

Alternative Corridor Evaluation  
Existing Conditions Report

Florida Department of Transportation  
District Seven

US 301/US 98/SR 35/SR 700/Clinton Avenue  
Intersection Realignment Study

Pasco County, Florida

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

This planning product may be adopted into the environmental review process, pursuant to Title 23 USC § 168, or the state project development process.

# TABLE OF CONTENTS

Section	Page
<b>1.0 Introduction.....</b>	<b>1-1</b>
1.1 Project Description.....	1-1
1.2 Purpose and Need.....	1-2
1.3 Study Area.....	1-3
1.4 Project Status.....	1-3
<b>2.0 Existing Roadway Conditions.....</b>	<b>2-1</b>
2.1 Roadway.....	2-1
2.2 Right of Way.....	2-1
2.3 Roadway Classification & Context Classification.....	2-2
2.4 Adjacent Land Use.....	2-2
2.5 Access Management Classification.....	2-2
2.6 Design and Posted Speeds.....	2-3
2.7 Vertical and Horizontal Alignment.....	2-3
2.8 Pedestrian Accommodations.....	2-4
2.9 Bicycle Facilities.....	2-4
2.10 Transit Facilities.....	2-5
2.11 Pavement Condition.....	2-5
2.12 Traffic Volumes and Operational Conditions.....	2-6
2.12.1 Traffic.....	2-6
2.12.2 Truck Factors.....	2-8
2.12.3 Pedestrians and Bicycles.....	2-8
2.12.4 Transit.....	2-9
2.13 Intersection Layout and Traffic Control.....	2-9
2.14 Railroad Crossings.....	2-10
2.15 Crash Data and Safety Analysis.....	2-10
2.15.1 Crash Type.....	2-11
2.16 Drainage.....	2-13
2.17 Soils and Geotechnical Data.....	2-16
2.18 Utilities.....	2-17
2.19 Lighting.....	2-18
2.20 Signs.....	2-19
2.21 Aesthetics Features.....	2-19
2.22 Bridges and Structures.....	2-19

**3.0 Existing Environmental Conditions..... 3-1**

- 3.1 Social Environment..... 3-1
  - 3.1.1 Social..... 3-1
  - 3.1.2 Economic..... 3-2
  - 3.1.3 Land Use..... 3-3
  - 3.1.4 Mobility..... 3-4
  - 3.1.5 Aesthetic Effects..... 3-4
  - 3.1.6 Relocation Potential ..... 3-4
  - 3.1.7 Farmlands ..... 3-5
- 3.2 Cultural Environment..... 3-5
  - 3.2.1 Archaeological..... 3-5
  - 3.2.2 Historic ..... 3-5
  - 3.2.3 Section 4(f)..... 3-8
  - 3.2.4 Recreational..... 3-8
- 3.3 Natural Environment..... 3-8
  - 3.3.1 Wetlands..... 3-12
  - 3.3.2 Protected Species..... 3-13
  - 3.3.3 Essential Fish Habitat..... 3-16
  - 3.3.4 Floodplains ..... 3-17
  - 3.3.5 Water Quality ..... 3-19
  - 3.3.6 Special Designations ..... 3-19
- 3.4 Physical Environment ..... 3-20
  - 3.4.1 Noise..... 3-20
  - 3.4.2 Air..... 3-21
  - 3.4.3 Contamination ..... 3-21

## List of Figures

<b>Figure</b>	<b>Page</b>
Figure 1-1	Project Location Map ..... 1-2
Figure 1-2	ACE Study Area..... 1-4
Figure 1-3	Boundary Map..... 1-5
Figure 2-1	Crash Density Map..... 2-11
Figure 2-2	Crash Type and Severity Map..... 2-13
Figure 2-3	Drainage Map..... 2-14
Figure 2-4	Hydrologic Soil Groups ..... 2-16
Figure 2-5	Shallow SHGWT and Clayey Soils ..... 2-17
Figure 3-1	Project Study Area 2010 US Census Block Groups ..... 3-1
Figure 3-2	Pasco County 2025 Future Land Use..... 3-3
Figure 3-3	Cultural Resources Map..... 3-7
Figure 3-4	FEMA Flood Zones..... 3-18
Figure 3-5	Watershed Models..... 3-19
Figure 3-6	Noise Sensitive Receptors..... 3-21
Figure 3-7	Contamination Map..... 3-23

## List of Tables

<b>Table</b>	<b>Page</b>
Table 2-1	Pavement Condition Survey Results (2019) ..... 2-6
Table 2-2	Existing Year (2019) AADT and Design Hourly Volumes ..... 2-7
Table 2-3	Existing Year (2019) Intersection Approach Analysis ..... 2-7
Table 2-4	Field Measured T24 Factors ..... 2-8
Table 2-5	Existing (2019) Pedestrian and Bicycle Movements ..... 2-8
Table 2-6	Crash Ratios (2013 to 2017)..... 2-10
Table 2-7	Crash Type for Intersections ..... 2-12
Table 2-8	Crash Type for Segments ..... 2-12
Table 2-9	Summary of Existing Cross Drains..... 2-15
Table 2-10	Existing Utility Agency Owners ..... 2-18
Table 3-1	Demographic Information..... 3-2
Table 3-2	Previously Recorded Historic Resources within the Study Area..... 3-6
Table 3-3	Land Use and Cover within the Project Study Area ..... 3-10
Table 3-4	Protected Species Potentially Occurring within the Study Area..... 3-14
Table 3-5	Land Use Review for Noise Sensitive Receptors within the Study Area ..... 3-20
Table 3-6	Potential Contamination Sites within the Study Area ..... 3-22

# List of Appendices

Appendix A	Traffic and Safety Existing Conditions Technical Memorandum
Appendix B	Land Use Maps

# 1.0 Introduction

The Florida Department of Transportation (FDOT) District Seven is utilizing the Alternative Corridor Evaluation (ACE) process as part of the US 301/US 98/Clinton Avenue Intersection Realignment Study. ACE is typically performed as part of the Efficient Transportation Decision Making (ETDM) screening efforts that precede the Project Development and Environment (PD&E) phase and is used to identify, evaluate, and eliminate alternatives. Alternatives advancing to the PD&E phase should support the purpose and need for a project in accordance with all applicable laws and regulations, through the balancing of engineering, environmental, and economic aspects while considering comments received through the ETDM screening efforts.

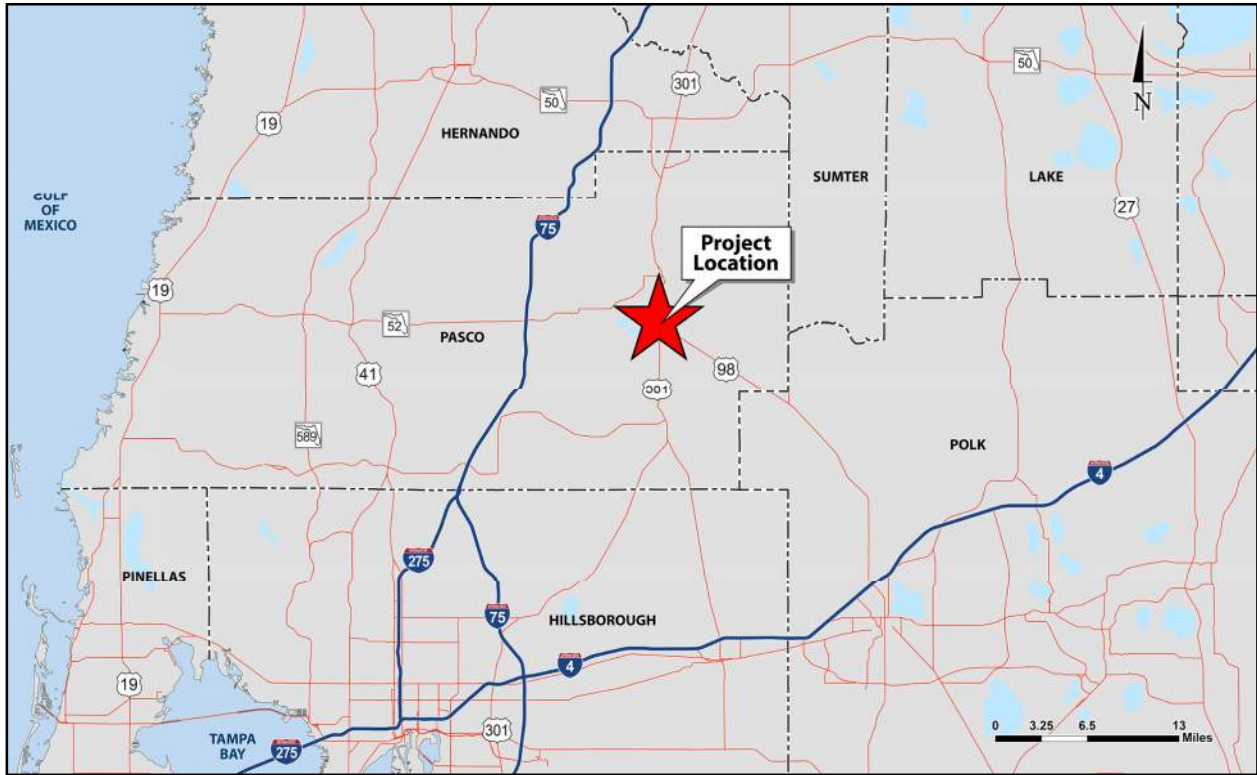
The ACE process, as defined in the PD&E Manual, Part 1, Chapter 4 and ETDM Manual, meets the intent of the Code of Federal Regulations (CFR), Title 23, Part 450 (Planning Regulations) and 23 U.S. Code (USC) §168 (Integration of Planning and Environmental Review) of streamlining the planning and environmental review process. It is the intent to conduct the corridor study for the proposed US 301/US 98/Clinton Avenue intersection realignment so that planning decisions can be directly incorporated into the National Environmental Policy Act (NEPA) process. The goals of the ACE are to address Environmental Technical Advisory Team (ETAT) comments, to eliminate alternative corridors that do not meet the project's purpose and need or that have disproportionate and/or significant impacts, and to recommend viable corridors to be carried forward into the PD&E Study. The ACE process ensures that all alternatives are evaluated consistently.

The purpose of this Existing Conditions Report is to document the technical environmental and engineering information to be used in the development of alternative corridors to address the project Purpose and Need. Once corridors are developed, they will be evaluated utilizing this data in accordance with the procedures identified in the Methodology Memorandum (MM). The evaluation of the corridors will be detailed in the Alternative Corridor Evaluation Report (ACER). The results in the ACER will identify the reasonable alternatives for NEPA analysis.

## 1.1 Project Description

This project will evaluate potential alternatives for the realignment of US 98 to Clinton Avenue to eliminate the closely spaced intersections of US 301 at US 98 and US 301/US 98 at Clinton Avenue, which are currently spaced approximately 1,600 feet apart. US 301 is currently a four-lane divided facility throughout the project limits and is functionally classified by FDOT as an urban principal arterial. A PD&E Study has been approved for the widening of US 301 from four lanes to six lanes in the segment from south of US 98 to Clinton Avenue. US 98 is a two-lane undivided facility and is functionally classified as an urban principal arterial. Clinton Avenue is a four-lane divided roadway and is functionally classified as an urban major collector. A project location map is shown in **Figure 1-1**.

**Figure 1-1  
Project Location Map**



## 1.2 Purpose and Need

### Purpose

The purpose of this project is to provide alternatives that realign US 98 to Clinton Avenue to eliminate the current closely spaced intersections of US 301 at US 98 and US 301 at Clinton Avenue; facilitate east/west travel; maximize the benefits of the improvements to Clinton Avenue and designation as SR 52 west of US 301; and enhance safety along the corridor.

### Need

A realignment of US 98 to Clinton Avenue intersection is needed to eliminate the existing closely spaced intersections of US 301 at US 98 and US 301 at Clinton Avenue, to reduce crashes, and to enhance safety. The realignment of SR 52 from east of McKendree Road to east of US 301 will begin in 2019 and will serve as an additional east/west route in the regional transportation network. When completed, this improvement will increase traffic at the US 301 at US 98 and US 301 at Clinton Avenue intersections, exacerbating the current intersection safety concerns.

### Safety

The closely spaced intersections of US 301 at US 98 and US 301 at Clinton Avenue have crash rates that exceed the statewide average. Between 2013 and 2017, the intersection of US 301 at US 98 experienced a total of 68 crashes. The predominant crash types were angle crashes (57%) followed by rear end crashes (32%). This intersection exhibited a crash rate (crash

ratio = 2.457) that was consistently higher than the statewide average for a similar type of intersection.

Between 2013 and 2017, the intersection of US 301 and Clinton Avenue experienced a total of 71 crashes. The predominant crash types were rear end crashes (51%) followed by angle crashes (28%). This intersection exhibited a crash rate (crash ratio = 2.181) that was consistently higher than the statewide average for a similar type of intersection. A realignment of US 98 to Clinton Avenue to eliminate high traffic volumes at one of the two closely spaced intersections has the potential to reduce crashes and enhance safety.

### 1.3 Study Area

The study area used for the ETDM Preliminary Planning Screen has been refined to standardize and make uniform the buffers along US 301, Clinton Avenue, Old Lakeland Highway, and US 98. **Figure 1-2** shows the ACE study area in comparison to the ETDM Preliminary Planning Screen study area.

The ACE study area is 3,535 acres in size and is located in Sections 10-15 and 24; Township 25 South, Range 21 East; and Sections 7, 18, and 19, Township 25 South, Range 22 East in Pasco County, Florida. The majority of the study area is located in unincorporated Pasco County with a small area near US 301 and Clinton Avenue being in the City of Dade City (See **Figure 1-3**).

### 1.4 Project Status

FDOT District Seven initiated this ACE for the US 301/US 98/Clinton Avenue Intersection Realignment Study in Pasco County, Florida in April 2019. The realignment of the US 98 intersection is listed in both the Needs Plan and the Cost Feasible Plan of the Pasco County Metropolitan Planning Organization's (MPO) 2040 Long Range Transportation Plan (LRTP) and planned for construction between 2030 and 2040 with a total cost of \$23,566,428. Funding for a PD&E study to evaluate the realignment of the US 301/US 98/Clinton Avenue intersection is ranked #8 (WPI Segment #443368-1) on the Pasco County MPO's 2019-2020 Transportation Improvement Program (TIP) Priority List: *Table 1: Combined Roadway Capacity, Intersection, and ITS Projects*. The PD&E study for this project was funded (\$1,000,000) in FY 2019 and is shown on page 50, in the FY 2019-2020 TIP. No additional funding is currently set in the FDOT's Five Year Work Program.

The ETDM Planning Screen for ETDM #14374 (US 98 (SR 35/SR 700)/US 301/(SR 39)/Clinton Avenue (CR 52A) Intersection Realignment Study) was initiated on December 11, 2018 with the Preliminary Planning Screen Summary Report published on April 23, 2019. For the Planning Screen, a single study area (Alternative #1) that would likely encompass all alternative corridors to be developed was screened to help identify sensitive resources and other fatal flaws that should be avoided. Features identified during the ETDM screening as important considerations include, but are not limited to: low income residents, the Withlacoochee (multi-use) State Trail, historic resources, cemeteries, wetlands, water quality, floodplains, wildlife and habitat,

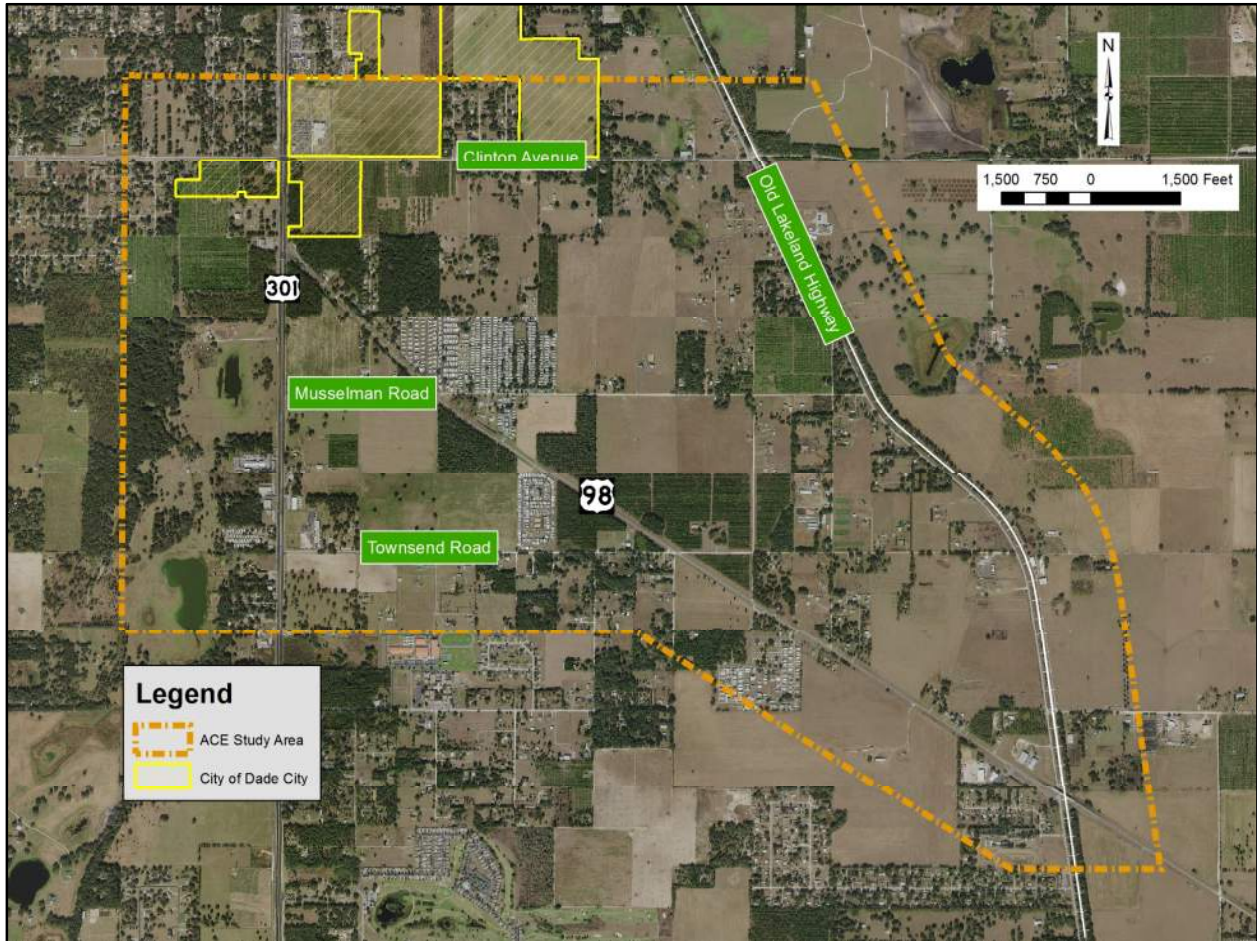


contamination, and noise. There are no previous studies on US 98 in this area or previously identified corridor alternatives.

**Figure 1-2**  
**ACE Study Area**



**Figure 1-3  
Boundary Map**





## 2.0 Existing Roadway Conditions

Existing roadway conditions described in the following section of this report were derived from field observations, GIS data, construction and as-built plan sets, straight line diagrams, and aerial photography from within the US 301/US 98/Clinton Avenue Intersection Realignment Study in Pasco County, Florida.

### 2.1 Roadway

#### US 98:

US 98 is a 2-lane undivided rural typical section with 12' travel lanes and 4' paved shoulders on both sides. There are multiple locations along US 98 where the roadway widens to provide for right and left turn lanes into adjacent communities.

#### Clinton Avenue:

East of US 301, Clinton Avenue is a 2-lane undivided rural typical section with 12' travel lanes. West of US 301, Clinton Avenue is a 4-lane divided urban typical section with 12' travel lanes, a 22' curbed median, and 5' bicycle lanes.

#### US 301:

US 301 is a 4-lane divided suburban typical section with 12' travel lanes, a 40' depressed median, and 5' bicycle lanes. On the west side of the roadway, there is a 10' shared use path. US 301 is an existing hurricane evacuation route.

#### Old Lakeland Highway:

Old Lakeland Highway is a 2-lane undivided rural typical section with 11' travel lanes.

### 2.2 Right of Way

#### US 98:

US 98 has an existing right of way width of 160 feet within the study area.

#### Clinton Avenue:

West of US 301, Clinton Avenue has an existing right of way width of 125 feet. East of US 301, Clinton Avenue has an existing right of way width of 100 feet.

#### US 301:

US 301 has an existing right of way width of 170 feet within the study area. Within the existing right of way along the west side of US 301, there is a 50' trail easement.

#### Old Lakeland Highway:

Old Lakeland Highway has varying right of way within the study limits. Starting at Clinton Avenue, the northern limit of Old Lakeland Highway, the existing right of way width

is 80 feet. This right of way width continues south until it narrows to 55 feet, approximately 2,500 feet ahead of the US 98 and Old Lakeland Highway interchange.

## 2.3 Roadway Classification & Context Classification

### US 98:

US 98 is owned and maintained by FDOT and is functionally classified as an urban principal arterial.

### Clinton Avenue:

Clinton Avenue is owned and maintained by Pasco County. East of US 301, Clinton Avenue is classified as a rural collector. West of US 301, Clinton Avenue is classified as an urban arterial and will be designated as SR 52 after completion of construction of the SR 52 Realignment from Uradco Place to west of Fort King Road (WPI Segment #435142-1).

### US 301:

US 301 is owned and maintained by FDOT and is functionally classified as an urban principal arterial.

### Old Lakeland Highway:

Old Lakeland Highway is owned and maintained by Pasco County and is classified as a rural arterial.

