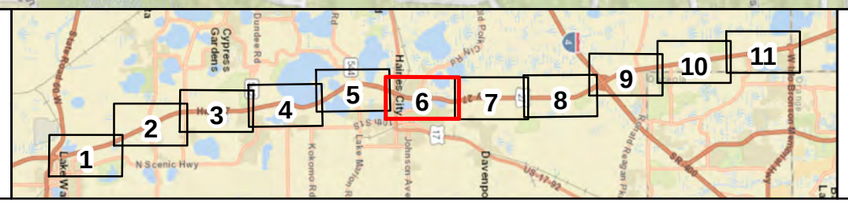


FIGURE 3-1
TRAFFIC COUNT DATA

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

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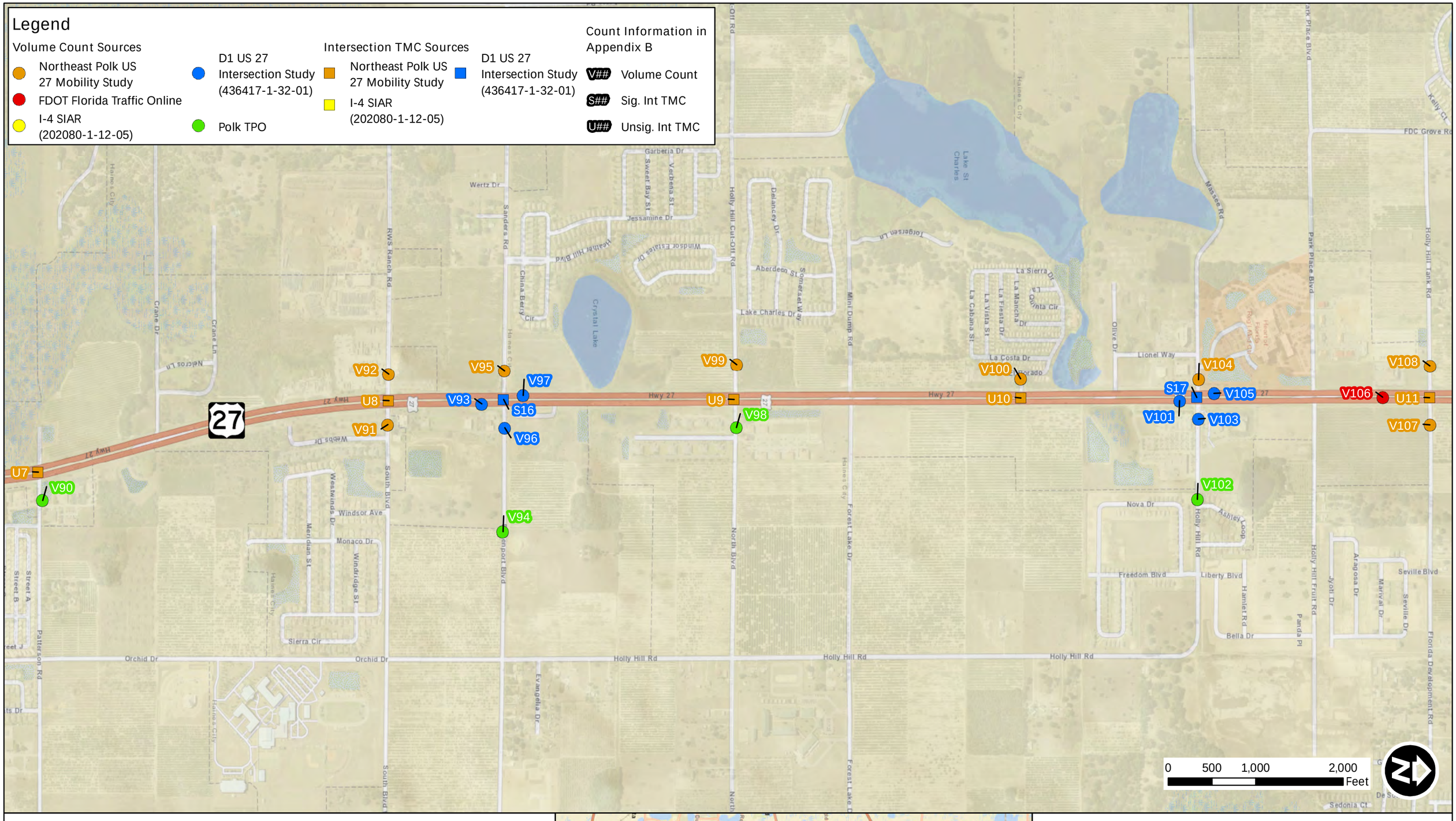
- S## Sig. Int TMC
- U## Unsig. Int TMC



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

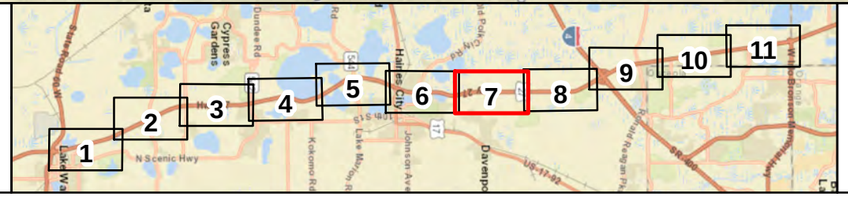
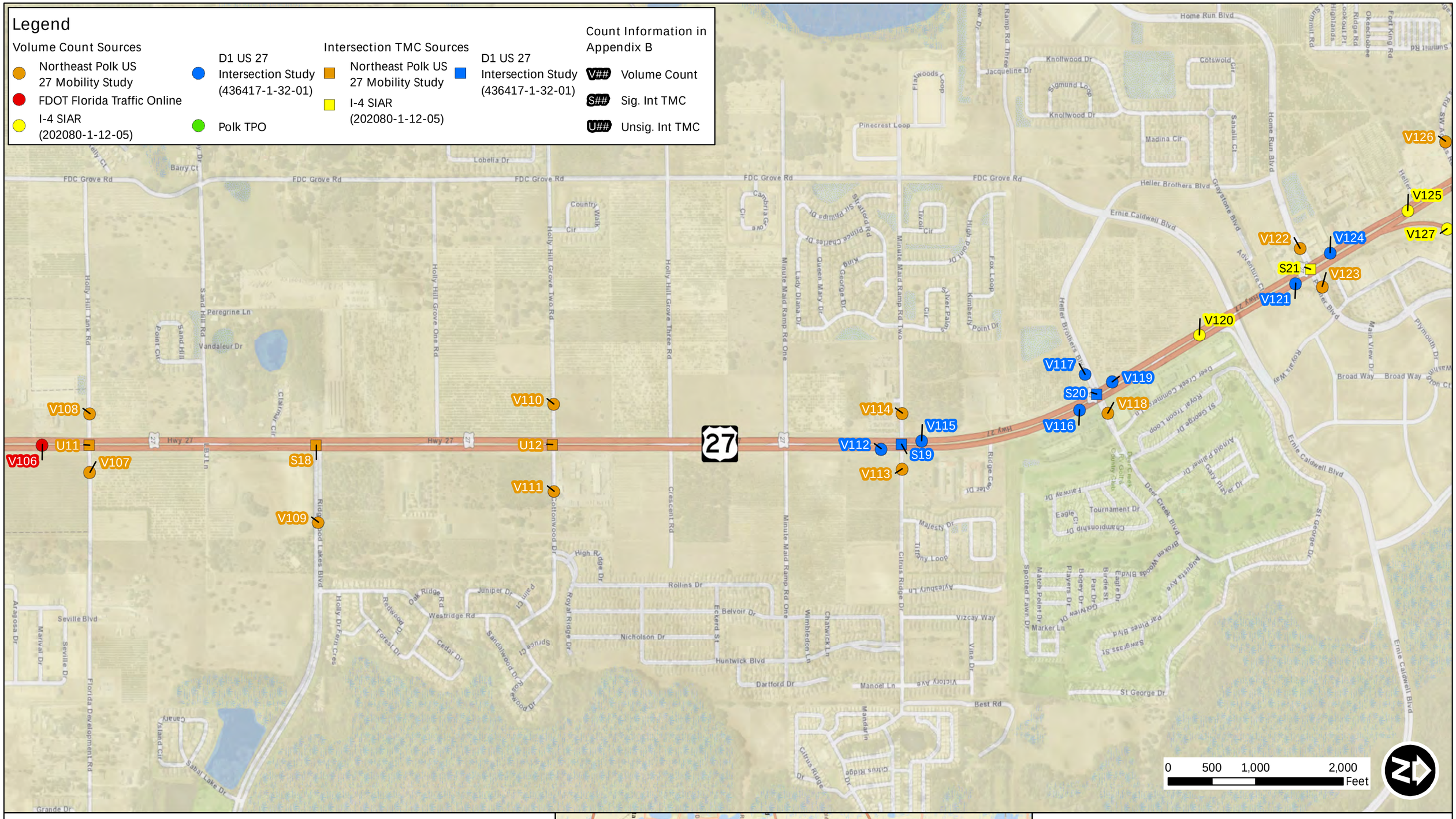


FIGURE 3-1
TRAFFIC COUNT DATA



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Sheet 8 of 11

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

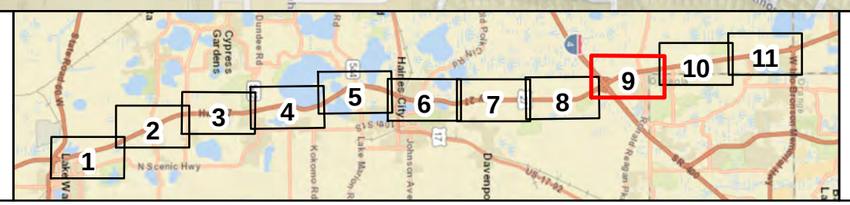
- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V121 V122 V123 V124 V125 V126 V127 V128 V129 V130 V131 V132 V133 V134 V135 V136 V137 V138 V139 V140 V141 V142 V143 V144

S21 S22 S23 S24 S25 S26

U13 U14

0 500 1,000 2,000 Feet



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Sheet 9 of 11

Legend

Volume Count Sources

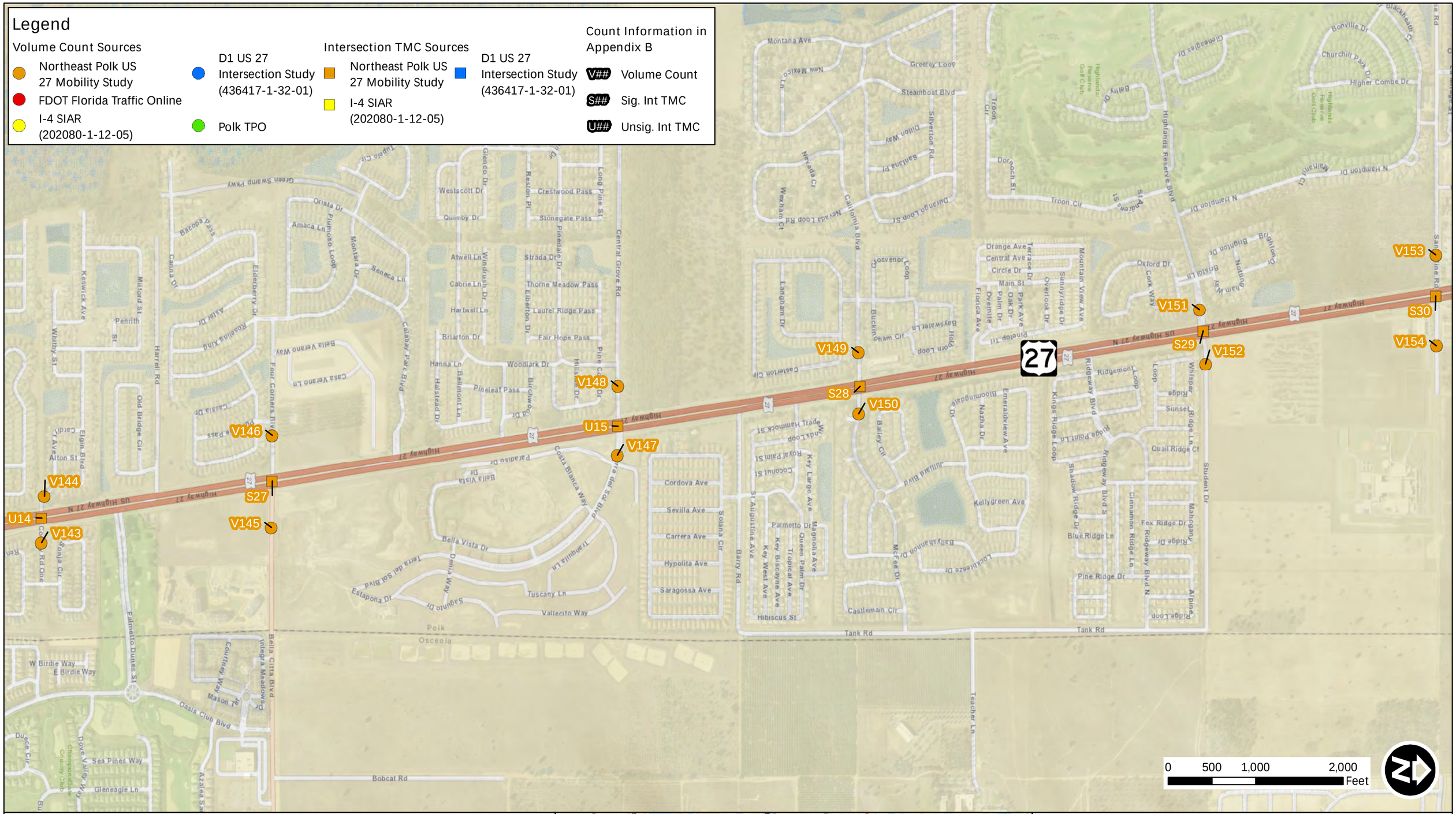
- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

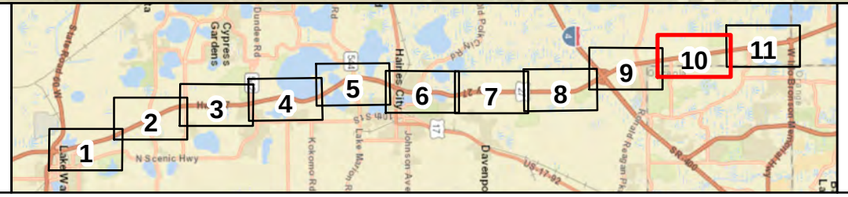
Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 3-1
TRAFFIC COUNT DATA

Legend

Volume Count Sources

- Northeast Polk US 27 Mobility Study
- FDOT Florida Traffic Online
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)
- Polk TPO

Intersection TMC Sources

- Northeast Polk US 27 Mobility Study
- I-4 SIAR (202080-1-12-05)
- D1 US 27 Intersection Study (436417-1-32-01)

Count Information in Appendix B

- V## Volume Count
- S## Sig. Int TMC
- U## Unsig. Int TMC

V153 V154 V155 V156 V157 V158 V159 V160 V161 V162 V163

S30 S31 S32

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

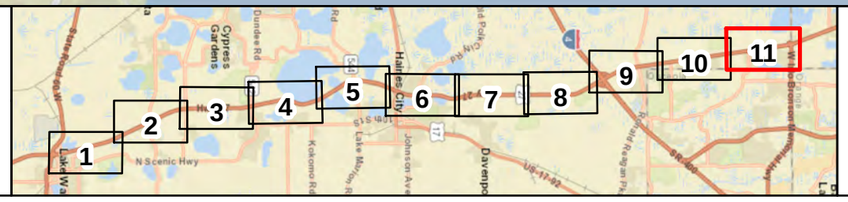


FIGURE 3-1
TRAFFIC COUNT DATA

3.3 EXISTING TRAFFIC DATA AND FACTORS

In order to develop Annual Average Daily Traffic (AADT) volumes, the bi-directional counts were adjusted by appropriate factors based on the type of count and when it was conducted. All volume and classification counts, conducted as part of this study or otherwise, were seasonally adjusted using a seasonal factor appropriate to the week the count was conducted. Additionally, all volume counts were adjusted using an axle adjustment factor appropriate to the week the count was conducted. Traffic adjustment factors are documented in **Appendix D** and calculated AADTs are documented in **Appendix E**.

AADT counts collected prior to 2018 were increased by an assumed 2% annual growth rate to simulate 2018 conditions. All counts were rounded in accordance with rounding standards from the FDOT *Project Traffic Forecasting Handbook* and AASHTO Green Book – A Policy on Geometric Design of Highways and Streets, 6th Edition, 2011.

Turning movement counts conducted earlier than 2018 were also adjusted using an assumed 2% annual growth rate to simulate 2018 conditions. Balancing turning movement volumes along the project corridor was considered but after inspection of each segment between intersections, it was ultimately dismissed. Most roadway segments along the project corridor have potential volume breaks in the form of minor cross road connections and driveway access points. The traffic adjustment factors from the reports in **Appendix D** were used.

Traffic factors that will be carried into future year analysis include K factors, Directional Distribution (D) factors, Truck (T) factors and Peak Hour Factors (PHFs). The K factor is the ratio of traffic volume in the study hour to the Annual Average Daily Traffic (AADT). A 9.0% standard K factor was used for all US 27 segments between SR 60 and US 192, as well as for the other arterial study roadways associated with the project's study intersections. This is consistent with the standard K factors published by FDOT. The K factors for all non-arterial cross streets were calculated by dividing the highest peak hour bi-directional volume, derived from the turning movement counts, by the calculated 2018 AADT. The D factors for US 27 were obtained from FTO count sites within the project study limits, while the D factors for all cross streets were determined from the existing traffic count data collected. Directional distribution factors that fell outside the acceptable ranges presented in the FDOT *Project Traffic Forecasting Handbook* were adjusted accordingly.

Similarly, T factors for US 27 were obtained from FTO count sites within the project study limits, and factors utilized for all cross streets were determined from the existing count data collected. Historical AADT FTO Reports used to obtain the K, D, and T factors are provided in **Appendix D**.

The K, D, and T factors are summarized in **Table 3-1** for US 27 and **Table 3-2** for the cross streets.

TABLE 3-1: US 27 TRAFFIC FACTORS (2018)

Roadway		Location	Count Station	K Factor	D Factor	T_{24} Factor
US 27	1	North of Central Ave	165127	9.00%	51.90%	12.30%
	2	South of Thompson Nursery Rd/Chalet Suzanne Rd	165199	9.00%	51.90%	10.30%
	3	South of SR 540/Cypress Gardens Blvd/Waverly Rd	160146	9.00%	51.90%	9.50%
	4	South of Dundee Rd/SR 542	160100	9.00%	51.90%	11.40%
	5	North of Hughes Rd	160098	9.00%	51.90%	10.30%
	6	South of US 17/US 92	160097	9.00%	51.90%	10.60%
	7	North of US 17/US 92	165051	9.00%	51.90%	10.40%
	8	North of Old Polk City Rd/W Main St	160085	9.00%	51.90%	9.10%
	9	North of Bates Rd	165210	9.00%	51.90%	9.10%
	10	South of Holly Hill Tank Rd/Florida Dev Rd	160310	9.00%	52.10%	7.90%
	11	North of I-4	160127	9.00%	51.90%	8.10%
	12	South of US 192	165209	9.00%	51.90%	6.60%

TABLE 3-2: CROSS STREETS TRAFFIC FACTORS (2018)

Roadway	Intersection	Location	K Factor	D Factor	$T_{(AM\ Peak)}$ Factor	$T_{(PM\ Peak)}$ Factor
Cross Streets	US 192[1]	East of US 27	9.0%	54.2%	2.6%	2.6%
	Polo Park Blvd	West of US 27	8.1%	55.1%	0.0%	0.4%
		East of US 27	7.5%	53.9%	1.3%	0.2%
	Florence Villa Grove Rd / Legacy Park Blvd	West of US 27	9.1%	58.6%	2.6%	0.9%
		East of US 27	8.3%	62.6%	2.0%	0.4%
	Sand Mine Rd	West of US 27	6.6%	56.2%	27.2%	2.1%
		East of US 27	32.6%	54.8%	2.9%	0.5%
	Student Dr / Highland Reserve Blvd	West of US 27	6.3%	58.7%	6.1%	0.7%
		East of US 27	25.0%	59.2%	0.7%	0.0%
	McFee Dr / California Blvd	West of US 27	10.2%	65.1%	2.6%	1.2%
		East of US 27	7.2%	66.1%	0.3%	0.2%
	Terra del sol / Central Grove Rd	West of US 27	8.2%	56.4%	6.1%	1.2%
		East of US 27	6.8%	70.0%	0.2%	0.1%
	Four Corners Blvd / Bella Citta Blvd	West of US 27	7.5%	51.0%	3.5%	3.3%
		East of US 27	8.3%	55.7%	0.9%	0.4%
	Cardiff Ave / Tri County 1 Rd	West of US 27	10.9%	62.0%	5.9%	1.8%
		East of US 27	9.4%	59.2%	0.2%	0.0%
	Laurel Estates Driveway	West of US 27	11.3%	60.5%	6.1%	0.7%
	Deen Still Rd	West of US 27	14.3%	54.2%	20.4%	6.3%
		East of US 27	7.8%	51.0%	4.4%	1.7%
	Waverly Barn Rd	West of US 27	13.1%	54.1%	18.2%	11.5%
		East of US 27	19.1%	60.5%	1.3%	0.7%
	Access Rd	West of US 27	8.5%	56.3%	6.0%	8.5%
		East of US 27	2.1%	73.7%	0.1%	0.1%
	I-4 WB Ramps	West of US 27	9.2%	77.8%	8.8%	4.1%
		East of US 27	5.6%	61.5%	0.4%	0.4%
	I-4 EB Ramps (Frontage Rd)	West of US 27	7.1%	51.3%	3.8%	2.1%
		East of US 27	18.7%	80.7%	3.2%	2.1%
	Home Run Blvd / Victor Posner Blvd	West of US 27	10.5%	67.4%	5.2%	3.6%
		East of US 27	7.8%	52.4%	1.2%	0.5%
	Heller Bros. Blvd / Deer Creek Blvd	West of US 27	7.1%	68.7%	3.6%	0.7%
		East of US 27	7.7%	71.8%	0.8%	0.2%
	Minute Maid Ramp Rd 2	West of US 27	6.5%	52.9%	2.1%	2.6%
		East of US 27	8.4%	64.1%	0.8%	0.3%
	Cottonwood Rd	West of US 27	11.6%	67.6%	4.1%	0.0%
		East of US 27	10.4%	60.3%	0.3%	0.4%
	Ridgewood Lakes Blvd	East of US 27	7.2%	60.4%	0.5%	0.2%
	Holly Hill Tank Rd / Florida Development Rd	West of US 27	12.8%	52.2%	13.0%	4.8%
		East of US 27	10.0%	58.5%	0.4%	0.3%
	Massee Rd / Holly Hill Rd	West of US 27	7.3%	57.6%	1.1%	1.1%
		East of US 27	9.4%	51.2%	0.8%	0.2%
	La Casa Del Sol Blvd	West of US 27	4.9%	71.4%	4.8%	0.0%

[1]Traffic Factors from Historical AADT Report at FTO Site 110470; $T_{(AM\ Peak)}$ and $T_{(PM\ Peak)}$ equal to half of T_{24} from FTO

TABLE 3-2: CROSS STREETS TRAFFIC FACTORS (2018) (CONTINUED)

Roadway	Intersection	Location	K Factor	D Factor	$T_{(AM\ Peak)}$ Factor	$T_{(PM\ Peak)}$ Factor
Cross Streets	Holly Hill Cutoff Rd / North Blvd W	West of US 27	9.7%	66.9%	4.9%	2.3%
		East of US 27	17.9%	63.6%	0.5%	0.1%
	Sanders Rd / CR 547 / Davenport Blvd	West of US 27	7.9%	74.7%	6.0%	2.3%
		East of US 27	8.1%	51.0%	1.9%	1.0%
	South Blvd	West of US 27	8.9%	66.3%	37.0%	26.3%
		East of US 27	7.3%	58.0%	0.6%	0.2%
	Section 7 Airport Rd / Parson Rd / Patterson Rd	East of US 27	18.2%	67.8%	0.4%	0.3%
	Bates Rd	West of US 27	8.5%	58.3%	1.7%	0.0%
		East of US 27	6.5%	54.5%	1.3%	0.5%
	Glen Este Blvd / Southern Dunes	West of US 27	7.6%	54.1%	2.1%	1.1%
		East of US 27	11.6%	50.6%	1.0%	0.6%
	CR 17 / Old Polk City Rd	West of US 27	8.8%	50.2%	10.3%	5.3%
		East of US 27	9.2%	50.5%	0.6%	0.7%
	Commerce Ave / Pilot Ent	West of US 27	9.0%	52.8%	3.9%	1.8%
		East of US 27	8.8%	64.5%	4.1%	2.5%
	W Johnson Ave	West of US 27	6.8%	54.5%	2.6%	1.1%
		East of US 27	8.8%	62.3%	0.4%	0.3%
	US 17 / US 92[2]	West of US 27	9.0%	54.5%	4.0%	4.0%
		East of US 27	9.0%	54.5%	3.2%	3.2%
	SR 544	West of US 27	7.7%	56.3%	6.2%	4.1%
		East of US 27	7.2%	63.6%	3.3%	1.7%
	Paradise Island Pl / Sunshine Dr	West of US 27	7.8%	53.9%	4.0%	3.9%
		East of US 27	10.9%	66.7%	0.8%	0.2%
	Kokomo Rd	East of US 27	8.7%	65.2%	1.4%	0.8%
	Crump Rd / W Main St	West of US 27	10.2%	50.9%	1.8%	1.3%
		East of US 27	10.9%	64.9%	0.5%	0.3%
	Frederick Ave	West of US 27	26.3%	100.0%	14.3%	0.0%
		East of US 27	13.0%	54.0%	0.7%	0.5%
	SR 542 / Dundee Rd	West of US 27	8.9%	51.5%	2.3%	2.1%
		East of US 27	8.7%	55.7%	2.5%	2.8%
	Lincoln Ave	East of US 27	13.3%	52.5%	0.4%	0.1%
	SR 540	West of US 27	9.0%	52.8%	2.2%	1.2%
		East of US 27	8.1%	57.3%	1.2%	0.6%
	Market Blvd / Star Lake Dr	West of US 27	11.7%	65.1%	5.4%	1.7%
		East of US 27	7.7%	59.7%	0.4%	0.2%
	Thompson Nursey Rd	West of US 27	10.3%	51.9%	6.1%	2.7%
		East of US 27	8.2%	53.4%	1.5%	0.5%
	Eagle Ridge Mall Ent S	East of US 27	7.7%	54.5%	0.7%	0.3%
	Tower Point Ent / Vanguard School Ent	West of US 27	28.7%	100.0%	0.0%	0.0%
		East of US 27	10.1%	63.4%	0.8%	0.4%
	Mt Lake Cut Off Rd N	West of US 27	11.2%	52.6%	0.0%	0.0%
		East of US 27	10.1%	58.0%	1.7%	1.2%

[2]Traffic Factors from Historical AADT Report at FTO Sites 160035 (West of US 27) and 165056 (East of US 27); $T_{(AM\ Peak)}$ and $T_{(PM\ Peak)}$ equal to half of T_{24} from FTO

TABLE 3-2: CROSS STREETS TRAFFIC FACTORS (2018) (CONTINUED)

Roadway	Intersection	Location	K Factor	D Factor	$T_{(AM\ Peak)}$ Factor	$T_{(PM\ Peak)}$ Factor
Cross Streets	Washington Ave	West of US 27	11.4%	58.6%	40.5%	8.4%
		East of US 27	7.8%	52.6%	5.0%	2.6%
	W Central Ave	West of US 27	10.6%	63.9%	6.2%	3.2%
		East of US 27	8.3%	52.3%	1.2%	0.8%
	SR 60 EB Ramps	West of US 27	8.9%	100.0%	14.9%	7.3%
		East of US 27	8.8%	100.0%	3.6%	1.1%
	SR 60 Mainline[3]	West of US 27	9.0%	54.5%	11.1%	11.1%
		East of US 27	9.0%	54.5%	7.6%	7.6%

[3] Traffic Factors from Historical AADT Report at FTO Sites 160069 (West of US 27) and 165128 (East of US 27); $T_{(AM\ Peak)}$ and $T_{(PM\ Peak)}$ equal to half of T_{24} from FTO

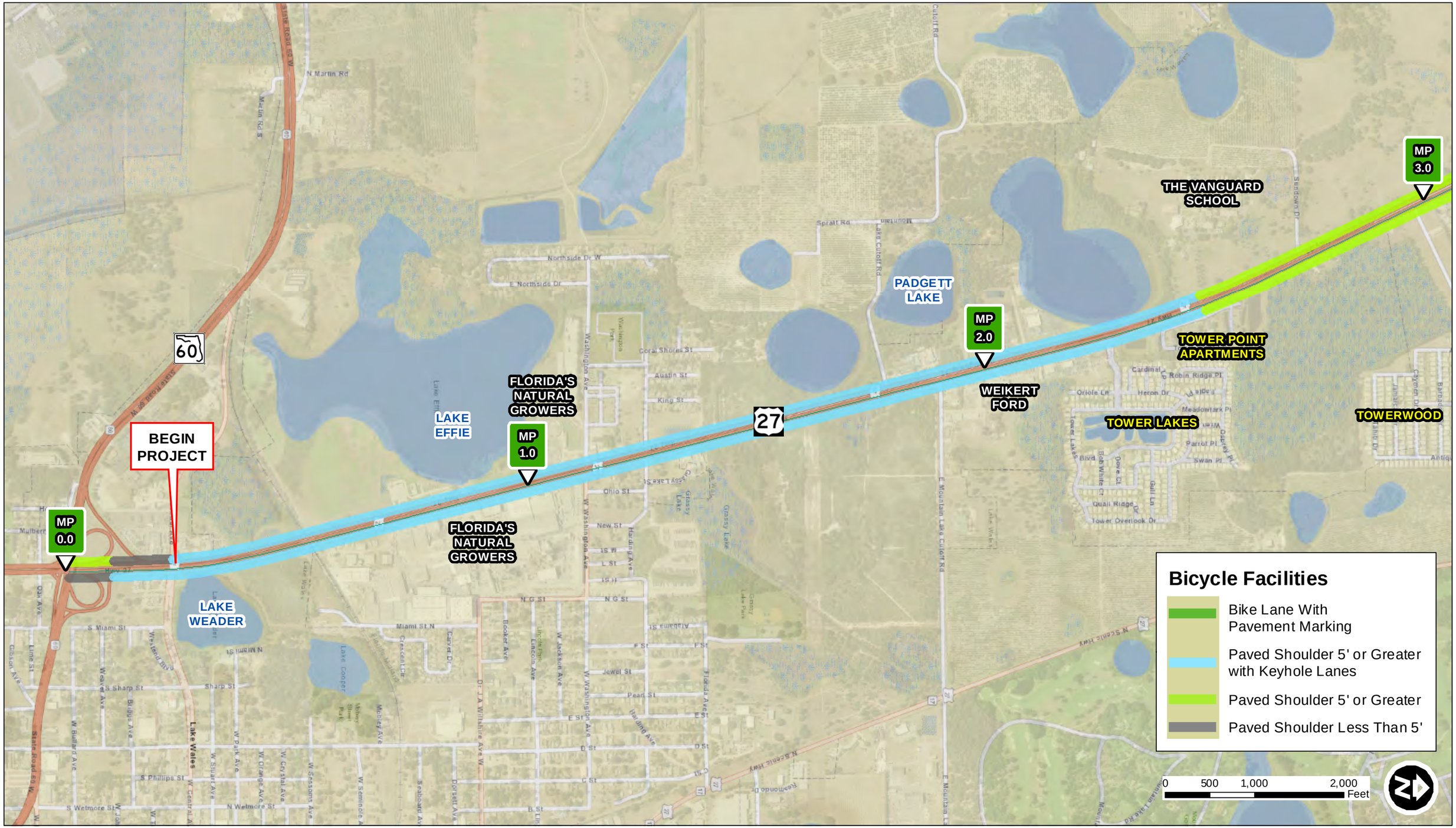
3.4 BICYCLE AND PEDESTRIAN FACILITIES

3.4.1 Bicycle Facilities

For this report, bicycle facilities are considered present if one or more of the following conditions are met:

- Bicycle lane pavement markings
- Bicycle "keyhole" configurations where turn lanes are present
- A minimum 5-foot wide paved shoulder
    - (*Note: Current FDOT design standard for new construction projects is a 7-foot wide buffered bicycle lane with double 6-inch white lines.)*

Bicycle facilities are considered present on this corridor if there is a paved shoulder 5-foot wide or wider. These facilities are generally not designated as bicycle lanes with pavement markings and therefore not bicycle-exclusive. There are keyhole lanes near intersections with turn lane configurations throughout approximately half of the study area. However, these keyhole lanes do not match the latest FDOT Design Manual (published January 1, 2018), which includes bicycle pavement markings. The various bicycle facility features present along the study corridor are graphically summarized in **Figure 3-2**.



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

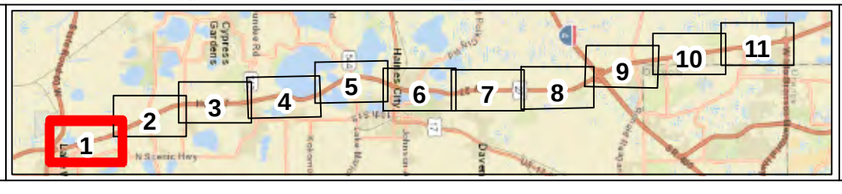


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 1 of 11

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

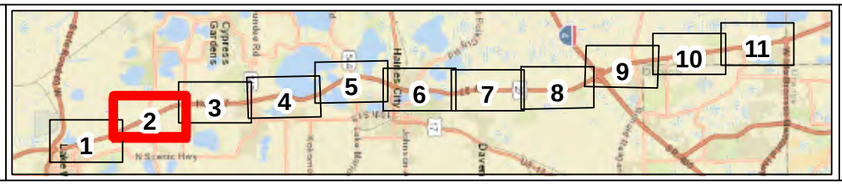
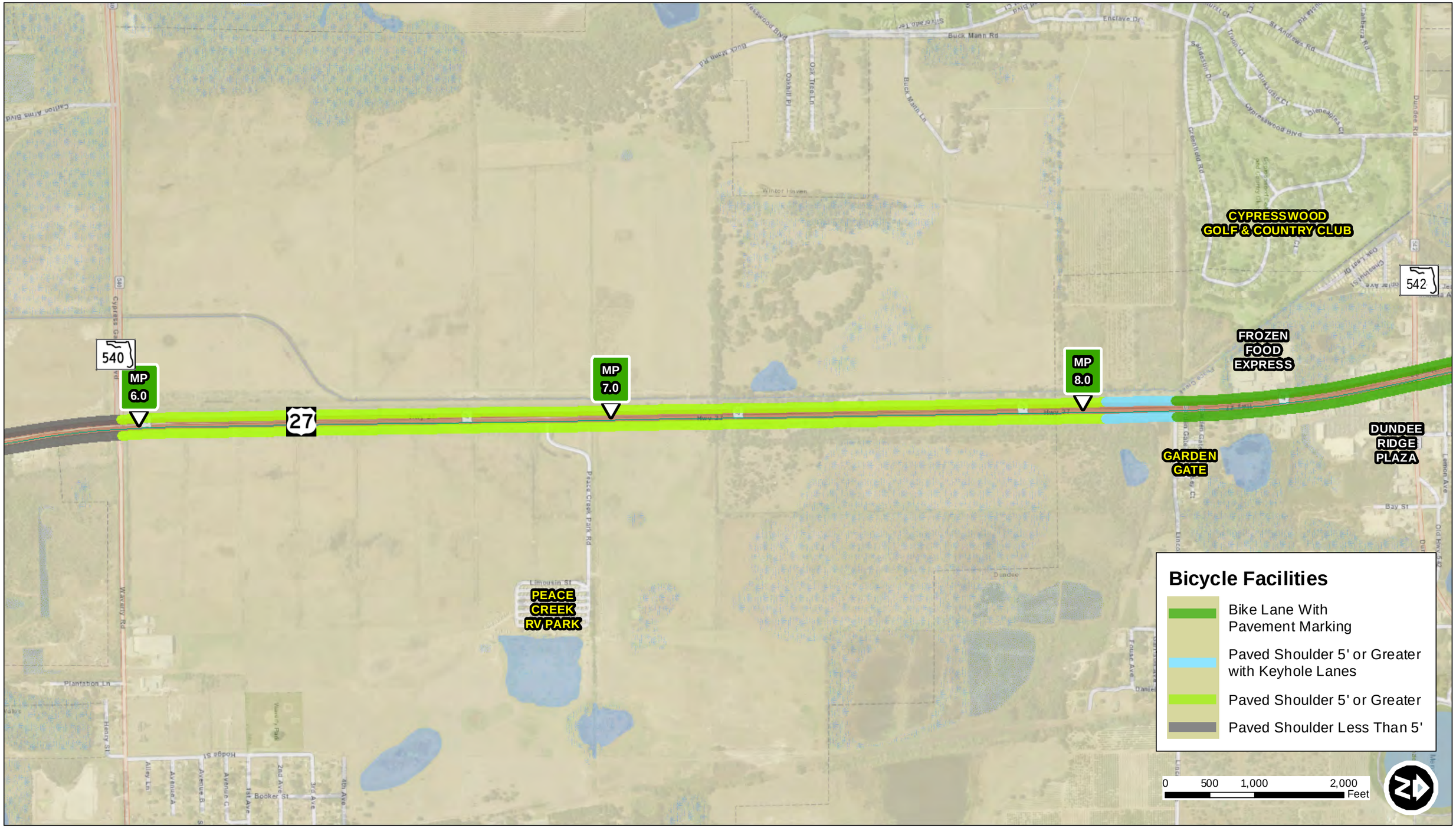


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 2 of 11



NORTHEAST POLK US 27 Mobility Study

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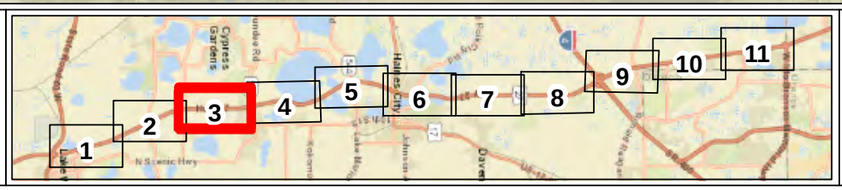
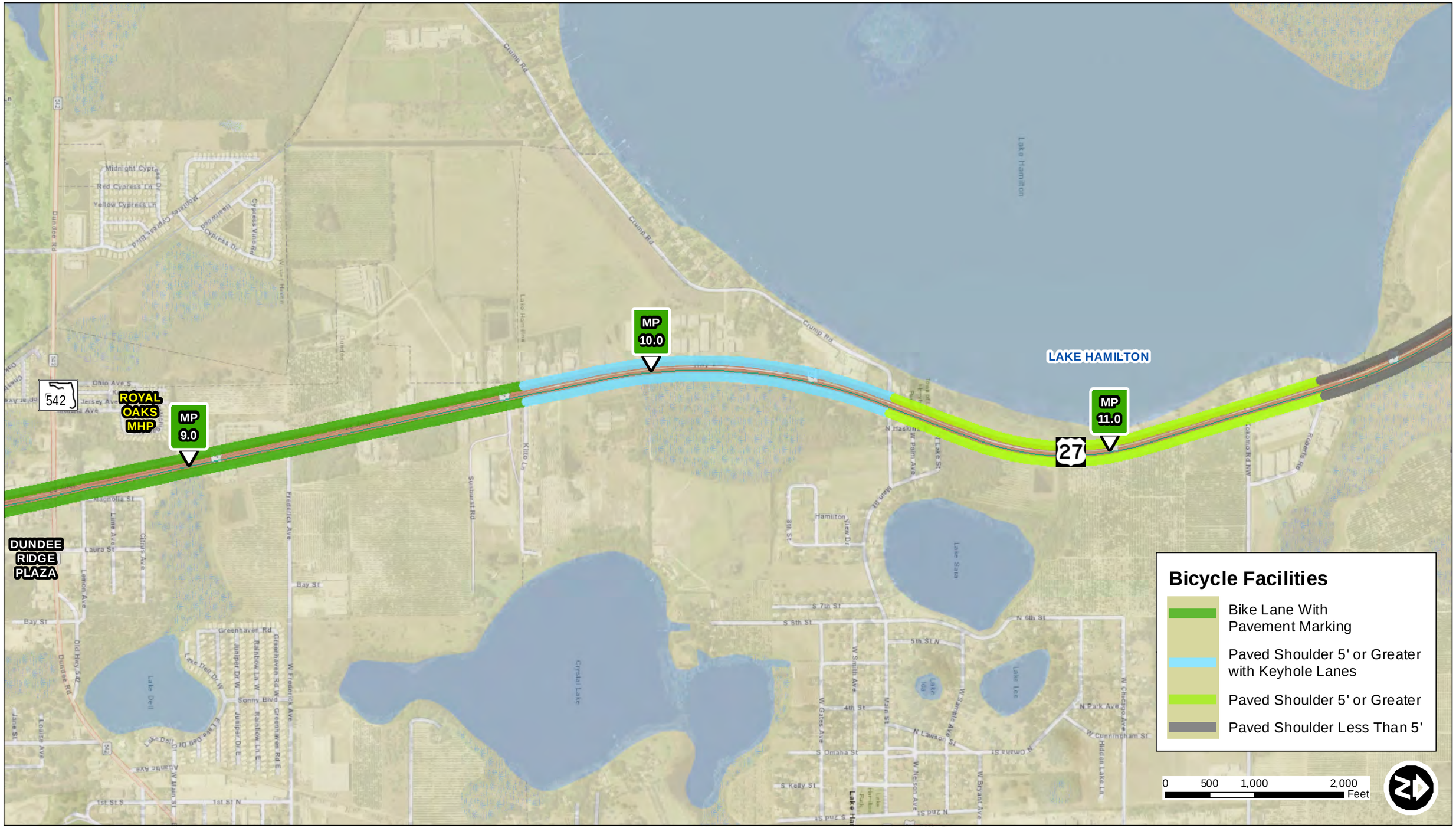


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 3 of 11



NORTHEAST POLK US 27 Mobility Study

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From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

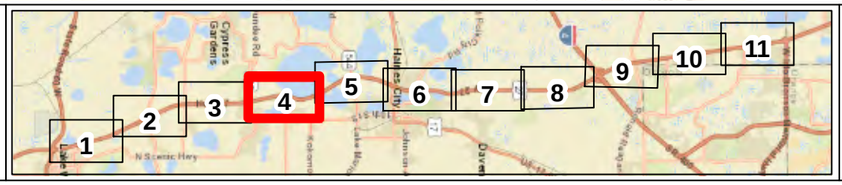
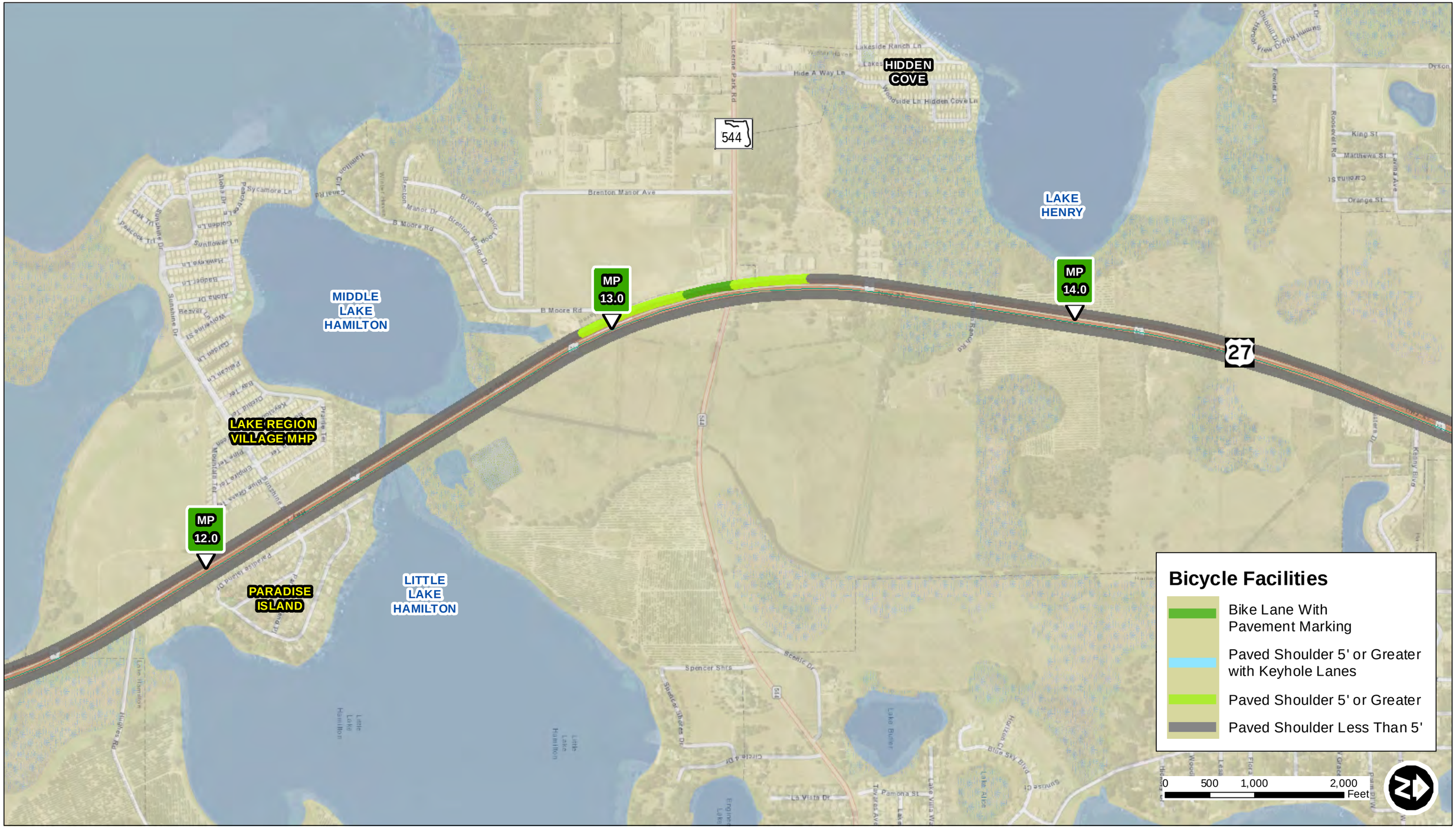


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 4 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
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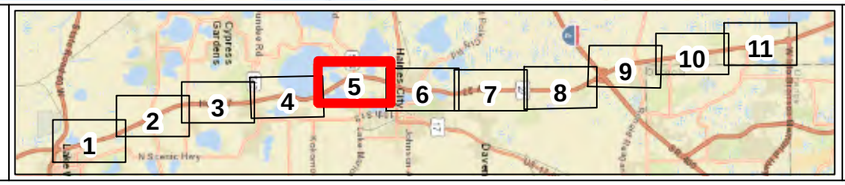


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 5 of 11

MP 15.0

MP 16.0

MP 17.0

17/92

27

HAMMOCK LAKE

LAKE HAMILTON VILLAGE

TOYOTA

HAINES CITY RV PARK

WALMART

TOWER LAKE

LAKE TRACY

Bicycle Facilities

- Bike Lane With Pavement Marking
- Paved Shoulder 5' or Greater with Keyhole Lanes
- Paved Shoulder 5' or Greater
- Paved Shoulder Less Than 5'

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

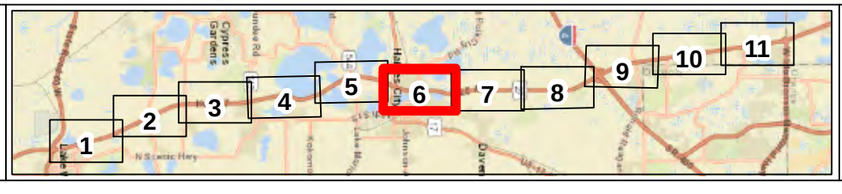


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 6 of 11

LAKE ST. CHARLES

HEATHER HILL

ESTATES OF LAKE ST. CHARLES

OLDCASTLE LAWN & GARDEN

CRYSTAL LAKE

VILLAGE OF LA CASA DEL SOL

HEART OF FLORIDA REGIONAL MEDICAL CENTER

MP 18.0

MP 19.0

MP 20.0

27

HIGHLAND SQUARE

BELLA NOVA

WINFIELD HEIGHTS

Bicycle Facilities

- Bike Lane With Pavement Marking
- Paved Shoulder 5' or Greater with Keyhole Lanes
- Paved Shoulder 5' or Greater
- Paved Shoulder Less Than 5'

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

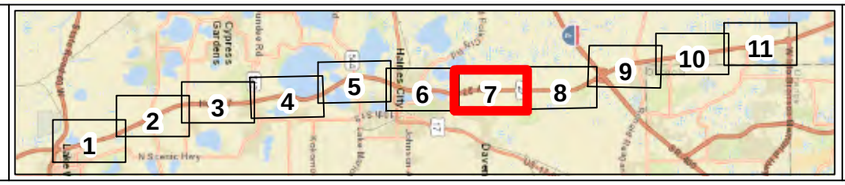


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 7 of 11

FORT SUMMIT KOA CAMPGROUND

TIVOLI MANOR

REGENCY PLACE

WESTBURY

SILVER PALMS

POSNER PARK

MP 21.0

MP 22.0

MP 23.0

27

ERNIE CALDWELL BLVD

DEER CREEK RV RESORT

ROYAL PALMS

ROYAL RIDGE

Bicycle Facilities

- Bike Lane With Pavement Marking
- Paved Shoulder 5' or Greater with Keyhole Lanes
- Paved Shoulder 5' or Greater
- Paved Shoulder Less Than 5'

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

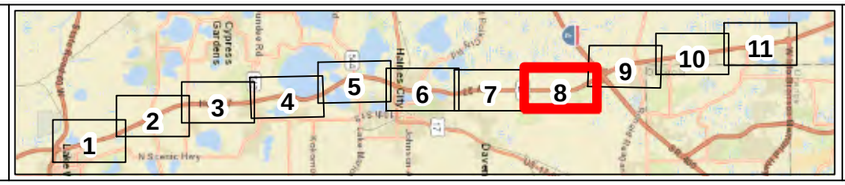


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 8 of 11

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

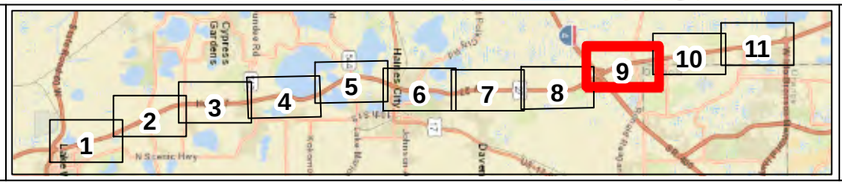


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 9 of 11

PINES WEST
FOUR CORNERS
MP 27.0
CALABAY PARC
FLORIDA PINES
MP 28.0
WESTRIDGE
FLORIDA CAMP INN
HIGHLANDS RESERVE
MP 29.0
HAMILTON LAKES
THE RIDGE
CITRUS RIDGE ACADEMY
SOLANA
PALM KEY
TERRA DEL SOL
SANTA CRUZ
POLK COUNTY
OSCEOLA COUNTY
CHAMPIONSGATE COUNTRY CLUB
MPIONSGATE UNTRY CLUB
27

Bicycle Facilities

- Bike Lane With Pavement Marking
- Paved Shoulder 5' or Greater with Keyhole Lanes
- Paved Shoulder 5' or Greater
- Paved Shoulder Less Than 5'

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

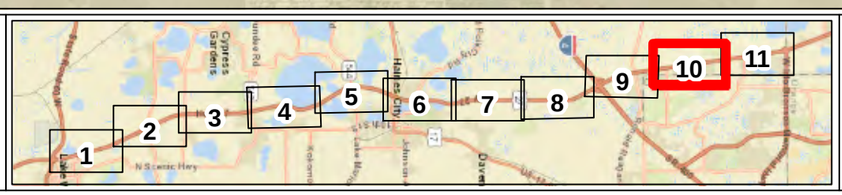
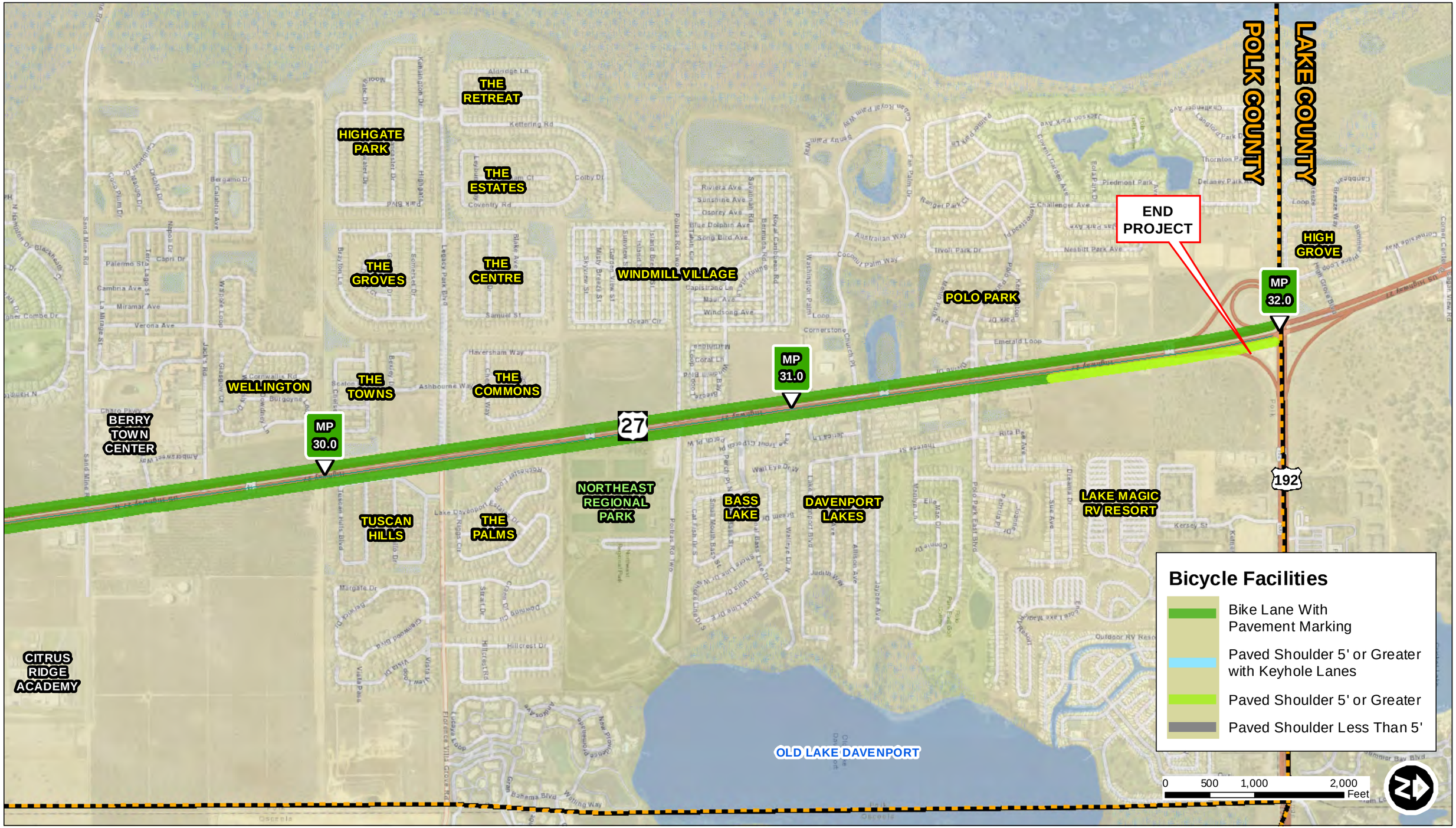


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 10 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

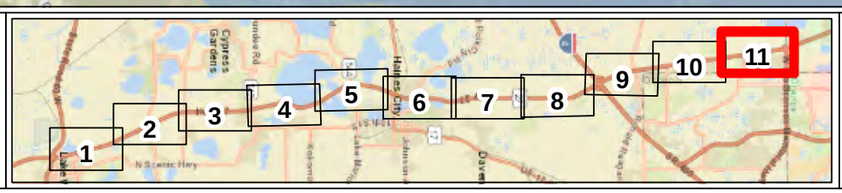


FIGURE 3-2
BICYCLE FACILITIES
US 27 CORRIDOR
Sheet 11 of 11

3.4.2 Pedestrian Facilities

Pedestrian facilities are typically paved paths available for use by people traveling on foot or while in a wheelchair. The FDOT Design Manual also considers the following to be pedestrian facilities:

- Sidewalks
- Curb ramps
- Crosswalks
- At-grade railroad crossings
- Refuge islands
- Curb extensions
- Pedestrian signals
- Public transit loading zones
- Pedestrian bridges
- Shared use paths
- Street furniture

The primary pedestrian facilities located in the corridor study area are sidewalks. However, sidewalks are largely absent or sporadically located from SR 60 until approximately Mile Post 23, near Ernie Caldwell Boulevard. Per FDOT standards, sidewalks are to be provided on both high speed curbed and flush shoulder roadways within C2T, C3R, C4, C5 or C6 context classifications and within C1, C2 or C3C where demand is demonstrated. The existing and future context classifications within this corridor are C3R, C4, C2 and C3C, which coincides with the classifications where sidewalks are to be provided. (Context classifications are described further in Section 4.5 of this report.)

Sidewalk facilities are present in the following locations:

- Central Avenue to Harding Avenue (both sides)
- South of Lincoln Avenue to Winter Haven/Lake Hamilton boundary (both sides)
- 1,000 feet south of Crump Road to 800 feet north of Crump Road (both sides)
- W Johnson Avenue to Intermart Shopping Center Entrance (both sides)/Blue Heron Boulevard (right side)
- Toyota Entrance (left side)/Bates Road (right side) to Lowes Entrance

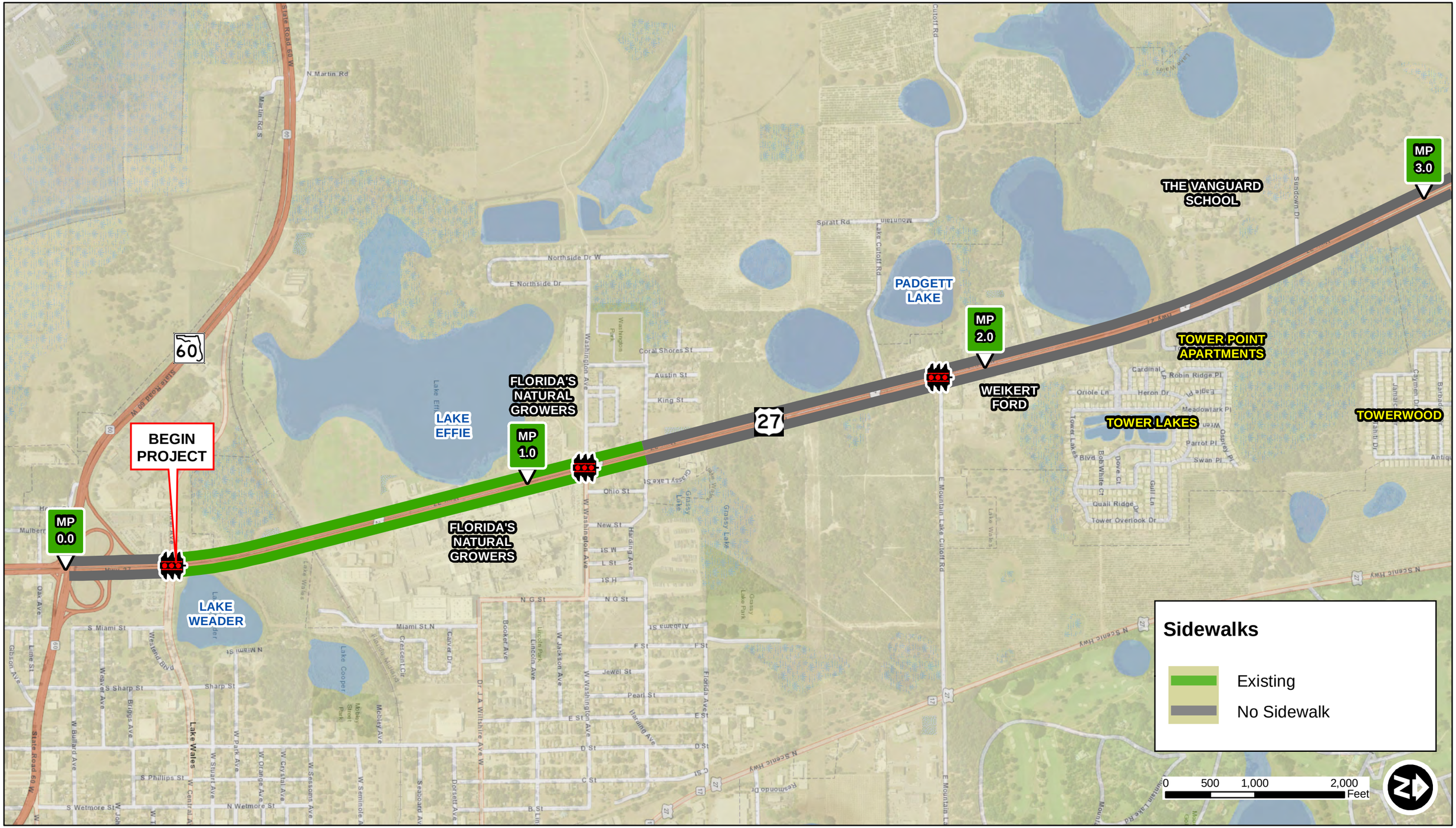
In order of decreasing priority, the location of sidewalks is to be as near the right of way line as possible, outside of the clear zone, five feet beyond the limits of the full width shoulder or at the limits of the full width shoulder.

There are generally sidewalk facilities located on both sides of the corridor from Ernie Caldwell Boulevard to the northern terminus of the study area. Curb cuts are provided where sidewalks meet the roadway.

Pedestrian crossings designated by pavement markings are generally located on all legs of signalized intersections. There are a few exceptions listed and described below:

- Eagle Ridge Mall Entrance – No pedestrian markings across the south and west legs of intersection (appropriate since there is no west leg of the intersection)
- Ridgewood Lakes Road – No pedestrian markings
- Cottonwood Road – No pedestrian markings
- Home Run Boulevard/Posner Boulevard– No pedestrian marking across north leg of intersection
- Frontage Road – No pedestrian marking across south and east legs of intersection
- Hampton Inn Entrance – No pedestrian marking across west and north legs of intersection
- Potras Road 2 – No pedestrian marking across north and south legs of intersection

Figure 3-3 illustrates where existing pedestrian sidewalk facilities are located throughout the corridor.



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

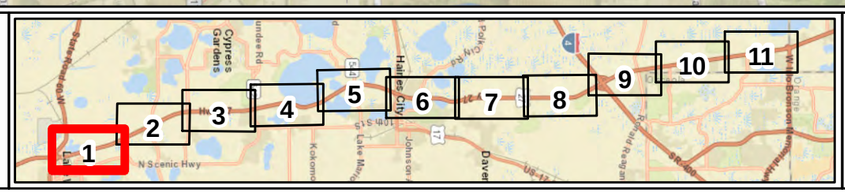
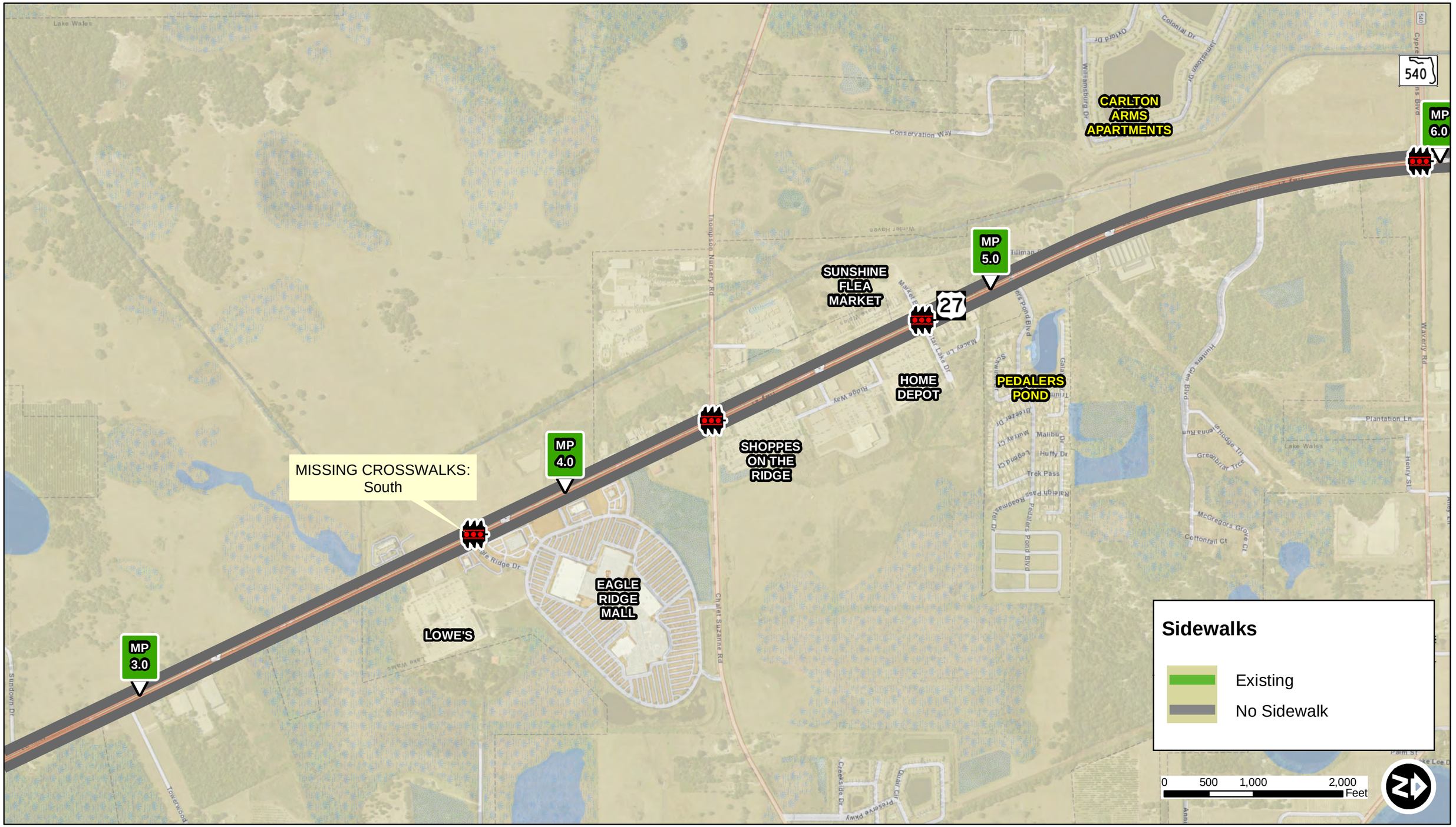


FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 1 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

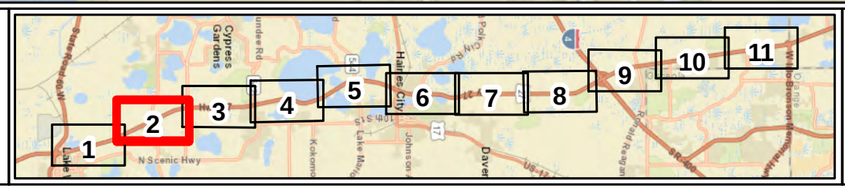
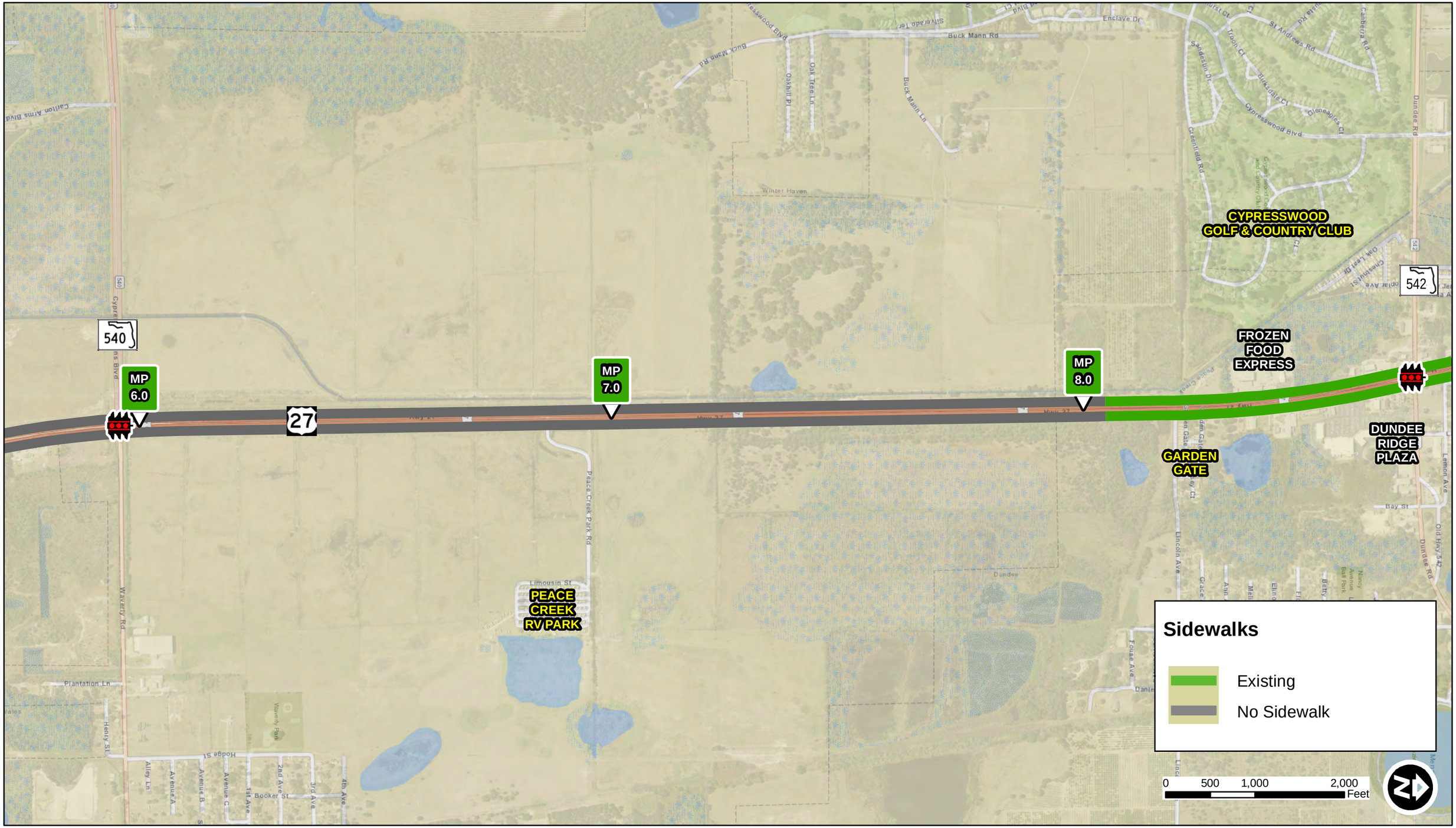
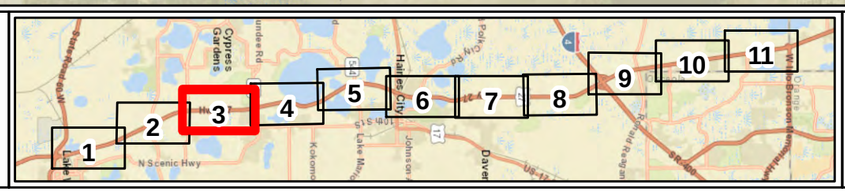


FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 2 of 11

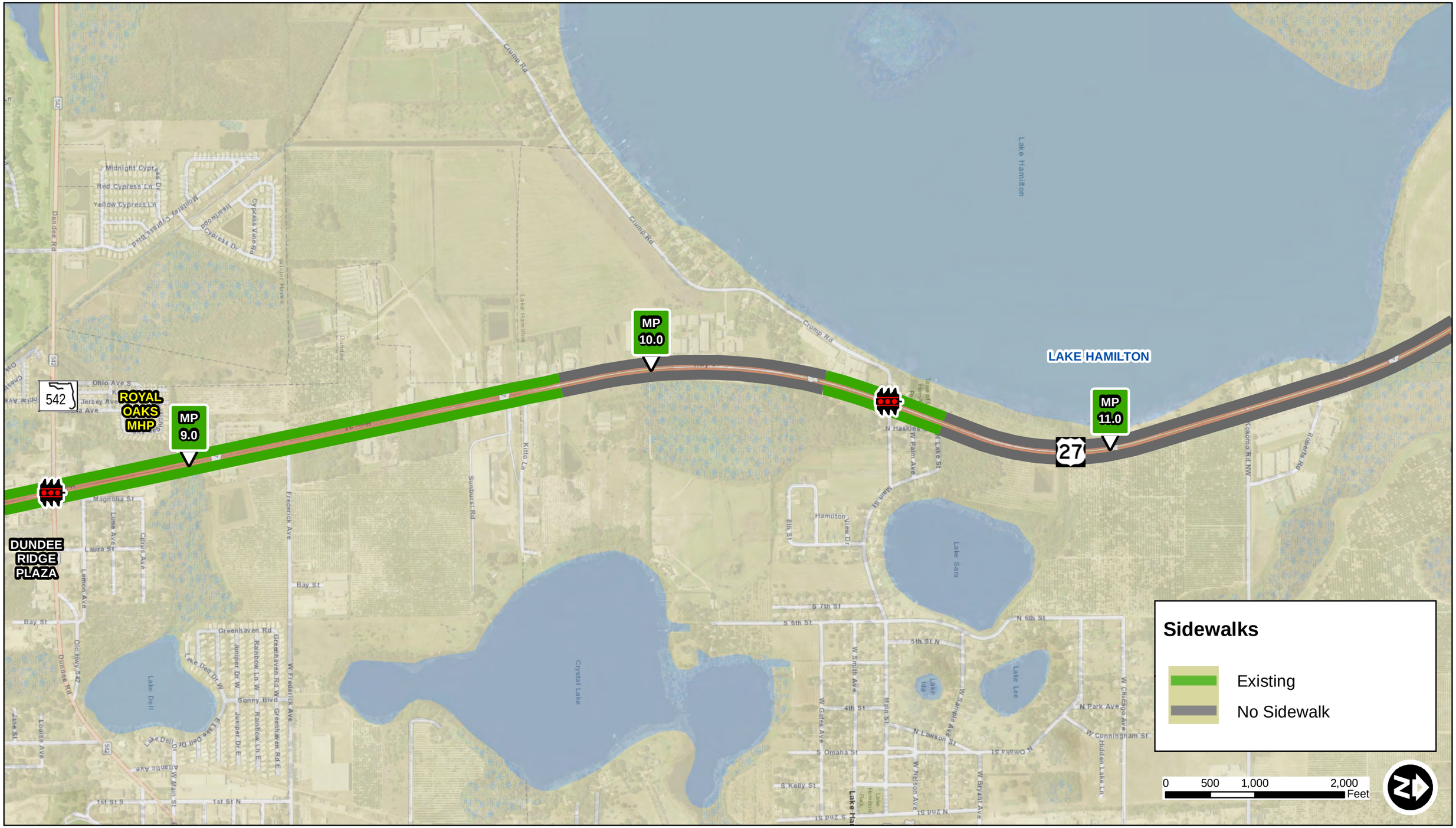


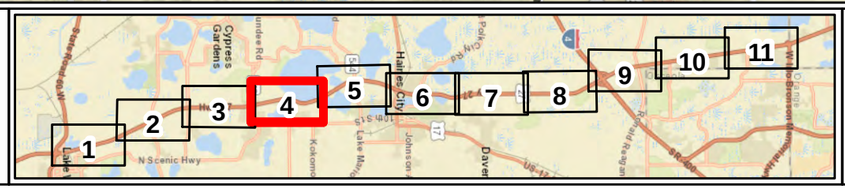


NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 3 of 11

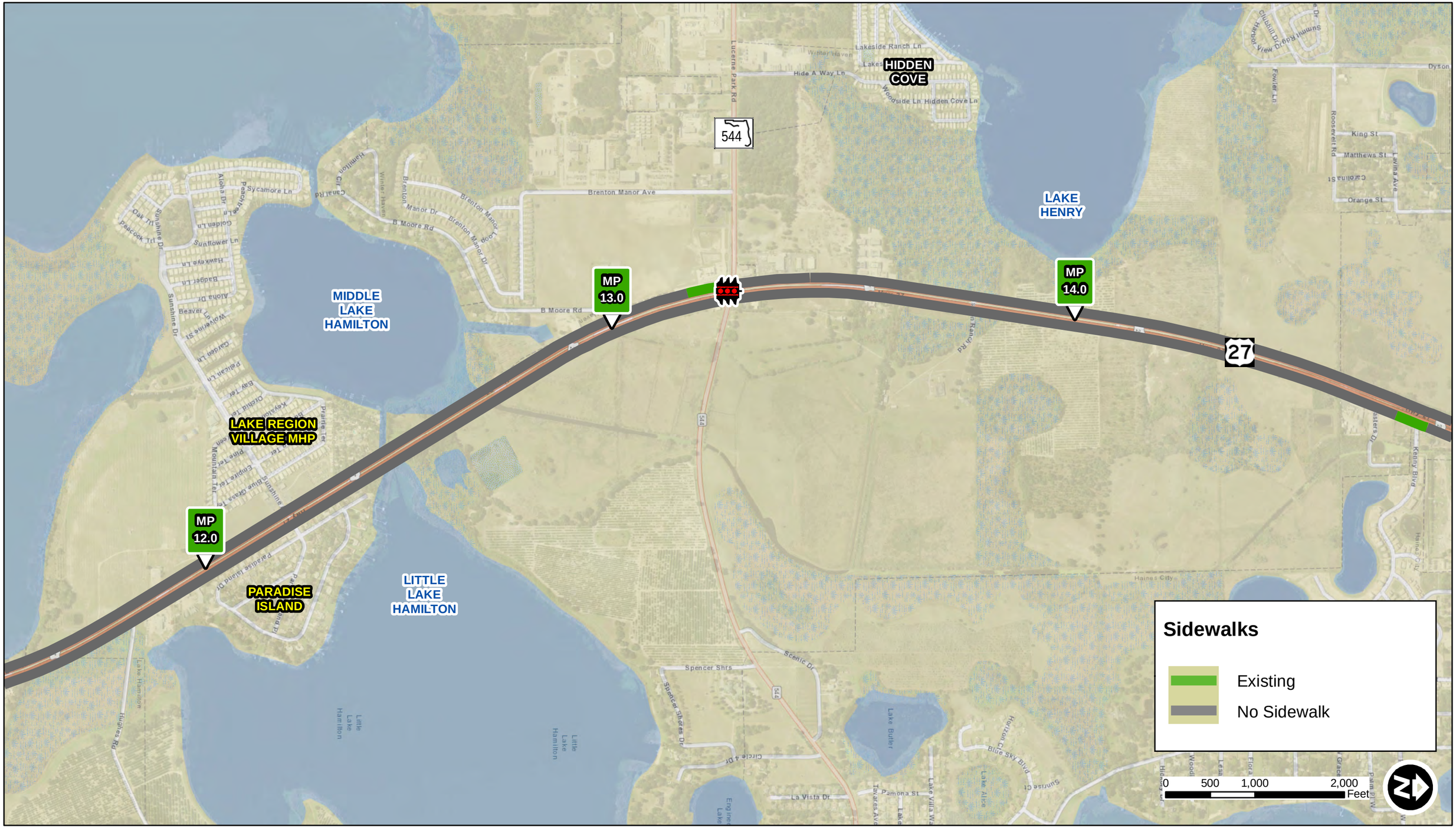


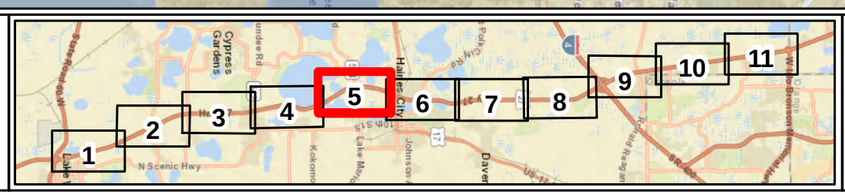


NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 4 of 11

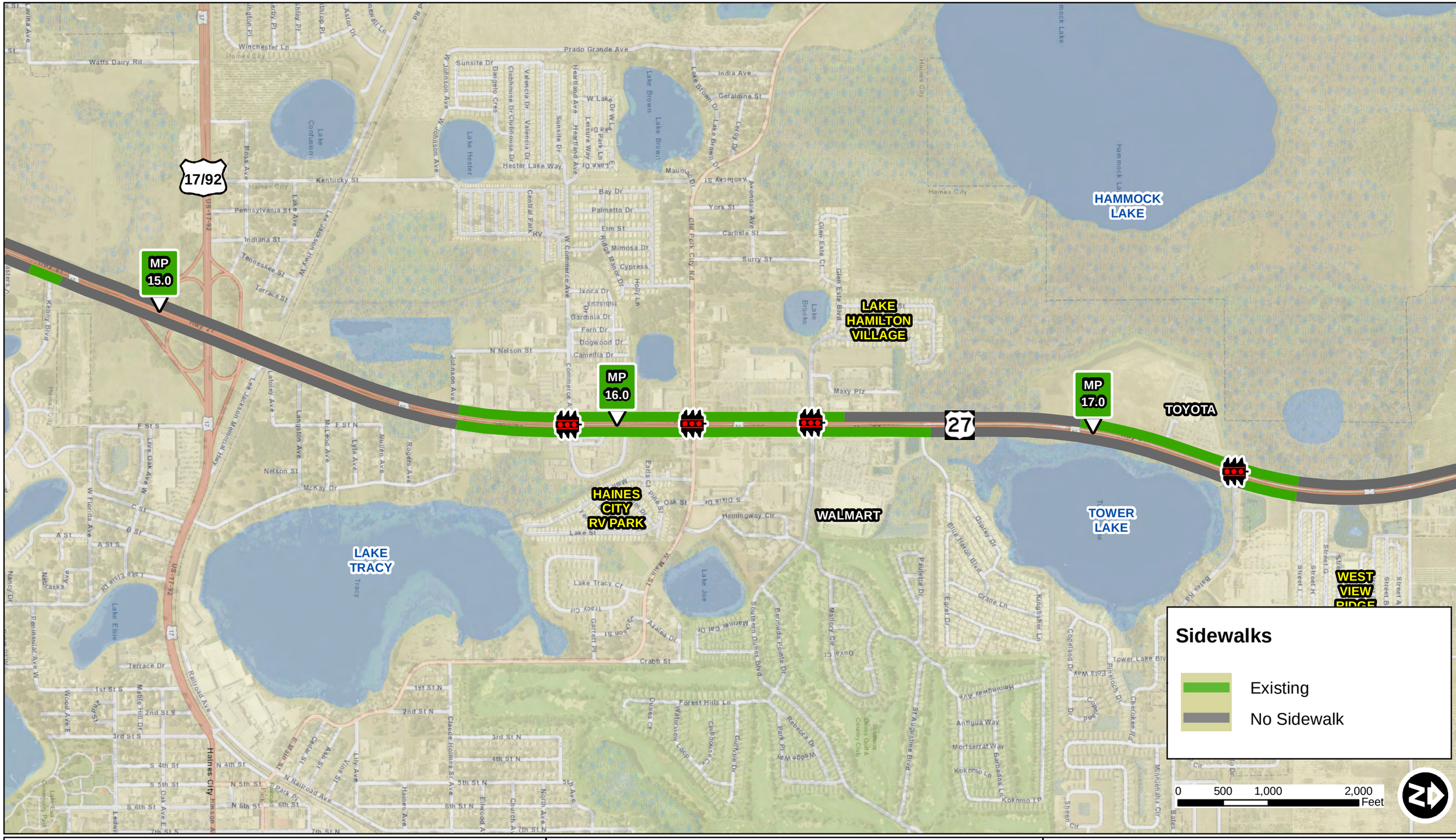




NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 5 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

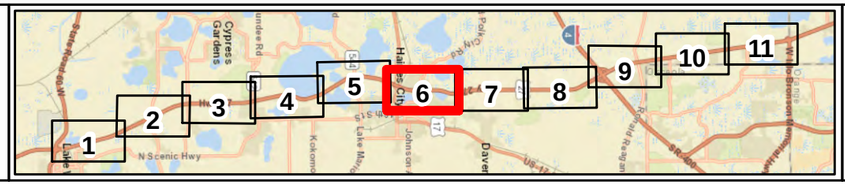
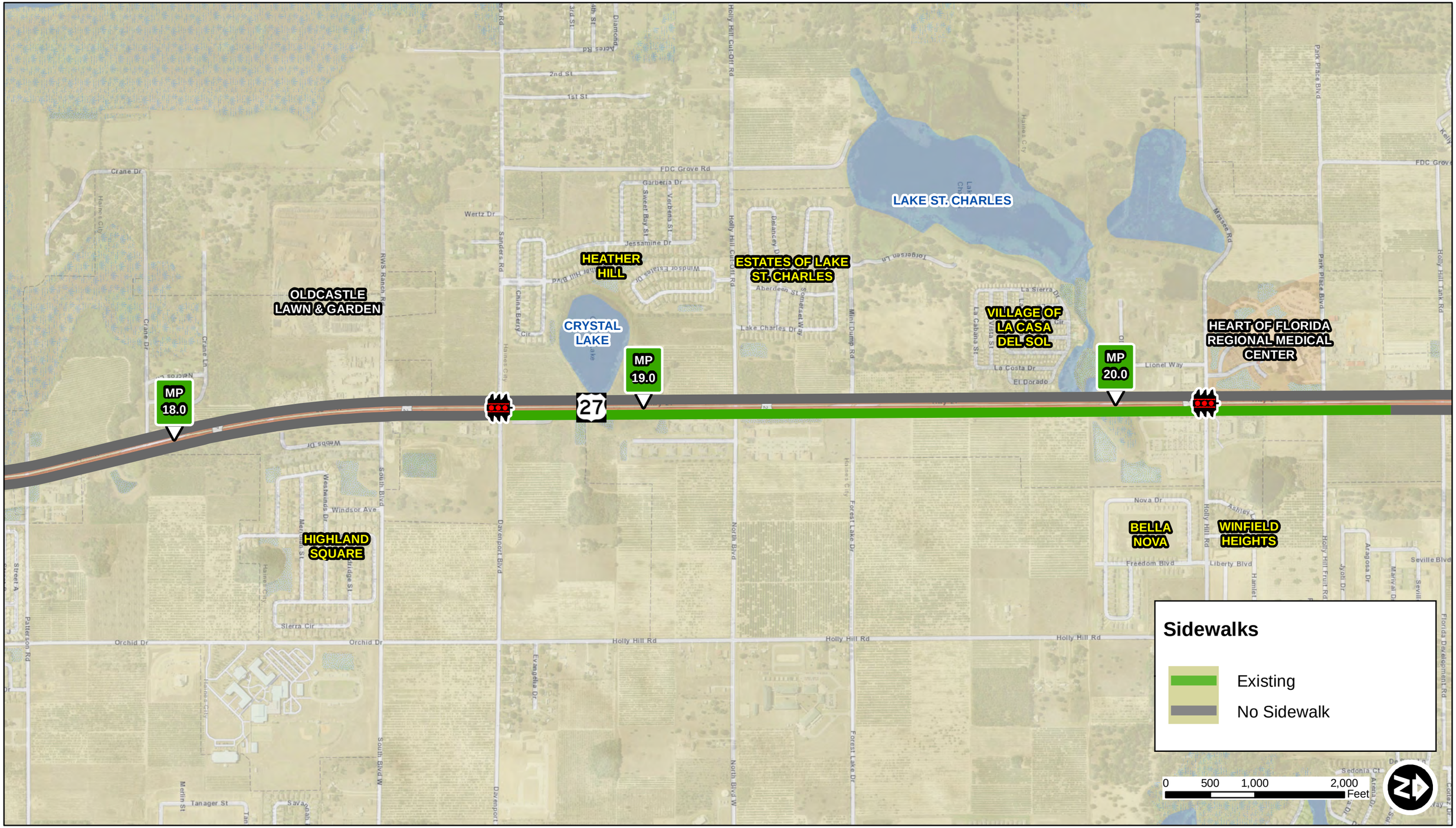
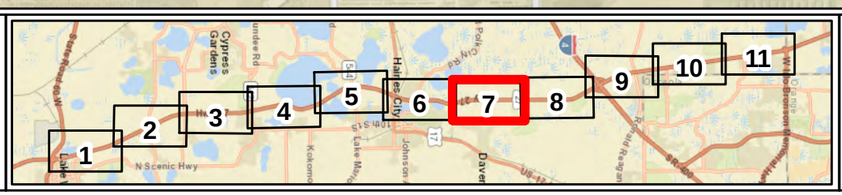


FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 6 of 11



Sidewalks

- Existing
- No Sidewalk



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 7 of 11


MISSING CROSSWALKS:
South; East
MISSING CROSSWALKS:
North
MISSING CROSSWALKS:
All
MISSING CROSSWALKS:
All
MP
21.0
MP
22.0
MP
23.0
27
FORT SUMMIT
KOA CAMPGROUND
TIVOLI
MANOR
REGENCY
PLACE
WESTBURY
SILVER
PALMS
POSNER
PARK
ERNIE CALDWELL BLVD
DEER
CREEK
RV RESORT
ROYAL
PALMS
ROYAL RIDGE
FDC Grove Rd
Holly Hill Grove Three Rd
Holly Hill Grove Two Rd
Minute Maid Ramp Rd One
Minute Maid Ramp Rd Two
Home Run Blvd
Pinecrest Loop
Lobelia Dr
Vervain Ave
Peregrine Ln
Vandaleur Dr
Ridgewood Lakes Blvd
Cottonwood Dr
Crescent Rd
Rollins Dr
Belvoir Dr
Nicholson Dr
Huntwick Blvd
Dartford Dr
Manoel Ln
Best Rd
Vizcay Way
Broad Way
Caldwell Blvd
Tournament Dr
Seville Blvd
Florida Development Rd
Grande Dr
De Soto Ln
Sabal Lake Dr
Canary Island Cir
Sand Hill Rd
Holly Hill Tank Rd
Westridge Rd
Oak Ridge Rd
Juniper Dr
Forest Dr
Cedar Dr
Sandalwood Dr
Spruce Ct
Holly Dr
Fern Cres
Sidewalks
Existing
No Sidewalk
0
500
1,000
2,000
Feet

WALMART DISTRIBUTION CENTER

FLORIDA CENTRAL PARK

PARK 27 DISTRIBUTION CENTER

LAUREL ESTATES

TUSCAN RIDGE

PINES WEST

SANTA CRUZ

MP 26.0

MP 25.0

MP 24.0

27

THEMEWORLD RV RESORT

FORT SUMMIT KOA CAMPGROUND

POSNER PARK

MISSING CROSSWALKS:
West; East

MISSING CROSSWALKS:
th; East

LOMA DEL SOL

POLK COUNTY

OSCEOLA COUNTY

OASIS CLUB

CHAMPIONSGATE COUNTRY CLUB

BELLA TOSCANA

LOMA VISTA

WEST HAVEN

Sidewalks

Existing

No Sidewalk

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

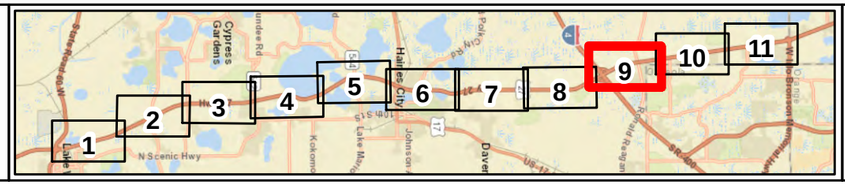


FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 9 of 11

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
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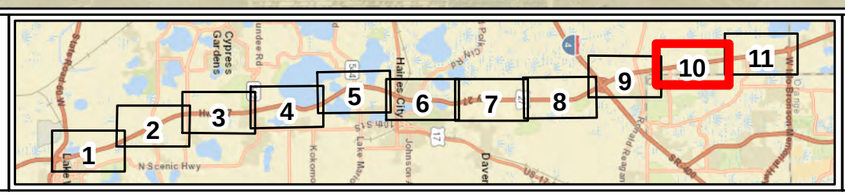

FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 10 of 11

POLK COUNTY

LAKE COUNTY

END PROJECT

MISSING CROSSWALKS:
South; North

MP 30.0

MP 31.0

MP 32.0

27

192

THE RETREAT

HIGHGATE PARK

THE ESTATES

THE GROVES

THE CENTRE

WINDMILL VILLAGE

POLO PARK

HIGH GROVE

WELLINGTON

THE TOWNS

THE COMMONS

BERRY TOWN CENTER

NORTHEAST REGIONAL PARK

BASS LAKE

DAVENPORT LAKES

LAKE MAGIC RV RESORT

TUSCAN HILLS

THE PALMS

CITRUS RIDGE ACADEMY

OLD LAKE DAVENPORT

Sidewalks

- Existing
- No Sidewalk

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

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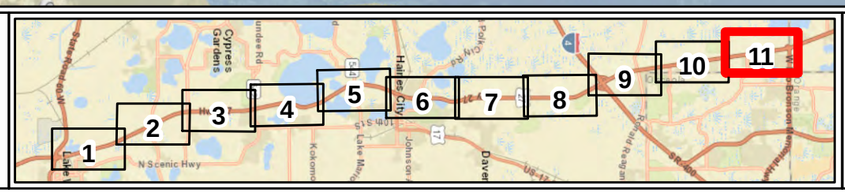


FIGURE 3-3
PEDESTRIAN FACILITIES (SIDEWALK)
US 27 CORRIDOR
Sheet 11 of 11

3.5 TRANSIT FACILITIES

The Lakeland Area Mass Transit District (LAMTD) administers and operates Citrus Connection, which includes all public transportation within Polk County. Citrus Connection provides 24 fixed-route service lines, with a fleet of 41 buses. An additional three routes within the county are paid for by Polk County and operated via a contract with LYNX.

Citrus Connection also operates paratransit service, offering shared rides for those who are unable to use regular fixed-route buses. It is a call ahead, door-to-door service available to senior citizens, disadvantaged citizens, and citizens with disabilities. It uses a specialized fleet of small, wheelchair lift-equipped buses. There are no restrictions on the purpose or number of service trips that may be taken, except that the ride is shared with others traveling at the same time in the same direction. It operates six days a week and reservations are taken from 8:00 am to 5:00 pm weekdays and 8:00 am to 4:00 pm on Saturday. There is no paratransit service on Sunday or most major holidays.

3.5.1 Transit Routes

There are 12 routes serving the east portion of Polk County, an area generally corresponding with the NE Polk US 27 project area study limits. These routes are:

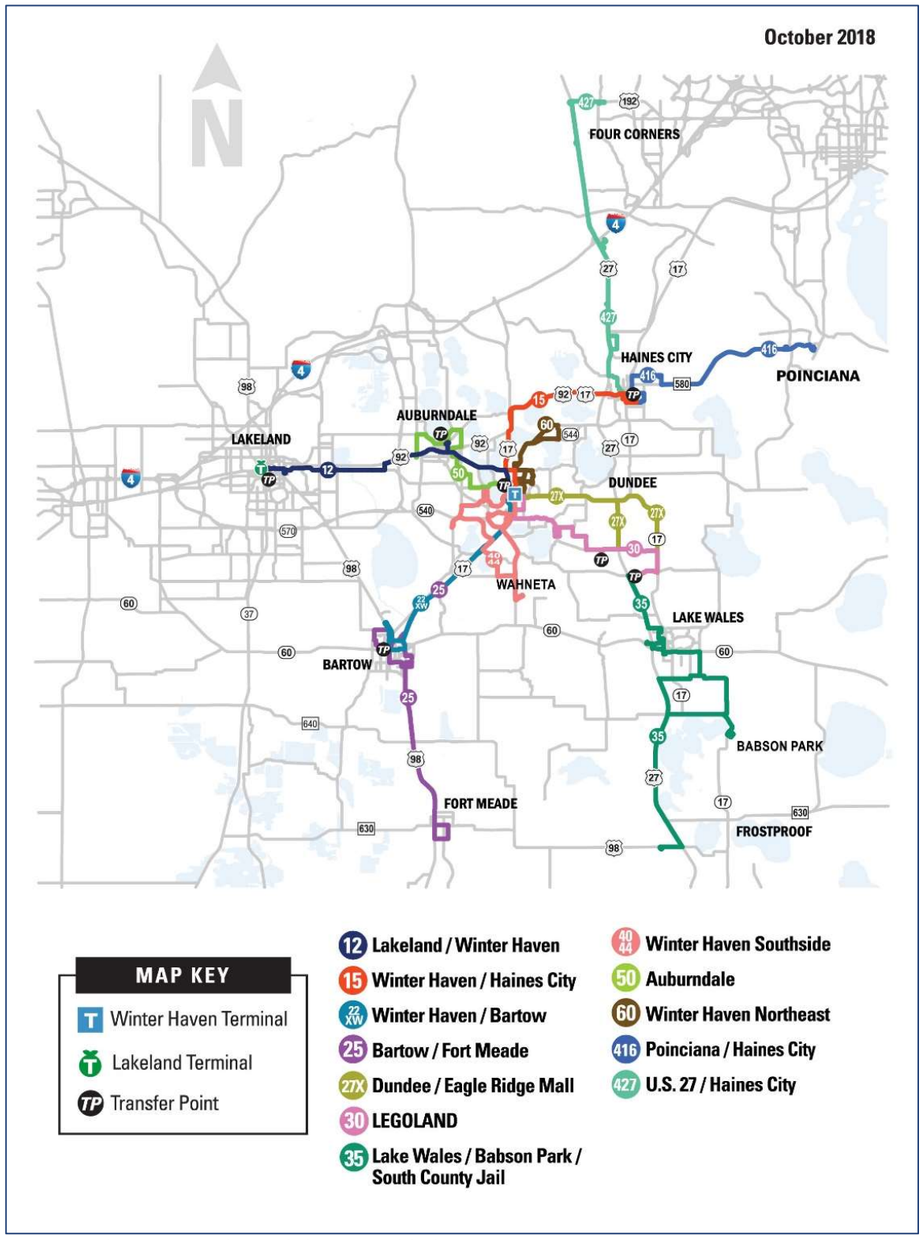
- Route 12 Lakeland / Winter Haven
- Route 15 Winter Haven / Haines City
- Route 22XW Winter Haven / Bartow
- Route 25 Bartow / Fort Meade
- Route 27X Dundee / Eagle Ridge Mall
- Route 30 LEGOLAND
- Route 35 Lake Wales / Babson Park / South County Jail
- Route 40/44 Winter Haven Southside
- Route 50 Auburndale
- Route 60 Winter Haven Northeast
- Route 416 Poinciana / Haines City
- Route 427 US 27 / Haines City

Additionally, two new routes are scheduled to begin service on October 1, 2019:

- Lake Wales/Haines City Express
- Loughman Flex

The existing Citrus Connection bus routes and service plans within the regional study area are provided in **Appendix F**. The transit routes are depicted on **Figure 3-4**.

FIGURE 3-4: TRANSIT ROUTES



SOURCE: Citrus Connection website (www.ridecitrus.com)

3.5.2 Terminals

There are two terminals serving the east county routes:

- Lakeland Downtown Terminal
- Winter Haven Downtown Terminal

3.5.3 Stops

Transit stops along the east county routes provide a wide range of amenities. Some have only a transit identification sign, while others have a combination of benches, shelters, trash cans, and bicycle racks. Not all stops are ADA accessible.

3.5.4 Transfer Locations

Transfer locations between routes are identified as follows:

On Route 12

- Lakeland Downtown Terminal: Routes 1, 3, 10, 14, 15, 22XW, 45, 46, and 58
- Winter Haven Downtown Terminal: Routes 15, 22XW, 27X, 30, 40/44, 50 and 60
- Auburndale Civic Center: Route 50

On Route 15

- Winter Haven Downtown Terminal: Routes 12, 22XW, 27X, 30, 40/44, 50 and 60
- Haines City Plaza: Routes 416 and 427

On Route 22XW

- Winter Haven Downtown Terminal: Routes 12, 15, 27X, 30, 40/44, 50 and 60
- Polk County Courthouse: Route 22XL, 25

On Route 25

- Polk County Courthouse: Route 22XW, 22XL

On Route 27X

- Winter Haven Downtown Terminal: Routes 12, 15, 22XW, 30, 40/44, 50 and 60
- Eagle Ridge Mall: Routes 30 and 35

On Route 30

- Winter Haven Downtown Terminal: Routes 12, 15, 22XW, 27X, 40/44, 50 and 60
- Eagle Ridge Mall: Route 35
- Walmart Supercenter: Route 27X

On Route 35

- Eagle Ridge Mall: Route 30

On Route 40/44

- Winter Haven Downtown Terminal: Routes 12, 15, 22XW, 27X, 30, 50 and 60

On Route 50

- Winter Haven Downtown Terminal: Routes 12, 15, 22XW, 27X, 30, 40/44 and 60
- Auburndale Civic Center: Route 12

On Route 60

- Winter Haven Downtown Terminal: Routes 12, 15, 22XW, 27X, 30, 40/44 and 50

On Route 416

- Haines City Plaza: Routes 15 and 427

On Route 427

- Haines City Plaza: Routes 15 and 416

On Lake Wales/Haines City Express (beginning October 1, 2019)

- Health Dept. at Lake Wales Plaza: Route 35
- Eagle Ridge Mall: Routes 15 and 27X
- Dundee Police Station: Route 27X
- Haines City Plaza: Routes 15, 416 and 427

On Loughman Flex (beginning October 1, 2019)

- Posner Park: Route 427

3.5.5 Service (days and times)

Service span for east county routes is shown in **Table 3-3** below.

TABLE 3-3: TRANSIT SERVICE

Route	Service Span (weekday)	Service Span (weekend)
12	6:15a – 7:03p	7:15a – 4:03 Sat
15	5:45a – 7:00p	6:45a – 3:00p Sat
22XW	5:45a – 7:04p	8:15a – 1:34p Sat
25	5:45a – 5:53p	---
27X	6:00a – 7:05p	---
30	6:15a – 7:00p	7:15a – 4:00p Sat 8:15a – 3:00pSun
35	6:15a – 7:05p	7:15a – 4:05p Sat
40/44	5:45a – 7:02p	6:45a – 3:02p Sat
50	5:45a – 7:05p	8:15a – 1:35p Sat
60	6:15a – 7:04p	---
416	5:40a – 7:00p	7:05a – 3:20p Sat
427	5:25a – 7:12p	6:50a – 3:33p Sat
Lake Wales/Haines City	TBD	TBD
Loughman Flex (Oct. 1)	TBD	TBD

Note: TBD = To Be Determined

Transit service is generally provided between 6:00 am and 7:00 pm for most routes within the study area on weekdays. Nine of the routes have some service on Saturdays, generally from morning to early afternoon. Route 30 – Legoland, is the only route that has service on Sunday. Service is provided on Route 30 from 8:15 am to 3:00 pm on Sundays.

3.5.6 Headways

Headways for east county routes (based on schedules effective Oct. 1, 2018) are shown in **Table 3-4**.

TABLE 3-4: TRANSIT HEADWAYS

Route	Frequency (weekday)	Frequency (weekend)
12	:60	2:00
15	1:30	3:00
22XW	1:30	4:00
25	1:30	---
27X	varies	---
30	:60	2:00
35	2:00	2:00
40/44	1:30	3:00
50	1:30	4:00
60	:60	---
416	1:30	2:00
427	:60	2:00

Six of the 12 routes have a 1.5-hour headway between busses, four of the routes have an hour between busses, one route has two hours between busses, and one route has variable headways.

3.5.7 Ridership

Utilizing data from the Polk Transit Development Plan, average weekday ridership for east county routes in 2017 is summarized in **Table 3-5**.

TABLE 3-5: TRANSIT RIDERSHIP (2017)

Route	Ridership
12	218
15	293
22XW	121
25	77
27X	2
30	272
35	127
40/44	79
50	130
60	88
416	24
427	92

The highest ridership is on Route 15 which runs between Winter Haven and Haines City along US 17/92. The second highest ridership is on Route 30 which runs between the Winter Haven Downtown Terminal and the Eagle Ridge Mall along portions of Cypress Gardens Road and Waverly Road. Route 427 which runs along US 27 has an average weekday ridership of 92.

3.5.8 Future Plans - SunRail

SunRail is a Central Florida passenger rail system serving the City of Orlando, and Volusia, Seminole, Orange and Osceola counties. It opened in 2014 and has expanded to now include 49 miles and 16 stations in four counties. It makes 40 trips per day. SunRail operates double-decker passenger rail cars on 30-minute headways during morning and afternoon peak periods and on less frequent headways midday. Trains run Monday through Friday, but not on weekends or holidays, although they sometimes run other times in conjunction with special events. There are 16 stations on the line, from DeBary on the north to Poinciana on the south. The system has many on-board amenities, including accommodations for luggage, bicycles, wireless internet and restrooms. Stations are designed to be comfortable and secure, but otherwise modest in construction cost. They include platform canopies to provide shade, ticket vending machines to facilitate fare payment, water fountains, emergency phones and closed-circuit cameras.

A technical memorandum, completed in March 2015 for the Polk County TPO, evaluated the possible extension of SunRail passenger rail service into Polk County. The technical memorandum was completed in support of the 2040 Long Range Transportation Plan Update. The memorandum includes the following topics:

- Potential Staging Alternatives
- Conceptual Site Considerations
- Conceptual Feeder Bus Services
- Ridership Propensity Analysis
- Institutional Considerations

Staging Alternatives

Alternatives were considered that allow for a staged expansion of SunRail beginning with feeder bus service and concluding with rail service across central Polk County. There are several alternatives that can be considered for extending SunRail into Polk County. These include interim alternatives to tie into the Phase II southern terminus at Poinciana. A logical staging sequence for the development of a SunRail extension would include:

1. **Phase I: Using express bus service from select park and ride locations in Polk County to the Poinciana station.** Park and ride facilities should be considered for Haines City, Auburndale, Lakeland and possibly Winter Haven. Express bus service from Haines City and Auburndale would be expected to use US 17/92. Express bus service from Lakeland is likely to be more efficient using I-4 for a major portion of the trip. Ideally, park and ride locations should be near potential future rail park and ride stations.
2. **Phase II: An extension of SunRail service to a new station at Haines City, with supporting express bus service from select park and ride locations, including Auburndale, Lakeland and possibly Winter Haven.** This would amount to an approximate 15-mile extension of the SunRail system. A practical advantage of this alternative is that there are typically only five freight trains per day, both presently and well into the future, on this segment of the CSX A-Line. In support of commuter rail, the Haines City Commission has passed a resolution requesting that SunRail consider future expansion to Haines City and requesting FDOT to participate in or undertake necessary planning and environmental studies.
3. **Phase III: A further extension of SunRail service to an additional station at Auburndale, with supportive express bus service from select park and ride locations, including Lakeland.** This would amount to an additional 13-mile extension from Haines City, and 28-miles from Poinciana. This extension also shares the practical advantage that there are only five freight trains per day, on this segment of the CSX A-Line.
4. **Phase IV: Lastly, a potential extension of SunRail service to Lakeland, also with supportive bus services.** Extending service from Auburndale to Lakeland would amount to an additional 11 miles from Auburndale, or a total of 39 miles from Poinciana. Unfortunately, the segment of CSX between Auburndale and Lakeland currently sees 20 freight train movements per day rising to an estimated 27 freight trains in 2030. This activity of freight operations would make this extension substantially more difficult.

The 2009 FDOT Rail Evaluation Study noted that significant capital investments would be required, including new track with passing sidings from Auburndale to Lakeland, track improvements to Poinciana, stations with

platforms and parking, and additional rail vehicles. It also anticipates conflict between existing and future CSX operations and passenger rail on the rail section west of Auburndale.

Compared to year 2030 SunRail ridership estimates of 2,350 for the Poinciana Station, the FDOT Study estimated year 2030 boardings of 2,130 for a SunRail extension from Poinciana to Lakeland, with 673 in Haines City, 500 in Auburndale and 273 in Lakeland. It also estimated 684 boardings from the SunRail Phase I and II stations traveling west and alighting at a Polk County station. Finally, it estimated that 760 of the 2,130 daily trips would be internal to Polk County.

Conceptual Site Considerations

An initial list of potential station locations was provided, using locational criteria such as accessibility to current development and/or major roadways, amenable track geometry, and absence of environmental constraints. This analysis yielded a total of ten potential stations locations:

- Phase II: Ronald Reagan Boulevard, downtown Davenport, Martin Luther King, Jr. Way/Haines City, old train station/Haines City
- Phase III: Lake Alfred, Auburndale Common
- Phase IV: Combee Road, Lake Parker Road, Lakeland Amtrak Station, Lakeland Bus Depot

To identify the best station area in each phase, each potential station location was evaluated based on eleven criteria:

- Rail Operations – track distance, travel time, additional trains required, capital cost
- Potential Ridership – population, employment
- Development Character – block length, municipal land
- Transportation – roadway intersections, bus routes, freight activity

Conceptual site considerations identified potential parking locations, pedestrian and vehicular access and circulation issues, and order-of-magnitude land development possibilities; all of which confirm the site locations as theoretically viable station locations.

From the findings of the eleven criteria, recommended station areas were identified in each of the three rail phases:

- Phase II: Martin Luther King, Jr. Way or Old Station – These two potential station locations lie close to each other and share many of the same pros and cons. Because they are centrally located, job and housing density are higher than in downtown Davenport or Ronald Reagan Boulevard, both now and as estimated in 2040. Both sites benefit from adjacent investment and have further development potential. Drawbacks of these locations include longer distances, longer travel times and larger capital costs than stations closer to Poinciana. Additionally, these station areas are not municipally owned.
- Phase III: Auburndale Common – This potential station is more centrally located than a station in Lake Alfred. This results in higher densities of both population and employment as well as strong development potential. However, because this site is further from Poinciana, it has more road crossings and a higher capital cost than a Lake Alfred station.
- Phase IV: Lakeland Amtrak – The presence of an existing rail station and potential connections between Amtrak and SunRail are very strong benefits of locating the Phase IV station here. It also occupies a fairly centralized location. Unlike the Lakeland Bus Depot, the Lakeland Amtrak Station has a block length that is long enough to ensure a SunRail train can stop without requiring road closures. Additionally, this station shows promise for transit-oriented development as downtown Lakeland expands to the east.

Conceptual Feeder Bus Services

Conceptual feeder bus services were created to support the various staging alternatives. The Phase I staging alternative consists exclusively of bus service connecting Polk County to the Poinciana SunRail station, while Phases II, III and IV include extensions of SunRail service to Haines City, Auburndale and Lakeland, respectively. Express and feeder bus services were envisioned with the following considerations in mind:

- Existing service patterns – Express and feeder services should connect to major transit hubs or major points of overlap in existing or planned service

- Travel time – Express and feeder service must minimize travel times, avoiding circuitous routes or frequent stops
- Equitable access – Particularly for feeder bus services to future Polk County rail stations, connecting transit-dependent populations to the station should be a priority

Phase I Concept

Phase I focused on limited express service to Poinciana. Limited express service serves dual purposes for Polk County; it provides a connection to SunRail service and helps gauge potential ridership in a rail extension. Existing service patterns and travel time were the primary considerations in locating service, but an additional goal was to create a route or series of routes that would attract and provide justification for rail extension.

In order to minimize travel times and waiting times, a single express service for all of Polk County would be ideal. However, any route connecting Lakeland, Auburndale, Winter Haven and Haines City would be time prohibitive, especially for Lakeland commuters. This severely limits the ridership potential of the service. This same issue occurs when trying to serve both Auburndale and Winter Haven. As a result, three separate routes were suggested, with two of them having priority. The first of the high-priority services connects Lakeland to Poinciana, originating at the Lakeland Bus Depot and using I-4 to connect to Poinciana. This Lakeland Connector would likely be a true express service, with no stops between downtown Lakeland and Poinciana, with a likely travel time of approximately 50 minutes. The second high-priority service would connect Auburndale to Poinciana, passing through Lake Alfred and Haines City via US 17, on the way to Poinciana. Stops would be provided at Haines City, with consideration given for stops in Lake Alfred and Davenport if there is evidence for sufficient ridership. Depending on the number of stops, this service would take between 50 and 55 minutes. A third service could originate in Winter Haven at the bus terminal off NW 6th Street, traveling along US 17, and passing through Lake Alfred on the way to the Haines City bus depot off 17th Street before continuing to Poinciana. Because of some of the redundancy with the Auburndale Connector, this route would be beneficial only if there was sufficient ridership from Winter Haven, or if Haines City requires additional service. This route is expected to be approximately 50 minutes from end-to-end.

All routes would operate during peak AM and PM commuting hours only. Given the length of each route, four buses for each route (or 12 buses total) would be necessary to provide 30-minute headways. At 45- or 60-minute headways, as little as two buses each (or 6 buses total) would be sufficient.

Phases II, III and IV Concept

Phase II focused on improving service to downtown Haines City. Projected 2040 population and auto-dependency were added to the list of considerations in locating service, as there is clear benefit in serving locations with high projected populations or high transit-dependent populations with a direct link to SunRail. There are very few gaps in Polk County transit connectivity, and service for Lakeland, Winter Haven, and even Auburndale is robust and well connected to the respective cities' downtowns. Only Haines City provides opportunity for service upgrades. Based on these variables, as many as four new routes have been identified as feeders to Haines City rail service:

- Connection to Winter Haven via S. 1st Street and Lucerne Park Road/SR 544. This route serves a large population base along its route and could have two or more stops. It is expected to be approximately 20 minutes from end-to-end, with additional stops lengthening the trip. One bus could serve the route with 60-minute headways.
- Connection to Lake Wales, via US 27. This route serves a large auto-dependent population in the heart of Lake Wales, as well as larger population centers north of town. The route is expected to take approximately 25 minutes from end-to-end, with a potential midpoint stop at Cypress Gardens Boulevard. One bus could serve the route with 60-70-minute headways.
- Connection to Ronald Reagan Parkway, via US 92 and CR 547. This route serves auto-dependent populations in Davenport, and new population centers closer to the Parkway. The route would take approximately 20 minutes, so one bus could serve the route with a 45-60-minute headway.
- Connection to Lakeland and Auburndale, via US 92. This route would serve population centers in Lakeland and Auburndale, as well as auto-dependent communities, and would easily connect to major

transit hubs in the region. The route would take approximately forty minutes, so two buses could serve the route with forty-five minute to sixty-minute headways.

For Phases III and IV, existing transit routes provide a high degree of coverage that could connect to new SunRail stations. In fact, the Lakeland and Auburndale express bus service would be removed if rail service extends beyond Haines City. Existing Lakeland-to-Auburndale service could be bolstered if enough ridership interest is found.

Ridership Propensity Analysis

This analysis quantified potential ridership in Polk County and used population projections for the year 2040 and current commuting patterns to and from the county's proposed station areas (including a future Orlando International Airport station, which adds opportunities for air travelers and to interregional rail. The ridership propensity analysis found that ridership is likely to be significantly lower than other SunRail stations. A scenario analysis showed that, with changes in market trends and land use policies, higher ridership can be expected, but it would require additional effort on the part of Polk County communities.

Institutional Considerations

The creation of the Central Florida Commuter Rail Commission involved a myriad of institutional issues, as reflected in the collection of legal documents associated with SunRail. As efforts move forward to extend SunRail service into Polk County many, if not all, of the following agreements may need to be amended to reflect an expanded SunRail system with the participation of Polk County:

- Interlocal governance agreements
- Interlocal funding agreements
- Interlocal operating agreements
- Joint station use agreements between local governments and FDOT
- Agreements with local transit agencies
- Full funding grant agreement between FDOT and the Federal Transit Administration
- Applications to the Federal Railroad Administration
- A host of agreements involving the CSX Railroad, FDOT, and the Central Florida Commuter Rail Commission, describing purchase provisions, operating provisions and many other coordination requirements

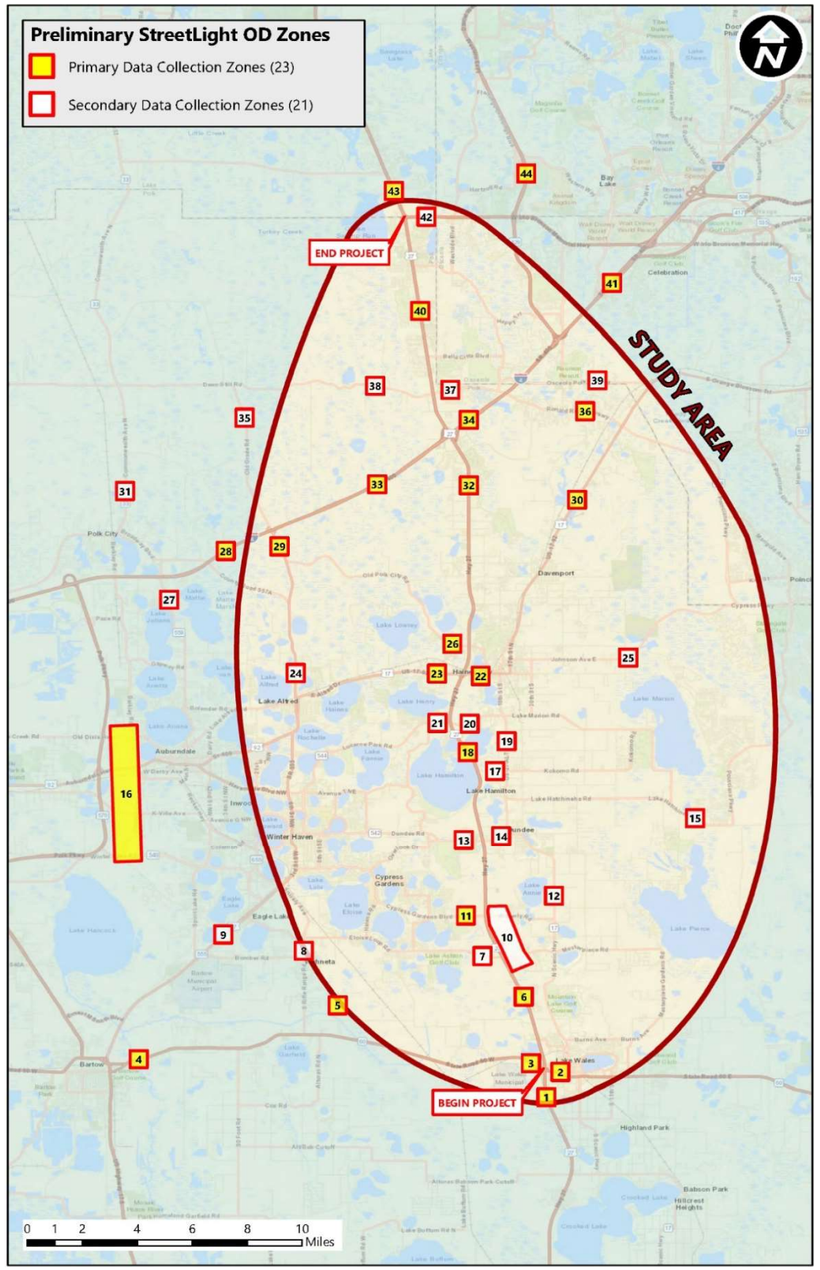
Other Projects

There are other SunRail extension options under consideration. One would be a spur running easterly, beginning just north of the Meadow Wood station and connecting to the intermodal facility at Orlando International Airport. SunRail has already initiated a project development study and has identified the project as part of a potential Phase III of the SunRail system. There is a high degree of physical feasibility for this spur, as it would make use of 3.5 miles of track owned by the City of Orlando and 2.0 miles of new alignment on airport property. This project would significantly enhance connections from Polk County to Orlando International Airport for both passengers and employees. In addition, the spur would tie into the proposed All Aboard Florida/Brightline project, which could potentially provide long distance passenger train options to south Florida. These connections would substantially increase the value of a SunRail extension into Polk County.

3.6 ORIGIN DESTINATION DATA

As a part of this study, Origin-Destination (O-D) data for all vehicular trips on US 27 and other roads within the study area was collected using Streetlight Data. Streetlight is an on-demand mobility analytics platform that utilizes data from mobile devices to conduct analyses like O-D, travel time, and select link studies. This data is used to determine travel patterns of traffic entering and exiting US 27 and/or the study area. Many zones were defined along and near the US 27 corridor to be used for various O-D analyses. The zones are depicted in **Figure 3-5**, and the analysis of the O-D data is summarized in Section 6.1.

FIGURE 3-5: ORIGIN-DESTINATION ZONES



3.7 TRAVEL DEMAND MODEL

3.7.1 Project Model Development

The travel demand model being used for this study is based on the current adopted District One Cost Feasible 2040 Regional Planning Model (D1RPM v1.0.3), with refinements made in conjunction with a May 2018 US 17/92 Haines City traffic study. The D1RPM is a travel demand forecasting tool developed by FDOT District One, with the cooperation of the six District MPO/TPOs in support of their current 2040 Long Range Transportation Plans (LRTP). This model was adopted by the Polk County TPO for use in developing traffic forecasts within the County.

The 2010 base year model validation was refined for the project study area to ensure that the model is replicating base year traffic conditions and counts. The model refinement was performed by Traf-O-Data using the guidelines identified in FDOT *Project Traffic Forecasting Handbook*. Validation criteria including volume over count (v/c) ratios were used to assess the accuracy of the base year model. Additional information relating to the project model development and validation can be found in the March *2019 Traffic Forecast Modeling Technical Memorandum* prepared by Traf-O-Data included in **Appendix G**.

3.7.2 Forecast Model Development

Build alternative forecasts will be conducted using the D1RPM 2040 No-Build Model as a base. The forecast 2040 No-Build model was developed by applying appropriate base year validation refinements to the 2040 LRTP Cost Feasible model network. This included adding the I-4/CR 532 interchange area (Osceola County) network and socioeconomic data and forecast external station volumes. This data was developed by Traf-O-Data in coordination with FDOT District 5 in March 2019, to achieve consistency with the District 5 model (CFRPM) and Osceola County external station forecasts. Based on coordination with the Polk County TPO and Haines City, the 2040 model socioeconomic (SE) data was refined to reflect planned development within the study area which was not included in the original 2040 SE data.

The base 2040 No-Build network was also revised to include the proposed Southport Connector and the Poinciana Parkway extension to I-4 along the eastern boundary of the model. The 2040 No-Build Model also assumes the existing configuration for the US 27 corridor. This 2040 network was also revised to include the proposed Central Polk Parkway (CPP) project, from Polk Parkway to 91 Mine Road, consistent with the associated Florida Turnpike (FTE) project model coding.

3.8 TRUCK AND FREIGHT DATA

The following data sources of truck and freight data was obtained and reviewed to summarize the existing truck volume on the US 27 corridor, and freight commodity information in the study area:

- FDOT 2018 Annual Average Daily Traffic (AADT) Report by FDOT Traffic Information (FTI)
- FDOT 2018 Annual Vehicle Classification Report by FTI
- FDOT 2018 Truck AADT GIS Shapefiles by FTI
- Truck AADT from District One Regional Travel Demand Model (D1RPM)
- Freight Analysis Framework (FAF) Data by Federal Highway Administration (FHWA)
- 2011 TranSearch Data from FDOT Forecasting and Trends Office
- Streetlight Data

3.8.1 FDOT 2018 AADT Report for Truck Traffic

The 2018 AADT Report was obtained from FTO, which is FDOT's web-based mapping application that provides traffic count site locations and traffic count data. The 2018 AADT report includes truck factors for count stations where vehicle classification data was collected. **Table 3-6** presents daily traffic volumes and the report truck factor for 12 count stations on US 27 in the study area. Based on the actual truck counts at these stations, the average percentage of truck traffic for the focused US 27 segment is 9.6%, with a minimum of 6.6% south of SR 530/US 192 and a maximum of 12.3% north of Central Avenue in Lake Wales.

TABLE 3-6: FDOT 2018 AADT REPORT T FACTORS

SITE	DESCRIPTION	Two-Way AADT	T Factor
0085	SR25/US27, N OF CR17/OLD POLK CITY RD	52,000 C	9.1F
0097	SR 25/US 27, SOUTH OF SR 600/US 17/92 HAINES CITY	48,000 C	10.6A
0098	SR 25/US 27, NORTH OF HUGHES ROAD LAKE HAMIL	38,000 C	10.3F
0100	SR 25/US 27, 0.7 MI SOUTH OF SR 542/DUNDEE ROAD	35,500 C	11.4A
0127	SR 25/US 27, NORTH OF SR 400/I-4	32,500 C	8.1A
0146	SR 25/US 27, SOUTH OF SR 540/WAVERLY ROAD	40,000 C	9.5A
0310	SR 25/US 27, SOUTH OF HOLLY HILL TANK RD	60,155 C	7.9A
5051	SR 25/US 27, NORTH OF SR 600/US 17/92 HAINES CITY	52,000 C	10.4A
5127	SR 25/US 27, NORTH OF CENTRAL AVENUE LAKE WALES	31,500 C	12.3A
5199	SR 25/US 27, SOUTH OF CR 17A/THOMPSON NURSERY RD	34,500 C	10.3F
5209	SR 25/US 27, SOUTH OF SR 530/US 192	41,500 C	6.6A
5210	SR 25/US 27, NORTH OF BATES ROAD HAINES CITY	51,000 C	9.1A

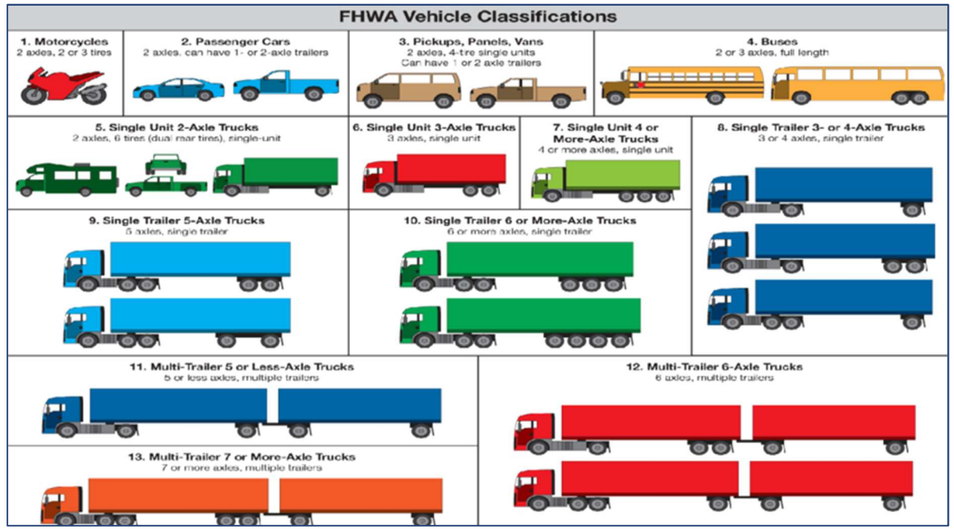
"K" FACTOR: DEPARTMENT ADOPTED STANDARD K FACTOR BEGINING WITH COUNT YEAR 2011
AADT FLAGS: C= COMPUTED
"D/T" FLAGS: A= ACTUAL; F= FACTOR CATG; P= PRIOR YEAR;

The reported truck factors represent the heavy vehicle percentages that comprise all truck categories (class 5-13) and buses (class 4) based on the FHWA vehicle classification scheme.

3.8.2 FDOT 2018 Annual Vehicle Classification Report

The annual vehicle classification report is another product of FTO. The report provides detailed information on annual average vehicle compositions at the sites where classified count data was collected. The vehicle classification system used in the report follows the FHWA's scheme presented in **Figure 3-6**.

FIGURE 3-6: FHWA VEHICLE CLASSIFICATION SCHEME



Classified count data for the US 27 study segment were extracted from the FDOT 2018 annual report and the reports are shown in **Figure 3-7**. For each site, detailed classification and summary of heavy vehicle distributions are reported.

FIGURE 3-7: 2018 ANNUAL VEHICLE CLASSIFICATION DATA FOR US 27

SITE CO SEC SUB MILEPOST DESCRIPTION
0097 16180000 14.860 SR 25/US 27, SOUTH OF SR 600/US 17/92 HAINES CI
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	187	0.39	24T&B = 10.60% DHT = 5.30%
CLASS 02 CARS	33748	70.31	24T = 10.49%
CLASS 03 PICK-UPS AND VANS	8979	18.71	24H = 7.91% DH3 = 3.96%
CLASS 04 BUSES	52	0.11	24M = 2.69% DH2 = 1.34%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	1237	2.58	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	429	0.89	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	91	0.19	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	793	1.65	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	2383	4.97	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	67	0.14	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	17	0.04	24HV = 10.60%
CLASS 12 6-AXLE MULTI-TRLR	10	0.02	24B = 0.11%
CLASS 13 ANY 7 OR MORE AXLE	6	0.01	24T = 10.49%
CLASS 14 NOT USED	0	0.00	24SU = 3.66%
CLASS 15 OTHER	0	0.00	24C = 6.83%
	47999	100.01	

SITE CO SEC SUB MILEPOST DESCRIPTION
0100 16180000 7.984 SR 25/US 27, 0.7 MI SOUTH OF SR 542/DUNDEE ROAD
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	148	0.42	24T&B = 11.38% DHT = 5.69%
CLASS 02 CARS	23183	65.30	24T = 10.77%
CLASS 03 PICK-UPS AND VANS	8128	22.90	24H = 7.51% DH3 = 3.76%
CLASS 04 BUSES	218	0.61	24M = 3.87% DH2 = 1.93%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	1155	3.25	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	246	0.69	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	26	0.07	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	747	2.11	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	1505	4.24	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	91	0.26	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	18	0.05	24HV = 11.38%
CLASS 12 6-AXLE MULTI-TRLR	6	0.02	24B = 0.61%
CLASS 13 ANY 7 OR MORE AXLE	28	0.08	24T = 10.77%
CLASS 14 NOT USED	0	0.00	24SU = 4.02%
CLASS 15 OTHER	0	0.00	24C = 6.75%
	35499	100.00	

SITE CO SEC SUB MILEPOST DESCRIPTION
0127 16180000 24.289 SR 25/US 27, NORTH OF SR 400/I-4 POLK COUNTY
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	173	0.53	24T&B = 8.07% DHT = 4.03%
CLASS 02 CARS	24130	74.25	24T = 7.91%
CLASS 03 PICK-UPS AND VANS	5576	17.16	24H = 5.63% DH3 = 2.81%
CLASS 04 BUSES	51	0.16	24M = 2.44% DH2 = 1.22%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	742	2.28	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	271	0.83	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	67	0.21	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	467	1.44	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	919	2.83	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	80	0.25	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	7	0.02	24HV = 8.07%
CLASS 12 6-AXLE MULTI-TRLR	0	0.00	24B = 0.16%
CLASS 13 ANY 7 OR MORE AXLE	17	0.05	24T = 7.91%
CLASS 14 NOT USED	0	0.00	24SU = 3.32%
CLASS 15 OTHER	0	0.00	24C = 4.59%
	32500	100.01	

SITE CO SEC SUB MILEPOST DESCRIPTION
0146 16180000 5.914 SR 25/US 27, SOUTH OF SR 540/WAVERLY ROAD
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	217	0.54	24T&B = 9.48% DHT = 4.74%
CLASS 02 CARS	28078	70.19	24T = 9.22%
CLASS 03 PICK-UPS AND VANS	7913	19.78	24H = 6.59% DH3 = 3.30%
CLASS 04 BUSES	103	0.26	24M = 2.89% DH2 = 1.44%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	1051	2.63	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	254	0.64	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	24	0.06	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	667	1.67	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	1482	3.71	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	98	0.25	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	16	0.04	24HV = 9.48%
CLASS 12 6-AXLE MULTI-TRLR	5	0.01	24B = 0.26%
CLASS 13 ANY 7 OR MORE AXLE	91	0.23	24T = 9.22%
CLASS 14 NOT USED	0	0.00	24SU = 3.32%
CLASS 15 OTHER	0	0.00	24C = 5.90%
	39999	100.01	

FIGURE 3-7: 2018 ANNUAL VEHICLE CLASSIFICATION DATA FOR US 27 (CONTINUED)

SITE CO SEC SUB MILEPOST DESCRIPTION
0310 16180000 20.543 SR-25/US-27,280' S OF S HOLLY HILL TANK RD,POLK CO
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: TELEMETERED DURATION: 353 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	107	0.18	24T&B = 7.89% DHT = 3.95%
CLASS 02 CARS	42693	70.97	24T = 7.64%
CLASS 03 PICK-UPS AND VANS	11573	19.24	24H = 5.13% DH3 = 2.56%
CLASS 04 BUSES	154	0.26	24M = 2.76% DH2 = 1.38%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	1508	2.51	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	265	0.44	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	35	0.06	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	648	1.08	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	2094	3.48	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	23	0.04	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	13	0.02	24HV = 7.89%
CLASS 12 6-AXLE MULTI-TRLR	4	0.01	24B = 0.26%
CLASS 13 ANY 7 OR MORE AXLE	3	0.01	24T = 7.64%
CLASS 14 NOT USED	0	0.00	24SU = 3.01%
CLASS 15 OTHER	1034	1.72	24C = 4.63%
	60154	100.02	

SITE CO SEC SUB MILEPOST DESCRIPTION
5051 16180000 15.290 SR 25/US 27, NORTH OF SR 600/US 17/92 HAINES C
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	319	0.61	24T&B = 10.39% DHT = 5.20%
CLASS 02 CARS	35097	67.49	24T = 9.94%
CLASS 03 PICK-UPS AND VANS	11180	21.50	24H = 7.11% DH3 = 3.55%
CLASS 04 BUSES	238	0.46	24M = 3.29% DH2 = 1.64%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	1470	2.83	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	460	0.88	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	50	0.10	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	803	1.54	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	2210	4.25	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	97	0.19	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	15	0.03	24HV = 10.39%
CLASS 12 6-AXLE MULTI-TRLR	6	0.01	24B = 0.46%
CLASS 13 ANY 7 OR MORE AXLE	57	0.11	24T = 9.94%
CLASS 14 NOT USED	0	0.00	24SU = 3.81%
CLASS 15 OTHER	0	0.00	24C = 6.13%
	52002	100.00	

SITE CO SEC SUB MILEPOST DESCRIPTION
5127 16180000 0.256 SR 25/US 27, NORTH OF CENTRAL AVENUE LAKE WALES
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	188	0.60	24T&B = 12.32% DHT = 6.16%
CLASS 02 CARS	20318	64.50	24T = 11.91%
CLASS 03 PICK-UPS AND VANS	7112	22.58	24H = 8.78% DH3 = 4.39%
CLASS 04 BUSES	132	0.42	24M = 3.55% DH2 = 1.77%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	985	3.13	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	465	1.48	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	149	0.47	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	522	1.66	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	1414	4.49	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	113	0.36	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	6	0.02	24HV = 12.32%
CLASS 12 6-AXLE MULTI-TRLR	4	0.01	24B = 0.42%
CLASS 13 ANY 7 OR MORE AXLE	91	0.29	24T = 11.91%
CLASS 14 NOT USED	0	0.00	24SU = 5.08%
CLASS 15 OTHER	0	0.00	24C = 6.83%
	31499	100.01	

SITE CO SEC SUB MILEPOST DESCRIPTION
5209 16180000 31.716 SR 25/US 27, SOUTH OF SR 530/US 192
FUNC. CLASS: 14 - URBAN PRINCIPAL ARTERIAL -- OTHER
SURVEY TYPE: PORTABLE DURATION: 1 DAYS

	ANNUAL AVERAGE DAILY VOLUME	%	SUMMARY DAILY STATISTICS DAILY DESIGN HOUR
CLASS 01 MOTORCYCLES	246	0.59	24T&B = 6.57% DHT = 3.28%
CLASS 02 CARS	31424	75.72	24T = 6.36%
CLASS 03 PICK-UPS AND VANS	7105	17.12	24H = 4.88% DH3 = 2.44%
CLASS 04 BUSES	84	0.20	24M = 1.69% DH2 = 0.85%
CLASS 05 2-AXLE, SINGLE UNIT TRUCKS	618	1.49	
CLASS 06 3-AXLE, SINGLE UNIT TRUCKS	290	0.70	
CLASS 07 4-AXLE, SINGLE UNIT TRUCKS	129	0.31	
CLASS 08 2-AXL TRCTR W/ 1 OR 2-AXL TRLR, 3-AXL TRCTR W/ 1-A	482	1.16	
CLASS 09 3-AXLE TRACTOR W/ 2-AXLE TRLR	1003	2.42	SUMMARY DAILY
CLASS 10 3-AXLE TRACTOR W/ 3-AXLE TRLR	113	0.27	NEW HEAVY VEHICLE CATEGOIES
CLASS 11 5-AXLE MULTI-TRLR	1	0.00	24HV = 6.57%
CLASS 12 6-AXLE MULTI-TRLR	0	0.00	24B = 0.20%
CLASS 13 ANY 7 OR MORE AXLE	6	0.01	24T = 6.36%
CLASS 14 NOT USED	0	0.00	24SU = 2.50%
CLASS 15 OTHER	0	0.00	24C = 3.87%
	41501	99.99	

T&B: Trucks (Class 05-13) and Busses (Class 04)

T: Trucks (Class 05-13)

H: Heavy Vehicles (Class 06-13)

HV: Heavy Vehicles (Class 04-13)

SU: Single Unit Trucks (Class 05-07)

M: Medium Vehicles (Class 04-05)

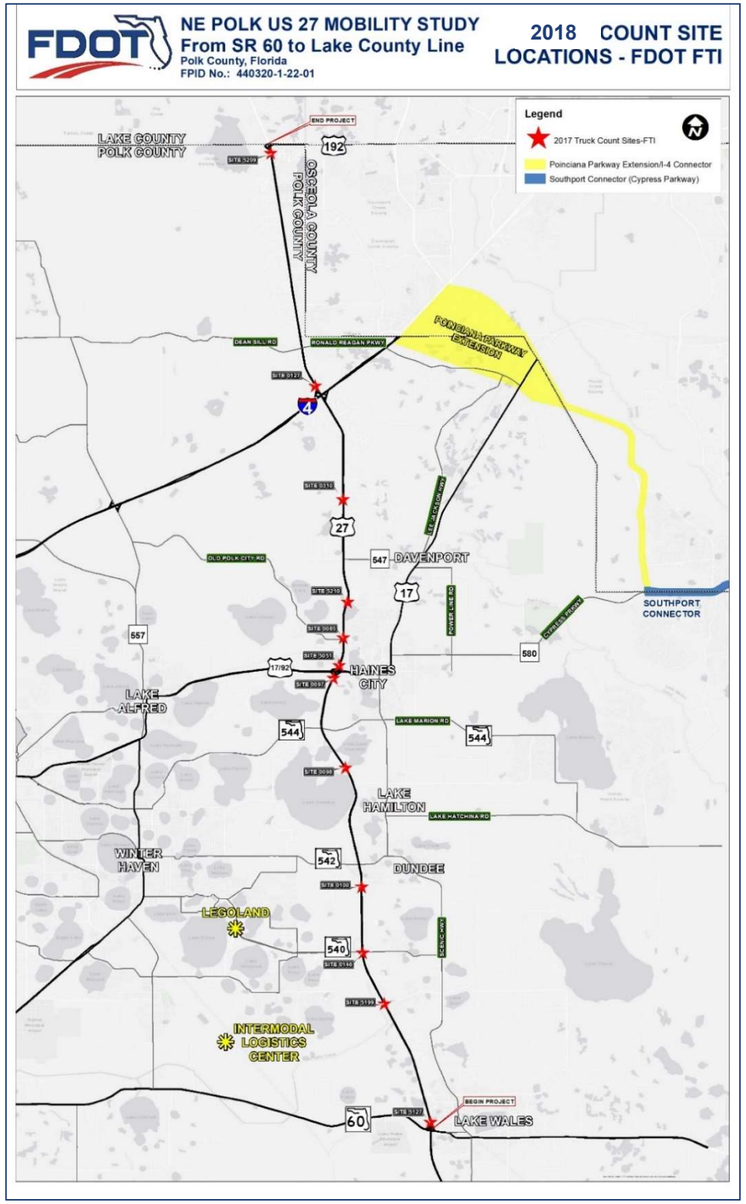
B: Busses (Class 04)

C: Combination Trucks (Class (08-13)

Source: FDOT Traffic Information- Florida Traffic Online Application

The vehicle classification count site locations are shown in **Figure 3-8**.

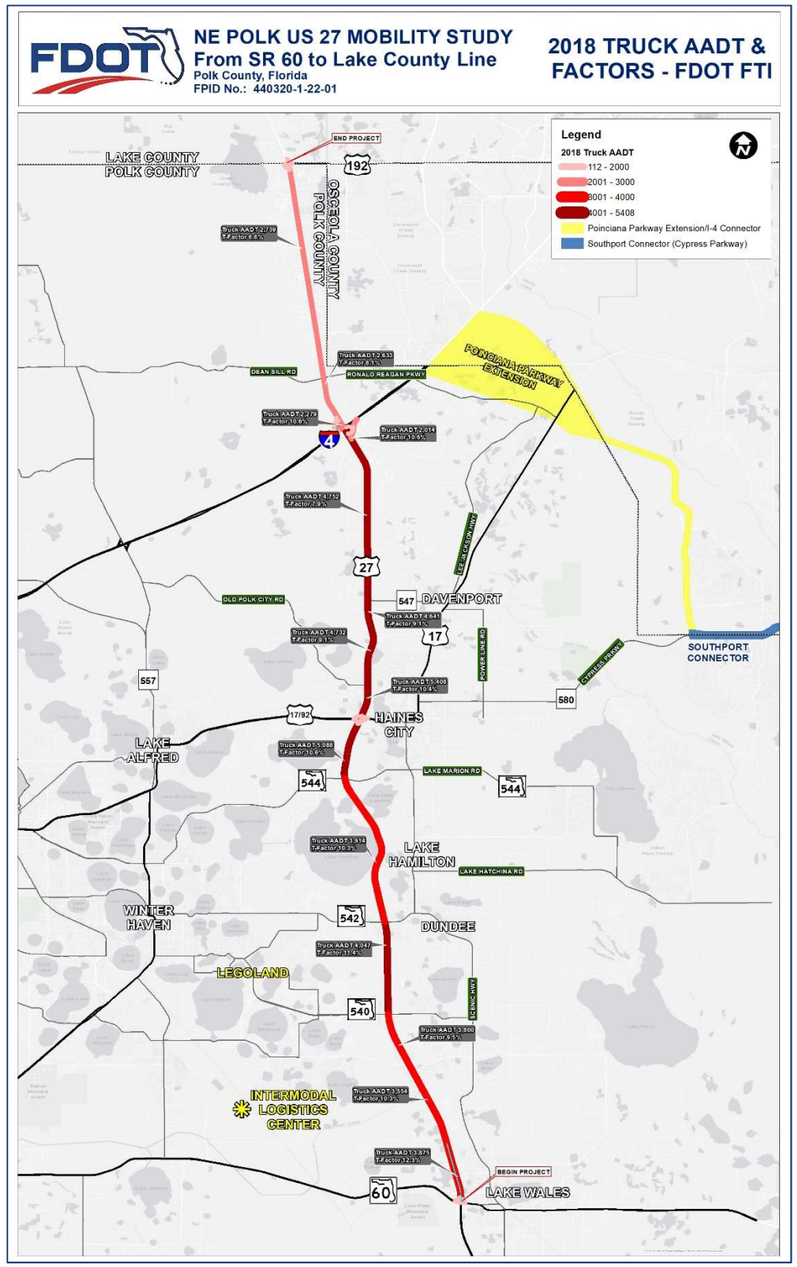
FIGURE 3-8: FDOT 2018 VEHICLE CLASSIFICATION COUNT SITES



3.8.3 FDOT 2018 Truck AADT GIS Shapefiles

Truck AADT GIS shapefiles are among the traffic data provided by FTI. The Truck Volume GIS data provides spatial information for annual average daily heavy vehicle volumes along roadway traffic breaks in the state of Florida. The data is derived from event mapping of traffic characteristics and other information from the FDOT Traffic Characteristics Inventory (TCI) database and is consistent with FTO's AADT and annual vehicle classification reports. **Figure 3-9** depicts extracted truck AADTs on US 27 in the study area.

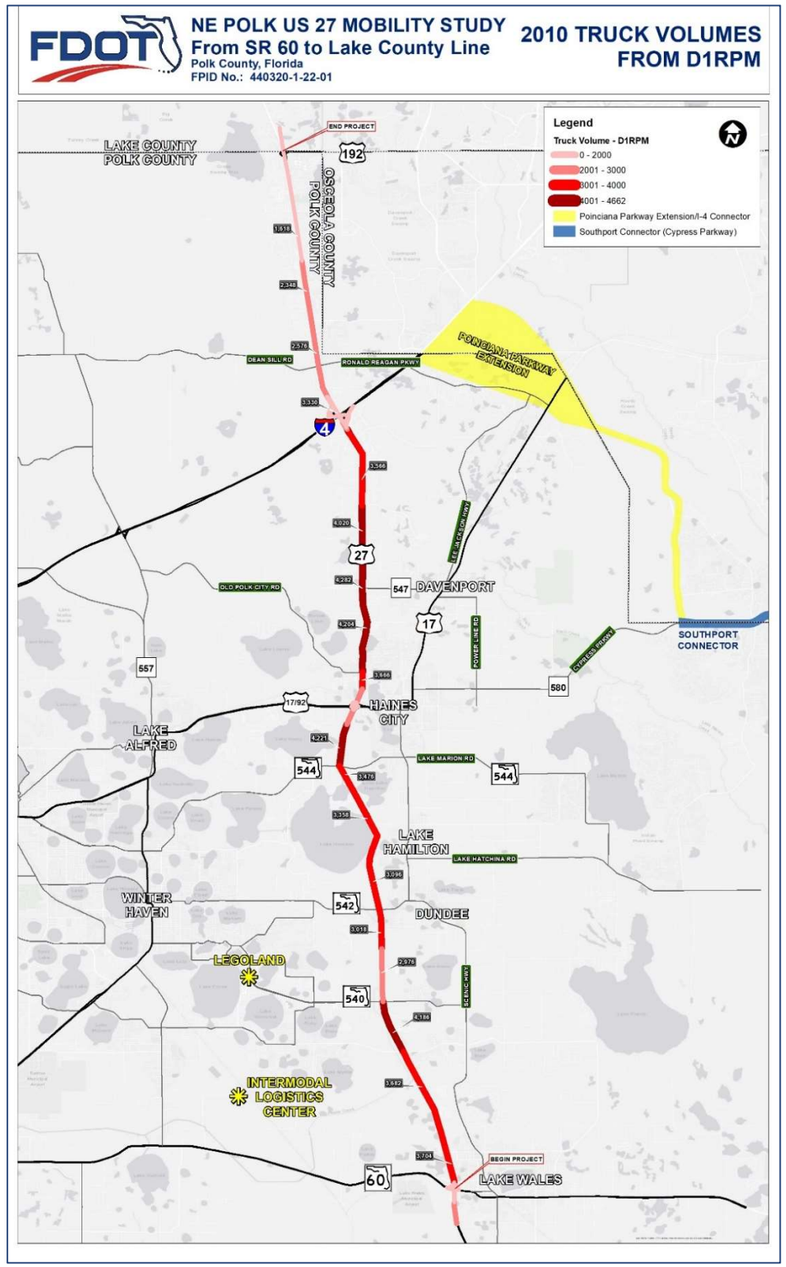
FIGURE 3-9: 2018 TRUCK AADT



3.8.4 D1RPM Truck AADT Estimates

District One's regional travel demand model (D1RPM) is another source for freight traffic data. D1RPM provides both base year (2010) and future year (2040) truck traffic estimates for light, medium and heavy vehicle trucks. The estimation and forecast of heavy vehicle truck traffic in the D1RPM are derived from the Central Office statewide freight model, Freight Supply-Chain Intermodal Model (FreightSIM). A heavy truck Origin-Destination matrix is pre-loaded into the D1RPM from FreightSIM. The volumes of light/medium trucks are estimated in the model and added to the pre-loaded heavy truck trip table and external truck trips to then be assigned to the network. The 2010 base year truck volumes from the latest validated D1RPM for US 27 Study were reviewed and are shown in **Figure 3-10**.

FIGURE 3-10: 2010 TRUCK VOLUMES FROM REGIONAL PLANNING MODEL



The model volumes are typically compared with observed count data for the reasonableness check and validation. D1RPM also provides the forecast truck AADTs for the future year scenario (2040). It can be used as an analysis tool to forecast truck volumes for different types of policy evaluation and planning studies. The model also provides other analytical capabilities such as select link analysis tool to explore different attributes of truck traffic on the US 27 corridor. However, the dependency of the model on FreightSIM for heavy truck estimation is a shortcoming of D1RPM that limits the users' ability to utilize the model for a wider range of analyses. Since the heavy truck trip table is fixed and pre-loaded to the model from FreightSIM, regional changes in heavy truck traffic for many planning studies cannot be captured in D1RPM.

3.8.5 FHWA's Freight Analysis Framework (FAF)

The Freight Analysis Framework dataset is a publicly available product that is developed jointly by the Federal Highway Administration (FHWA) and Bureau of Transportation Statistics (BTS). The latest version, FAF4, with 2012 base year data was updated in 2017 with provisional estimates of commodity flows, network and truck assignments, and regional forecasts from 2020 to 2045. FAF4 is an integrated multimodal data from a variety of freight data sources including the 2012 Commodity Flow Survey (CFS) and international trade data from the Census Bureau. It incorporates commodity flow data from manufacturing, wholesale trade, agriculture, extraction, utility, construction, transportation, service, and other industry sectors to present a comprehensive picture of multimodal freight movement among states and major metropolitan areas. The data include annual commodity flows (quantity, dollar volume, and ton-mile) between FAF origin and destination zones by commodity type for truck, rail, water, air, pipeline, and multiple & mail modes. Due to the coarse zoning system, FAF is best suited for multimodal inter-state or multi-state analysis.

The commodity flows in ton and monetary value are the main products of the FAF data. In addition, FAF estimates multimodal freight flow and assigns commercial truck traffic to a national transportation network. **Figure 3-11** shows 2012 annual commodity flow on US 27 in the study limits and **Figure 3-12** presents estimated 2012 truck traffic.

FIGURE 3-11: 2012 COMMODITY FLOW DATA ON US 27

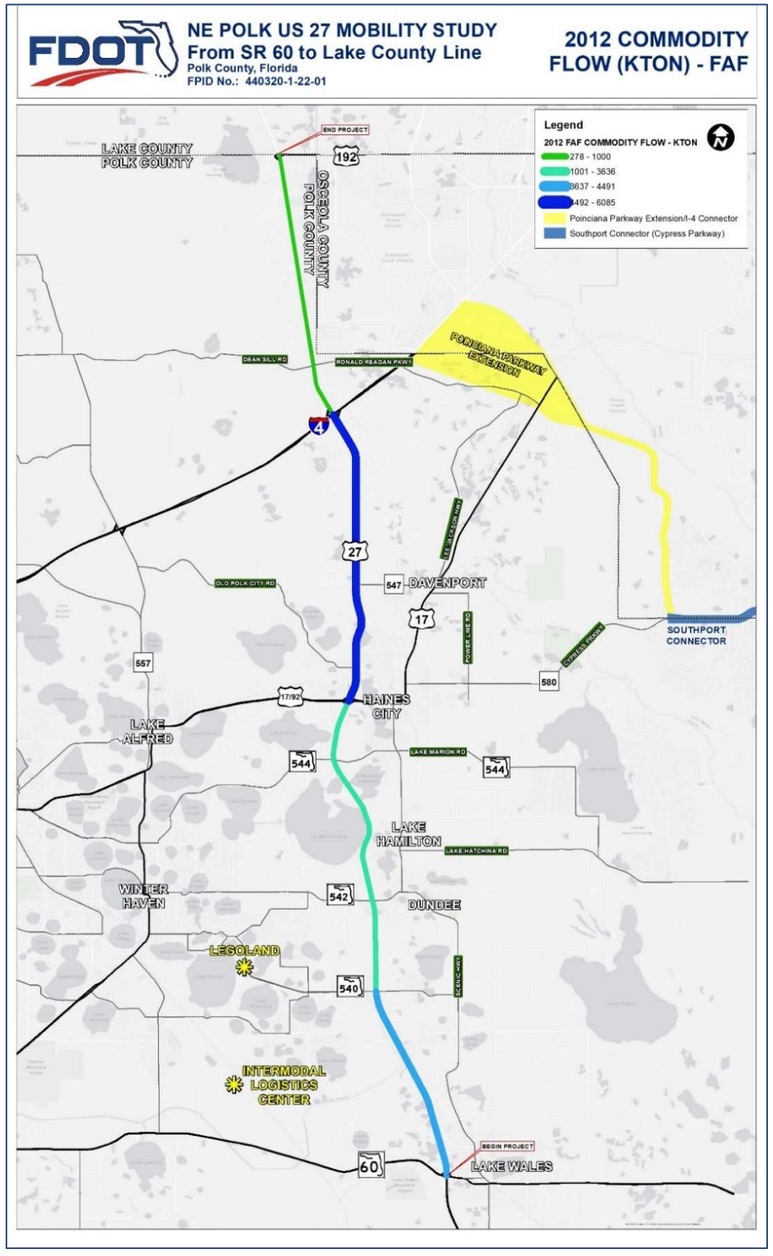
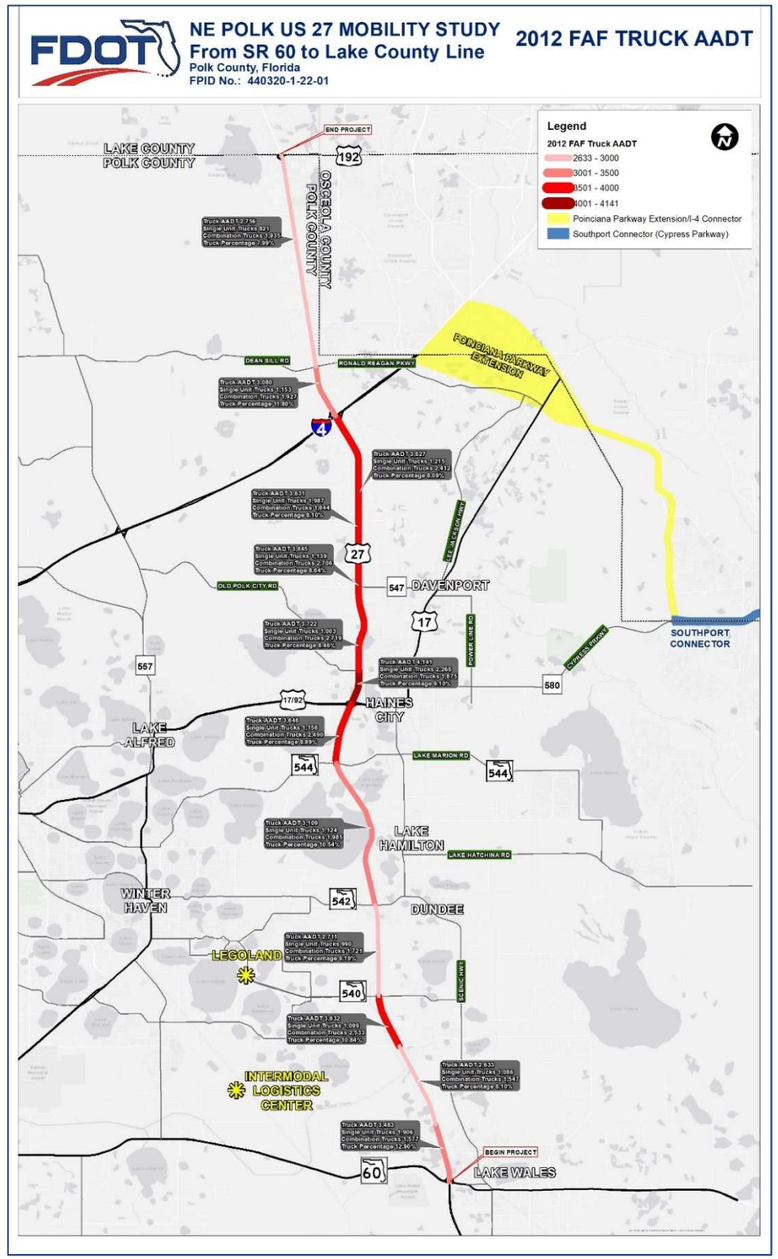


FIGURE 3-12: 2012 FREIGHT ANALYSIS FRAMEWORK TRUCK AADT



3.8.6 TranSearch Data

Similar to FAF data, TRANSEARCH is a multimodal proprietary commodity flow dataset that is developed with the goal of capturing commodity shipments generated by various industry sectors. However, while the FAF data relies primarily on the US Census Commodity Flow Survey of major freight-related industries, the TRANSEARCH has been mainly developed by using economic Input-Output (I/O) models that estimate the amount of each commodity that is produced and consumed in each U.S. County. TRANSEARCH development is also supplemented by trade association and industry reports, U.S. government-collected data and other data from truck carriers, public sources, and other propriety sources.

FDOT owns the 2011 TRANSEARCH data and its forecasts for 2015, 2020, 2025, 2030, 2035 and 2040. The data provides multimodal freight flow information at county level. The 2011 freight facts for the US 27 corridor were extracted and summarized below.

A significant amount of freight is hauled on the US 27 corridor. On average, 5,436,094 tons of freight is transported on the US 27 corridor in the study area which translates to $5.617 billion of goods. This equals an average of 378,883 annual truckloads passing through this corridor. Based on the Standard Transportation Commodity Code (STCC) classification codes, there were 429 types of commodities hauled on the study section of US 27. **Table 3-7** shows the top 10 commodities by tonnage transported on this section of US 27 which comprise 81% of total freight tonnage hauled on this corridor.

TABLE 3-7: 2011 TOP 10 COMMODITIES BY TONNAGE ON US 27

STCC Commodity Code	Description	Average Annual Tonnage Hauled	
01 21	Citrus Fruits	2,650,324	49%
50 1	Warehouse & Distribution Center	700,941	13%
20 85	Distilled or Blended Liquors	232,480	4%
20 26	Processed Milk	206,983	4%
20 42	Prepared or Canned Feed	132,165	2%
01 39	Misc. Fresh Vegetables	131,432	2%
01 42	Dairy Farm Products	110,444	2%
20 62	Sugar, Refined, Cane or Beet	91,510	2%
32 71	Concrete Products	75,176	1%
20 33	Canned Fruits, vegetables, Etc.	73,053	1%

The number one commodity transported along the study section of the US 27 corridor is citrus fruits, which accounts for 49% of the corridor's total annual freight tonnage. The freight flow from warehouses and distribution centers is the second highest commodity by tonnage (13%), which represents mixed commodity flows from combined shipments that are usually moved to retail locations.

As the table shows, a significant amount of the transported commodities are perishable food products which require special truck equipment and a shorter delivery window. The amount of secondary freight and manufactured products from warehouses and distribution centers on US 27 is also considerable. These commodities are usually considered higher value freight. These types of commodities show the importance of US 27 as a freight corridor for the region.

TranSearch provides information on intermodal freight flows including rail intermodal drayage and air cargo drayage by commodity type and by origin-destination. For example, an average of 13,867 tons of intermodal rail freight drayage have been transported on this section of US 27. The origin-destination information can also be extracted from the data for the freight flows on the corridor. For example, the highest volume of freight tonnage on this corridor is originating from Lee County and going to Orange County which comprises 4% of total annual freight tonnage on the corridor.

3.8.7 StreetLight Data for Commercial Vehicles

The following figures depict Origin-Destination (O-D) data for commercial vehicles in the study area. The data was limited to commercial vehicles by utilizing Global Positioning System (GPS) data rather than Location Based Services (LBS) O-D data (see *Section 6.1 for more information*). **Figure 3-13** depicts the proportional destinations of trips originating from the Central Florida Intermodal Logistics Center (ILC), located in Winter Haven. The Central Florida ILC, which opened in 2014, is a centralized hub for transportation, logistics and distribution serving Orlando, Tampa and other regional Florida markets. It provides rail, intermodal and rail-to-truck transload services.

According to an analysis of the commercial vehicle O-D data obtained through Streetlight, approximately a quarter of the commercial vehicle (truck) trips originating at the ILC proceed west on SR 60. Another quarter proceed west and then north on Rifle Range Road (CR 655), and the remaining trips proceed east on SR 60, the majority of which then head north on US 27.

Figure 3-14 depicts the O-D data for commercial trips originating on US 27 south of SR 60 that continue through the study area. Nearly 15% of trips proceed east on I-4; nearly 7% continue north on US 27; only 1% of trips proceed west on I-4.

Figure 3-15 depicts the O-D data for commercial trips originating on US 27 north of US 192. Nearly 28% of trips proceed east on US 192; nearly 12% proceed west on I-4; just over 6% continue along US 27 past SR 60; only 2% proceed east on I-4.

FIGURE 3-13: INTERMODAL LOGISTICS CENTER COMMERCIAL VEHICLE ORIGIN-DESTINATION MAP

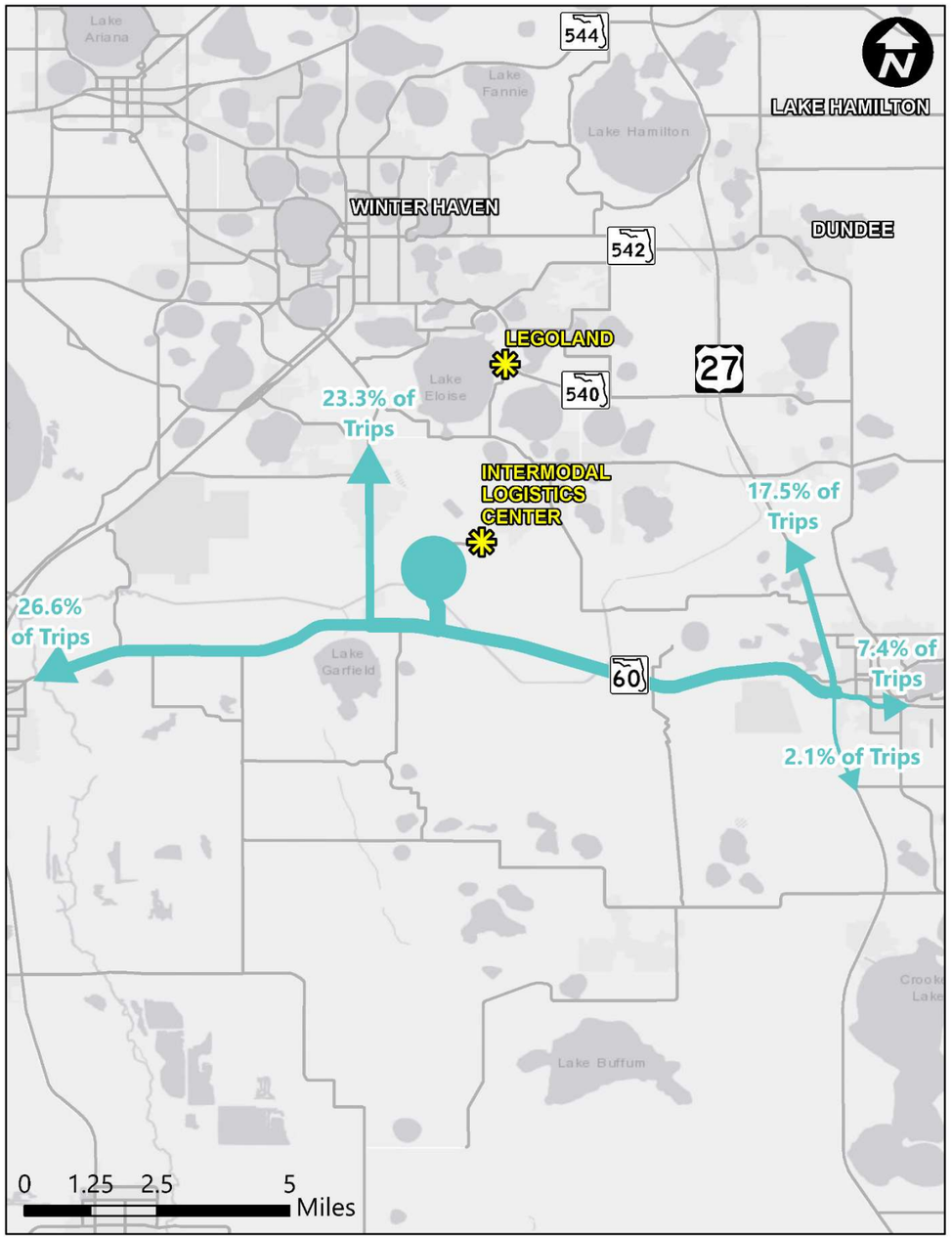


FIGURE 3-14: NORTHBOUND US 27 COMMERCIAL VEHICLE PASS-THROUGH (DAILY) MAP

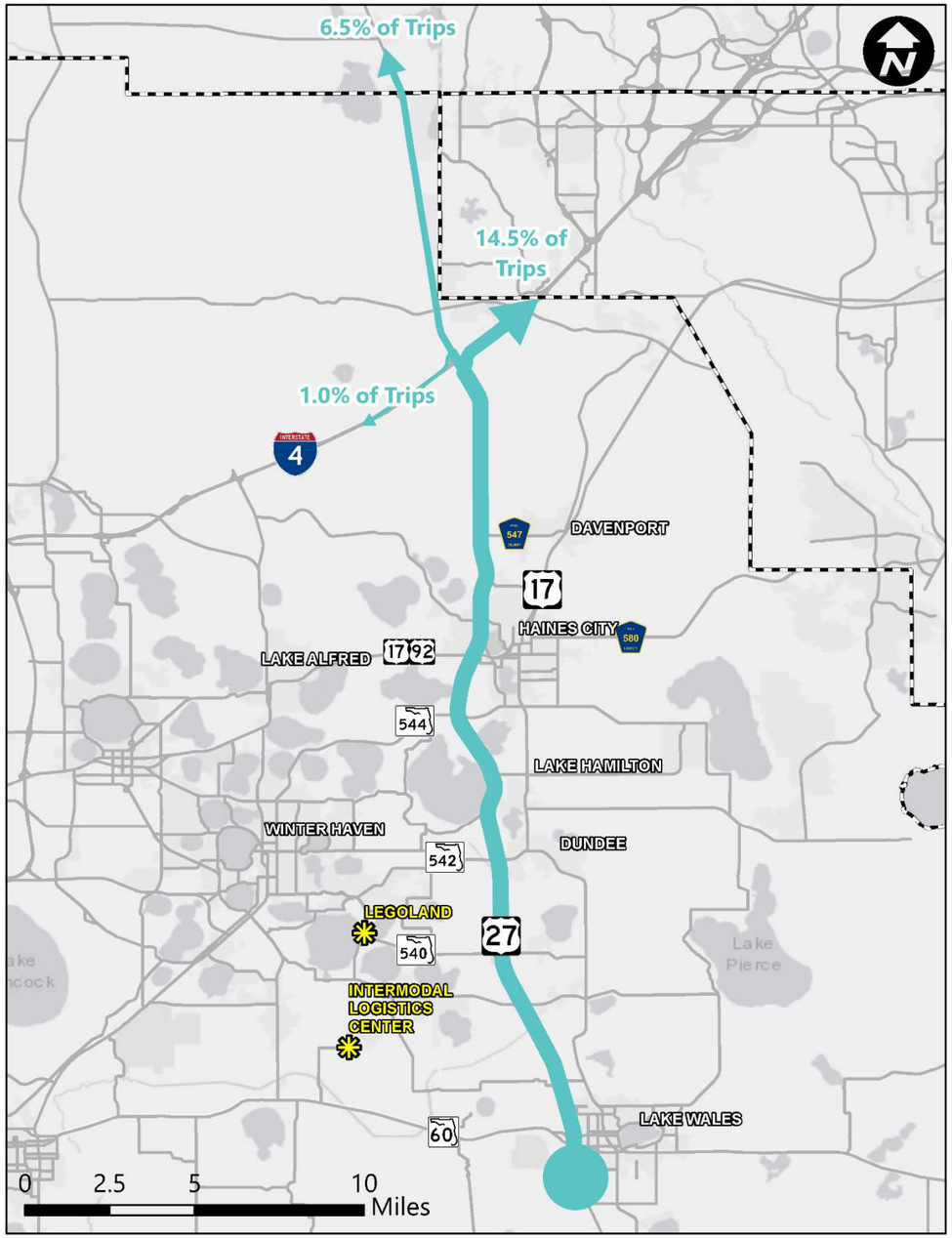
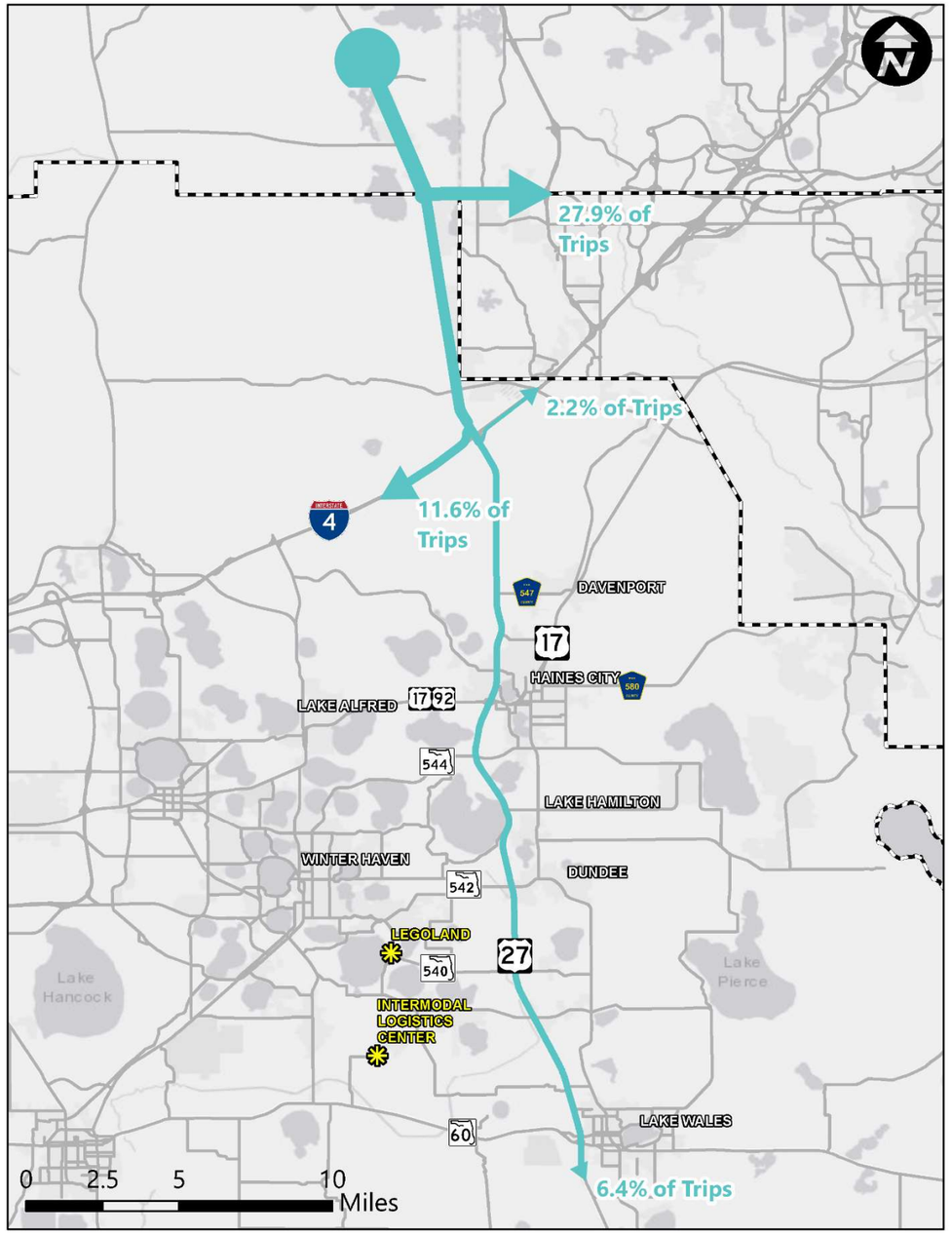


FIGURE 3-15: SOUTHBOUND US 27 COMMERCIAL VEHICLE PASS-THROUGH (DAILY) MAP



3.8.8 Summary of Findings

A summary of reviewed freight data is presented in **Table 3-8**. While some of these data sources only provide freight vehicle trip information others such as FAF and Transearch provide commodity flow information and convert those into vehicle trips. Geographical resolution of these data sources varies from aggregate FAF zones in FAF data to highway network in StreetLight data. Origin-Destination information is provided in all commodity-based data and can be extracted from D1RPM truck tables and StreetLight data. Commodity based data provide multimodal traffic data and commodity/freight information such as commodity type, weight and value.

Although the reviewed data sources are for different base years, they are comparable with respect to truck flows on US 27. All data sources show a significant percentage of truck traffic on the US 27 corridor (around 10%), which is significant considering an average AADT of 43,000 on the corridor. Moreover, the commodity-based data sources show a high tonnage of commodities are transported on this corridor. These are mostly perishable food products or manufactured secondary freight that are usually time sensitive or more valuable. The freight traffic and commodity data, as well as the central location of the US 27 corridor, underline the importance of it as a major freight corridor for the region.

TABLE 3-8: FREIGHT DATA COMPARISON

Data source	Data Type	Geographical Resolution	OD Information	Modal Coverage	Vehicle Classification	Commodity/ Freight Information
FDOT 2018 AADT	Vehicle Based	Point/Count Stations	×	Truck Only	×	×
FDOT 2018 Annual Vehicle Classification	Vehicle Based	Point/Count Stations	×	Truck Only	✓	×
FDOT 2018 Truck AADT	Vehicle Based	Major Network Links	×	Truck Only	×	×
D1RPM Truck AADT	Vehicle Based	TAZ / Network Links	✓	Truck Only	×	×
FAF	Commodity Based	FAF zone	✓	Multimodal	✓	✓
Transearch	Commodity Based	County	✓	Multimodal	✓	✓
StreetLight	Vehicle Based	TAZ / Network Links	✓	Truck Only	×	×

4 LAND USE DATA

4.1 LAND USE AND DEVELOPMENT PLANS

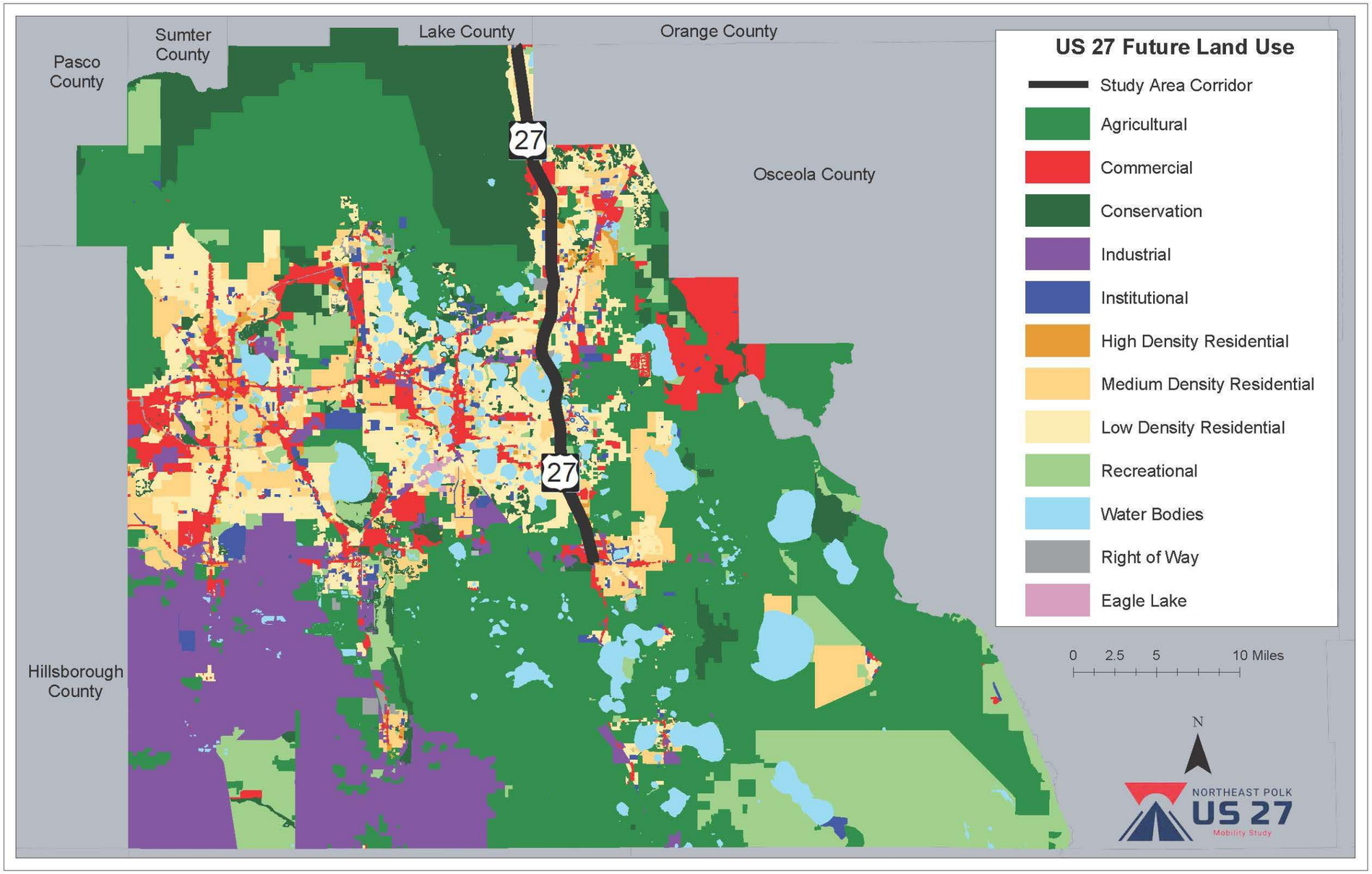
This section documents the current future land use plans of Polk County and the municipal governments within the corridor, as well as the 2045 population and employment forecast currently being developed by the Polk TPO.

4.1.1 Future Land Use Plans

Polk County and each of the municipalities have developed and amended future land use plans for their communities pursuant to state requirements for local governments. These future land use plans are used to guide allowable land uses and serve as a guide for future development activity for an area. **Figure 4-1** illustrates the Future Land Use categories documented in the local Comprehensive Plans.

Generally, the broader study area is surrounded by agricultural and conservation lands. Low and medium density residential development is located along both sides of US 27 between SR 60 and US 192, along with some small areas for institutional, industrial and commercial use. Commercial land uses are primarily situated near SR 60, US 17/92, and I-4. There are multiple large water bodies also located within the study area.

FIGURE 4-1: US 27 FUTURE LAND USE



4.2 DEVELOPMENTS OF REGIONAL IMPACT (DRI)

Pursuant to Section 380.06(1), Florida Statutes, a development of regional impact is defined as "any development which, because of its character, magnitude, or location, would have a substantial effect upon the health, safety or welfare of citizens of more than one county." A development of regional impact is determined, in part, based on the size of the development. Numerical thresholds for different types of development are identified in Section 380.0651, Florida Statutes, and Rule 28-24, Florida Administrative Code. The determination of whether the project was a development of regional impact was based on the size of the project and on whether the development would significantly impact state and regional resources and facilities.

In 2018, statutory provisions related to developments of regional impact (DRI) were amended to eliminate the review process regarding changes to existing DRIs. This change is in addition to statutory changes in 2015 and 2016 that effectively eliminated the DRI review process for new proposed developments that exceed the DRI thresholds and are not exempt from review. Amendments to development orders for existing DRIs are now considered by the local governments that issued the development orders, pursuant to their local development review procedures.

Many times, DRIs are such large regional development projects, that they take many years to fully develop. Their development rights continue long into the future. When forecasting future growth and when evaluating potential concepts, it is important to note where DRI's are located as there may be additional development expected in the future (if they have not yet fully developed), and where they have direct access to US 27. Due to its location, the most critical DRI that could have direct impacts to the corridor alternatives, is the Victor Posner City Center located near the US 27 and I-4 interchange.

According to Polk County GIS data, the DRIs listed in **Table 4-1** are located within the project study area.

TABLE 4-1: DEVELOPMENTS OF REGIONAL IMPACT

DRI	Project No.	Residential	Commercial	Other
Championsgate	1998-001		426,000 GSF retail	4,136 rooms hotel
Clear Springs Mine	1987-026			6,143 ac. mining
Four Corners*	2006-001		1,170,000 GSF retail	
Oak Hill Estates (Providence)	1999-031			2,215 ac. multi-use
Polk Commerce Center	1997-017	11,123 du	6,710,941 GSF retail	
Ridgewood Lakes*	1985-042	5,971 du	381,388 GSF retail	
State Farm*	1990-026		415,000 GSF office	
Stoneybrook South*	2004-004	3,654 du		
Victor Posner City Center*	1986-042			366 ac. multi-use

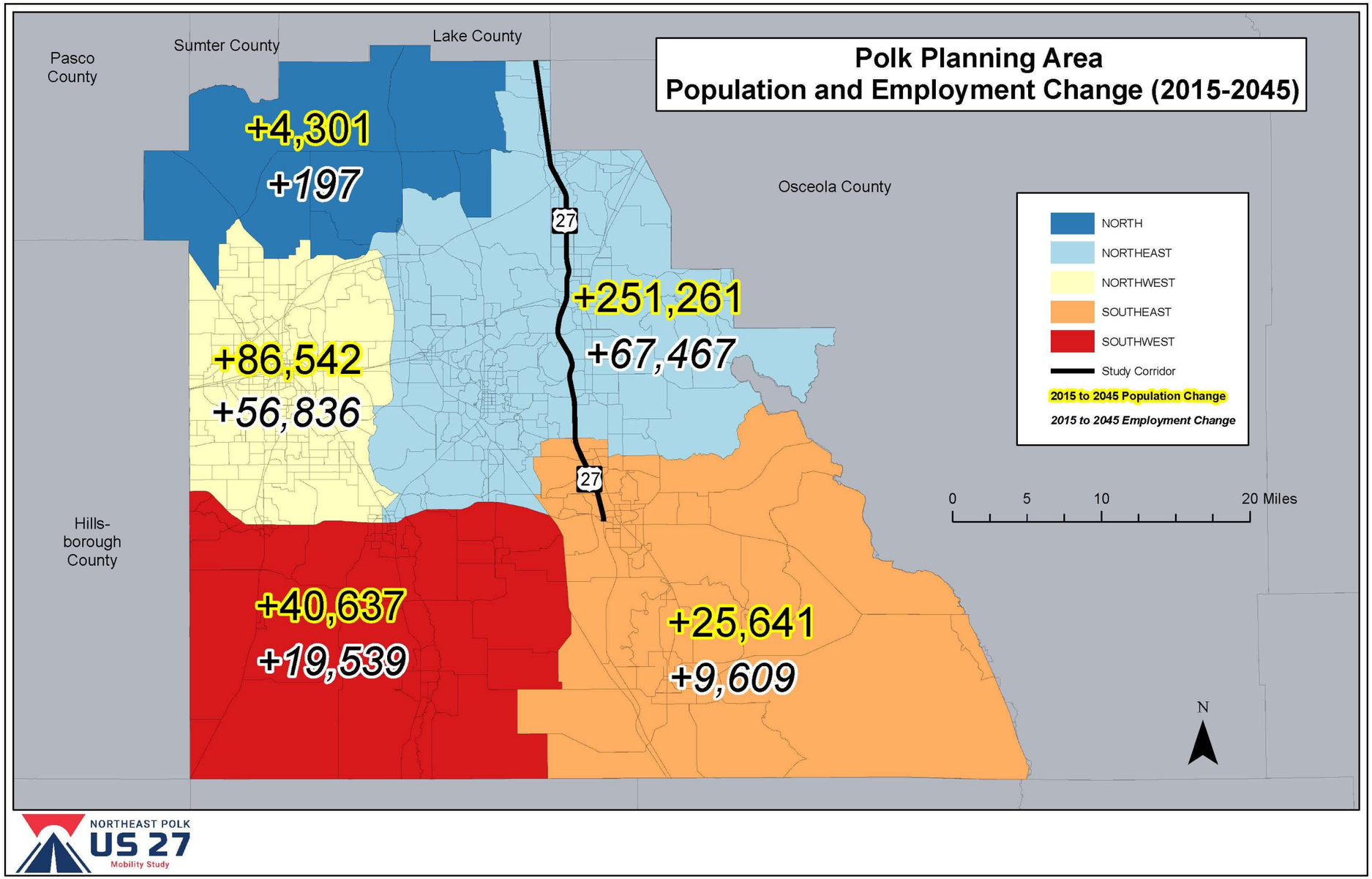
Note: * indicates DRI with direct access to US 27

4.3 POPULATION AND EMPLOYMENT

The 2040 population and employment forecasts used for the travel demand modeling for this project were completed by the Polk Transportation Planning Organization in April 2015. Since that time, Polk County has experienced significant population and associated employment growth. Population growth in the County exceeded 20,000 persons in 2018 alone. A significant share of the population growth is taking place in northeast Polk County.

The Polk TPO developed their 2045 population and employment forecast concurrent with the NE Polk US 27 Mobility Study. Consistent with the 2040 forecast, the 2045 forecast places significant population and employee growth in northeast Polk County as illustrated in **Figure 4-2**. This shows that the County is expecting to add over 250,000 people between 2015 and 2045. Likewise, employment growth is expected to increase in northeast Polk County by over 67,000 employees between 2015 and 2045.

FIGURE 4-2: POLK COUNTY POPULATION AND EMPLOYMENT CHANGE (2015-2045)



Tables **4-2** and **4-3** summarize the population and employment growth in Polk County by Planning Area.

TABLE 4-2: POLK COUNTY POPULATION GROWTH (2015-2045)

Area	Total Population			
	2015	2045	2015-> 2045 Growth	Average Annual Increase (%)
North PA	11,984	16,285	4,301	1.20%
Northeast PA	280,386	531,647	251,261	2.99%
Northwest PA	249,329	335,871	86,542	1.16%
Southeast PA	58,683	84,324	25,641	1.46%
Southwest PA	29,637	70,274	40,637	4.57%
Polk County	*630,019*	*1,038,401*	*408,382*	

TABLE 4-3: POLK COUNTY EMPLOYMENT GROWTH (2015-2045)

Area	Total Employment			
	2015	2045	2015-> 2045 Growth	Average Annual Increase (%)
North PA	817	1,014	197	0.80%
Northeast PA	67,710	135,177	67,467	3.32%
Northwest PA	100,221	157,057	56,836	1.89%
Southeast PA	14,787	24,396	9,609	2.17%
Southwest PA	11,720	31,259	19,539	5.56%
Polk County	*195,255*	*348,903*	*153,648*	

The 2045 population and employment forecast was developed at a traffic analysis zone level. **Figure 4-3** illustrates the forecasted growth in population by TAZ in the study area. **Figure 4-4** illustrates the forecasted employment growth by TAZ in the study area.

FIGURE 4-3: POLK COUNTY POPULATION GROWTH BY TAZ (2015-2045)

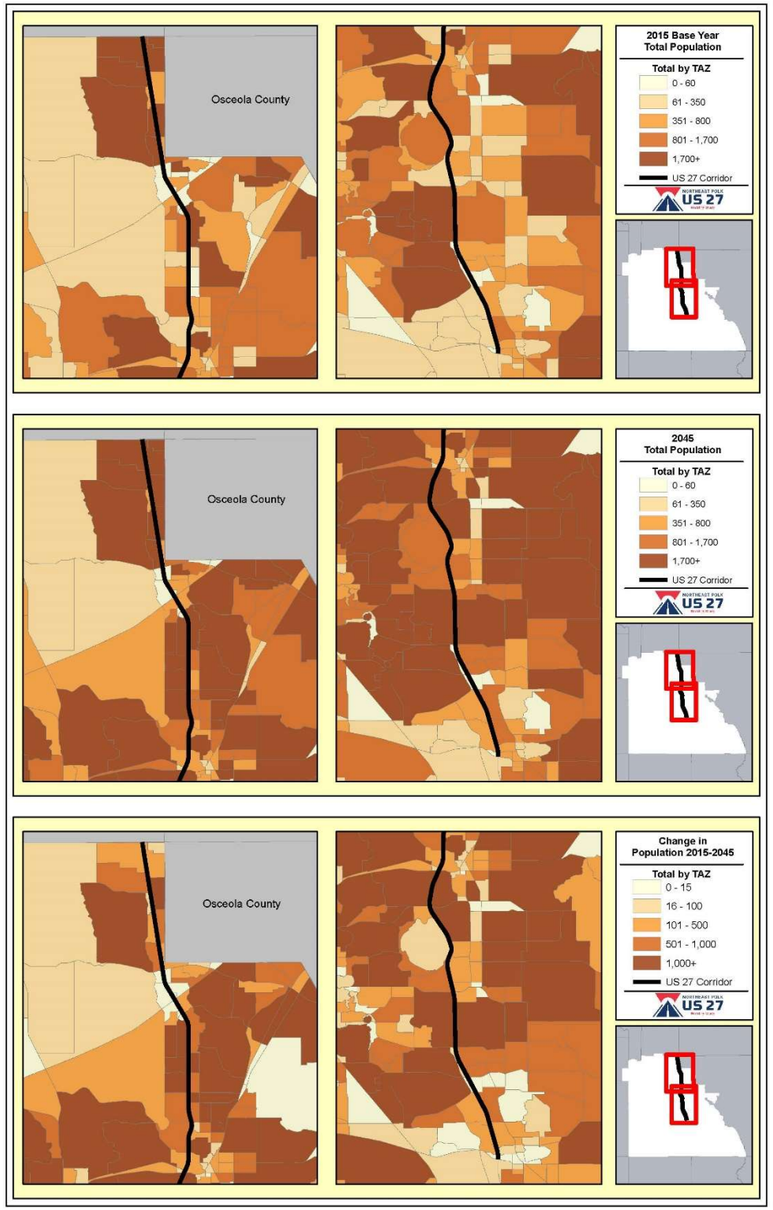


FIGURE 4-4: POLK COUNTY EMPLOYMENT GROWTH BY TAZ (2015-2045)

4.4 FREIGHT ATTRACTORS AND GENERATORS

Freight attractors and generators were identified in the study area using information available from the FDOT District One *Freight Mobility and Trade Plan*, dated 2016, the FDOT District One *Districtwide Freight Activity Center Connector Definition and Evaluation* study completed in 2019, and ongoing FDOT Central Office Advanced Geospatial Analytics project to identify freight activity areas in Florida. The information was obtained from the FDOT District One Freight Coordinator, FDOT Freight Moves Florida website[1], and Central Office freight database maintained by Transportation Data and Analytics Office.

4.4.1 District One Freight Mobility and Trade Plan

The District One *Freight Mobility and Trade Plan* (FMTP) presents an overview of unique freight and logistics characteristics of places within the District including:

- Freight related land uses such as: agricultural (by commodity type), and
- Designated intermodal logistics centers and freight activity centers.

Information from the plan related to US 27 between SR 60 and US-192, including the regional study area surrounding the study corridor, is summarized below.

Land Uses

According to the District One FMTP, citrus is one of the major commodities produced, processed and transported in District One. Ninety percent of citrus is processed into juice in eight processing plants in the District. Polk County is home to five citrus processing plants. Three of these plants: Florida's Natural Growers, Dundee Citrus Growers Association and Haines City Citrus Growers Association, are all either adjacent to US 27 or located within approximately 2 miles from US 27. Mining products, cattle, sugar, vegetables and other fruits are other major products that are produced in District One and transported on US 27.

The centrality of Polk County between three of the largest metropolitan regions in the State of Florida (Orlando-Tampa-Miami), has made Polk County a prime location for manufacturing, warehouse, distribution center, and 3rd party logistics industry establishments. The City of Lakeland is a major freight hub in Polk County with a high density of manufacturing establishments, warehouses and distribution centers that contributes significantly to freight movements on US 27 in the study area. US 27 is the most significant non-interstate freight corridor in District One.

Intermodal Logistics Centers (ILCs) and Freight Activity Centers (FACs)

The District's primary ILC, the Central Florida ILC, is located in Polk County approximately 5 miles west of US 27 and 1.6 miles north of SR 60 off of Logistics Parkway. It is a 318-Acre Intermodal Terminal that serves as a logistics hub for Central Florida including Tampa, Orlando and Miami Metro areas. It also services many other metro regions across the U.S. including Atlanta, New York, Washington D.C., Boston, Chicago, Detroit, Philadelphia, San Francisco, Cleveland and Los Angeles.

The FTMP identified sixteen Freight Activity Centers (FACs) in Polk County with many located near US 27. However, the FMTP does not provide further details regarding the FACs. Therefore, the more recent *Districtwide Freight Activity Center Connector Definition and Evaluation* study was relied upon to identify the FACs within the study area. This information is summarized in the next section.

4.4.2 Freight Activity Center Connector Definition and Evaluation Study

FDOT District One recently completed the *Districtwide Freight Activity Center Connector Definition and Evaluation* study that evaluated Freight Activity Centers (FACs) and their connectors. The study included an evaluation of land use data to identify FACs within FDOT District One, using Department of Revenue (DOR) land use codes and information. The areas with high existing industrial square footage and potential industrial development were explored to identify the following as stated in the evaluation study:

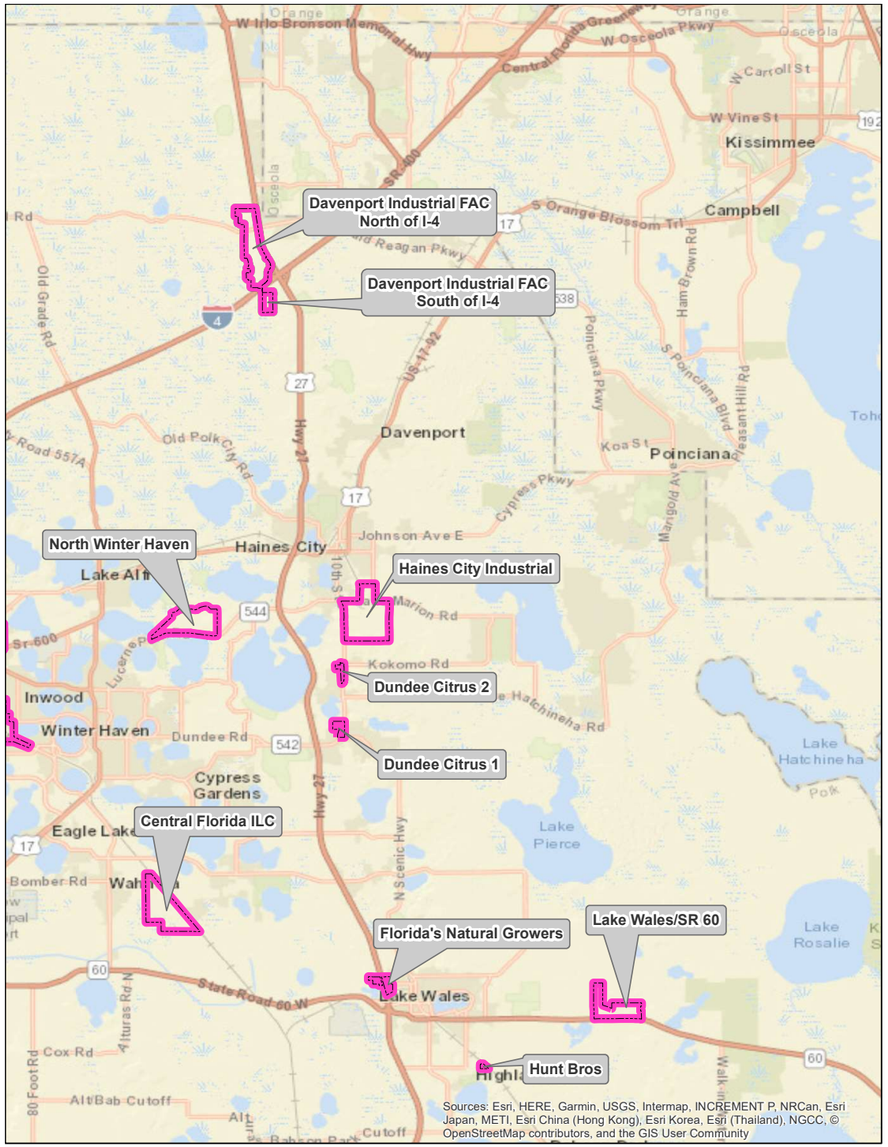
[1] https://freightmovesflorida.com/local-regional-initiatives/dfc-interactive-map/district-1/

- *"FAC's with the greatest building area with DOR land use codes indicating existing industrial and related land uses; and*
- *FAC's with the greatest land area with DOR land use codes indicating developed industrial and related land area and vacant industrial and related land area."*[2]

From the evaluation study, twenty-one FACs were identified in Polk County from which ten (10) are located near US 27 in the study area (within 5 miles of the US 27 corridor). **Figure 4-5** shows the location of the FACs in the study area. These FACs are considered major freight trip generators and attractors as they comprise major freight generator businesses such as manufacturing, warehouses, distribution centers, and transportation and 3PL business establishments. They are identified and categorized based on the industrial building square footage.

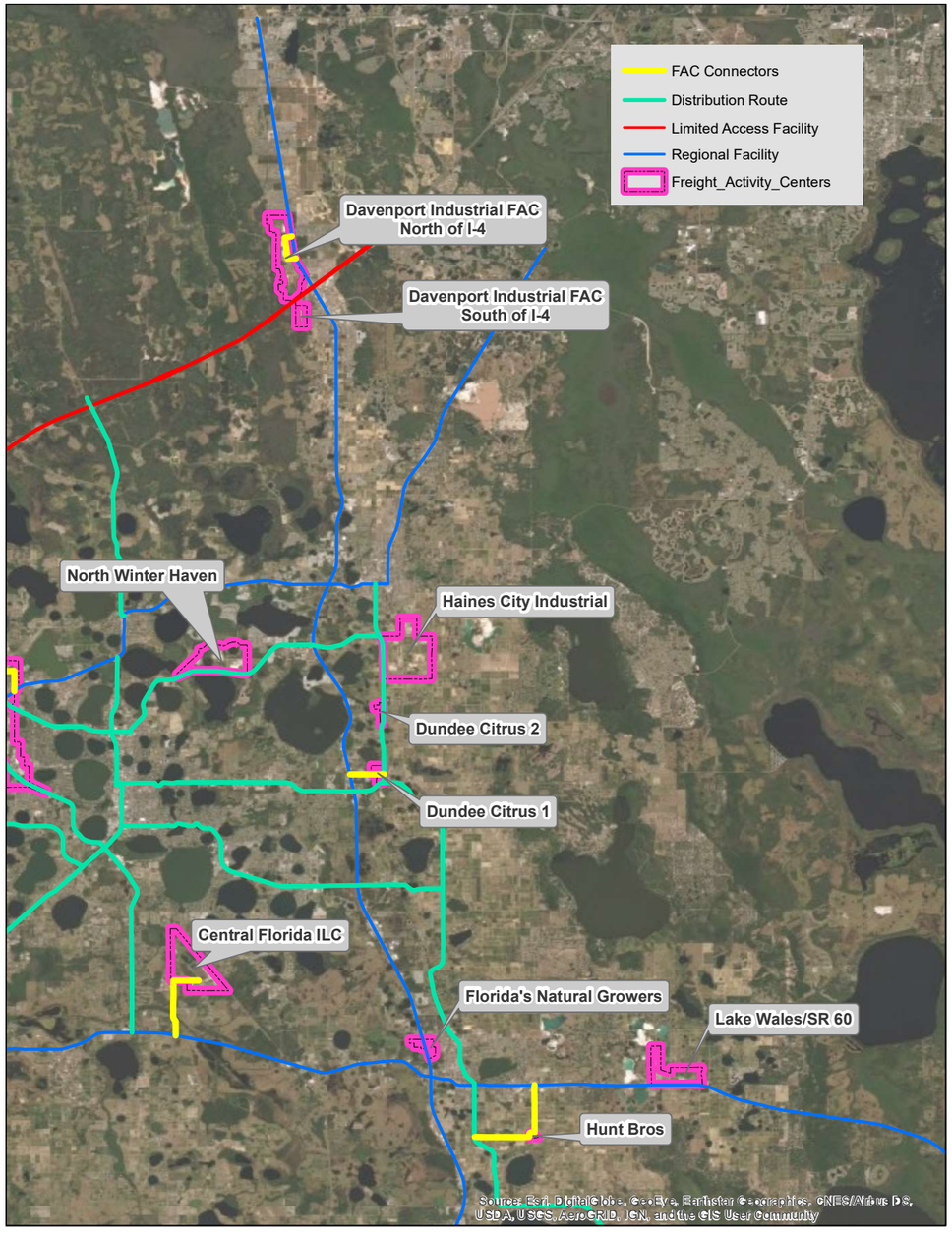
The study also identifies and evaluates the connector roads that provide access to the ten FACs and the Freight Mobility Corridors in District One. **Figure 4-6** shows how the FACs are connected to US 27 through identified FAC connectors, distribution routes and other regional facilities.

FIGURE 4-5: FREIGHT ACTIVITY CENTERS (FACS) IN THE STUDY AREA



[2] Source: FreightMovesFlorida, 2019 District 1: Districtwide Freight Activity Center Connector Definition & Evaluation, https://freightmovesflorida.com/resource-repository/?search&resource-categories%5B0%5D=151

FIGURE 4-6: FAC CONNECTORS



4.5 COMMUNITY PROFILES

Primarily rural in landscape, Polk County supports a growing population that is less diverse than that of the State, with fewer working age adults. When evaluated by age, the fastest growth in the county is for residents age 65 and over. Approximately 77 percent of residents live within either the Lakeland or Winter Haven urbanized areas. The fastest growing areas in the county since 2010 generally occur north of SR 60 and south of I-4 with additional pockets of growth focused just north of Lakeland and along US 27. For municipalities in this area, census data confirms robust growth in population as follows in **Table 4-4**.

TABLE 4-4: MUNICIPALITY POPULATION GROWTH (2010 TO 2016)

Municipality	Population (2010)	Population (2016)	Percent Growth
Auburndale	13,507	15,540	15.1%
Davenport	2,888	3,982	37.9%
Dundee	3,717	4,209	13.2%
Haines City	20,535	23,454	14.2%
Lake Alfred	5,015	5,766	15.0%
Lake Hamilton	1,231	1,382	12.3%
Lake Wales	14,225	15,860	11.5%

Polk County hosts over a quarter million jobs. Employment is distributed across a range of sectors, with health care and retail serving as the primary employers. Most employment is focused near Lakeland and Winter Haven with a large employment center also located in Bartow. Smaller but numerous areas of employment are focused along major roadway corridors including US 27 and SR 60.

Unlike employment, workers are more evenly distributed across the county, but still focused in the Lakeland and Winter Haven urbanized areas and along US 27. The highest poverty rates within the county are found within the municipalities, but a large portion of the population south of SR 60 lives below the poverty level.

Figures 4-7 through **4-12** show the socioeconomic information geographically for the study area, which can be generally summarized as follows:

Figure 4-7: Zero Car Ownership shows areas without access to personal vehicles; these areas are considered transportation disadvantaged and more dependent on public transportation.

Figure 4-8: Population Age 55 and Above shows areas with greater populations of older citizens, who often are disabled or have other health restrictions; these areas are also considered transportation disadvantaged and more dependent on public transportation.

Figure 4-9: Environmental Justice Planning Areas identifies areas with low-income and minority populations; these areas often need better protection from environmental and health hazards, greater community involvement and fair access to decision-making policies.

Figure 4-10: Median Household Income and **Figure 4-11: Persons Above Poverty** show the distribution of personal income; households and persons with lower incomes are often more reliant on public transportation to get to jobs and access goods and services.

Figure 4-12: Racial and Ethnic Dispersion shows locations of predominant minority populations; these segments of the community are often found in rural areas that are more dependent on public transportation.

FIGURE 4-7: AREAS OF ZERO CAR OWNERSHIP IN POLK COUNTY

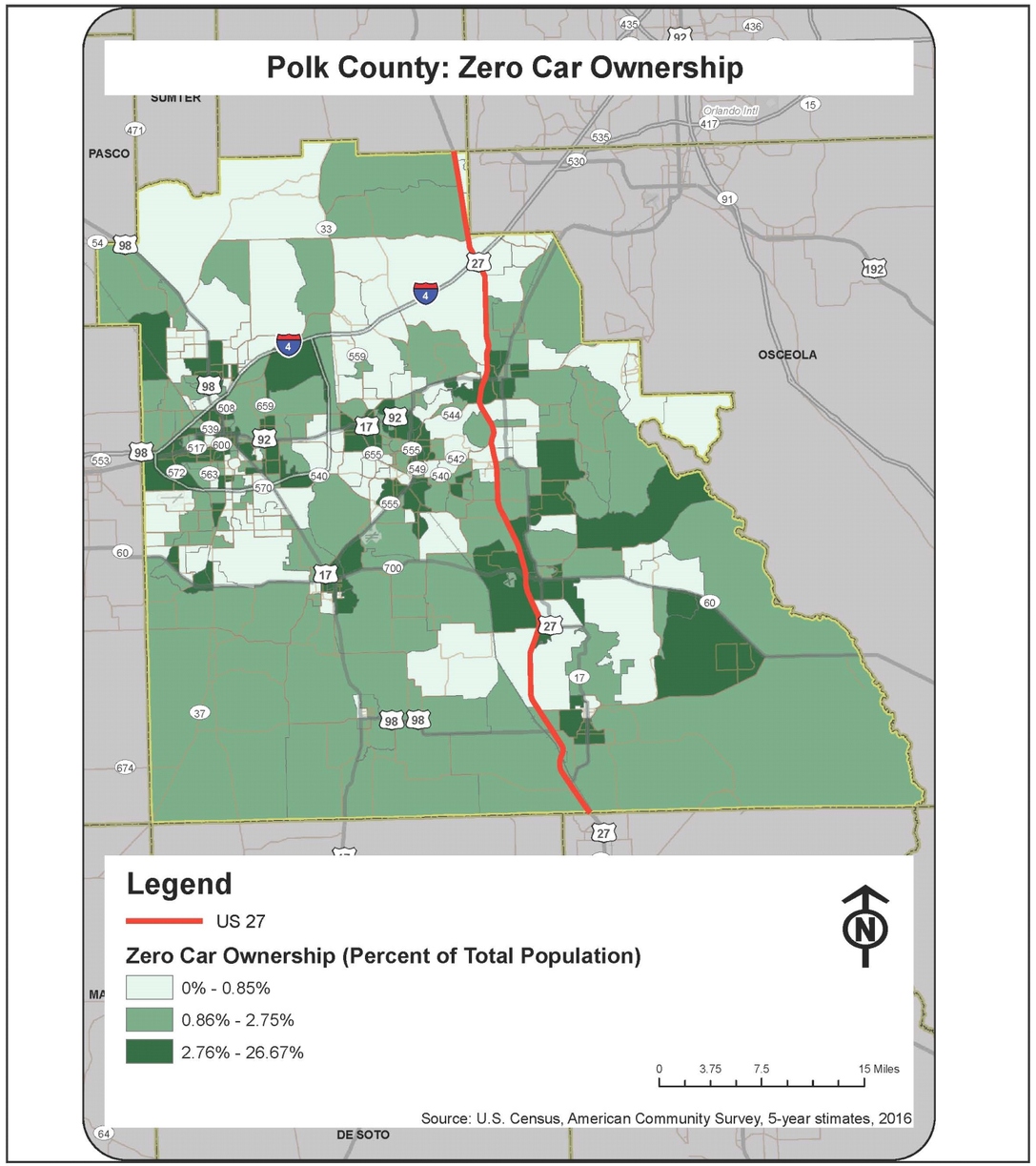


FIGURE 4-8: POPULATION AGE 55 AND OVER IN POLK COUNTY

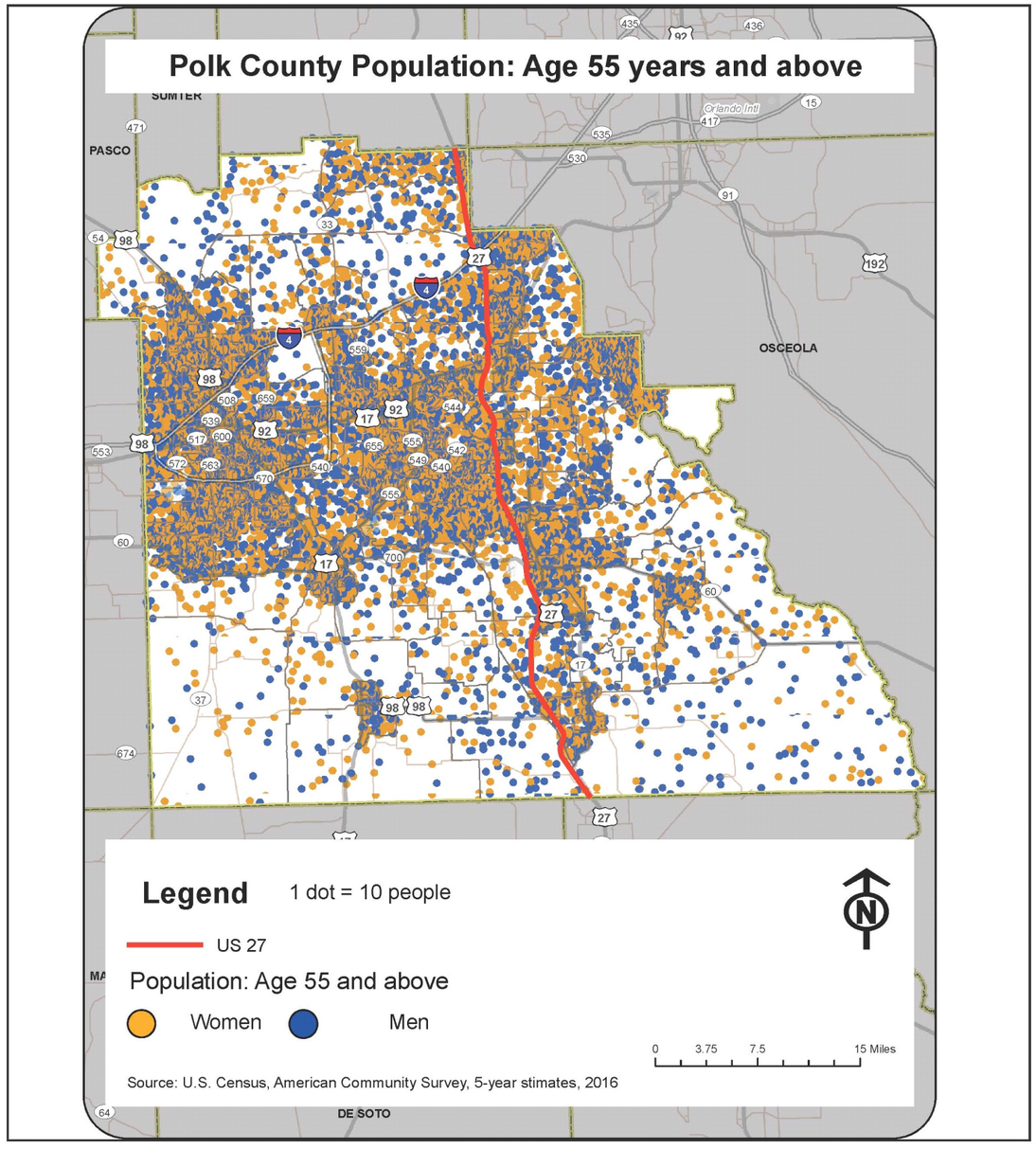


FIGURE 4-9: ENVIRONMENTAL JUSTICE PLANNING AREAS IN POLK COUNTY

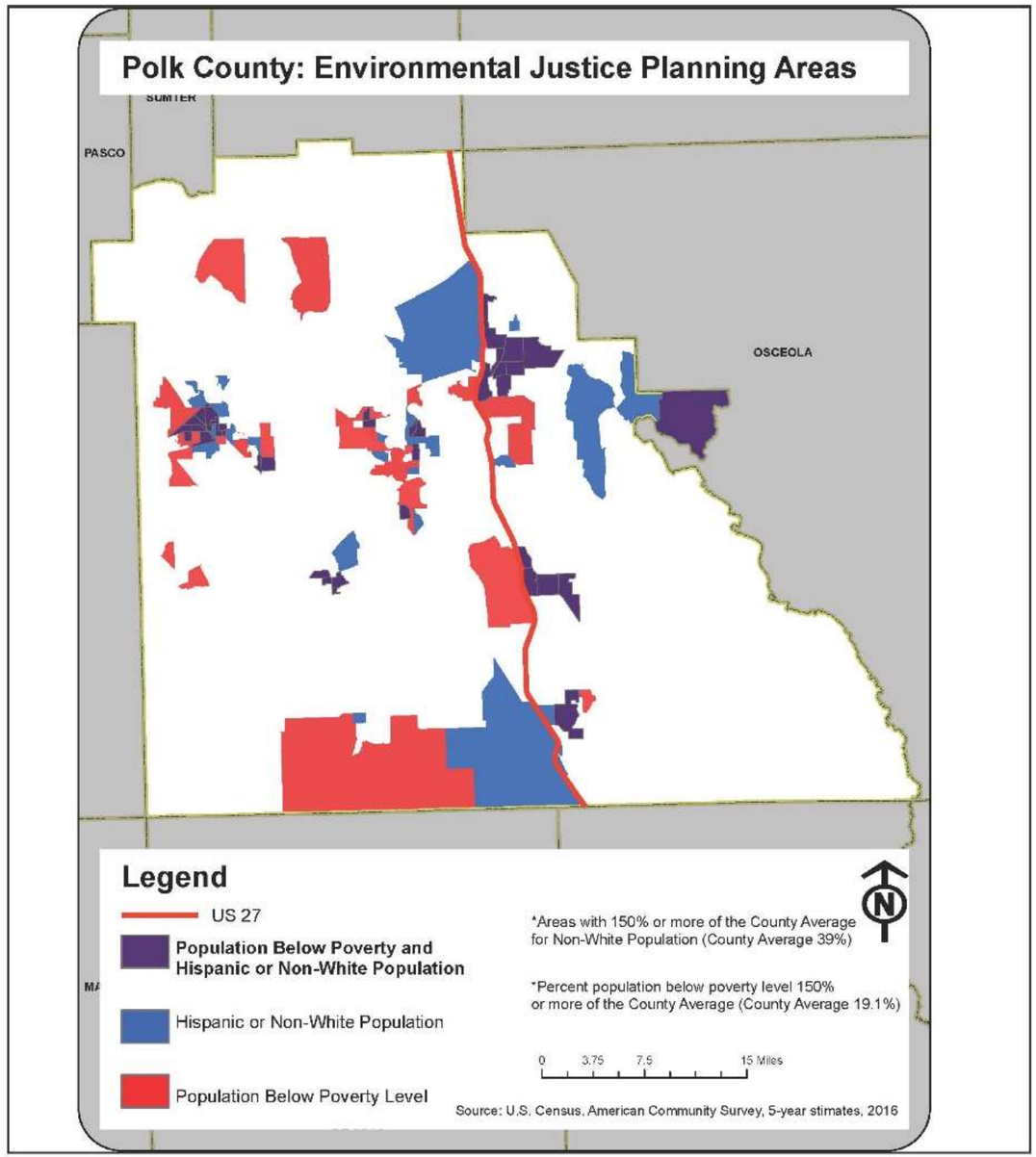


FIGURE 4-10: POLK COUNTY MEDIAN HOUSEHOLD INCOME

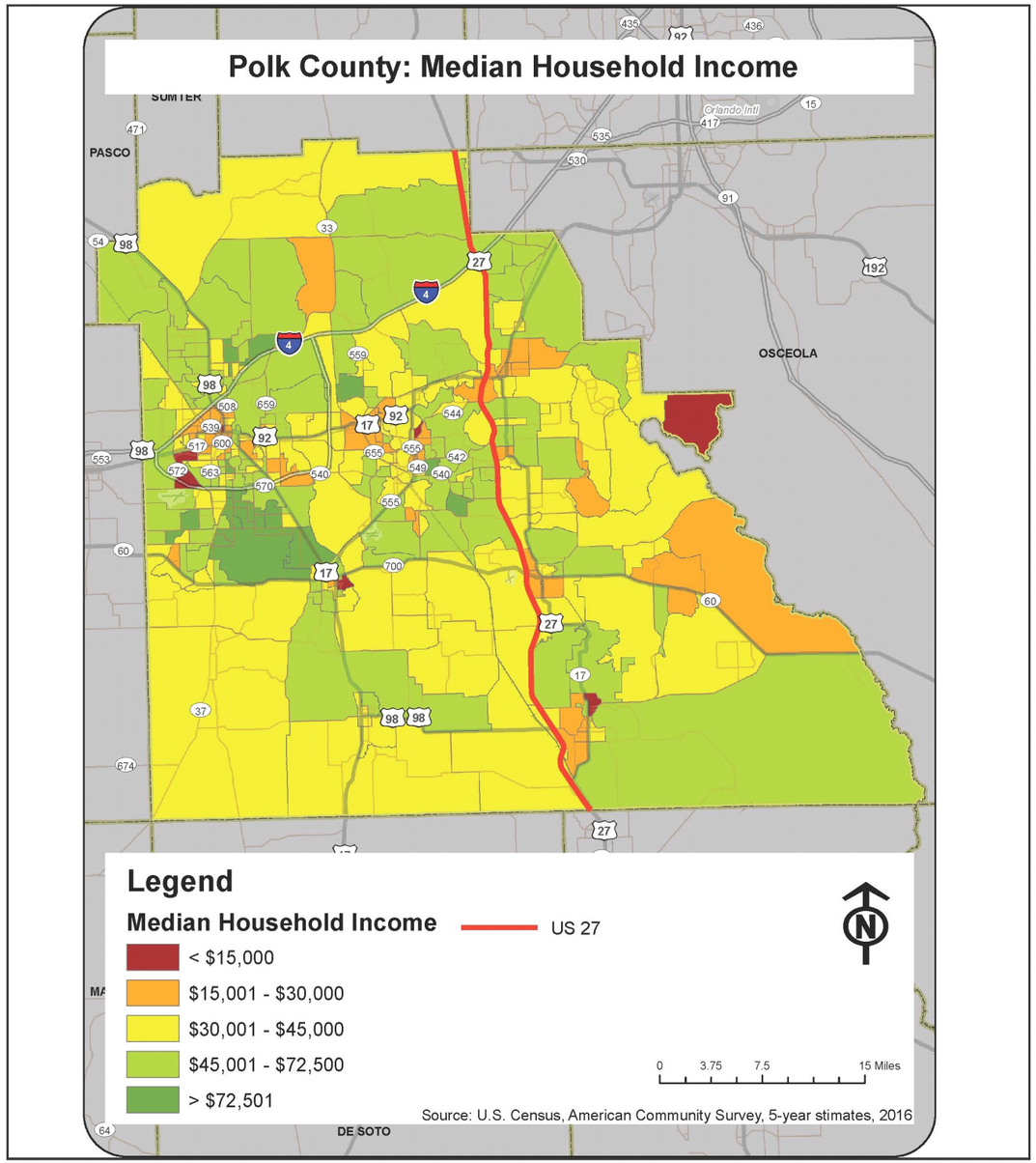


FIGURE 4-11: POLK COUNTY PERSONS BELOW POVERTY

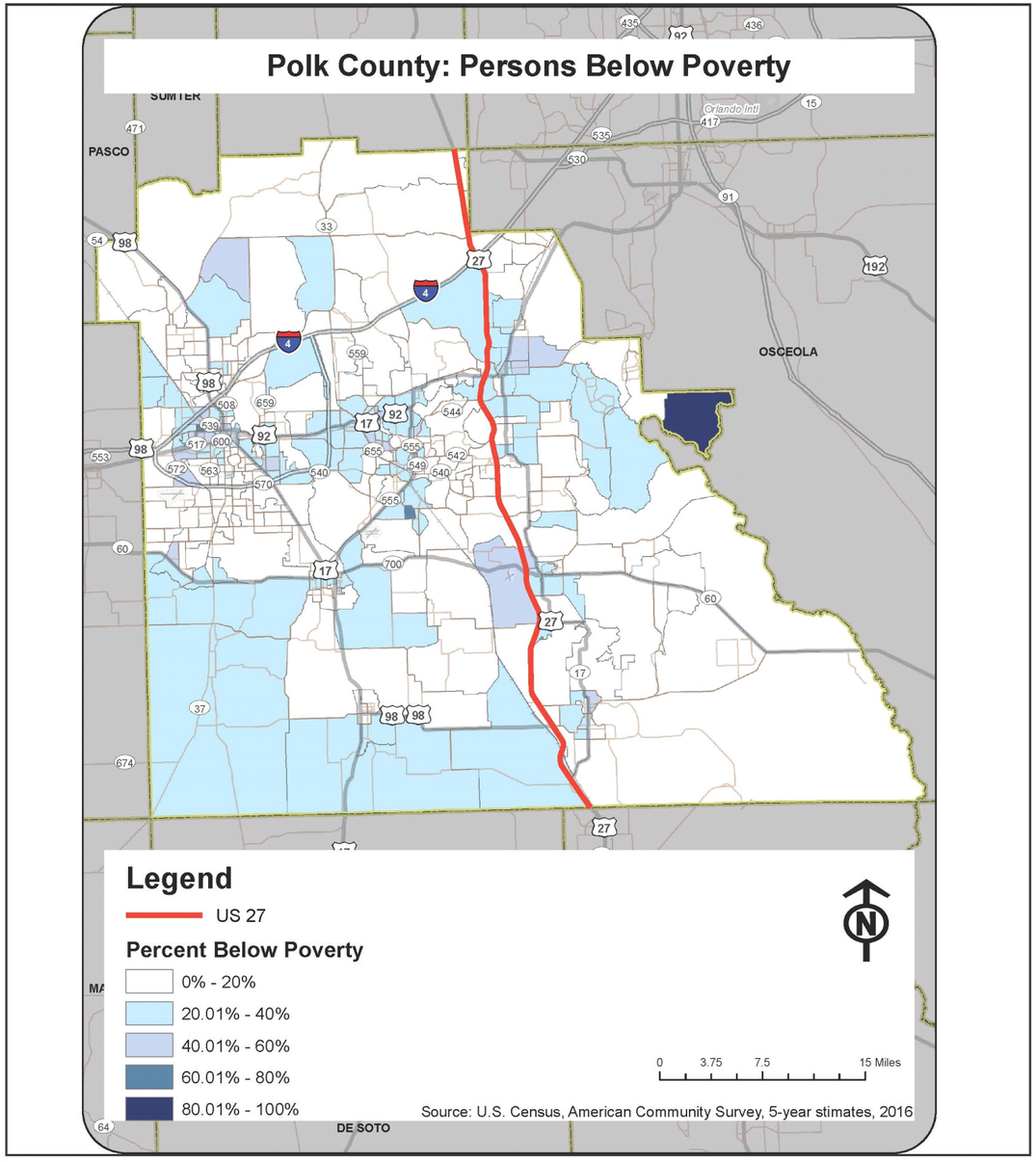
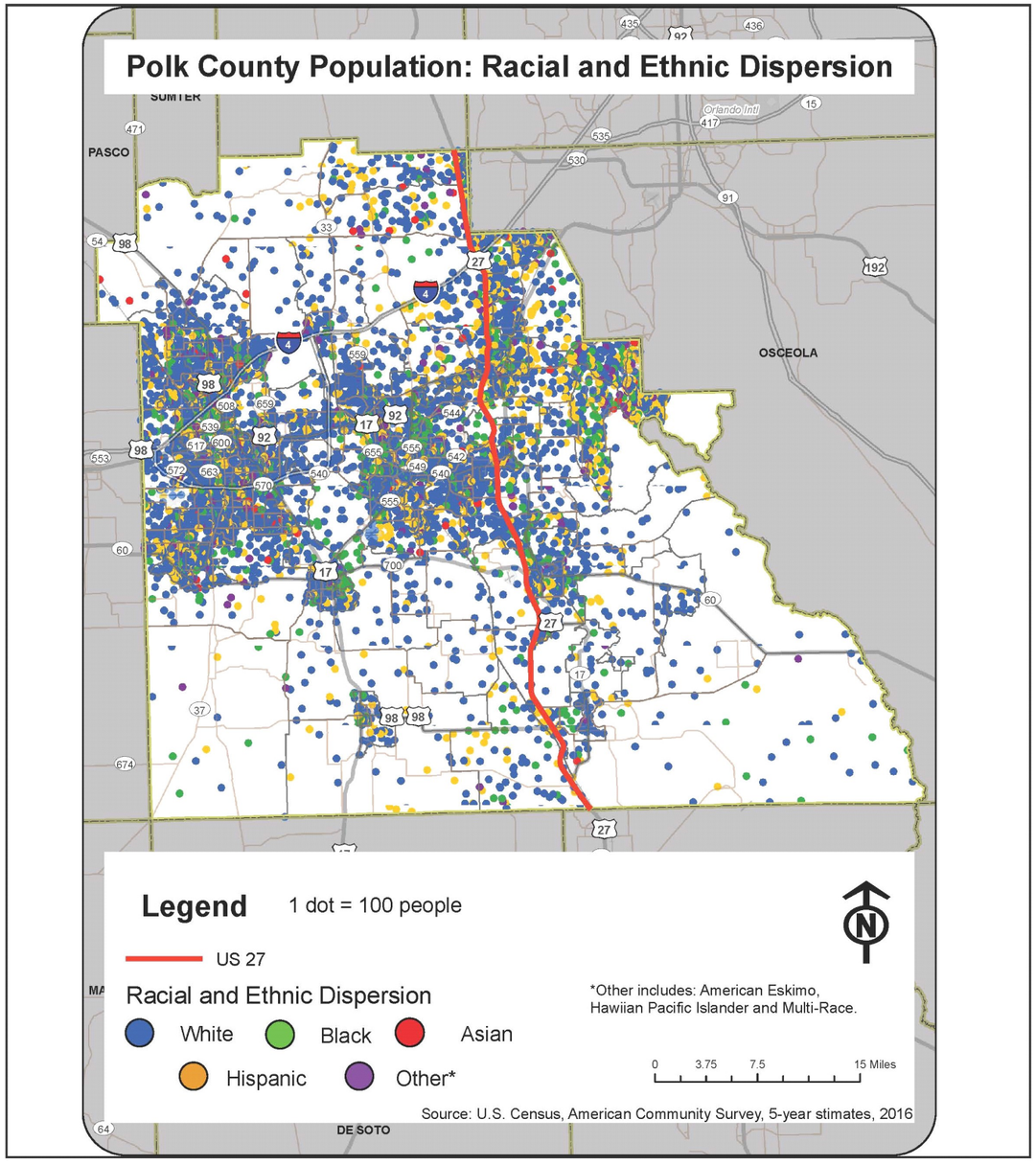


FIGURE 4-12: POLK COUNTY POPULATION RACIAL AND ETHNIC DISPERSION



4.6 COMMUNITY CHARACTERISTICS AND CONTEXT CLASSIFICATIONS

The FDOT context classification system describes the land use, development, and transportation network functionality along a travel corridor. This provides the basis for a qualitative analysis of the general character of the area as part of the FDOT planning process. Recording the existing and future anticipated context classification of a corridor supports the appropriateness of future development of transportation to best provide safe and efficient improvements.

In August 2017, FDOT published the Completing Florida's Streets document, which provides the standards for context classification. **Figure 4-13** illustrates each of the designated classifications by general character.

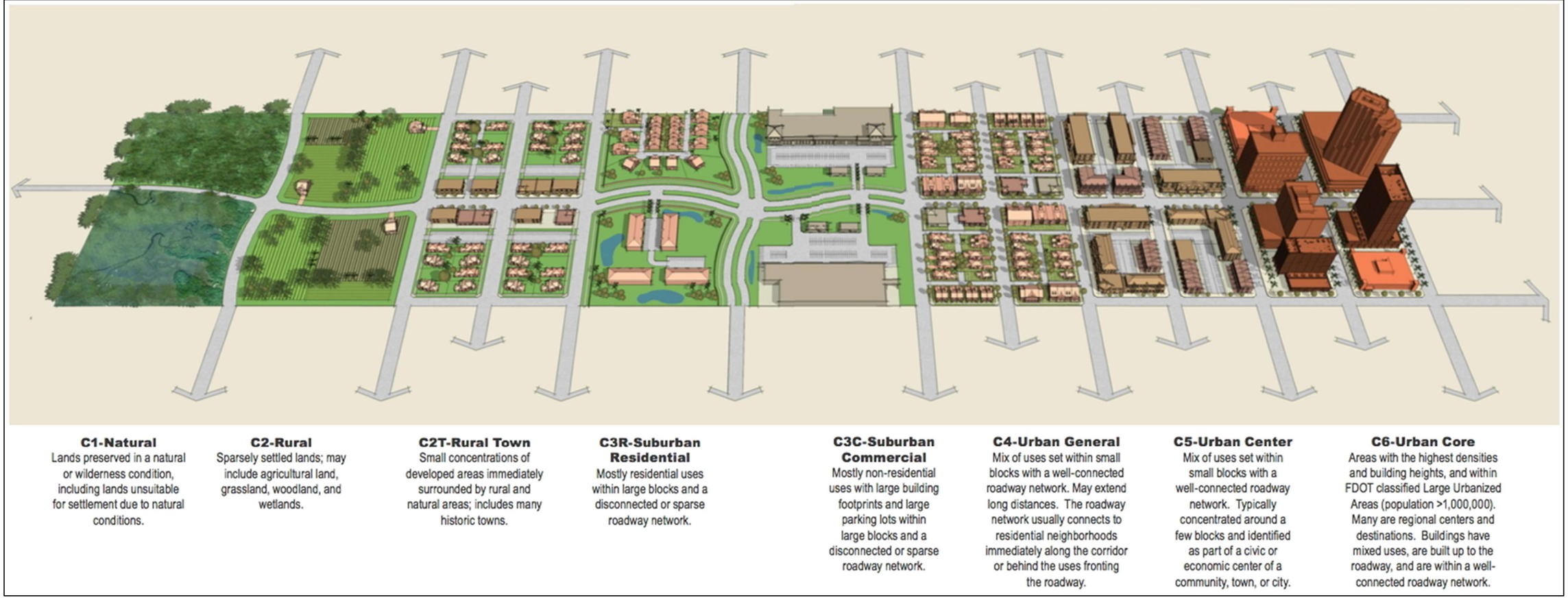
The characteristics of the community within the US 27 Mobility Study area are generally suburban in nature. There are also areas more rural and more urban present along the corridor. Only the area between the Lake Wales Ridge Wildlife Environmental Area to East Mountain Lake Cutoff Rd is expected to remain a rural area, which is due to the presence of the sensitive environmental lands.

As the corridor does travel through several jurisdictions, planning data from Lake Wales, Winter Haven, Dundee, Lake Hamilton, Haines City, and Polk County are continuing to be evaluated throughout this study to maintain consistency with existing and future character and land uses.

Within the US 27 Mobility Study area, the following FDOT context classifications are identified:

- C2 – Rural
- C3C – Suburban Commercial
- C3R – Suburban Residential
- C4 – Urban General

FIGURE 4-13: FDOT CONTEXT CLASSIFICATIONS



SOURCE: FDOT

Table 4-5 shows the existing and future context classification throughout the study area. For additional information about US 27 context classification, see the Polk County US 27 Context Classification Analysis produced by FDOT District One in May 2019. This document was used to produce this summary.