## 2.4 Adjacent Land Use

The project study area consists primarily of agricultural and residential with some retail/office, public/semi-public, industrial, institutional, and recreation land uses. The highest density of commercial and retail land uses exist along US 301. See **Section 3.1.3** and **Section 3.3** of this *Existing Conditions Report* for more detailed discussions on land uses within the study area.

## 2.5 Access Management Classification

### US 98:

US 98 is listed as Access Class 03, restrictive, under the Florida Department of Transportation arterial access classifications and standards.

### Clinton Avenue:

Not applicable (off state roadway system). Reference Pasco County Land Development Code, Section 901.3, for Access Management guidelines.

### US 301:

US 301 is listed as Access Class 03, restrictive, under the Florida Department of Transportation arterial access classifications and standards.

### Old Lakeland Highway:

Not applicable (off state roadway system). Reference Pasco County Land Development Code, Section 901.3, for Access Management guidelines.

## 2.6 Design and Posted Speeds

### US 98:

The design speed along US 98 from County Road (CR) 35A to Jim Jordan Road is 60 miles per hour (mph), while the posted speed is 60 mph. The design speed from Jim Jordan Road to US 301 is 55 mph, while the posted speed is 55 mph.

### Clinton Avenue:

The design speed along Clinton Avenue is 50 mph within the study area. The existing posted speed limit along Clinton Avenue is 45 mph within the study area.

### US 301:

The design speed along US 301, from Clinton Avenue to US 98, is 55 mph. The existing posted speed limit along US 301 is 50 mph.

### Old Lakeland Highway:

The design speed along Old Lakeland Highway is 60 mph within the study area. The existing posted speed limit along Old Lakeland Highway is 55 mph within the study area.

## 2.7 Vertical and Horizontal Alignment

### US 98:

Horizontal: Within the project limits, Old Lakeland Highway is primarily a straight roadway. The general direction of the roadway is from the southeast, at the intersection with Old Lakeland Highway, to the northwest at the intersection with US 301. There is an existing horizontal curve that begins just north of Townsend Road. The curve bends to the north and ends just north of Musselman Road. There is another horizontal curve prior to the intersection of US 98 and US 301. The roadway curves south to intersect US 301 at a 90 degree angle. The two horizontal curves are connected by a tangent section travelling from the southeast to the northwest direction.

Vertical: The topography of the study area is rolling terrain. Within the study area, US 98 follows the natural highs and lows of the rolling topography. There is a crest vertical curve with a high point at Tumbleweed Drive, approximately 0.25 miles south of Musselman Road.

### Clinton Avenue:

Horizontal: Within the project limits, there are no horizontal curves along Clinton Avenue.

Vertical: The topography of the study area is rolling terrain. Within the study area, Clinton Avenue follows the natural highs and lows of the rolling topography. Overall, Clinton Avenue gradually rises in elevation from the eastern limits of the study area to the western limits. There is a sag vertical curve with low point at Bur Mac Road, approximately 0.33 miles west of the intersection of Clinton Avenue and Old Lakeland Highway. There is a crest vertical curve with a high point approximately 0.25 miles east of the intersection of Clinton Avenue and US 301.

### US 301:

Horizontal: Within the project limits, there are no horizontal curves along US 301.

Vertical: The intersection of US 301 and Clinton Avenue exists near the peak of a crest curve. The high point of the crest curve is approximately 0.10 miles south of the intersection. From this point south, US 301 experiences a steep decline in the profile as it approaches the signalized intersection with US 98.

Old Lakeland Highway:

Horizontal: Old Lakeland Highway has a general roadway direction of southeast to northwest. There are two horizontal curves along Old Lakeland Highway within the project limits. The first horizontal curve starts approximately 800' south of Townsend Road and it curves to the west. The curve connects to a tangent section approximately 1,500' in length. The second horizontal curve begins just north of Cousin's Way and curves towards the north. Old Lakeland Highway returns to the southeast to northwest direction until it intersects Clinton Avenue.

Vertical: The vertical alignment of Old Lakeland Highway within the study area is relatively flat with little variance in elevation.

## **2.8 Pedestrian Accommodations**

US 98:

There are no sidewalks, crosswalks, or multi-use paths along US 98 within the study area.

Clinton Avenue:

There are no sidewalks, crosswalks, or multi-use paths along the 2-lane undivided portion of Clinton Avenue, between Old Lakeland Highway and US 301. There is an existing six foot wide sidewalk on the north side and an existing five foot wide sidewalk on the south side of Clinton Avenue at the approach to the intersection with US 301. The sidewalks continue along Clinton Avenue on the west side of US 301.

US 301:

There is an existing five foot wide sidewalk along the east side of US 301, beginning at Clinton Avenue and ending at a bus stop approximately 350 feet to the south. The Withlacoochee State Trail runs along the west side of US 301 within the study area.

Old Lakeland Highway:

There are no sidewalks, crosswalks, or multi-use paths along Old Lakeland Highway within the study area.

## **2.9 Bicycle Facilities**

US 98:

There are no bicycle facilities along US 98 within the study area.

Clinton Avenue:

There are no existing bicycle facilities along the 2-lane undivided portion of Clinton Avenue, between Old Lakeland Highway and US 301. Bicycle lanes form approximately 1,200 feet prior to the Clinton Avenue and US 301 intersection. These bicycle lanes tie into the existing bicycle lanes along Clinton Avenue, west of US 301.

US 301:

There are existing five foot paved shoulders designated as bicycle lanes, on both the east and west sides of US 301, within the study area. The Withlacoochee State Trail runs along the west side of US 301 within the study limits.

Old Lakeland Highway:

There are no bicycle facilities along Old Lakeland Highway within the study area.

## 2.10 Transit Facilities

US 98:

There are no existing transit facilities along US 98 within the study area.

Clinton Avenue:

There are no existing transit facilities along Clinton Avenue within the study area.

US 301:

There are four existing Pasco County Public Transportation (PCPT) bus stops along US 301 within the study area. This includes stop identification numbers 30121 and 30122 on the east side and stop identification numbers 30241 and 30242 on the west side of US 301.

Old Lakeland Highway:

There are no existing transit facilities along Old Lakeland Highway within the study area.

## 2.11 Pavement Condition

According to the 2019 FDOT Pavement Condition Survey for Pasco County, US 98 and US 301, within the study limits, are in good condition. Any rating less than 6.0 indicates that the pavement is deficient. **Table 2-1** identifies the existing pavement condition ratings for US 98 and US 301. Pavement conditions are not available for Clinton Avenue and Old Lakeland Highway.

**Table 2-1  
Pavement Condition Survey Results (2019)**

Location	Roadway ID	Direction	Beginning Mile Post	Ending Mile Post	Condition Category	Year 2019 Rating (0-10)
US 98: From Old Lakeland Highway to US 301	14070000	Eastbound and Westbound	5.17	8.18	Cracking	10.0
					Ride	7.7
					Rutting	8
US 301: From US 98 to Clinton Avenue	14050000	Northbound and Southbound	11.34	11.64	Cracking	10
					Ride	8.3
					Rutting	10

## 2.12 Traffic Volumes and Operational Conditions

The existing traffic conditions are documented in the *Traffic and Safety Existing Conditions Technical Memorandum* included in **Appendix A**. The findings are summarized below.

72-hour bi-directional (approach and departure volumes at 15-minute increments) machine classification counts, 48-hour bi-directional (approach and departure volumes at 15-minute increments) machine counts, 2-hour AM (from 7:00 AM to 9:00 AM) and PM (from 4:15 PM to 6:15 PM) turning movement, pedestrian, and bicycle counts were collected in April and May of 2019 at the following intersection locations:

- US 98 and US 301
- US 301 and Clinton Avenue
- Clinton Avenue and Old Lakeland Highway
- US 98 and Old Lakeland Highway

With the exception of Enterprise Road east of Old Lakeland Highway, the 72-hour classification counts were collected on the edges of the study area north and south of Clinton Avenue and US 98 respectively and east and west of US 301 and Old Lakeland Highway respectively. The 48-hour counts were all collected at the remaining eight intersection approaches.

The AM and PM corridor-wide peak hours were determined to occur from 7:30 AM to 8:30 AM and from 4:45 PM to 5:45 PM, respectively.

### 2.12.1 Traffic

Existing Year (2019) AADT are provided in **Table 2-2**.



**Table 2-2  
Existing Year (2019) AADT**

Segment	AADT
Clinton Avenue from US 301 to Old Lakeland Highway	2,200
Clinton Avenue west of US 301	16,000
Enterprise Road east of Old Lakeland Highway	1,700
Old Lakeland Highway from US 98 to Clinton Avenue	8,900
Old Lakeland Highway north of Clinton Avenue	8,000
Old Lakeland Highway south of US 98	7,300
US 301 from US 98 to Clinton Avenue	24,000
US 301 North of Clinton Avenue	25,000
US 301 south of US 98	23,000
US 98 east of Old Lakeland Highway	6,100
US 98 from US 301 to Old Lakeland Highway	6,200

Segment level of service analysis was conducted for each roadway segment in the study area for the existing year (2019) and are provided in **Table 2-3**. AADTs from the count data were compared to Level of Service D Annual Average Daily Volumes from FDOT’s 2012 Generalized Service Volume Tables for Urbanized Areas to identify segments where volume exceeded the LOS D target. The urban service boundary divides the study area, but for consistency and to be conservative, urbanized area values were used for this comparison. There are currently no roadway segments which fail this check.

**Table 2-3  
Existing Year (2019) Roadway Segment Analysis**

Segment	AADT	No. of Lanes	LOS D Capacity	Volume Exceeds Capacity
Clinton Avenue from US 301 to Old Lakeland Highway	2,200	2	15,930	No
Clinton Avenue west of US 301	16,000	4	35,820	No
Enterprise Road east of Old Lakeland Highway	1,700	2	15,930	No
Old Lakeland Highway from US 98 to Clinton Avenue	8,900	2	24,200	No
Old Lakeland Highway north of Clinton Avenue	8,000	2	24,200	No
Old Lakeland Highway south of US 98	7,300	2	24,200	No
US 301 from US 98 to Clinton Avenue	24,000	4	41,790	No
US 301 North of Clinton Avenue	25,000	4	41,790	No
US 301 south of US 98	23,000	4	41,790	No
US 98 east of Old Lakeland Highway	6,100	2	24,200	No
US 98 from US 301 to Old Lakeland Highway	6,200	2	24,200	No

### 2.12.2 Truck Factors

The daily truck ( $T_{24}$ ) factor is the percentage of medium and heavy truck traffic in a 24-hour period. Location specific  $T_{24}$  factors will be used for any analysis in the study area. **Table 2-4** shows the location specific  $T_{24}$  factor values observed within the study area.

**Table 2-4**  
**Field Measured  $T_{24}$  Factors**

Location	Number of Heavy Vehicles	Total Number of Vehicles	$T_{24}$ Factor
US 301 north of Clinton Avenue	1,416	24,724	5.7%
Clinton Avenue west of US 301	1,257	15,994	7.9%
Old Lakeland Highway north of Clinton Avenue	1,615	7,961	20.3%
US 301 south of US 98	1,571	22,745	6.9%
Old Lakeland Highway south of US 98	1,633	7,322	22.3%
US 98 east of Old Lakeland Highway	1,435	6,126	23.4%

### 2.12.3 Pedestrians and Bicycles

Pedestrian and bicycle count data for the study intersection were recorded concurrently with the 2-hour AM (7:00 to 9:00) and PM (4:15 to 6:15) turning movement count data during May 2019. **Table 2-5** summarizes the pedestrian and bicycle crossing movements at each of the study intersections during the AM and PM peak periods. These counts reveal very low numbers of bicyclists or pedestrians at the study area intersections.

**Table 2-5**  
**Existing (2019) Pedestrian and Bicycle Crossings**

Intersection	Leg	AM Peak Period		PM Peak Period	
		Pedestrians	Bicyclists	Pedestrians	Bicyclists
US 301 at Clinton Avenue	North	0	0	0	1
	South	0	0	0	0
	East	0	1	0	3
	West	0	0	0	1
US 301 at US 98	North	0	0	0	0
	South	0	0	0	1
	East	1	1	2	3
Clinton Avenue at Old Lakeland Highway	North	0	0	0	0
	South	0	0	0	0
	East	0	0	0	0
	West	0	0	0	1
US 98 at Old Lakeland Highway	North	0	0	0	0
	South	0	0	0	0
	East	0	0	0	0
	West	0	0	0	0

#### **2.12.4 Transit**

Pasco County Public Transit (PCPT) Route 30 serves US 301 between Tucker Road, south of Zephyrhills, and Bower Road north of Dade City. This route operates with an average scheduled headway of 38 minutes (19 buses in 12 hours) in the southbound direction and 40 minutes (20 buses in 13 hours and 20 minutes) in the northbound direction.

### **2.13 Intersection Layout and Traffic Control**

#### US 98 and US 301:

The intersection of US 98 and US 301 is a signalized T-intersection, although US 98 does not intersect US 301 at a clear 90 degree angle. US 98 has a sharp horizontal curve that intersects US 301. From the east, US 98 provides a left turn lane and a right turn lane. From the north, US 301 provides two through lanes and a left turn lane. From the south, US 301 provides two through lanes and a right turn lane.

#### Clinton Avenue and US 301:

The intersection of Clinton Avenue and US 301 is a conventional, four legged signalized intersection with all legs approaching at 90 degree angles. From the east, Clinton Avenue has two through lanes and a left turn lane. From the north, US 301 has two through lanes, a right turn lane, and a left turn lane. The lane geometry is identical on the south leg of the intersection. From the west, Clinton Avenue has two through lanes, two left turn lanes, and a right turn lane.

#### Old Lakeland Highway and Clinton Avenue:

The intersection of Old Lakeland Highway and Clinton Avenue is a conventional four legged intersection. Old Lakeland Highway is a two lane roadway with a free flow condition at the intersection with Clinton Avenue. Vehicles travelling in either the northbound or southbound direction have the ability to make a left, right, or continue through the intersection from the single travel lane. The eastbound and westbound legs along Clinton Avenue are stop controlled at the intersection with Old Lakeland Highway. From the west, Clinton Avenue provides a through left turn lane and a right turn lane. From the east, Clinton Avenue provides a single lane with the ability to make a left, right, or through movement.

#### Old Lakeland Highway and US 98:

The intersection of US 98 and Old Lakeland Highway is unlike the previous three intersections as it is not an at-grade intersection. US 98 includes a bridge that passes over Old Lakeland Highway as well as the adjacent CSX Transportation Inc. railroad. Connectivity between US 98 and Old Lakeland Highway is provided via an access road which connects to the south side of US 98 approximately 800' west of the crossing of Old Lakeland Highway, runs parallel to US 98, and connects to the west side of Old Lakeland Highway immediately south of US 98. From the west along US 98, vehicles can exit using the right turn lane onto the access road and turn left or right onto Old Lakeland Highway at a stop condition. From the east along US 98, vehicles can exit onto the access road using the left turn lane and turn right or left onto Old Lakeland Highway at a stop condition. Along Old Lakeland Highway, northbound vehicles can make a left, and southbound make a right, onto the access road, and can turn left or right onto US 98 under a stop condition.

## 2.14 Railroad Crossings

### US 98:

There are no at-grade railroad crossings along US 98, between US 301 and Old Lakeland Highway. The CSX Transportation Inc. railroad crosses underneath the US 98 bridge over Old Lakeland Highway, along the east side of Old Lakeland Highway.

### Clinton Avenue:

There are no railroad crossings along Clinton Avenue, between US 301 and Old Lakeland Highway. The CSX Transportation Inc. railroad crosses on the east side of the intersection of Clinton Avenue and Old Lakeland Highway.

### US 301:

There are no railroad crossings along US 301 within the study area.

### Old Lakeland Highway:

There are no railroad crossing along Old Lakeland Highway within the study area. The CSX Transportation Inc. railroad runs along the east side of Old Lakeland Highway, between US 98 and Clinton Avenue.

## 2.15 Crash Data and Safety Analysis

Crash data was obtained for the study area from the FDOT CARS database (for crashes on FDOT owned roads) and Signal Four Analytics (for crashes on non-state owned roads) for the years 2013-2017. A total of 217 crashes were reported for the study area over the five-year period, with an average of 43 crashes per year. **Table 2-6** summarizes the crash rate for each location for the five-year analysis period. The intersections of US 98 at Old Lakeland Highway, US 301 at US 98, and US 301 at Clinton Avenue have a crash rate that is higher than the statewide average at a 99.99 percent confidence level, indicating safety concern at these locations.

**Table 2-6**  
**Crash Ratios (2013 to 2017)**

Location	Total Crashes	Crash Rate	Statewide Average*	High Crash Confidence**
<b>Intersection</b>				
US 98 at Old Lakeland Highway	20	1.218	0.381	99.99%
US 301 at US 98	68	0.968	0.394	99.99%
US 301 at Clinton Avenue	72	1.052	0.587	99.99%
Clinton Avenue at Old Lakeland Highway	5	0.338	0.562	50.00%
<b>Segment</b>				
US 301 from US 98 to Clinton Avenue	13	1.191	3.412	50.00%
US 98 from US 301 to Old Lakeland Highway	20	0.702	3.330	50.00%
Old Lakeland Highway from Clinton Avenue to US 98	17	0.608	3.330	50.00%
Clinton Avenue from US 301 to Old Lakeland Highway	2	0.417	3.330	50.00%

\*Source: FDOT CARS Database

\*\*High Crash Confidence is the FDOT recommended measure for identifying high crash locations per the FDOT CARS User Manual (Appendix H)

**Figure 2-1** shows the distribution of high crash locations in the study area from 2013 to 2017. The US 98 at 301, US 301 at Clinton Avenue, and US 98 at Old Lakeland Highway intersections have the highest density of crashes, with an additional concentration of crashes on US 301 between Clinton Avenue and US 98.

**Figure 2-1**  
**Crash Density Map**



### 2.15.1 Crash Type

**Tables 2-7** and **Table 2-8** detail the total number of crashes within the study area intersections and segments by crash type. The most frequent crash types at intersections were angle (48%) and rear end (38%) collisions. The most frequent crash types on segments were rear end (47%) and angle (19%) collisions. The most likely cause of these crash types are permitted left turns and congestion at the intersections. According to the Florida Pedestrian and Bicycle Strategic Safety Plan, the statewide average for bicycle and pedestrian related crashes is 4.8 percent. All study area intersections have a combined bicycle and pedestrian crash proportion lower than the statewide average.



**Table 2-7  
Crash Type for Intersections**

Crash Type	Clinton Avenue at Old Lakeland Highway		US 301 at Clinton Avenue		US 301 at US 98		US 98 at Old Lakeland Highway		Total	
	N	%	N	%	N	%	N	%	N	%
Angle	17	85%	24	33%	39	57%	0	0%	80	48%
Rear End	1	5%	36	50%	22	32%	3	60%	62	38%
Other	1	5%	4	6%	4	6%	0	0%	9	5%
Sideswipe	0	0%	6	8%	3	4%	0	0%	9	5%
Hit Fixed Object	1	5%	1	1%	0	0%	1	20%	3	2%
Pedestrian	0	0%	1	1%	0	0%	0	0%	1	1%
Head On	0	0%	0	0%	0	0%	1	20%	1	1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>165</b>	<b>100%</b>

**Table 2-8  
Crash Type for Segments**

Crash Type	US 98 from US 301 to Old Lakeland Highway		US 301 from US 98 to Clinton Avenue		Clinton Avenue from US 301 to Old Lakeland Highway		Old Lakeland Highway from Clinton Avenue to US 98		Total	
	N	%	N	%	N	%	N	%	N	%
Rear End	9	45%	8	62%	0	0%	8	47%	25	48%
Angle	5	25%	1	8%	2	100%	1	6%	9	17%
Other	4	20%	2	15%	0	0%	2	12%	8	15%
Hit Fixed Object	1	5%	1	8%	0	0%	3	18%	5	10%
Sideswipe	1	5%	1	8%	0	0%	2	12%	4	8%
Head On	0	0%	0	0%	0	0%	1	6%	1	2%
Pedestrian	0	0%	0	0%	0	0%	0	0%	0	0%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>52</b>	<b>100%</b>

The most frequent lighting condition during crashes at both intersections and segments was daylight (75% and 83% respectively). The most frequent contributing cause at both intersections and segments was careless/negligent driving (34% and 60% respectively), with failure to yield right of way also contributing significantly to crashes at intersections (25%).

There was one fatal and 30 severe injury crashes reported in the study area. One pedestrian crash also occurred in the study area. Overall, the study area has higher proportions of severe injury and minor injury crashes compared to the statewide average, and a smaller proportion of property damage only crashes. **Figure 2-2** shows the locations of crashes by severity and type.