TABLE 4-5: US 27 EXISTING AND FUTURE CONTEXT CLASSIFICATION

Limits	Existing Context Classification	Future Context Classification	Notes
SR 60 to Lake Wales Ridge Wildlife and Environmental Area	C3C Suburban Commercial	C3C Suburban Commercial	Existing and future land use are primarily industrial and commercial; large blocks and a disjointed roadway network
Lake Wales Ridge Wildlife Environmental Area to E Mountain Lake Cutoff Rd	C2 Rural	C2 Rural	Low employment density; Existing conservation lands
E Mountain Lake Cutoff Rd to Lake Wales Boundary	C3C Suburban Commercial	C3C Suburban Commercial	Existing and future land uses are primarily industrial and commercial; large blocks and a disjointed roadway network
Lake Wales Boundary to Dundee Boundary	C2 Rural	C3C Suburban Commercial	Current low population density; future land use allows increased residential and commercial densities
Dundee Boundary to Frederick Ave	C3C Suburban Commercial	C4 Urban General	Existing LU includes mainly industrial and commercial; future land use allows increased residential and commercial densities
Frederick Ave to Haines City Boundary	C2 Rural	C3C Suburban Commercial	Current low population density; future land use allows increased residential and commercial densities
Haines City Boundary to Davenport Boundary	C3C Suburban Commercial	C3C Suburban Commercial	Existing land uses are primarily industrial and commercial; large blocks and a disjointed roadway network; future land use allows for increased density, however significant conservation areas are present
Davenport Boundary to Florida Pines Blvd	C2 Rural	C3C Suburban Commercial	Current low population density; future land use allows increased residential and commercial densities
Florida Pines Blvd to US 192	C3R Suburban Residential	C3R Suburban Residential	Existing and future land usesare primarily residential with large blocks and a disjointed roadway network

Figure 4-14 provides a visual representation of the existing and future context classification throughout the study area along US 27.

BEGIN PROJECT

MP 0.0

MP 1.0

MP 2.0

MP 3.0

FLORIDA'S NATURAL GROWERS

LAKE EFFIE

LAKE WEADER

PADGETT LAKE

WEIKERT FORD

THE VANGUARD SCHOOL

TOWER POINT APARTMENTS

TOWER LAKES

TOWERWOOD

Context Classification

Existing	Future
C2	C2
C3C	C3C
C3R	C3R
	C4

FUTURE CONDITIONS MAPPED ABOVE EXISTING

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

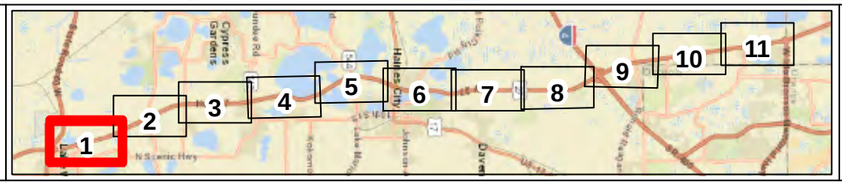
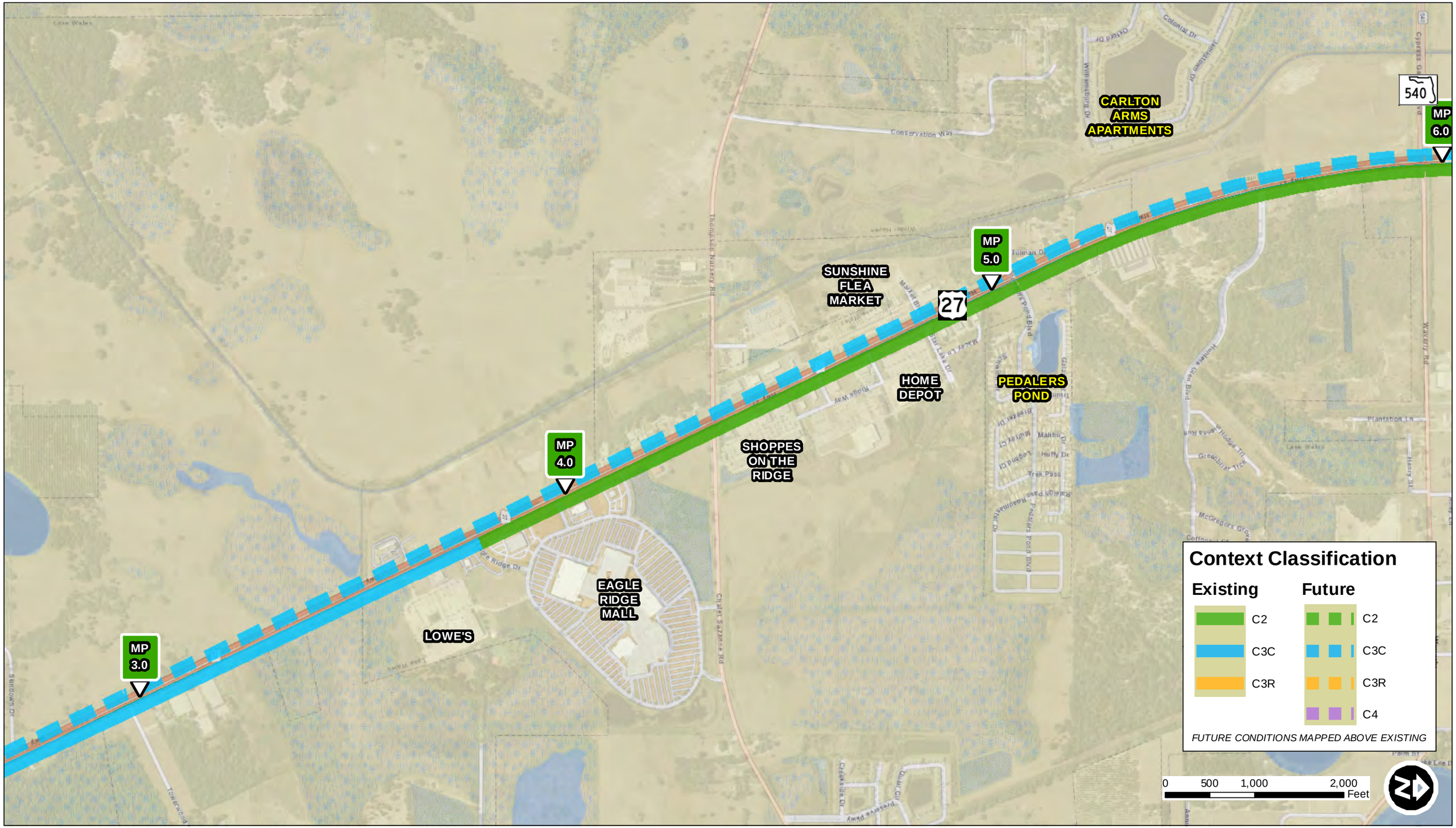


FIGURE 4-14
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 1 of 11



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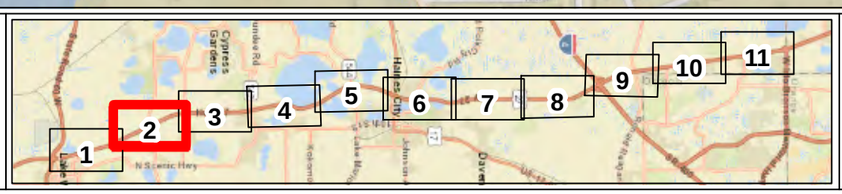

FIGURE 4-14
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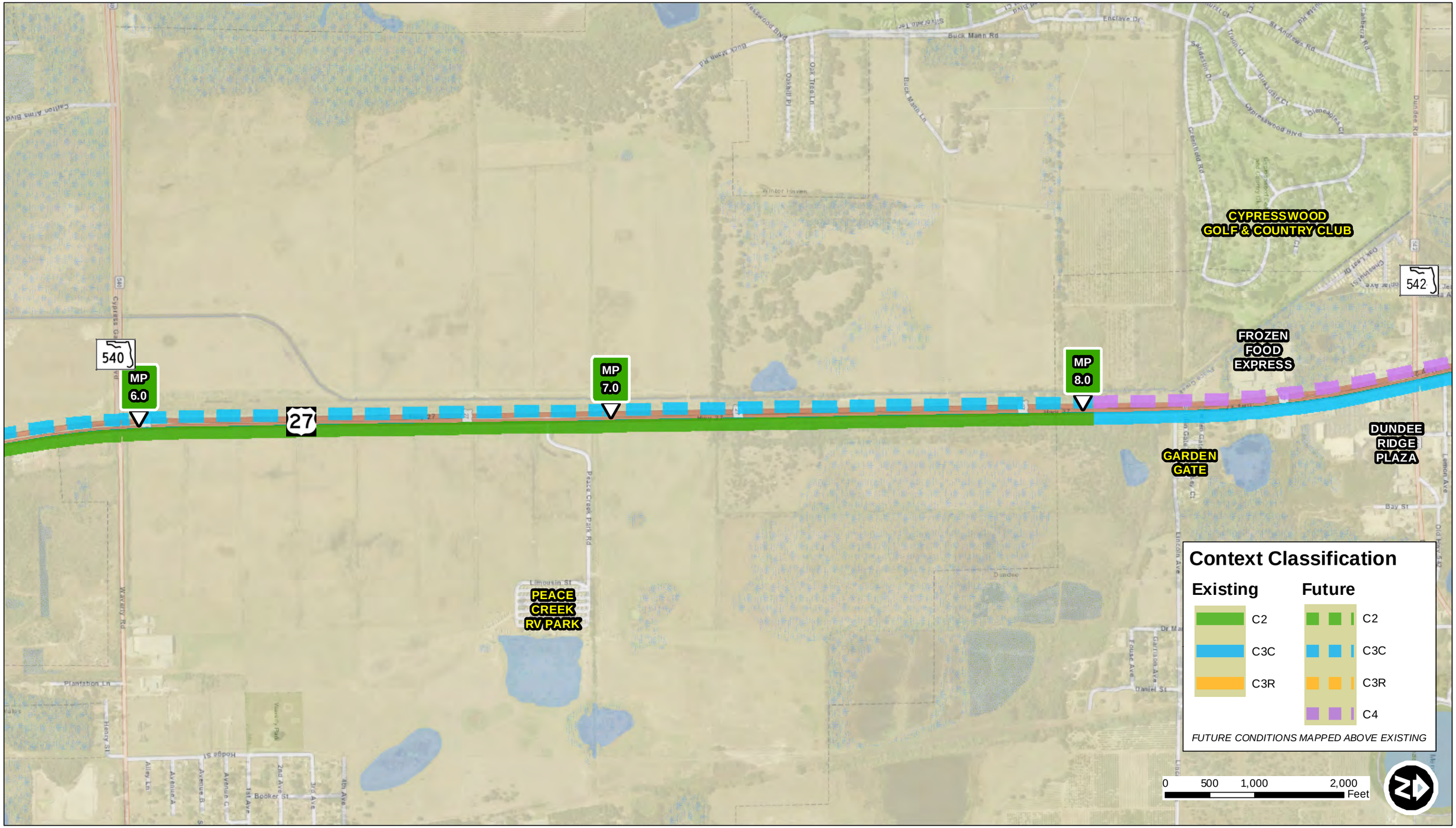
Sheet 2 of 11



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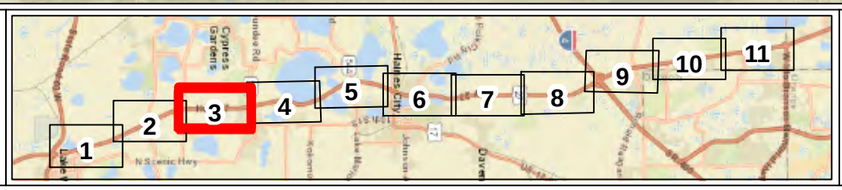

FIGURE 4-14
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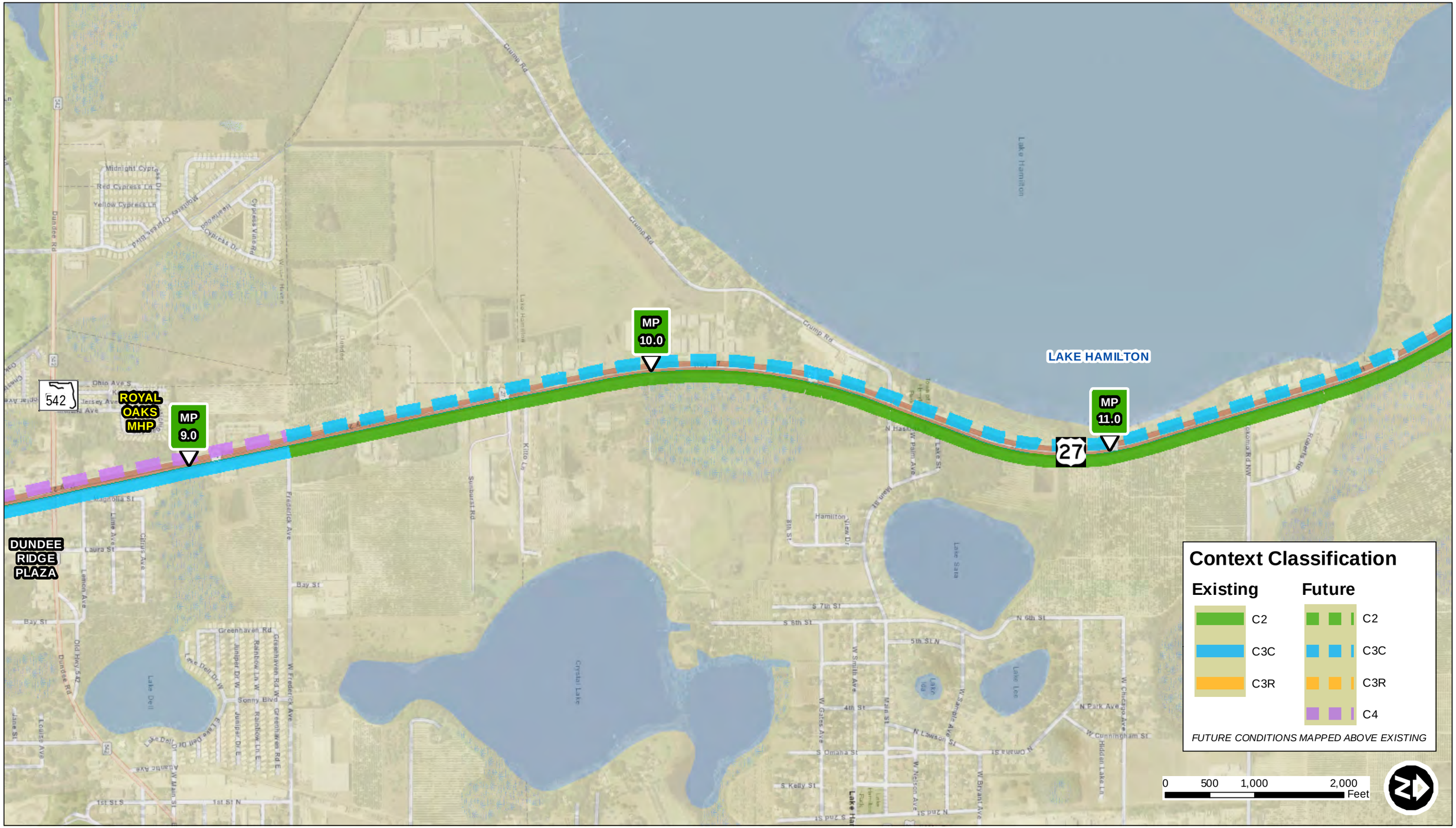
Sheet 3 of 11



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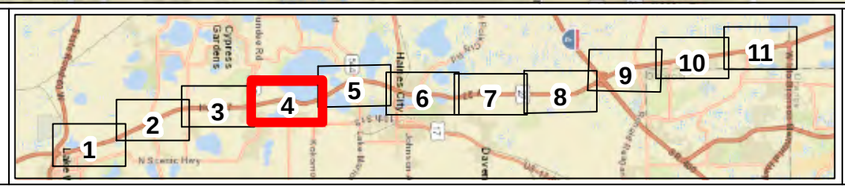
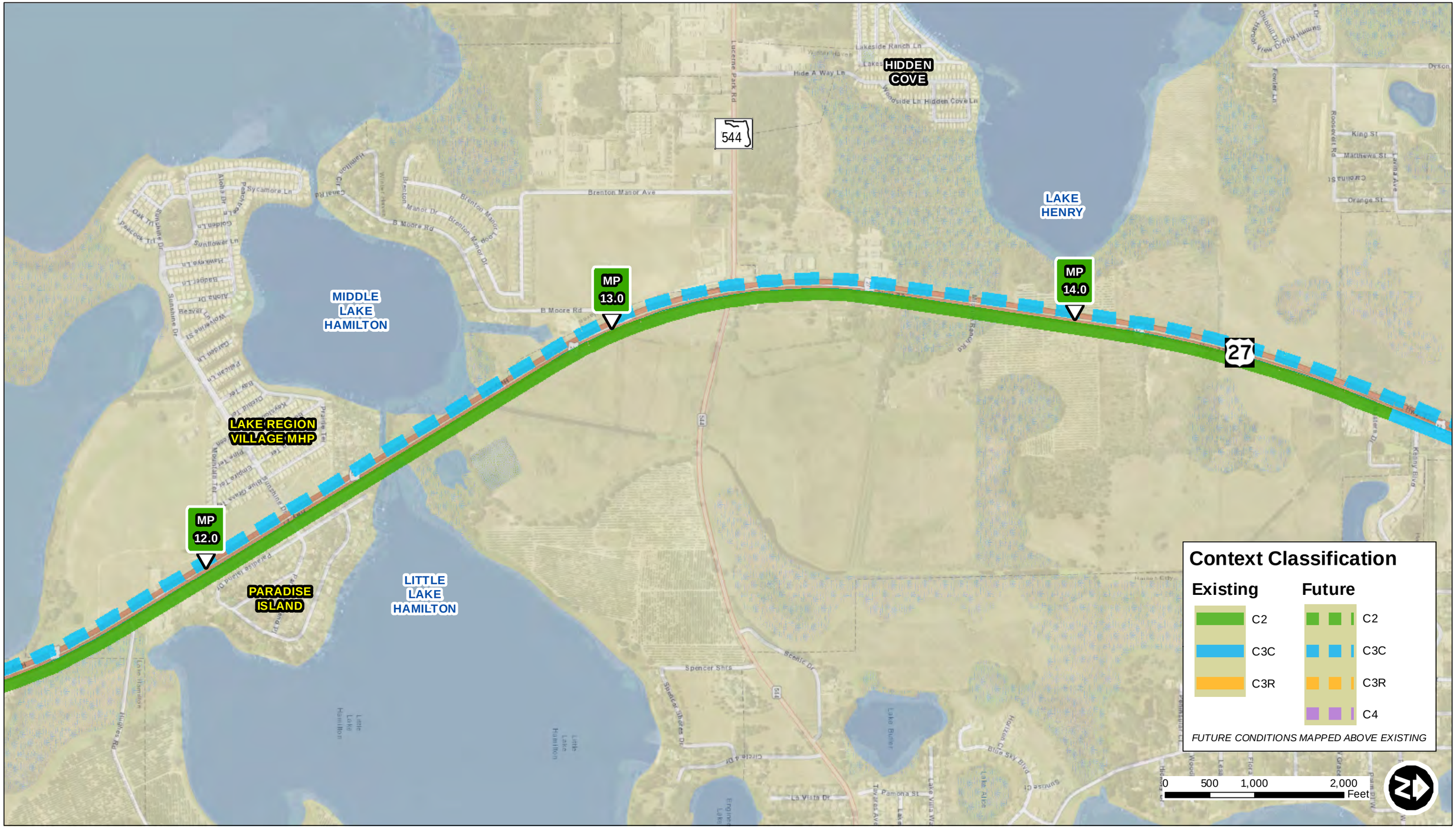


FIGURE 4-14
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 4 of 11



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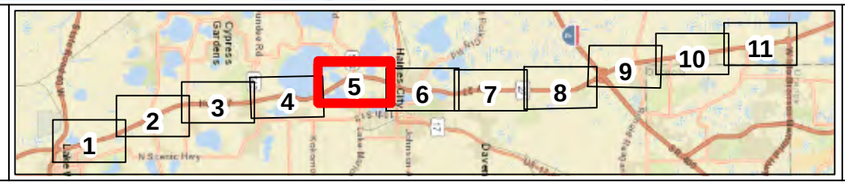
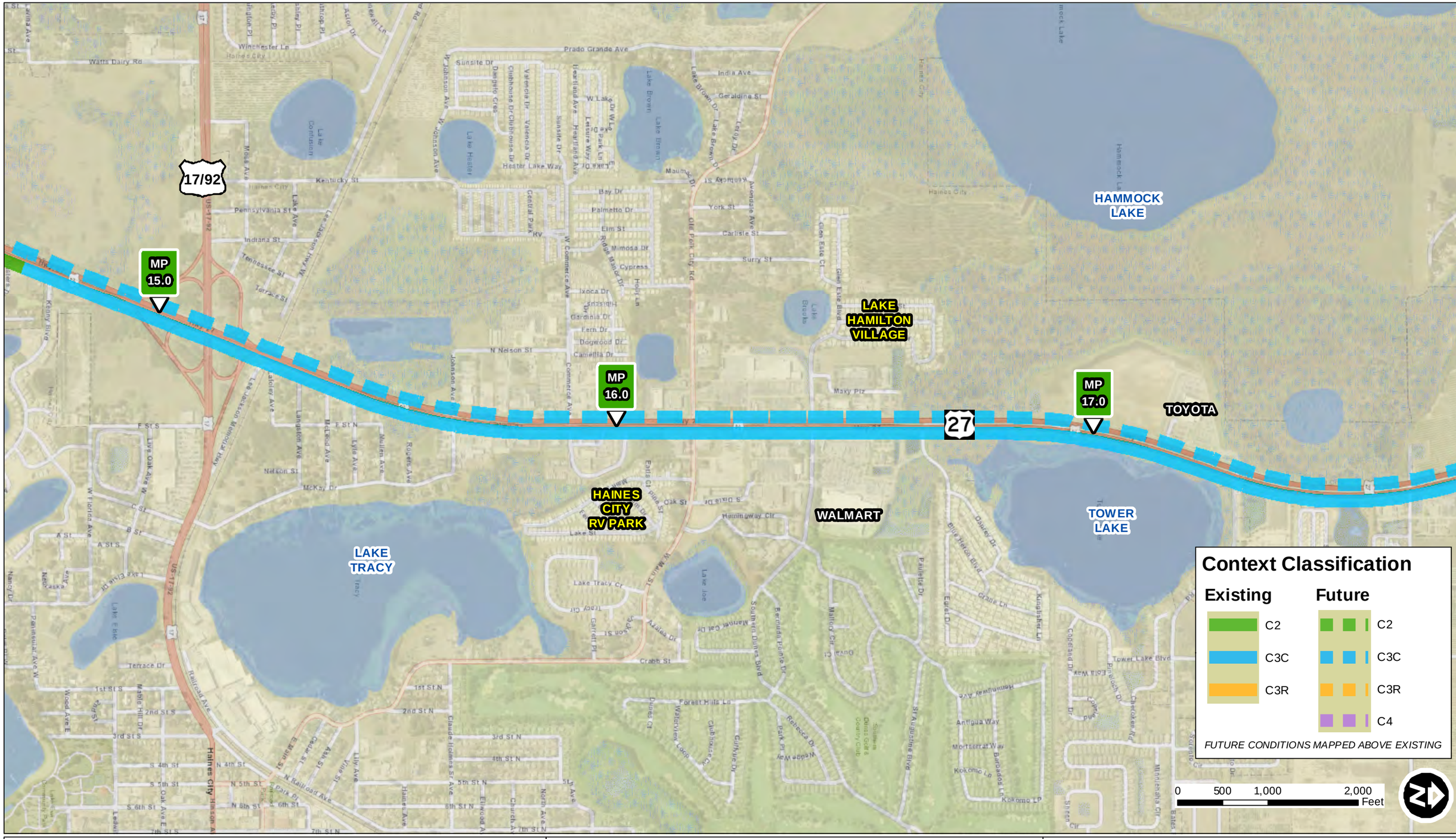
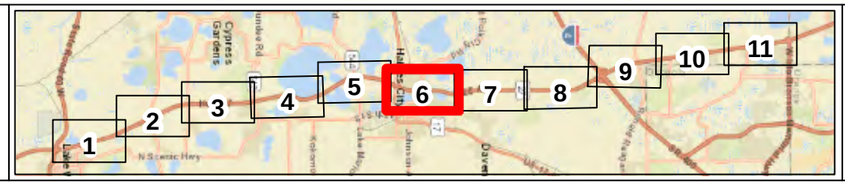


FIGURE 4-14
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 5 of 11





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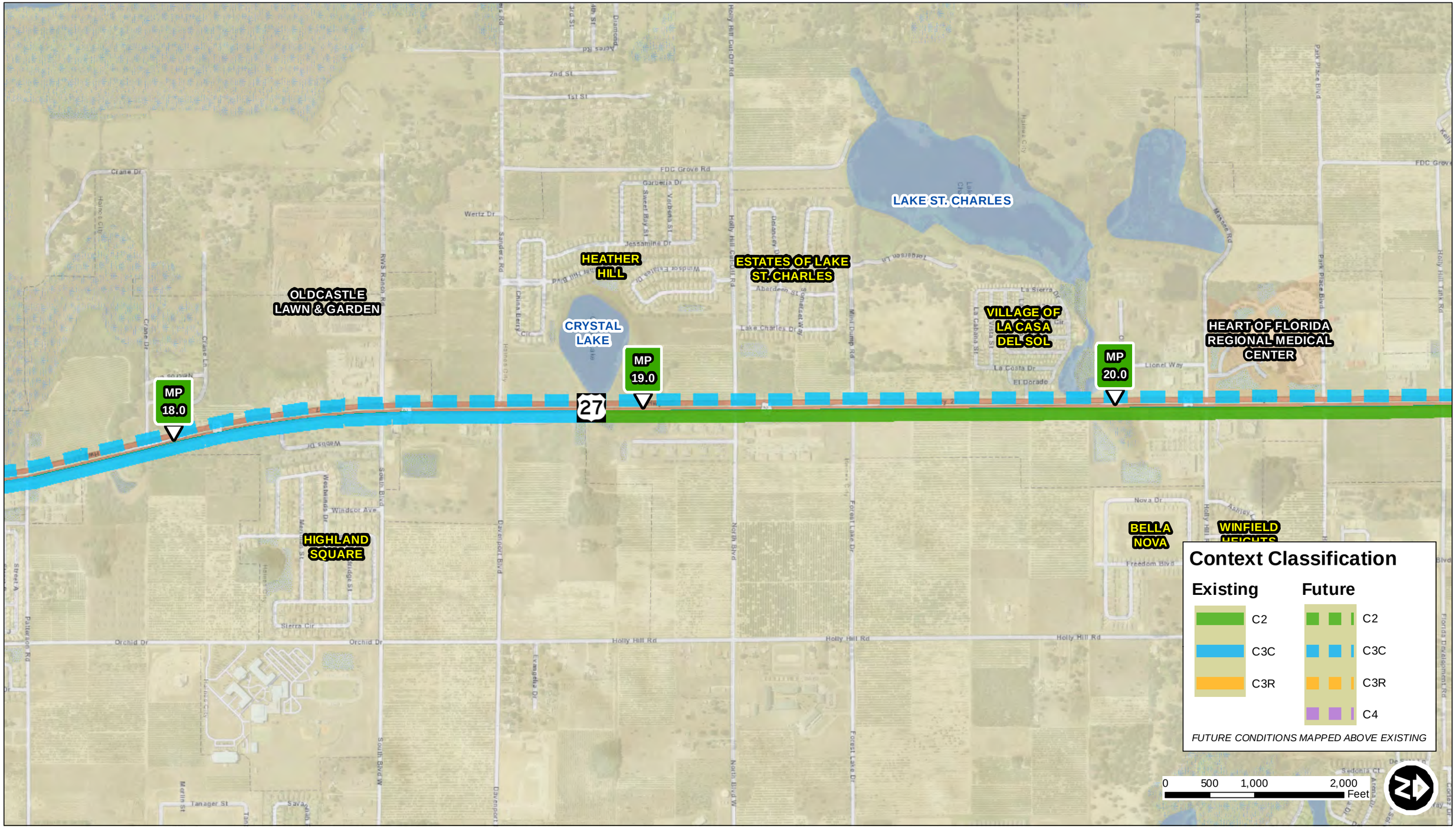
Sheet 6 of 11



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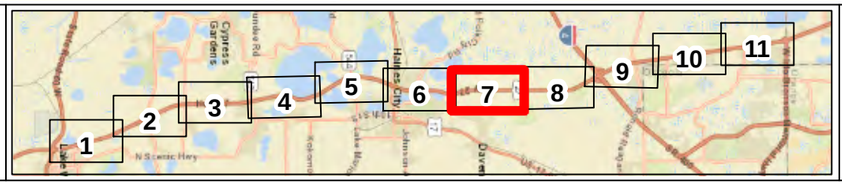

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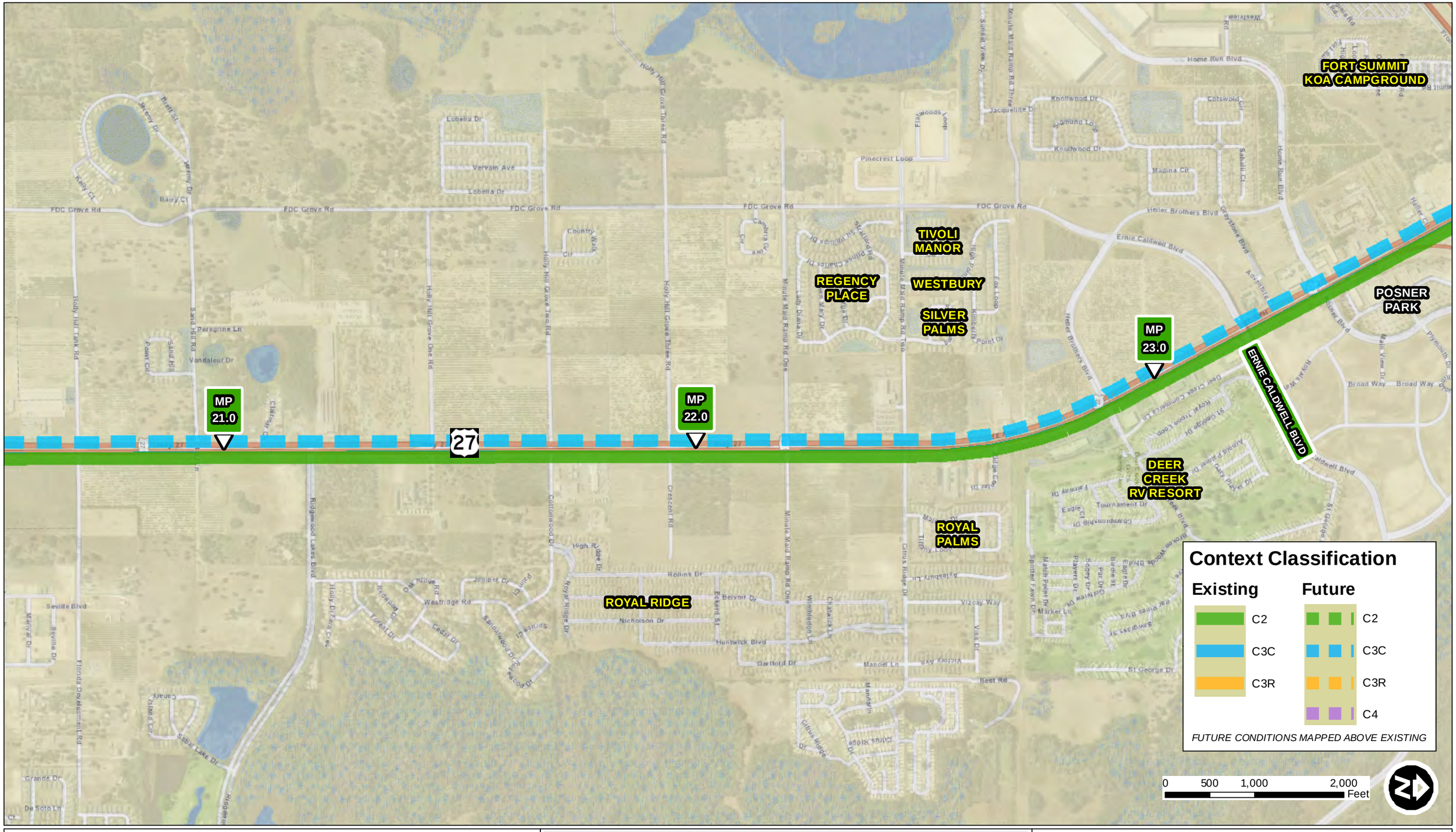
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 7 of 11



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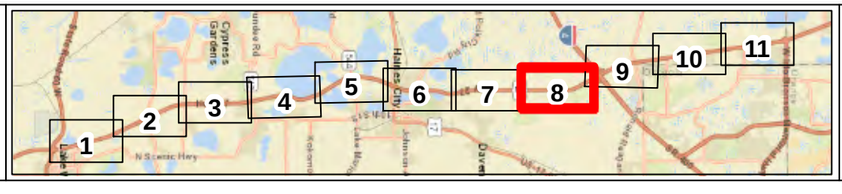

FIGURE 4-14
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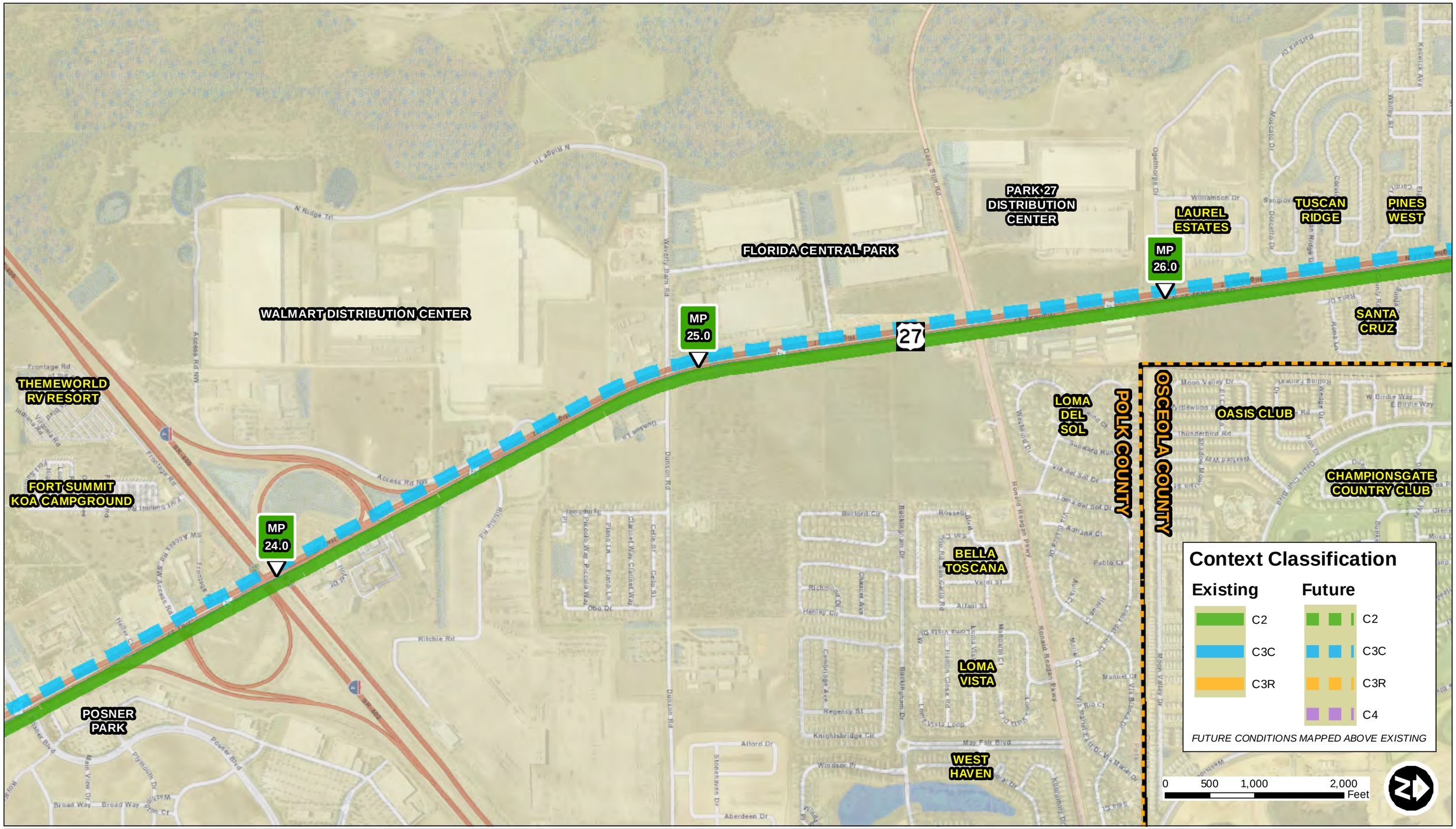
Sheet 8 of 11



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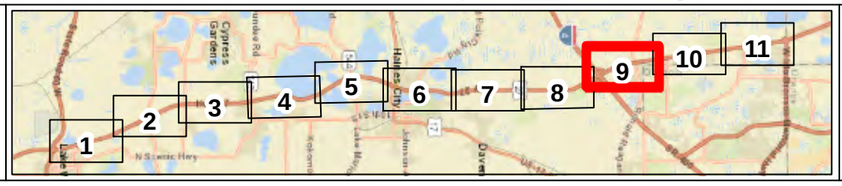

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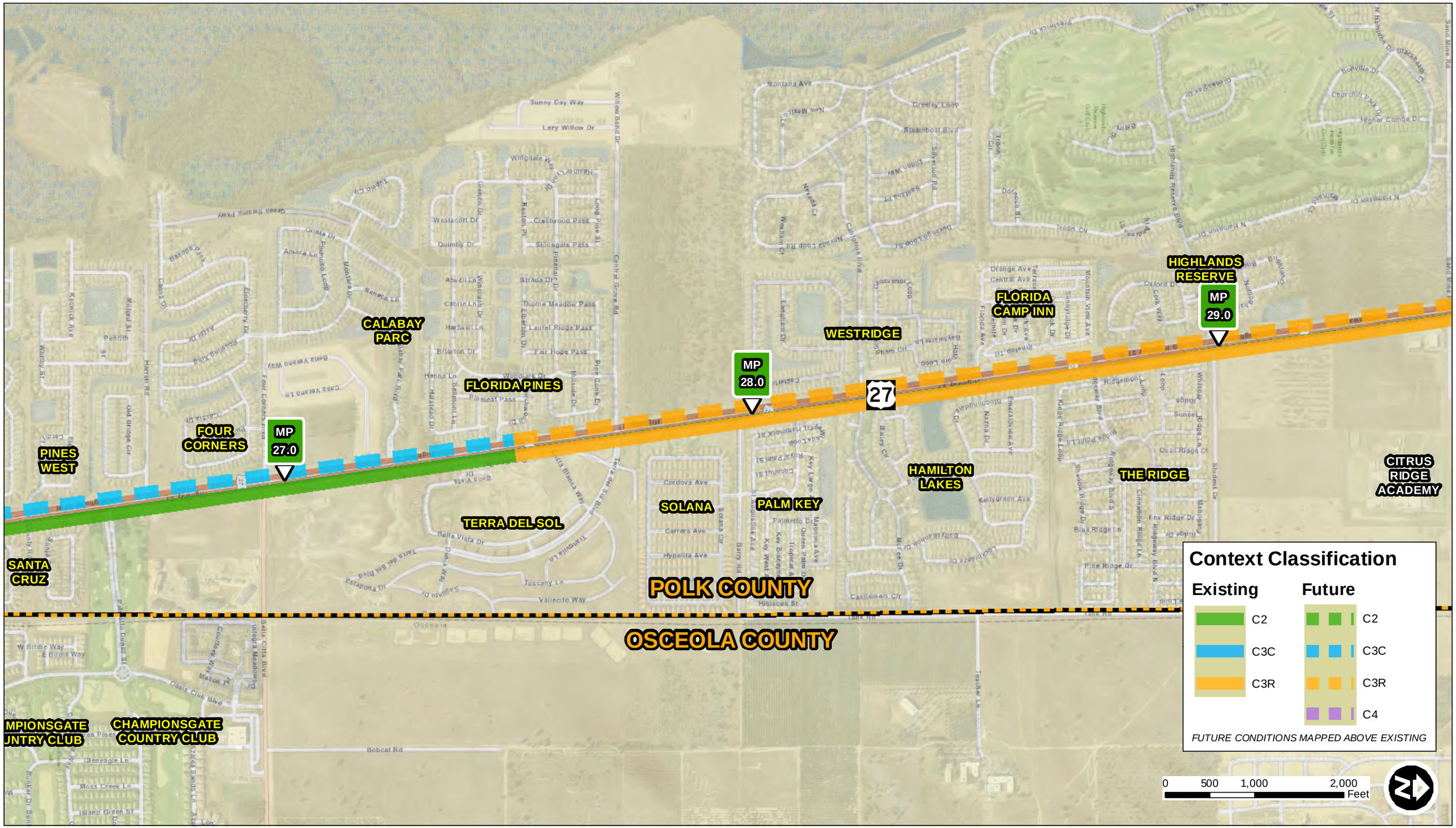
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 9 of 11



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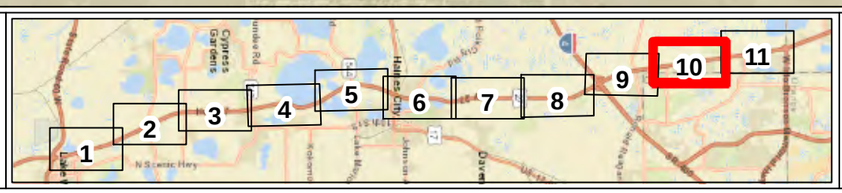
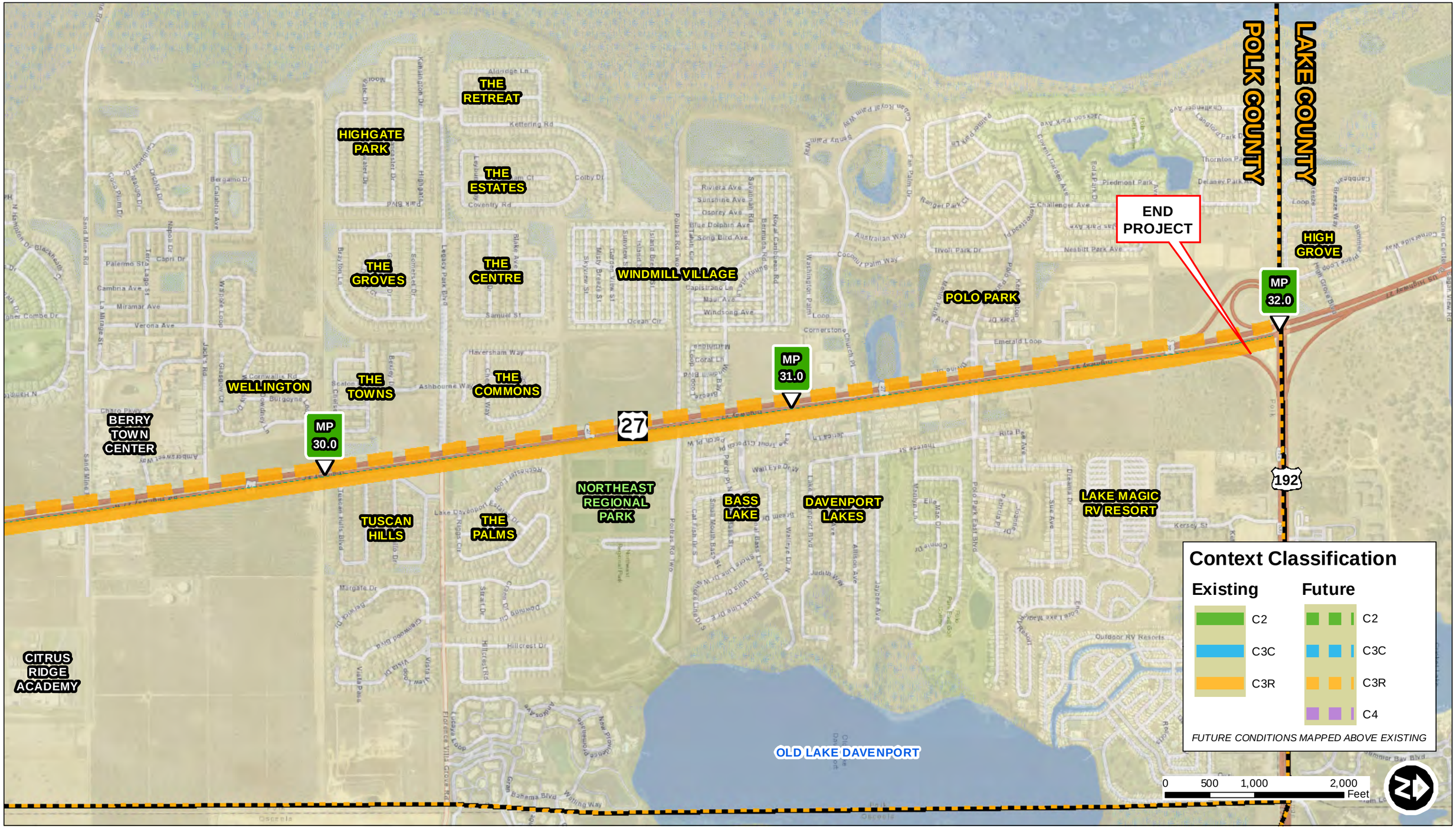


FIGURE 4-14
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 10 of 11



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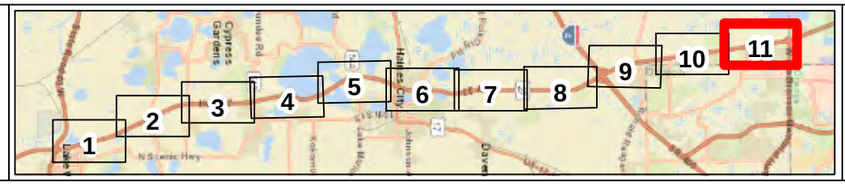


FIGURE 4-14
EXISTING AND FUTURE CONTEXT CLASSIFICATION US 27 CORRIDOR
Sheet 11 of 11

5 PHYSICAL CHARACTERISTICS

5.1 RIGHT-OF-WAY INFORMATION

Right-of-way information was collected using the results of the *US 27 Multimodal Corridor Existing Conditions Data Study* produced by FDOT and dated February 2019. This data provides information on the available existing right-of-way along the US 27 corridor. Due to the length of the corridor, the project is separated into ten segments, as shown in **Table 5-1**.

TABLE 5-1: EXISTING US 27 RIGHT-OF-WAY WIDTHS

Segment No.	Limits of Segment	Existing ROW Width Range
1	SR 60 to CR 540A	193′ – 236′
2	CR 540A to SR 540	200′ – 213′
3	SR 540 to SR 542	200′
4	SR 542 to SR 544	197′ – 229′
5	SR 544 to US 17/92	200′ – 245′
6	US 17/92 to CR 17 (Old Polk City Road)	199′ – 205′
7	CR 17 (Old Polk City Road) to CR 547	200′ – 250′
8	CR 547 to I-4	200′ – 232′
9	I-4 to CR 54 (Ronald Reagan Pkwy)	215′ – 278′
10	CR 54 (Ronald Reagan Pkwy) to US 192	200′ – 262′

Source: FDOT US 27 Multimodal Corridor Existing Conditions Data Study, 2019

5.2 BRIDGE STRUCTURES

Existing bridge structures information was also obtained from the *US 27 Multimodal Corridor Existing Conditions Data Study*. This data provides information regarding the existing structures along the US 27 corridor that can be used during development of alternatives to identify potential impacts to the structures. The details of the existing structures are summarized in **Table 5-2**.

TABLE 5-2: EXISTING US 27 STRUCTURES

Structure Type*	Bridge ID	Facility Crossed	Year Built	Year Reconstructed	Last Inspection	Sufficiency Rating
Underpass	160134	US 27	1966	N/A	8/17/2016	83
Underpass	160018	US 27	1966	N/A	8/25/2017	82
Bridge	160345	CSX R/R	2008	N/A	2/17/2016	90.6
Box Culvert	160150	Peace Creek Slough	1958	2004	2/17/2016	70.4
Box Culvert	160202	Lake Hamilton Creek	1958	2012	2/15/2016	67
Box Culvert	160151	Black Hills Canal	1965	1984	2/10/2016	68.7
Bridge	160301	US 17/92	2000	N/A	2/15/2016	100
Bridge	160140	R/R	Unavailable	Unavailable	Unavailable	Unavailable
Underpass	164536	US 27	2015	N/A	6/20/2017	99.4
Bridge	160320	I-4	2004	N/A	2/25/2016	83.6
Bridge	110940	US 192	1971	N/A	1/4/2017	98
Bridge	110036	US 192	1971	2014	1/4/2017	96.4

Source: FDOT US 27 Multimodal Corridor Existing Conditions Data Study, 2019

5.3 PRIMARY UTILITIES

Utility information for US 27 was also obtained from the *US 27 Multimodal Corridor Existing Conditions Data Study*. Information regarding the existing utilities along the US 27 corridor is shown in **Table 5-3**. This information will be used later during development of alternatives to identify potential conflicts with significant utilities.

TABLE 5-3: EXISTING US 27 PRIMARY UTILITIES

Utility Name	Utility Type	Crossroad/Extent	Parallel/Crossing
AT&T	Fiber Optic	US 17/92	Crossing
Florida Gas Transmission	Gas	Washington Avenue	Crossing
Florida Gas Transmission	Gas	Calabay Parc Boulevard	Crossing
Florida Public Utilities	Gas	US 17/92	Crossing
TECO People's Gas	Gas	County Line Road to US 17/92	Parallel
TECO People's Gas	Gas	Polo Park Boulevard to US 192	Parallel

5.4 DRAINAGE STRUCTURES

The *US 27 Multimodal Corridor Existing Conditions Data Study* also provided existing drainage structure information. Data for the existing major drainage structures (greater than 60 inches) along the US 27 corridor was provided. Eleven concrete box structures were noted in the report. This information will be used later during development of alternatives to identify potential impacts to drainage structures. Additional information from that report regarding these drainage structures is provided in **Appendix H**.

5.5 DRIVEWAYS

Under the Florida Department of Transportation (FDOT) Access Management system, US 27 is currently classified as having either a Class 2 or a Class 3 Access Management Classification along most of the project corridor. The exact segments and their respective classifications are shown below in **Table 5-4**.

FDOT Access Management guidelines state that roadways with a posted speed limit of more than 45 miles per hour (mph) and identified as Class 2 should have driveways spaced at least 1,320 feet apart. Roadways identified as Class 3 should have driveways spaced at least 660 feet apart. Roadways identified as Class 5 should have driveways spaced at least 440 feet apart.

North of the I-4 interchange, US 27 primarily has a Class 3 classification and land use is mostly residential so very few businesses have driveways present. Residences do not have direct driveway access to US 27 and instead have access to intersecting side streets. At the I-4 interchange, US 27 has a Class 2 classification and there are multiple driveways along both sides of US 27, between the interchange ramp terminal intersections. These driveways provide access to restaurants, hotels, and gas stations and are typically spaced between 100 and 300 feet apart.

TABLE 5-4: US 27 FDOT ACCESS MANAGEMENT CLASSIFICATION

US 27 Roadway Segments	FDOT Access Management Classification
US 192 to Poitras Rd 2	Class 2
Poitras Rd 2 to Access Rd	Class 3
Access Rd to south of Home Run Blvd	Class 2
South of Home Run Blvd to Blue Heron Blvd	Class 3
Blue Heron Blvd to W Johnson Ave	Class 5
W Johnson Ave to Frederick Ave	Class 3
Frederick Ave to Lincoln Ave	Class 2
Lincoln Ave to SR 60	Class 3

South of the I-4 interchange, US 27 is classified as Class 3 and driveways are few and far between until the area near Haines City. From Blue Heron Boulevard to W Johnson Avenue, US 27 is classified as Class 5 and driveways are typically spaced about 200 to 500 feet apart. South of Haines City in Dundee, US 27 is classified as Class 2 and driveways are typically spaced about 100 to 300 feet apart. In Lake Wales, driveways are spaced further apart than other areas. From Market Boulevard/Star Lake Drive, US 27 is classified as Class 3 and driveways are typically spaced about 300 to 600 feet apart.

Many segments have multiple driveways which do not meet the current spacing standards. Safe access to and from US 27 now and in the future is a concern along the corridor.

6 EXISTING CORRIDOR OPERATIONS SUMMARY

6.1 REGIONAL TRAVEL PATTERNS

Existing Origin-Destination information obtained from StreetLight data was used to identify and summarize existing regional travel patterns of all vehicles entering and exiting US 27 and/or the study area. The zones defined in *Section 3.6* as well as larger sub-regional zones were used for the following O-D analyses.

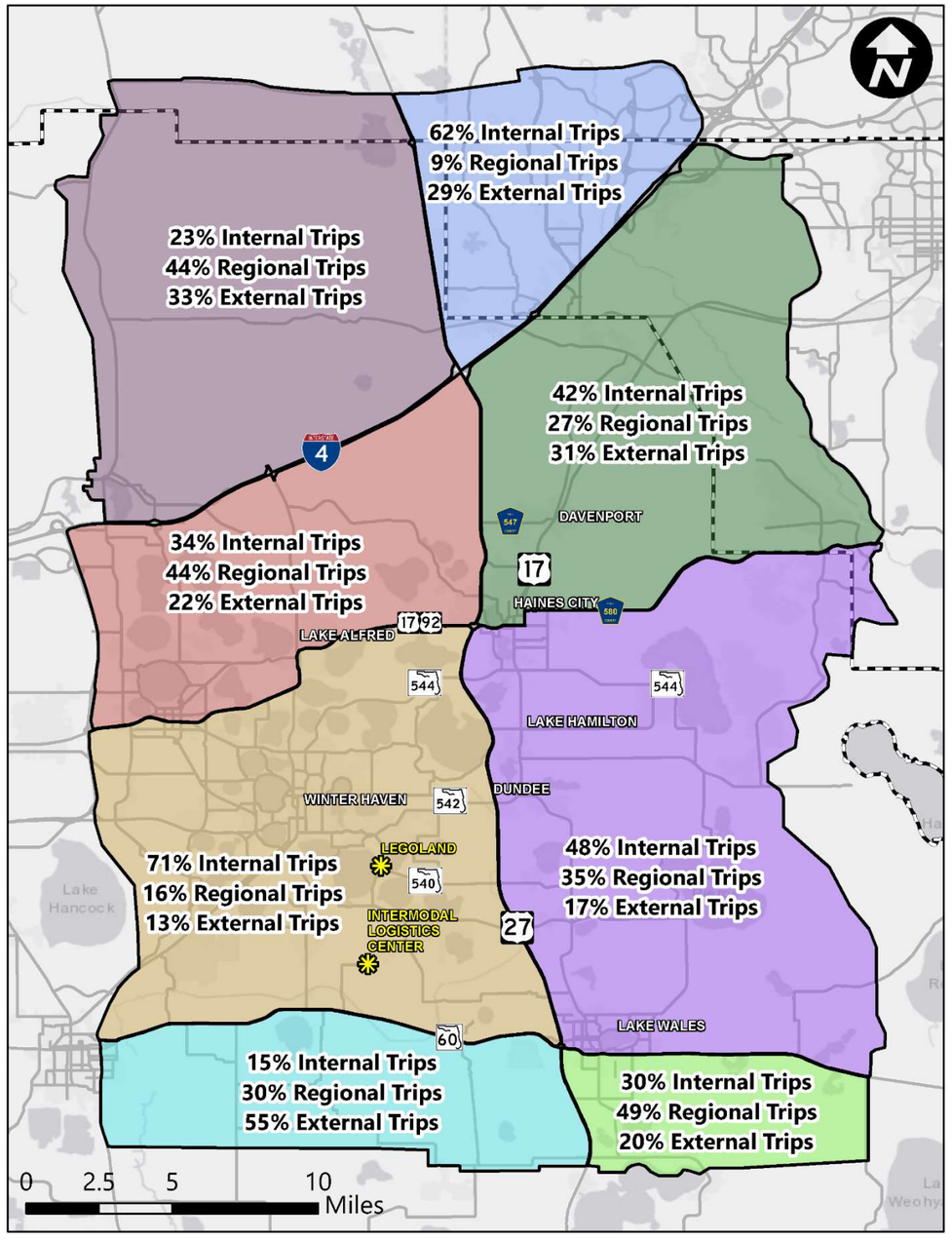
6.1.1 Sub-Regional Zones

The sub-regional zones map (**Figure 6-1**) depicts trip patterns within, between, and out of eight defined sub-regional zones adjacent to US 27.

- Internal trips: Trips that begin in that sub-regional zone and end in that sub-regional zone
- Regional trips: Trips that begin in that sub-regional zone and end in another one of the 8 sub-regional zones
- External trips: Trips that begin in that sub-regional zone and end outside of all 8 sub-regional zones

The light blue zone in the south-west corner has the highest (55%) external trips that are destined outside all 8 sub-regional zones. The tan zone which encompasses LEGOLAND and the Central Florida ILC, has the largest percentage of internal trips (71%), followed by the blue zone in the north-east corner with 62%. This indicates that these zones have a high internal capture and generate a lower percentage of trips that need to travel outside of that zone. This could indicate that more people are able to live and work within the same area, and their trips to work, school, or to the store can be more easily satisfied closer to home. The higher percentage of internal trips could also be related to the geographical size of the sub-regional zone. A trip of 10 miles within this zone could be considered an internal trip while a trip of the same distance could be considered an external trip in a smaller zone. Most of the 8 sub-regional zones show between 27% to 49% of their trips are traveling to one of the other 7 sub-regional zones.

FIGURE 6-1: SUB-REGIONAL ZONES ORIGIN-DESTINATION MAP



6.1.2 Northbound US 27 Pass-Through (Daily)

The "northbound US 27 pass-through" O-D data includes daily trips originating on US 27 south of SR 60. Of the many possible destination zones, this dataset includes I-4 west of US 27, I-4 east of US 27, and US 27 north of US 192 as destinations in order to evaluate the proportion of trips traveling the entirety of US 27 from SR 60 to the I-4 interchange.

As depicted in **Figure 6-2**, 9% of all trips originating on US 27 south of SR 60 proceed east on I-4, while 1.5% of trips proceed north on US 27 and only 0.2% of trips proceed west on I-4. Of the northbound trips traversing the length of US 27 from south of SR 60 to the I-4 interchange, the majority continue east on I-4 rather than traveling north on US 27 or west on I-4.

6.1.3 Southbound US 27 Pass-Through (Daily)

The "southbound US 27 pass-through" O-D data includes daily trips originating on US 27 north of US 192. Of the many possible destination zones, this dataset includes I-4 west of US 27, I-4 east of US 27, and US 27 south of SR 60 as destinations in order to evaluate the proportion of trips on US 27 north of US 192 traveling to other major regional roadway destinations within the study area.

As depicted in **Figure 6-3**, of the southbound trips on US 27 beginning north of US 192, 56.7% proceed east on US 192, while 3.3% proceed west on I-4, and less than one percent proceed east on I-4 and south on US 27 past SR 60. Thus, of trips originating on US 27 north of US 192, more than half continue east on US 192.

6.1.4 Northbound US 27 at I-4 AM Peak Period

The northbound US 27 at I-4 AM Peak Period O-D data includes trips originating on US 27 south of I-4. This dataset, depicted in **Figure 6-4**, considers three destinations:

- I-4 east of US 27
- I-4 west of US 27
- US 27 north of Ronald Reagan Parkway

Of the northbound vehicles originating on US 27 south of the I-4/US 27 interchange, the majority (51.3%) proceed east on I-4, while 13.2% continue north on US 27 and few (3.2%) proceed west on I-4. Thus, it can be inferred that a great deal of AM peak period traffic on northbound US 27 is bound for the Orlando area, east of the study area.

6.1.5 Westbound I-4 at US 27 PM Peak Period

The westbound I-4 at US 27 PM peak period O-D data includes trips originating on I-4 east of US 27. This dataset, depicted in **Figure 6-5**, considers three destinations:

- US 27 north of I-4
- US 27 south of I-4
- I-4 west of US 27

Of the westbound vehicles originating on I-4 east of the I-4/US 27 interchange, the majority (68.7%) continue west on I-4, while 18.8% proceed south on US 27 and few (0.3%) proceed north on US 27. Thus, it can be inferred that a significant portion of westbound traffic on I-4 diverts to US 27 south, which is supported by the traffic counts and field reviews conducted in support of this study.

FIGURE 6-2: NORTHBOUND US 27 PASS-THROUGH (DAILY) MAP

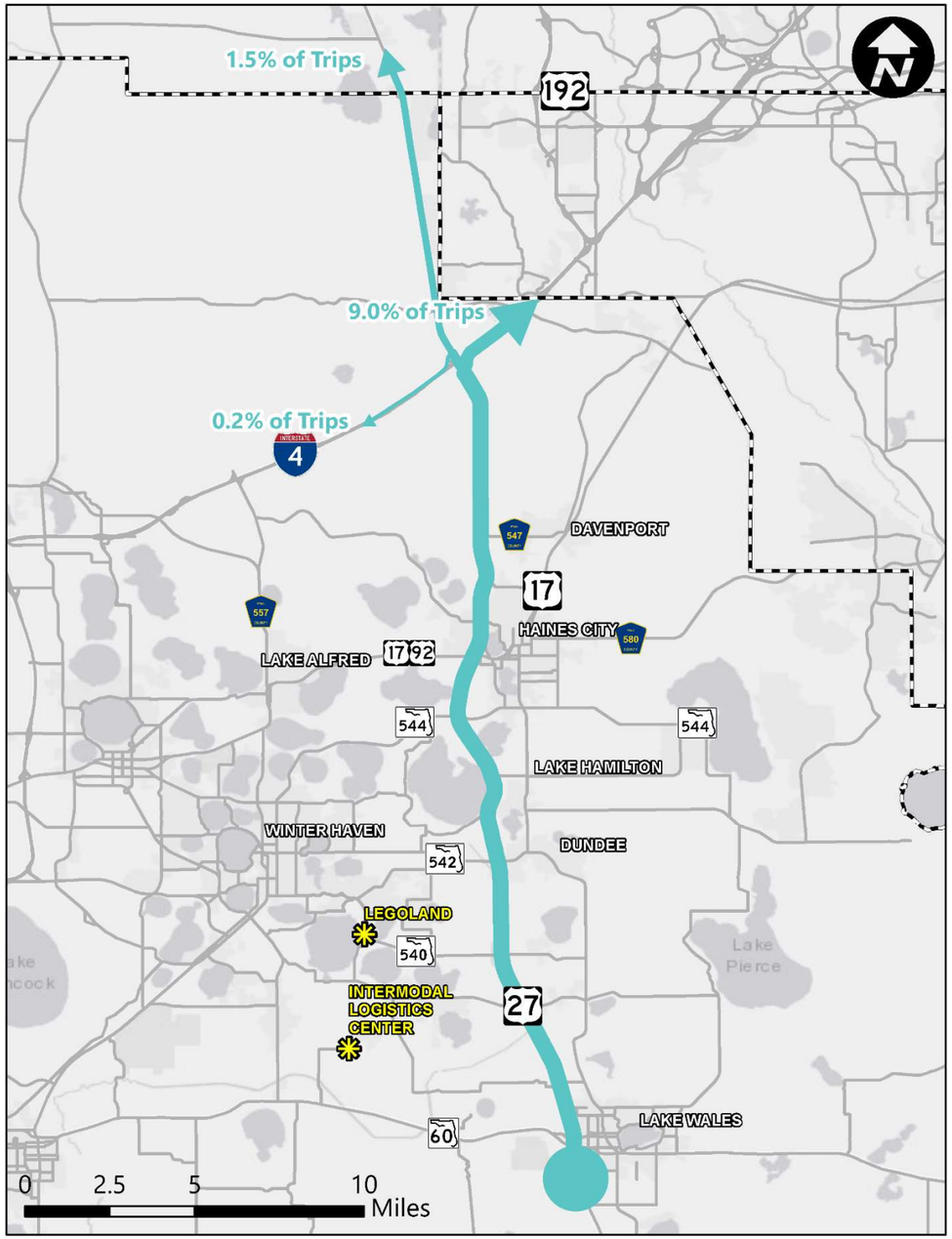


FIGURE 6-3: SOUTHBOUND US 27 PASS-THROUGH (DAILY) MAP

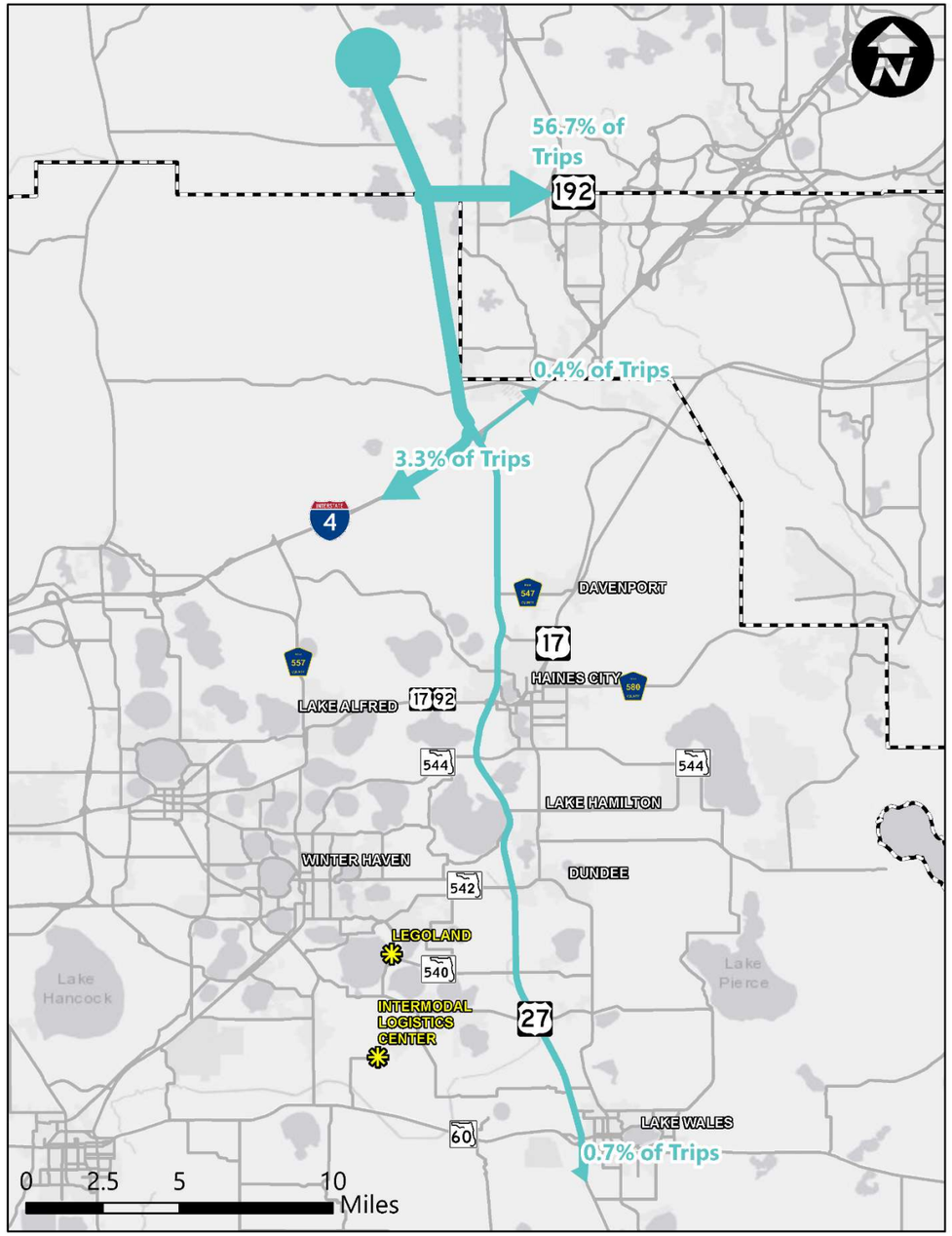


FIGURE 6-4: NORTHBOUND US 27 AT I-4 AM PEAK PERIOD MAP

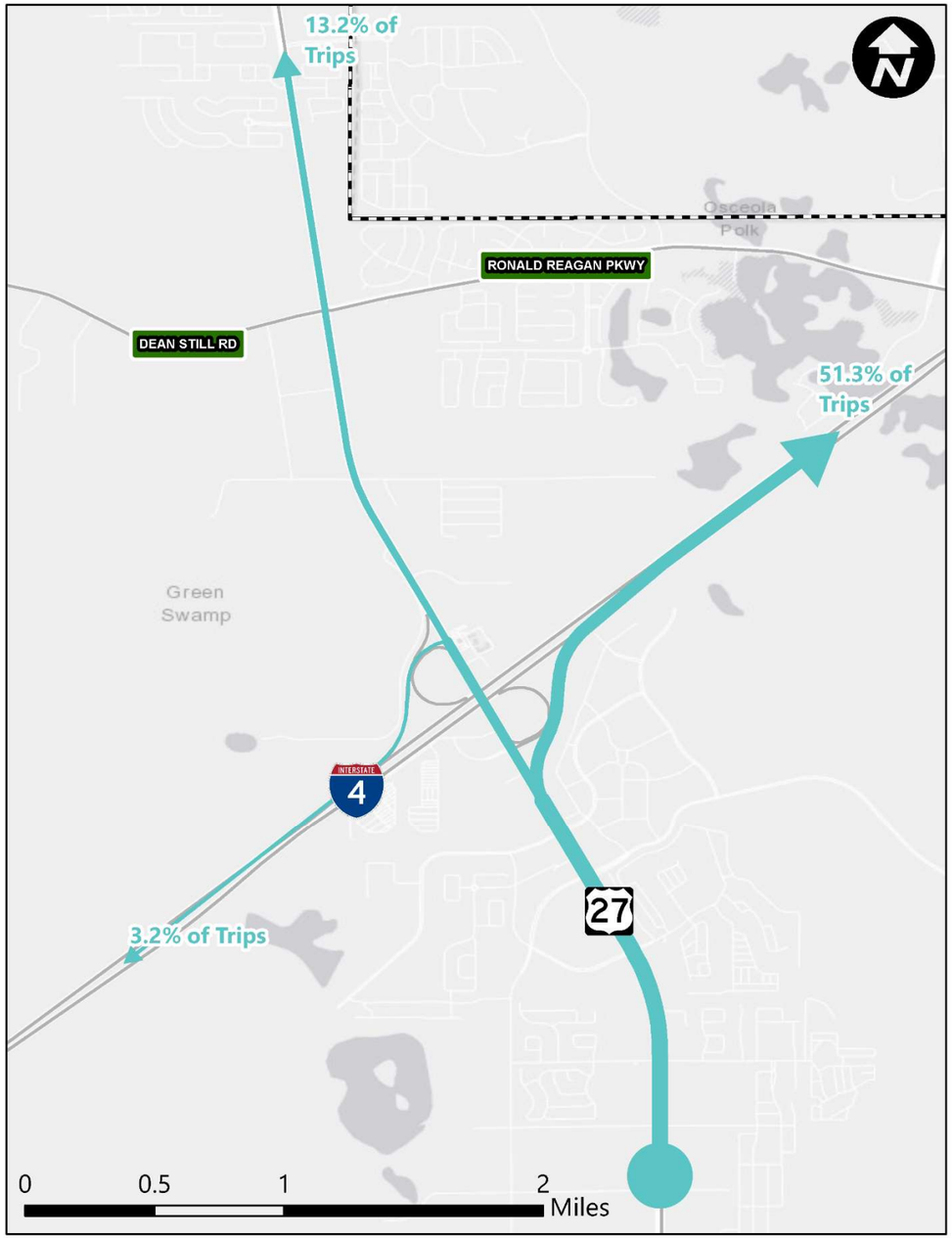
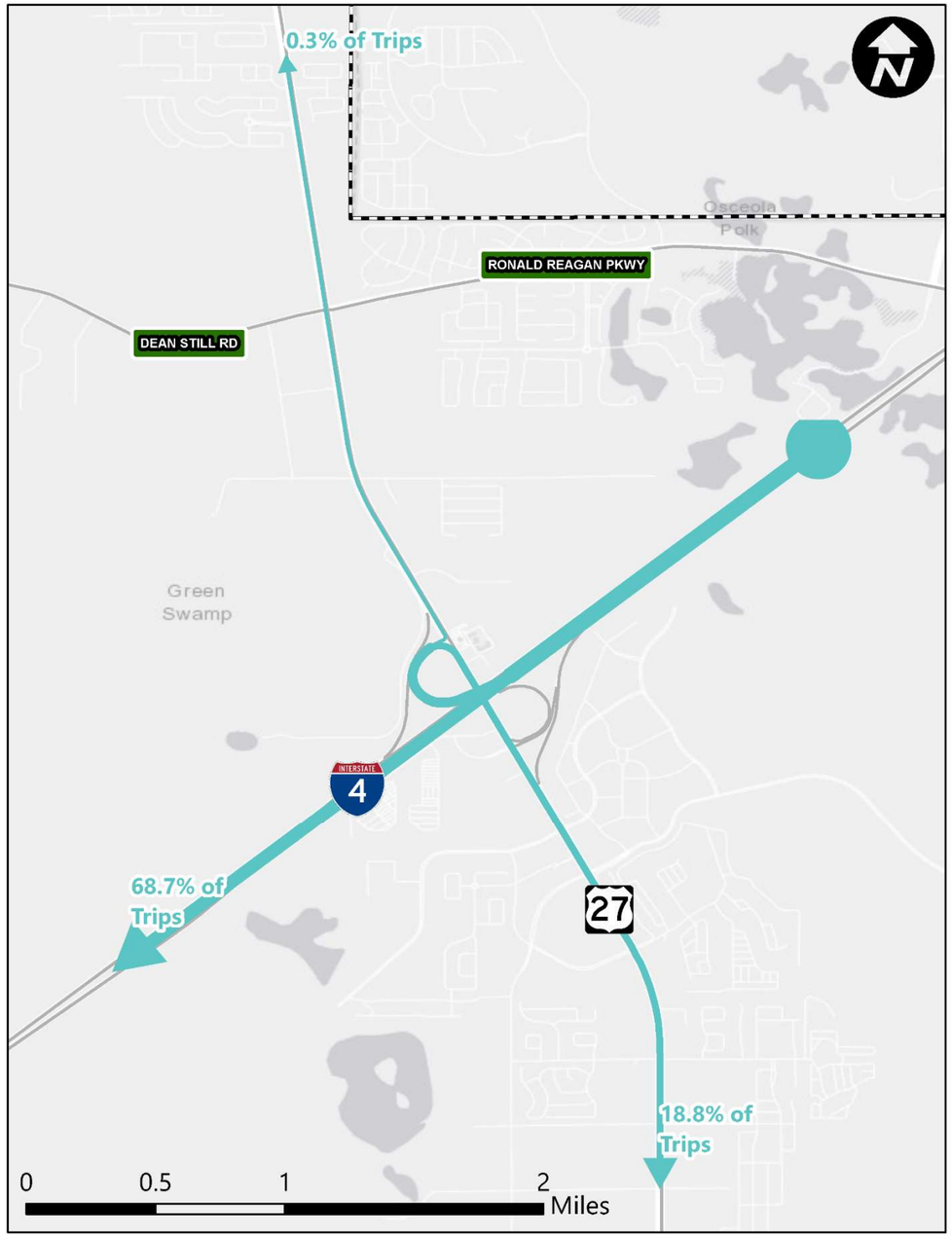


FIGURE 6-5: WESTBOUND I-4 AT US 27 PM PEAK PERIOD MAP



6.2 ROADWAY ANALYSIS

A variety of existing available data sources were utilized in order to identify congested roadway segments. These data sources include the following:

- Recent available FDOT traffic forecasting reports and operational analysis reports for US 27 (**Appendix A**)
- Twenty-four-hour tube counts and AM and PM peak hour turning movement counts collected along the US 27 corridor in 2018 for the study (**Appendix C**)
- The most recent (2018) annual Level of Service (LOS) report for state highways within Polk County available from FDOT District One (**Appendix I**)
- INRIX real-time traffic data from mobile devices
- Google Traffic™ real-time screen captures for "Typical Peak Hour Traffic" congestion during weekday AM and PM peak hours

6.2.1 Existing Traffic Conditions

Existing traffic conditions for the study area were assessed based on three types of analyses.

The US 27 roadway segment LOS analysis, and study intersection AM and PM peak hour LOS analysis, was conducted using recent available traffic count data from FDOT, and supplemented with 2018 traffic counts collected along the US 27 corridor for the study. The results of the US 27 segment LOS analysis and intersection LOS analysis are presented in Sections 6.2.2 and 6.2.3., respectively.

In addition, congestion assessments were completed for the US 27 corridor between SR 60 and US 192 based on RITIS INRIX data and Google Traffic. The results are presented in Section 6.2.4.

For state highways other than US 27 within the northeast Polk County regional study area, the FDOT District One 2018 annual LOS report was reviewed and the daily 2018 LOS results for state highways within the regional study area were summarized in Table I-1 in **Appendix I**. According to the report, SR 60 within the study area is shown to operate at LOS D or better. SR 540 primarily operates at LOS D or better, except for one segment at LOS F from 1st Street to 9th Street. SR 542 operates at LOS D or better, except for one segment from US 27 to CR 550. SR 544 operates at LOS D or better. US 17/92 operates at LOS D or better except for two segments: 1) from SR 17 to 17th Street, and 2) from Mckeown Avenue to 12th Street. I-4 operates at LOS F east and west of US 27.