**Figure 2-2  
Crash Type and Severity Map**



## 2.16 Drainage

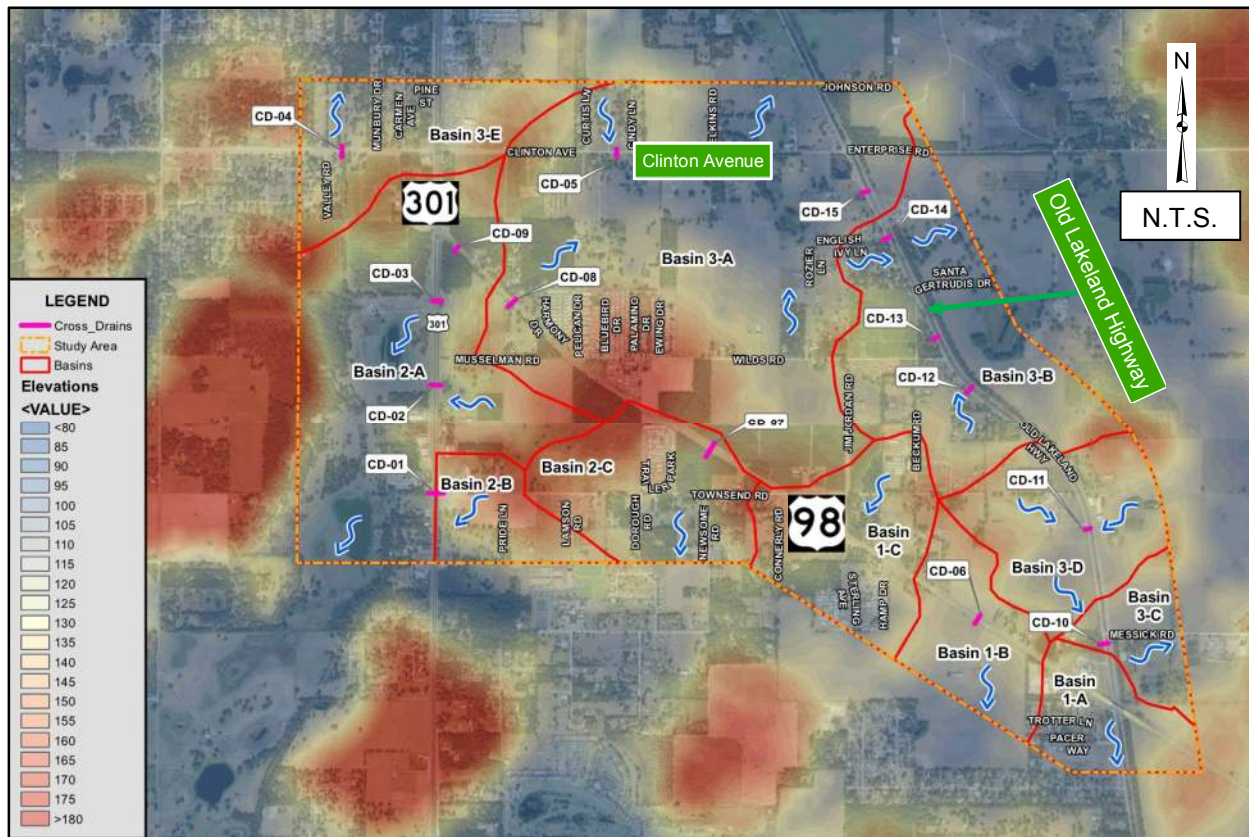
US 98 is a rural typical section within the study area. It includes grass swales on both sides of the roadway conveying on-site and offsite stormwater to cross drains with no formal treatment or attenuation. US 301 is a rural typical section south of Clinton Avenue. US 301 is curbed on the east side of the roadway north of Clinton Avenue with a swale and ditch pavement on the west side of the roadway. The US 301 storm drain system conveys both on-site and offsite stormwater to cross drains with no formal treatment or attenuation. Most of the swales are grass, but some include concrete ditch lining due to runoff velocities. Clinton Avenue is an urban typical section from the western study area limits to 800 feet east of US 301 and a rural typical section continuing to the east. The urban section was improved in 2014 under Southwest Florida Water Management District (SWFWMD) Environmental Resource Permit (ERP) 6604.003 with a closed drainage system. Formal treatment and attenuation is provided in two permitted stormwater management facilities adjacent to the roadway. The rural section includes grassed swales on both sides of the roadway conveying both on-site and offsite stormwater to cross drains or outfalls with no formal treatment or attenuation. Old Lakeland Highway is a rural typical section within the study area. It includes swales on both sides of the roadway conveying on-site and offsite stormwater to cross drains with no formal treatment or attenuation. Several SWFWMD ERPs



exist within the study limits. Many of these ERPs include stormwater management facilities. ERPs 6604.000, 6604.002, and 6604.003 are associated with Clinton Avenue. No ERPs were identified for US 301, US 98, or Old Lakeland Highway.

The study area can be divided into three drain basins with 11 sub-basins, as shown in **Figure 2-3**. Nutrient loading calculations are not anticipated to be required as none of the associated WBIDs are impaired for nutrients at this time.

**Figure 2-3  
Drainage Map**



Basin One drains south towards the Withlacoochee River within WBID 1329F. Sub-Basin 1-A is the overall outfall for the basin and is not considered volume sensitive. Sub-Basin 1-B drains south into a low area south of the study limits before popping off to the east into Sub-Basin 1-A. Sub-Basin 1-C drains south to a low area in Hampton Court Subdivision before popping off to the east into Sub-Basin 1-B. Sub-Basin 1-C appears to include areas north of US 98 that drain south across US 98, but no cross drain could be found conveying this flow. Without a cross drain, the area north of US 98 could be considered a separate closed sub-basin. Sub-Basins 1-A and 1-C are considered volume sensitive.

Basin Two drains west towards the Lake Pasadena Drain in WBID 1424A, which discharges into the Hillsborough River. Sub-Basin 2-A includes the outfall for Basin Two draining south. Sub-Basin 2-B drains south outside the study area limits and then drains under US 98



into Sub-Basin 2-A. Sub-Basin 2-C includes a low area on the south side of Townsend Road that stages up and pops off to the south into Sub-Basin 2-B. Sub-Basin 2-C is considered volume sensitive.

Basin Three drains north towards the Clear Lake Outlet within WBID 1403B, which discharges into the Withlacoochee River. Sub-Basin 3-A drains to a low area on the south side of Clinton Avenue. In extreme events, Sub-Basin 3-A overtops Clinton Avenue and drains north towards Clear Lake Outlet. Sub-Basin 3-B drains east under Old Lakeland Highway through three cross drains and east towards Clear Lake Outlet. Sub-Basin 3-C drains to a low area east of Old Lakeland Highway and south of Messick Road before popping off to the northeast towards the Clear Lake Outlet. Sub-Basin 3-D drains to a low area within a pasture on the west side of Old Lakeland Highway before popping off to the south into Sub-Basin 3-C. Sub-Basins 3-A, 3-C and 3-D are considered volume sensitive.

Fifteen cross drains exist within the study area, as shown in **Figure 2-3**, ranging from 18 inches to 36 inches in diameter. They are summarized in **Table 2-9**.

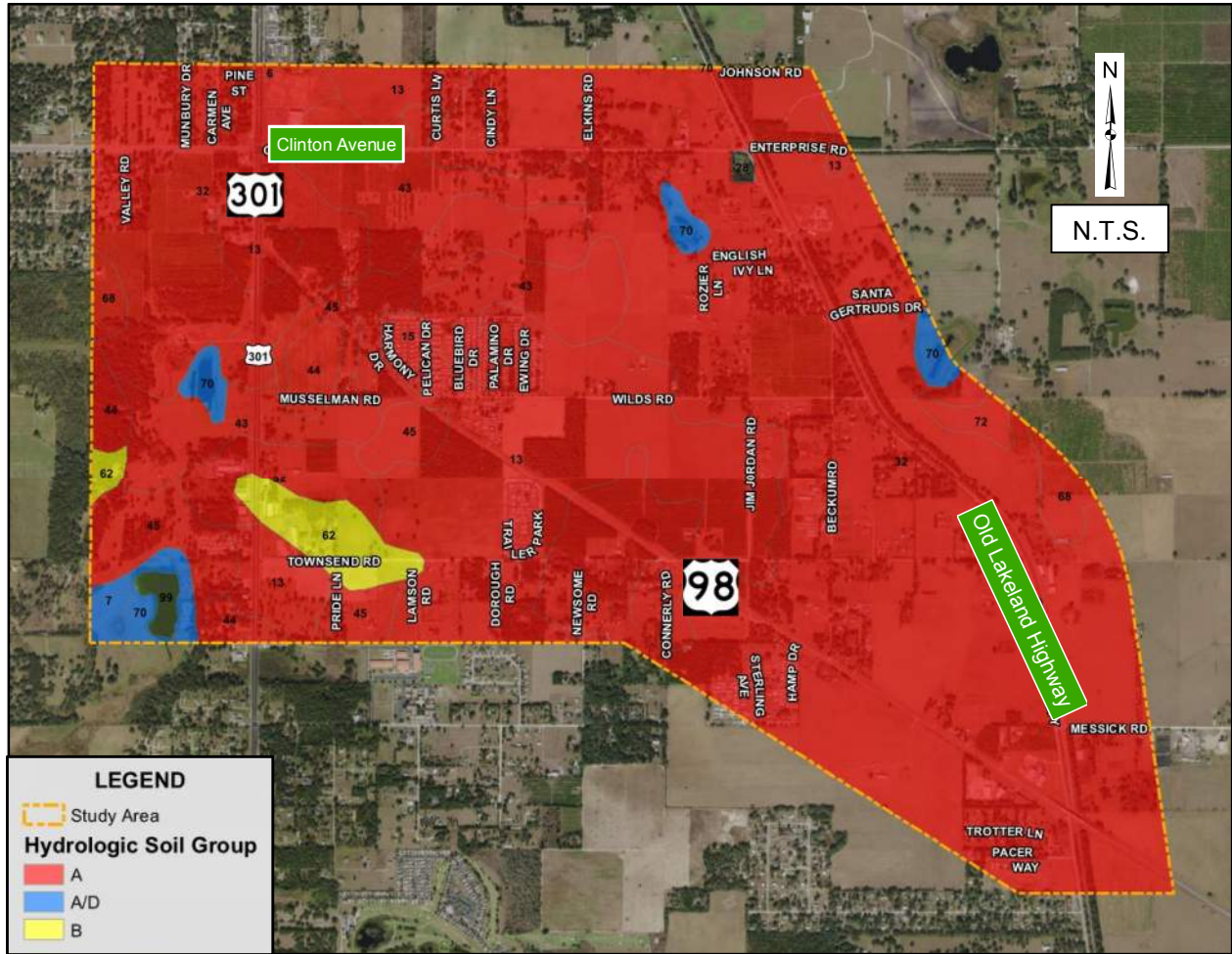
**Table 2-9**  
**Summary of Existing Cross Drains**

Cross Drain (CD)	Milepost	Diameter	Material
<b>US 98</b>			
CD-06	5.725	30 inches	RCP
CD-07	6.875	30 inches	RCP
CD-08	7.781	36 inches	RCP
CD-09	8.064	30 inches	RCP
<b>Clinton Avenue</b>			
CD-04	N/A	Double 30 inches	RCP
CD-05	N/A	Double 30 inches	RCP
<b>US 301</b>			
CD-01	10.3 <sup>1</sup>	42 inches	RCP
CD-02	10.785	30 inches	RCP
CD-03	11.104	36 inches	RCP
<b>Old Lakeland Highway</b>			
CD-10	N/A	24 inches	RCP
CD-11	N/A	24 inches	RCP
CD-12	N/A	18 inches	RCP
CD-13	N/A	24 inches	RCP
CD-14	N/A	24 inches	RCP
CD-15	N/A	24 inches	RCP

<sup>1</sup> Approximate milepost. Cross drain does not appear on SLDs.  
RCP = Reinforced Concrete Pipe

Well-drained hydrologic soil group A dominates the study area with isolated pockets of A/D and B, as shown in **Figure 2-4**. The estimated water table is greater than six feet below natural grade for most of the study area, which suggests dry retention ponds are feasible for the project.

**Figure 2-4  
Hydrologic Soil Groups**



## 2.17 Soils and Geotechnical Data

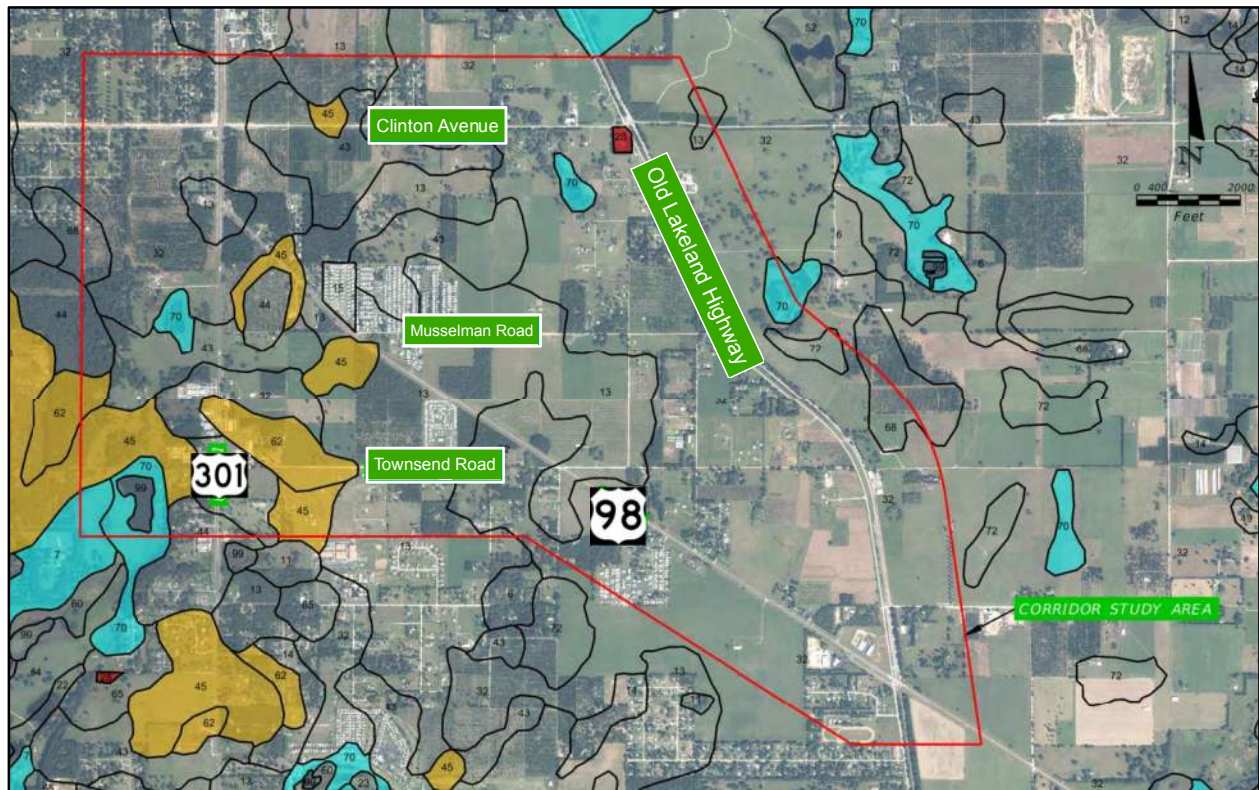
The United States Department of Agriculture (USDA) Soil Survey indicates that the subsurface conditions within the project limits primarily consist of sandy (A-3/A-2-4) soils with some areas expected to contain clayey (A-2-4/A-2-6) soils at depths within 30 inches of the pre-development natural ground surface. These clayey soils will need to be delineated, where warranted, and impacts of these soils to the proposed roadway construction will need to be evaluated in accordance with the FDOT Standard Plans requirements. Additionally, an isolated area at the southwest corner of Clinton Avenue and Old Lakeland Highway has been identified as a Pit. Pits typically are areas that have been excavated for sand and then potentially backfilled. The subsurface conditions at this area are unknown and will require site-specific exploration to identify the subsurface conditions. The materials within the limits of this pit will need to be identified, if warranted, and impacts of these soils to the proposed roadway construction will need to be evaluated in accordance with the FDOT Standard Plans requirements.



The pre-development seasonal high groundwater table (SHGWT) levels within the project limits are not anticipated to be within 2 feet of natural grades along a majority of the project corridor. SHGWT levels at isolated areas in the vicinity of the project corridor are anticipated to be at the natural ground surface. Roadway base clearance to SHGWT will need to be analyzed further during design. Drainage design will need to incorporate the high groundwater conditions.

**Figure 2-5** represents the USDA Map and highlights areas of shallow seasonal high groundwater levels, shallow clayey soils, and the area identified as a pit.

**Figure 2-5**  
**Shallow SHGWT and Clayey Soils**



- SOIL UNIT WITH CLAYEY SOILS WITHIN 30 INCHES OF NATURAL GRADE
- SOIL UNIT WITH SEASONAL HIGH GROUNDWATER TABLE REPORTED AT THE NATURAL GROUND SURFACE
- SOIL UNIT IDENTIFIED AS AN AREA REPORTED TO HAVE BEEN EXCAVATED FOR SAND

## 2.18 Utilities

The following are the Utility Agency Owners (UAO's) that are located within the US 301/US 98/SR 35/Clinton Avenue Intersection Realignment Study Area (see **Table 2-10**). A more detailed assessment of potential utility impacts will be provided during the PD&E Study when alignment alternatives are developed within the study area and are provided to the UAO's for review.

**Table 2-10  
Existing Utility Agency Owners**

Utility Agency / Owner (UAO)	US 98	Clinton Avenue	US 301	Old Lakeland Highway
Charter Communications – fiber, cable	X	X	X	X
City of Dade City – water, sewer	X	X	X	
CenturyLink Winter Garden – fiber, telephone	X	X	X	X
MDU PRO – CATV	X			
Pasco County Traffic Operations Division – traffic control, streetlights	X	X	X	X
Pasco County Utilities – reclaimed water, water, sewer	X			X
Southfork Mobile Home Community – water, sewer	X			
Tampa Electric Company – electric	X	X	X	
TECO Peoples Gas (Lakeland) – gas	X	X		X
TECO Peoples Gas (Tampa) – gas	X	X	X	X
Withlacoochee River Electric Cooperative – electric	X			X

Notes of Interest:

1. Florida Gas Transmission DOES NOT exist within the study area.
2. Withlacoochee River Electric Cooperative (WREC) has 69 KV transmission structures along Clinton Avenue, across US 301 to Old Lakeland Highway. The transmission structures continue on the east side of Old Lakeland Highway and feed their Richland Substation located on Messick Road. WREC is in the process of extending the transmission from this intersection south to their new Crystal Springs substation, which is south of the Zephyrhills Airport.

## 2.19 Lighting

### US 98:

There is no existing lighting along US 98, except at the US 301 intersection. The intersection is illuminated by four light poles with LED luminaires. The poles are located at each quadrant of the intersection.

### Clinton Avenue:

There is no existing lighting along Clinton Avenue within the study area, except at the US 301 intersection. The intersection is illuminated by four light poles with LED luminaires. The poles are located at each quadrant of the intersection.

### US 301:

There is no existing lighting along US 301 within the study area, except at the previously discussed intersections with US 98 and Clinton Avenue.

### Old Lakeland Highway:

There is no existing lighting along Old Lakeland Highway within the study area, except at the US 98 intersection. The intersection is illuminated by two conventional light poles with LED luminaires, one on each side of the US 98 overpass.

## 2.20 Signs

### US 98:

There are no overhead traffic signs along US 98 within the study area. There are conventional roadside signs along US 98 within the study area.

### Clinton Avenue:

There are no overhead traffic signs along Clinton Avenue within the study area. There are conventional roadside signs along Clinton Avenue within the study area.

### US 301:

There is one overhead traffic sign along US 301 within the study area (Sign No. 14S200). It is a steel cantilever overhead sign on southbound US 301 that indicates the upcoming signalized intersection with US 98 on the left. It was last inspected in April 2018 and received a Health Index score of 97.11. There are conventional roadside signs along US 301 within the study area.

### Old Lakeland Highway:

There are no overhead traffic signs along Old Lakeland Highway within the study area. There are conventional roadside signs along Old Lakeland Highway within the study area.

## 2.21 Aesthetics Features

There are no distinguishing aesthetic features within the study area.

## 2.22 Bridges and Structures

### US 98:

There is one existing bridge along US 98. Bridge No. 140025 is located at the southeastern limits of the study area and crosses over Old Lakeland Highway and the CSX Transportation Inc. railroad. The bridge is an 8-span steel beam superstructure bridge with a concrete cast in place deck. The bridge is 362.9 feet in total length, has a deck width (edge to edge) of 43.0 feet, has a 40 degree skew angle, and has 19.7 feet vertical clearance below the bridge. It was reconstructed in 1995. The latest available bridge inspection report (February 2017) classified the bridge as being in good condition with a sufficiency rating of 88.3.

### Clinton Avenue:

There are no existing bridges or structures along Clinton Avenue within the study area.

### US 301:

There are no existing bridges or structures along US 301 within the study area.

### Old Lakeland Highway:

There are no existing bridges or structures along Old Lakeland Highway within the study area.