6.2.2 Existing Conditions US 27 Roadway Segment LOS Analysis

In order to evaluate roadway segment Levels of Service, US 27 was divided into 13 segments within the study limits. The segmentation was based on a segment to segment AADT variance of 10% or more. For each segment, the highest AADT value was used in conjunction with the FDOT Generalized Level of Service tables and roadway characteristics in order to ascertain the segment LOS. The roadway segment LOS calculations are included in **Appendix J**. **Figure 6-6** depicts the segment Levels of Service as well as AADT values for each segment.

Based on the 2018 AADTs collected for the study corridor and shown in Figure 6-6, the segments of US 27 that are shown to be operating below the FDOT LOS target (LOS D for an urbanized area), are as follows:

- US 27 from Ridge Center Drive to Heller Bros Boulevard/Deer Creek Boulevard (LOS F)
- US 27 from Heller Bros Boulevard/Deer Creek Boulevard to I-4 (LOS F)

Legend

Segment LOS

Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D

LOS F

X,XXX Existing AADT (2018)

THE VANGUARD SCHOOL

TOWER POINT APARTMENTS

WEIKERT FORD

TOWER LAKES

TOWERWOOD

FLORIDA'S NATURAL GROWERS

FLORIDA'S NATURAL GROWERS

BEGIN PROJECT

Washington Ave

W Central Ave

E Mountain Lake Cutoff Rd

230

1,300

470

340

33,000

37,000

7,100

2,200

33,000

33,000

4,900

3,400

7,300

22,500

3,700

2,100

5,000

1,400

32,000

5,700

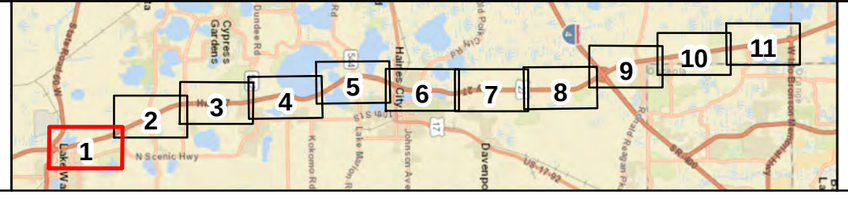
5,700

8,500

3,500

25,500

0 500 1,000 2,000 Feet



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 1 of 11

Legend

Segment LOS — Annual Average Daily Traffic Volumes (AADTs)

- LOS C
- LOS D — X,XXX — Existing AADT (2018)
- LOS F

Thompson Nursery Rd

Chalet Suzanne Rd

CARLTON ARMS APARTMENTS

SUNSHINE FLEA MARKET

HOME DEPOT

PEDALERS POND

SHOPPES ON THE RIDGE

EAGLE RIDGE MALL

LOWE'S

24,500

34,500

40,000

5,200

2,200

3,100

9,700

38,500

12,000

36,000

36,000

38,500

3,200

9,900

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

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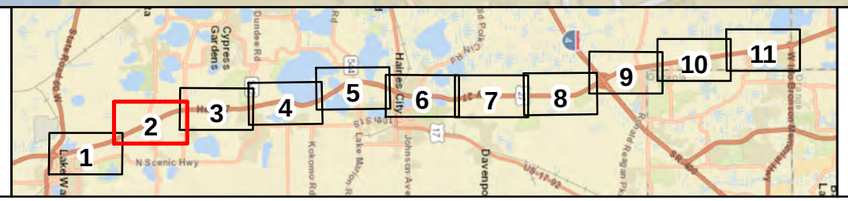


FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 2 of 11

Legend

Segment LOS

Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D — X,XXX Existing AADT (2018)

LOS F

20,000

21,000

CYPRESSWOOD GOLF & COUNTRY CLUB

20,000

FROZEN FOOD EXPRESS

33,500

37,500

36,000

24,500

40,000

34,500

5,200

760

GARDEN GATE

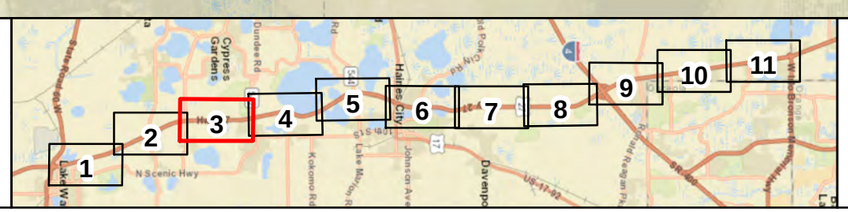
14,000

DUNDEE RIDGE PLAZA

PEACE CREEK RV PARK

Lincoln Ave

0 500 1,000 2,000 Feet



NORTHEAST POLK US 27 Mobility Study

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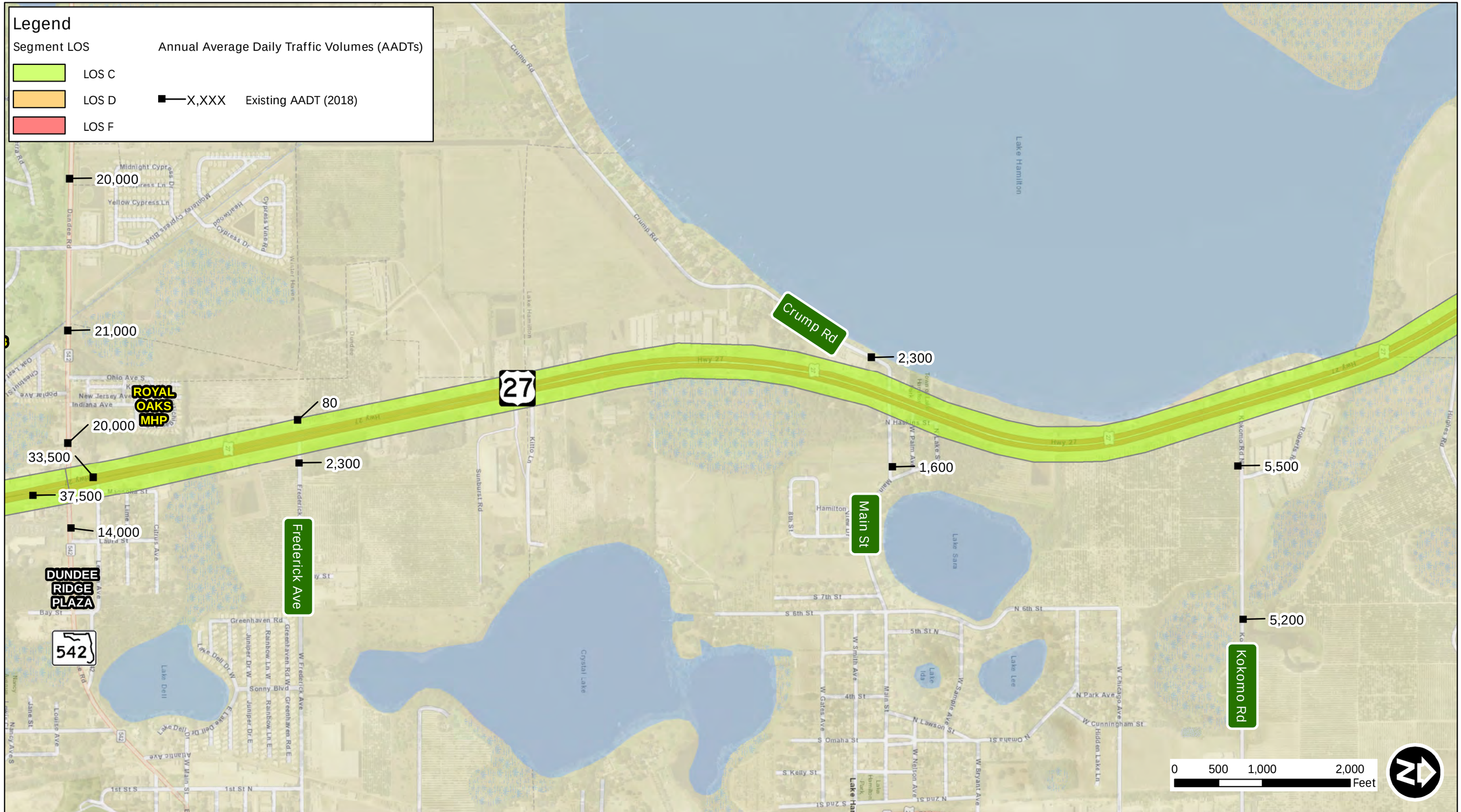
FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE



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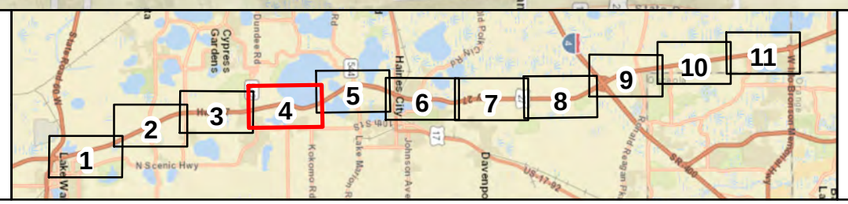

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 4 of 11

Legend

Segment LOS — Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D — X,XXX — Existing AADT (2018)

LOS F

21,000

19,500

40,000

48,000

9,900

48,000

1,300

740

37,500

11,500

27

544

HIDDEN COVE

LAKE REGION VILLAGE MHP

PARADISE ISLAND

Sunshine Dr

Brenton Manor Ave

B Moore Rd

Lucerne Park Rd

Lakeside Ranch Ln

Hide A Way Ln

Hidden Cove Ln

Dyson Rd

King St

Matthews St

Orange St

Spencer Shrs

Scenic Dr

Pamona St

La Vista Dr

Peninsular Dr

Haines City

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

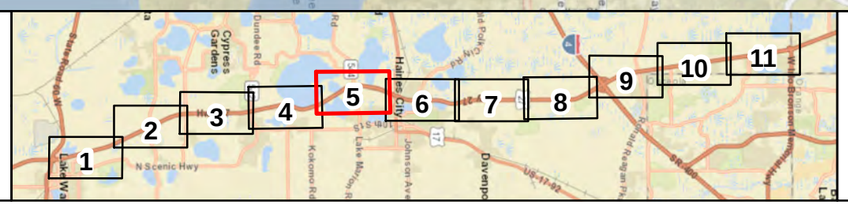

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 5 of 11

Legend

Segment LOS

Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D

LOS F

X,XXX Existing AADT (2018)

26,000
4,200
2,500
2,300
3,200
48,000
2,700
2,100
51,000
4,100
3,600
1,300
3,000
4,500
11,500
5,700
52,500
1,200
55,000
6,700
7,200
710
51,500
56,500
13,000
2,200
12,500

Commerce Ave

Old Polk City Rd

W Main St

Bates Rd

Patterson Rd

LAKE HAMILTON VILLAGE

TOYOTA

HAINES CITY RV PARK

WALMART

WEST VIEW RIDGE

27

17 92

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

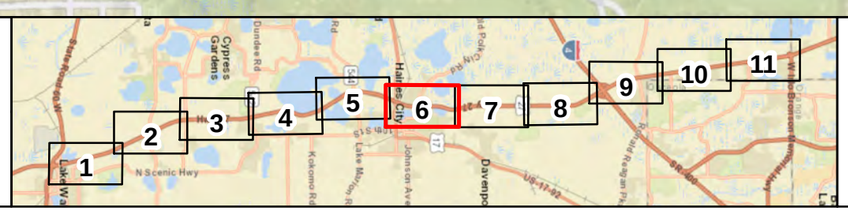

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 6 of 11

Legend

Segment LOS

Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D

LOS F

X,XXX Existing AADT (2018)

RWS Ranch Rd

Sanders Rd

Holly Hill Cutoff Rd

Massee Rd

Holly Hill Tank Rd

Florida Development Rd

Patterson Rd

South Blvd

Davenport Blvd

North Blvd

Holly Hill Rd

OLDCASTLE LAWN & GARDEN

HEATHER HILL

ESTATES OF LAKE ST. CHARLES

VILLAGE OF LA CASA DEL SOL

HEART OF FLORIDA REGIONAL MEDICAL CENTER

HIGHLAND SQUARE

BELLA NOVA

WINFIELD HEIGHTS

2,200

900

3,700

54,500

2,300

57,500

10,500

11,000

1,800

1,700

720

54,500

3,600

57,000

6,000

3,000

60,000

180

1,300

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

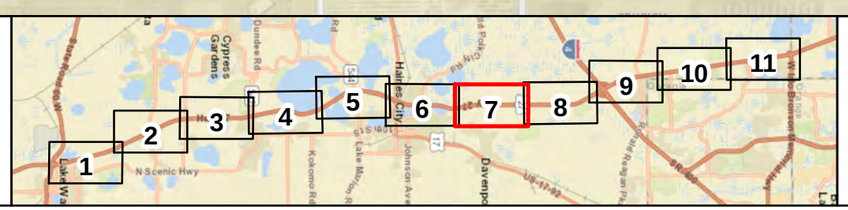

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
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FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 8 of 11

Legend

Segment LOS — Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D — X,XXX — Existing AADT (2018)

LOS F

Waverly Barn Rd

Deen Still Rd

Dunson Rd

Ronald Reagan Pkwy

Victor Posner Blvd

N Ridge Trl

Access Rd NW

Frontage Rd

Ritchie Rd

Broad Way

Williamson Dr

Moon Valley Dr

Thunderbird Rd

Sunward Run

Via del Sol Dr

Loma del Sol Dr

Burford Cir

Buckingham Dr

Richmond Dr

Chaucer Ave

Henley Cir

Cambridge Ave

Regency St

Knightsbridge Cir

Alford Dr

Windsor Pl

May Fair Blvd

Verdi St

Allani St

Pablo Ct

Hazard St

Observer Ln

Tempo Ln

Flange Dr

Plunker Dr

Sandbagger Dr

Slice Way

Dodleg Dr

Sand Trap Dr

Leaderboard Ln

Oasis Club Blvd

Bunker Dr

Stinger Dr

Multigan Blvd

Mickelson Ct

Clubman Dr

Moss Creek

Island Green

Gleneagles

Sea Pines

Champions Gate

Dove Valley Way

Oasis Club Dr

Duece Cir

Rolling Fairway Dr

Wedge Dr

W Birdie Way

E Birdie Way

Myrtlewood St

Oak Ridge Rd

Barbara Dr

Keswick Ave

Whitby St

Moscato Dr

Dogethorpe Dr

Sangiovese Dr

Dolcetto Dr

Corvina Ridge Dr

Ponte Vedra Dr

Rona Dr

Rona Ln

Ponte Vedra Ln

Via Mariel Dr

Via Mariel East Dr

Via Bianca Dr

Manuel Ct

Via Rio Ct

Mariel Ct

Via Mariel Ct

Loma Vista Loop

Loma Vista Dr E

Loma Vista Dr W

Loma Vista Close Rd

Hamlin Ct

Mandarin Ct

Loma del Sol Ct

Adriana Ct

Rosselli Blvd

San Carlo Ct

Rio Rd

San Gario Rd

Piccolo Way

Piano Ln

Clarinet Way

Symphony Pl

Obo Dr

Dunson Ln

Stonehaven Dr

Folk

Osceola

Access Rd SW

Heller Ct

Main View Dr

Plymouth Dr

Washington Dr

Gron Ct

Rolls Way

Fort Summit Rd

SW Access Rd

Virginia Rd

Indiana Rd

Lookout Rd

Fort Summit Blvd

SR 400

Hwy 27

US Highway 27 N

Highway 27

PARK 27 DISTRIBUTION CENTER

FLORIDA CENTRAL PARK

WALMART DISTRIBUTION CENTER

LAUREL ESTATES

TUSCAN RIDGE

PINES WEST

SANTA CRUZ

THEMEWORLD RV RESORT

FORT SUMMIT KOA CAMPGROUND

POSNER PARK

LOMA DEL SOL

OASIS CLUB

BELLA TOSCANA

LOMA VISTA

WEST HAVEN

CHAMPIONSGATE COUNTRY CLUB

1,500

1,300

4,400

810

2,800

18,500

5,100

1,800

3,100

5,200

20,500

41,500

33,500

2,900

2,100

4,800

3,700

20,000

8,100

71,500

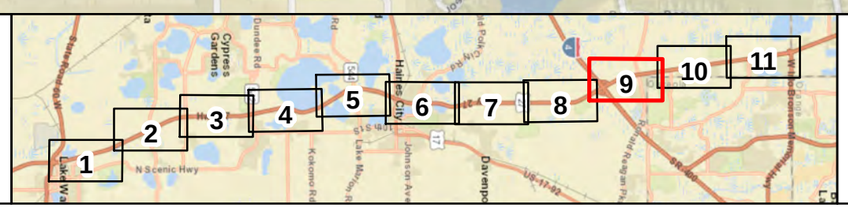
2,900

57,500

12,500

0 500 1,000 2,000 Feet

N



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

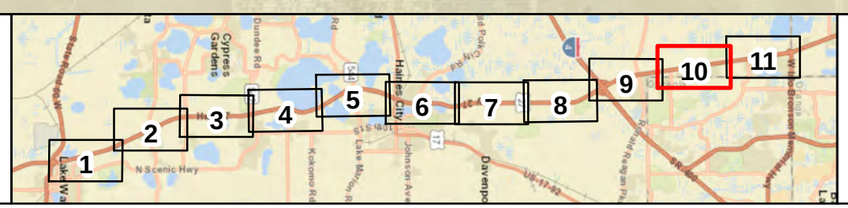


FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 10 of 11

Legend

Segment LOS — Annual Average Daily Traffic Volumes (AADTs)

LOS C

LOS D — X,XXX Existing AADT (2018)

LOS F

THE RETREAT
HIGHGATE PARK
THE ESTATES
THE GROVES
THE CENTRE
WINDMILL VILLAGE
POLO PARK
HIGH GROVE
WELLINGTON
THE TOWNS
THE COMMONS
BERRY TOWN CENTER
TUSCAN HILLS
THE PALMS
NORTHEAST REGIONAL PARK
BASS LAKE
DAVENPORT LAKES
LAKE MAGIC RV RESORT
CITRUS RIDGE ACADEMY

Sand Mine Rd
Legacy Park Blvd
Florence Villa Grove Rd
Polo Park Blvd

27
192

16,000
8,600
41,500
2,900
8,700
5,300
7,100
11,500
10,000
3,400
49,000

END PROJECT

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

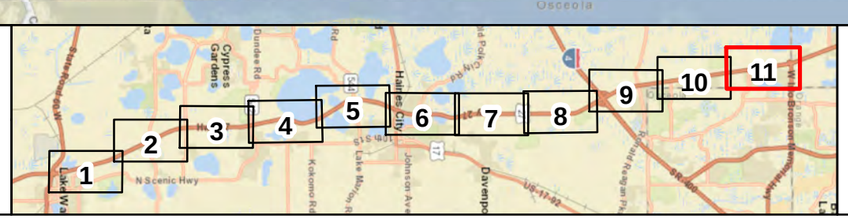


FIGURE 6-6
EXISTING (2018) AADT &
SEGMENT LEVEL OF SERVICE
Sheet 11 of 11

6.2.3 Existing Conditions US 27 Intersection LOS Analysis

Trafficware's *Synchro 10* was used to analyze each of the study intersections and HCM 6th Edition Methodology was used to report the performance measures where possible. For signalized intersections, HCM 6th Edition requires strict adherence to standard dual ring NEMA phasing and operating speeds between 25 miles per hour (mph) and 55 mph. Many cross streets along the corridor were low speed facilities serving as access to residential communities. Additionally, many segments along US 27 have speed limits of 60 mph. In order to produce HCM 6th Edition reports, speed limits outside the HCM 6th Edition speed limit range, were adjusted by a maximum of 5 mph so that HCM 6th Edition LOS results could be reported.

HCM 2000 results were reported where Synchro 10 could not provide HCM 6th Edition results. Synchro 10 Queue Reports were used for those signalized intersections where HCM 6th Edition Methodology could not be applied. Intersection performance was reported using HCM 6th Edition methodology for all intersections except the following three signalized intersections where LOS was reported using HCM 2000:

- US 27 at Eastbound I-4 Ramps
- US 27 at Sand Mine Road
- US 27 at SR 60

For unsignalized intersections, HCM 6th Edition reports provided all relevant performance measures. The HCM 6th Edition, HCM 2000 and Synchro 10 Reports for the signalized and unsignalized intersection AM and PM peak hour analyses are included in **Appendix K**. Traffic signal timing plans used for the signalized intersection analyses are included in **Appendix L**.

Table 6-1 presents the intersection LOS results as well as documents which Synchro reports were used to report the performance measurements. **Figure 6-7** depicts the existing intersection LOS as well as existing intersection turning movement volumes.

Currently, 21 of the 47 study intersections are operating at LOS E or F, which is below the FDOT LOS target D, in either the AM or PM peak hours. In order to reduce delay at the intersections with an overall LOS E or F, minor operational (short-term) improvements were evaluated and are summarized in Section 8.

TABLE 6-1: EXISTING CONDITIONS INTERSECTION ANALYSIS RESULTS

Intersection	Intersection Type	Reports Used	AM						PM					
			Intersection Delay (s)[1]	Intersection LOS[1]	Critical Mvment	Critical Mvment Delay (s)	Critical Mvment LOS	Critical Mvment 95th % Queue Length (ft)[2, 3]	Intersection Delay (s)[1]	Intersection LOS[1]	Critical Mvment	Critical Mvment Delay (s)	Critical Mvment LOS	Critical Mvment 95th % Queue Length (ft)[2, 3]
SR 60 (SBL US 27 onto SR 60)	Signalized	HCM 2000	9.1	**A**	SBL	19.8	B	161	8.9	**A**	SBL	19.2	B	204
W Central Ave	Signalized	HCM 6th	23.3	**C**	NBL	44.7	D	37.5	26.3	**C**	NBL	51.4	D	37.5
Washington Ave	Signalized	HCM 6th	13.4	**B**	WBR	29.1	C	60	15.0	**B**	EBL	33.5	C	17.5
Mt Lake Cut Off Rd N	Signalized	HCM 6th	28.5	**C**	NBL	64.9	E	12.5	31.0	**C**	NBL	69.1	E	20
Tower Point Ent / Vanguard School Ent	Unsignalized	HCM 6th	98.4 (WB)	**F (WB)**	WBT	149.2	F	80	57.4 (WB)	**F (WB)**	WBT	103.6	F	35
Eagle Ridge Mall Ent S	Signalized	HCM 6th	14.0	**B**	SBL	66.2	E	52.5	14.2	**B**	SBL	75.0	E	40
Thompson Nursey Rd	Signalized	HCM 6th	59.0	**E**	WBR	299.1	F	562.5	31.5	**C**	EBR	127.7	F	472.5
Market Blvd / Star Lake Dr	Signalized	HCM 6th	16.8	**B**	EBT	182.8	F	165	22.4	**C**	WBL	330.3	F	240
SR 540	Signalized	HCM 6th	53.2	**D**	EBR	203.7	F	880	98.8	**F**	EBR	393.2	F	1945
Lincoln Ave	Unsignalized	HCM 6th	32.3 (WB)	**D (WB)**	WBL	32.3	D	22.5	52.0 (WB)	**F (WB)**	WBL	52.0	F	45
SR 542 / Dundee Rd	Signalized	HCM 6th	45.4	**D**	WBL	68.8	E	250	49.5	**D**	WBL	82.9	F	357.5
Frederick Ave	Unsignalized	HCM 6th	87.1 (WB)	**F (WB)**	WBT	87.1	F	170	69.5 (WB)	**F (WB)**	WBT	69.5	F	90
Crump Rd / W Main St	Signalized	HCM 6th	22.0	**C**	NBL	49.5	D	27.5	20.9	**C**	NBL	55.5	E	20
Kokomo Rd	Unsignalized	HCM 6th	320.8 (WB)	**F (WB)**	WBT	320.8	F	500	617.6 (WB)	**F (WB)**	WBT	617.6	F	400
Paradise Island Pl / Sunshine Dr	Unsignalized	HCM 6th	51.4 (WB)	**F (WB)**	WBT	51.4	F	30	91.3 (EB)	**F (EB)**	EBT	143.9	F	52.5
SR 544	Signalized	HCM 6th	41.4	**D**	NBL	60.1	E	247.5	38.4	**D**	SBL	62.0	E	177.5
W Johnson Ave	Unsignalized	HCM 6th	58.6 (WB)	**F (WB)**	WBT	58.6	F	32.5	101.6 (WB)	**F (WB)**	WBT	101.6	F	57.5
Commerce Ave / Pilot Ent	Signalized	HCM 6th	46.8	**D**	NBL	93.4	F	55	109.8	**F**	NBT	202.4	F	1367.5
CR 17 / Old Polk City Rd	Signalized	HCM 6th	19.4	**B**	EBR	149.6	F	307.5	32.7	**C**	EBR	170.9	F	460
Glen Este Blvd / Southern Dunes	Signalized	HCM 6th	29.2	**C**	EBL	87.3	F	112.5	39.8	**D**	EBT	82.8	F	210
Bates Rd	Signalized	HCM 6th	39.5	**D**	WBL	255.3	F	662.5	41.3	**D**	WBL	223.3	F	607.5
Section 7 Airport Rd / Parson Rd / Patterson Rd	Unsignalized	HCM 6th	534.0 (WB)	**F (WB)**	WBT	534.0	F	367.5	N/A[4]	**N/A[4]**	SBL	256.4	F	222.5
South Blvd	Unsignalized	HCM 6th	612.6 (WB)	**F (WB)**	WBT	612.6	F	290	2276.5 (EB)	**F (EB)**	EBT	2276.5	F	202.5
Sanders Rd / CR 547 / Davenport Blvd	Signalized	HCM 6th	36.4	**D**	EBL	172.7	F	162.5	28.3	**C**	NBL	72.0	E	42.5
Holly Hill Cutoff Rd / North Blvd W	Unsignalized	HCM 6th	1282.4 (WB)	**F (WB)**	WBT	1282.4	F	345	1148.9 (WB)	**F (WB)**	WBT	1148.9	F	345
La Casa Del Sol Blvd	Unsignalized	HCM 6th	28.7 (EB)	**D (EB)**	EBL	41.1	E	5	132.4 (EB)	**F (EB)**	EBL	201.4	F	20

[1] Overall Intersection Delay and LOS for Signalized Intersections, Worst Approach Delay and LOS for Unsignalized Intersections

[2] For intersections where HCM 2000 Reports were used for delay and LOS, Synchro 10 Reports were used for 95th Percentile Queue Lengths

[3] Synchro 10 Reports 95th Percentile Queue Annotations:

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

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

[4] Exceeds capacity, worst approach delay and LOS not reported in HCM 6th Edition TWSC Report

TABLE 6-1: EXISTING CONDITIONS INTERSECTION ANALYSIS RESULTS (CONTINUED)

Intersection	Intersection Type	Reports Used	AM						PM					
			Intersection Delay (s)[1]	Intersection LOS[1]	Critical Mvment	Critical Mvment Delay (s)	Critical Mvment LOS	Critical Mvment 95th % Queue Length (ft)[2, 3]	Intersection Delay (s)[1]	Intersection LOS[1]	Critical Mvment	Critical Mvment Delay (s)	Critical Mvment LOS	Critical Mvment 95th % Queue Length (ft)[2, 3]
Massee Rd / Holly Hill Rd	Signalized	HCM 6th	18.5	**B**	NBL	68.2	E	55	27.9	**C**	NBL	82.4	F	72.5
Holly Hill Tank Rd / Florida Development Rd	Unsignalized	HCM 6th	264.4 (WB)	**F (WB)**	WBT	264.4	F	155	597.9 (WB)	**F (WB)**	WBT	597.9	F	150
Ridgewood Lakes Blvd	Signalized	HCM 6th	11.6	**B**	NBL	516.9	F	17.5	11.6	**B**	NBL	412.0	F	12.5
Cottonwood Rd	Unsignalized	HCM 6th	644.4 (WB)	**F (WB)**	WBT	644.4	F	265	1846.6 (WB)	**F (WB)**	WBT	1846.6	F	300
Minute Maid Ramp Rd 2	Signalized	HCM 6th	58.7	**E**	EBL	179.7	F	172.5	27.1	**C**	EBT	281.1	F	210
Heller Bros. Blvd / Deer Creek Blvd	Signalized	HCM 6th	12.2	**B**	SBL	73.2	E	20	25.5	**C**	WBL	120.7	F	307.5
Home Run Blvd / Victor Posner Blvd	Signalized	HCM 6th	33.9	**C**	EBL	98.6	F	385	35.7	**D**	NBL	113.1	F	105
I-4 EB Ramps (Frontage Rd)	Signalized	HCM 2000	34.2	**C**	WBL	57.1	E	113	47.7	**D**	EBT	104.6	F	#178
I-4 WB Ramps	Signalized	HCM 6th	33.8	**C**	SBL	70.5	E	30	41.5	**D**	SBL	115.5	F	100
Access Rd	Signalized	HCM 6th	12.8	**B**	EBR	43.5	D	57.5	26.3	**C**	EBL	92.0	F	100
Waverly Barn Rd	Signalized	HCM 6th	36.2	**D**	NBL	74.3	E	122.5	28.8	**C**	SBL	62.1	E	72.5
Deen Still Rd	Signalized	HCM 6th	29.3	**C**	NBL	61.3	E	67.5	31.6	**C**	NBL	63.1	E	75
Ogelthorpe Dr / Laurel Estates Driveway	Unsignalized	HCM 6th	41.2 (EB)	**E (EB)**	EBL	70.7	F	40	60.6 (EB)	**F (EB)**	EBL	114.7	F	42.5
Cardiff Ave / Tri County 1 Rd	Unsignalized	HCM 6th	42.0 (EB)	**E (EB)**	EBT	79.5	F	50	87.2 (EB)	**F (EB)**	EBT	175.4	F	57.5
Four Corners Blvd / Bella Citta Blvd	Signalized	HCM 6th	24.0	**C**	NBL	51.9	D	17.5	23.1	**C**	NBL	47.3	D	45
Terra del sol / Central Grove Rd	Unsignalized	HCM 6th	194.6 (EB)	**F (EB)**	EBT	194.6	F	200	339.2 (EB)	**F (EB)**	EBT	339.2	F	165
McFee Dr / California Blvd	Signalized	HCM 6th	31.7	**C**	EBL	173.2	F	207.5	27.5	**C**	EBL	107.5	F	122.5
Student Dr / Highland Reserve Blvd	Signalized	HCM 6th	34.6	**C**	WBL	335.9	F	352.5	20.6	**C**	SBL	59.3	E	70
Sand Mine Rd	Signalized	HCM 2000	57.3	**E**	EBL	85.3	F	#295	33.8	**C**	WBT	60.1	E	154
Florence Villa Grove Rd / Legacy Park Blvd	Signalized	HCM 6th	36.2	**D**	SBL	63.1	E	87.5	56.9	**E**	WBT	113.8	F	887.5
Polo Park Blvd	Signalized	HCM 6th	21.8	**C**	SBL	49.5	D	32.5	24.1	**C**	NBL	64.0	E	80

[1] Overall Intersection Delay and LOS for Signalized Intersections, Worst Approach Delay and LOS for Unsignalized Intersections

[2] For intersections where HCM 2000 Reports were used for delay and LOS, Synchro 10 Reports were used for 95th Percentile Queue Lengths

[3] Synchro 10 Reports 95th Percentile Queue Annotations:

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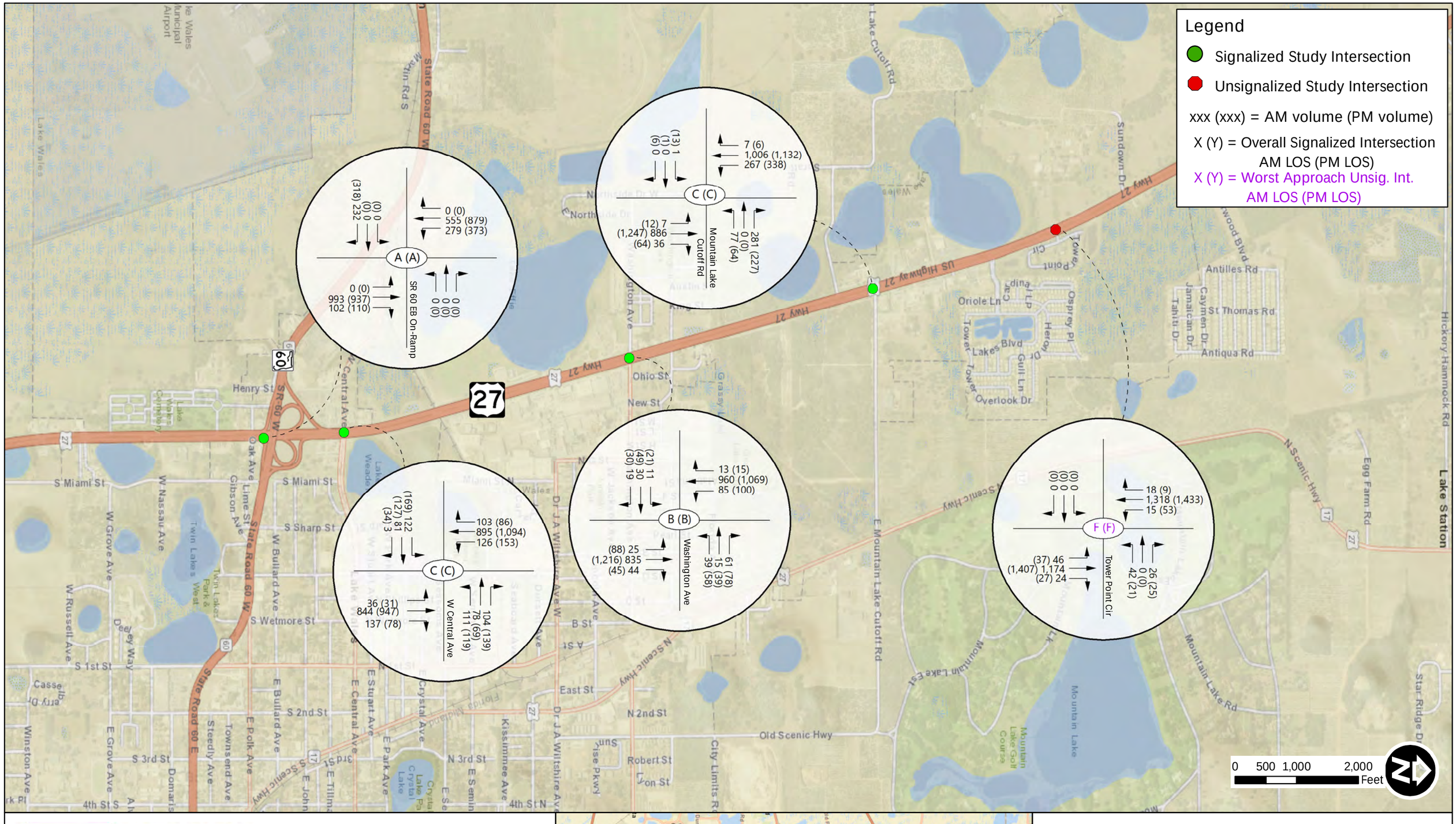


NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

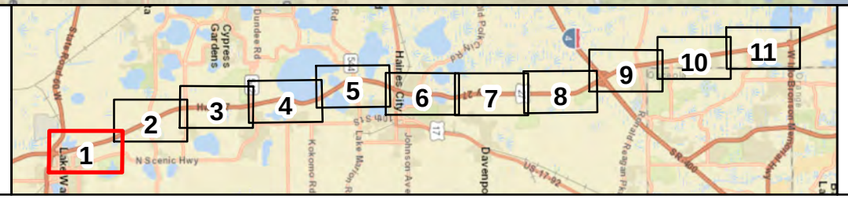
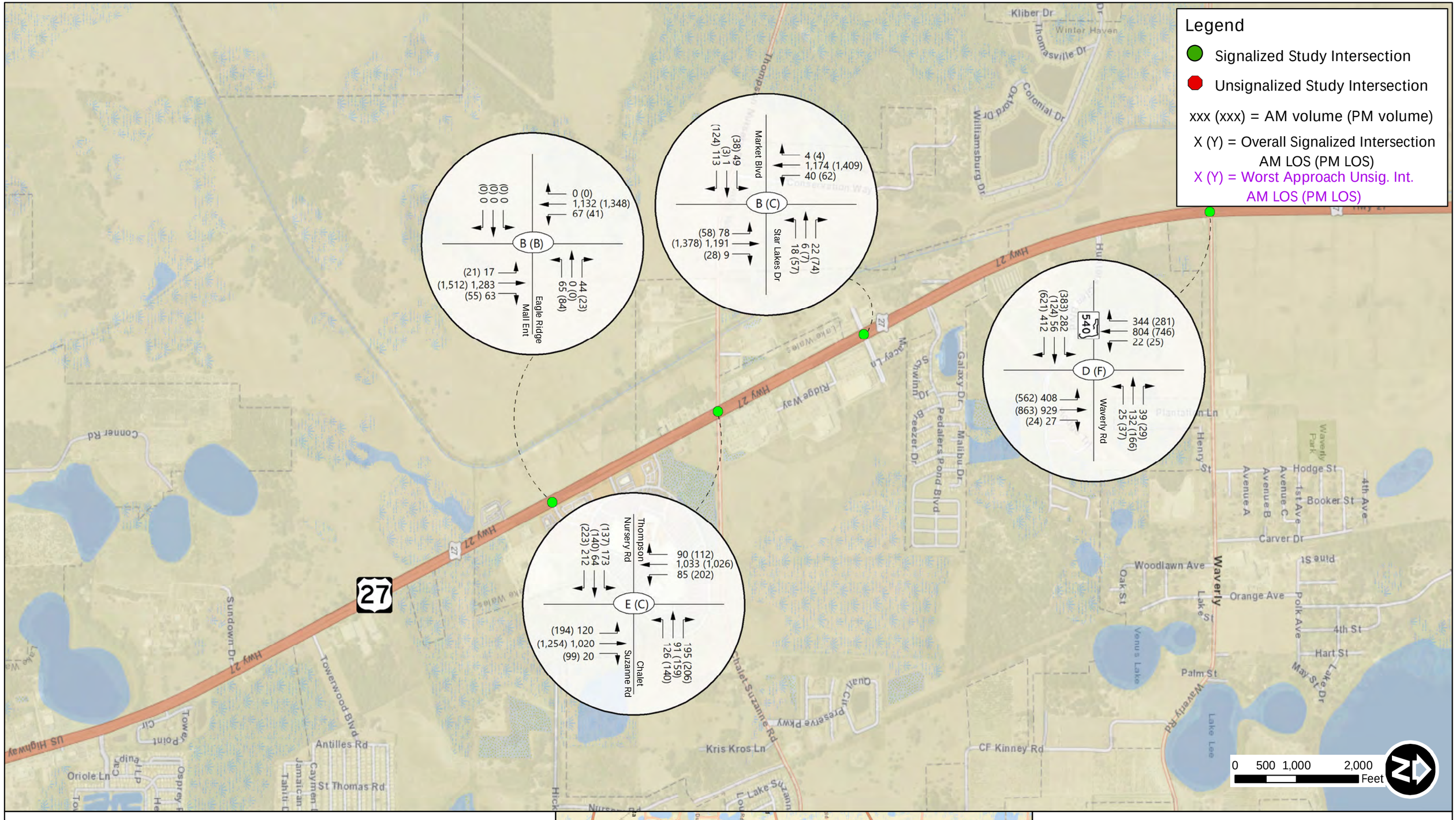


FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE
Sheet 1 of 11



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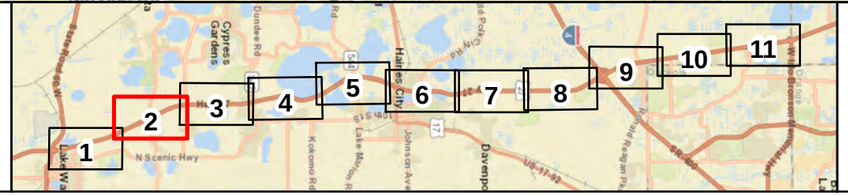
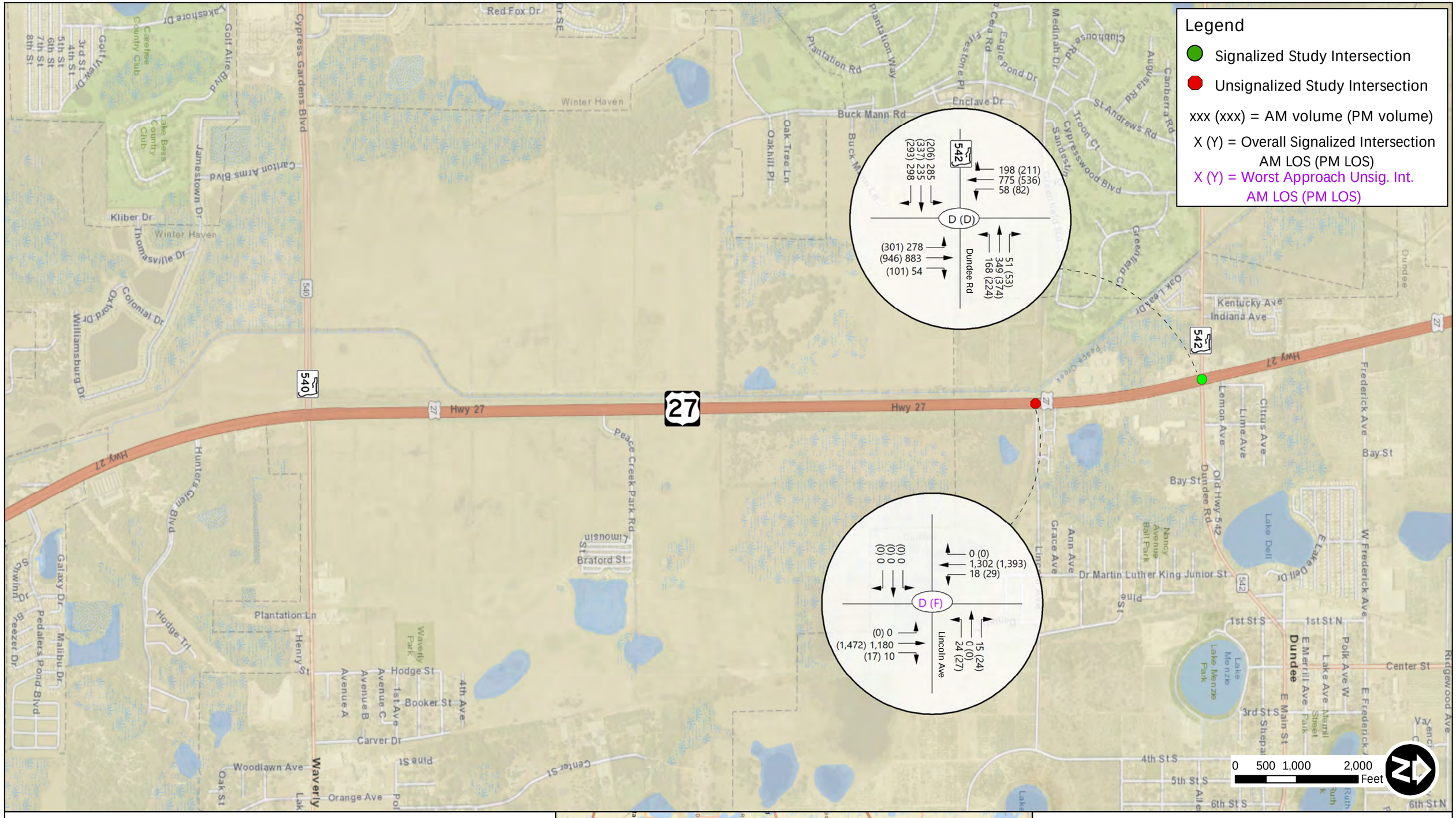


FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE



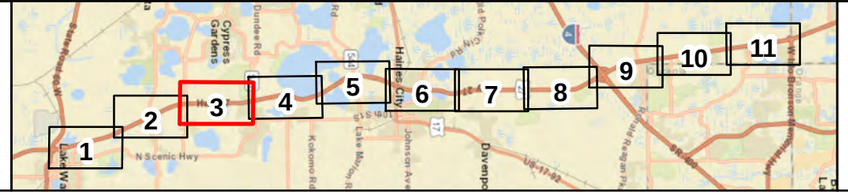


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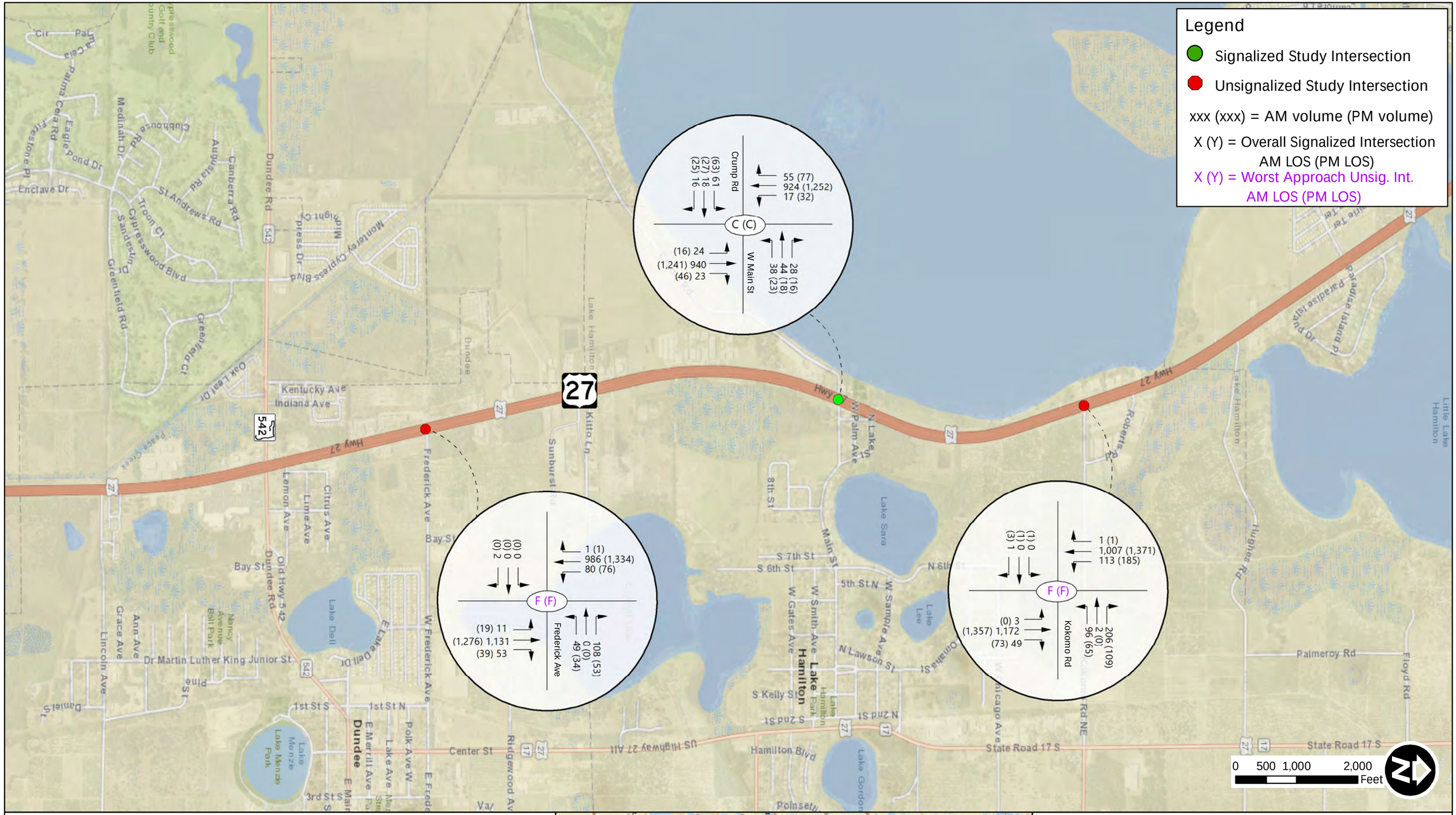
FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE



NORTHEAST POLK
US 27
Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
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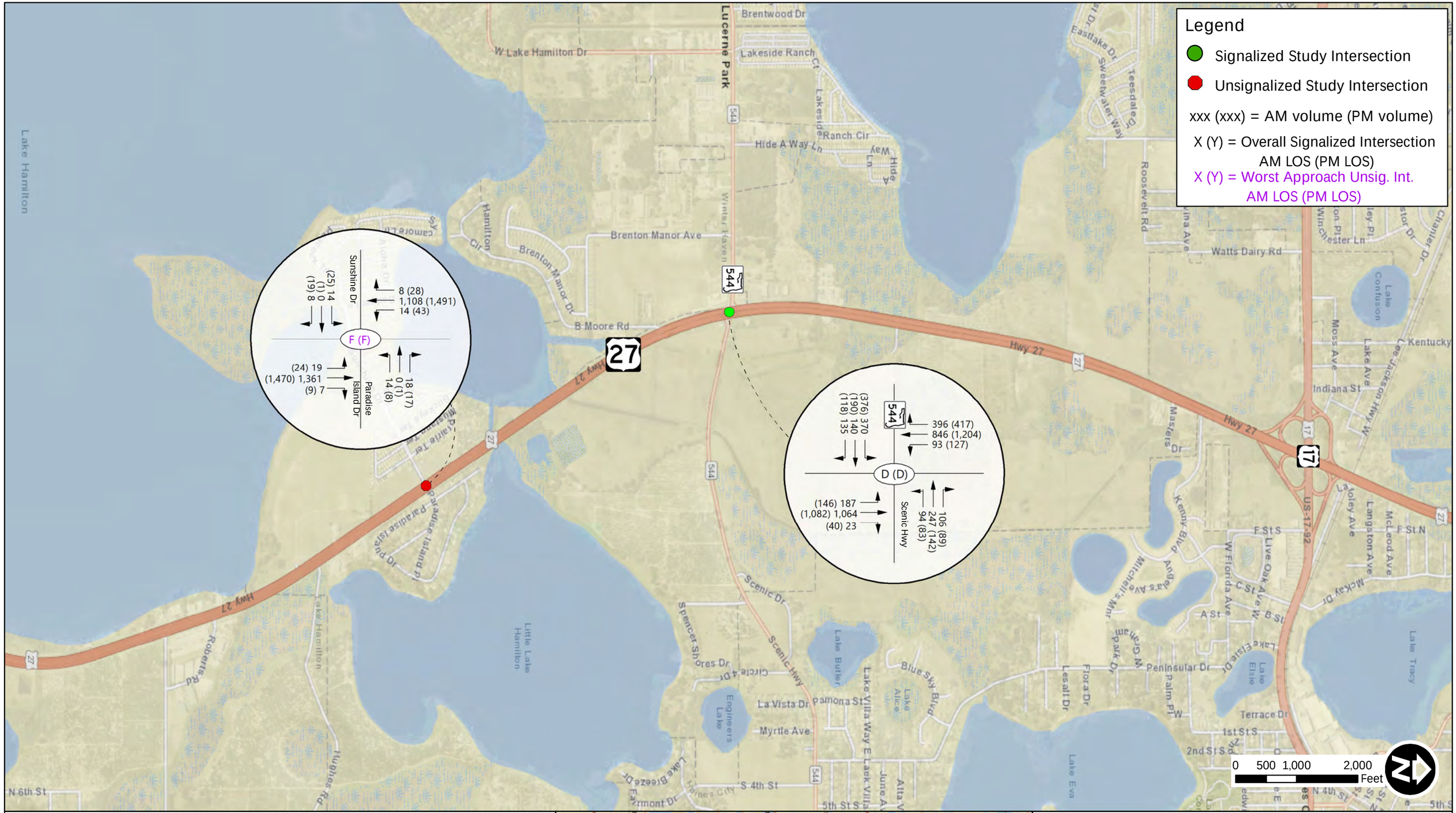
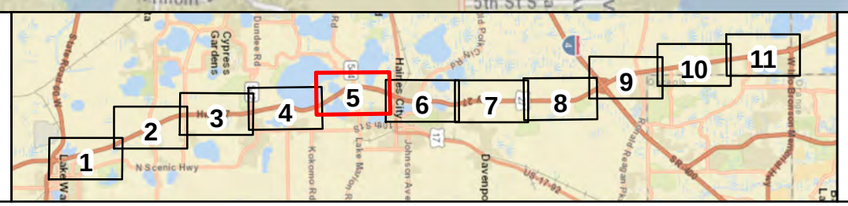
FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE

Sheet 4 of 11





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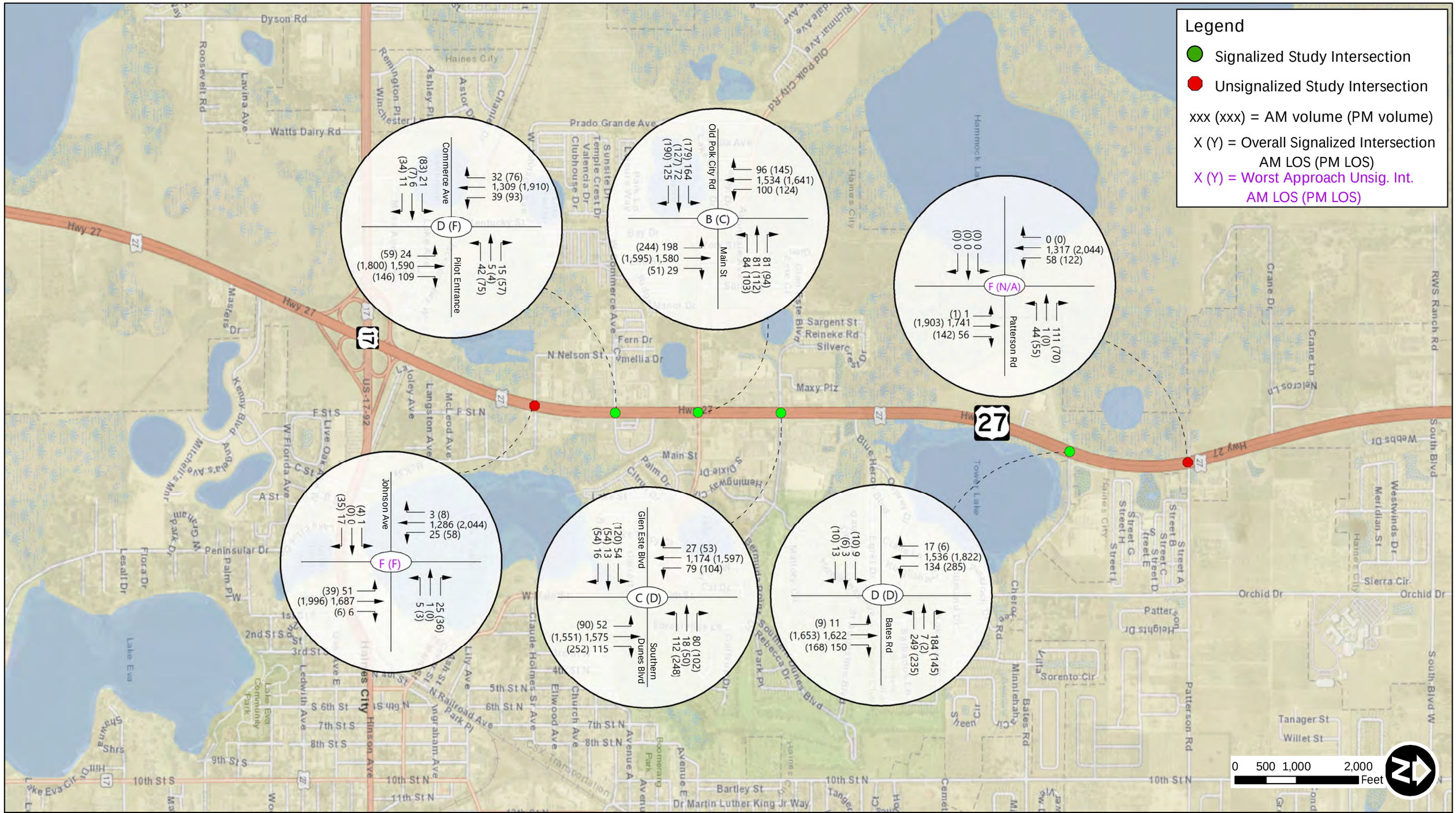

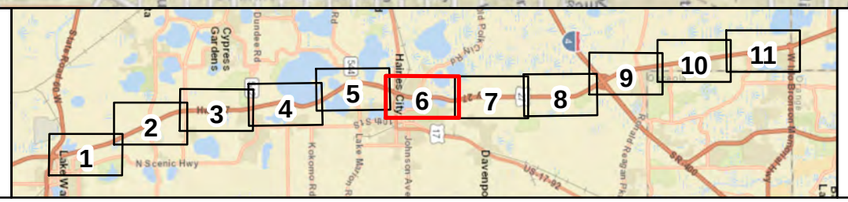

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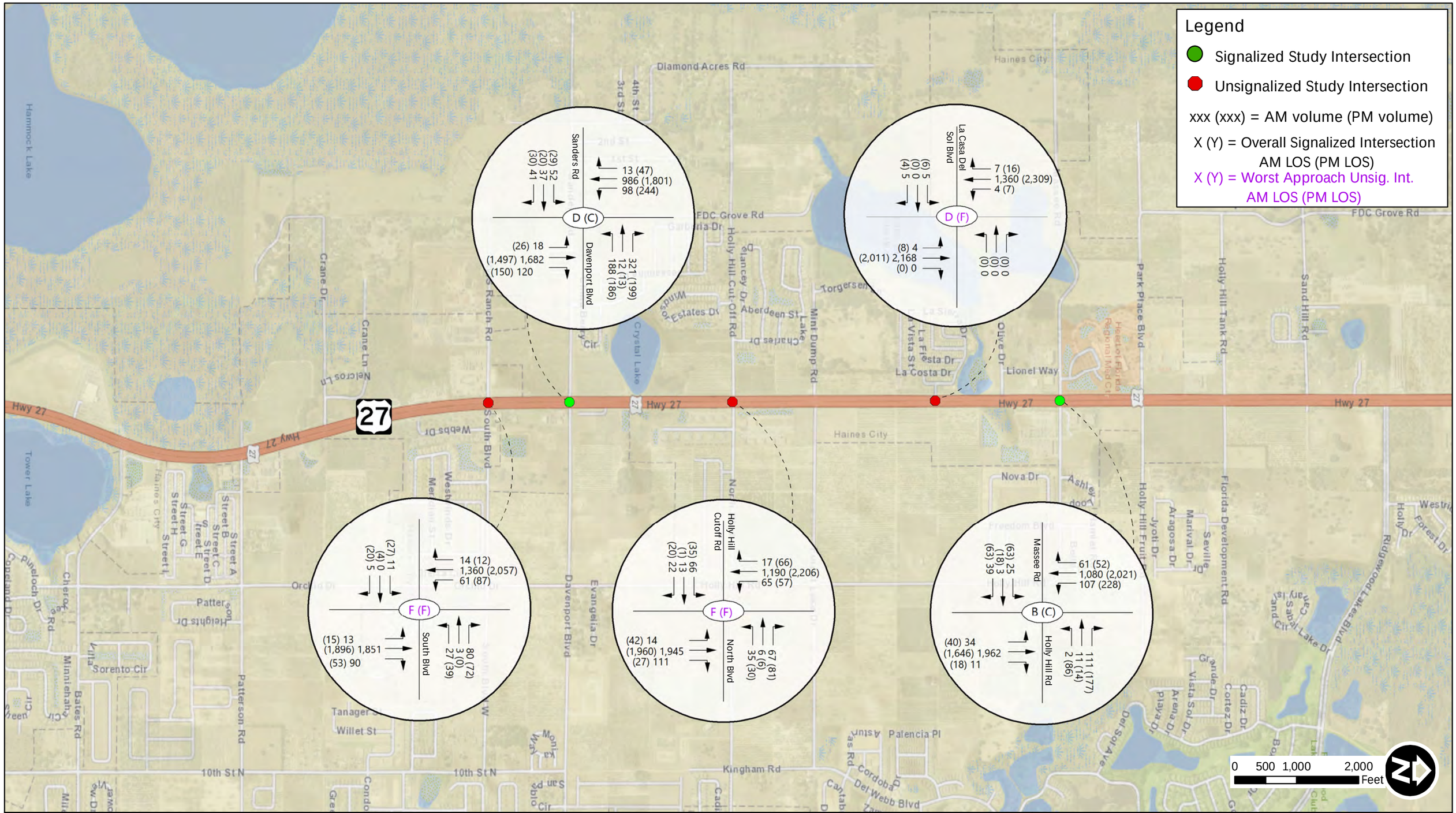

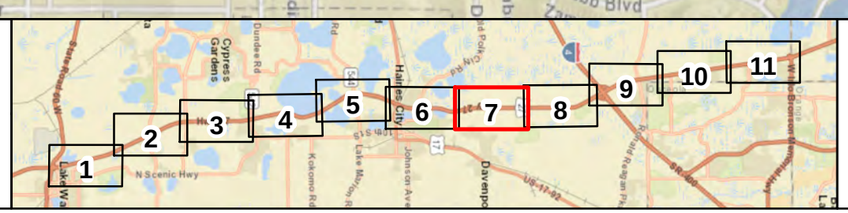

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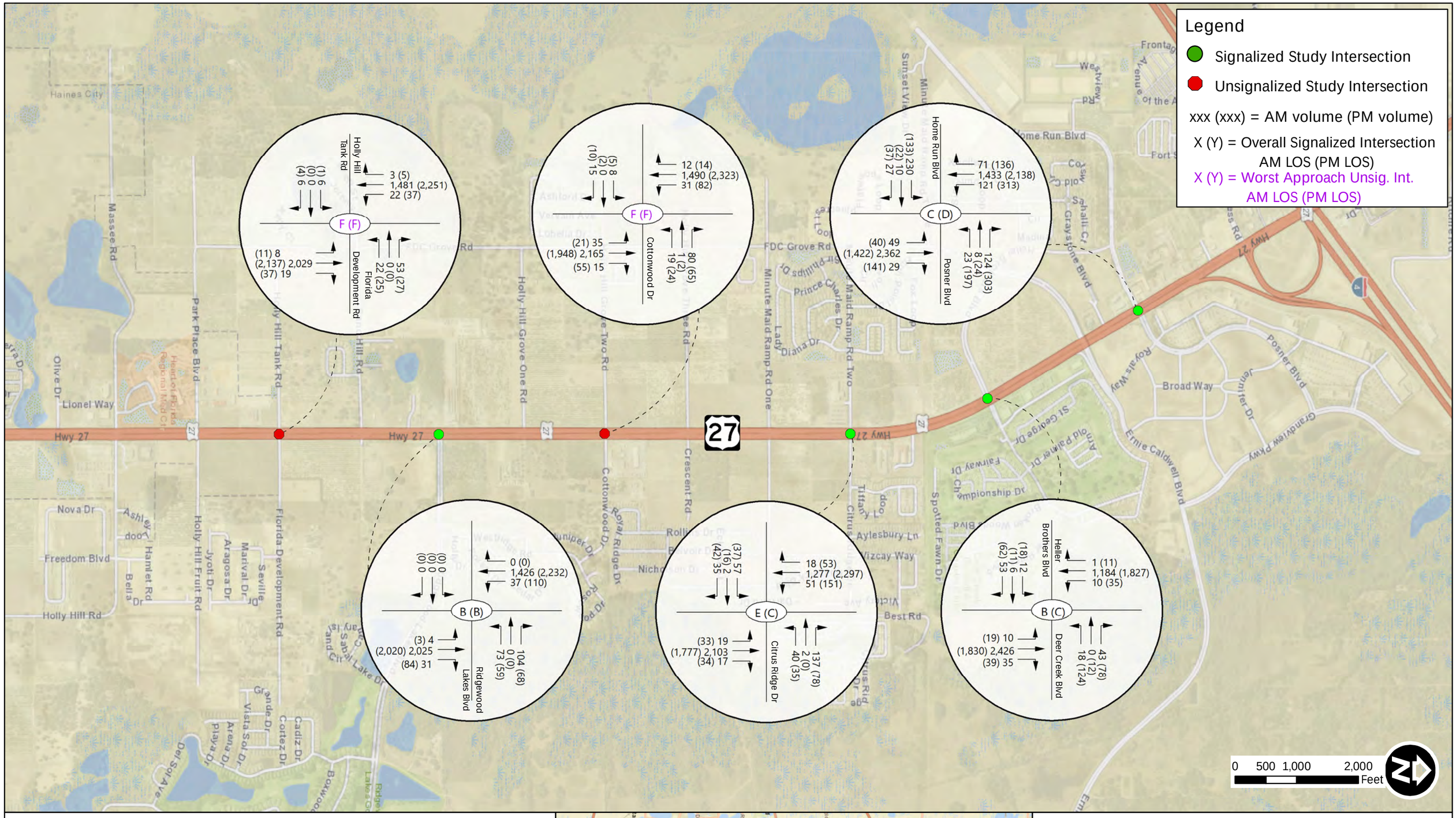

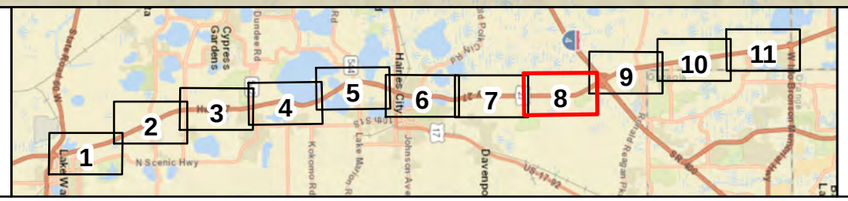

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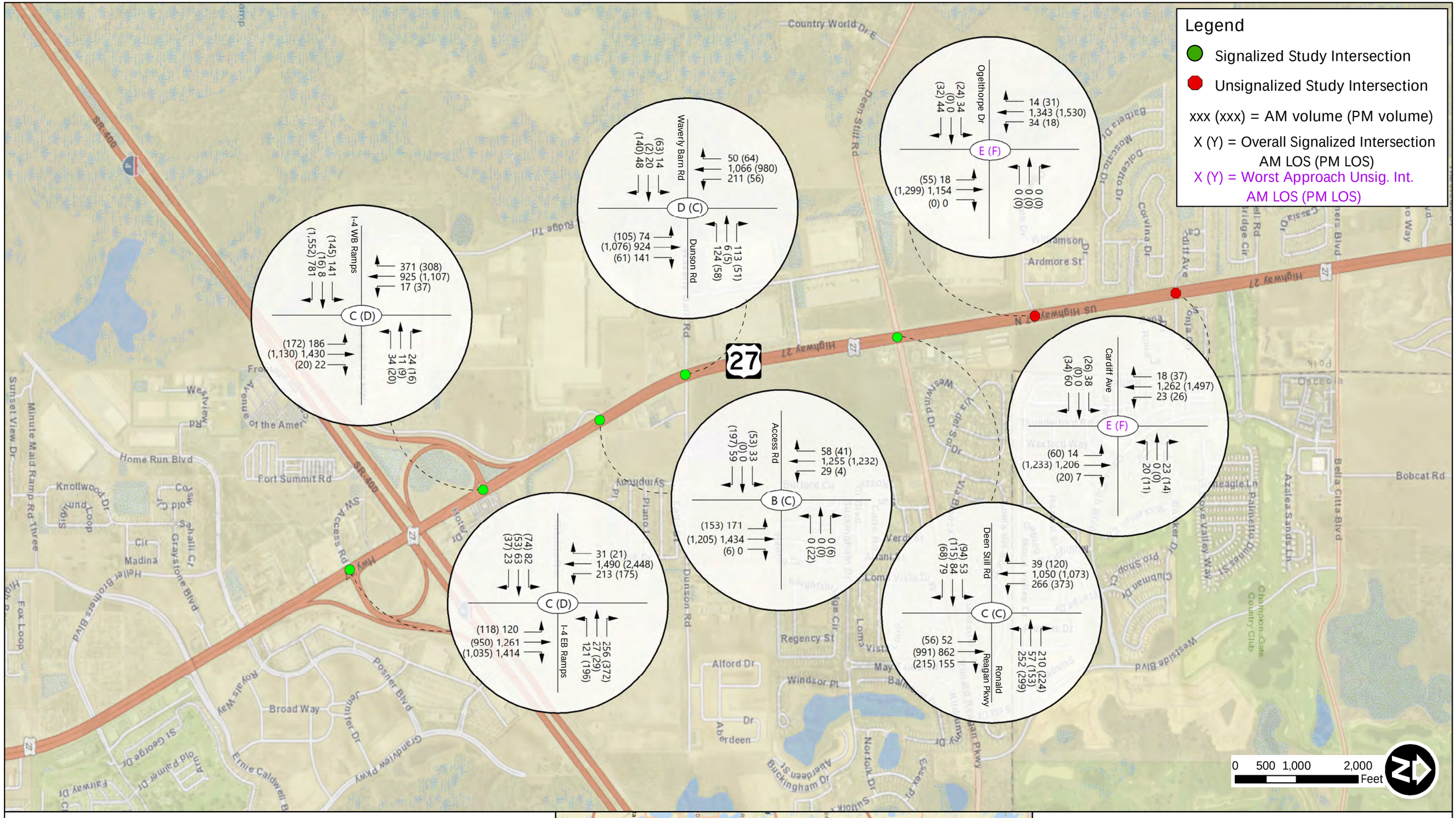

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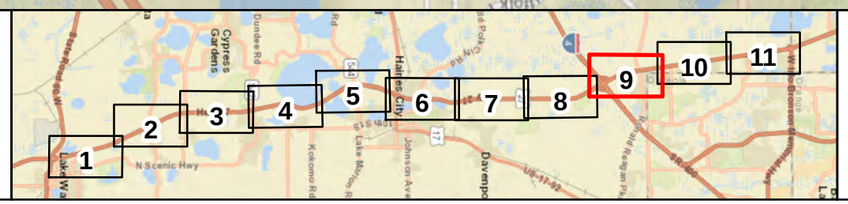


FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE

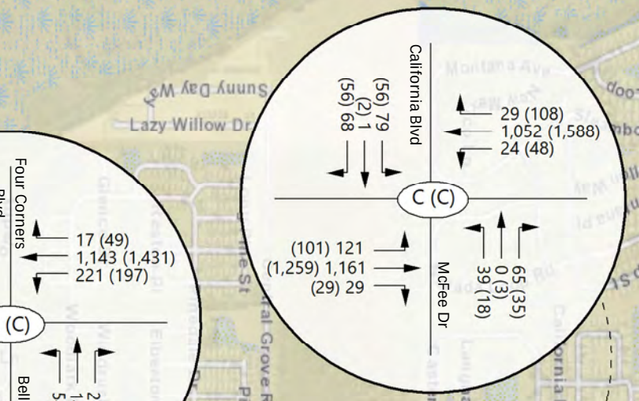
Legend

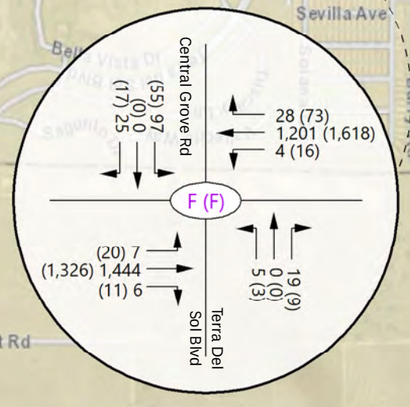
- Signalized Study Intersection
- Unsignalized Study Intersection

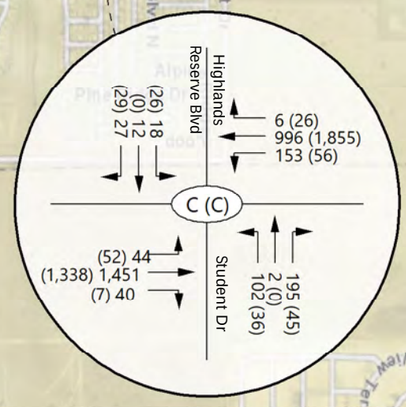
xxx (xxx) = AM volume (PM volume)

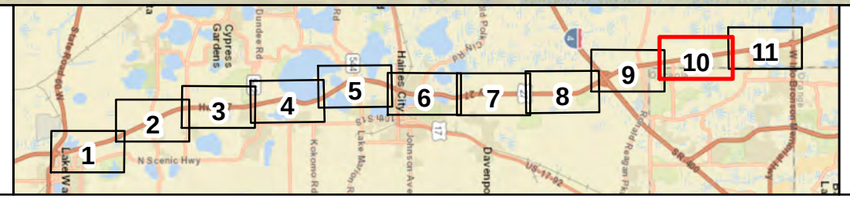
X (Y) = Overall Signalized Intersection AM LOS (PM LOS)

X (Y) = Worst Approach Unsig. Int. AM LOS (PM LOS)







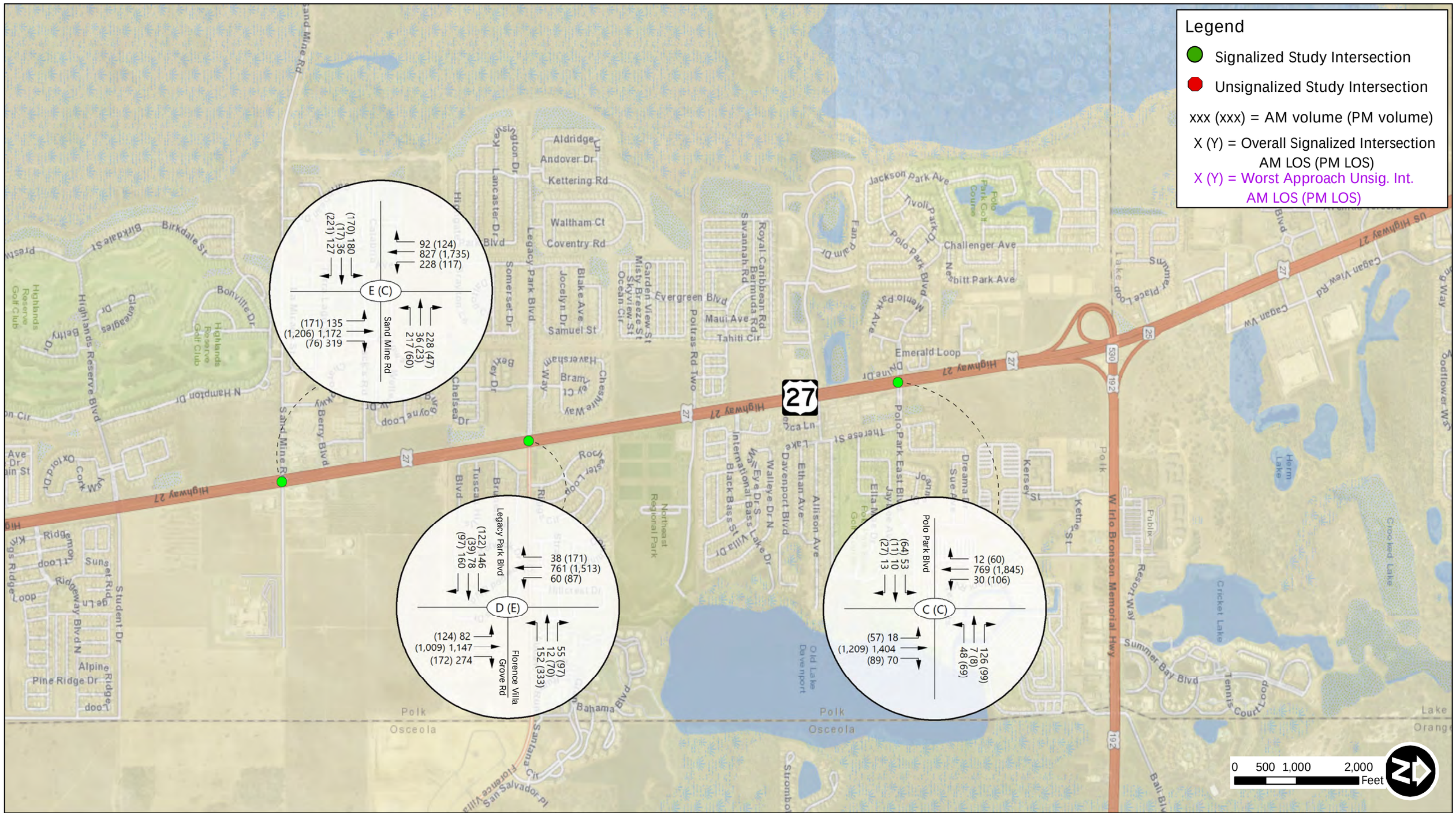


NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

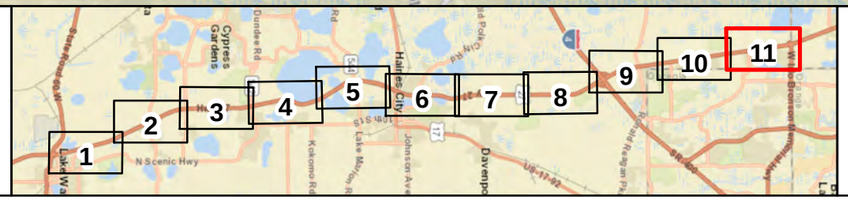


FIGURE 6-7
EXISTING (2018) INTERSECTION TURNING MOVEMENT VOLUMES & LEVEL OF SERVICE

6.2.4 Existing Conditions US 27 Congestion Assessment

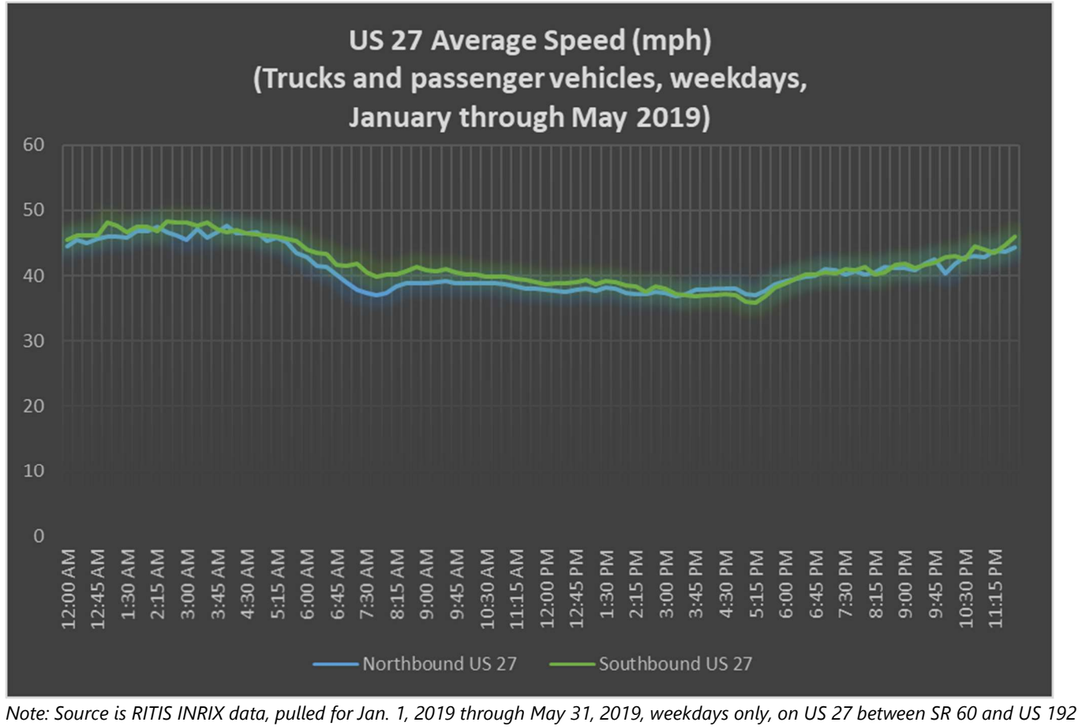
Speeds, travel times, and congestion scans were obtained from available INRIX data in the RITIS system. AM and PM peak hours were assessed based on typical weekday (Tuesday - Thursday) data downloaded for the dates of January 1, 2019 through May 31, 2019, during the months when school is in service.

FIGURE 6-8: US 27 CONGESTION SCAN

The congestion scan of US 27 shows that traffic in the southbound direction is somewhat congested from US 192 to I-4 from 7am to 7pm, with heavy congestion frequently occurring between CR-54/Deen Still Road and I-4 between 6:30am and 6pm. The heaviest congestion for southbound traffic on US 27 occurs at I-4 between 3pm and 6pm. In the northbound direction, US 27 traffic typically experiences some noticeable congestion between US 17/92 and Old Polk City Road between 7-9am, 11am-3pm, and 4:30-5:30pm. Northbound also typically experiences some congestion between I-4 and Deen Still Road from 7am-7pm.

Average speeds along US 27 in the northbound and southbound directions for all vehicles were also obtained through RITIS. **Figure 6-9** illustrates how average speed dips down from approximately 45 mph to between 36 and 40 mph in both directions from approximately 6:45am to 6:45pm.

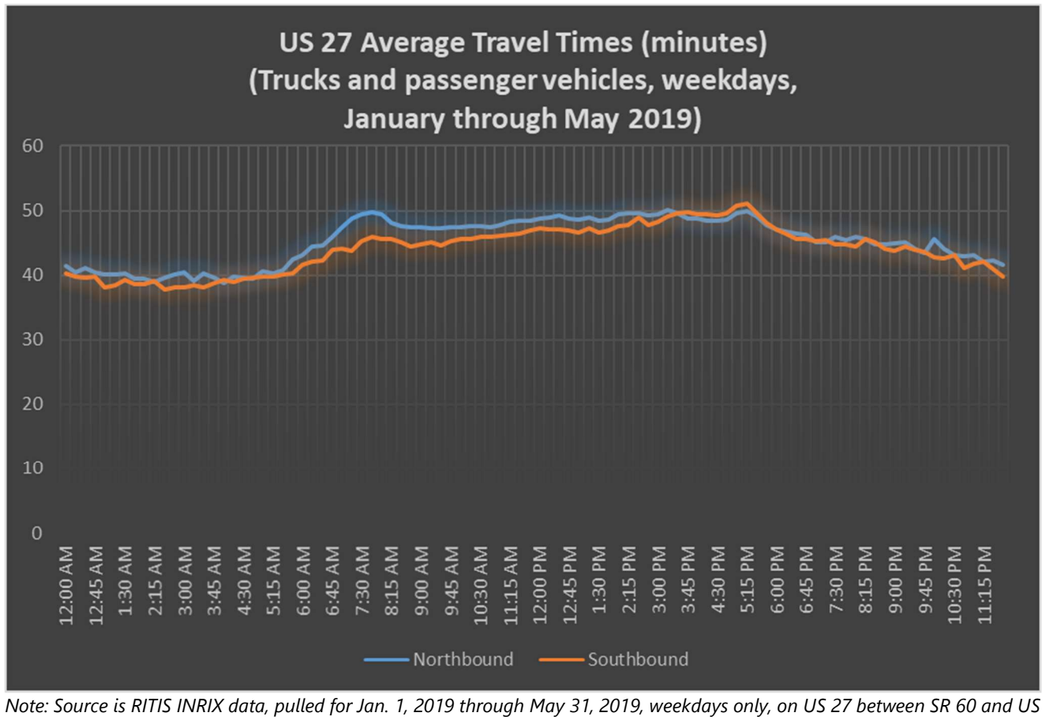
FIGURE 6-9: US 27 AVERAGE SPEED



Note: Source is RITIS INRIX data, pulled for Jan. 1, 2019 through May 31, 2019, weekdays only, on US 27 between SR 60 and US 192

The average travel times along US 27 from US -192 to SR 60, in the northbound and southbound directions, for all vehicles were also obtained through RITIS. **Figure 6-10** illustrates how average travel time is approximately 40 minutes in both directions between 12am and 6am. Between 6am and 5:15pm, travel time increases by 5 to 10 minutes for both northbound and southbound directions. After 5:15pm, travel times gradually decrease back down to approximately 40 minutes.

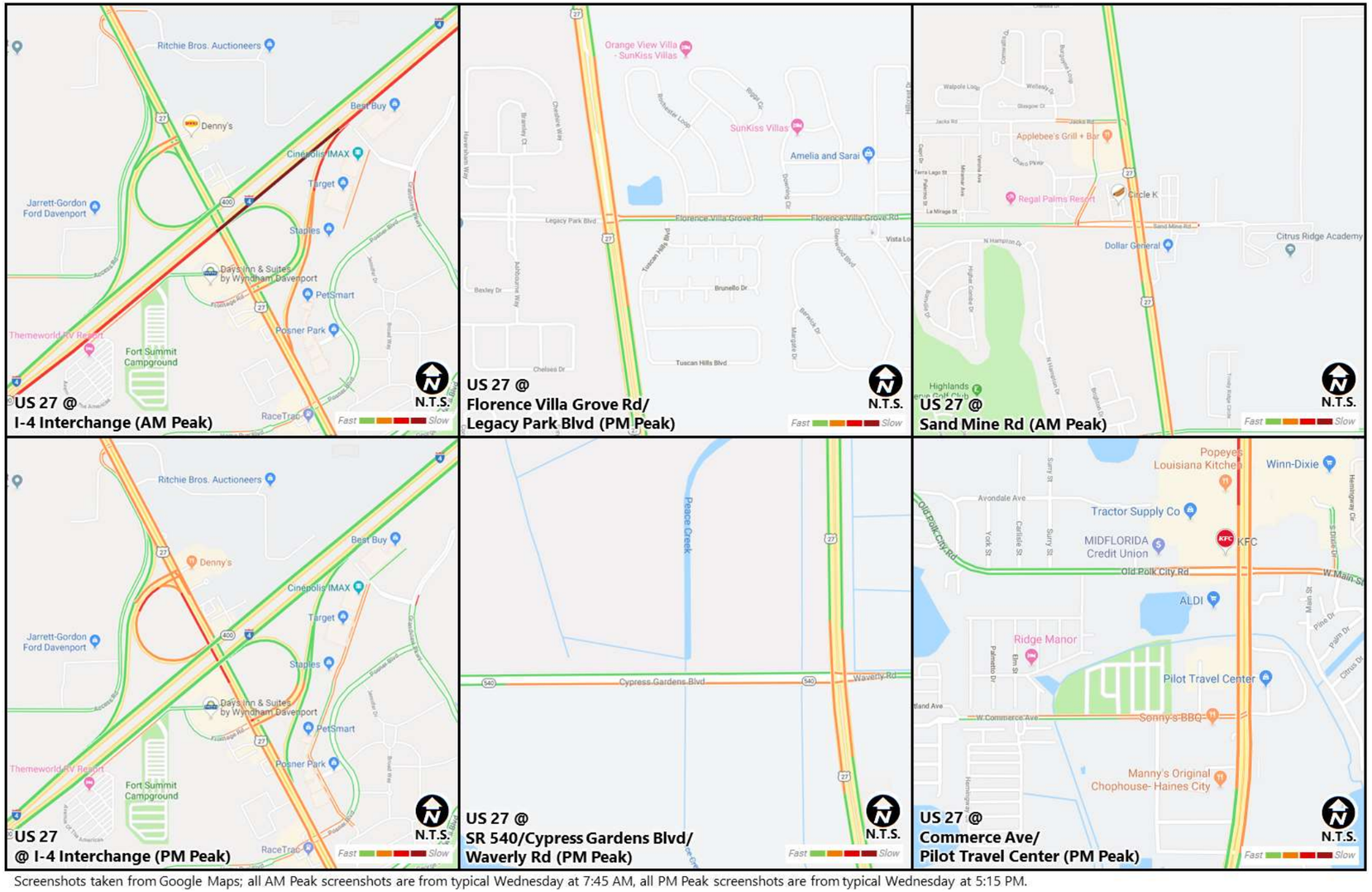
FIGURE 6-10: US 27 AVERAGE TRAVEL TIME



Note: Source is RITIS INRIX data, pulled for Jan. 1, 2019 through May 31, 2019, weekdays only, on US 27 between SR 60 and US 192

Screenshots were taken from Google Maps Typical Traffic Conditions as supporting information to the Existing Conditions analysis results. Each study intersection was observed on Google Maps during both an AM typical weekday condition and PM typical weekday condition and compared to the results obtained from Synchro. The six intersections in **Figure 6-11** showed poor operational results in the Synchro analysis during the indicated peak hour, and the Google Maps Typical Traffic Conditions screenshots support the results.

FIGURE 6-11: TYPICAL GOOGLE MAPS TRAFFIC CONDITIONS



Screenshots taken from Google Maps; all AM Peak screenshots are from typical Wednesday at 7:45 AM, all PM Peak screenshots are from typical Wednesday at 5:15 PM.

6.3 EXISTING BICYCLE ANALYSIS

To evaluate the quality and Level of Service (LOS) of the bicycle facilities along US 27, the FDOT Quality/Level of Service (Q/LOS) analysis methodology was used. The level of service is generally indicated with a letter grade A through F, with "A" being a facility that is perceived by the user to be optimal, while "F" would be perceived to be the poorest conditions. The average annual daily traffic (AADT) relative to the number of roadway lanes present, along with the coverage of bicycle lanes and/or paved shoulders, are the factors used to determine the bicycle mode LOS.

The existing bicycle facilities along US 27 are shown on **Figure 3-2,** and **Table 6-2** shows a tabular inventory of the existing bicycle infrastructure within the study limits.. The presence of bicycle lanes was determined by whether there were bicycle lane pavement markings or if 5 foot wide (or greater than 5 foot wide) paved shoulder was accompanied by keyhole lanes present at intersections. For each roadway segment, the northbound (NB) and southbound (SB) facilities were considered together. A lack of a bicycle facility on one *or both* sides of a segment was considered to be a wholly deficient segment. As a major arterial roadway, standard facilities should be available for all users.

To determine LOS the AADTs on each segment were compared to the Generalized Service Volume Table (GSVT) two-way maximum service volumes as presented in the FDOT Quality/Level of Service Handbook, based on percent coverage of bicycle facilities. The FDOT two-way maximum service volumes for 0-49% coverage were applied where a designated bicycle lane or paved 5 foot wide (or greater) shoulder does not exist on both sides of the road. If a designated bicycle lane or a paved 5 foot wide (or greater) shoulder exists on both sides of US 27, then coverage was considered to be 100% and the FDOT two-way maximum service volumes for 85-100% coverage were applied. The LOS was determined for each segment. The details of this analysis are summarized in Table M-1 in **Appendix M**.

TABLE 6-2: EXISTING BICYCLE FACILITIES

From	To	Existing Bicycle Facilities	Location [1]
Southern Study Limit	S of US 60 WB Ramp	Paved Shoulder 5-Foot or Greater	SB Side
NB US 27 On Ramp	Central Ave	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	NB Side
Central Ave	Tower Point Cir	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	Both Sides
Tower Point Cir	Eagle Ridge Dr	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	Both Sides
Waverly Rd	S of Lincoln Ave	Paved Shoulder 5-Foot or Greater	Both Sides
S of Lincoln Ave	Lincoln Ave	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	Both Sides
Lincoln Ave	Kitto Ln	Bike Lane with Pavement Marking	Both Sides
Kitto Ln	Crump Rd	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	Both Sides
S of Moore Rd	S of SR 544	Paved Shoulder 5-Foot or Greater	SB Side
S of SR 544	SR 544	Bike Lane with Pavement Marking	SB Side
SR 544	N of SR 544	Paved Shoulder 5-Foot or Greater	SB Side
S of US 17/92	S of Johnson Ave	Paved Shoulder 5-Foot or Greater	Both Sides
Johnson Ave	Miracle Toyota Dealership	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	Both Sides
Miracle Toyota Dealership	Lowes Entrance	Bike Lane with Pavement Marking	SB Side
Miracle Toyota Dealership	S of Bates Ave	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	NB Side
S of Bates Ave	Lowes Entrance	Paved Shoulder 5-Foot or Greater	NB Side
Lowes Entrance	South Blvd	Paved Shoulder 5-Foot or Greater	Both Sides
South Blvd	Davenport Blvd	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	NB Side
Davenport Blvd	Haines City Limit	Bike Lane with Pavement Marking	NB Side
South Blvd	Haines City Limit	Paved Shoulder 5-Foot or Greater	SB Side
Haines City Limit	Holly Hill Rd	Paved Shoulder 5-Foot or Greater	Both Sides
Holly Hill Rd	S of Holly Hill Tank Rd	Paved Shoulder 5-Foot or Greater with Keyhole Lanes	NB Side
Holly Hill Rd	S of Holly Hill Tank Rd	Paved Shoulder 5-Foot or Greater	SB Side
S of Holly Hill Tank Rd	Heller Brothers Blvd	Paved Shoulder 5-Foot or Greater	Both Sides
Heller Brothers Blvd	Access Rd	Various types and sides [2]	
Access Rd	S of US 192	Bike Lane with Pavement Marking	Both Sides
S of US 192	US 192	Bike Lane with Pavement Marking	SB Side
S of US 192	US 192	Paved Shoulder 5-Foot or Greater	NB Side

Notes: (1) SB = Southbound; NB = Northbound (2) See Figure 3-2, Sheets 8, 9

Figure 6-12 presents the Bicycle Q/LOS along the US 27 corridor. **Table 6-3** summarizes the distance along US 27 that is considered to have a Q/LOS of C, D, E or F.

TABLE 6-3: NUMBER OF MILES PER BICYCLE Q/LOS LEVEL

Bicycle Q/LOS	Miles of US 27 Corridor
C	23.71 miles
D	4.64 miles
E	3.0 miles
F	0.69 miles

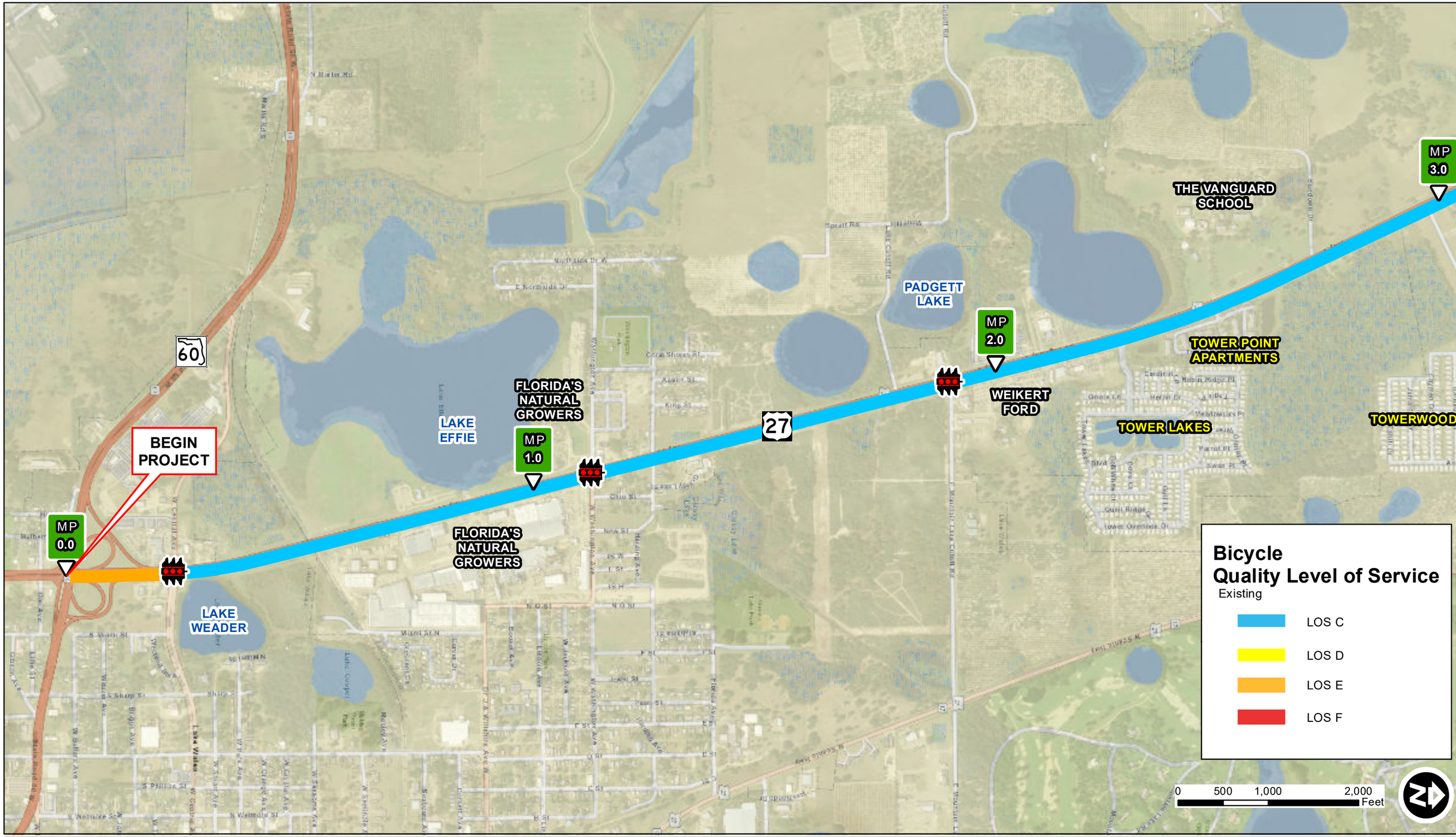
Approximately 88.5% of the US 27 corridor has an acceptable bicycle Q/LOS of D or better. Eleven and a half, or approximately 3.7 miles of US 27 has an undesirable LOS E or F. As daily vehicular traffic on US 27 increases with area and regional population and employment growth, the Q/LOS of existing facilities is expected to degrade.

Segments listed in **Table 6-4** are considered to have deficient bicycle facilities.

TABLE 6-3: DEFICIENT BICYCLE FACILITIES

From	To	Side of Deficiency(1)
Southern Study Limit	NB US 27 On Ramp	NB Only
NB US 27 On Ramp	Central Ave	SB Only
Eagle Ridge Dr	Waverly Rd	Both
Roberts Rd	South of US-17/92	Both *(except south of B Moore Rd to north of SR 544 on Left)*
Davenport Blvd	Walmart Distribution Center Access Rd NW	Various Sides(2)

Notes: (1) SB = Southbound; NB = Northbound (2) See Figure 6-12 Sheets 7,8, & 9



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

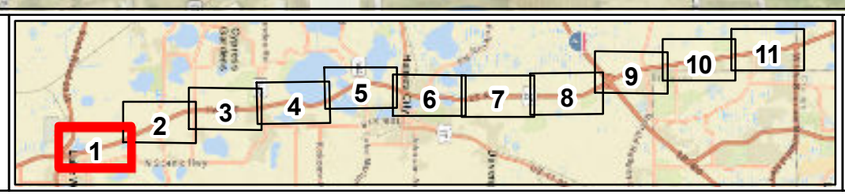
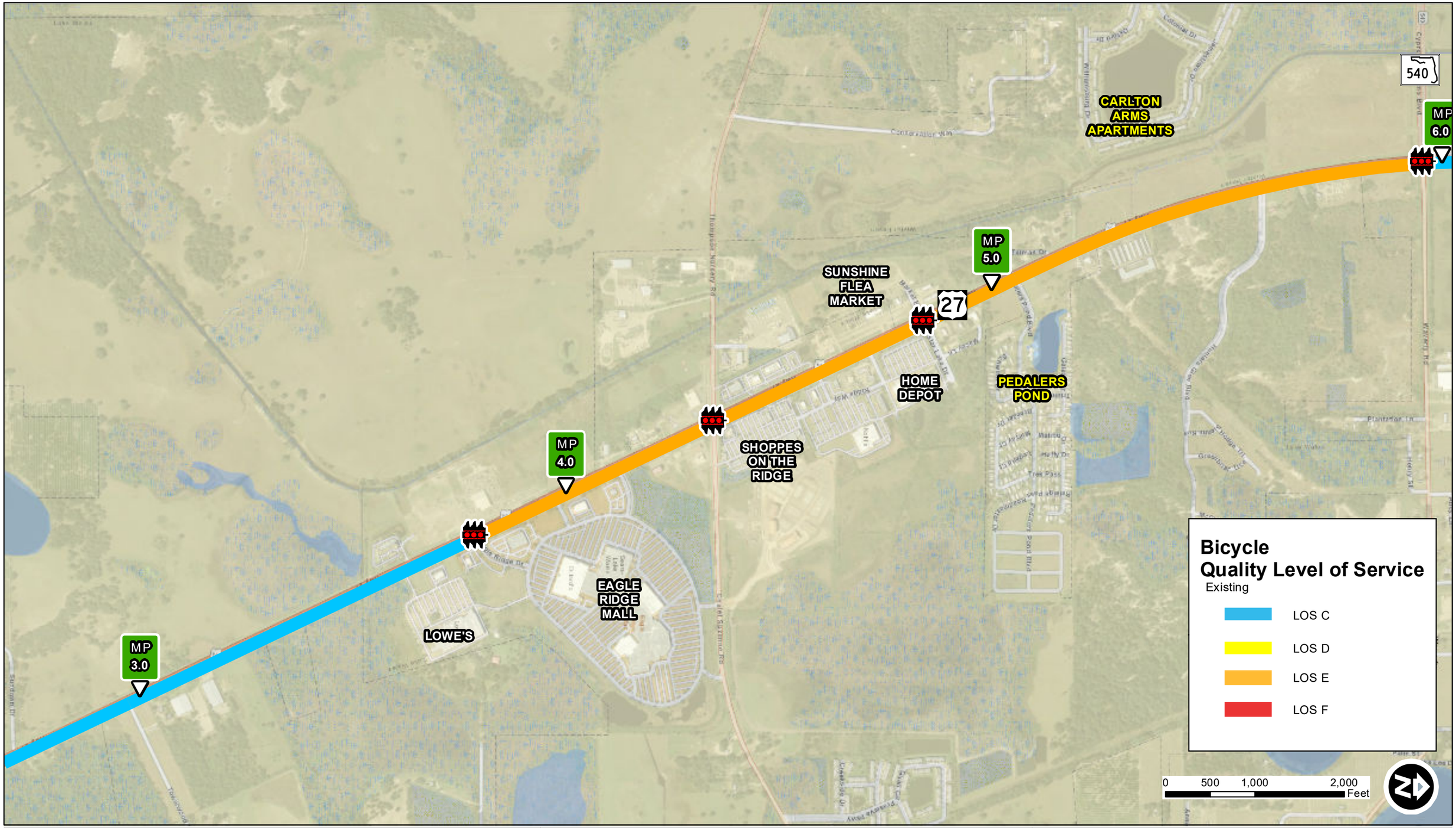


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 1 of 11



NORTHEAST POLK US 27 Mobility Study

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From SR 60 to US 192

Polk County, Florida
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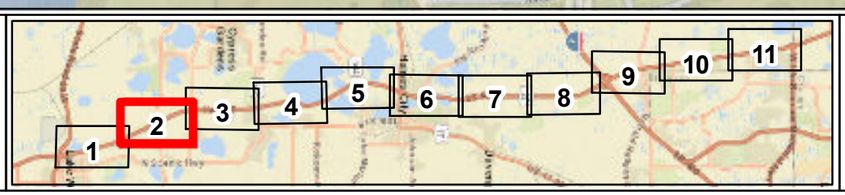
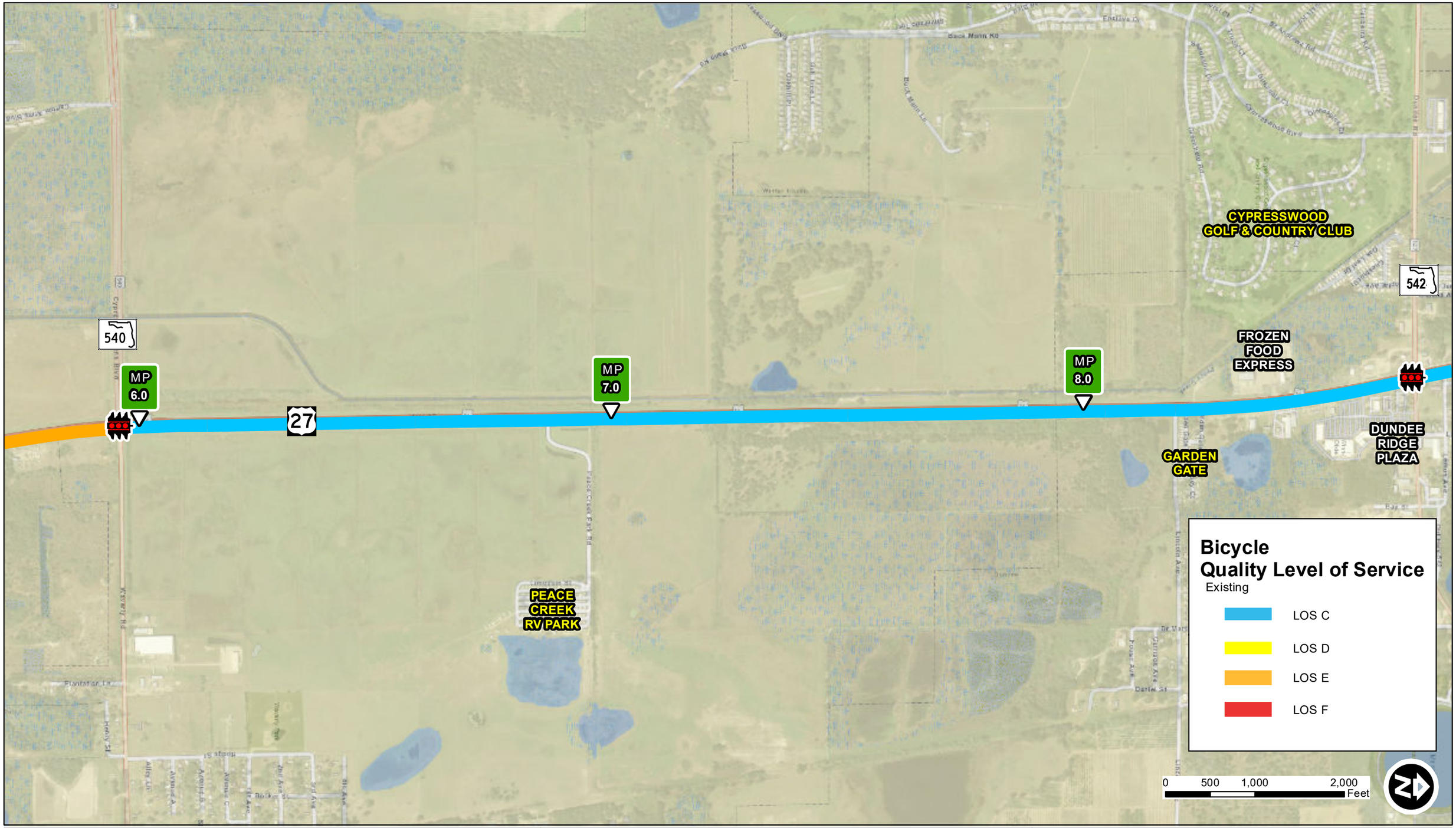


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 2 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

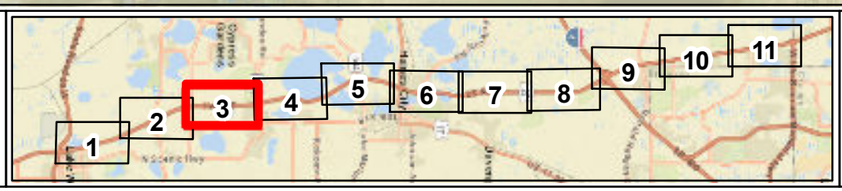
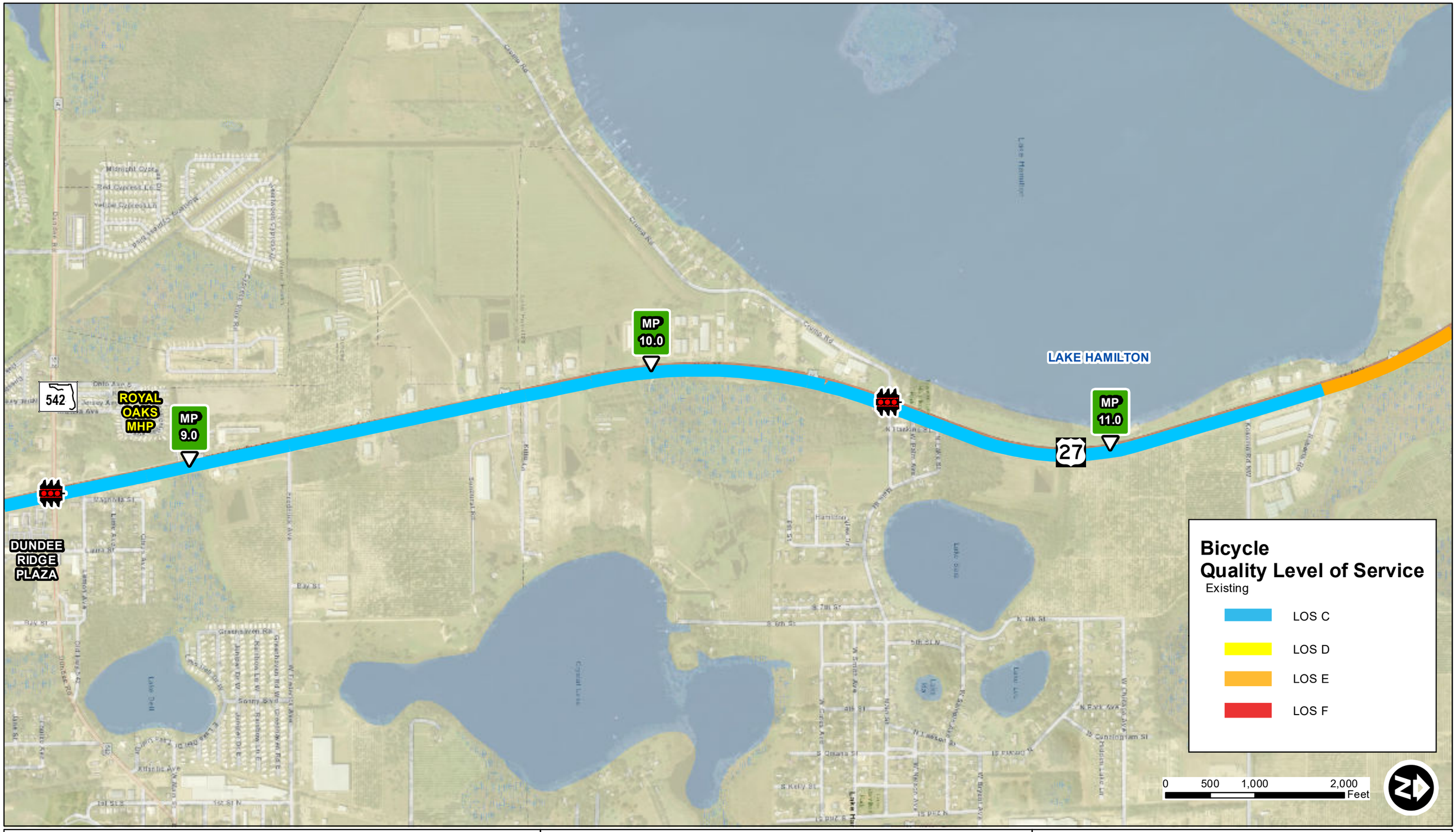


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 3 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

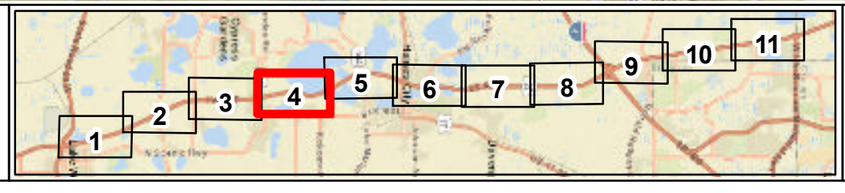


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 4 of 11

HIDDEN COVE

544

LAKE HENRY

MP 13.0

MP 14.0

27

MIDDLE LAKE HAMILTON

LAKE REGION VILLAGE MHP

MP 12.0

PARADISE ISLAND

LITTLE LAKE HAMILTON

Bicycle Quality Level of Service

Existing

- LOS C
- LOS D
- LOS E
- LOS F

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

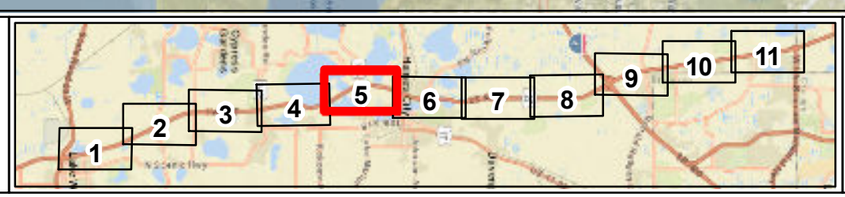
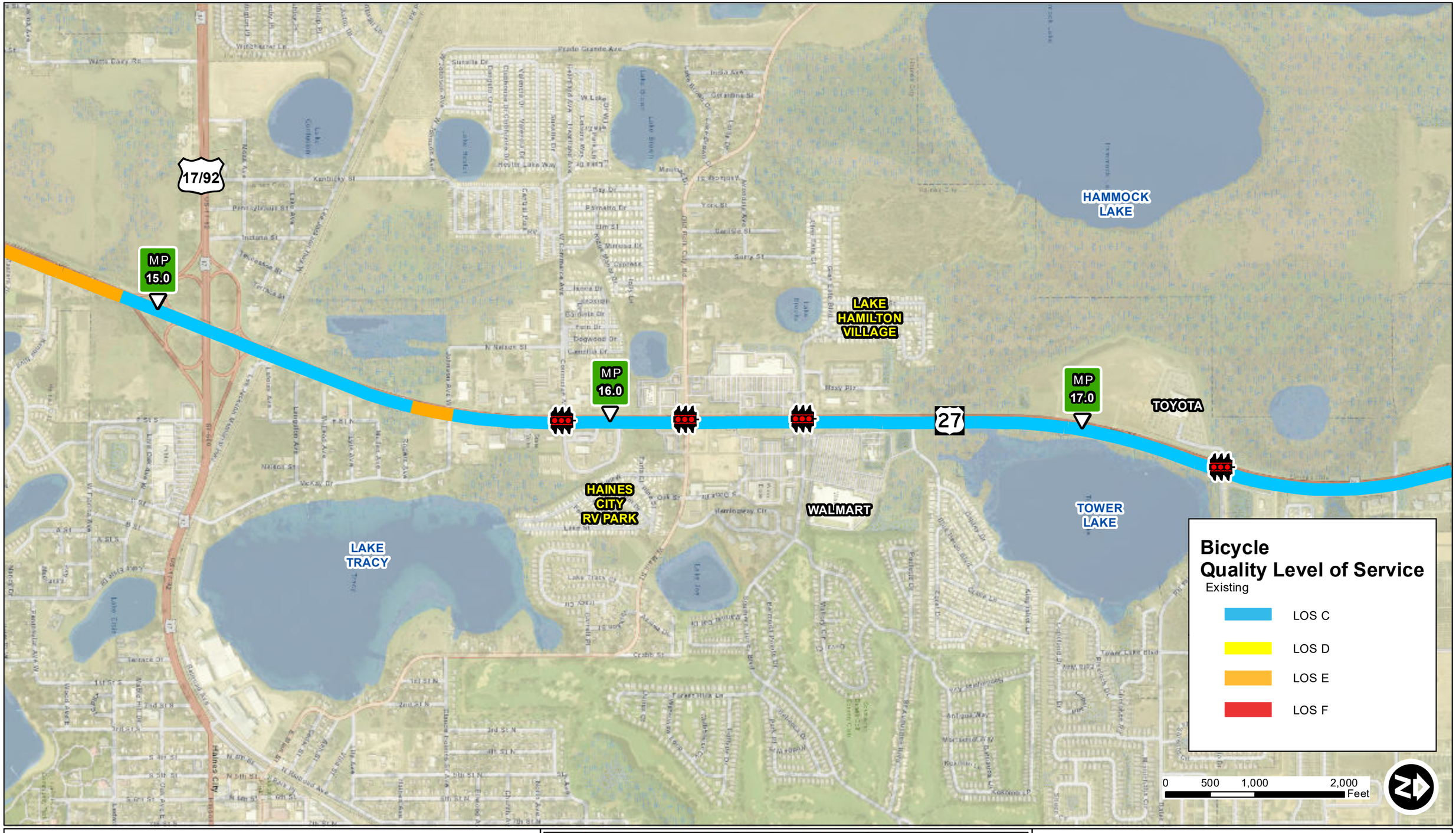


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 5 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

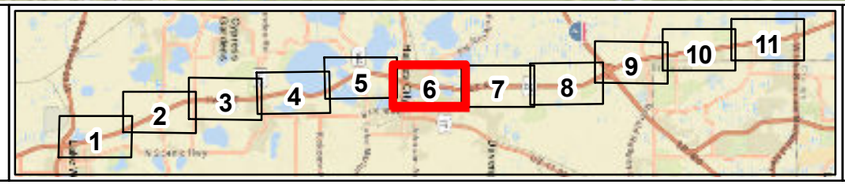
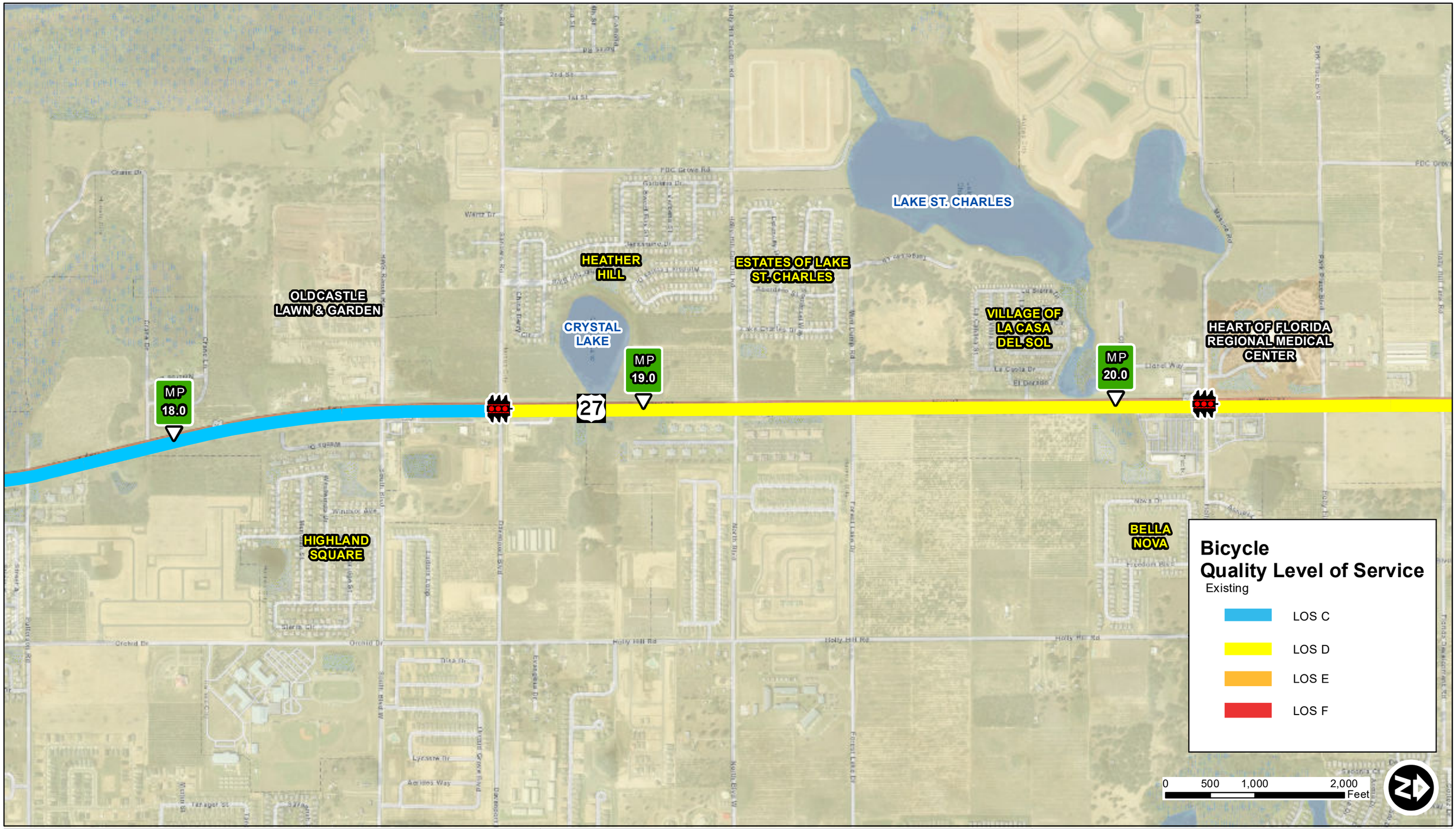


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 6 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
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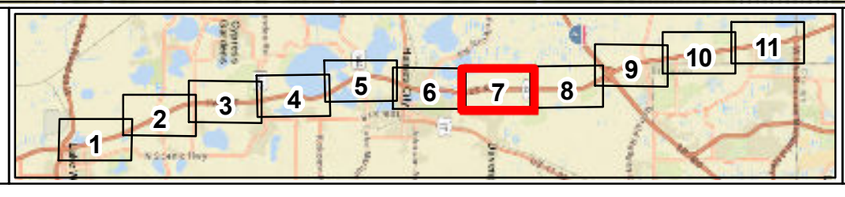
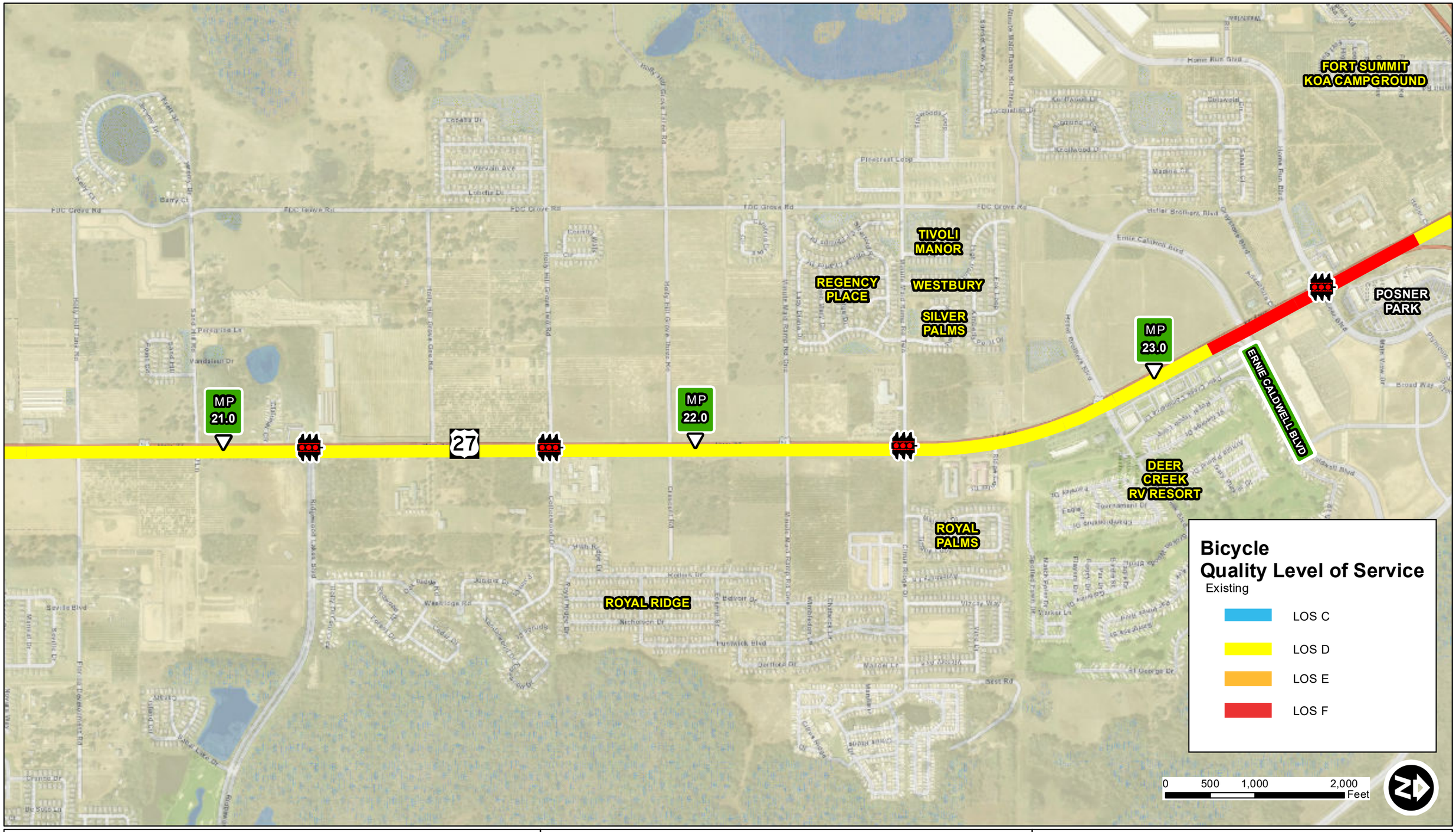


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 7 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

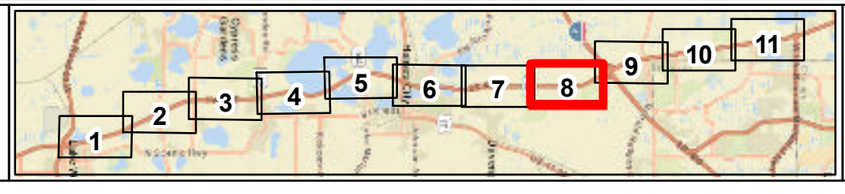
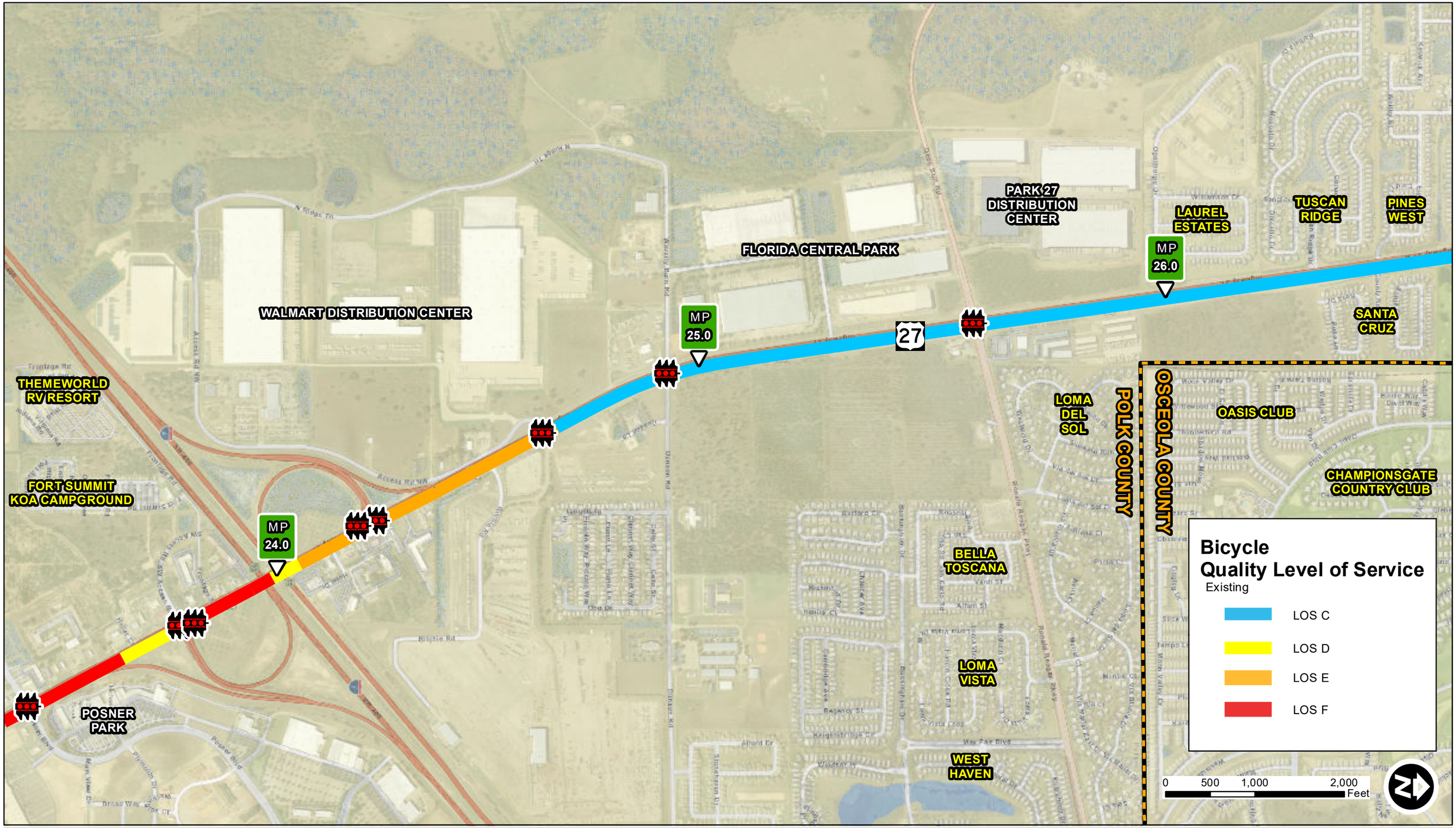


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 8 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
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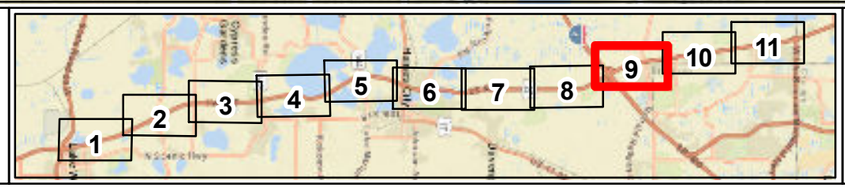
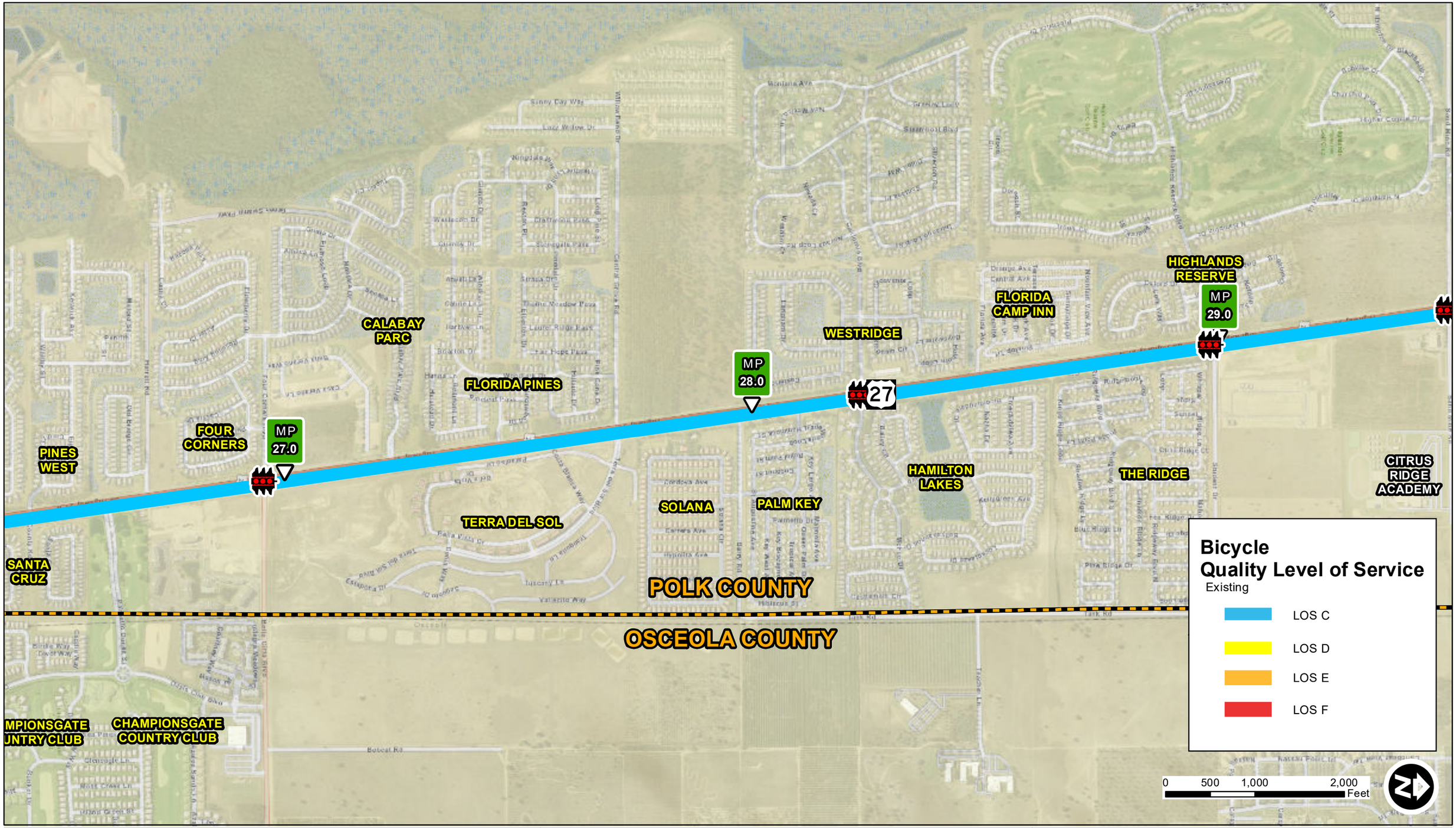


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 9 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
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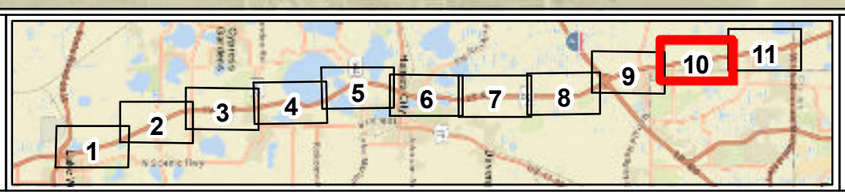


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 10 of 11

POLK COUNTY

LAKE COUNTY

THE RETREAT

HIGHGATE PARK

THE ESTATES

THE GROVES

THE CENTRE

WINDMILL VILLAGE

POLO PARK

END PROJECT

HIGH GROVE

MP 32.0

MP 31.0

MP 30.0

WELLINGTON

THE TOWNS

THE COMMONS

BERRY TOWN CENTER

27

192

NORTHEAST REGIONAL PARK

BASS LAKE

DAVENPORT LAKES

LAKE MAGIC RV RESORT

TUSCAN HILLS

THE PALMS

CITRUS RIDGE ACADEMY

OLD LAKE DAVENPORT

Bicycle Quality Level of Service

Existing

- LOS C
- LOS D
- LOS E
- LOS F

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

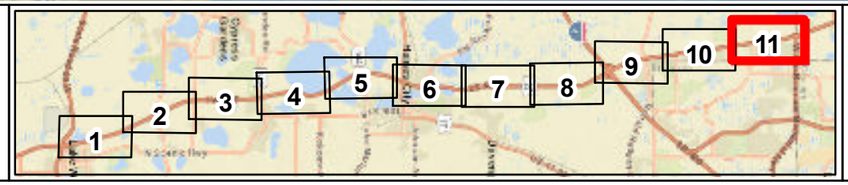


FIGURE 6-12
EXISTING
BICYCLE QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 11 of 11

6.4 EXISTING PEDESTRIAN ANALYSIS

To evaluate the quality of the pedestrian facilities along US 27, the FDOT Q/LOS analysis methodology was used. For pedestrian Q/LOS, each roadway segment was evaluated to note whether sidewalk was present. A lack of facility on one or both sides of a segment was considered to be a wholly deficient segment. As a major arterial roadway, standard facilities should be available for all users.

The FDOT Q/LOS Handbook Table 1 for Urbanized Areas was referenced for Pedestrian Mode to determine the Q/LOS. The FDOT two-way maximum service volumes for 0-49% coverage were applied where a sidewalk does not exist on both sides of the road. Where sidewalk exists on both sides of US 27, then coverage was considered to be 100% and the FDOT two-way maximum service volumes for 85-100% coverage were applied. The AADTs along US 27 were compared to the Generalized Service Volume Table (GSVT) two-way maximum service volume thresholds as presented in the FDOT Quality/Level of Service Handbook. The Pedestrian Mode Q/LOS results were determined for each segment and the details of the analysis are provided in **Table M-2** in Appendix M.

Figure 6-13 shows the pedestrian Q/LOS along the US 27 study corridor. **Table 6-5** summarizes the distance along US 27 that exhibits each Pedestrian facility Q/LOS.

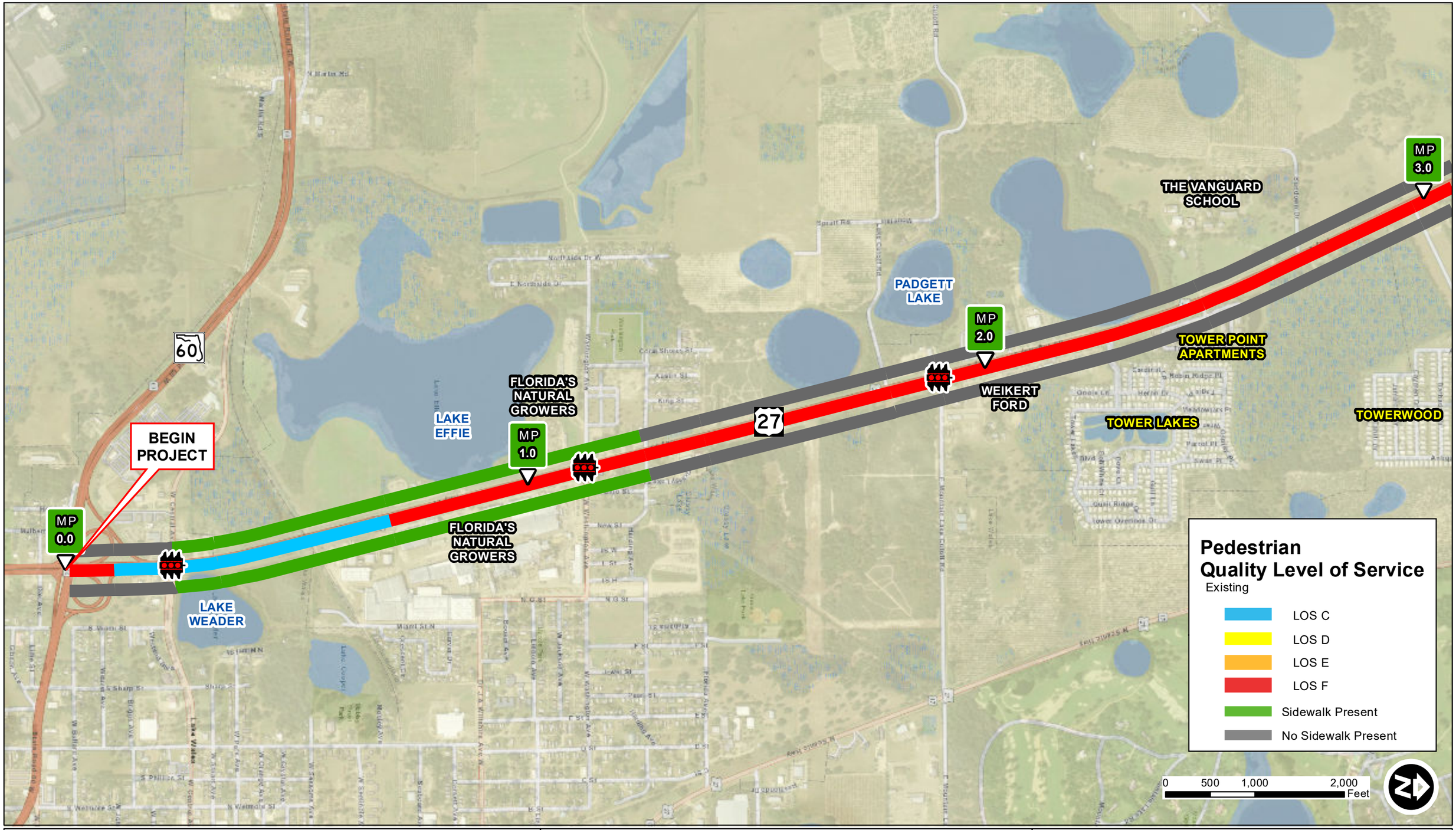
TABLE 6-4: NUMBER OF MILES PER PEDESTRIAN Q/LOS LEVEL

Pedestrian Q/LOS	Miles of US 27 Corridor
C	1.0 miles
D	10.01 miles
E	0.43 miles
F	20.52 miles

Pedestrian facility Q/LOS is considered acceptable at Q/LOS D or better. Approximately 35% of the corridor has an acceptable pedestrian LOS, while the other 65% of the corridor is below standard at LOS E or F. **Table 6-6** lists the sections of the US 27 corridor with deficient pedestrian facilities. As daily vehicular traffic on US 27 increases with area and regional population and employment growth, the Q/LOS of existing facilities is expected to degrade, and additional segments will fall below acceptable Q/LOS standard D.

TABLE 6-5: DEFICIENT PEDESTRIAN FACILITIES

From	To
Southern Study Limit	Central Ave
Harding Ave	South of Lincoln Ave
Kitto Ln	South of Crump Rd
Lake St	Johnson Ave
North of Glen Este Blvd	Bates Rd
North of Bates Rd	I-4
WB I-4 Off-Ramp	Access Rd NW
North of Polo Park Blvd	US-192



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

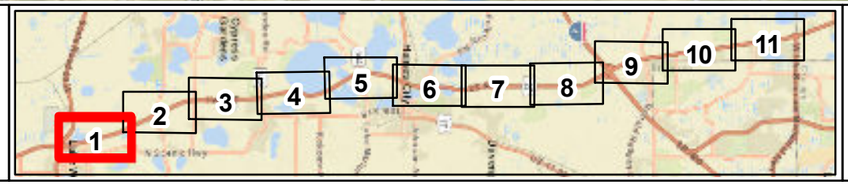
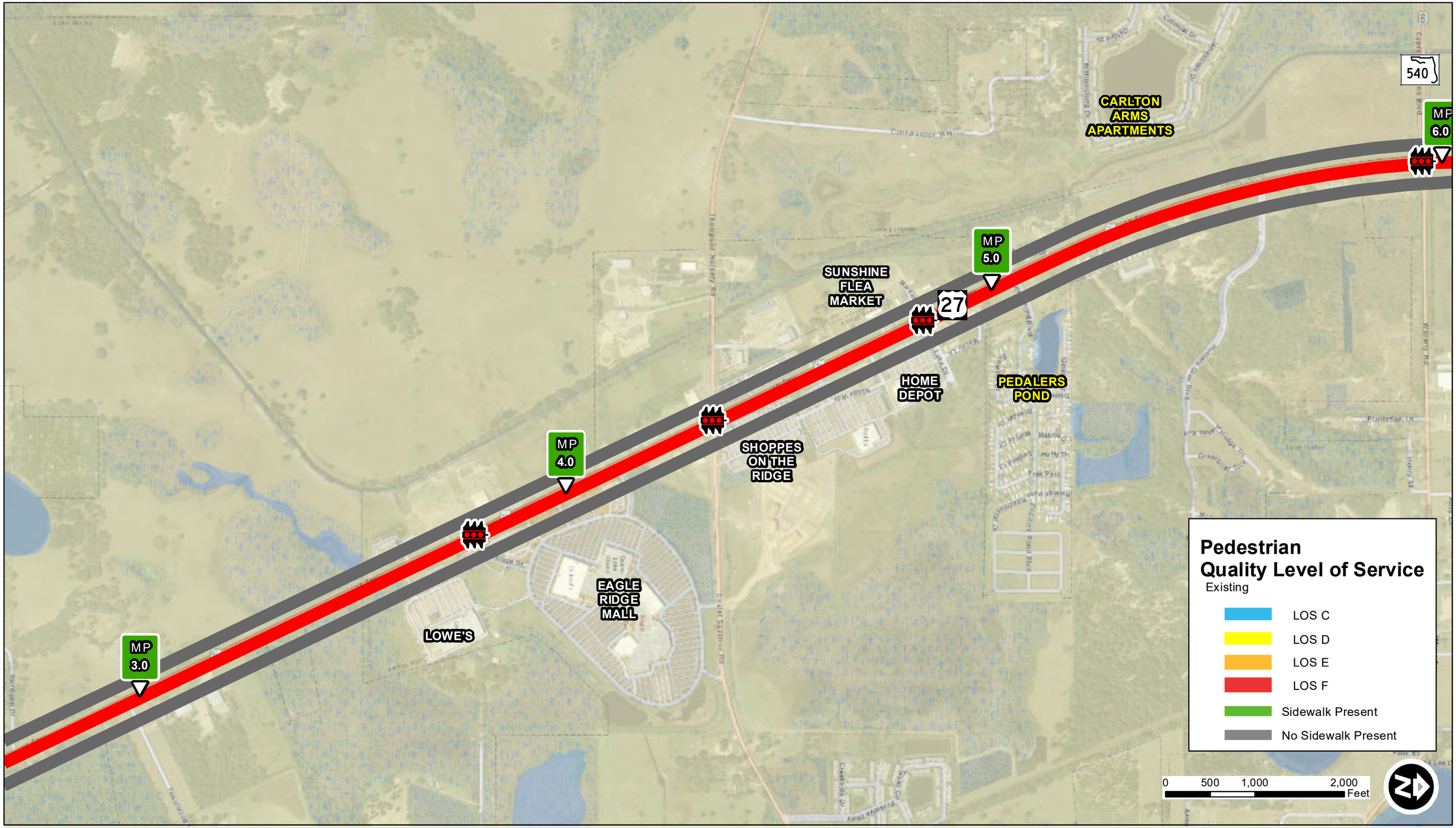


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 1 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

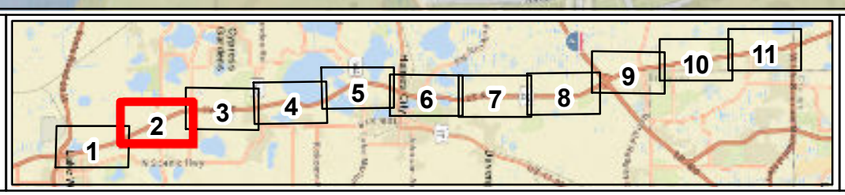
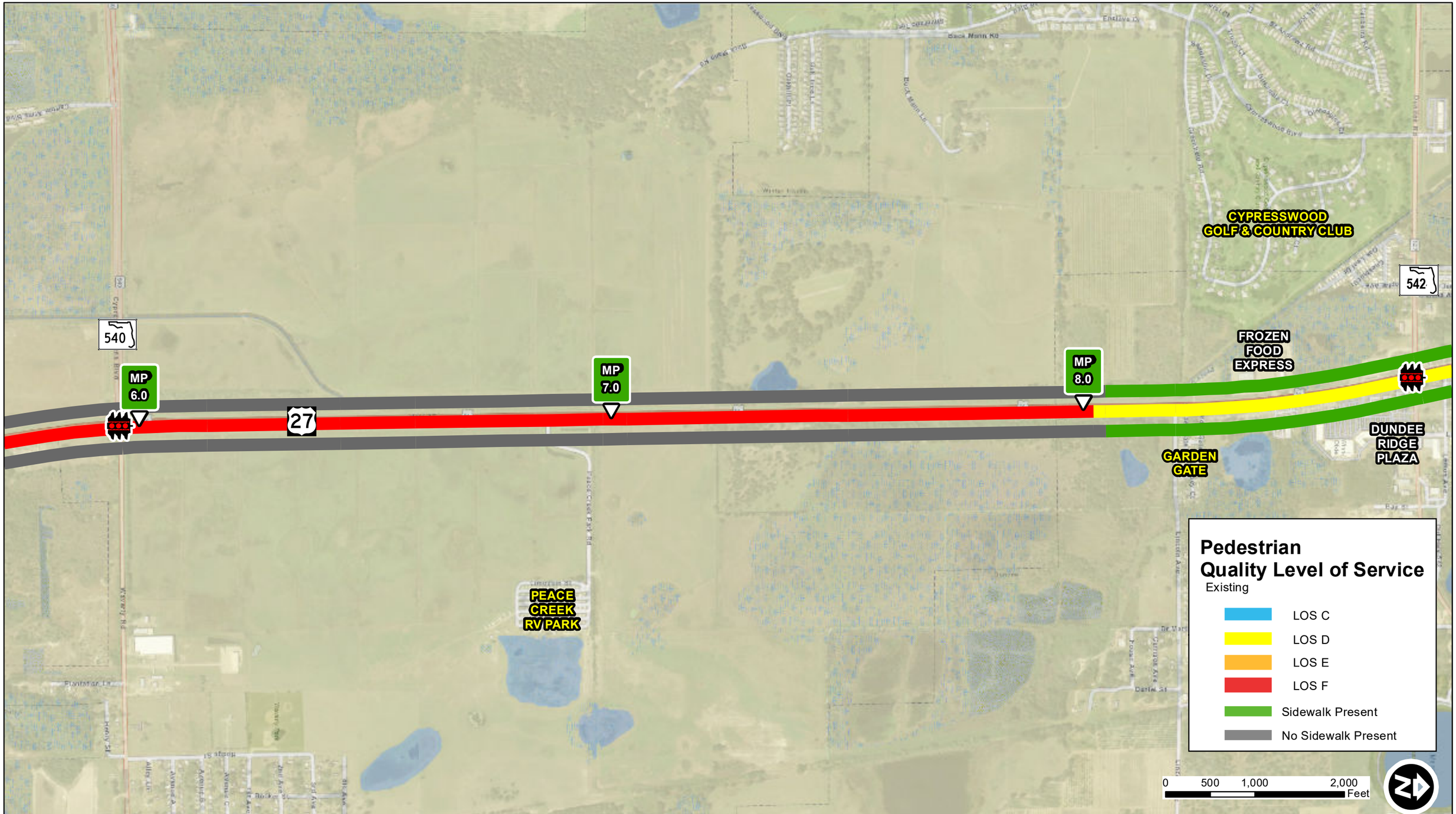


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 2 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

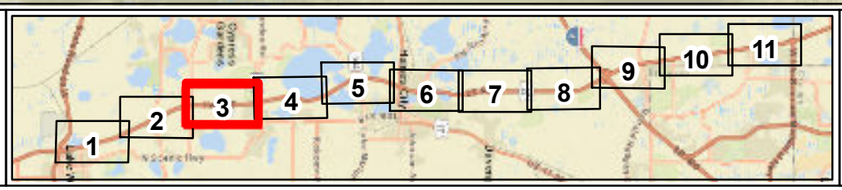
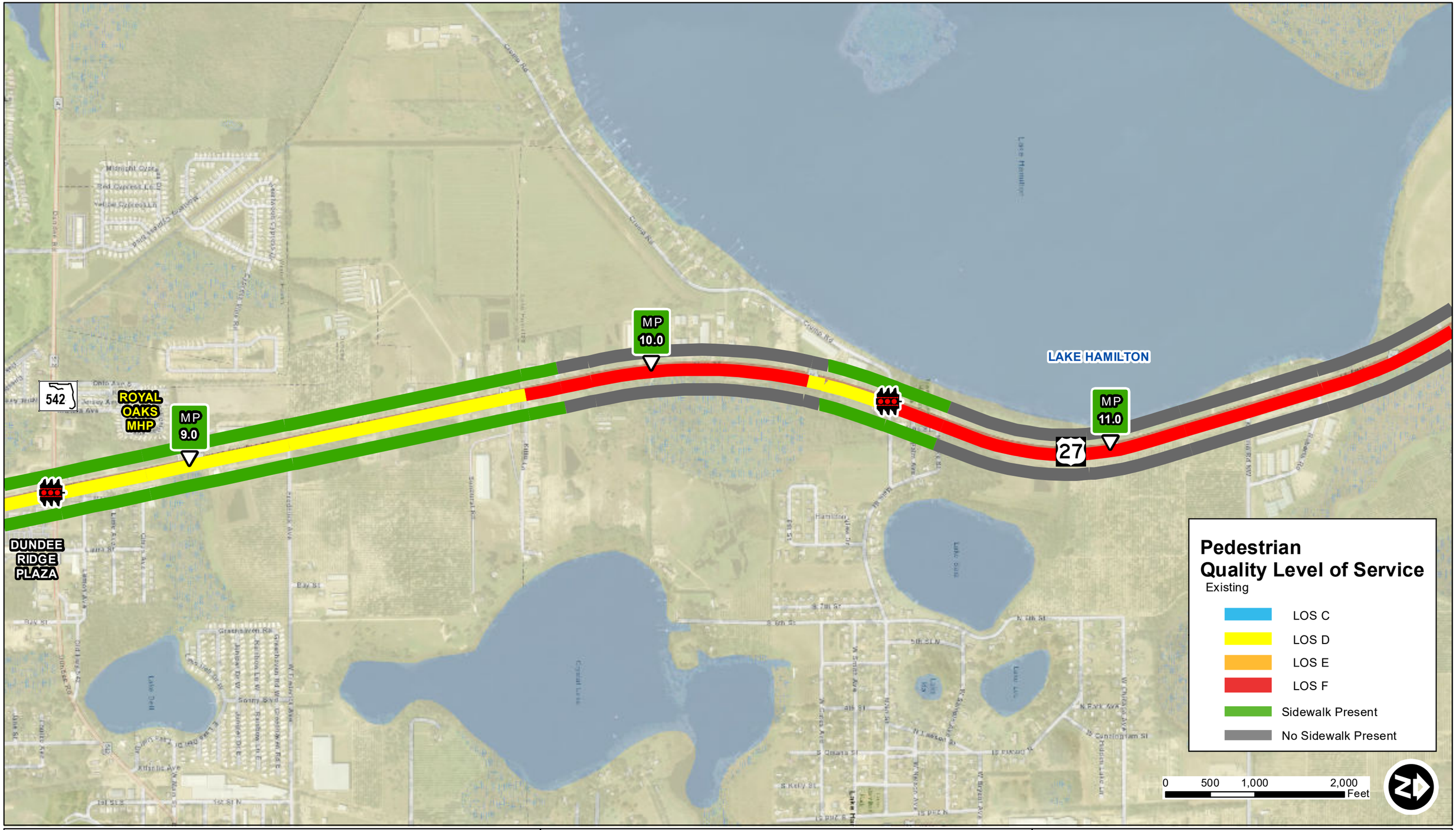


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 3 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