## 3.0 Existing Environmental Conditions

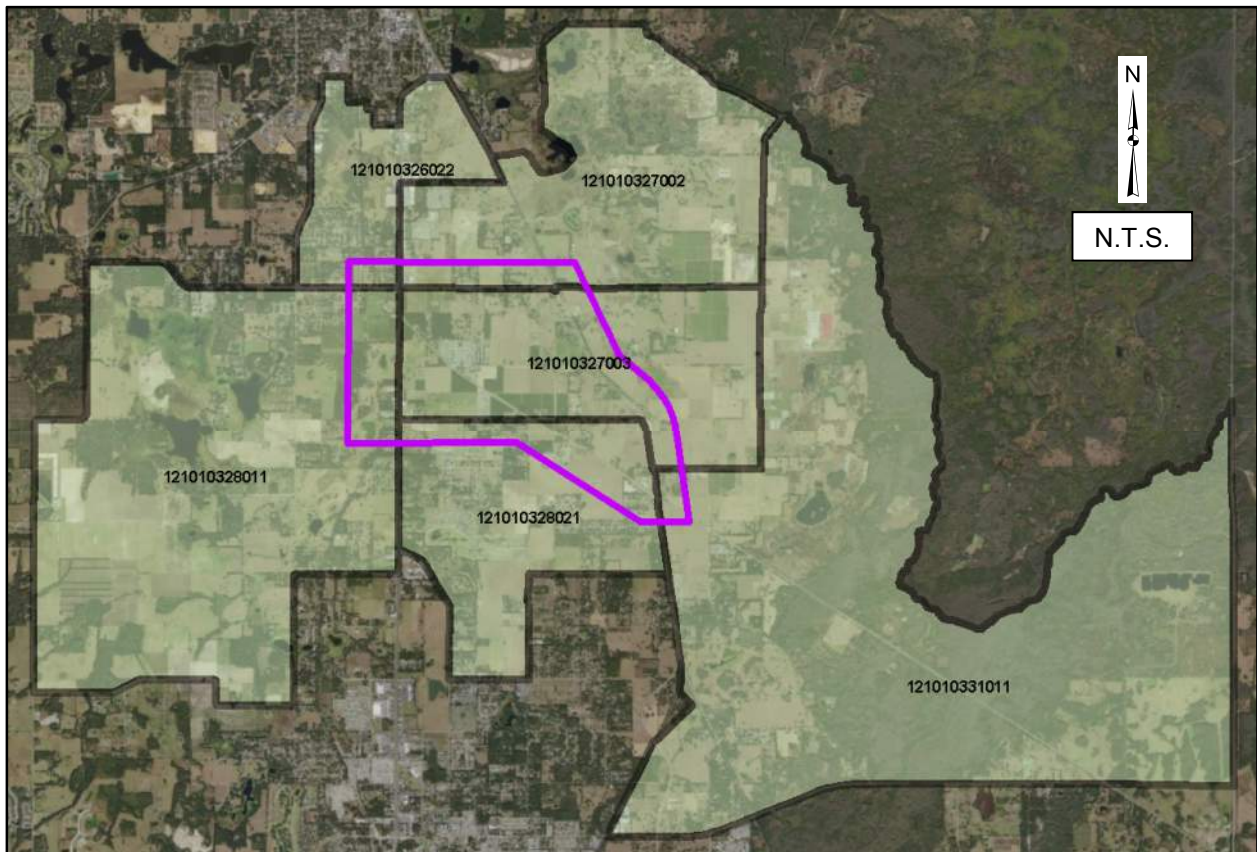
### 3.1 Social Environment

#### 3.1.1 Social

The project study area consists primarily of agricultural and residential with some retail/office, public/semi-public, industrial, institutional, and recreation land uses. Community features within the project study area include: one religious center located near Old Lakeland Highway and Clinton Avenue [Enterprise Missionary Baptist] and two cemeteries located west of US 301 and Clinton Avenue [Chapel Hill Gardens Cemetery (17.97 acres) and Floral Memory Gardens Cemetery (9.05 acres)].

The project study area is comprised of six US Census Block Groups [121010326022, 121010327002, 121010327003, 121010328011, 121010328021, 121010331011] as shown in Figure 3-1.

**Figure 3-1**  
**Project Study Area 2010 US Census Block Groups**



Demographic characteristics for the project study area were calculated using the totals for all six Block Groups, while understanding that several only have a small area portion within the actual project study area. In comparing the demographic characteristics in **Table 3-1** for the project study area with the characteristics for Pasco County, the project study area contains a slightly higher percentage of White population, a higher percentage of individuals age 65 and over, a slightly lower percentage of individuals age 18 and under; a slightly lower percentage of households without a vehicle available; and a comparable median family income (\$2,995 less).

**Table 3-1  
Demographic Information**

<b>Demographic</b>	<b>Project Study Area</b>	<b>Pasco County</b>
White (Race)*	93.6%	88.2%
African-American (Race)*	3.5%	4.5%
“Other” ** (Race)*	2.9%	7.4%
Hispanic (Ethnic Group)*	9.6%	11.7%
Age 65+*	32.1%	20.7%
Under age 18*	16.2%	21.2%
Household without car*	4.2%	5.9%
Median Family Income*	\$55,756	\$58,751

\* Source: US Census Bureau (2016 ACS)

\*\* “Other” includes Asian, Native American, Native Hawaiian & Other Pacific Islander Alone, & Other Race.

Limited English Proficiency (LEP) Accommodations

FDOT guidance issued on Limited English Proficiency (LEP) provide factors for the consideration and need for LEP accommodations for certain projects. Consideration should be given to the number or proportion of LEP persons eligible to be served or likely to be encountered by an activity, the frequency of which LEP individuals come into contact with the activity, the nature and importance of the service and the resources available, and the resources available to recipients. LEP accommodations will not be required during public involvement efforts of the Project Development phase as 1.63 percent or 142 persons within the census block groups containing the project corridor “speak English less than very well.”

**3.1.2 Economic**

Economic related land uses within the project area includes industrial and retail/office. The SWFWMD Agricultural Lands land use classification indicates that the project study area is composed of Commercial and Services and Industrial. Commercial uses are primarily situated along US 301, Clinton Avenue, and US 98. It was noted that there is a Walmart store planned on the southeast corner of US 301 and Clinton Avenue. There are two freight activity centers located just north and south of the project study area [One Pasco Center Industrial area in Dade City and the area around Zephyrhills Municipal Airport]. Additionally, there is an active CSX rail line that runs along Old Lakeland Highway. The project study area is not located in a Rural Area of Opportunity and there are no Developments of Regional Impact (DRI).

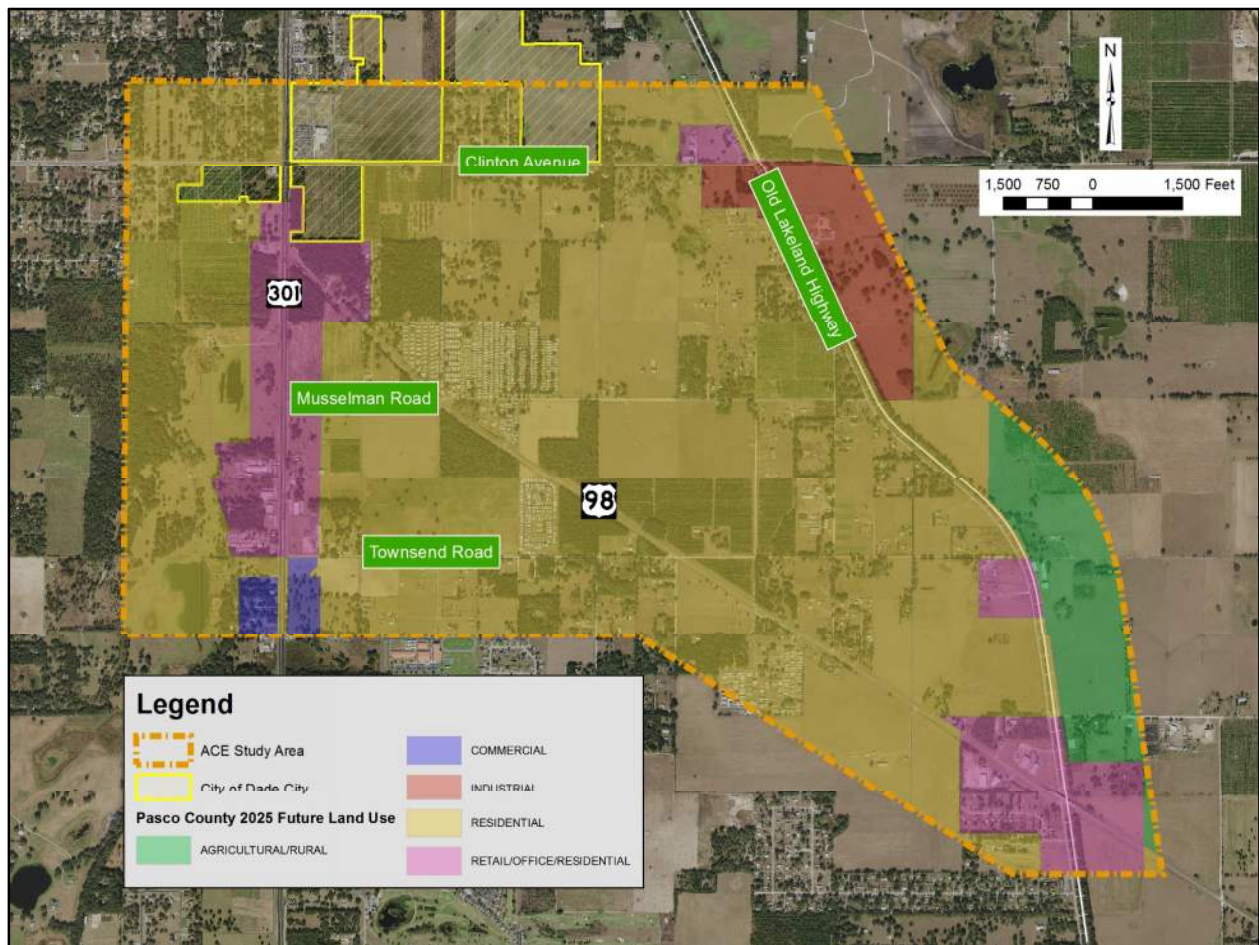


### 3.1.3 Land Use

The project study area is located within the Zephyrhills Urbanized area and two Census Designated Places (Dade City and Pasadena Hills) in Pasco County. The project study area consists primarily of agricultural and residential with some retail/office, public/semi-public, industrial, institutional, and recreation land uses. According to the Pasco County 2025 Adopted Future Land Use Unincorporated County-wide Map (revised September 2010), the project study area is primarily planned for residential with some retail/office/residential and a small amount of industrial and agricultural/rural land uses along the eastern limits (see **Figure 3-2**). There is a Walmart store planned on the southeast corner of US 301 and Clinton Avenue. Additionally, within the project study area, there are two Planned Unit Developments (PUDs):

- Triple J (244.95 acres) is located along the southern portion of the project study area along SR 35/US 98.
- Hillside (22.83 acres) is located in the western portion of the project study area along US 301, south of Townsend Road.

**Figure 3-2**  
**Pasco County 2025 Future Land Use**





### **3.1.4 Mobility**

The project study area is comprised of four major roadways:

- US 98 is a two-lane, east-west principal arterial that traverses from the southeast corner to the northwest corner of the study area. The posted speed limit along US 98 is 55 mph. US 98 is a designated Regional Freight Facility and carries approximately 1,000 trucks daily.
- Clinton Avenue is an east-west collector connecting Prospect Road to Old Lakeland Highway, located along the northern boundary of the study area. The posted speed limit along Clinton Avenue is 45 mph. Clinton Avenue is four lanes west of US 301 and two lanes east of US 301. Clinton Avenue carries between 200-600 trucks daily.
- US 301 is a four-lane, north-south principal arterial that traverses the western portion of the study area. The posted speed limit along US 301 is 55 mph and transitions to 50 mph northward near the intersection of US 98. US 301 is a designated Freight Distribution Route and carries approximately 1,200 - 2500 trucks daily.
- Old Lakeland Highway is a two-lane, minor rural arterial that traverses the eastern portion of the study area. The posted speed limit along Old Lakeland Highway is 55 mph. The roadway carries approximately 1,700 trucks daily.

Both US 98 and US 301 are designated hurricane evacuation routes by the Florida Division of Emergency Management and Pasco County Emergency Management. Additionally, the FDOT District Seven Freight Improvement Database noted that trucks are experiencing issues with the existing turn radii on the southeast corner of the US 98 and Old Lakeland Highway intersection.

The project study area is served by one Transportation Disadvantaged Service Provider [Pasco County Public Transportation (PCPT)]. PCPT Route 30 operates on a 40-minute headway and travels along US 301 between downtown Zephyrhills and downtown Dade City and provides connections to Routes 31 and 54. Additionally, there are designated on-street bicycle lanes and an existing trail [Withlacoochee Trail] along US 301. There are no sidewalks present within the project study area.

### **3.1.5 Aesthetic Effects**

The project study area consists primarily of agricultural and residential with some retail/office, public/semi-public, industrial, institutional, and recreation land uses. One community feature associated with aesthetics that occurs within the project study is the existing recreational trail along US 301 [Withlacoochee Trail]. There are no sensitive sites like parks, healthcare facilities, or laser facilities within the project study area. There are a number of historic standing structures within the project area with most situated along US 301.

### **3.1.6 Relocation Potential**

The project study area consists primarily of agricultural and residential with some retail/office, public/semi-public, industrial, institutional, and recreation land uses. The SWFWMD Agricultural Lands land use classification indicates that the lands classified as residential are composed of: Residential, Low Density – less than two dwelling units per acre, Residential, Medium Density - 2-5 dwelling units per acre, and Residential, High Density. There are no schools directly within the project study area; however, three schools are present just south of the study

area boundary [East Pasco Adventist Academy and Centennial Elementary and Middle Schools]. There are eight mobile home/RV parks within the study area: Blue Jay Mobile Home Park, Burgers Mobile Home Park, Country Aire Manor RV Park, Grove Ridge Estates RV Resort, Harmony Heights Communities LLC, Lake Gilbert RV Park, Lakeview in the Hills Mobile Home Park, and Southfork Mobile Home Community. Additionally, there is one recreational vehicle park [Sunshine Raceway, Inc.].

### 3.1.7 Farmlands

The project study area is located entirely within the Zephyrhills Urbanized Area; however, existing land use indicates that the project area includes agricultural lands. The NRCS Soil Survey database indicates that there are no soils classified as Farmlands of Unique Importance within the study area. The SWFWMD Agricultural Lands land use classification indicates that the lands classified as agricultural are primarily composed of: cropland and pastures, tree crops, tree plantations, other open lands (rural), feeding operations, and nurseries and vineyards.

## 3.2 Cultural Environment

### 3.2.1 Archaeological

A check of the Florida Master Site File (FMSF) digital database (June 2019) indicated that one archaeological site is recorded within the study area. This site, 8PA02799, a 20th Century homestead (see **Figure 3-3**), was determined not eligible for listing in the National Register of Historic Places (NRHP) by the State Historic Preservation Officer (SHPO). In addition to this site, two other sites are located within one half-mile but are not shown on **Figure 3-3**. These two sites include a historic fort (Ft. Broome, 8PA00024) and a lithic scatter site (8PA02103, Enterprise Lane). Both are located to the northeast of the study area; Ft. Broome has not been evaluated by the SHPO and the Enterprise Lane Site has been determined not eligible for listing in the NRHP.

### 3.2.2 Historic

Historic/architectural background research included a review of the FMSF (June 2019) and the NRHP indicated that 19 historic resources (8PA02198, 8PA02199, 8PA02222-2224; 8PA02623-2633; 8PA02675, 8PA02802, and 8PA03013) were previously recorded within the study area (see **Table 3-2** and **Figure 3-3**). These historic resources include nine Frame Vernacular style buildings (8PA02198, 8PA02199, 8PA02222-2224; 8PA02624-2626; and 8PA02630; seven Masonry Vernacular style buildings (8PA02623; 8PA02627-2629; and 8PA02631-2633); two linear resources (8PA02675 & 8PA02802); and one cemetery (8PA03013). Of these, eleven buildings (8PA02623-2633), and one linear resource (8PA02675) were determined ineligible for listing in the NRHP by the SHPO. The Richloam Railroad (8PA02802) had insufficient information for SHPO to make a determination and six resources have not been evaluated by the SHPO. These include five Frame Vernacular style buildings (8PA02198, 8PA02199, 8PA02222-2224), and the Floral Memorial Gardens Cemetery (8PA03013).

A review of the historic aerial photos revealed a high potential for historic resources within the study area. There were two rail lines traversing through the study area: the previously recorded Richloam Railroad (8PA02802) located east of Old Lakeland Highway and the Florida Central and Peninsular Railroad was located west of US 301. The Florida Central and

Peninsular Railroad was previously recorded north of the study area in 2018 (8PA03047). The study area was mostly rural agriculture land with a few homes built between the 1920s and 1940s. A majority of development within the study area occurred between the early 1950s and the mid-1970s with the construction of subdivisions and mobile home parks.

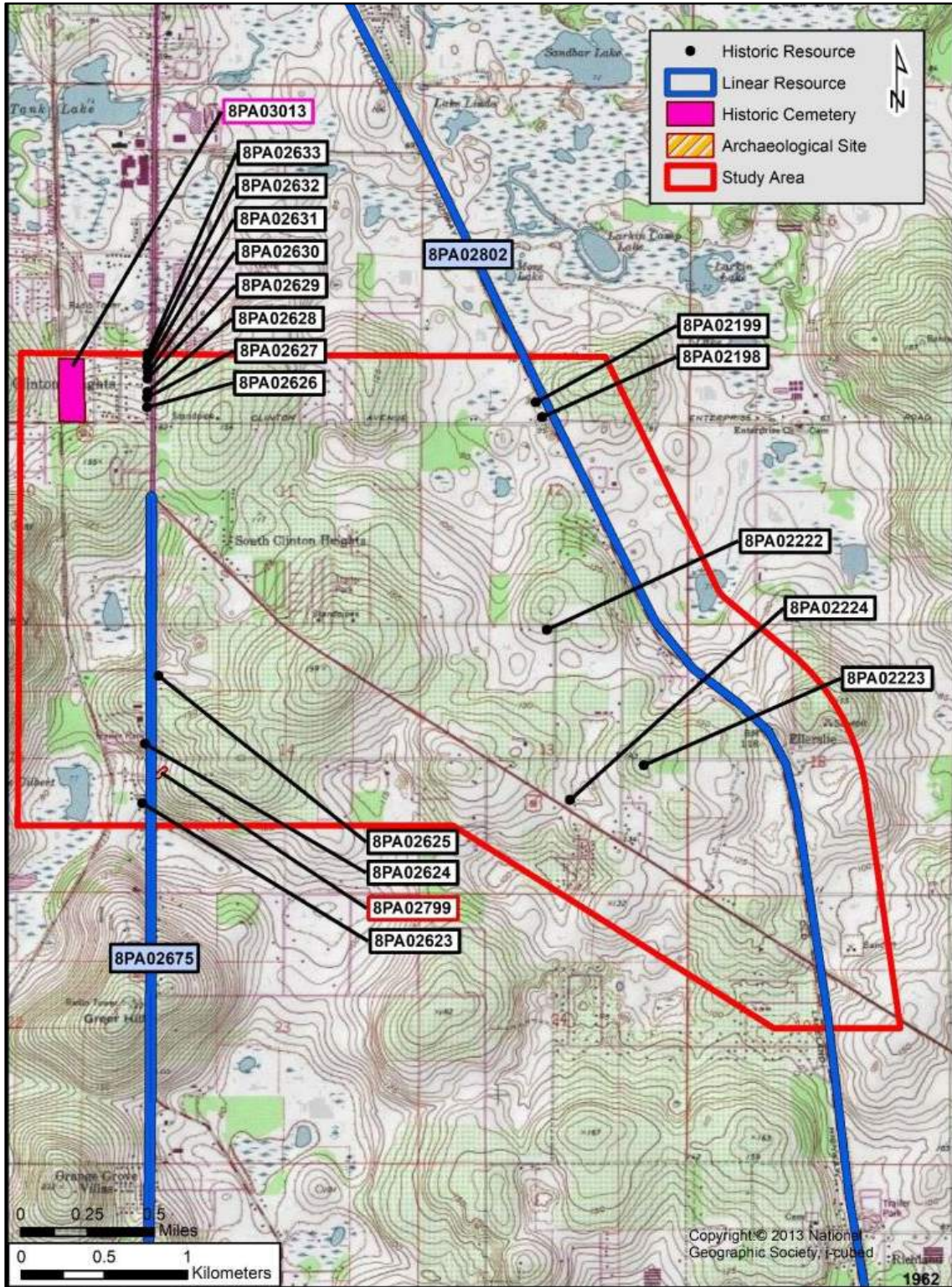
**Table 3-2  
Previously Recorded Historic Resources within the Study Area**

FMSF No.	Address/Site Name	Build Date	Style	SHPO Evaluation	Survey No.
PA02198	39401 Clinton Avenue	c1930	Frame Vernacular	Not Evaluated	11798
PA02199	11821 County 35A Rd/ Barn on CR 35A	c1930	Frame Vernacular	Not Evaluated	11798
PA02222	10831 Jim Jordon Road	c1927	Frame Vernacular	Not Evaluated	11798
PA02223	39820 Townsend Road	c1930	Frame Vernacular	Not Evaluated	11798
PA02224	1061 Beckum Road	c1925	Frame Vernacular	Not Evaluated	11798
PA02623	10405 US Highway 301	c1957	Masonry Vernacular	Ineligible	18104
PA02624	37952 Lake Gilbert Circle	c1950	Frame Vernacular	Ineligible	18104
PA02625	10800 US Highway 301	c1950	Frame Vernacular	Ineligible	18104
PA02626	11801 Frontage Road	c1959	Frame Vernacular	Ineligible	18104
PA02627	11821 Frontage Road	c1959	Masonry Vernacular	Ineligible	18104
PA02628	11831 Frontage Road	c1955	Masonry Vernacular	Ineligible	18104
PA02629	11911 Frontage Road	c1948	Masonry Vernacular	Ineligible	18104
PA02630	11921 Frontage Road	c1947	Frame Vernacular	Ineligible	18104
PA02631	11935 Frontage Road	c1948	Masonry Vernacular	Ineligible	18104
PA02632	11945 Frontage Road	c1958	Masonry Vernacular	Ineligible	18104
PA02633	12003 Frontage Road	c1958	Masonry Vernacular	Ineligible	18104
PA02675	US 301 (SR 39)	c1936	Linear Resource	Ineligible	24187
PA02802	Richloam Railroad		Linear Resource	Insufficient Information	18847
PA03013	Floral Memorial Gardens	c1960	Cemetery	Not Evaluated	

A review of the Pasco County Property Appraiser data and historic aerial photographs suggested the potential for 170 historic resources, 45 years of age or older (constructed in 1974 or earlier), located within the study area. During the PD&E study, a field survey will be necessary for proper identification and evaluation of each archaeological and historic resource within the preferred improvements alternatives at which time an Area of Potential Effects (APE) will be set prior to field work. The APE which, as defined in 36 CFR Part § 800.16(d), is the “geographic area or areas within which an undertaking may directly or indirectly [visual/audible/atmospheric] cause alterations in the character or use of historic properties, if any such properties exist.” The suggested build date is taken from the Pasco County Property Appraiser and is not always accurate; therefore, a field survey will be conducted to ensure proper identification and evaluation.



Figure 3-3  
Cultural Resources Map



### 3.2.3 Section 4(f)

Within the project study area, there is one potential Section 4(f) resource: the Withlacoochee State Trail. In 2016, the FDOT constructed a 4.5 mile multi-use trail segment extension at the southern edge of Dade City along US 301 that extends south to the City of Zephyrhills. The plan is to eventually extend the trail further into Hillsborough County. This newly constructed multi-use trail is located on the west side of US 301 along the length of the project study area within the existing right of way.

### 3.2.4 Recreational

Within the project study area, there is one recreational facility: the Withlacoochee State Trail. See description in **Section 3.2.3** for additional information.

## 3.3 Natural Environment

Agency database searches and GIS data reviews were performed to document the potential presence of state and federal protected species, habitat types, and wetlands and other surface waters within the project study area. Information sources and databases used included the following:

- Environmental Systems Research Institute (ESRI) World Imagery (2019)
- ETDM Programming Screen Summary Report
- Florida Geographic Data Library (<https://www.fgdl.org/metadataexplorer/explorer.jsp>)
- Florida Natural Areas Inventory (FNAI) Biodiversity Matrix (<https://www.fnai.org/BiodiversityMatrix/index.html>)
- Florida Fish and Wildlife Conservation Commission (FWC) Databases
  - Eagle Nest Locator Website (<http://myfwc.maps.arcgis.com/apps/webappviewer/index.html?id=253604118279431984e8bc3ebf1cc8e9>)
  - Florida Black Bear Roadkill Occurrences
- SWFWMD Land Use Data (2014)
- USFWS Datasets
  - Critical Habitat for Threatened and Endangered Species (<http://ecos.fws.gov/crithab/>)
  - Protected Species Consultation Areas (<https://www.fws.gov/verobeach/GIS.html>)
  - Wood Stork Rookeries and Core Foraging Areas ([https://www.fws.gov/northflorida/WoodStorks/WOST\\_Data/2019-WOST\\_FL\\_colonies\\_map\\_update\\_20190508.pdf](https://www.fws.gov/northflorida/WoodStorks/WOST_Data/2019-WOST_FL_colonies_map_update_20190508.pdf))
- USGS 7.5-minute Topographical Map for Dade City (2018)

Following the desktop analysis, a field review of the study area was conducted to field-truth the land use, vegetative cover, and habitats data for the study area.



## Study Area Description

The study area is located in eastern Pasco County and varies from rural to suburban in terms of land use. Large pastures and other agricultural land uses dominate the study area. US 98, Clinton Avenue, US 301, and Old Lakeland Highway, along with a network of paved and unpaved local roads fragment the study area. Urban land uses within the study area include manufactured home developments throughout the study area and a shopping center occurs at the intersection of US 98 and Clinton Avenue. Upland forested habitats are scattered throughout the study area. These forests have been fragmented by the roadway network as well as the agricultural activities of the area and only limited remnant forests remain. No significant riverine features occur within the study area, although roadside ditches, swales, and culverts occur throughout the study area. Very few wetlands and other surface waters occur within the study area, the largest of which is a wet prairie surrounding Gilbert Lake (which is the second largest surface water) in the southwestern corner of the study area. The topography of the area ranges from 100 feet to 240 feet across the study area (USGS 2018), resulting in a relatively rolling terrain. This topography results in the isolation of the wetlands and other surface waters within the study area. No conservation lands occur within the study area. The nearest conservation land is the Green Swamp, which is approximately one mile outside of the study area.

## Land Use

Existing land use and vegetate cover was reviewed within the study area. Land use and cover types within the study area were initially assessed using the SWFWMD Florida Land Use, Cover and Forms Classification System (FLUCFCS) data (SWFWMD 2014, FDOT 1999). The approximate land use boundaries were referenced onto true color aerial imagery using ArcGIS 10.4 software. This data was field-truthed on June 13, 2019. Following the field review, the classification of land use and cover types were updated to reflect field-truthed conditions. The resulting land use and cover types are provided in **Table 3-3** and **Appendix B**.

The project study area is generally rural with a majority of the land use related to agriculture. The most common land use within the study area is improved pasture which accounts for 38.5% of the study area. The second most common land use is residential low density accounting for 13.6% of the study area. A brief description of each land use and cover type is provided below.

### Urban and Built-Up (FLUCFCS 100 Series)

Urban and Built-up land consists of “areas of intensive use with much of the land occupied by man-made structures”. Urban and Built-up land uses within the study area include Residential Low Density (FLUCFCS 110), Rural Residential (FLUCFCS 118), Residential Medium Density (FLUCFCS 120), Residential High Density (FLUCFCS 130), Commercial and Services (FLUCFCS 140), Cemeteries (FLUCFCS 148), Industrial (FLUCFCS 150), Institutional (FLUCFCS 170), Recreational (FLUCFCS 180), and Open Land (FLUCFCS 190). These land uses account for 34.61 percent of the project study area.

**Table 3-3  
Land Use and Cover within the Project Study Area**

<b>FLUCFCS Code</b>	<b>Description</b>	<b>Size (Acres)</b>	<b>Percent of Study Area</b>
<b><u>Uplands</u></b>			
110	Residential Low Density	479.22	13.6%
118	Rural Residential	299.35	8.5%
120	Residential Medium Density	80.36	2.3%
130	Residential High Density	149.33	4.2%
140	Commercial and Services	84.37	2.4%
148	Cemeteries	29.75	0.8%
150	Industrial	41.17	1.2%
170	Institutional	7.27	0.2%
180	Recreational	14.14	0.4%
190	Open Land	38.83	1.1%
211	Improved Pastures	1,361.61	38.5%
212	Unimproved Pastures	43.04	1.2%
213	Woodland Pastures	7.63	0.2%
215	Field Crops	15.67	0.4%
221	Citrus Groves	266.15	7.5%
224	Abandoned Tree Crops	93.59	2.7%
231	Cattle Feeding Operations	20.35	0.6%
240	Nurseries and Vineyards	4.90	0.1%
260	Other Open Lands	12.09	0.3%
330	Mixed Rangeland	12.36	0.3%
410	Upland Coniferous Forest	0.56	0.0%
412	Longleaf Pine - Xeric Oak	18.99	0.5%
420	Upland Hardwood Forests	56.17	1.6%
434	Upland Hardwood - Coniferous Mix	78.52	2.2%
440	Tree Plantation	99.18	2.8%
810	Transportation	149.91	4.2%
<b><i>Uplands Subtotal</i></b>		<b>3,464.51</b>	<b>97.8%</b>
<b><u>Wetlands and Surface Waters</u></b>			
520	Lakes	9.94	0.3%
530	Reservoirs	6.60	0.2%
641	Freshwater Marshes	1.94	0.1%
643	Wet Prairies	44.81	1.3%
644	Emergent Aquatic Vegetation	1.40	0.1%
653	Intermittent Ponds	6.46	0.2%
<b><i>Wetlands and Surface Waters Subtotal</i></b>		<b>71.15</b>	<b>2.2%</b>
<b>TOTAL</b>		<b>3,535.66</b>	<b>100.0%</b>

Of the Urban and Built-up land uses, only the Residential Low Density and Rural Residential have a moderate potential to support protected species. These two land uses account for 22.1% of the study area. These areas are fairly large with only small portions which have been built up. Within the study area, these land uses also frequently contain tree stands and large open pasture-

like lawns, the two factors of these areas which are most likely to provide support to protected species. All other Urban and Built-up land uses have a low potential to support protected species. This is due to these areas having frequent human use and a large extent of development as exhibited in land uses such as manufactured home developments, housing developments, and shopping centers.

### **Agriculture (FLUCFCS 200 Series)**

Agricultural land uses are defined as “those lands which are cultivated to produce food crops and livestock”. Agricultural land uses are the most common within the study area, accounting for 51.5% of the study area. Agricultural land uses within the study area include Improved Pastures (FLUCFCS 211), Unimproved Pastures (FLUCFCS 212), Woodland Pastures (FLUCFCS 213), Field Crops (FLUCFCS 215), Citrus Groves (FLUCFCS 221), Abandoned Tree Crops (FLUCFCS 224), Cattle Feeding Operations (FLUCFCS 231), Nurseries and Vineyards (FLUCFCS 240), and Other Open Lands (FLUCFCS 260).

Agricultural land uses within the study area have a moderate potential to support protected species. These areas are all large, undeveloped, and relatively contiguous and many contain mature slash pine (*Pinus elliotti*) and live oak (*Quercus virginiana*) which are suitable for nest-building. However, these areas also experience frequent human activity for maintenance and crop-production.

### **Rangeland (FLUCFCS 300 Series)**

Rangeland is defined as “land where the potential natural vegetation is predominantly grasses, grasslike plants, forbs or shrubs and is capable of being grazed”. The only Rangeland land use within the study area is Mixed Rangeland (FLUCFCS 330) which accounts for 0.3% of the study area.

This area is dominated by wax myrtle (*Morella cerifera*), live oak, and upland grasses and is adjacent to a large improved pasture as well as industrial, residential, and commercial areas and US 301. Considering these factors, this Mixed Rangeland has a moderate potential to support protected species.

### **Upland Forests (FLUCFCS 400 Series)**

Upland Forests are defined as “upland areas which support a tree canopy closure of ten (10) percent or more” and include both xeric and mesic forest communities. Upland Forests within the study area include Upland Coniferous Forest (FLUCFCS 410), Longleaf Pine – Xeric Oak (FLUCFCS 412), Upland Hardwood Forests (FLUCFCS 420), Upland Hardwood – Coniferous Mix (FLUCFCS 434), and Tree Plantation (FLUCFCS 440). Upland forests only account for 7.1% of the study area.

The canopies of these areas all contain varying mixtures of dominance by live oak and slash pine with understories ranging from sparsely to densely vegetated. Typical understory vegetation includes wax myrtle, cabbage palm (*Sabal palmetto*), and less mature



individuals of the canopy species. These forests have all been fragmented by roadways and agricultural land uses. However, they have a high potential to support protected species due to the strata composure and that they are all adjacent to large contiguous pastures.

### **Water (FLUCFCS 500 Series)**

Water land uses are defined as “all areas within the land mass of the United States that are predominantly or persistently water covered”. Water land uses within the study area include Lakes (FLUCFCS 520) and Reservoirs (FLUCFCS 530) and account for only 0.5% of the study area. These areas all contain little to no emergent vegetation. The lakes are naturally occurring areas, while most of the reservoirs appear to be used for watering cattle. The two reservoirs in the northwestern corner of the study area, near the US 98 and Clinton Avenue intersection, are used for stormwater retention. These water land uses have a moderate to high potential to support protected species as they may serve as suitable foraging habitat (SFH) for wading birds.

### **Wetlands (FLUCFCS 600 Series)**

Wetlands within the study area include Freshwater Marshes (FLUCFCS 641), Wet Prairies (FLUCFCS 643), Emergent Aquatic Vegetation (FLUCFCS 644), and Intermittent Ponds (FLUCFCS 653). Wetlands account for only 1.7% of the study area. Wetlands within the study area are either adjacent to a lake or reservoir or are within a low-lying area of a pasture. Wetlands within the study area are typically isolated due to the topography of the area and are not hydrologically contiguous with any riverine systems. Typical vegetation within the project wetlands includes Carolina willow (*Salix caroliniana*), cattails (*Typha* spp.), bluestem (*Andropogon* spp.), and torpedograss (*Panicum repens*). Wetlands within the study area have a high potential to support protected species as they likely serve as suitable foraging habitat for wading birds.

### **Transportation, Communication, and Utilities (FLUCFCS 800 Series)**

Roads and Highways (FLUCFCS 814) is the only Transportation, Communication, and Utilities land use within the study area. Land uses designated as Roads and Highways within the study area include US 98, Clinton Avenue, US 301, and Old Lakeland Highway. These roads account for 4.2% of the study area and have no potential to support protected species. A network of local roads occurs between these major roadways, but the local roads were not mapped out within the land use data as Roads and Highways. Rather, they are included in the adjacent land use designations.

#### **3.3.1 Wetlands**

Twelve wetlands and seven other surface waters occur within the study area, comprising a total of 71.15 acres, which is 2.2% of the study area. The largest of these systems is an approximately 23-acre wet prairie occurring west of US 301. The other eighteen systems are all significantly smaller and scattered throughout the study area. The second largest system is the approximately 10-acre Gilbert Lake which is bordered on its western side by the previously mentioned 23-acre wet prairie. Of the remaining seventeen systems, only three [wet prairies] are larger than five acres and seven of the other fourteen are larger than one acre.

Many, if not all, of the wetlands and other surface waters within the study area are likely not jurisdictional to the U.S. Army Corps of Engineers. The topographic location of the systems likely results in hydrologic isolation of the systems within the study area. A formal jurisdictional determination would need to be made of any wetlands or other surface waters which may be impacted by construction of the project.

### 3.3.2 Protected Species

Federal listed species are afforded protections under the Endangered Species Act of 1973 (ESA), as amended, falling under the jurisdiction of the USFWS. Within the state of Florida, federal listed species are also afforded protection under Chapter 68A-27, F.A.C., along with state listed species. In Florida, state protected animal species are under the jurisdiction of the FWC. Additionally, in 2010, the FWC established an imperiled species rule which states that all species listed by the USFWS that occur within Florida are also included on the *Florida Endangered and Threatened Species List* as Federally-designated Endangered, Federally-designated Threatened, Federally-designated Due to Similarity of Appearance, or Federally-designated Non-Essential Experimental Population.

A list of potentially occurring protected species was developed (see **Table 3-4**) and each species was assigned a low, moderate, or high likelihood of occurrence within habitats found within the study area. The list was generated using information from FNAI and FWC as well as information provided by ETAT members in the ETDM Programming Screen Summary Report. No plants were included on the species list as no federally listed species occur within Pasco County; additionally, the Florida Department of Agriculture and Consumer Services (FDACS), the agency responsible for state listed plants, stated there would be no involvement in the ETDM Programming Screen Summary Report. Definitions for likelihood of occurrence are provided below. **Table 3-4** lists the federal and state protected wildlife species as well as each species' probability of occurrence within the study area.

**None** – The project is outside the species' known range, or the project is within the species' range; however, no suitable habitat occurs within or adjacent to the project study area and there are no documented occurrences of the species within the study area.

**Low** – Species with a low likelihood of occurrence within the study area are defined as those species that are known to occur in Pasco County or the study area occurs within the species' USFWS consultation area, but suitable habitat is limited within the study area.

**Moderate** – Species with a moderate likelihood for occurrence are those species known to occur in Pasco County and for which suitable habitat is present within the study area, but no observations or positive indications exist to verify the species' presence.

**High** – The project is within the species' range, suitable habitat exists within or adjacent to the project study area, there is a documented occurrence of the species within the study area, or the potential presence of the species is widely accepted.

**Table 3-4  
Protected Species Potentially Occurring within the Study Area**

Species	Listing Status		Probability of Occurrence
	USFWS	FWC	
<b>Reptiles</b>			
Eastern Indigo Snake ( <i>Drymarchon corais couperi</i> )	T	T	Moderate
Florida Pine Snake ( <i>Pituophis melanoleucus mugitis</i> )	NL	T	Moderate
Gopher Tortoise ( <i>Gopherus polyphemus</i> )	C	T	High
<b>Birds</b>			
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	BGEPA		Moderate
Florida Burrowing Owl ( <i>Athene cunicularia floridana</i> )	NL	T	Moderate
Florida Sandhill Crane ( <i>Antigone canadensis pratensis</i> )	NL	T	High
Florida Scrub-Jay ( <i>Aphelocoma coerulescens</i> )	T	T	None
Little Blue Heron ( <i>Egretta caerulea</i> )	NL	T	High
Southeastern American Kestrel ( <i>Falco sparverius paulus</i> )	NL	T	Moderate
Tricolored Heron ( <i>Egretta tricolor</i> )	NL	T	High
Wood Stork ( <i>Mycteria Americana</i> )	T	T	High
<b>Mammals</b>			
Florida Black Bear ( <i>Ursus americana floridana</i> )	NL	NL	Low

USFWS = U.S. Fish and Wildlife Service

FWC = Florida Fish and Wildlife Conservation Commission

BGEPA = Bald and Golden Eagle Protection Act

T = Threatened

NL = Not Listed

C = Candidate species

**Federally Listed Species:**

**Eastern Indigo Snake (*Drymarchon corais couperi*)**

The eastern indigo snake is listed as threatened by the USFWS due to loss and degradation of habitat and population decline. Eastern indigo snakes are known to inhabit most upland habitat types throughout Florida as well as the fringes of wetlands. The potential occurrence of gopher tortoises within the study area also increases the potential occurrence for the eastern indigo snake, as they are known to inhabit gopher tortoise burrows. All vegetated uplands and wetlands throughout the study area may provide suitable habitat for the eastern indigo snake. However, there are no documented occurrences of this species within the study area. Considering these factors, the potential for occurrence for this species within the study area is moderate.

**Florida Scrub-Jay (*Aphelocoma coerulescens*)**

The project occurs within the consultation area for the Florida scrub-jay which is listed as threatened by the USFWS. This species prefers xeric oak habitats with well-drained sandy soils that are adapted to periodic drought and frequent fires. No suitable scrub-jay habitat occurs within the project study area and there are no documented occurrences of this species within the study area. Additionally, the USFWS noted in the ETDM Summary Programming Screen Summary Report that scrub-jays have not been historically documented within the study area and that no scrub-jay survey would be needed within the study area. Considering these factors, the potential for occurrence for this species within the study area is none.

### **Wood Stork (*Mycteria americana*)**

The wood stork is listed as threatened by the USFWS. This species colonizes inundated wetlands and colonies are dependent on consistent foraging opportunities in wetlands within a core foraging area (CFA) of the colony. Within peninsular Florida, the USFWS defines a CFA as the area within an 18.6-mile radius of the nesting colony.

The project study area is within the CFA of seven documented, active wood stork nesting colonies. These are the Croom, Cross Creek, Cypress Creek I-75, Devil's Creek, Heron Point – Land O' Lakes, Little Gator Creek, and Saddlebrook Resort colonies. Additionally, the FNAI biodiversity matrix documents the wood stork as likely to occur within the study area. Wetlands and other surface waters throughout the study area likely provide suitable foraging habitat (SFH) for these colonies. As defined by the USFWS, SFH includes wetlands and other surface waters which have areas of water that are relatively calm, uncluttered by dense thickets of aquatic vegetation, and have permanent or seasonal water depth between 2 and 15 inches. Approximately 71 acres of wetlands and other surface waters that may provide wood stork SFH occur within the study area. Considering the presence of SFH and the expected occurrence of this species, there is a high likelihood of wood stork occurrence within the study area.

### **State Listed Species:**

#### **Gopher Tortoise (*Gopherus polyphemus*)**

The gopher tortoise is currently listed as a candidate species with the USFWS and is listed as threatened by the FWC. This species requires well-drained and loose sandy soils for burrowing and low-growing herbs and grasses for foraging. These habitat conditions are best found in sandhill communities, although gopher tortoises are known to use a variety of habitats including sand pine scrub, xeric oak hammocks, dry prairies, pine flatwoods as well as ruderal sites such as pastures.

All vegetated uplands within the study area may provide suitable foraging and/or burrowing habitat for the gopher tortoise. Given the large amount and contiguity of these upland habitats, it is expected that gopher tortoise burrows occur somewhere within the study area. Considering this, there is a high likelihood of gopher tortoise occurrence within the study area.

#### **Florida Pine Snake (*Pituophis melanoleucus mugitis*)**

The project occurs within the known range of the Florida pine snake which is listed as threatened by the FWC. This species typically utilizes habitats with relatively open canopies and dry sandy soils, but is also known to utilize pastures. The potential occurrence of gopher tortoises within the study area also increases the potential occurrence for the Florida pine snake, as they are known to inhabit gopher tortoise burrows. All vegetated uplands and wetlands throughout the study area may provide suitable habitat for the Florida pine snake. However, there are no documented occurrences of this species within the study area. Considering these factors, the potential for occurrence for this species within the study area is moderate.

#### **Florida Burrowing Owl (*Athene cunicularia floridana*)**

The project occurs within the known range of the Florida burrowing owl which is listed as threatened by the FWC. This species inhabits sparsely vegetated, sandy habitats



throughout peninsular Florida. The burrowing owl has been documented occurring at golf courses, airports, pastures, and agricultural fields. The pastures within the study area may provide suitable habitat for the Florida burrowing owl. However, there are no documented occurrences of this species within the study area. For these reasons, the potential for occurrence for this species within the study area is moderate.

#### **Southeastern American Kestrel (*Falco sparverius paulus*)**

The project occurs within the known range of the southeastern American kestrel which is listed as threatened by the FWC. This species inhabits open woodlands, pastures, agricultural areas, and low-density residential areas. Suitable habitat for this species occurs throughout the study area, but there are no documented occurrences of this species within the project vicinity. These factors result in a moderate potential of southeastern American kestrel occurrence within the study area.