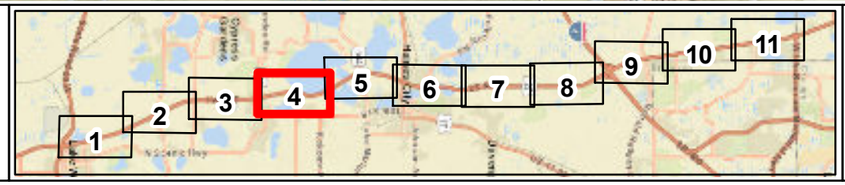
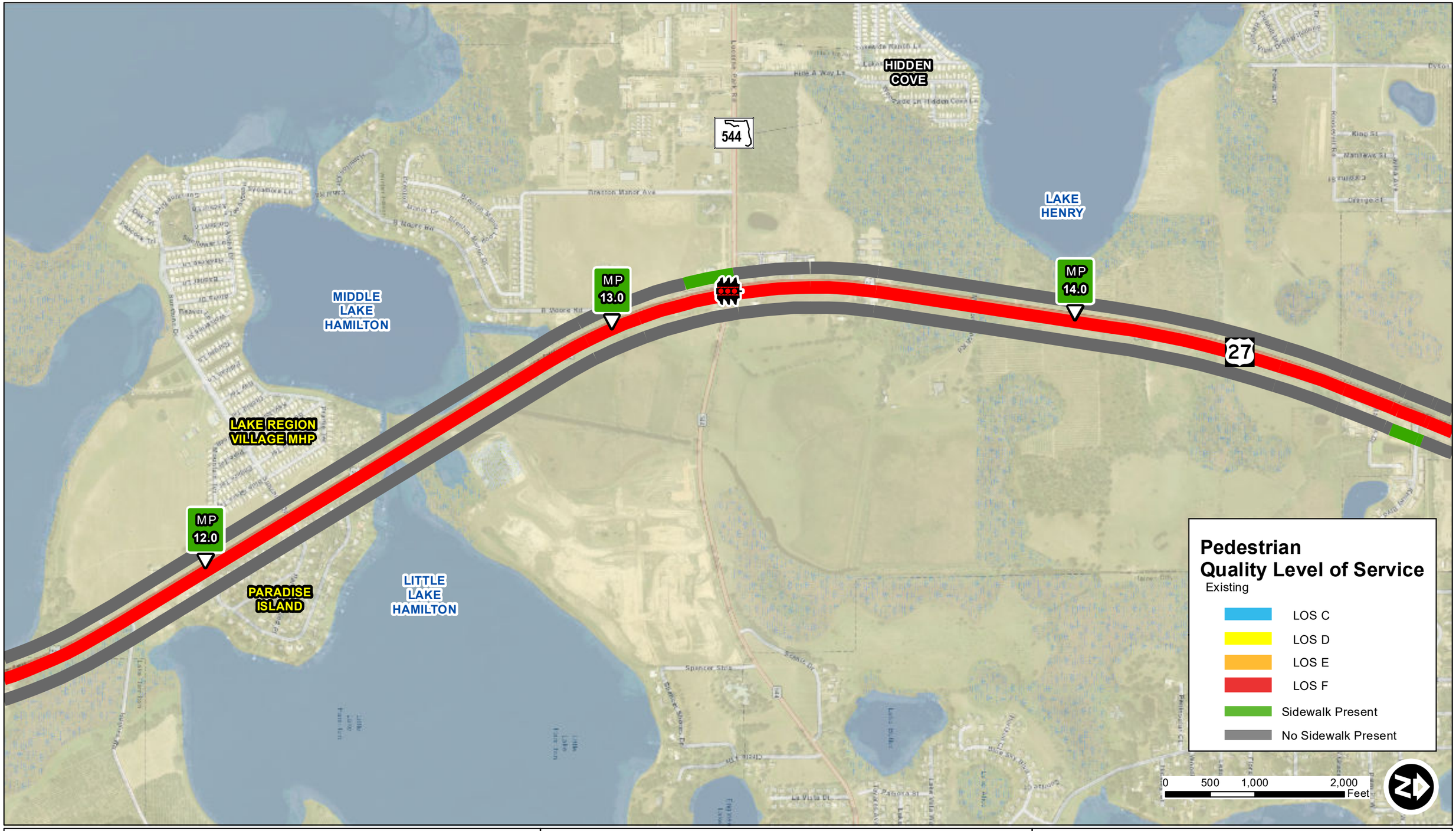


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 4 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

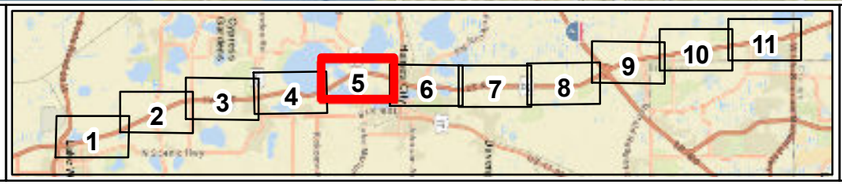
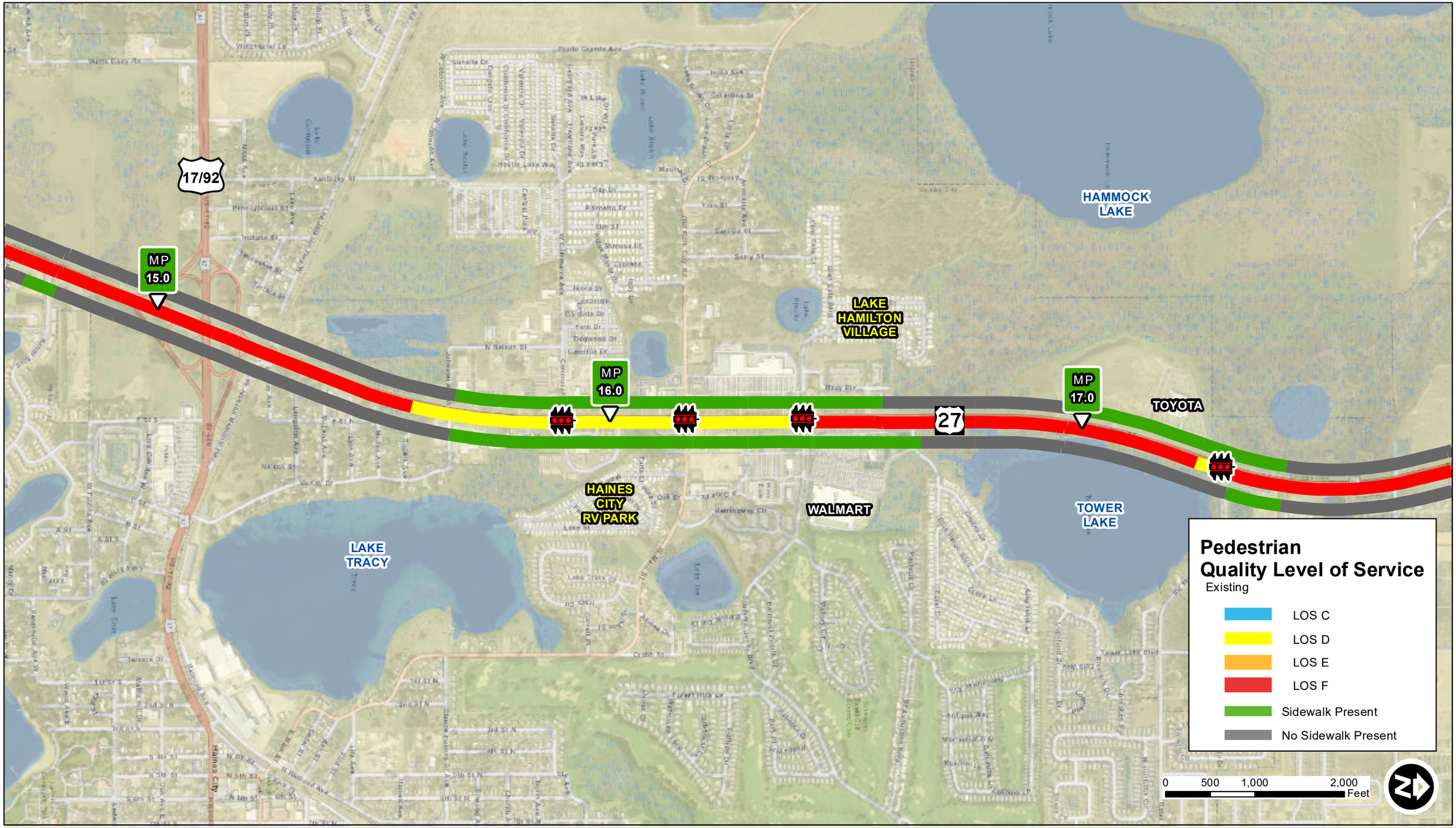


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 5 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

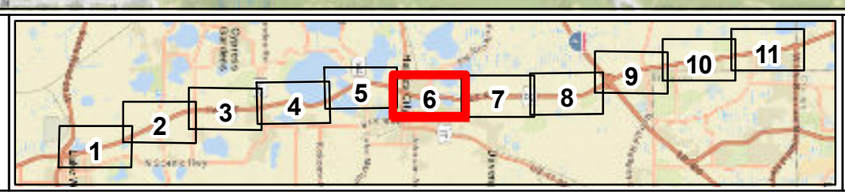


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 6 of 11

OLDCASTLE LAWN & GARDEN

HEATHER HILL

ESTATES OF LAKE ST. CHARLES

LAKE ST. CHARLES

CRYSTAL LAKE

VILLAGE OF LA CASA DEL SOL

HEART OF FLORIDA REGIONAL MEDICAL CENTER

HIGHLAND SQUARE

BELLA NOVA

MP 18.0

MP 19.0

MP 20.0

27

Pedestrian Quality Level of Service

Existing

- LOS C
- LOS D
- LOS E
- LOS F
- Sidewalk Present
- No Sidewalk Present

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

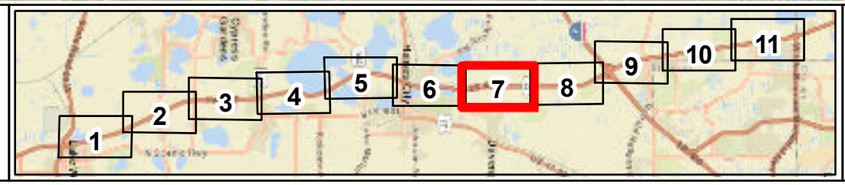
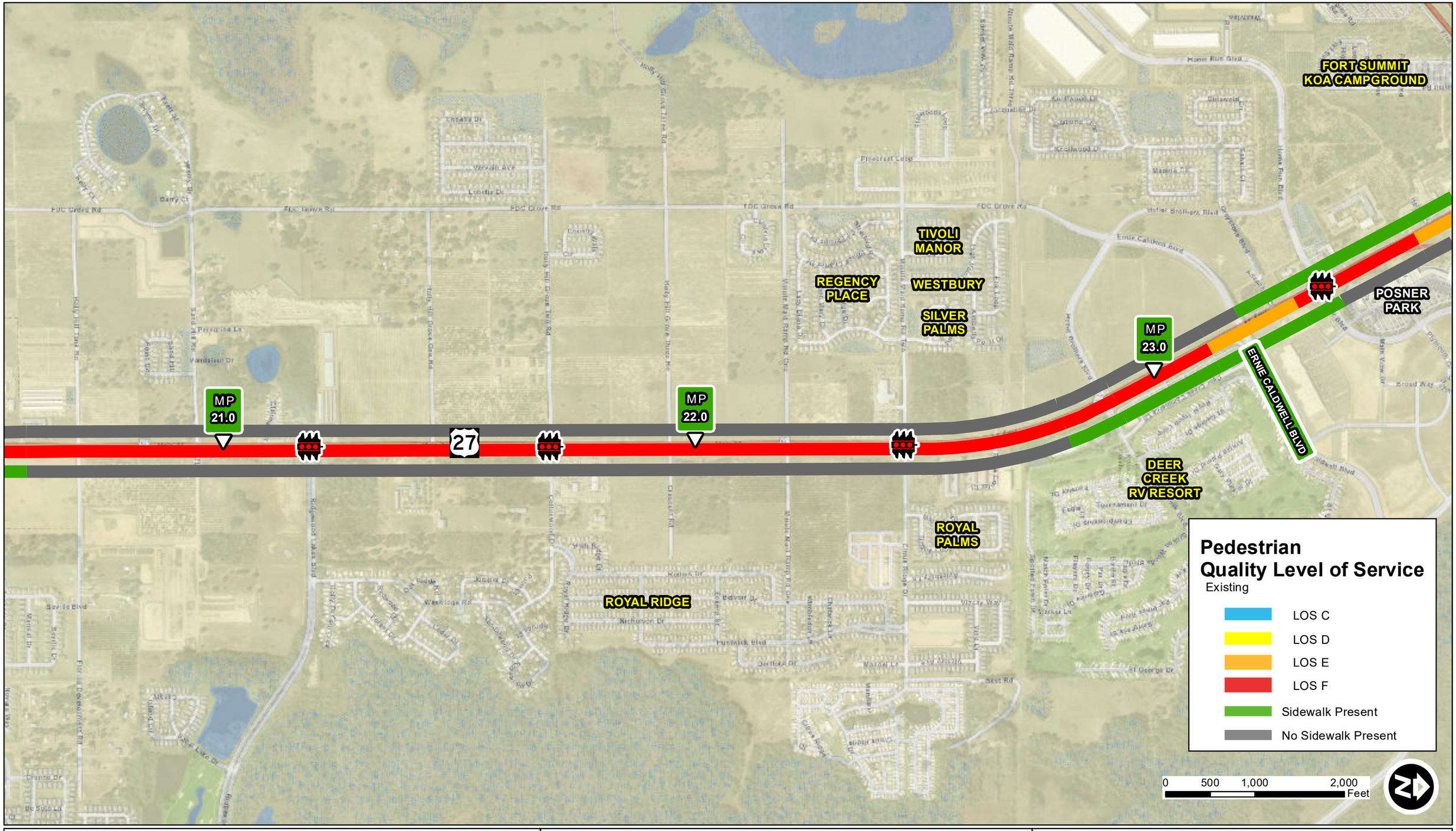


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 7 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

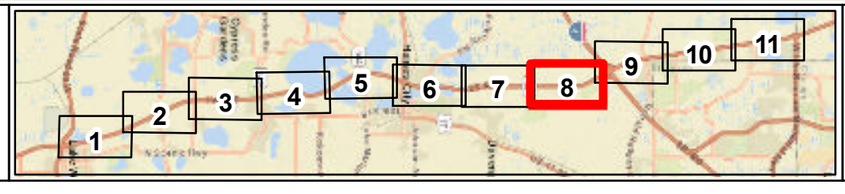
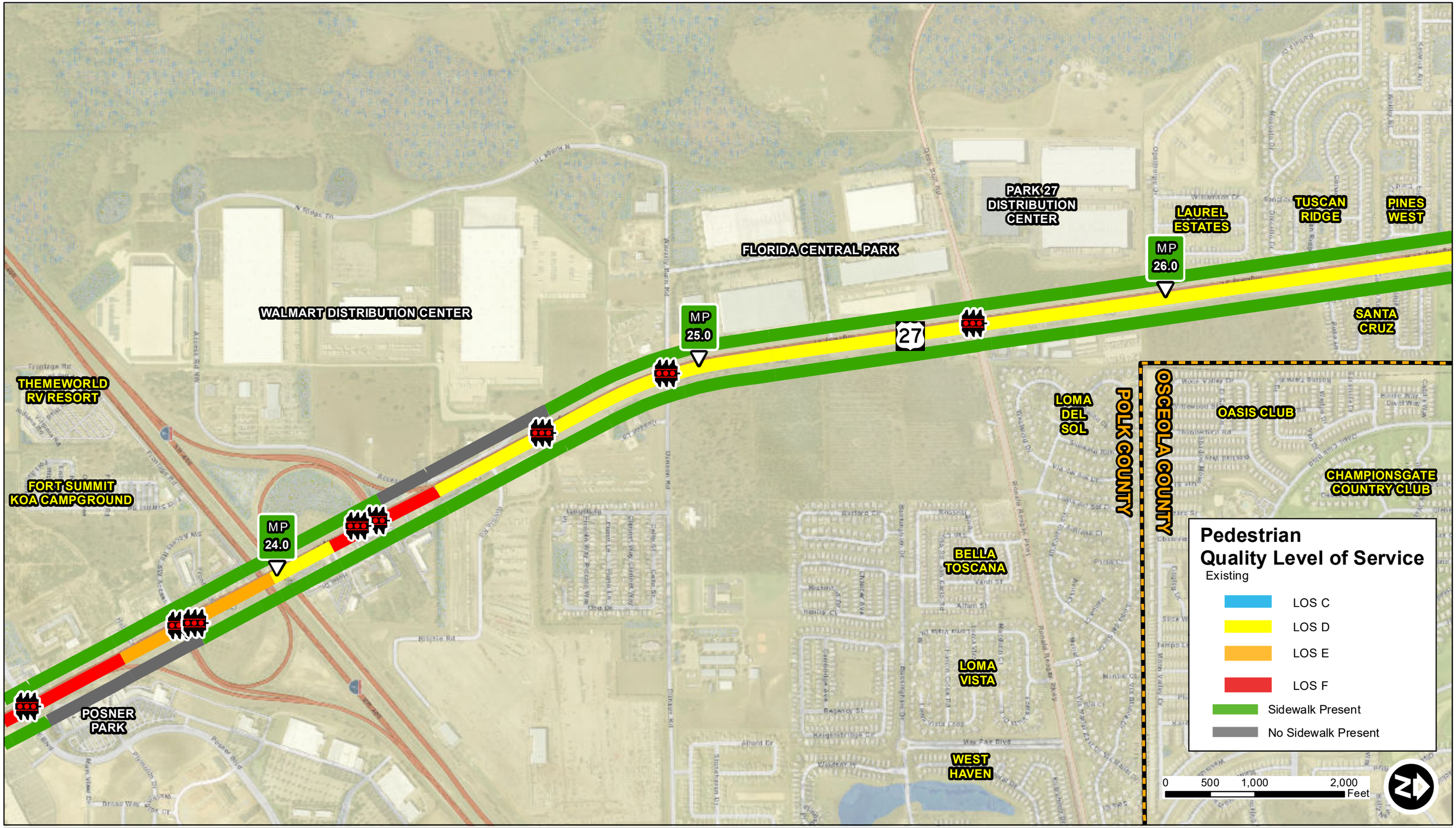


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 8 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

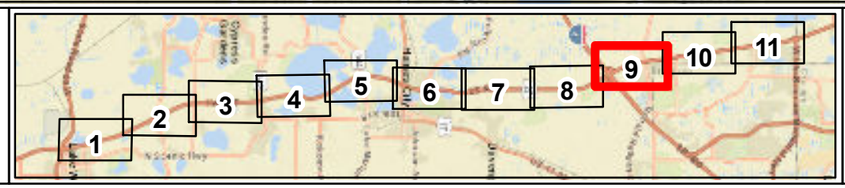
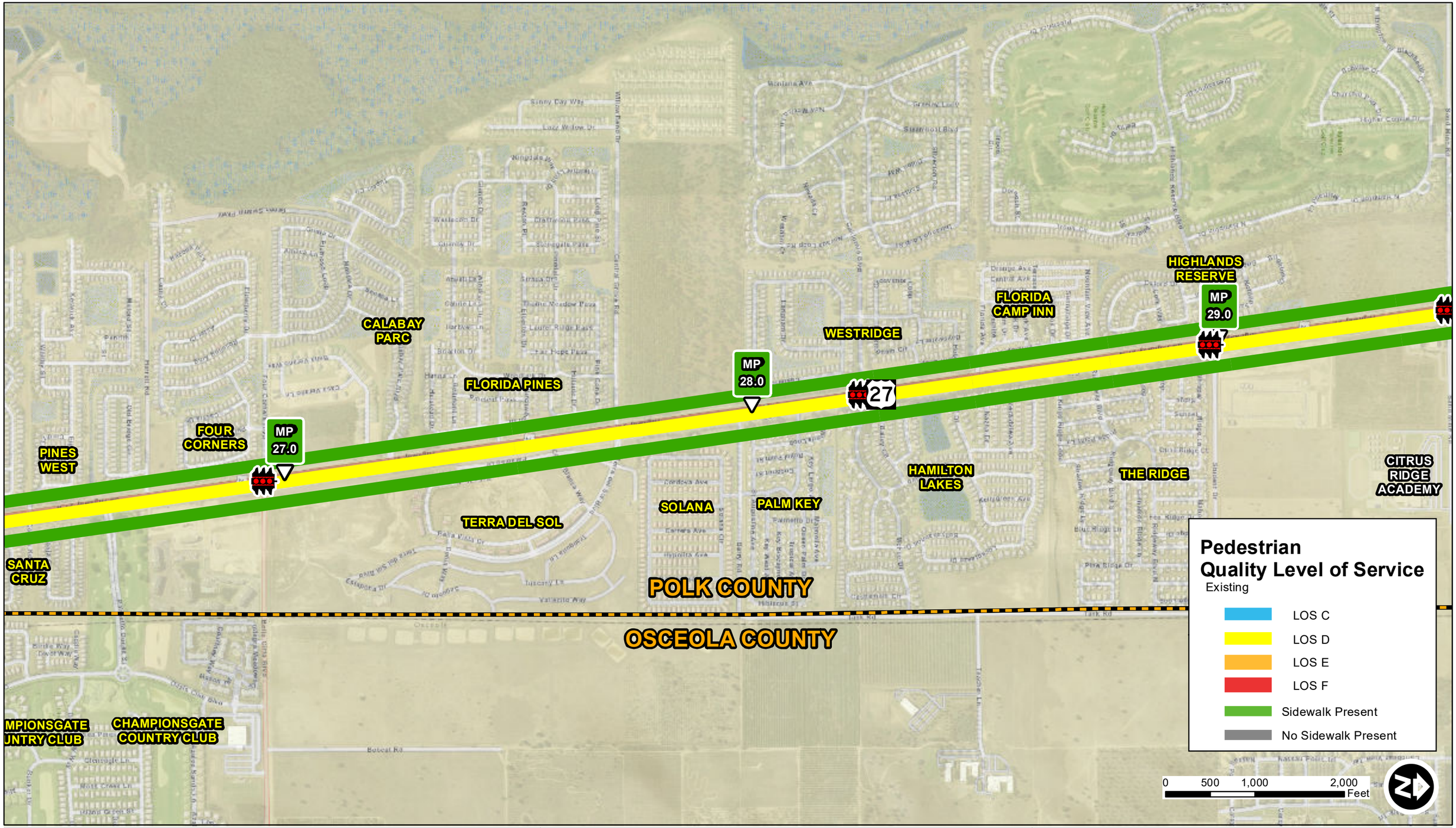


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 9 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

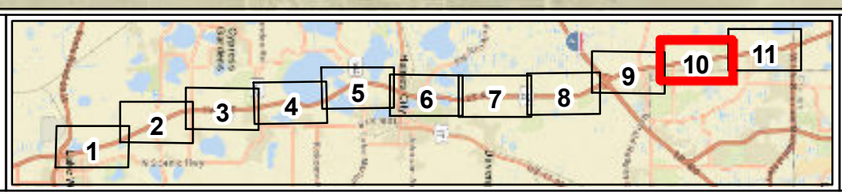
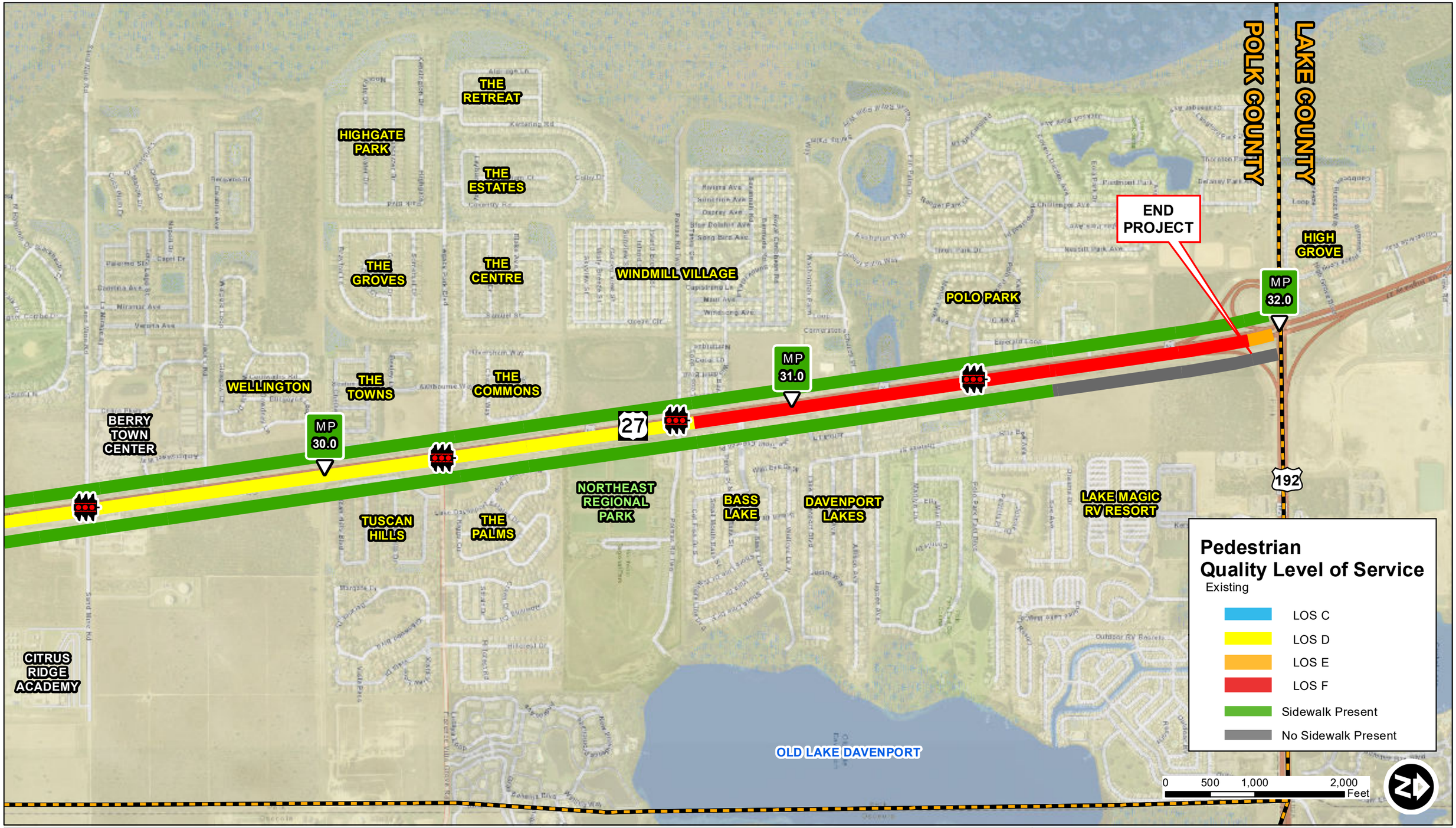


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 10 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

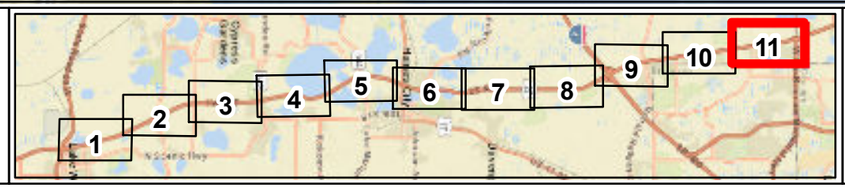


FIGURE 6-13
EXISTING
PEDESTRIAN QUALITY LEVEL OF SERVICE
US 27 CORRIDOR
Sheet 11 of 11

7 ROADWAY SAFETY AUDIT

7.1 DATA COLLECTION

7.1.1 Data Collection

Crash data for the study area was obtained from the FDOT State Safety Office Geographic Information System (SSOGis) Crash Query Tool for the years 2013 through 2017 and Signal 4 for the year 2017. Signal4 data was used for more recent data (2017) since CARS data was not available for 2017. The crash data included information including date of crash, location, number of vehicles involved, type of crash, number of injuries and/or fatalities, cause of crash, and estimated economic loss.

Due to the use of the two sources for the year 2017 crash data, Signal 4 crashes were reconciled, and all duplicate records removed compared to the SSOGis 2017 data. The crash data was gathered within a 250-foot buffer around the US 27 corridor between SR 60 and US 192, which included crashes along sidestreets within the buffer.

The crash analysis results reveal that there was a total of 3,451 crashes within the study area during this five-year period (2013-2017). Of these 3,451 crashes, rear-end collisions were the most common crash type, accounting for 47.4% followed by heavy vehicle crashes (14.5%) and angle crashes (12.5%). A total of 136 crashes (3.9%) resulted in a fatality or severe incapacitating injury and 25% occurred during dark conditions. **Table 7-1** summarizes the crash data for the entire study area, spanning from SR 60 to US 192 (SR 530). **Table 7-2** summarizes the crashes by severity along US 27 for this 5-year period. **Table 7-3** summarizes the crashes by lighting conditions.

In addition, **Figure 7-1** on the following pages shows the number of crashes by crash type and severity, per location, for both segments and intersections along the entire length of the US 27 study corridor. Crash summary tables for the highest ranked 10 intersections and two segments along the US 27 study corridor, are included in **Appendix N**.

TABLE 7-1: 5-YEAR CRASH SUMMARY BY CRASH TYPE

Crash Type	2013	2014	2015	2016	2017	Total	%
Rear End	243	296	368	375	354	**1,636**	**47.4%**
Angle	73	96	102	135	25	**431**	**12.5%**
Left Turn	0	0	0	0	33	**33**	**1.0%**
Hit Fixed Obj	23	22	28	23	17	**113**	**3.3%**
Sideswipe	36	51	75	61	87	**310**	**9.0%**
Heavy Vehicle	90	114	126	115	55	**500**	**14.5%**
Pedestrian	2	1	4	3	4	**14**	**0.4%**
Head On	2	11	17	10	5	**45**	**1.3%**
Bicycle	2	1	2	3	0	**8**	**0.2%**
Non-Collision	25	23	17	9	5	**79**	**2.3%**
Hit Non-Fixed Obj	6	7	9	7	0	**29**	**0.8%**
Right Turn	0	0	0	0	12	**12**	**0.3%**
Single Vehicle	0	0	0	0	34	**34**	**1.0%**
Run off Road	0	0	0	0	0	**0**	**0.0%**
Other	24	28	42	54	41	**189**	**5.5%**
Unknown	1	2	2	2	11	**18**	**0.5%**
Total	**527**	**652**	**792**	**797**	**683**	**3,451**	**100.0%**

TABLE 7-2: 5-YEAR CRASH SUMMARY BY SEVERITY

Crash Severity	2013	2014	2015	2016	2017	Total	%
Fatality	3	6	6	8	8	**31**	**0.9%**
Possible Injury	115	162	201	213	135	**826**	**23.9%**
Non-Incapacitating Injury	92	99	103	98	75	**467**	**13.5%**
Incapacitating Injury	23	24	20	23	15	**105**	**3.0%**
Property Damage Only	294	361	461	454	450	**2,020**	**58.5%**
Not Coded	0	0	1	1	0	**2**	**0.1%**
Total	**527**	**652**	**792**	**797**	**683**	**3,451**	**100.0%**

Legend

- Segment Ranking
- RSA
- Crash Location

From N. of SR 60
To Mt. Lake Cutoff Road

Ranked No. 10
Total Crashes 57
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 16
Dark Condition 17

BEGIN PROJECT

MP 0.0

MP 1.0

MP 2.0

MP 3.0

FLORIDA'S NATURAL GROWERS

LAKE EFFIE

LAKE WEADER

PADGETT LAKE

WEIKERT FORD

THE VANGUARD SCHOOL

TOWER POINT APARTMENTS

TOWER LAKES

TOWERWOOD

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

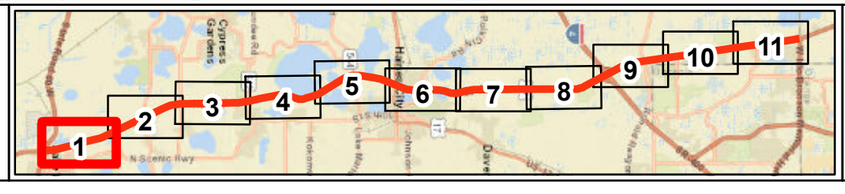


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 1 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From Thompson Nursery Road/
Chalet Suzanne Road
To SR 540/Cypress Garden
Boulevard/Waverly Road

Ranked No. 11
Total Crashes 123
Fatal/Severe 7
Ped/Bike 0
Heavy Vehicle 11
Dark Condition 26

From Mt. Lake Cutoff Road
To Thompson Nursery Road/
Chalet Suzanne Road

Ranked No. 14
Total Crashes 52
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 3
Dark Condition 13

MP 3.0
MP 4.0
MP 5.0
MP 6.0

CARLTON ARMS APARTMENTS
SUNSHINE FLEA MARKET
HOME DEPOT
PEDALERS POND
SHOPPES ON THE RIDGE
EAGLE RIDGE MALL
LOWE'S

27
540

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

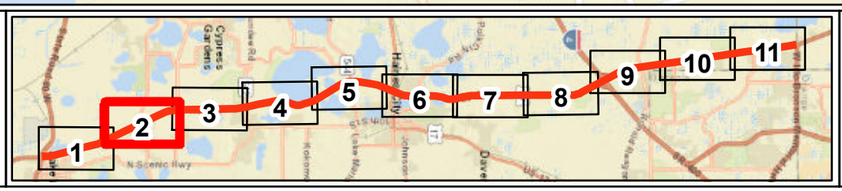


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 2 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

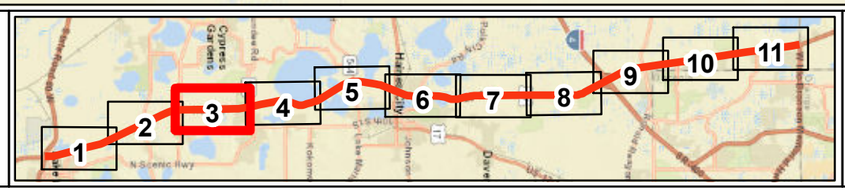
From SR 540/Cypress Garden Boulevard/Waverly Road
To SR 542/Dundee Road

Ranked No. 7
Total Crashes 45
Fatal/Severe 3
Ped/Bike 0
Heavy Vehicle 7
Dark Condition 16

MP 6.0
MP 7.0
MP 8.0

CYPRESSWOOD GOLF & COUNTRY CLUB
FROZEN FOOD EXPRESS
DUNDEE RIDGE PLAZA
GARDEN GATE
PEACE CREEK RV PARK

0 500 1,000 2,000 Feet



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 3 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From SR 542/Dundee Road
To Crump Road/Main Street

Ranked No. 16
Total Crashes 38
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 5
Dark Condition 8

From Crump Road/Main Street
To SR 544/Scenic Highway

Ranked No. 5
Total Crashes 75
Fatal/Severe 2
Ped/Bike 1
Heavy Vehicle 16
Dark Condition 26

MP 9.0
MP 10.0
MP 11.0
ROYAL OAKS MHP
DUNDEE RIDGE PLAZA
LAKE HAMILTON
542
27

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

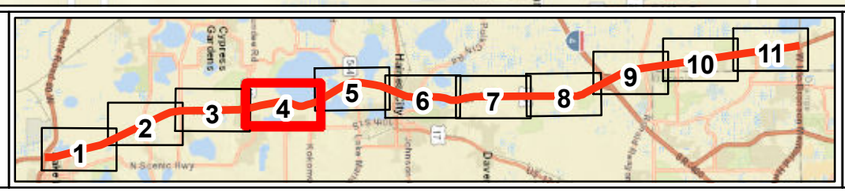


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 4 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From Crump Road/Main Street
To SR 544/Scenic Highway

Ranked No. 5
Total Crashes 75
Fatal/Severe 2
Ped/Bike 1
Heavy Vehicle 16
Dark Condition 26

From SR 544/Scenic Highway
To US 17 Interchange

Ranked No. 9
Total Crashes 37
Fatal/Severe 4
Ped/Bike 0
Heavy Vehicle 10
Dark Condition 11

MP 12.0
MP 13.0
MP 14.0

544
27

HIDDEN COVE
LAKE HENRY
MIDDLE LAKE HAMILTON
LAKE REGION VILLAGE MHP
PARADISE ISLAND
LITTLE LAKE HAMILTON

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

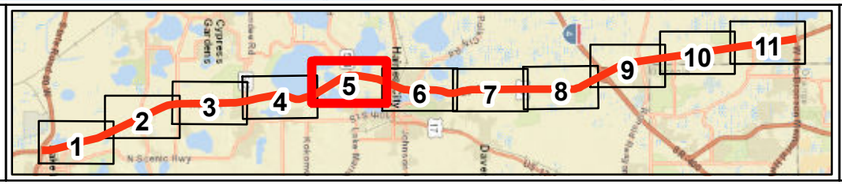


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 5 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

17/92

MP 15.0

From US 17 Interchange
To Old Polk City Road/
Main Street

Ranked No. 15
Total Crashes 50
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 8
Dark Condition 6

MP 16.0

From Old Polk City Road/
Main Street
To Bates Road

Ranked No. 6
Total Crashes 115
Fatal/Severe 2
Ped/Bike 0
Heavy Vehicle 23
Dark Condition 23

MP 17.0

HAMMOCK LAKE

LAKE HAMILTON VILLAGE

27

TOYOTA

HAINES CITY RV PARK

WALMART

TOWER LAKE

WEST VIEW RIDGE

LAKE TRACY

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

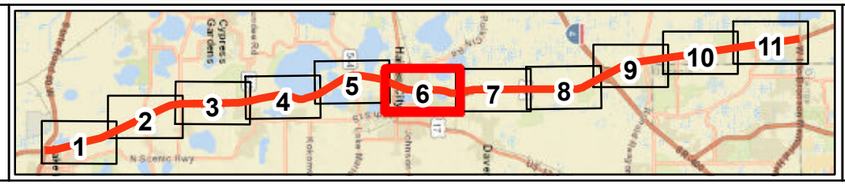


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 6 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From Bates Road
To CR 547/Davenport
Boulevard/Sanders Road

Ranked No. 8
Total Crashes 87
Fatal/Severe 6
Ped/Bike 0
Heavy Vehicle 16
Dark Condition 16

From CR 547/Davenport
Boulevard/Sanders Road
To Ridgewood Lakes Boulevard

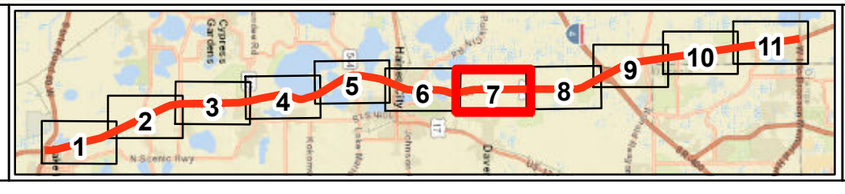
Ranked No. 13
Total Crashes 140
Fatal/Severe 11
Ped/Bike 1
Heavy Vehicle 8
Dark Condition 38

OLDCASTLE LAWN & GARDEN
HEATHER HILL
ESTATES OF LAKE ST. CHARLES
LAKE ST. CHARLES
CRYSTAL LAKE
VILLAGE OF LA CASA DEL SOL
HEART OF FLORIDA REGIONAL MEDICAL CENTER
LAKE HENRY
HIGHLAND SQUARE
BELLA NOVA
WINFIELD HEIGHTS

MP 18.0
MP 19.0
MP 20.0

27

0 500 1,000 2,000 Feet



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 7 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From Ridgewood Lakes Boulevard
To Minute Maid Ramp Road 2

Ranked No. 17
Total Crashes 95
Fatal/Severe 7
Ped/Bike 2
Heavy Vehicle 10
Dark Condition 23

From Minute Maid Ramp Road 2
To I-4 Interchange

Ranked No. 1
Total Crashes 196
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 26
Dark Condition 34

MP 21.0

MP 22.0

MP 23.0

27

FORT SUMMIT KOA CAMPGROUND

TIVOLI MANOR

REGENCY PLACE

WESTBURY

SILVER PALMS

ERNIE CALDWELL BLVD

DEER CREEK RV RESORT

ROYAL PALMS

ROYAL RIDGE

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

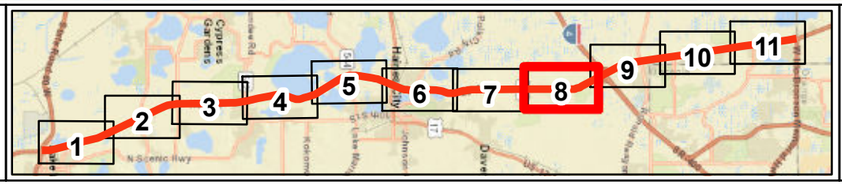


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 8 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From I-4 Interchange
To SR 54/Ronald Reagan Parkway/Deen Still Road

Ranked No. 7
Total Crashes 71
Fatal/Severe 1
Ped/Bike 1
Heavy Vehicle 15
Dark Condition 21

WALMART DISTRICT CENTER
FLORIDA CENTRAL PARK
PARK 27 DISTRICT CENTER
LAUREL ESTATES
TUSCAN RIDGE
PINES WEST
SANTA CRUZ
THEMEWORLD RV RESORT
FORT SUMMIT KOA CAMPGROUND
LOMA DEL SOL
OASIS CLUB
POLK COUNTY
OSCEOLA COUNTY
BELLA TOSCANA
LOMA VISTA
WEST HAVEN
CHAMPIONSGATE COUNTRY CLUB

MP 25.0
MP 26.0
MP 24.0

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
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Polk County, Florida
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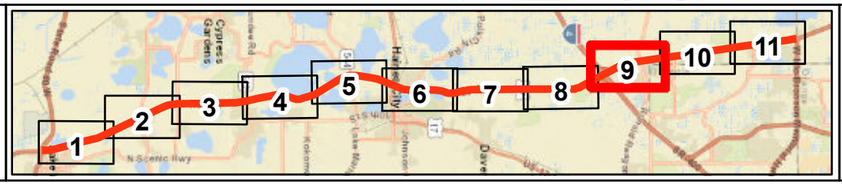


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 9 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From California Boulevard/
McFee Drive
To Legacy Park Boulevard/
Florence Villa Grove Road

Ranked No. 4
Total Crashes 66
Fatal/Severe 4
Ped/Bike 3
Heavy Vehicle 6
Dark Condition 24

From SR 54/Ronald Reagan
Parkway/Deen Still Road
To California Boulevard/
McFee Drive

Ranked No. 3
Total Crashes 86
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 8
Dark Condition 31

PINES WEST
FOUR CORNERS
MP 27.0
CALABAY PARC
FLORIDA PINES
MP 28.0
WESTRIDGE
FLORIDA CAMP INN
HIGHLANDS RESERVE
MP 29.0
HAMILTON LAKES
THE RIDGE
CITRUS RIDGE ACADEMY
SOLANA
PALM KEY
TERRA DEL SOL
LOMA DEL SOL
SANTA CRUZ
POLK COUNTY
OSCEOLA COUNTY
CHAMPIONSGATE COUNTRY CLUB

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

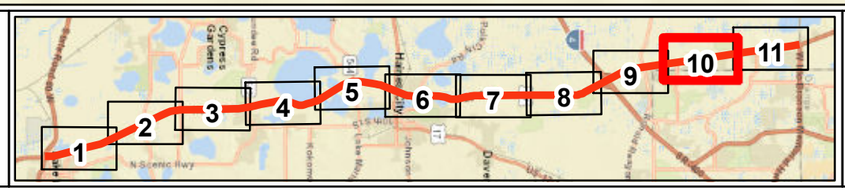


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 10 of 11

Legend

- Segment Ranking
- RSA
- Crash Location

From Legacy Park Boulevard/
Florence Villa Grove Road
To US 192 Interchange

Ranked No. 12
Total Crashes 76
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 7
Dark Condition 24

END PROJECT

MP 30.0

MP 31.0

MP 32.0

POLK COUNTY

LAKE COUNTY

THE RETREAT

HIGHGATE PARK

THE ESTATES

THE GROVES

THE CENTRE

WINDMILL VILLAGE

POLO PARK

HIGH GROVE

WELLINGTON

THE TOWNS

THE COMMONS

BERRY TOWN CENTER

NORTHEAST REGIONAL PARK

BASS LAKE

DAVENPORT LAKES

LAKE MAGIC RV RESORT

TUSCAN HILLS

THE PALMS

CITRUS RIDGE ACADEMY

OLD LAKE DAVENPORT

27

192

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

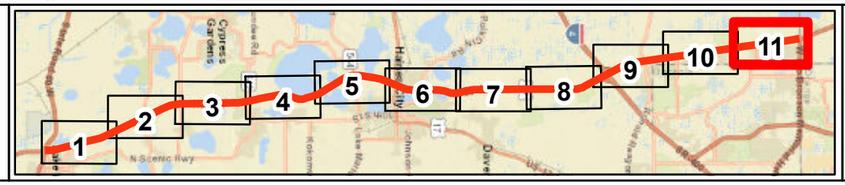


FIGURE 7-1
US 27 SEGMENT CRASHES
(2013 - 2017)
Sheet 11 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

BEGIN PROJECT

MP 0.0

MP 1.0

MP 2.0

MP 3.0

W. Central Avenue

Ranked No. 21
Total Crashes 69
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 16
Dark Condition 9

W. Washington Avenue

Ranked No. 16
Total Crashes 51
Fatal/Severe 5
Ped/Bike 1
Heavy Vehicle 8
Dark Condition 10

Mount Lake Cutoff Road N

Ranked No. 26
Total Crashes 29
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 4
Dark Condition 5

Tower Point Entrance/ Vanguard School Entrance

Ranked No. 4
Total Crashes 9
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 1
Dark Condition 4

LAKE WEADER

LAKE EFFIE

PADGETT LAKE

FLORIDA'S NATURAL GROWERS

WEIKERT FORD

TOWER POINT APARTMENTS

THE VANGUARD SCHOOL

TOWER LAKES

TOWERWOOD

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

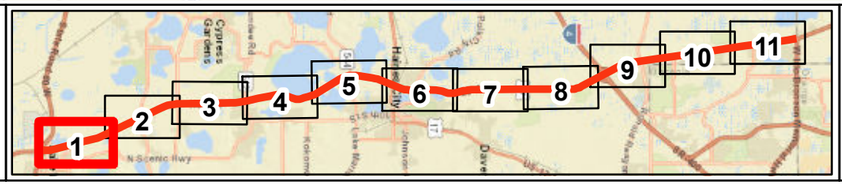


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 1 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

Thompson Nursery Road/
Chalet Suzanne Road

Ranked No. 5
Total Crashes 91
Fatal/Severe 3
Ped/Bike 0
Heavy Vehicle 14
Dark Condition 29

Eagle Ridge Mall Entrance

Ranked No. 25
Total Crashes 26
Fatal/Severe 0
Ped/Bike 0
Heavy Vehicle 6
Dark Condition 6

Peddlers Pond Boulevard

Ranked No. 30
Total Crashes 9
Fatal/Severe 0
Ped/Bike 0
Heavy Vehicle 0
Dark Condition 0

MP 3.0
MP 4.0
MP 5.0
MP 6.0

CARLTON ARMS APARTMENTS
SUNSHINE FLEA MARKET
HOME DEPOT
PEDALERS POND
SHOPPES ON THE RIDGE
EAGLE RIDGE MALL
LOWE'S

27
540

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

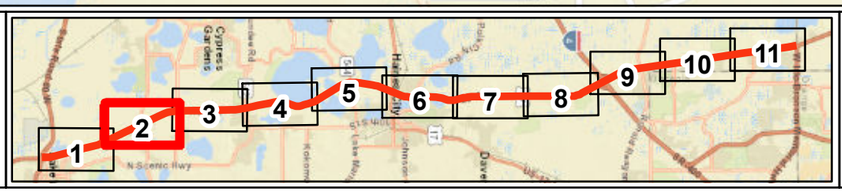
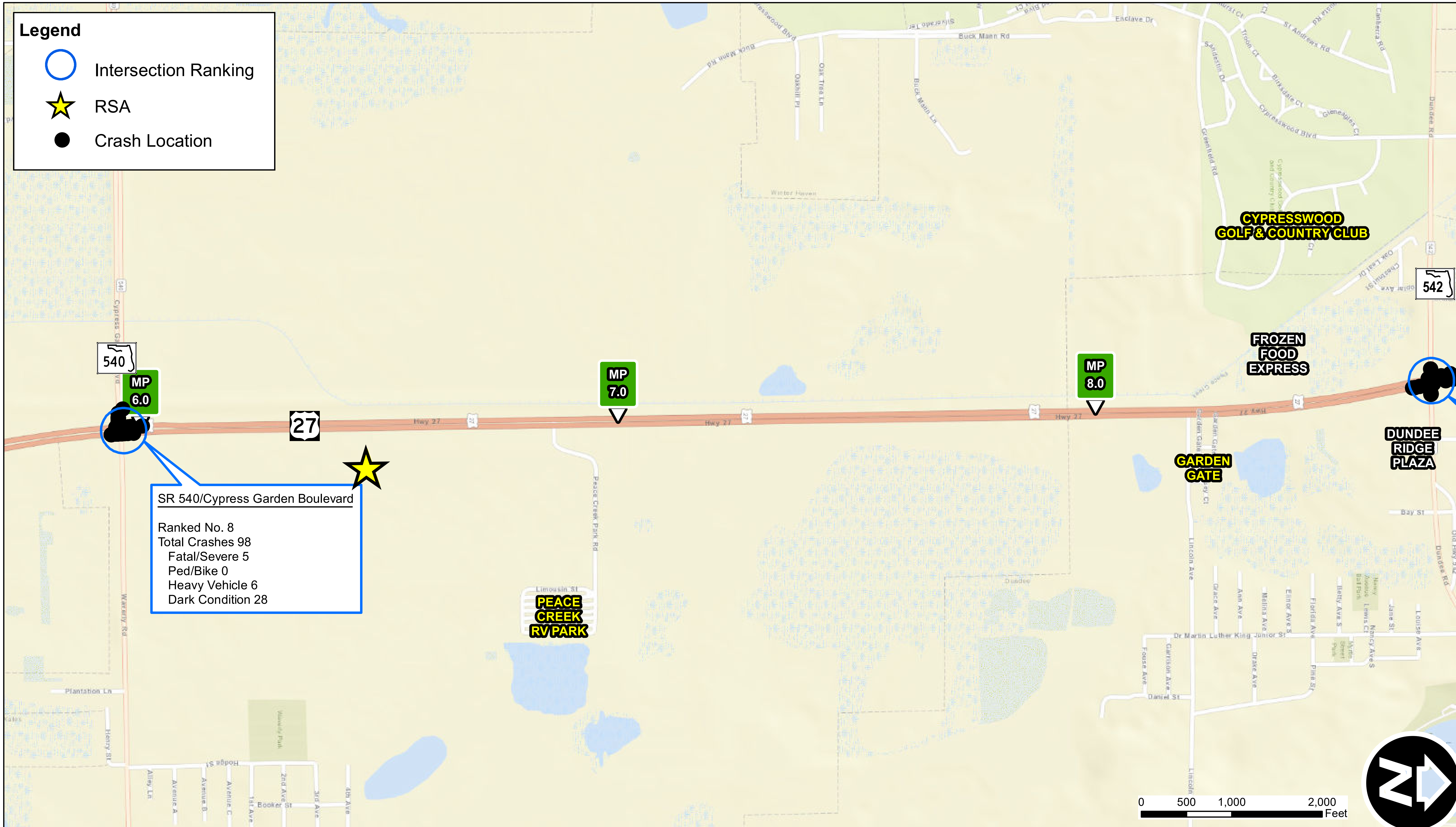


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 2 of 11



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

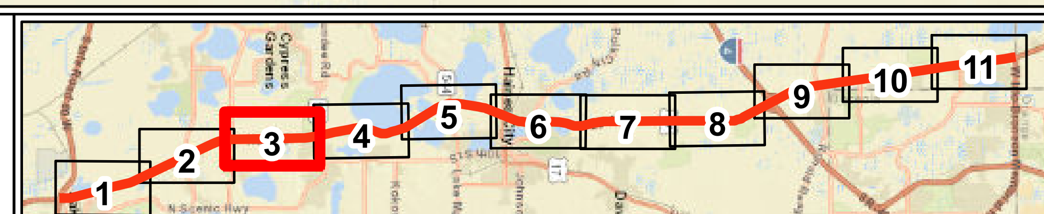


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 3 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

SR 542/Dundee Road

Ranked No. 13
Total Crashes 62
Fatal/Severe 1
Ped/Bike 1
Heavy Vehicle 6
Dark Condition 21

Crump Road/W Main Street

Ranked No. 27
Total Crashes 25
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 9
Dark Condition 3

DUNDEE RIDGE PLAZA

ROYAL OAKS MHP

MP 9.0

MP 10.0

MP 11.0

LAKE HAMILTON

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

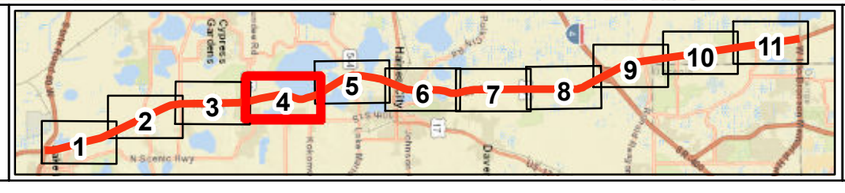


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 4 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

SR 544/Scenic Highway

Ranked No. 15
Total Crashes 116
Fatal/Severe 5
Ped/Bike 3
Heavy Vehicle 26
Dark Condition 22

116

Paradise Island Place/
Sunshine Drive

Ranked No. 10
Total Crashes 10
Fatal/Severe 2
Ped/Bike 0
Heavy Vehicle 0
Dark Condition 3

MP 13.0
MP 14.0
MP 12.0

544
27

HIDDEN COVE
LAKE HENRY
MIDDLE LAKE HAMILTON
LAKE REGION VILLAGE MHP
PARADISE ISLAND
LITTLE LAKE HAMILTON

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

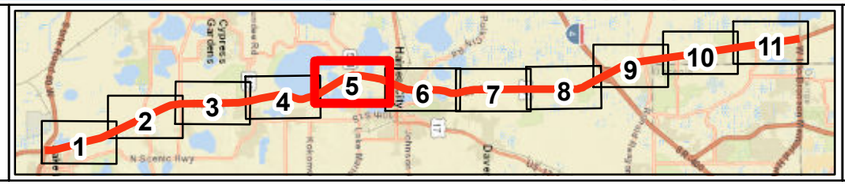


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 5 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

MP 15.0

US 17 Interchange

Ranked No. 11*
Total Crashes 31
Fatal/Severe 2
Ped/Bike 1
Heavy Vehicle 3
Dark Condition 12

*Included in RSA due to on-going studies. at I-4 Interchange.

Commerce Avenue

Ranked No. 20
Total Crashes 89
Fatal/Severe 0
Ped/Bike 0
Heavy Vehicle 24
Dark Condition 20

MP 16.0

Old Polk Road/CR 17

Ranked No. 18
Total Crashes 114
Fatal/Severe 2
Ped/Bike 0
Heavy Vehicle 25
Dark Condition 22

Glen Estate Boulevard/ Southern Dunes Boulevard

Ranked No. 24
Total Crashes 58
Fatal/Severe 2
Ped/Bike 1
Heavy Vehicle 9
Dark Condition 10

MP 17.0

Bates Road

Ranked No. 17
Total Crashes 95
Fatal/Severe 3
Ped/Bike 0
Heavy Vehicle 19
Dark Condition 17

HAMMOCK LAKE
LAKE HAMILTON VILLAGE
TOYOTA
HAINES CITY RV PARK
WALMART
TOWER LAKE
WEST VIEW RIDGE
LAKE TRACY
17/92
27

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

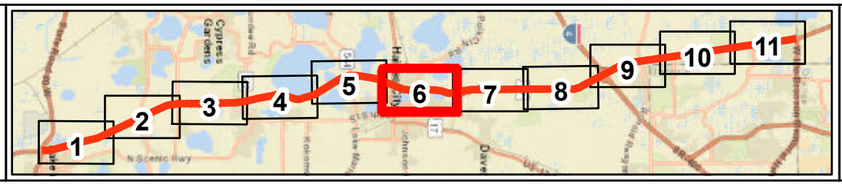


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 6 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

LAKE ST. CHARLES

HEATHER HILL

ESTATES OF LAKE ST. CHARLES

OLDCASTLE LAWN & GARDEN

CRYSTAL LAKE

VILLAGE OF LA CASA DEL SOL

HEART OF FLORIDA REGIONAL MEDICAL CENTER

LAKE HENRY

HIGHLAND SQUARE

BELLA NOVA

WINFIELD HEIGHTS

MP 18.0

MP 19.0

MP 20.0

27

Holl Hill Road/
Massee Road

Ranked No. 23
Total Crashes 119
Fatal/Severe 2
Ped/Bike 0
Heavy Vehicle 12
Dark Condition 15

CR 547/Sanders Road/
Davenport Boulevard

Ranked No. 14
Total Crashes 126
Fatal/Severe 3
Ped/Bike 0
Heavy Vehicle 14
Dark Condition 29

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

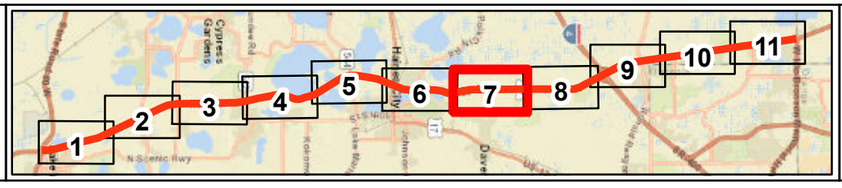


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 7 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

Ridgewood Lakes Boulevard

Ranked No. 28
Total Crashes 70
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 14
Dark Condition 5

Home Run Boulevard/
Posner Boulevard

Ranked No. 19
Total Crashes 109
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 23
Dark Condition 24

MP 21.0
MP 22.0
MP 23.0

FORT SUMMIT KOA CAMPGROUND
TIVOLI MANOR
REGENCY PLACE
WESTBURY
SILVER PALMS
POSNER PARK
ERNIE CALDWELL BLVD
DEER CREEK RV RESORT
ROYAL PALMS
ROYAL RIDGE

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

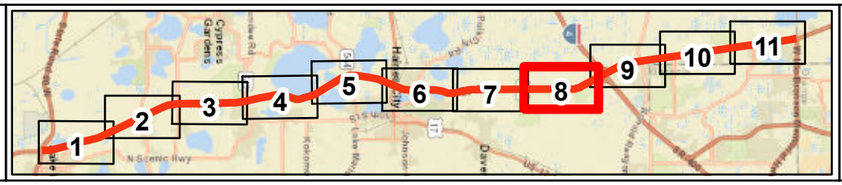


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 8 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

CR 54/Ronald Reagan Parkway/Deen Still Road

Ranked No. 6
Total Crashes 76
Fatal/Severe 3
Ped/Bike 1
Heavy Vehicle 5
Dark Condition 25

I-4 Interchange

Ranked No. 1*
Total Crashes 206
Fatal/Severe 4
Ped/Bike 0
Heavy Vehicle 30
Dark Condition 66

*Not included in RSA due to on-going studies.

MP 25.0
MP 26.0
MP 24.0

27

PARK 27 DISTRIBUTION CENTER
FLORIDA CENTRAL PARK
WALMART DISTRIBUTION CENTER
LAUREL ESTATES
TUSCAN RIDGE
PINES WEST
SANTA CRUZ
THEMEWORLD RV RESORT
FORT SUMMIT KOA CAMPGROUND
POSNER PARK
LOMA DEL SOL
OASIS CLUB
POLK COUNTY
OSCEOLA COUNTY
BELLA TOSCANA
LOMA VISTA
WEST HAVEN
CHAMPIONSGATE COUNTRY CLUB

0 500 1,000 2,000 Feet

N

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

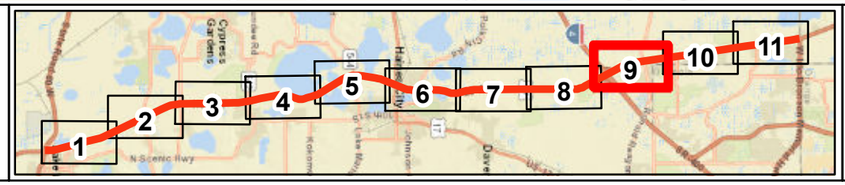


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 9 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

McFee Drive/
California Boulevard

Ranked No. 7
Total Crashes 44
Fatal/Severe 5
Ped/Bike 0
Heavy Vehicle 4
Dark Condition 14

Highlands Reserve Boulevard/
Student Drive

Ranked No. 22
Total Crashes 26
Fatal/Severe 2
Ped/Bike 0
Heavy Vehicle 0
Dark Condition 6

Four Corners Boulevard/
Bella Citta Boulevard

Ranked No. 12
Total Crashes 64
Fatal/Severe 4
Ped/Bike 0
Heavy Vehicle 5
Dark Condition 16

MP 27.0
MP 28.0
MP 29.0
28

CALABAY PARC
FLORIDA PINES
FOUR CORNERS
PINES WEST
SANTA CRUZ
LOMA DEL SOL
TERRA DEL SOL
SOLANA
PALM KEY
WESTRIDGE
FLORIDA CAMP INN
HIGHLANDS RESERVE
HAMILTON LAKES
THE RIDGE
CITRUS RIDGE ACADEMY
CHAMPIONSGATE COUNTRY CLUB
POLK COUNTY
OSCEOLA COUNTY

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

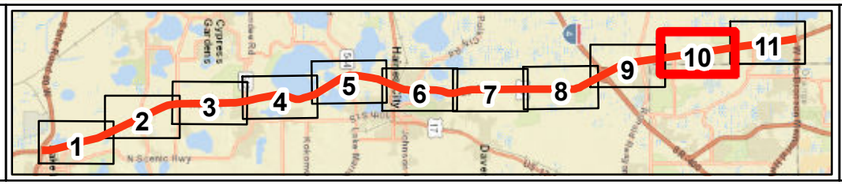


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 10 of 11

Legend

- Intersection Ranking
- RSA
- Crash Location

POLK COUNTY

LAKE COUNTY

THE RETREAT

HIGHGATE PARK

THE ESTATES

THE GROVES

THE CENTRE

WINDMILL VILLAGE

POLO PARK

HIGH GROVE

END PROJECT

Polo Park Boulevard

Ranked No. 9
Total Crashes 68
Fatal/Severe 4
Ped/Bike 1
Heavy Vehicle 8
Dark Condition 20

MP 31.0

MP 32.0

27

US 192 Interchange

Ranked No. 29
Total Crashes 5
Fatal/Severe 0
Ped/Bike 0
Heavy Vehicle 0
Dark Condition 1

192

WELLINGTON

THE TOWNS

THE COMMONS

BERRY TOWN CENTER

MP 30.0

NORTHEAST REGIONAL PARK

BASS LAKE

DAVENPORT LAKES

TUSCAN HILLS

LAKE MAGIC RV RESORT

Sand Mine Road

Ranked No. 2
Total Crashes 81
Fatal/Severe 1
Ped/Bike 0
Heavy Vehicle 8
Dark Condition 33

Legacy Park Boulevard/
Florence Villa Grove Road

Ranked No. 3
Total Crashes 66
Fatal/Severe 3
Ped/Bike 0
Heavy Vehicle 6
Dark Condition 25

CITRUS RIDGE ACADEMY

OLD LAKE DAVENPORT

0 500 1,000 2,000 Feet

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

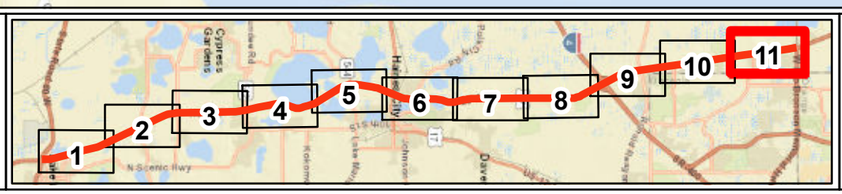


FIGURE 7-2
US 27 INTERSECTION CRASHES
(2013 - 2017)
Sheet 11 of 11

TABLE 7-3: 5-YEAR CRASH SUMMARY BY LIGHTING CONDITIONS

Lighting Condition	2013	2014	2015	2016	2017	Total	%
Daylight	383	459	529	556	471	**2,398**	**69.5%**
Dark - Lighted	82	102	138	150	107	**579**	**16.8%**
Dusk	10	18	29	26	22	**105**	**3.0%**
Dark - Not Lighted	42	45	66	54	63	**270**	**7.8%**
Dawn	8	23	22	10	13	**76**	**2.2%**
Dark - Unknown Lighting	0	0	8	1	5	**14**	**0.4%**
Other	1	4	0	0	2	**7**	**0.2%**
Unknown	1	1	0	0	0	**2**	**0.1%**
Total	**527**	**652**	**792**	**797**	**683**	**3,451**	**100.0%**

7.1.2 Corridor-Wide Crash Analysis & Identification of High Crash Locations

Corridor wide daytime and nighttime field inventory was conducted in order to identify any potential correlation between high crashes locations where minimal to no infrastructure is available for pedestrians and bicycles along with data collected and described previously in Section 3, such as existing geometry and AADTs for intersection approaches and within segments along the corridor. The information was used to evaluate high crash locations based on a weighted ranking methodology as follows:

1. Intersections - Available total entering volumes was used to determine which intersections (signalized or unsignalized) were analyzed and ranked. The number of crashes per Million Entering Vehicles (MEVs) was determined for study intersections within the US 27 study corridor. The area of influence was defined as each leg of the intersection, up to 250 feet from the stop bars.
2. Segments - Roadway segments along US 27 between SR 60 and US 192 were defined based on roadway characteristics and volume. The roadway segments along US 27 were then analyzed and ranked according to multiple criteria, including:
   - Number of crashes
   - Vehicular Crashes per mile (annualized)
   - Bike and Ped Crashes per mile
   - Crashes per 10,000 daily trips
   - Percent of severe crashes (fatal and incapacitating injury crashes)
   - Percent of crashes occurring during dark conditions

A composite ranking factor based on the criteria described previously was developed to identify high crash locations. **Tables 7-4, 7-5, and 7-6** provide details of the intersection, segment and a combined composite factor used to rank high crash locations within the study area. Due to on-going and future studies at the ramp junctions and segment for I-4, this area was omitted in consideration of this analysis. The top 10 ranked intersections and top 2 ranked segments were as follows:

1. Tower Point Circle (unsignalized intersection)
2. Thompson Nursery Road / Chalet Suzanne Road (signalized intersection)
3. SR 540 (Cypress Gardens Boulevard) / Waverly Road (signalized intersection)
4. Sunshine Drive / Paradise Island Place (unsignalized intersection)
5. US 17 Interchange (interchange)
6. Deen Still Road / Ronald Reagan Parkway (signalized intersection)
7. California Boulevard / McFee Drive (signalized intersection)
8. Sand Mine Road (signalized intersection)
9. Legacy Park Boulevard / Florence Villa Grove Road (signalized intersection)
10. Polo Park Boulevard (signalized intersection)
11. From Deen Still Road / Ronald Reagan Parkway to California Road / McFee Road (segment)
12. From California Road / McFee Road to Legacy Park Boulevard / Florence Villa Grove Road (segment)

TABLE 7-4: RANKING CRITERIA FOR ROADWAY SEGMENT CRASHES

Seg. ID	From	To	Existing Characteristics				Crash Data 2013-2017					Ranking Factors						Priority Ranking	
			BMP	EMP	Length	2019 AADT*	No. of Crashes	No. of severe injury and fatality crashes	No. of bike and pedestrian crashes	Number of heavy vehicle crashes	Number of crashes under dark conditions	Annual Crashes Per Mile	5-Year Crashes Per 10,000 AADT	Percent of Incapacitating Injury and Fatality Crashes	5-Year Bike and Ped Crashes per Mile	5-Year Heavy Vehicle Crashes per Mile	Percent of Crashes during Dark Conditions	Composite Factor	Ranking
1	N. of SR 60	Mt. Lake Cutoff Road	0.00	1.891	1.89	33,000	57	4	1	16	17	6.0	17.27	7%	0.5	8.5	30%	**69.13**	**9**
2	Mt. Lake Cutoff Road	CR 17A/Thompson Nursery/Chalet Suzanne Rd	1.891	4.331	2.44	40,000	52	1	0	3	13	4.3	13.00	2%	0.0	1.6	25%	**45.77**	**16**
3	Thompson Nursery/Chalet Suzanne Rd	SR 540/Cypress Gardens Blvd/Waverly Rd	4.331	5.944	1.61	41,000	123	7	0	11	26	15.3	30.00	6%	0.0	5.8	21%	**77.90**	**2**
4	SR 540/Cypress Gardens Blvd/Waverly Rd	SR 542/Dundee Rd	5.944	8.694	2.75	37,500	45	3	0	7	16	3.3	12.00	7%	0.0	3.7	36%	**61.20**	**12**
5	SR 542/Dundee Rd	Crump Rd/Main St	8.694	10.493	1.80	34,500	38	4	1	5	8	4.2	11.01	11%	0.5	2.6	21%	**49.99**	**15**
6	Crump Rd/Main St	SR 544/Scenic Hwy	10.493	13.244	2.75	40,000	75	2	1	16	26	5.5	18.75	3%	0.5	8.5	35%	**70.53**	**6**
7	SR 544/Scenic Hwy	US 17	13.244	15.157	1.91	48,000	37	4	0	10	11	3.9	7.71	11%	0.0	5.3	30%	**57.41**	**14**
8	US 17	CR 17/Old Polk City Rd/Main St	15.157	16.138	0.98	55,000	50	1	0	8	6	10.2	9.09	2%	0.0	4.2	12%	**37.52**	**17**
9	CR 17/Old Polk City Rd/Main St	Bates Rd	16.138	17.291	1.15	56,500	115	2	0	23	23	19.9	20.35	2%	0.0	12.2	20%	**74.20**	**4**
10	Bates Rd	CR 547/Davenport Blvd/Sanders Rd	17.291	18.677	1.39	59,500	87	6	0	16	16	12.6	14.62	7%	0.0	8.5	18%	**60.92**	**13**
11	CR 547/Davenport Blvd/Sanders Rd	Ridgewood Lakes Blvd	18.677	21.161	2.48	57,000	140	11	1	8	38	11.3	24.56	8%	0.5	4.2	27%	**75.59**	**3**
12	Ridgewood Lakes Blvd	Minute Maid Ramp Rd 2	21.161	22.421	1.26	61,500	95	7	2	10	23	15.1	15.45	7%	1.1	5.3	24%	**68.45**	**10**
13	Minute Maid Ramp Rd 2	I-4	22.421	23.921	1.50	57,500	196	4	1	26	34	26.1	34.09	2%	0.5	13.7	17%	**93.89**	**1**
14	I-4	Ronald Reagan Pkwy/Deen Still Rd	23.921	25.57	1.65	32,000	71	1	1	15	21	8.6	22.19	1%	0.5	7.9	30%	**70.25**	**7**
15	Ronald Reagan Pkwy/Deen Still Rd	California Blvd/McFee Dr	25.570	28.211	2.64	41,500	86	4	1	8	31	6.5	20.72	5%	0.5	4.2	36%	**72.69**	**5**
16	California Blvd/McFee Dr	Legacy Park Blvd/FV Grove Rd	28.211	30.226	2.02	41,500	66	4	3	6	24	6.6	15.90	6%	1.6	3.2	36%	**69.64**	**8**
17	Legacy Park Blvd/FV Grove Rd	US 192	30.226	31.970	1.74	41,500	76	4	1	7	24	8.7	18.31	5%	0.5	3.7	32%	**68.10**	**11**

TABLE 7-5: RANKING CRITERIA FOR ROADWAY INTERSECTION CRASHES

Intersection ID	Intersection	Existing Characteristics		Crash Data 2013-2017					Ranking Factors						Priority Ranking	
		Mile Post	2019 Total Intersection Entering AADT	No. of Crashes	No. of severe injury and fatality crashes	Number of bike and pedestrian crashes	Number of heavy vehicle crashes	Number of crashes under dark conditions	Annual Crashes Per Million Entering Vehicles (Intersection Crash Rate)	5-Year Crashes Per 10,000 AADT	Percent of Incapacitating Injury and Fatality Crashes	5-Year Bike and Ped Crashes per 10,000 AADT	5-Year Heavy Vehicle Crashes per 10,000 AADT	Percent of Crashes during Dark Conditions	Composite Factor	Ranking
1	W Central Avenue	0.22	34,900	69	1	0	16	9	1.08	19.77	1.45%	0.00	4.58	13.04%	39.93	21
2	W Washington Avenue	1.118	36,600	51	5	1	8	10	0.76	13.93	9.80%	0.27	2.19	19.61%	46.30	16
3	Mnt Lake Cutoff Road N	1.901	38,900	29	1	0	4	5	0.41	7.46	3.45%	0.00	1.03	17.24%	29.58	26
4	Tower Point Entrance/Vanguard School Entrance	2.47	38,500	9	1	0	1	4	0.13	2.34	11.11%	0.00	0.26	44.44%	58.28	4
5	Eagle Ridge Mall Entrance	3.778	38,900	26	0	0	6	6	0.37	6.68	0.00%	0.00	1.54	23.08%	31.67	25
6	CR 17A/Chalet Suzanne Road/Thompson Nursery Road	4.331	49,100	91	3	0	14	29	1.02	18.53	3.30%	0.00	2.85	31.87%	57.57	5
7	Peddlers Pond Boulevard (Market Pl/Star Blvd)	5.041	42,400	9	0	0	0	0	0.12	2.12	0.00%	0.00	0.00	0.00%	2.24	30
8	SR 540/Cypress Garden Boulevard	5.944	53,050	98	5	0	6	28	1.01	18.47	5.10%	0.00	1.13	28.57%	54.29	8
9	SR 542/Dundee Road	8.684	52,500	62	1	1	6	21	0.65	11.81	1.61%	0.19	1.14	33.87%	49.08	13
10	Crump Road/W Main Street	10.493	35,950	25	1	0	9	3	0.38	6.95	4.00%	0.00	2.50	12.00%	25.84	27
11	Paradise Island Place/Sunshine Drive	12.195	38,270	10	2	0	0	3	0.14	2.61	20.00%	0.00	0.00	30.00%	52.76	10
12	SR 544/Scenic Highway	13.233	58,700	116	5	3	26	22	1.08	19.76	4.31%	0.51	4.43	18.97%	48.55	15
13	US 17	15.138	60,650	31	2	1	3	12	0.28	5.11	6.45%	0.16	0.49	38.71%	51.05	11
14	Commerce Avenue/Pilot Entrance	15.872	57,000	89	0	0	24	20	0.86	15.61	0.00%	0.00	4.21	22.47%	43.15	20
15	CR 17/Old Polk City Road	16.128	62,850	114	2	0	25	22	0.99	18.14	1.75%	0.00	3.98	19.30%	44.16	18
16	Glen Estate Blvd/Southern Dunes Boulevard	16.375	51,950	58	2	1	9	10	0.61	11.16	3.45%	0.19	1.73	17.24%	34.20	24
17	Bates Road	17.281	50,605	95	3	0	19	17	1.03	18.77	3.16%	0.00	3.75	17.89%	44.61	17
18	CR 547/Sanders Road/Davenport Boulevard	18.667	62,400	126	3	0	14	29	1.11	20.19	2.38%	0.00	2.24	23.02%	48.94	14
19	Holly Hill Road/Massee Road	20.154	60,550	119	2	0	12	15	1.08	19.65	1.68%	0.00	1.98	12.61%	37.00	23
20	Ridgewood Lakes Boulevard	21.145	60,300	70	1	0	14	5	0.64	11.61	1.43%	0.00	2.32	7.14%	23.14	28
No Intersection Data within Segment															0.00	31
21	Homerun Boulevard/Victor Posner Boulevard	23.363	66,850	109	1	0	23	24	0.89	16.31	0.92%	0.00	3.44	22.02%	43.57	19
22	I-4	24.199	73,400	206	4	0	30	66	1.54	28.07	1.94%	0.00	4.09	32.04%	67.67	1
23	CR 54/Ronald Reagan Parkway/Deen Still Road	25.551	43,750	76	3	1	5	25	0.95	17.37	3.95%	0.23	1.14	32.89%	56.31	6
24	Four Corners Boulevard/Bella Citta Boulevard	26.911	39,640	64	4	0	5	16	0.88	16.15	6.25%	0.00	1.26	25.00%	49.54	12
25	McFee Drive/California Boulevard	28.185	38,470	44	5	0	4	14	0.63	11.44	11.36%	0.00	1.04	31.82%	56.29	7
26	Student Drive/Highlands Reserve Boulevard	28.937	40,700	26	2	0	0	6	0.35	6.39	7.69%	0.00	0.00	23.08%	37.51	22
27	Sand Mine Road	29.444	45,900	81	1	0	8	33	0.97	17.65	1.23%	0.00	1.74	40.74%	62.33	2
28	Legacy Park Boulevard/Florence Villa Grove Road	30.196	44,380	66	3	0	6	25	0.81	14.87	4.55%	0.00	1.35	37.88%	59.46	3
29	Polo Park Boulevard	31.335	42,170	68	4	1	8	20	0.88	16.13	5.88%	0.24	1.90	29.41%	54.20	9
30	US 192	31.795	35,150	5	0	0	0	1	0.08	1.42	0.00%	0.00	0.00	20.00%	21.50	29

TABLE 7-6: RANKING CRITERIA FOR COMBINED SEGMENT AND INTERSECTION CRASHES

Segment ID	Segment	Segment Priority Ranking		Intersection ID	Intersection	Intersection Priority Ranking		Averaged Intersection Composite Factor	Combined Segment & Intersection Composite Factor	Combined Segment and Intersection Ranking
		Composite Factor	Ranking			Composite Factor	Ranking			
1	N. of SR 60 to Mt. Lake Cut Off Rd	69.13	9	1	W Central Avenue	39.93	21	38.60	107.74	10
				2	W Washington Avenue	46.30	16			
				3	Mnt Lake Cutoff Road N	29.58	26			
2	Mt. Lake Cut Off Rd to Thompson Nursery/Chalet Suzanne Rd	45.77	16	4	Tower Point Entrance/Vanguard School Entrance	58.28	4	49.17	94.94	14
				5	Eagle Ridge Mall Entrance	31.67	25			
				6	CR 17A/Chalet Suzzanne Road/Thompson Nursery Road	57.57	5			
3	Thompson Nursery/Chalet Suzanne Rd to SR 540/Cypress Gardens Blvd/Waverly Rd	77.90	2	7	Peddlers Pond Boulevard (Market Pl/Star Blvd)	2.24	30	28.26	106.16	11
				8	SR 540/Cypress Garden Boulevard	54.29	8			
4	SR 540/Cypress Gardens Blvd/Waverly Rd to SR 542/Dundee Rd	61.20	12	9	SR 542/Dundee Road	49.08	13	49.08	110.28	7
5	SR 542/Dundee Rd to Crump Rd/Main St	49.99	15	10	Crump Road/W Main Street	25.84	27	25.84	75.83	16
6	Crump Rd/Main St to SR 544/Scenic Hwy	70.53	6	11	Paradise Island Place/Sunshine Drive	52.76	10	50.65	121.18	5
				12	SR 544/Scenic Highway	48.55	15			
7	SR 544/Scenic Hwy to US 17	57.41	14	13	US 17	51.05	11	51.05	108.45	9
8	US 17 to CR 17/Old Polk City Rd/Main St	37.52	17	14	Commerce Avenue/Pilot Entrance	43.15	20	43.66	81.17	15
				15	CR 17/Old Polk City Road	44.16	18			
9	CR 17/Old Polk City Rd/Main St to Bates Rd	74.20	4	16	Glen Estate Blvd/Southern Dunes Boulevard	34.20	24	39.40	113.61	6
				17	Bates Road	44.61	17			
10	Bates Rd to CR 547/Davenport Blvd/Sanders Rd	60.92	13	18	CR 547/Sanders Road/Davenport Boulevard	48.94	14	48.94	109.86	8
11	CR 547/Davenport Blvd/Sanders Rd to Ridgewood Lakes Blvd	75.59	3	19	Holly Hill Road/Massee Road	37.00	23	30.07	105.66	13
				20	Ridgewood Lakes Boulevard	23.14	28			
12	Ridgewood Lakes Blvd to Minute Maid Ramp Rd 2	68.45	10	NA	No Intersection Data within this Segment	0.00	31	0	68.45	17
13	Minute Maid Ramp Rd 2 to I-4	93.89	1	21	Homerun Boulevard/Victor Posner Boulevard	43.57	19	55.62	149.51	1
				22	I-4	67.67	1			
14	I-4 to Ronald Reagan Pkwy/Deen Still Rd	70.25	7	23	CR 54/Ronald Reagan Parkway/Deen Still Road	56.31	6	56.31	126.55	2
15	Ronald Reagan Pkwy/Deen Still Rd to California Blvd/McFee Dr	72.69	5	24	Four Corners Boulevard/Bella Citta Boulevard	49.54	12	52.91	125.61	3
				25	McFee Drive/California Boulevard	56.29	7			
16	California Blvd/McFee Dr to Legacy Park Blvd/FV Grove Rd	69.64	8	26	Student Drive/Highlands Reserve Boulevard	37.51	22	53.10	122.74	4
				27	Sand Mine Road	62.33	2			
				28	Legacy Park Boulevard/Florence Villa Grove Road	59.46	3			
17	Legacy Park Blvd/FV Grove Rd to US 192	68.10	11	29	Polo Park Boulevard	54.20	9	37.85	105.95	12
				30	US 192	21.50	29			

7.1.3 Road Safety Audit Field Reviews

Using the top ten ranked intersections and two of the top ranked segments, three (3) audit teams were organized to conduct the road safety field reviews. The members of the teams were invited based on their knowledge and experience. As part of the road safety audit, field reviews were conducted during daytime off-peak times, and a nighttime field audit was also conducted. The teams collected data at the intersections and segments to identify deficiencies of the existing conditions including sidewalks, lighting, crosswalks, transit facilities, signage, and midblock median openings. Potential improvements were identified, and photos of the study locations were taken. The details of the road safety audits were published under a separate document as *FDOT D1 Road Safety Audit: US 27 from North of SR 60 to US 192,* dated June 2019.

7.2 FINDINGS AND COUNTERMEASURES

The top 10 ranked intersections and top two ranked roadway segments were selected for road safety field reviews.

Intersections

1. US 27 and Tower Point Circle Intersection - General findings included no street lighting, no sidewalks, heavy southbound U-turn volume and bus stops with no amenities. The safety countermeasures proposed include converting the full median opening into a bi-directional median opening, improving street lighting, providing additional signage and updating bus stops with pads and shelter/bench amenities including sidewalk connectivity.

2. US 27 and Thompson Nursery Road/Chalet Suzanne Road intersection - General findings included limited sidewalk connectivity, long sidewalk gaps, minimal lighting at intersection, uneven pavement, and missing overhead lighted street sign. The safety countermeasures proposed include installing high visibility crosswalk pavement marking, updating pedestrian assemblies to current ADA standards, installing/filling in sidewalk gaps, improving street lighting, and installation of various signs and signals.

3. US 27 and Cypress Gardens Boulevard/Waverly Road - General findings included rutting of pavement, off-tracking of vehicles onto sidewalks on most corners, missing or damaged detectable warning pads and general maintenance issues such as leftover crash debris or overgrown vegetation. The safety countermeasures proposed include installation of high visibility crosswalks, updating pedestrian assemblies to current ADA standards, repairing pavement rutting and markings, and installation of various signs and signals.

4. US 27 and Sunshine Drive/Paradise Island Place - General findings included higher vehicle travel speeds, no sidewalks, no street lighting, high U-turn volumes from the north and no stop sign on Sunshine Drive. The safety countermeasures proposed include converting the full median opening into a bi-directional median opening, improving street lighting, installing a stop sign on Sunshine Drive and providing additional signage.

5. US 27 and US 17/US 92 interchange - General findings here included a short concrete median wall, short merge/diverge auxiliary lanes northbound and southbound, and no bike or pedestrian facilities. The safety countermeasures proposed include improving lighting to be continuous along the bridge, installing signage and pavement markings for bike lanes, installing sidewalks and building pedestrian paths on both sides of bridge.

6. US 27 and Ronald Reagan Parkway/Deen Still Road - General findings here included high U-turn volumes on east and north leg, missing signal head for northbound and southbound right-turns, faded pavement markings and off-tracking of vehicles onto sidewalks. The safety countermeasures proposed include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, repairing pavement markings, repairing cracked or uneven sidewalks, installing bike key hole pavement markings on all four legs, and installation of various signs and signals.

7. US 27 and California Boulevard/McFee Drive - General findings here included no lighting at intersection or along approaches, high U-turn volumes on the northbound approach, and off-tracking

onto sidewalks which has caused damage to the concrete sidewalks. The safety countermeasures include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, repairing cracked and uneven sidewalks, installing additional street lighting, and installation of various signs and signals.

8. US 27 and Sand Mine Road - General findings here included off-tracking on the southwest and northwest corners, vehicle speeding, no street lighting and eastbound visibility issues. The safety countermeasures proposed include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, realigning crosswalks on north and south approaches, connecting transit shelters south of intersection to inside sidewalk, and install street lighting on US 27.

9. US 27 and Legacy Park Boulevard/Florence Villa Grove Road - General findings here included off-tracking on all approaches, damaged pedestrian crossing signal, no street lighting and no sidewalk connection to Florence Villa Grove Road from US 27. The safety countermeasures proposed include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, realigning the crosswalk on the north and south approaches, installing street lighting on US 27, and connecting the sidewalk from US 27 to Florence Villa Grove Road.

10. US 27 and Polo Park Boulevard - General findings here included off-tracking on the southwest and southeast corners, erosion and drainage run-off at the northwest and southwest quadrants, and no street lighting. The safety countermeasures proposed include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, realigning the crosswalks of all approaches, installing sidewalk at the southeast quadrant on Polo Park Boulevard, and installing street lighting on US 27.

Segments

1. US 27 from Ronald Reagan Parkway/Deen Still Road to California Boulevard/McFee Drive - Along this roadway segment, three unsignalized intersection and one signalized intersection were also observed. At the intersection of Central Grove Road general findings included severe rutting/drop off on west leg of intersection and possible sight distance issues for northbound and eastbound vehicles. At the intersection of Four Corners Boulevard general findings included rutting and off-tracking on all four corners, faded pavement markings on Bella Citta Boulevard, and non-functioning pedestrian signal in the southwest corner. At the intersection of Elgin Boulevard general findings included no sidewalk connections to bus stops and off-tracking of vehicles in southeast and northwest corners. At the intersection of Ogelthorpe Road general findings included high U-turn volumes in the northbound direction and a school bus stopping in the southbound right-turn lane, blocking the entrance to the road. Southbound cars also did not stop for the school bus.

    - The safety countermeasures proposed along the entire roadway segment include improving sidewalks, improving street lighting, updating bus stops with pads and shelter/bench amenities and determining crossing locations with updates to school signs.
    - The safety countermeasures proposed for the intersection of Central Grove Road include installing high visibility crosswalks, repairing/replacing damaged signage and repainting pavement markings as needed
    - The safety countermeasures proposed for the intersection of Four Corners Boulevard include updating pedestrian assemblies to current ADA standards and considering a split phase signal due to permissive left turn/aggressive drivers.
    - The safety countermeasures proposed at the intersection of Elgin Boulevard include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, repairing/replacing damaged signage and repainting pavement markings as needed.
    - The safety countermeasures proposed at the intersection of Ogelthorpe Road include installing high visibility crosswalks, updating pedestrian assemblies to current ADA standards, repairing/replacing damaged signage and repainting pavement markings as needed.

2. US 27 from California Boulevard/McFee Drive to Legacy Park Boulevard/Florence Villa Grove Road - Along this roadway segment, three unsignalized intersection and three signalized intersections were also observed. At the intersection of Florida Avenue general findings included missing detectable warning pad in the northwest corner, rutting/drop off on the west leg of intersection, possible need for handrails adjacent to sidewalks in southwest and northwest quadrants, and no lighting on US 27. At the intersection of Ridgeway Boulevard general findings included rutting on the northeast quadrant and no street lighting. At the intersection of Highlands Boulevard/Student Drive general findings included damaged sidewalk on Student Drive, no street lighting and no transit stops. The intersection of Sand Mine Road was previously reviewed. At the intersection of Jack's Road general findings included painted pavement markings. The intersection of Legacy Park Boulevard/Florence Villa Grove Road was previously reviewed.

    - The safety countermeasures proposed along the entire roadway segment include improving sidewalks, improving street lighting, updating bus stops with pads and shelter/bench amenities and determining crossing locations with updates to school signs.
    - The safety countermeasures proposed at the intersection of Florida Avenue include installing high visibility crosswalks and updating pedestrian assemblies to current ADA standards.
    - The safety countermeasures proposed at the intersection of Ridgeway Boulevard include installing high visibility crosswalks and repairing/retrofitting curb radius to eliminate rutting/off-tracking damage.
    - The safety countermeasures proposed at the intersection of Highlands Reserve Boulevard/Student Drive include updating pedestrian assemblies and curb ramps to current ADA standards and considering a split phase signal due to permissive left turn/aggressive drivers.
    - The safety countermeasures at the intersection of Sand Mine Road were previously discussed.
    - The safety countermeasures at the intersection of Jack's Road include installing high visibility crosswalks, updating curb ramps to current ADA standards, replacing painted pavement striped bulb-out, and installing a posted speed limit sign.
    - The safety countermeasures at the intersection of Legacy Park Boulevard/Florence Villa Grove Road were previously discussed.

More detailed findings for each intersection and roadway segment can be found in the separately published *FDOT D1 Road Safety Audit: US 27 from North of SR 60 to US 192,* dated June 2019.

8 SHORT-TERM IMPROVEMENTS

8.1 DEVELOPMENT OF SHORT-TERM IMPROVEMENTS

Short term improvements were determined based on analysis of existing (2018) conditions intersection traffic operations and safety related deficiencies. Short term intersection improvements were developed to address 2018 AM and PM peak hour level of service / delay deficiencies identified at study intersections identified through the Synchro analysis and the recommended improvements resulting from the roadway safety audits.

The improvements were grouped together based on intersection location and type of improvement. Short-term improvement recommendations are summarized in **Table 8-1** below.

TABLE 8-1: SUMMARY OF SHORT-TERM IMPROVEMENTS

No.	Intersection	Intersection Type	Synchro Traffic Operations - Short Term Improvement Recommendations	RSA Safety - Short Term Improvement Recommendations
1	Tower Point Ent / Vanguard School Ent	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	Convert full median opening to bi-directional median opening, maintenance items, improve pavement markings, improve street lighting.
2	Thompson Nursery Rd / Chalet Suzanne Rd	Signalized	N/A	Improve signs and pavement markings; install curbs, signs, and maintenance items; improve street lighting.
3	SR 540 / Cypress Gardens Blvd / Waverly Rd[1]	Signalized	Convert eastbound right-turn lane into a channelized, free-flowing right-turn lane. To accommodate the free-flowing traffic, widening southbound US 27 to provide acceleration lane is recommended.	Install signs, maintenance items, install additional street lighting.
4	Lincoln Ave	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
5	Frederick Ave	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
6	Kokomo Rd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
7	Sunshine Dr / Paradise Island Pl	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	Convert full median opening to bi-directional median opening, additional signage at full median opening, add stop sign at Sunshine Dr, maintenance items, improve street lighting.
8	US 17/ US 92	Interchange	N/A	Maintenance items; install signs, sidewalks, and pedestrian paths; improve lighting.
9	W Johnson Rd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
10	Section 7 Airport Rd / Parson Rd / Patterson Rd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
11	South Blvd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
12	Holly Hill Cutoff Rd / North Blvd W	Unsignalized	FDOT D1 decision to signalize intersection.	N/A
13	La Casa Del Sol Blvd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
14	Holly Hill Tank Rd / Florida Development Rd	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	N/A
15	Holly Hill Grove Rd 2 / Cottonwood Rd	Unsignalized	Signalize intersection. Permitting left-turn phasing for eastbound and westbound approaches, added left-turn lanes for eastbound and westbound approaches.	N/A
16	Ronald Reagan Pkwy / Deen Still Rd	Signalized	N/A	Maintenance items, install signs and pavement markings; install lighting on Deen Still Rd.

[1] Additional Optional Short-Term Improvement Recommendation: Provide an additional eastbound right-turn lane, change phasing to allow eastbound right-turn overlap

TABLE 8-1: SUMMARY OF SHORT-TERM IMPROVEMENTS (CONTINUED)

No.	Intersection	Intersection Type	Synchro Traffic Operations - Short Term Improvement Recommendations	RSA Safety - Short Term Improvement Recommendations
17	Laurel Estates Access / Ogelthorpe Dr	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	Add signage and improve pavement marking at full median opening, replace damaged signs, improve lighting as needed.
18	Elgin Blvd / Santa Cruz Lane / Cardiff Ave	Unsignalized	Convert to a directional median opening, allowing only right-turns from side street.	Add signage and improve pavement marking at full median opening, replace damaged signs, improve street lighting as needed.
19	Four Corners Blvd / Bella Citta Blvd	Signalized	Change signal to operate as split phased for eastbound/westbound.	Repair and add corrects signage, consider split phase signal, improve street lighting as needed.
20	Central Grove Rd / Terra Del Sol Blvd	Unsignalized	Signalize intersection, operate as split phased for eastbound/westbound.	Add sign and improve pavement marking at full median opening, replace damaged signs, improve street lighting as needed.
21	California Blvd / McFee Dr	Signalized	N/A	Maintenance items; install sidewalks, signs, and pavement markings; install additional lighting at intersection.
22	Florida Ave	Unsignalized	N/A	Add signage and improve pavement marking at full median opening, replace damaged signs, improve street lighting as needed.
23	Highlands Reserve Blvd / Student Dr	Signalized	Change signal to operate as split phased for eastbound/westbound.	Install / repair signs and pedestrian assemblies, maintenance items, consider split phase signal, improve street lighting as needed.
24	Sand Mine Rd	Signalized	Dual left-turn lanes on eastbound and westbound approaches, converting right-turn only lanes into shared thru/right-turn lanes, protected left-turns only.	Maintenance items; install signs, curbs, and install lighting on US 27.
25	Legacy Park Blvd / Florence Villa Grove Rd	Signalized	N/A	Maintenance bike lane and realigning crosswalks, install pavement markings, install street lighting on US 27.
26	Polo Park Blvd	Signalized	N/A	Install signs, street lighting on US 27, sidewalk, and pavement markings; maintenance items.

The short-term operational intersection improvements were developed to address specific failures identified at study intersections, focusing on locations where the LOS D target was not met under existing peak hour conditions. For example, the signalized intersections at Sand Mine Road and Cypress Gardens Boulevard are performing at LOS E during one of the study peak hours. Lane repurposing in addition to signal optimization bring performance back to an acceptable LOS D. Most unsignalized intersections are being proposed to be converted into a bi-directional median opening, which would greatly reduce the cross-street approach delays an improve safety. Synchro reports are provided in **Appendix O** showing the AM and PM peak hour intersection operational analysis results, assuming the Short-Term Improvements are in place.

Improvement recommendations require further assessment, include the access management recommendations. These require analysis on a corridor-wide basis. To determine the ultimate locations that should be modified and corresponding upstream and downstream modifications needed along the corridor, an Access Management Plan for the entire section of US 27 is recommended. In addition, the future conditions analysis should be completed to determine whether the access management recommendations will complement recommended future improvements for the US 27 corridor. These recommendations are being provided to appropriate FDOT offices for further review and assessment. The short-term improvements are also depicted by type and by location along the US 27 corridor on **Figure 8-1**.

Legend

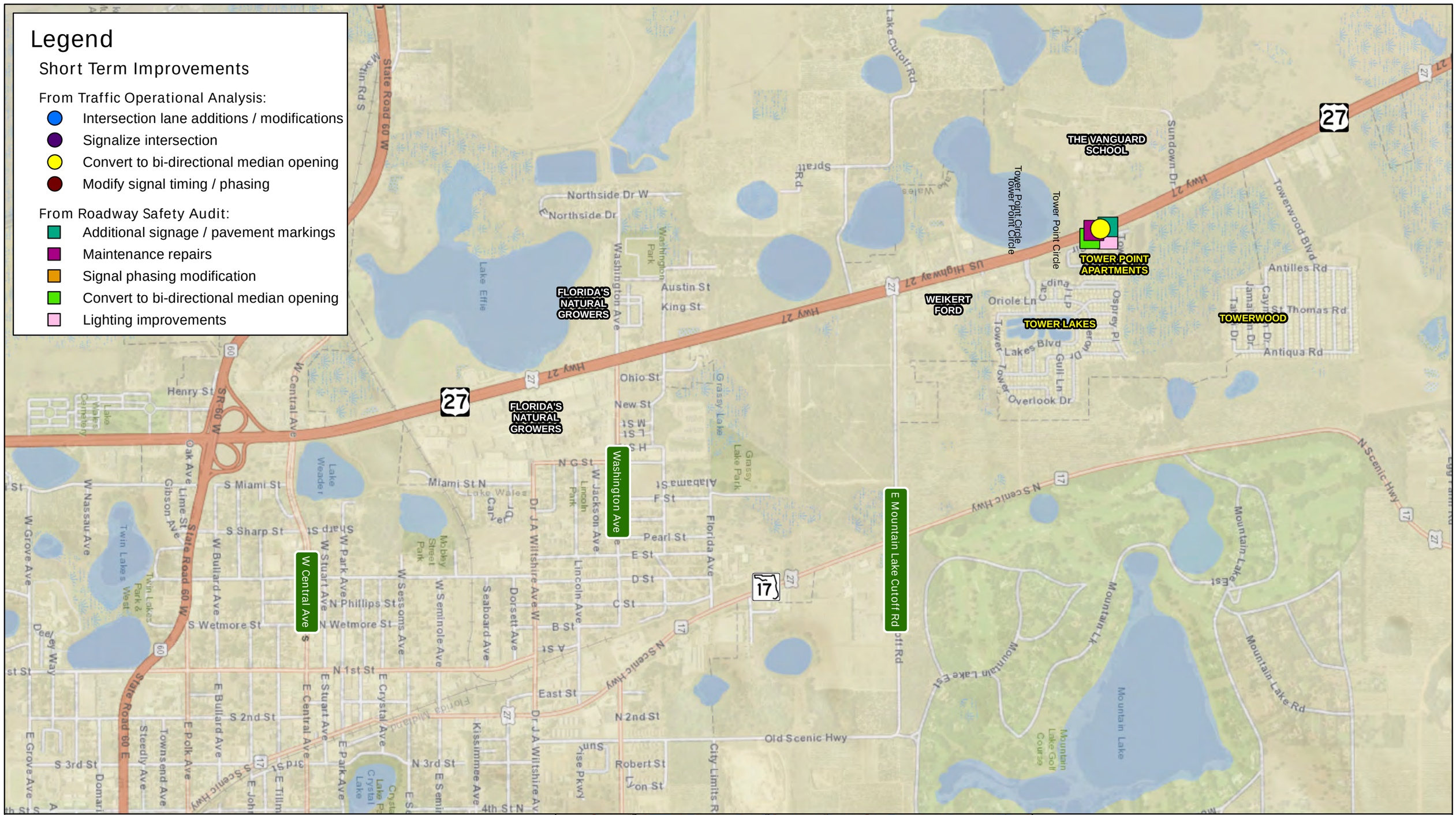
Short Term Improvements

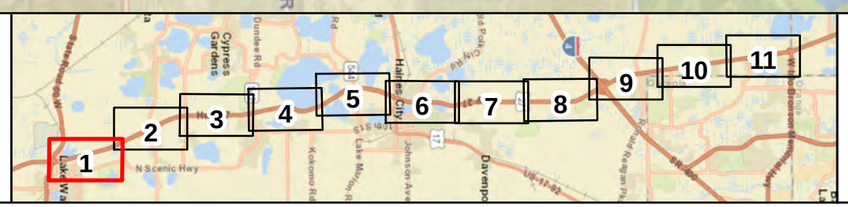
From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 1 of 11

Legend

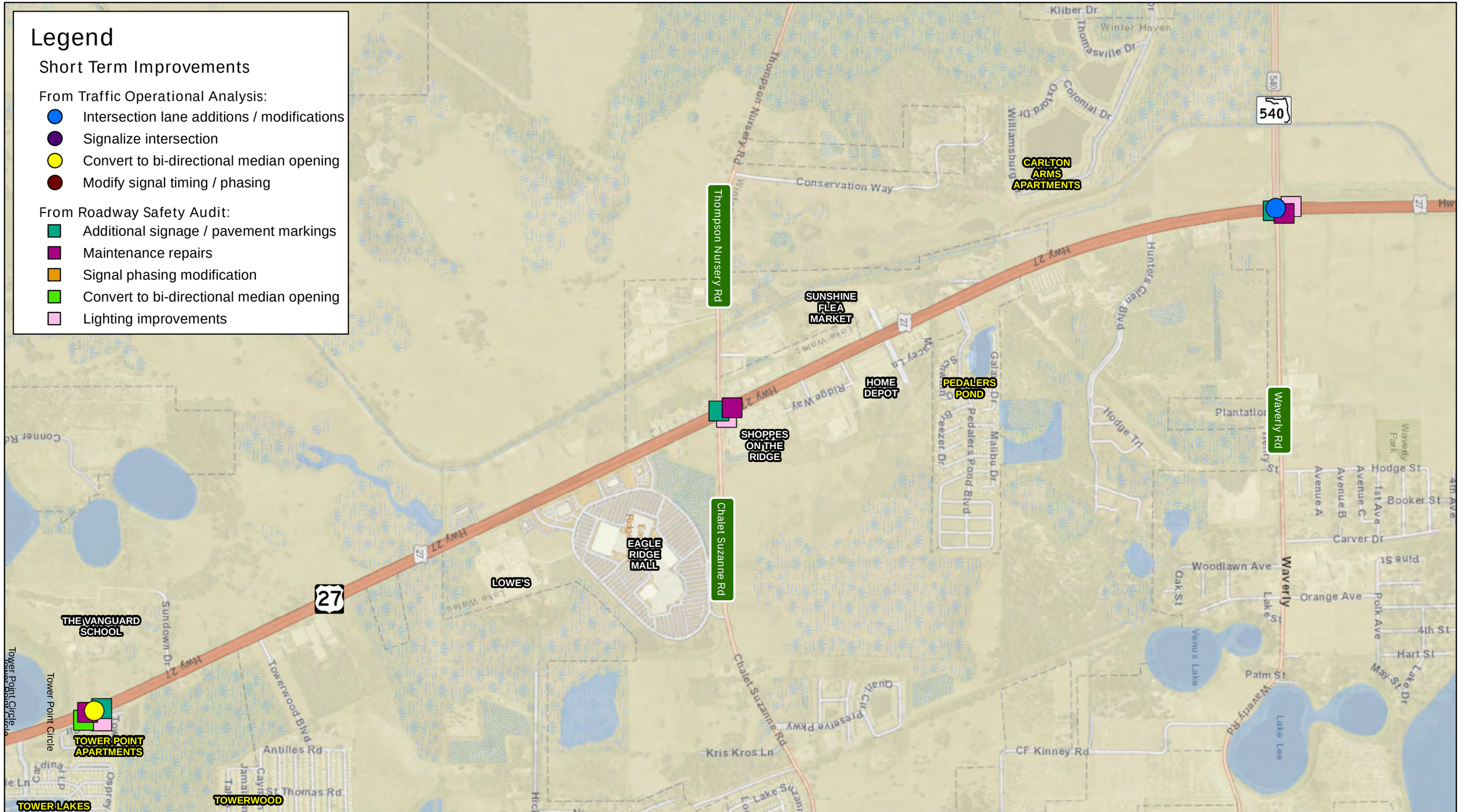
Short Term Improvements

From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

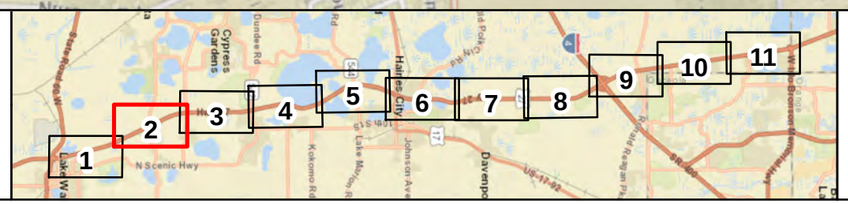


FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 2 of 11

Legend

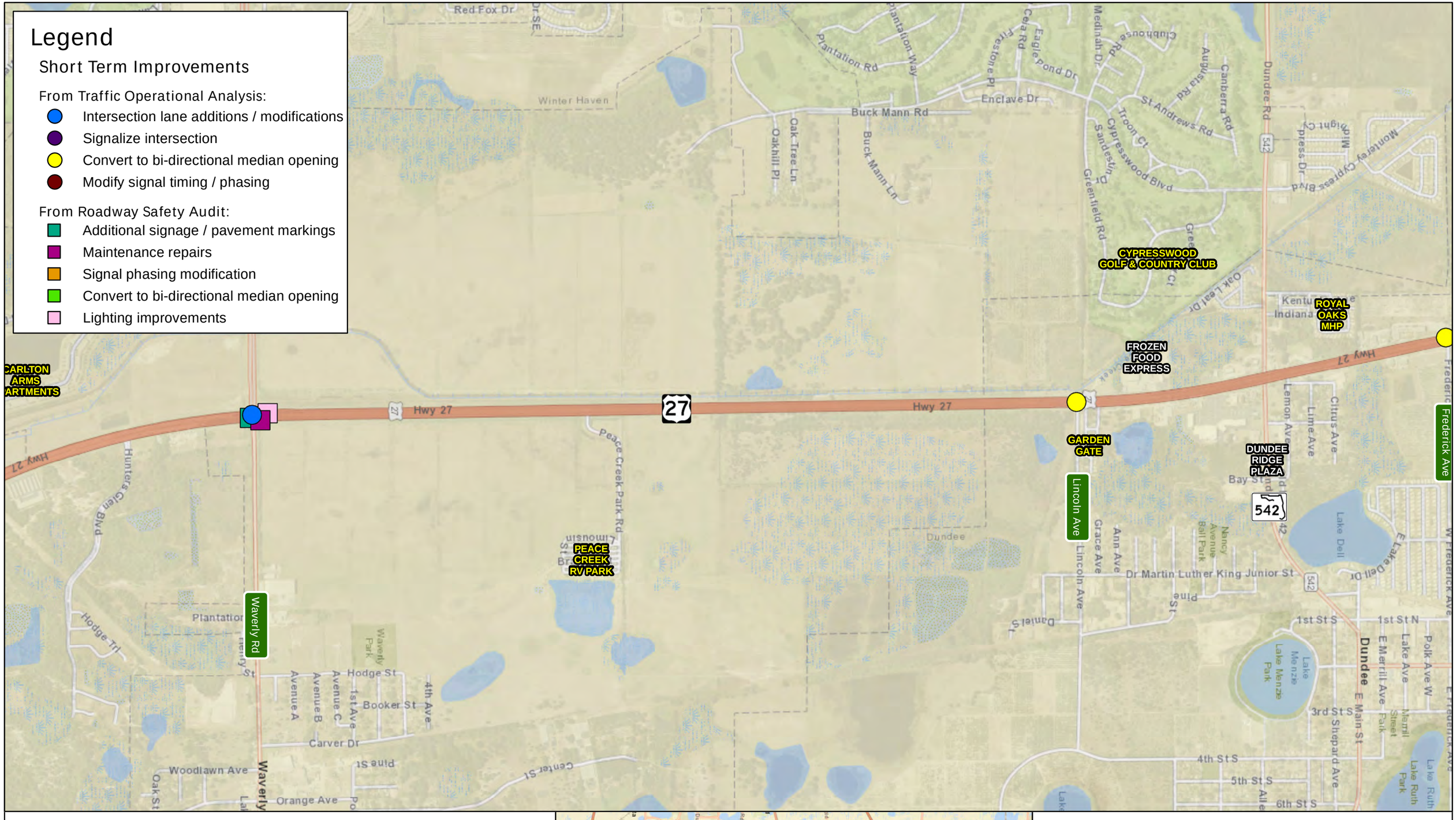
Short Term Improvements

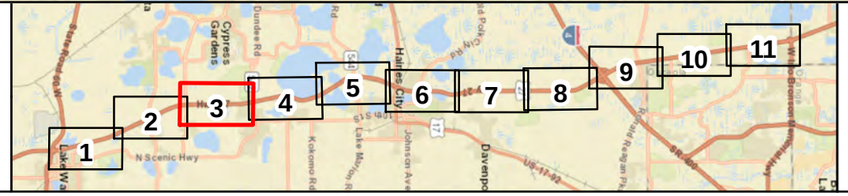
From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 3 of 11

Legend

Short Term Improvements

From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements

CYPRESSWOOD GOLF & COUNTRY CLUB
ROYAL OAKS MHP
FROZEN FOOD EXPRESS
GARDEN GATE
DUNDEE RIDGE PLAZA
PARADISE ISLAND
LAKE REGIO VILLAGE MH
Crump Rd
Hwy 27
Sunshine Dr
Main St
Frederick Ave
Lincoln Ave
Kokomo Rd
Dundee
Lake Hamilton
Palmeroy Rd
State Road 17
Center St
Hamilton Blvd
US Highway 27 Alt

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

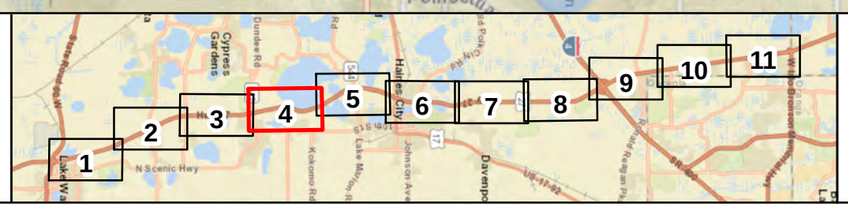


FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 4 of 11

Legend

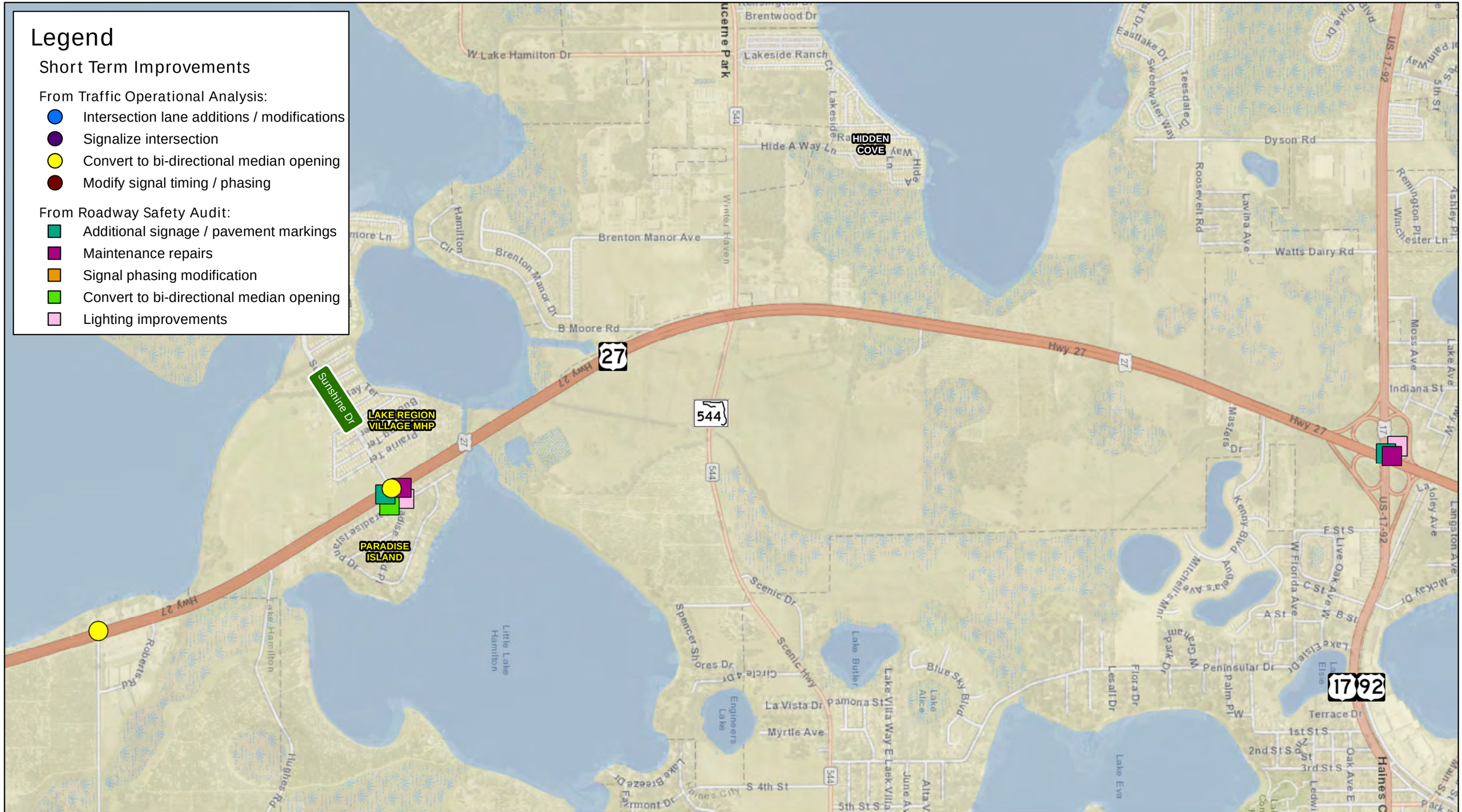
Short Term Improvements

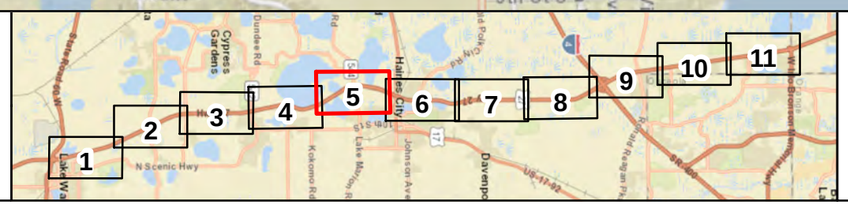
From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements





NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 5 of 11

Legend

Short Term Improvements

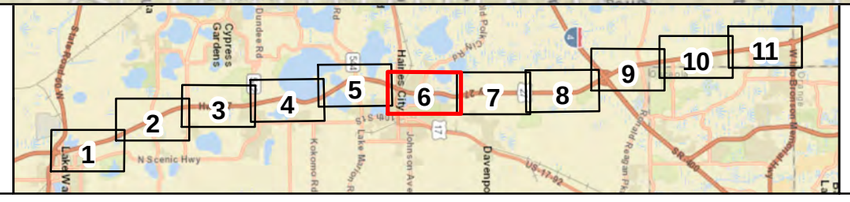
From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements

Johnson Ave
Commerce Ave
Old Polk City Rd
W Main St
Bates Rd
Patterson Rd
HAINES CITY RV PARK
WALMART
LAKE HAMILTON VILLAGE
TOYOTA
WEST VIEW RIDGE
Hwy 27
US-17-92
Haines City
Lake Hamilton
Lake Tracy
Lake Eva
Hammock Lake
Tower Lake



NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 6 of 11

Legend

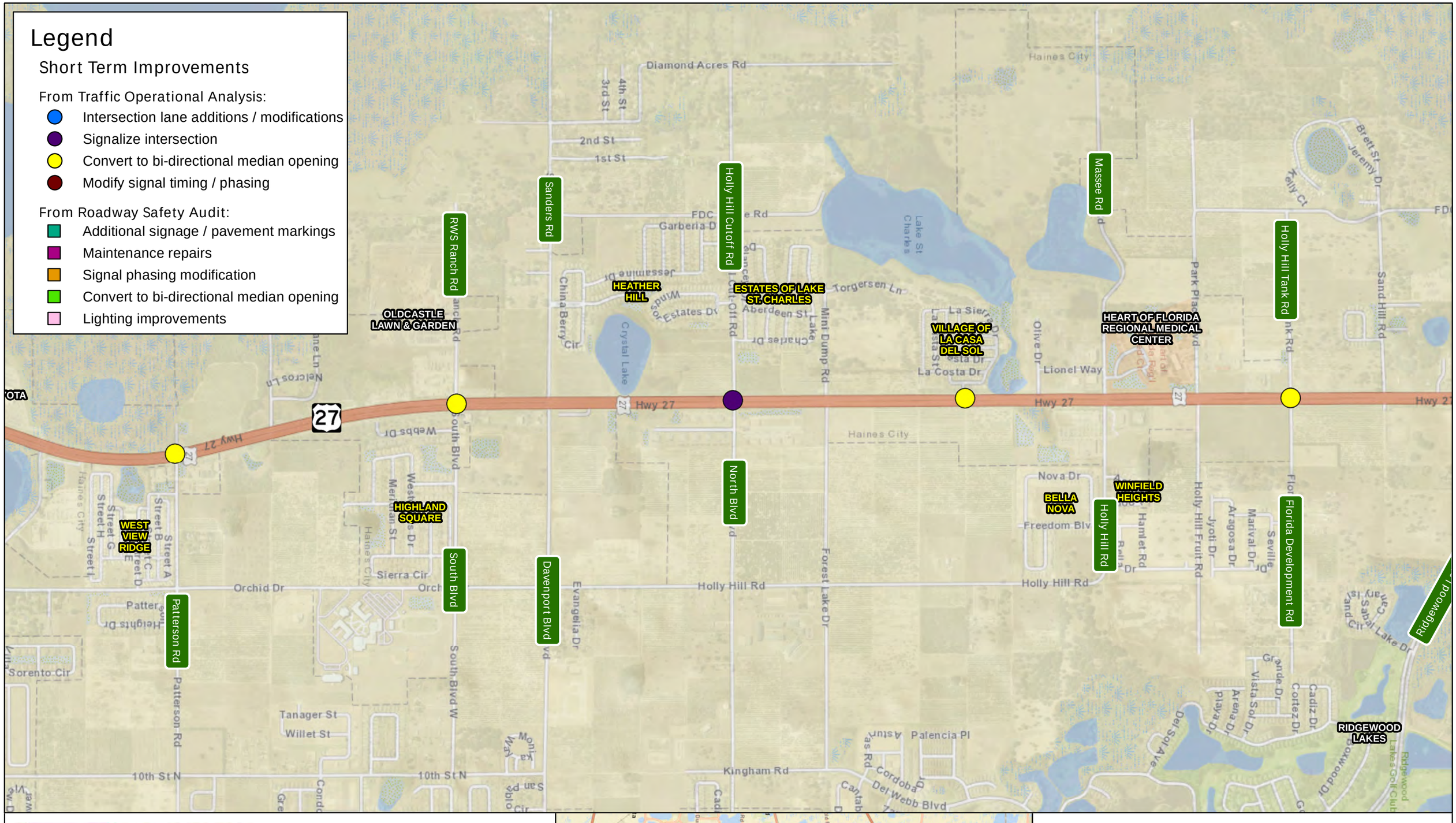
Short Term Improvements

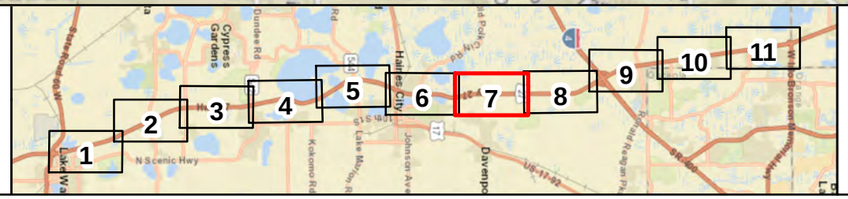
From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements



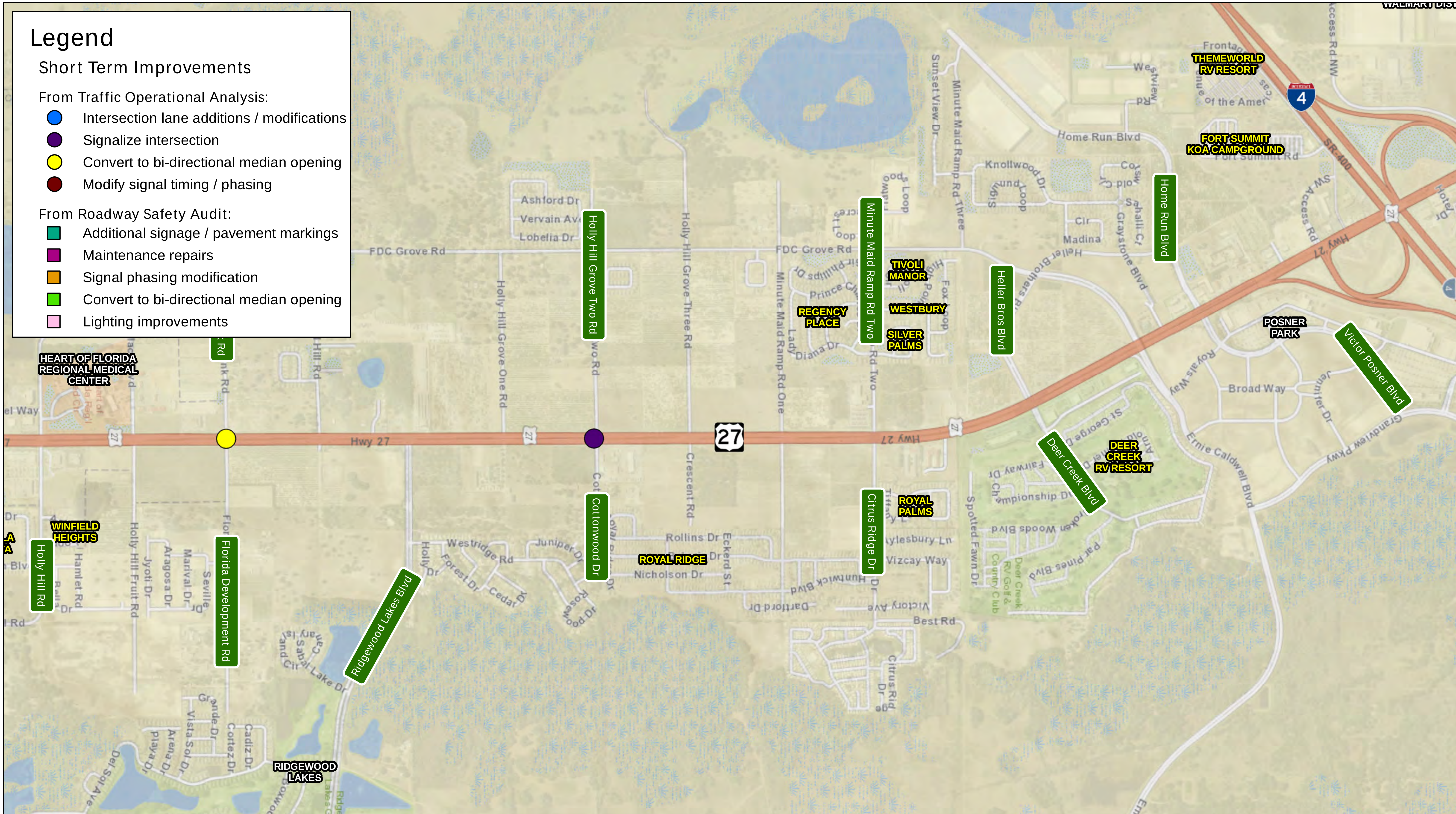


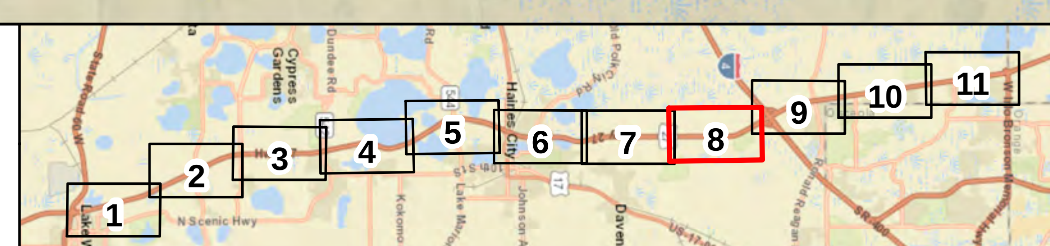
NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS


Legend
Short Term Improvements
From Traffic Operational Analysis:
Intersection lane additions / modifications
Signalize intersection
Convert to bi-directional median opening
Modify signal timing / phasing
From Roadway Safety Audit:
Additional signage / pavement markings
Maintenance repairs
Signal phasing modification
Convert to bi-directional median opening
Lighting improvements
Holly Hill Grove Two Rd
Minute Maid Ramp Rd Two
Heller Bros Blvd
Home Run Blvd
Victor Posner Blvd
Deer Creek Blvd
Citrus Ridge Dr
Cottonwood Dr
Florida Development Rd
Holly Hill Rd
Ridgewood Lakes Blvd
HEART OF FLORIDA REGIONAL MEDICAL CENTER
WINFIELD HEIGHTS
REGENCY PLACE
TIVOLI MANOR
WESTBURY
SILVER PALMS
THEMEWORLD RV RESORT
FORT SUMMIT KOA CAMPGROUND
POSNER PARK
DEER CREEK RV RESORT
ROYAL PALMS
ROYAL RIDGE
RIDGEWOOD LAKES
Hwy 27
FDC Grove Rd
27
4

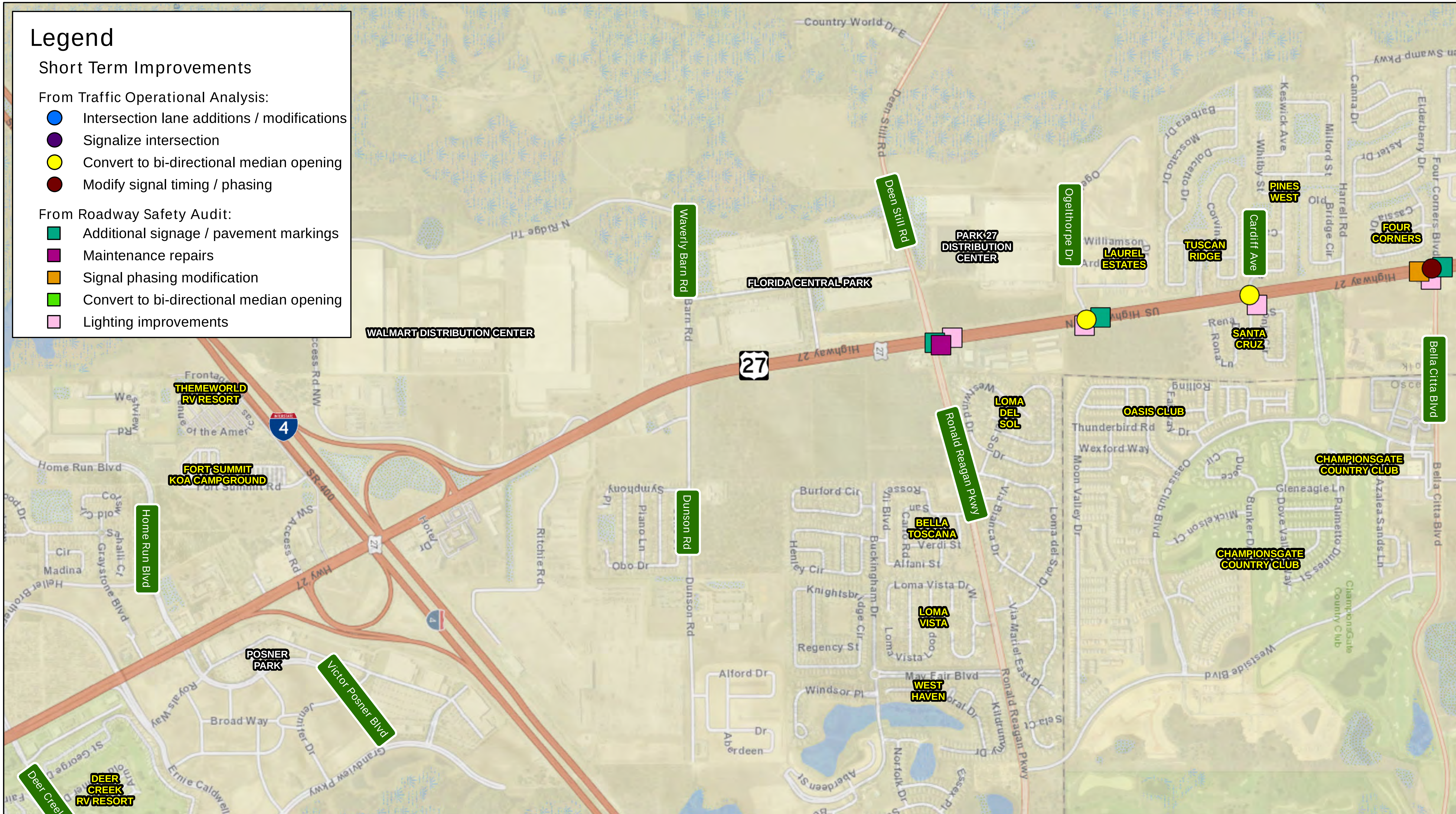


NORTHEAST POLK
US 27
Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 8 of 11



Northeast Polk US 27 Mobility Study
From SR 60 to US 192
Polk County, Florida
FPID No.: 440320-1

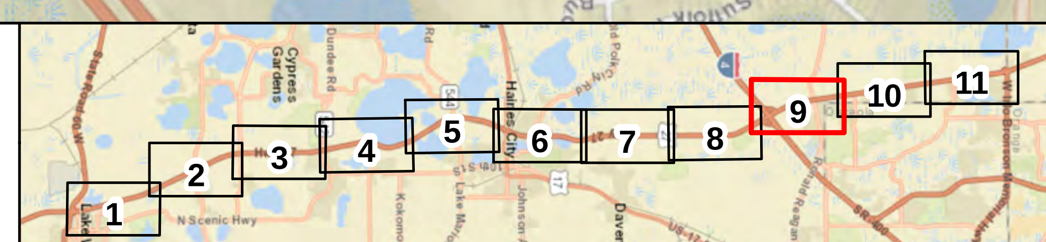


FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 9 of 11

Legend

Short Term Improvements

From Traffic Operational Analysis:

- Intersection lane additions / modifications
- Signalize intersection
- Convert to bi-directional median opening
- Modify signal timing / phasing

From Roadway Safety Audit:

- Additional signage / pavement markings
- Maintenance repairs
- Signal phasing modification
- Convert to bi-directional median opening
- Lighting improvements

Central Grove Rd
California Blvd
Florida Ave
Highlands Reserve Blvd
Sand Mine Rd
Cardiff Ave
Ridgeway Blvd
Student Dr
McFee Dr
Terra del Sol Blvd
Bella Citta Blvd
Highway 27
Tank Rd
Bobcat Rd
Teacher Ln
Westside Blvd

CALABAY PARC
PINES WEST
FOUR CORNERS
FLORIDA PINES
WESTRIDGE
FLORIDA CAMP INN
HIGHLANDS RESERVE
BERRY TOWN CENTER
WELLING
TUSCAN RIDGE
LAUREL ESTATES
SANTA CRUZ
TERRA DEL SOL
SOLANA
PALM KEY
HAMILTON LAKES
THE RIDGE
CITRUS RIDGE ACADEMY
OASIS CLUB
CHAMPIONSGATE COUNTRY CLUB
CHAMPIONSGATE COUNTRY CLUB

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

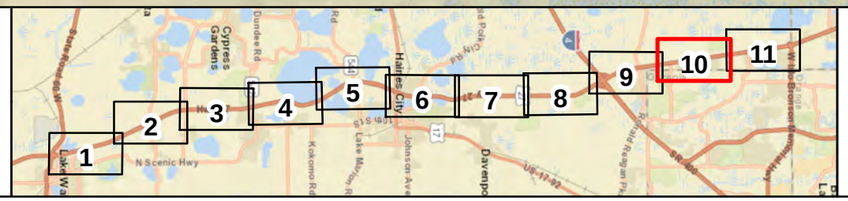
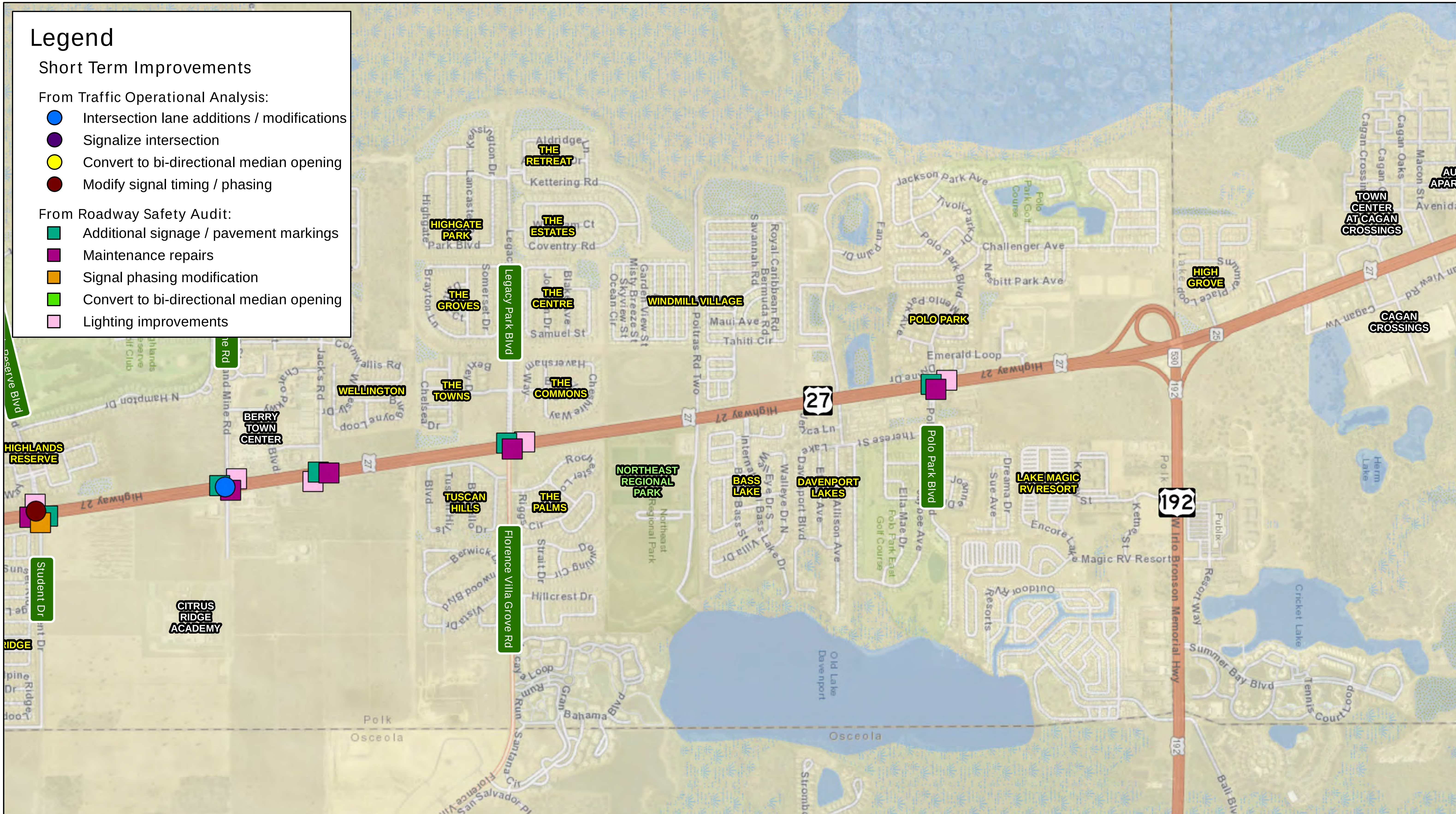


FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 10 of 11


Legend
Short Term Improvements
From Traffic Operational Analysis:
Intersection lane additions / modifications
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Convert to bi-directional median opening
Modify signal timing / phasing
From Roadway Safety Audit:
Additional signage / pavement markings
Maintenance repairs
Signal phasing modification
Convert to bi-directional median opening
Lighting improvements
THE RETREAT
HIGHGATE PARK
THE ESTATES
THE GROVES
THE CENTRE
WINDMILL VILLAGE
POLO PARK
WELLINGTON
THE TOWNS
THE COMMONS
BERRY TOWN CENTER
HIGHLANDS RESERVE
TUSCAN HILLS
THE PALMS
NORTHEAST REGIONAL PARK
BASS LAKE
DAVENPORT LAKES
LAKE MAGIC RV RESORT
HIGH GROVE
TOWN CENTER AT CAGAN CROSSINGS
CAGAN CROSSINGS
CITRUS RIDGE ACADEMY
Legacy Park Blvd
Florence Villa Grove Rd
Polo Park Blvd
Student Dr
Highway 27
27
192
Polk
Osceola

NORTHEAST POLK US 27 Mobility Study

Northeast Polk US 27 Mobility Study
From SR 60 to US 192

Polk County, Florida
FPID No.: 440320-1

FIGURE 8-1
SHORT TERM IMPROVEMENT RECOMMENDATIONS
Sheet 11 of 11

9 EXISTING CONDITIONS SUMMARY

The NE Polk US 27 Mobility Study is intended to support the Florida Department of Transportation (FDOT) District One and its transportation partners in defining a multimodal program of improvement projects and strategies. US 27 is part of the Strategic Intermodal System (SIS) and is a critical north/south route for freight traffic throughout the state. The overall objective of the Study is to improve the mobility, safety, and livability along the US 27 corridor. This multimodal plan will address congestion and mobility issues on US 27 by developing Context-Sensitive Solutions, and documenting improvement strategies.

The purpose of the NE Polk US 27 Mobility Study is to engage local and regional project stakeholders to identify mobility needs and establish planning goals and values that lead to implementation of improvement strategies. The purpose of the Existing Conditions Report is to document the data collection, research and existing conditions analysis completed for US 27 as part of the NE Polk US 27 Mobility Study.

9.1 STUDY AREA

The NE Polk US 27 Mobility Study corridor spans a 32-mile section of US 27 from SR 60 (the southern limit of the study area) to US 192 at the Polk County/Lake County line (the northern limit of the study area). The broader study area includes the area surrounding US 27 several miles to the east and west, along with other key crossroads and parallel roadways which have an impact on US 27 and are impacted by US 27.

Thirty-three existing signalized intersections, the unsignalized interchanges of US 192 and US 17, and 14 unsignalized intersections with full median openings on US 27 between SR 60 and US 192 were identified as the key study intersections for the Existing Conditions Report.

9.2 OTHER STUDIES AND PLANNED IMPROVEMENTS

Available studies and reports previously developed by FDOT and other agencies for transportation facilities within the study area were reviewed, to provide historical context and insight into the issues and opportunities surrounding the US 27 corridor and study area. Valid data and analysis documented in other studies was considered and utilized wherever possible. Documents reviewed included available comprehensive plans for Polk County and the municipalities within the study area, the Polk TPO 2040 Long Range Transportation Plan, FDOT District One Central Polk Parkway PD&E Study, Central Florida Expressway Authority (CFX) Poinciana Parkway PD&E Study, Polk TPO Transit Development Plan (FY 2017 – FY 2026), FDOT Central Office US 27 Multimodal Corridor Study, and the ongoing Florida's Turnpike Enterprise US 27 limited access managed lanes feasibility study information.

Plans for changes to the roadway network within the broader study area were researched. Ongoing and upcoming planned and programmed (aka committed) transportation projects were identified from each of the funding plans that were reviewed. This included projects from the Polk TPO's latest adopted 5-year Transportation Improvement Plan (TIP), the TPO's adopted 2040 LRTP, FDOT District One adopted Work Program for fiscal years 2020 through 2024, and SIS 1st Five Year Plan, SIS 2nd Five Year Plan, SIS Cost Feasible Plan, and SIS Multimodal Unfunded Needs Plan.

9.3 TRANSPORTATION DATA

Traffic Volumes

Historic traffic count data available from FDOT, TPO, Polk County, and others was obtained for roadway locations within the study area. In addition, traffic counts were conducted in association with this study, including 24-, 48-, and 72-hour volume/classification counts as well as turning movement counts. Such turning movement counts were collected during the AM peak period (6:30am-10:30am) and PM peak period (3:00pm-7:00pm) on a typical weekday, in November or December 2018. This data included pedestrian and bicycle counts at each location. The AM peak hour was determined to be from 7:15 AM – 8:15 AM and the PM peak hour was determined to be from 4:45 PM – 5:45 PM.

Existing (2018) Annual Average Daily Traffic (AADT) volumes were developed from the bi-directional counts. AADTs older than 2018 were adjusted by a 2% annual growth rate.

Existing Bicycle and Pedestrian Facilities

Bicycle facilities were inventoried along US 27 from SR 60 to US 192. The bicycle facilities present on the corridor largely consist of 5-foot paved shoulders, and generally are not designated as bicycle lanes with pavement markings. There are keyhole lanes near intersections with turn lane configurations throughout approximately half of the study area. However, these keyhole lanes do not match the latest FDOT design standard which includes bicycle pavement markings.

Pedestrian facilities were also inventoried along US 27. Sidewalks are sporadically located from SR 60 until approximately Mile Post 23, near Ernie Caldwell Blvd. There are generally sidewalk facilities located on both sides of the corridor from Ernie Caldwell Blvd to the northern terminus of the study area at US 192. Curb cuts are provided where sidewalks meet the roadway. Seven signalized intersections do not have pedestrian crossing pavement markings on all four legs of the intersection.

Existing and Planned Transit

The Lakeland Area Mass Transit District (LAMTD) administers and operates Citrus Connection, which includes all public transportation within Polk County. Citrus Connection provides 24 fixed-route service lines, with a fleet of 41 buses. An additional three routes within the county are paid for by Polk County and operated via a contract with LYNX. Citrus Connection also operates paratransit service, offering shared rides for those who are unable to use regular fixed-route buses. There are twelve existing bus routes serving the NE Polk US 27 project area study limits, and two new routes scheduled to begin service on October 1, 2019. On weekdays transit service is generally provided between 6am and 7pm for most routes within the study area. Nine of the routes have some service on Saturdays, generally from morning to early afternoon. None of the routes have service on Sundays. Six of the 12 routes have a 1.5-hour headway between busses, four of the routes have an hour between busses, one route has two hours between busses, and one route has variable headways.

The highest Citrus Connection bus ridership is on route 15 which runs between Winter Haven and Haines City along US 17/92. The second highest ridership is on route 30 which runs between the Winter Haven Downtown Terminal and the Eagle Ridge Mall along portions of Cypress Gardens Road and Waverly Road. Route 427 which runs along US 27 has an average weekday ridership of 92.

SunRail is a Central Florida passenger rail system serving the City of Orlando, and Volusia, Seminole, Orange and Osceola counties. It opened in 2014 and has expanded to now include 49 miles and 16 stations in four counties. It makes 40 trips per day. SunRail operates double-decker passenger rail cars on 30-minute headways during morning and afternoon peak periods and on less frequent headways midday. Trains run Monday through Friday.

A technical memorandum, completed in March 2015 for the Polk County TPO, evaluated the possible extension of SunRail passenger rail service into Polk County. The technical memorandum was completed in support of the 2040 Long Range Transportation Plan Update. Key information from the memorandum was summarized including potential staging alternatives for an extension, conceptual site considerations, conceptual feeder bus services, ridership propensity analysis, and other institutional considerations. An initial list of ten potential station locations was provided. Two potential station locations were recommended in Haines City, one station in Auburndale, and one in Lakeland. Funding, adequate ridership, and community development support are three key issues to overcome in trying to move the idea for a SunRail extension forward.

Travel Patterns and Travel Demand Model

As a part of this study, Origin-Destination (O-D) data for all vehicular trips on US 27 and for other roads within the study area, was collected using Streetlight Data. This data was used to determine travel patterns of traffic entering and exiting US 27 and the study area.

The travel demand model that will be used for this study is based on the current adopted District One Cost Feasible 2040 Regional Planning Model (D1RPM v1.0.3), with refinements made in conjunction with a May 2018 US 17/92 Haines City traffic study. The D1RPM is a travel demand forecasting tool developed by FDOT District One, in conjunction with the six District MPO/TPOs in support of their current 2040 Long Range

Transportation Plans (LRTP). This model was adopted by the Polk County TPO for use in developing traffic forecasts within the County.

The 2040 No-Build model was developed by applying appropriate base year validation refinements to the 2040 LRTP Cost Feasible model network. This included adding the I-4/CR 532 interchange area (Osceola County) network and socioeconomic data and forecast external station volumes. The base 2040 No-Build network was also revised to include the proposed Southport Connector, Poinciana Parkway extension to I-4 along the eastern boundary of the model, and the proposed Central Polk Parkway (CPP) project, from Polk Parkway to 91 Mine Road.

Truck and Freight Data

Multiple data sources of truck and freight data was obtained and reviewed to summarize the existing truck volume on the US 27 corridor, and freight commodity information in the study area. Based on the FDOT 2017 truck counts at stations along US 27 between SR 60 and US 192, the average percentage of truck traffic is 9.7%, with a minimum of 6.7% south of SR 530/US 192, and a maximum of 12.3% north of Central Avenue in Lake Wales. Daily truck volumes from the 2017 FDOT counts show the highest truck volume is between I-4 and SR 60, with over 3,000 daily trucks on most of this section of the corridor, and some portions with over 4,000 daily trucks.

On average, 5,436,094 tons of freight is transported on the US 27 corridor in the study area which translates to 5,617 million dollars of goods. This equals an average of 378,883 annual truckloads passing through this corridor. The number one commodity moved on the US 27 corridor in terms of tonnage hauled and average annual value hauled, is citrus fruits which account for 49% total annual freight tonnage. The freight flow from warehouses and distribution centers is the second highest commodity by tonnage and value. This is in keeping with the types of uses in the area, which include citrus processing plants and large regional warehouse and distribution centers.

Streetlight OD data was analyzed to determine travel patterns for commercial vehicles in the area. Approximately 1/4 of the commercial vehicle (truck) trips originating at the Central Florida ILC in Winter Haven proceed west on SR 60. Another 1/4 proceed west and then north on Rifle Range Road (CR 655), and roughly another 1/4 of the trips proceed east on SR 60, with the majority then heading north on US 27.

9.4 LAND USE DATA

Future Land Use Plans and DRIs

The current future land use plans of Polk County and the municipal governments within the corridor, as well as the 2045 population and employment forecast developed by the Polk TPO were reviewed. Generally, the broader study area is surrounded by agricultural and conservation lands. Low and medium density residential development is located along both sides of US 27 between SR 60 and US 192, along with some small areas for institutional, industrial and commercial use. Commercial land uses are primarily situated near SR 60, US 17/92, and I-4. There are multiple large water bodies also located within the study area.

DRIs are also important areas to note, where additional development can be expected in the future, if they have not yet fully developed. According to Polk County GIS data, there are 9 DRIs located within the study area. Most are approved for retail or multi-use development.

2045 Population and Employment

The Polk TPO developed their 2045 population and employment forecast concurrent with the NE Polk US 27 Mobility Study. Consistent with the 2040 forecast, the 2045 forecast places significant population and employee growth in northeast Polk County. The County is expecting to add over 250,000 people between 2015 and 2045. Likewise, employment growth is expected to increase in northeast Polk County by over 67,000 employees between 2015 and 2045.

Freight Attractors and Generators

Freight attractors and generators were identified in the study area using information available from the FDOT District One *Freight Mobility and Trade Plan*, dated 2016, the FDOT District One *Districtwide Freight Activity Center Connector Definition and Evaluation* study completed in 2019, and ongoing FDOT Central Office Advanced Geospatial Analytics project. According to the District One FMTP, citrus is one of the major

commodities produced, processed and transported in District One. Ninety percent of citrus is processed into juice in eight processing plants in the District. Polk County is home to five citrus processing plants. Three of these plants: Florida's Natural Growers, Dundee Citrus Growers Association and Haines City Citrus Growers Association, are all either adjacent to US 27 or located within approximately 2 miles from US 27. Mining products, cattle, sugar, vegetables and other fruits are other major products that are produced in District One and transported on US 27.

The centrality of Polk County between three of the largest metropolitan regions in the State of Florida (Orlando-Tampa-Miami), has made Polk County a prime location for manufacturing, warehouse, distribution center, and 3rd party logistics industry establishments. The City of Lakeland is a major freight hub in Polk County with a high density of manufacturing establishments, warehouses and distribution centers that contributes significantly to freight movements on US 27 in the study area. US 27 is the most significant non-interstate freight corridor in District One.

Twenty-one Freight Activity Centers (FACs) were identified in Polk County from which ten (10) are located near US 27 in the study area (within 5 miles of the US 27 corridor). These FACs are considered major freight trip generators and attractors as they comprise major freight generator businesses such as manufacturing, warehouses, distribution centers, and transportation and 3PL business establishments. Connector roads that provide access to the ten FACs and the Freight Mobility Corridors in District One were also identified. Figure 4-6 shows how the FACs are connected to US 27 through identified FAC connectors, distribution routes and other regional facilities. These are critical routes that should be maintained with a primary purpose of moving freight and goods.

Community Characteristics and Context Classifications

Primarily rural in landscape, Polk County supports a growing population that is less diverse than that of the State, with fewer working age adults. The fastest growing areas in the county since 2010 generally occur north of SR 60 and south of I-4 with additional pockets of growth focused just north of Lakeland and along US 27. When evaluated by age, the fastest growth in the county is for residents age 65 and over. Polk County hosts over a quarter million jobs. Employment is distributed across a range of sectors, with health care and retail serving as the primary employers. Most employment is focused near Lakeland and Winter Haven with a large employment center also located in Bartow. Smaller but numerous areas of employment are focused along major roadway corridors including US 27 and SR 60.

The FDOT context classification system describes the land use, development, and transportation network functionality along a travel corridor. This provides the basis for a qualitative analysis of the general character of the area as part of the FDOT planning process. The characteristics of the community within the US 27 Mobility Study area are generally suburban in nature. Only the area between the Lake Wales Ridge Wildlife Environmental Area to East Mountain Lake Cutoff Rd is expected to remain a rural area, which is due to the presence of the sensitive environmental lands. Along the US 27 corridor from SR 60 to US 192, the following FDOT context classifications are identified: C2 – Rural, C3C – Suburban Commercial, C3R – Suburban Residential, and C4 – Urban General.

9.5 PHYSICAL CHARACTERISTICS

Using the results of the *US 27 Multimodal Corridor Existing Conditions Data Study* produced by FDOT and dated February 2019, right-of-way information, bridge structures, utility, and drainage structure information for US 27 between SR 60 and US 192 was summarized. This information will be useful when evaluating potential future corridor improvements.

In addition, the FDOT access management classifications along the US 27 corridor were noted along with the spacing standards. Many segments have multiple driveways which do not meet the current spacing standards. Safe access to and from US 27 now and in the future is a concern along the corridor.

9.6 EXISTING CORRIDOR OPERATIONS

Regional Travel Patterns

Existing Origin-Destination information obtained from StreetLight data was used to identify and summarize existing regional travel patterns of all vehicles entering and exiting US 27 and/or the study area. Internal trips, regional trips, and external trips were analyzed for the study area. The regional travel patterns showed a

significant percentage of traffic travels north on US 27 and east on I-4, and in reverse, from the east on I-4 to the south on US 27.

Roadway Analysis

A variety of existing available data sources were utilized in order to identify "hot spot" locations (congested roadway segments). US 27 roadway segment level of service, and intersection level of service was assessed. In addition, a congestion assessment from RITIS INRIX data and Google Traffic for the US 27 corridor was completed.

Based on 2018 AADTs, US 27 from Blue Heron Blvd to Bates Road, and US 27 from Crane Drive to I-4 are operating at LOS F; below the FDOT LOS target D for an urbanized area.

The congestion scan of US 27 shows that traffic in the southbound direction is somewhat congested from US 192 to I-4 from 7am to 7pm, with heavy congestion frequently occurring between Deen Still Road and I-4 between 6:30am and 6pm. The heaviest congestion for southbound traffic on US 27 occurs at I-4 between 3pm and 6pm. In the northbound direction, US 27 traffic typically experiences some noticeable congestion between US 17/92 and Old Polk City Road between 7-9am, 11am-3pm, and 4:30-5:30pm. Northbound also typically experiences some congestion between I-4 and Deen Still Road from 7am-7pm.

Average speeds along US 27 in the northbound and southbound directions for all vehicles were obtained through RITIS. Average speed on US 27 dips down from approximately 45 mph to between 36 to 40mph in both directions from approximately 6:45am to 6:45pm on weekdays.

Average travel time along US 27 between SR 60 and US 192 is approximately 40 minutes in both directions between 12am and 6am. Between 6am and 5:15pm, travel time increases by 5 to 10 minutes for both northbound and southbound directions. After 5:15pm, travel times gradually decrease back down to approximately 40 minutes.

Based on the existing intersection operational analysis, 17 of the 47 study intersections are operating at LOS E or F, which is below the FDOT LOS target D, in either the AM or PM peak hours. In order to reduce delay at the intersections with an overall LOS E or F, minor operational (short-term) improvements were evaluated and are summarized in Section 8.

Bicycle and Pedestrian Analysis

Much of the corridor has an acceptable bicycle Q/LOS of C, except for approximately 3.7 miles of US 27 that has an undesirable LOS E or F. Pedestrian facility Q/LOS is acceptable at Q/LOS D for approximately 10 miles, and below standard (at LOS E) for approximately 21 miles.

9.7 CRASH ANALYSIS

Crash data for the study area was obtained for the years 2013 through 2017. The crash data included information including date of crash, location, number of vehicles involved, type of crash, number of injuries and/or fatalities, cause of crash, and estimated economic loss. The crash analysis results reveal that there was a total of 3,451 crashes within the study area during this five-year period (2013-2017). Of these 3,451 crashes, rear-end collisions were the most common crash type, accounting for 47.4% followed by heavy vehicle crashes (14.5%) and angle crashes (12.5%). A total of 136 crashes (3.9%) resulted in a fatality or severe incapacitating injury and 25% occurred during dark conditions.

Segment crash and intersection crash statistics were evaluated. A composite ranking factor based on the criteria described previously was developed to identify high crash locations. Using the top ten ranked intersections and two of the top ranked segments, three (3) audit teams were organized to conduct the road safety field reviews. The teams collected data at the intersections and segments to identify deficiencies of the existing conditions including sidewalks, lighting, crosswalks, transit facilities, signage, and midblock median openings. Potential improvements were identified. The road safety audits were published under a separate document as *FDOT D1 Road Safety Audit: US 27 from North of SR 60 to US 192,* dated June 2019. The recommendations are being considered along with the intersectional operational analysis recommendations as short-term improvements.

9.8 SHORT-TERM IMPROVEMENTS

Short term improvements were identified based on an analysis of existing 2018 traffic operations and safety analysis. Twenty-six intersection locations have operational and/or safety recommendations. The recommendations were grouped into the following categories:

- Intersection lane additions / modifications
- Signalize intersection
- Convert a median opening to a bi-directional median opening
- Modify signal timing / phasing
- Add signs or pavement markings
- Maintenance repairs needed
- Lighting improvement

These recommendations are being reviewed and coordinated with appropriate implementing agencies and offices.