#### **Wetland Dependent Avian Species**

The project occurs within the known range of the Florida sandhill crane (*Antigone canadensis pratensis*), little blue heron (*Egretta caerulea*), and tricolored heron (*Egretta tricolor*), all of which are listed as threatened by the FWC. These species utilize a wide variety of habitats including canals, ditches, forested wetlands, prairies, and marshes. The wetlands and other surface waters within the study area provide SFH for these species and potentially suitable nesting habitat for the Florida sandhill crane. Each of these species is expected to occur within the study area given the potential foraging opportunities provided by wetlands and other surface waters within the study area. This results in a high potential of occurrence for these wetland dependent avian species.

#### **Other Protected Species:**

##### **Bald Eagle (*Haliaeetus leucocephalus*)**

The bald eagle is protected under the Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.) and the Migratory Bird Treaty Act (16 U.S.C. § 703 et seq.). A desktop survey showed that the nearest documented nest is about 1.2 miles outside of the study area. Considering the presence of suitable nesting habitat within the study area and lack of documented occurrences, there is a moderate potential of bald eagle occurrence within the study area.

##### **Florida Black Bear (*Ursus americanus floridanus*)**

The Florida black bear is no longer a state listed species, but it is still afforded protection by the Bear Conservation Rule (68A-4.009, F.A.C.). The project study area is within the “occasional” range of the Big Bend Florida black bear population. A desktop review of black bear road mortality data and black bear nuisance reports showed that neither has been documented within the study area. The nearest nuisance report occurred about 3 miles outside of the study area and the nearest road mortality occurred about 5.5 miles outside of the study area. The upland forests within the study may provide suitable habitat for the Florida black bear, but due to the lack of documented occurrences, there is a low potential of black bear occurrence within the study area.

### **3.3.3 Essential Fish Habitat**

The Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1801 et seq. Public Law 104-208) reflects the Secretary of Commerce and Fishery Management

Council’s authority and responsibilities for the protection of essential fishery habitat. The Act specifies that each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any Essential Fish Habitat (EFH) identified under this Act. EFH is defined by the Act as “...those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The National Marine Fisheries Service (NMFS) reviews potential impacts to EFH. Based upon this definition of EFH, it has been determined that there is no existing EFH within the proposed study area.

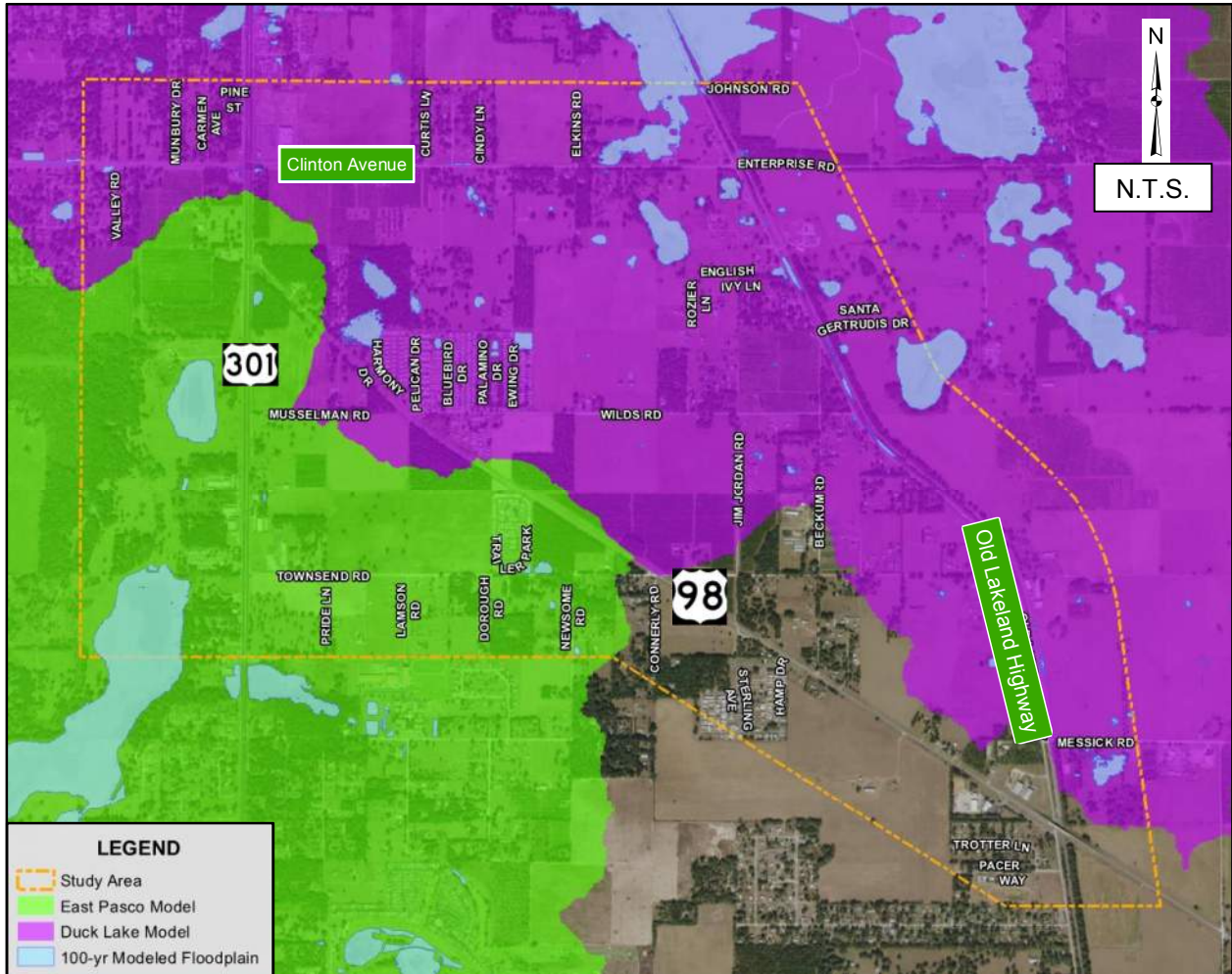
### **3.3.4 Floodplains**

The study area is within FEMA FIRM Panels 12101C0280F, 12101C0285F, 12101C0287F, and 12101C0295F. All panels are effective September 26, 2014. Floodplains within the study area limits are shown in **Figure 3-4**. Major roadways are located outside the 100-year floodplain, except for Clinton Avenue. A Zone AE floodplain is shown overtopping Clinton Avenue east of Elkins Road at elevation 77 feet. No FEMA Floodways are located within the study area limits. The East Pasco Watershed Model was completed in 2010 and was used to define specific Zone AE floodplains in the southwest area of the study area. The Duck Lake Watershed Model was completed in 2015 after the effective date of the FEMA FIRMs. Revised 100-year floodplains based on the watershed model are shown along with the limits of each watershed model in **Figure 3-5**. These models should be used during the drainage design effort.





**Figure 3-5  
Watershed Models**



**3.3.5 Water Quality**

There are three drainage basins within the study area: Withlacoochee River, Lake Pasadena Drain, and Clear Lake Outlet. To avoid and minimize water quality impacts to these systems from any roadway improvements, stormwater treatment systems and Best Management Practices (BMPs) would be required. BMPs to minimize erosion and sediment transport during construction could include downstream floating turbidity barriers, along with sediment barriers (silt fence) around the project construction. Erosion control measures would be installed and maintained in accordance with standard FDOT specifications.

**3.3.6 Special Designations**

Based on field data and aerial mapping of the study area, there are no special designation sites.



### 3.4 Physical Environment

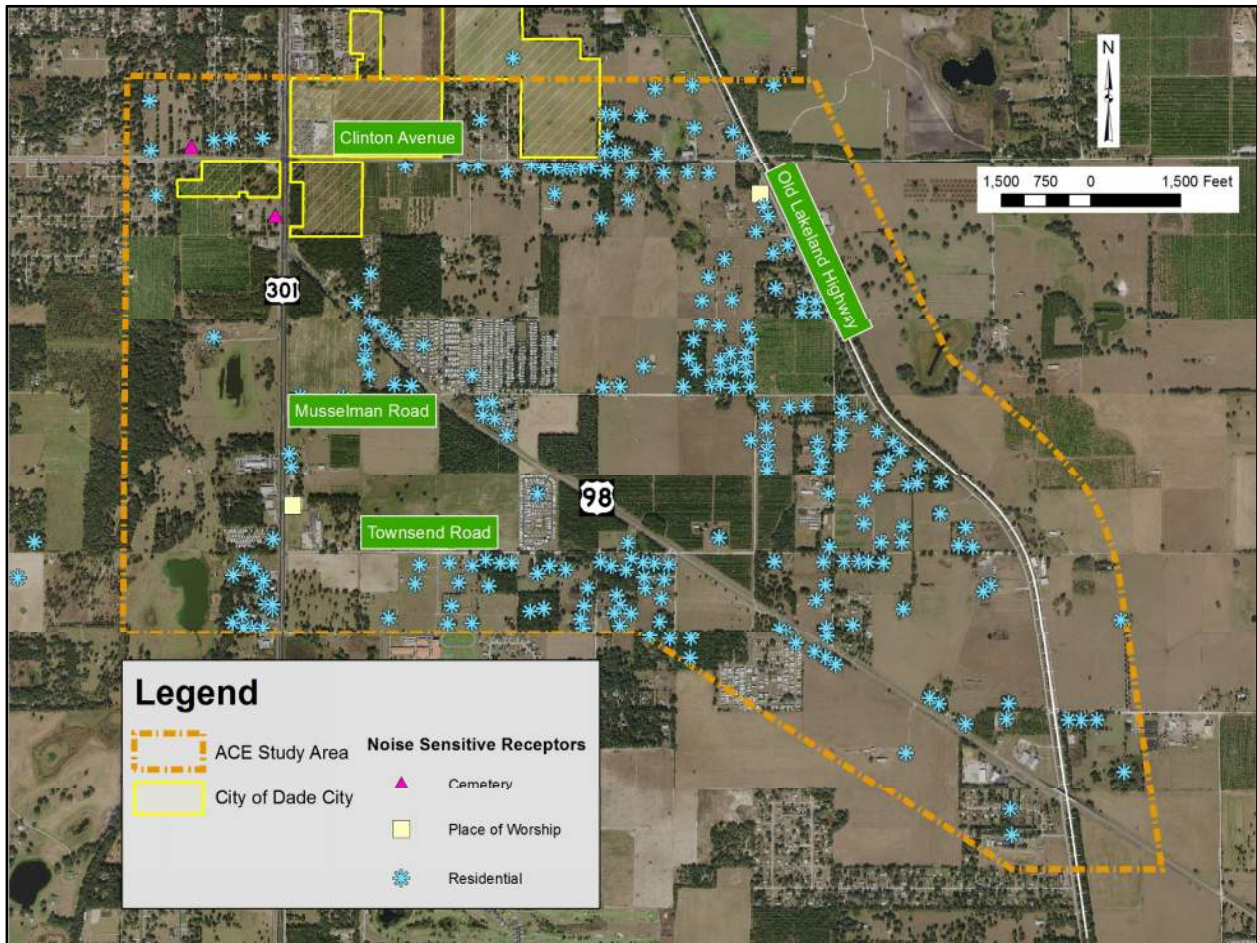
#### 3.4.1 Noise

Within the project study area, an investigation for potential noise sensitive receptors was assessed and recorded. A total of four hundred forty (440) potential individual noise sensitive locations have been identified. These individual locations within the project area can be organized into cemeteries, places of worship, manufactured home parks (MHP), RV parks and single family residential homes. The following potential noise sensitive receptors are listed below in **Table 3-5**. **Figure 3-6** shows the locations of the noise sensitive receptors.

**Table 3-5  
Land Use Review for Noise Sensitive Receptors within the Study Area**

Category	Description	Noise Activity Category (NAC)	Number
<b>Cemetery</b>			
	Chapel Hill Gardens Cemetery	C	1
	Floral Memory Gardens Cemetery	C	1
<i>Total Cemetery</i>			<b>2</b>
<b>Place of Worship</b>			
	Heart of Worship (Interior)	D	1
	Renovate Church (Interior)	D	1
<i>Total Place of Worship</i>			<b>2</b>
<b>Residential (MHP &amp; RV Park)</b>			
	Blue Jay MHP & RV Resort	B	1
	Burgers MHP	B	1
	Country Air Manor Manufactured Homes_RVs	B	1
	Grove Ridge Carefree RV Resort	B	1
	Harmony Heights MHP	B	1
	Lakeview in the Hills MHP	B	1
	Southfork MHP	B	1
	Sunshine Raceway MHP	B	1
	Lake Gilbert RV Park	B	1
<i>Total Residential (MHP &amp; RV Park)</i>			<b>8</b>
<b>Residential (Single Family Homes)</b>			
	Anderson Acres Subdivision	B	14
	Appaloosa Trails Subdivision	B	34
	Buckeye Terrace Subdivision	B	19
	Clinton Avenue Heights	B	27
	Holly Lane Residences	B	8
	South Clinton Heights Subdivision	B	23
	Sunset Hills Subdivision	B	36
	W S Gillams Subdivision	B	8
	Miscellaneous Single Family Homes	B	259
<i>Total Residential (Single Family)</i>			<b>428</b>

**Figure 3-6  
Noise Sensitive Receptors**



**3.4.2 Air**

The project is located in an area that has been designated as attainment of all National Ambient Air Quality Standards established by the Clean Air Act of 1990 and subsequent amendments.

**3.4.3 Contamination**

Within the project study area, an investigation for potential contamination risk was assessed and recorded. A total of thirty (30) contamination sites were identified and evaluated. The sites were categorized to differentiate between sites that do not appear to be a problem (No/Low) and those that have a higher potential for contamination involvement (Medium/High). All recorded and evaluated sites are listed below in **Table 3-6**. Only three (3) sites analyzed were categorized as Medium/High. These sites include numbers 20 – Circle K #2705931, 21 – Circle K #7038, and 30 – Railroad located in the northeast corner of the study area. **Figure 3-7** shows the location and risk potential for each contamination site.

**Table 3-6  
Potential Contamination Sites within the Study Area**

<b>ID</b>	<b>Place/ Facility Name</b>	<b>Contamination Involvement</b>
1	State Farm Insurance Diesel Spill	No/ Low
2	Lykes Transport Inc.	No/ Low
3	Growers Fertilizer Corporation	No/ Low
4	Condry William	No/ Low
5	Withlacoochee River Electric Co-op	No/ Low
6	Cam Express Of Dade City	No/ Low
7	Townsend Seed Co Inc.	No/ Low
8	Larkin Co. Inc.-Ranch	No/ Low
9	Florida Gas Contractors	No/ Low
10	Nunez Ranch	No/ Low
11	Pasco Chevrolet - Dade City	No/ Low
12	Grove Ridge Estates	No/ Low
13	Harmony Heights Communities LLC	No/ Low
14	South Fork MHP	No/ Low
15	Orange Valley Storage And Pumping Facility	No/ Low
16	Chapel Hill Gardens Inc.	No/ Low
17	Hodges Family Funeral Home Inc.	No/ Low
18	Lykes Agri Sales Inc.	No/ Low
19	Helena Chemical Co.	No/ Low
20	Circle K #2705931	Medium/ High
21	Circle K #7038	Medium/ High
22	Shoppes of Dade City	No/ Low
23	Publix Super Market #1496	No/ Low
24	Evans Properties Inc.-Sprayfield Grove	No/ Low
25	Grand Slam Tire	No/ Low
26	FDOT Bridge	No/ Low
27	Lakeview In The Hills	No/ Low
28	Mile Post AR833.56	No/ Low
29	Mile Post AR835.1	No/ Low
30	Railroad	Medium/ High

\*No/ Low = Does not appear to be a problem

\*Medium/ High = Has a higher potential for contamination involvement



**Figure 3-7  
Contamination Map**





# APPENDICES

# *Appendix A*

## **Traffic and Safety Existing Conditions Technical Memorandum**

# **TRAFFIC AND SAFETY EXISTING CONDITIONS**

## **TECHNICAL MEMORANDUM**

### **US 301/US 98/SR 35/SR 700/Clinton Avenue Intersection**

#### **Realignment Study**

**Work Program Item Segment No: 443368-1**

Prepared for:



**Florida Department of Transportation**

**District Seven**

Prepared by:

H.W. Lochner, Inc.

4350 West Cypress St, Suite 800

Tampa, FL 33607

**February 2020**

# TABLE OF CONTENTS

<b>Section</b>	<b>Page</b>
<b>1.0 PROJECT SUMMARY .....</b>	<b>1-1</b>
1.1 Project Description.....	1-1
1.2 Purpose.....	1-1
<b>2.0 EXISTING CONDITIONS .....</b>	<b>2-1</b>
2.1 Roadway Characteristics.....	2-1
2.2 Traffic Data Collection .....	2-1
2.3 Existing Analysis .....	2-2
2.3.1 Traffic.....	2-2
2.3.2 Daily Truck Factors.....	2-3
2.3.3 Pedestrians and Bicyclists .....	2-3
2.3.4 Transit.....	2-4
2.4 Historical Crash Data.....	2-5
2.4.1 Crash Type.....	2-7
2.4.2 Contributing Causes .....	2-8
2.4.3 Injury Severity.....	2-11
2.4.4 Vulnerable Users, Severe Injury, and Fatal Crashes .....	2-12
2.4.4.1 Clinton Avenue at Old Lakeland Highway.....	2-12
2.4.4.2 US 301 at Clinton Ave.....	2-12
2.4.4.3 US 301 at US 98 .....	2-13
2.4.4.4 US 98 at Old Lakeland Highway .....	2-14
2.4.4.5 Old Lakeland Highway from Clinton Avenue to US 98.....	2-14
2.4.4.6 US 301 from US 98 to Clinton Avenue.....	2-14
2.4.4.7 US 98 from US 301 to Old Lakeland Highway.....	2-14
2.4.5 High Crash Rate Locations.....	2-17
2.4.5.1 US 98 at Old Lakeland Highway .....	2-17
2.4.5.2 US 301 at US 98 .....	2-17
2.4.5.3 US 301 at Clinton Avenue .....	2-17
2.4.6 Crash Mitigation Strategy.....	2-18



## List of Figures

<b>Figure</b>	<b>Page</b>
Figure 1.1 Project Location Map .....	1-2
Figure 2.1 Project Location Map .....	2-6
Figure 2.2 Bicycle, Pedestrian, Severe Injury, and Fatal Crashes .....	2-16

## List of Tables

<b>Table</b>	<b>Page</b>
Table 2.1 Roadway Characteristics.....	2-1
Table 2.2 Existing Year (2019) AADT.....	2-2
Table 2.3 Existing Year (2019) Roadway Segment Analysis.....	2-3
Table 2.4 Field Measured T24 Factors .....	2-3
Table 2.5 Existing (2019) Pedestrian and Bicycle Crossings.....	2-4
Table 2.6 Crash Ratios (2013 to 2017).....	2-5
Table 2.7 Crash Type for Intersections.....	2-7
Table 2.8 Crash Type for Segments.....	2-8
Table 2.9 Lighting Conditions for Intersections.....	2-9
Table 2.10 Lighting Conditions for Segments.....	2-9
Table 2.11 Driver Contributing Causes for Intersections.....	2-10
Table 2.12 Driver Contributing Causes for Segments.....	2-10
Table 2.13 Injury Severity of Crashes for Intersections .....	2-11
Table 2.14 Injury Severity of Crashes for Segments .....	2-12
Table 2.15 Bicycle/Pedestrian Crash Distribution.....	2-15
Table 2.16 Safety Deficiency Summary .....	2-19

# **List of Appendices**

Appendix A      Traffic Methodology Statement

# 1.0

## ***PROJECT SUMMARY***

### **1.1 Project Description**

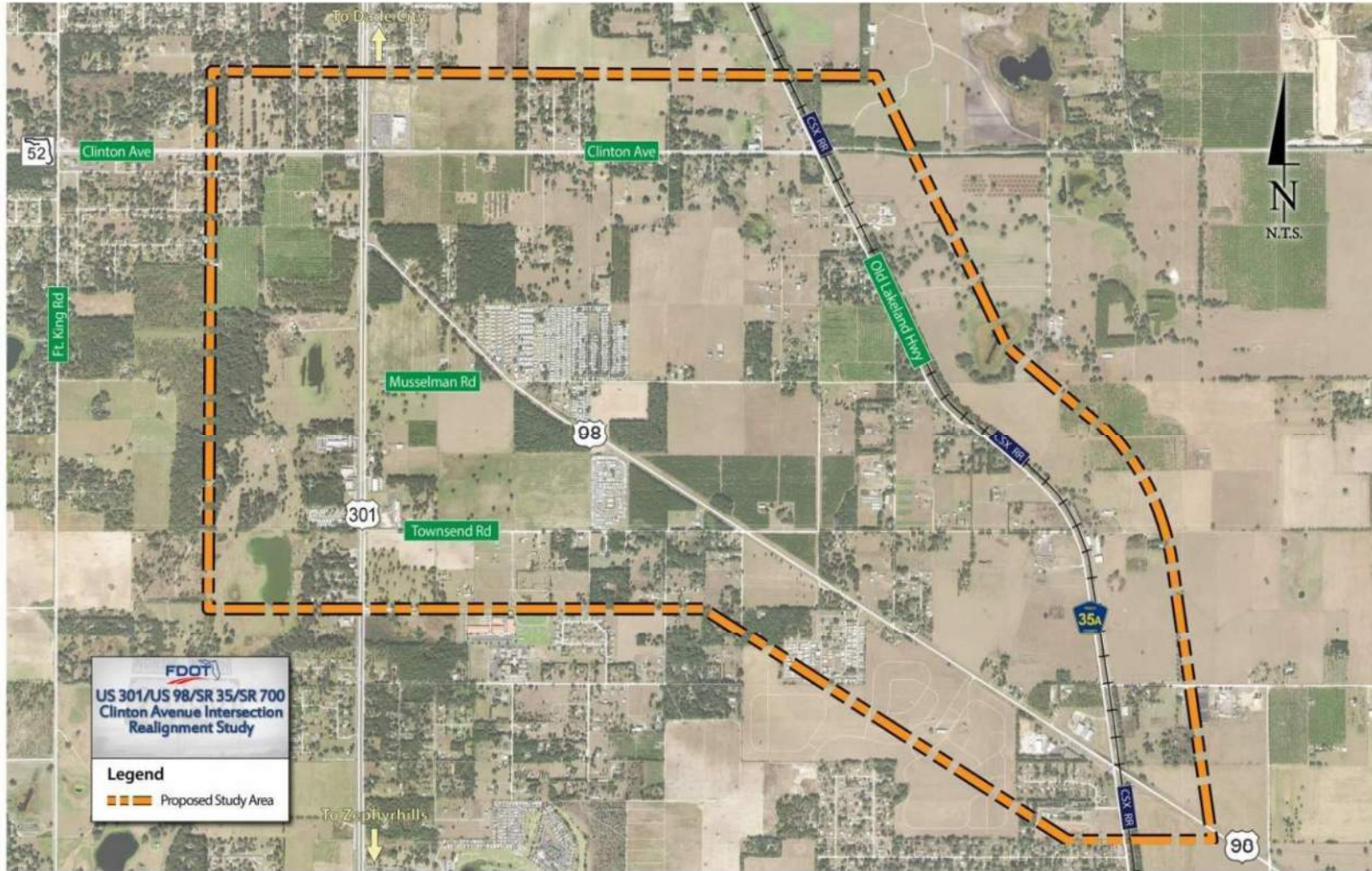
The US 301/US 98/SR 35/SR 700/Clinton Avenue Alternative Corridor Evaluation Study will be used to screen alternative corridors for a realignment of US 98 to Clinton Avenue. The purpose of this realignment is to eliminate the closely spaced intersections of US 301 at US 98 and US 301 at Clinton Avenue; facilitate east/west travel; maximize the benefits of improvements to Clinton Avenue and designation as SR 52 west of US 301; and enhance safety along the corridor. **Figure 1.1** shows the project location map for the US 301/US 98/SR 35/SR700/Clinton Avenue Alternative Corridor Evaluation Study.

### **1.2 Purpose**

The purpose of this existing traffic conditions report is to document the methodologies and procedures employed to develop and analyze existing traffic and crash data.

The *Traffic Methodology Statement* used for this analysis can be found in **Appendix A**.

Figure 1.1  
Project Location Map





# 2.0

## ***EXISTING CONDITIONS***

### **2.1 Roadway Characteristics**

The US 301/US 98/SR 35/SR 700/Clinton Avenue collection of intersections is located in southwest Pasco County where US 301 and US 98 merge to the south of Clinton Avenue. **Table 2.1** describes the roadway characteristics of the US 301, US 98, Clinton Avenue, and Old Lakeland Highway from the FDOT Florida Transportation Information (FTI) 2018 database, based on roadway identification.

**Table 2.1**  
**Roadway Characteristics**

<b>Facility</b>	<b>Description</b>	<b>Roadway ID</b>	<b>Speed Limit (MPH)</b>	<b>Functional Classification</b>
US 301	Entire Study Area	14050000	50	Principal Arterial (Other Urban)
US 98	East of Old Lakeland Highway	14070000	60	Principal Arterial (Other Rural)
US 98	From US 301 to Old Lakeland Highway	14070000	55	Principal Arterial (Other Urban)
Old Lakeland Highway	North of Townsend Road	14630000	55	Minor Arterial (Rural)
Old Lakeland Highway	South of Townsend Road	14630000	55	Minor Arterial (Urban)
Clinton Avenue	West of Curtis Lane	14680000	45	Major Collector (Urban)
Clinton Avenue	East of Curtis Lane	14680000	45	Major Collector (Rural)

### **2.2 Traffic Data Collection**

72-hour bi-directional (approach and departure volumes at 15-minute increments) machine classification counts, 48-hour bi-directional (approach and departure volumes at 15-minute increments) machine counts, 2-hour AM (from 7:00 AM to 9:00 AM) and PM (from 4:15 PM to 6:15 PM) turning movement, pedestrian, and bicycle counts were collected in April and May of 2019 at the following intersection locations:

- US 98 and US 301
- US 301 and Clinton Avenue
- Clinton Avenue and Old Lakeland Highway
- US 98 and Old Lakeland Highway

With the exception of Enterprise Road east of Old Lakeland Highway, the 72-hour classification counts were collected on the edges of the study area north and south of Clinton Avenue and US 98 respectively and east and west of US 301 and Old Lakeland Highway respectively. The 48-hour counts were all collected at the remaining eight intersection approaches.

The AM and PM corridor-wide peak hours were determined to occur from 7:30 AM to 8:30 AM and from 4:45 PM to 5:45 PM, respectively.

## 2.3 Existing Analysis

### 2.3.1 Traffic

Existing Year (2019) AADT are provided in **Table 2.2** below. The AADT volumes were derived from the 48-hour machine counts outlined in **Section 2.2**.

**Table 2.2**  
**Existing Year (2019) AADT**

Segment	AADT
Clinton Avenue from US 301 to Old Lakeland Highway	2,200
Clinton Avenue west of US 301	16,000
Enterprise Road east of Old Lakeland Highway	1,700
Old Lakeland Highway from US 98 to Clinton Avenue	8,900
Old Lakeland Highway north of Clinton Avenue	8,000
US 301 from US 98 to Clinton Avenue	24,000
US 301 North of Clinton Avenue	25,000
US 301 south of US 98	23,000
US 98 east of Old Lakeland Highway	6,100
US 98 from US 301 to Old Lakeland Highway	6,200

Segment level of service analysis was conducted for each roadway segment in the study area for the existing year (2019) and are provided in **Table 2.3** below. AADTs from the count data were compared to Level of Service D Annual Average Daily Volumes from FDOT’s 2012 Generalized Service Volume Tables for Urbanized Areas to identify segments approaches where volume exceeded the LOS D target. The urban service boundary divides the study area, but for consistency and to be conservative, urbanized area values were used for this comparison. There are currently no roadway segments which fail this check.

**Table 2.3**  
**Existing Year (2019) Roadway Segment Analysis**

Segment	AADT	No. of Lanes	LOS D Capacity	Volume Exceeds Capacity
Clinton Avenue from US 301 to Old Lakeland Highway	2,200	2	15,930	No
Clinton Avenue west of US 301	16,000	4	35,820	No
Enterprise Road east of Old Lakeland Highway	1,700	2	15,930	No
Old Lakeland Highway from US 98 to Clinton Avenue	8,900	2	24,200	No
Old Lakeland Highway north of Clinton Avenue	8,000	2	24,200	No
US 301 from US 98 to Clinton Avenue	24,000	4	41,790	No
US 301 North of Clinton Avenue	25,000	4	41,790	No
US 301 south of US 98	23,000	4	41,790	No
US 98 east of Old Lakeland Highway	6,100	2	24,200	No
US 98 from US 301 to Old Lakeland Highway	6,200	2	24,200	No

### 2.3.2 Daily Truck Factors

The daily truck ( $T_{24}$ ) factor is the percentage of medium and heavy truck traffic in a 24-hour period. Location specific  $T_{24}$  factors will be used for any analysis in the study area. **Table 2.4** shows the location specific  $T_{24}$  factor values observed along the corridor.

**Table 2.4**  
**Field Measured  $T_{24}$  Factors**

Location	Number of Heavy Vehicles	Total Number of Vehicles	$T_{24}$ Factor
US 301 north of Clinton Ave	1,416	24,724	5.7%
Clinton Ave west of US 301	1,257	15,994	7.9%
Old Lakeland Hwy north of Clinton Ave	1,615	7,961	20.3%
US 301 south of US 98	1,571	22,745	6.9%
Old Lakeland Hwy south of US 98	1,633	7,322	22.3%
US 98 east of Old Lakeland Hwy	1,435	6,126	23.4%

### 2.3.3 Pedestrians and Bicyclists

Currently, there are marked cross walks at all four legs of the US 301 and Clinton Avenue intersection with sidewalks on Clinton Avenue and a bike lane on the eastbound approach. There are sidewalks available on US 301 except for northbound on the east side of the road. There are marked crosswalks on all three legs of the US 301 and US 98 intersection. There is a sidewalk on

the west side of US 301, but no sidewalk on US 98. There is a bike lane on the westbound and northbound approaches. There are no marked crosswalks, sidewalks, or bike lanes at the intersection of Clinton Avenue and Old Lakeland Highway. There are no marked crosswalks, sidewalks, or bike lanes at the intersection of US 98 and Old Lakeland Highway.

Pedestrian and bicycle count data for the study intersection were recorded concurrently with the 2-hour AM (7:00 to 9:00) and PM (4:15 to 6:15) turning movement count data during May 2019. **Table 2.5** summarizes the pedestrian and bicycle crossing movements at each of the study intersections during the AM and PM peak periods. These counts reveal very low numbers of bicyclists or pedestrians at the study area intersections.

**Table 2.5**  
**Existing (2019) Pedestrian and Bicycle Crossings**

Intersection	Leg	AM Peak Period		PM Peak Period	
		Pedestrians	Bicyclists	Pedestrians	Bicyclists
US 301 at Clinton Avenue	North	0	0	0	1
	South	0	0	0	0
	East	0	1	0	3
	West	0	0	0	1
US 301 at US 98	North	0	0	0	0
	South	0	0	0	1
	East	1	1	2	3
Clinton Avenue at Old Lakeland Highway	North	0	0	0	0
	South	0	0	0	0
	East	0	0	0	0
	West	0	0	0	1
US 98 at Old Lakeland Highway	North	0	0	0	0
	South	0	0	0	0
	East	0	0	0	0
	West	0	0	0	0

### **2.3.4 Transit**

Pasco County Public Transit (PCPT) Route 30 serves US 301 between Tucker Road, south of Zephyrhills, and Bower Road north of Dade City. This route operates with an average scheduled headway of 38 minutes (19 buses in 12 hours) in the southbound direction and 40 minutes (20 buses in 13 hours 20 minutes) in the northbound direction.



## 2.4 Historical Crash Data

Crash data was obtained for the Clinton Avenue Intersection Realignment study area from the FDOT CARS database (for crashes on FDOT owned roads) and Signal Four Analytics (for crashes on non-state owned roads) for the years 2013-2017. A total of 217 crashes were reported for the study area over the five-year period, with an average of 43 crashes per year. **Table 2.6** summarizes the crash rate for each location for the five-year analysis period. The intersections of US 98 at Old Lakeland Highway, US 301 at US 98, and US 301 at Clinton Avenue have a crash rate that is higher than the statewide average at a 99.99 percent confidence level, indicating safety concern at these locations.

**Table 2.6**  
**Crash Ratios (2013 to 2017)**

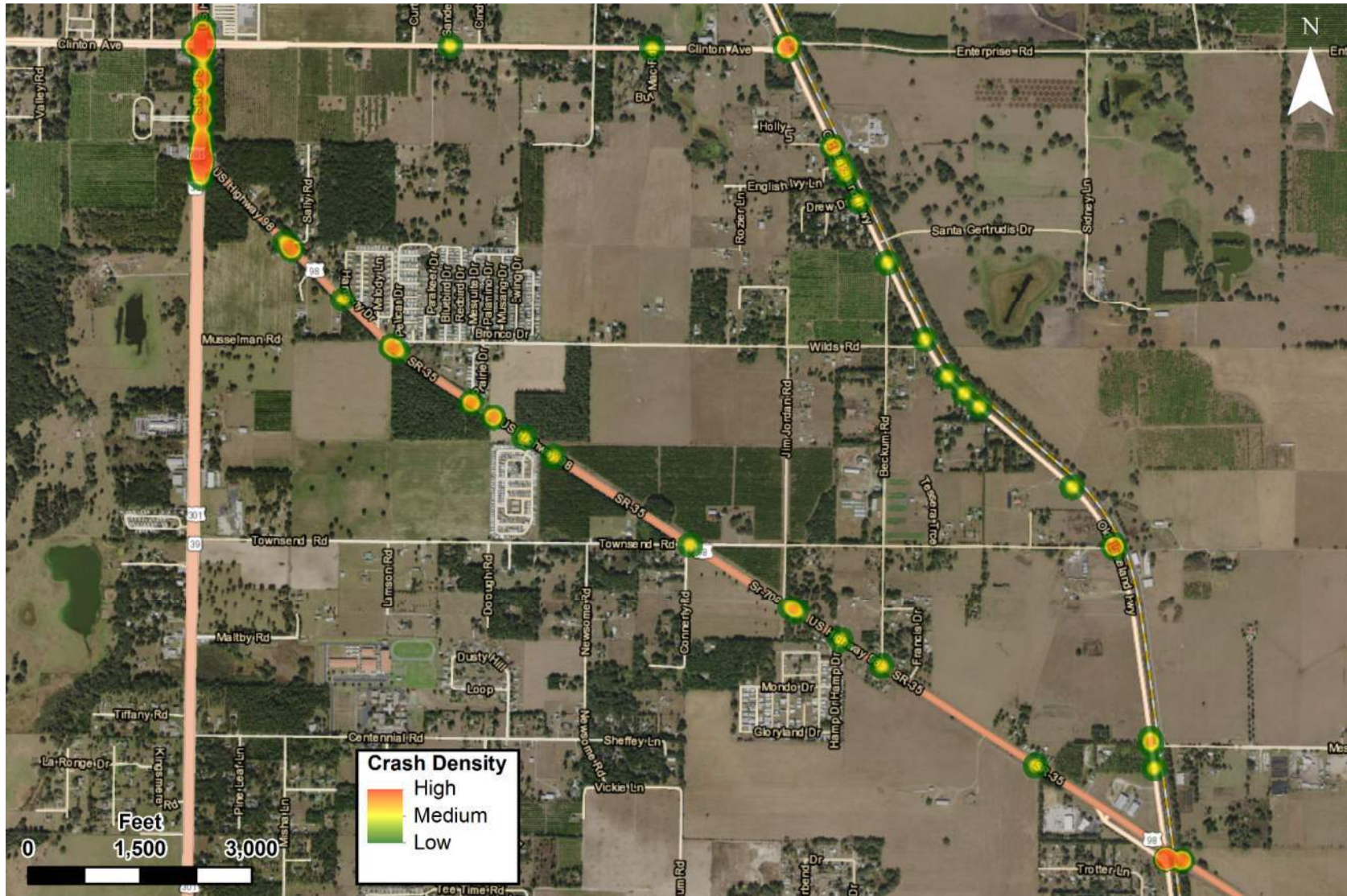
Location	Total Crashes	Crash Rate	Statewide Average*	High Crash Confidence**
<b>Intersection</b>				
US 98 at Old Lakeland Hwy	20	1.218	0.381	99.99%
US 301 at US 98	68	0.968	0.394	99.99%
US 301 at Clinton Ave	72	1.052	0.587	99.99%
Clinton Ave at Old Lakeland Hwy	5	0.338	0.562	50.00%
<b>Segment</b>				
US 301 from US 98 to Clinton Ave	13	1.191	3.412	50.00%
US 98 from US 301 to Old Lakeland Hwy	20	0.702	3.330	50.00%
Old Lakeland Hwy from Clinton Ave to US 98	17	0.608	3.330	50.00%
Clinton Ave from US 301 to Old Lakeland Highway	2	0.417	3.330	50.00%

\*Source: FDOT CARS Database

\*\*High Crash Confidence is the FDOT recommended measure for identifying high crash locations per the FDOT CARS User Manual (Appendix H)

**Figure 2.1** shows the distribution of high crash locations in the Clinton Avenue Intersection Realignment study area from 2013 to 2017. The US 98 at 301, Clinton Ave at US 301, and US 98 at Old Lakeland Highway intersections have the highest density of crashes, with an additional concentration of crashes on US 301 between Clinton Avenue and US 98.

Figure 2.1  
Project Location Map



### 2.4.1 Crash Type

Tables 2.7 and 2.8 details the total number of crashes within the study area intersections and segments by crash type. The most frequent crash types at intersections were angle (48%) and rear end (38%) collisions. The most frequent crash types on segments were rear end (47%) and angle (19%) collisions. The most likely cause of these crash types are permitted left turns and congestion at the intersections. According to the Florida Pedestrian and Bicycle Strategic Safety Plan, the statewide average for bicycle and pedestrian related crashes is 4.8 percent. All study area intersections have a combined bicycle and pedestrian crash proportion lower than the statewide average. Each bicycle and pedestrian related crash is described in further detail in Section 2.5.4.

**Table 2.7**  
**Crash Type for Intersections**

Crash Type	Clinton Ave at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		US 98 at Old Lakeland Hwy		Total	
	N	%	N	%	N	%	N	%	N	%
Angle	17	85%	24	33%	39	57%	0	0%	80	48%
Rear End	1	5%	36	50%	22	32%	3	60%	62	38%
Other	1	5%	4	6%	4	6%	0	0%	9	5%
Sideswipe	0	0%	6	8%	3	4%	0	0%	9	5%
Hit Fixed Object	1	5%	1	1%	0	0%	1	20%	3	2%
Pedestrian	0	0%	1	1%	0	0%	0	0%	1	1%
Head On	0	0%	0	0%	0	0%	1	20%	1	1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>165</b>	<b>100%</b>

**Table 2.8  
Crash Type for Segments**

Crash Type	US 98 from US 301 to Old Lakeland Hwy		US 301 from US 98 to Clinton Ave		Clinton Ave from US 301 to Old Lakeland Highway		Old Lakeland Hwy from Clinton Ave to US 98		Total	
	N	%	N	%	N	%	N	%	N	%
Rear End	9	45%	8	62%	0	0%	8	47%	25	48%
Angle	5	25%	1	8%	2	100%	1	6%	9	17%
Other	4	20%	2	15%	0	0%	2	12%	8	15%
Hit Fixed Object	1	5%	1	8%	0	0%	3	18%	5	10%
Sideswipe	1	5%	1	8%	0	0%	2	12%	4	8%
Head On	0	0%	0	0%	0	0%	1	6%	1	2%
Pedestrian	0	0%	0	0%	0	0%	0	0%	0	0%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>52</b>	<b>100%</b>

#### **2.4.2 Contributing Causes**

Tables 2.9 and 2.10 detail the total number of crashes within the study area intersections and segments by lighting conditions and Tables 2.11 and 2.12 detail the total number of crashes within the study area intersections and segments by driver contributing cause. The most frequent lighting condition at intersections and segments was daylight (75% and 83% respectively). The intersection of US 301 and US 98 has the highest number of crashes taking place in dark conditions. The most frequent contributing cause at both intersections and segments was careless/negligent driving (34% and 60% respectively), with failure to yield right of way also contributing significantly to crashes at intersections (25%).



**Table 2.9  
Lighting Conditions for Intersections**

Crash Type	Clinton Ave at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		US 98 at Old Lakeland Hwy		Total	
	N	%	N	%	N	%	N	%	N	%
Daylight	19	95%	52	72%	49	72%	3	60%	123	75%
Dark - Not Lighted	0	0%	5	7%	12	18%	2	40%	19	12%
Dark - Lighted	1	5%	15	21%	3	4%	0	0%	19	12%
Dusk	0	0%	0	0%	2	3%	0	0%	2	1%
Dark - Unknown Lighting	0	0%	0	0%	1	1%	0	0%	1	1%
Dawn	0	0%	0	0%	1	1%	0	0%	1	1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>165</b>	<b>100%</b>

**Table 2.10  
Lighting Conditions for Segments**

Crash Type	Clinton Ave at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		US 98 at Old Lakeland Hwy		Total	
	N	%	N	%	N	%	N	%	N	%
Daylight	16	80%	13	100%	2	100%	12	71%	43	83%
Dark - Not Lighted	3	15%	0	0%	0	0%	4	24%	7	13%
Dark - Lighted	0	0%	0	0%	0	0%	1	6%	1	2%
Dusk	1	5%	0	0%	0	0%	0	0%	1	2%
Dark - Unknown Lighting	0	0%	0	0%	0	0%	0	0%	0	0%
Dawn	0	0%	0	0%	0	0%	0	0%	0	0%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>52</b>	<b>100%</b>

**Table 2.11  
Driver Contributing Causes for Intersections**

Crash Type	Clinton Ave at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		US 98 at Old Lakeland Hwy		Total	
	N	%	N	%	N	%	N	%	N	%
Careless/ Negligent Driving	1	5%	24	33%	27	40%	4	80%	56	34%
Failed to Yield Right-of-Way	12	60%	10	14%	20	29%	0	0%	42	25%
No Contributing Action	3	15%	16	22%	4	6%	0	0%	23	14%
Ran Red Light	0	0%	6	8%	7	10%	0	0%	13	8%
Other Contributing Action	0	0%	6	8%	5	7%	0	0%	11	7%
Followed too Closely	0	0%	5	7%			0	0%	5	3%
Ran Stop Sign	3	15%			2	3%	0	0%	5	3%
Improper Turn	1	5%	3	4%	1	1%	0	0%	5	3%
Failed to Keep in Proper Lane	0	0%	1	1%	2	3%	0	0%	3	2%
Miscellaneous Contributing Cause	0	0%	1	1%	0	0%	1	20%	2	1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>165</b>	<b>100%</b>

**Table 2.12  
Driver Contributing Causes for Segments**

Crash Type	Clinton Ave at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		US 98 at Old Lakeland Hwy		Total	
	N	%	N	%	N	%	N	%	N	%
Careless/ Negligent Driving	9	45%	8	62%	1	50%	13	76%	31	60%
Failed to Yield Right-of-Way	3	15%	1	8%	1	50%	0	0%	5	10%
No Contributing Action	3	15%	1	8%	0	0%	1	6%	5	10%
Ran Red Light	0	0%	0	0%	0	0%	0	0%	0	0%
Other Contributing Action	1	5%	1	8%	0	0%	0	0%	2	4%
Followed too Closely	0	0%	0	0%	0	0%	0	0%	0	0%
Ran Stop Sign	0	0%	0	0%	0	0%	0	0%	0	0%
Improper Turn	1	5%	0	0%	0	0%	0	0%	1	2%
Failed to Keep in Proper Lane	1	5%	1	8%	0	0%	2	12%	4	8%
Miscellaneous Contributing Cause	2	10%	1	8%	0	0%	1	6%	4	8%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>52</b>	<b>100%</b>

### 2.4.3 Injury Severity

Tables 2.13 and 2.14 detail the total number of crashes within the study area by the most severe injury in each crash. There was one fatal and 30 severe injury crashes reported in the study area. One pedestrian crash also occurred in the study area. The severe, fatal, pedestrian, and bicycle crashes are described in further detail in Section 2.5.4. Overall, the study area has higher proportions of severe injury and minor injury crashes compared to the statewide average, and a smaller proportion of property damage only crashes.

**Table 2.13**  
**Injury Severity of Crashes for Intersections**

Crash Type	US 98 at Old Lakeland Hwy		US 301 at Clinton Ave		US 301 at US 98		Clinton Ave at Old Lakeland Hwy		Total		Statewide Average
	N	%	N	%	N	%	N	%	N	%	%
Fatal	1	5.0%	0	0.0%	0	0.0%	0	0.0%	1	0.6%	0.7%
Severe Injury	2	10.0%	2	2.8%	13	19.1%	1	20.0%	18	10.9%	4.1%
Moderate Injury	2	10.0%	7	9.7%	9	13.2%	1	20.0%	19	11.5%	12.4%
Minor Injury	5	25.0%	22	30.6%	17	25.0%	0	0.0%	44	26.7%	21.7%
Property Damage Only	10	50.0%	41	56.9%	29	42.6%	3	60.0%	83	50.3%	61.1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>72</b>	<b>100%</b>	<b>68</b>	<b>100%</b>	<b>5</b>	<b>100%</b>	<b>165</b>	<b>100%</b>	

**Table 2.14  
Injury Severity of Crashes for Segments**

Crash Type	US 98 from US 301 to Old Lakeland Hwy		US 301 from US 98 to Clinton Ave		Clinton Ave from US 301 to Old Lakeland Highway		Old Lakeland Hwy from Clinton Ave to US 98		Total		Statewide Average
	N	%	N	%	N	%	N	%	N	%	%
Fatal	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0.7%
Severe Injury	6	30.0%	2	15.4%	0	0.0%	4	23.5%	12	23.1%	4.1%
Moderate Injury	3	15.0%	3	23.1%	0	0.0%	1	5.9%	7	3	12.4%
Minor Injury	5	25.0%	3	23.1%	2	100.0%	3	17.6%	13	5	21.7%
Property Damage Only	6	30.0%	5	38.5%	0	0.0%	9	52.9%	20	6	61.1%
<b>Total Crashes</b>	<b>20</b>	<b>100%</b>	<b>13</b>	<b>100%</b>	<b>2</b>	<b>100%</b>	<b>17</b>	<b>100%</b>	<b>52</b>	<b>100%</b>	

#### ***2.4.4 Vulnerable Users, Severe Injury, and Fatal Crashes***

There were a total of 32 crashes involving bicycles, pedestrians, severe injuries, and/or fatalities in the study area. These crashes are shown in **Figure 2.2**. The locations are approximate and some crashes have been adjusted slightly in the diagram for better visibility.

The following provides the map number and the Highway Safety and Motor Vehicles (HSMV) crash report number for each of these crashes involving bicycles, pedestrians, severe injuries, and/or fatalities and describes each crash in further detail. Crashes resulting in a fatality have their HSMV number in red text.

##### **2.4.4.1 Clinton Avenue at Old Lakeland Highway**

1. 85206225 – Vehicle 1 was traveling northbound on Old Lakeland Highway and rear ended Vehicle 2 as it was approaching the intersection

##### **2.4.4.2 US 301 at Clinton Ave**

2. 85274188 – As Vehicle 1 attempted to negotiate an eastbound right turn through the intersection, a mechanical failure caused the driver to lose control and strike a pedestrian in the median of the south leg of the intersection.
3. 85237711 – As Vehicle 1 and Vehicle 2 approached the red light from the northbound approach of the intersection, Vehicle 1 failed to slow down and rear ended Vehicle 2.



4. 85258581 – Vehicle 1 attempted to make a southbound left turn and failed to yield right of way to Vehicle 2 that was traveling northbound through the intersection.

#### **2.4.4.3 US 301 at US 98**

5. 85257164 – The driver of Vehicle 1 failed to maintain his lane and traveled off of the roadway, careening off of the roadway northeast and coming to rest at 20212 US 301.
6. 85528807 – Northbound Vehicle 1 failed to stop for Vehicle 2 at the red light and rear ended Vehicle 2 into Vehicle 3.
7. 83732815 – Southbound Vehicle 1 failed to stop for Vehicle 2 at the red light and rear ended it.
8. 82022916 – Northbound Vehicle 1 ran the red light at the intersection and struck Vehicle 2 while it was attempting to make a left turn.
9. 83271023 – Westbound Vehicle 1 ran the stop sign and collided with Vehicle 2 that was attempting to make a northbound left turn.
10. 85476100 – Vehicle 1 attempted to make a northbound left turn and failed to yield right of way to southbound Vehicle 2, leading to a collision.
11. 85195933 – Vehicle 1 attempted to travel through the northbound approach of the intersection while Vehicle 2 attempted to make a westbound left turn. It is unclear which vehicle had the right of way.
12. 84529009 – Vehicle 1 ran the red light and attempted to travel northbound through the intersection, striking Vehicle 2 that was making a lawful westbound left turn.
13. 84482112 – Vehicle 1 failed to stop in time for the red light and rear ended Vehicle 2 into Vehicle 3.
14. 83689774 – Vehicle 1 attempted to make a southbound left turn and failed to yield right of way to Vehicle 2 attempting to pass northbound through the intersection.
15. 85521058 – Vehicle 1 ran the red light while attempting to travel northbound through the intersection and struck Vehicle 2 that was attempting to make a southbound left.
16. 83719518 – Vehicle 1 and 2 were traveling northbound approaching the intersection. Vehicle 2 stopped for traffic while Vehicle 1 did not, resulting in Vehicle 1 rear ending Vehicle 2.
17. 85229317 – Vehicle 1 attempted to make a southbound left turn and failed to yield right of way to Vehicle 2 that was traveling northbound through the intersection.

#### **2.4.4.4 US 98 at Old Lakeland Highway**

18. 83274900 – Vehicle 1 attempted to make an eastbound left turn onto Old Lakeland Highway and collided with Vehicle 2. During the collision, a passenger was ejected from Vehicle 1, resulting in a fatality.
19. 87108423 – Vehicle 1 attempted to make an eastbound left and failed to observe Vehicle 2 traveling southbound, resulting in a collision.
20. 85280588 – Vehicle 1 failed to stop for the stop sign on the eastbound approach and collided with Vehicle 2 that was traveling southbound through the intersection.

#### **2.4.4.5 Old Lakeland Highway from Clinton Avenue to US 98**

21. 85370127 – Vehicle 1 attempted to stop for stopped traffic at Beckum Drive, but veered into the opposing lane of travel, striking stopped Vehicle 2.
22. 85495012 – Vehicle 1 and 2 were both traveling northbound. Vehicle 1 failed to observe Vehicle 2's speed due to the fog and struck the vehicle in the rear.
23. 85570943 – Vehicle 2 was traveling southbound and slowed down to make a left turn onto Messick Road. Vehicle 1 failed to observe Vehicle 2 slowing down and rear ended it.
24. 85597506 – Vehicle 1 attempted to make a northbound left turn onto Messick Road. Vehicle 1's trailer struck a stopped southbound vehicle (Vehicle 2) during the turn and debris from the trailer fell onto Vehicle 3.

#### **2.4.4.6 US 301 from US 98 to Clinton Avenue**

25. 83732823 – Vehicle 2 was stopped in northbound traffic when it was rear ended by Vehicle 1 that failed to stop.
26. 85440312 – The driver of Vehicle 1 attempted to turn left onto the center median and lost control of his vehicle, driving onto the west shoulder and striking a guardrail.

#### **2.4.4.7 US 98 from US 301 to Old Lakeland Highway**

27. 83772268 – While traveling southbound, Vehicle 1's left rear tire separated from the vehicle, causing the vehicle to travel off the road into a ditch and striking a utility pole.
28. 85133631 – Vehicle 1 attempted to make a northwest-bound left turn onto Hamp Drive and failed to yield right of way to Vehicle 2 traveling in the opposing direction.
29. 83705070 – Vehicle 1 (a club golf cart) was traveling eastbound on prairie Drive and attempted to cross US 98. Vehicle 2, traveling northbound, could not avoid striking Vehicle 1.
30. 85284803 – Vehicle 4 was waiting for a break in traffic to make a northbound left onto Connerly Road. Vehicle 1 rear ended Vehicle 2 into Vehicle 3 and subsequently Vehicle 4.

31. 85481112 – Vehicle 1 was traveling northbound north of Sally Road. The driver of Vehicle 1 lost control of the vehicle and drove off the road into a ditch, eventually overturning.
32. 85128798 – Vehicle 1 was traveling southbound approaching Wilds Road and lost traction due to the wet roadway. The vehicle spun out and crossed the roadway into northbound traffic, resulting in Vehicle 2 striking Vehicle 1.

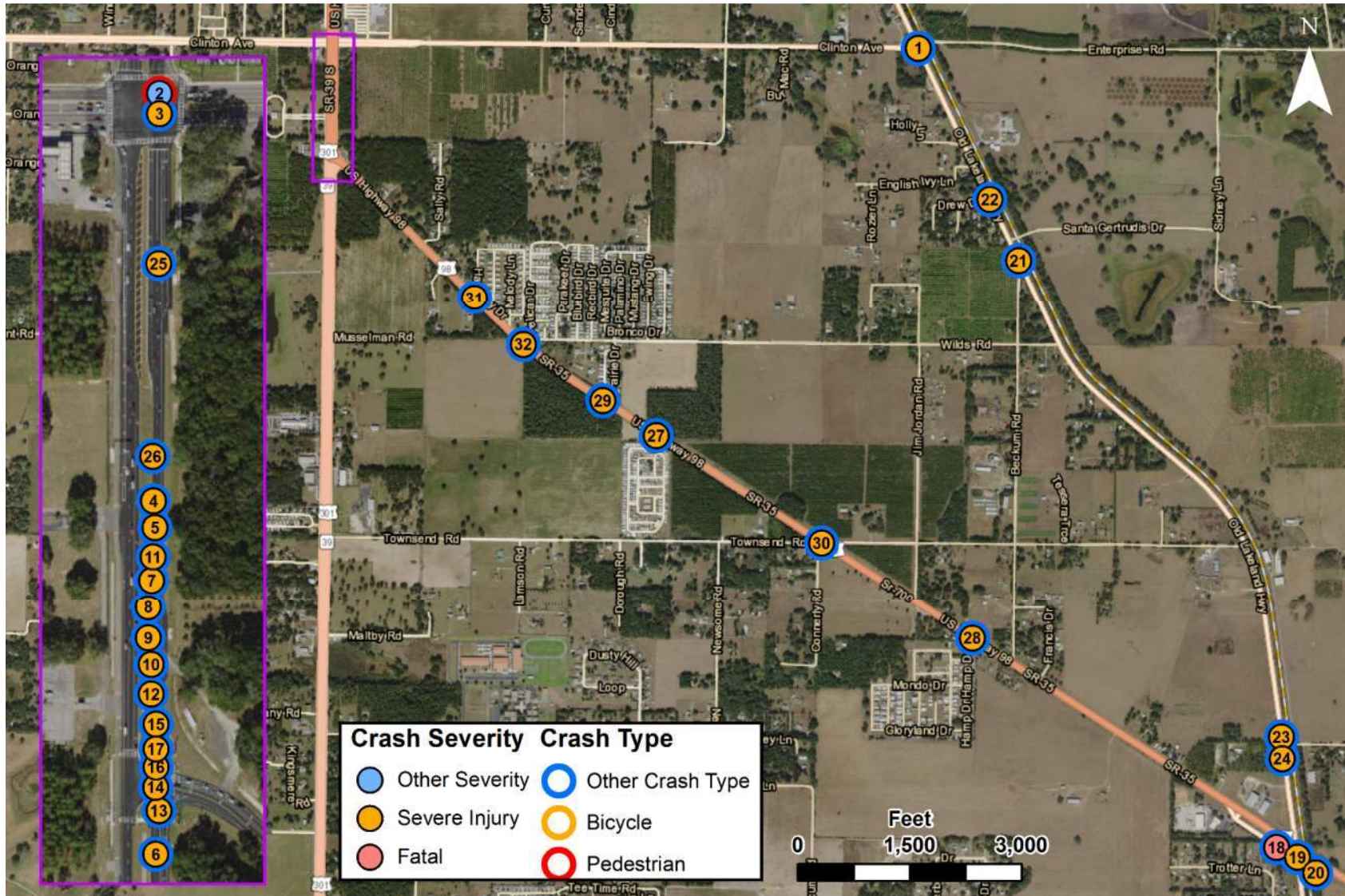
**Table 2.15** summarizes the proportion of bicycle/pedestrian crashes at each intersection and segment compared to the statewide average. Among all four intersections, none have a bicycle/pedestrian crash proportion greater than the statewide average.

**Table 2.15**  
**Bicycle/Pedestrian Crash Distribution**

Location	Total Crashes	Bike/Ped Crashes (%)	Statewide Bike/Ped Crashes (%)*
Clinton Ave from US 301 to Old Lakeland Highway	2	0.0%	4.8%
Old Lakeland Hwy from Clinton Ave to US 98	17	0.0%	
US 301 from US 98 to Clinton Ave	14	0.0%	
US 98 from US 301 to Old Lakeland Hwy	20	0.0%	
Clinton Ave at Old Lakeland Hwy	5	0.0%	
US 301 at Clinton Ave	71	1.4%	
US 301 at US 98	68	0.0%	
US 98 at Old Lakeland Hwy	20	0.0%	

\*Source: Florida Pedestrian and Bicycle Strategic Safety Plan

**Figure 2.2**  
**Bicycle, Pedestrian, Severe Injury, and Fatal Crashes**





### **2.4.5 High Crash Rate Locations**

The intersections of US 98 at Old Lakeland Highway, US 301 at US 98, and US 301 at Clinton Avenue have a crash rate that is significantly higher than the statewide average. The following provides additional analysis for these locations, including US 301 and US 98 which underwent a control change during the proposed 5 year period.

#### **2.4.5.1 US 98 at Old Lakeland Highway**

Most crashes at this intersection were angle crashes, with 17 total crashes making up 85 percent of the collisions at this location. 70 percent of these angle crashes took place due to eastbound vehicles traveling through the intersection. Two of these crashes resulted in severe injury and one resulted in a fatality. The stop-controlled condition of this intersection means that vehicles must make permitted left turns onto Old Lakeland Highway. This combined with the high speed and poor visibility of oncoming southbound traffic due to the bridge supports and structure may be leading to high crash frequency at this location.

#### **2.4.5.2 US 301 at US 98**

Most crashes at the intersection were angle crashes, with 39 total crashes making up 57 percent of the 68 total crashes at this location. Most notably 33 percent of the angle crashes were related to southbound left turning vehicles making permitted left turns, and 28 percent of these crashes were related to northbound traveling vehicles.

The second most frequent crash type was rear end crashes, with 22 total crashes, making up 32 percent of the crashes at this location. Five of these crashes resulted in severe injury. Fifty percent of these crashes involved northbound vehicles either north of or south of the intersection. This may be due to congestion at the nearby US 301 at Clinton Avenue intersection and the relatively high speed people have as they approach the intersection from the south, where the road does not have any nearby upstream signals.

There were no bicycle/pedestrian crashes at this intersection.

However, this intersection was modified from a two-way stop control to a signalized intersection with protected/permitted left turn beacon in 2016, leading to a shift in crash patterns. Over time, the crash frequency at this intersection has dropped. In 2013 there were 18 total crashes and in 2016 there were only 12. In 2017, this dropped even further down to six crashes. Angle crashes and front to rear crashes in particular both decreased. More time is necessary to determine if the signalization of this intersection resolved the crash issues.

#### **2.4.5.3 US 301 at Clinton Avenue**

Most crashes at the intersection were rear end crashes, with 36 total crashes making up 51 percent of the 71 total crashes at this location. Two-thirds of these angle crashes are related to northbound

and southbound vehicles, indicating that congestion may be a problem on these approaches. One of these crashes resulted in a severe injury.

The second most frequent crash type was angle crashes, with 23 total crashes, making up 32 percent of the crashes at this location. None of these crashes resulted in severe injury. Forth-three percent of these crashes involved southbound vehicles approaching the intersection, usually traveling straight through it. This may be due to congestion on US 301 leading drivers to speed through the intersection whenever they are able, leading to collisions.

There was one bicycle/pedestrian crash at this intersection. However, the frequency of bicycle/pedestrian crashes at this location is still below the statewide average.

Through 2014, Clinton Avenue used to be a single lane roadway at this intersection, with shared left and through lanes. However, after increasing capacity along Clinton Avenue and adding dedicated left turn lanes, the crash frequency at this intersection has dropped, especially related to eastbound and westbound angle crashes. During 2013 and 2014, there were a total of eight angle crashes on Clinton Avenue. This has now dropped to two from 2015 through 2017. Other miscellaneous collision types have also decreased and rear end crashes decreased as well. In 2013, there were 19 crashes total while in 2017, there are only 12 crashes. More time may be necessary to adequately determine if this intersection is still a high crash location and what additional mitigation measures may need to be taken.

#### ***2.4.6 Crash Mitigation Strategy***

There are several safety deficiencies in the Clinton Avenue Intersection Realignment study area. **Table 2.16** summarizes these deficiencies, potential causes, and potential solutions.

**Table 2.16  
Safety Deficiency Summary**

<b>Location</b>	<b>Deficiencies</b>	<b>Potential Causes</b>	<b>Potential Solutions</b>
US 98 at Old Lakeland Highway	High frequency of angle crashes, especially due to eastbound vehicles.	Stop-controlled condition, high speed of opposing traffic, and poor visibility of southbound traffic.	Add signal
US 301 at US 98	High frequency of angle crashes (especially southbound left turns)	Permitted left turns and/or vehicles running the red light.	The intersection configuration has changed within the analysis period and crash frequency seems to be decreasing. Until more data is available, it is not necessary to suggest additional solutions.
	High frequency of rear end crashes.	Congestion, especially in the northbound direction both north of and south of the intersection.	
US 301 at Clinton Avenue	High frequency of rear end crashes, especially on US 301.	Congestion on US 301.	The intersection configuration has changed within the analysis period and crash frequency seems to be decreasing. Until more data is available, it is not necessary to suggest additional solutions.
	High frequency of angle crashes, especially from the southbound approach.		

Appendix A:  
Traffic Methodology Statement

# ACE Traffic Methodology Statement

June 2019

## US 301/US 98/SR 35/SR 700/Clinton Avenue Intersection Realignment Study

The purpose of this Statement is to summarize the process that will be employed to collect traffic data, develop traffic forecasts, and perform operational analyses for the existing and proposed corridor alternatives developed for US 301/US 98/SR 35/SR 700/Clinton Avenue Alternative Corridor Evaluation (ACE) process.

### A. Traffic Data Collection

- 1) 72-hour bi-directional (approach and departure volumes at 15-minute increments) machine classification counts, 48-hour bi-directional (approach and departure volumes at 15-minute increments) machine counts, 2-hour AM (from 7:00 AM to 9:00 AM) and PM (from 4:00 PM to 6:00 PM) turning movement, pedestrian, and bicycle counts were collected in April and May of 2019 at the following intersection locations:
  - US 98 and US 301
  - US 301 and Clinton Avenue
  - Clinton Avenue and Old Lakeland Highway
  - US 98 and Old Lakeland Highway

### B. Traffic Factors

- 1) An axle adjustment factor (AF) and a seasonal factor (SF) will be applied to the average of the bi-directional approach counts to obtain 2019 Annual Average Daily Traffic (AADT) Volumes.
- 2) The design year (2045) Peak Season Weekday Average Daily Traffic (PSWADT) values will be converted to Annual Average Daily Traffic (AADT) values through the application of the Model Output Conversion Factor (MOCF) of 0.96.

### C. Existing Year (2019) Capacity Analysis

- 1) The FDOT *“Quality Level of Service Handbook”* LOS Tables, 2012 will be utilized to conduct existing (2019) analyses for daily traffic volumes.

### D. Corridor Design Considerations and Configurations

- 1) The design year (2045) No-Build condition will assume that US 301/US 98/SR 35/SR 700/Clinton Avenue study area will reflect the network configuration found in Pasco County’s *‘Mobility 2040 Cost Affordable Plan’* which was adopted in 2015.
- 2) Corridor configurations, serving as build conditions, will be based upon the results from the ACE process.



## E. Historical Analysis

- 1) Historical crash analysis will be conducted for the most recent five (5) years of data in accordance with FDOT *"PD&E Manual section 2.2.8.1"*. Analysis will be conducted leveraging FDOT's Crash Analysis Reporting System (CARS), Signal Four Analytics, Florida's Integrated Report Exchange System (FIRES) portal, and other approved sources depending upon applicability. Historical analysis will be conducted and existing safety concerns will be identified to serve as a basis for crash countermeasure selection. Special attention will be paid to the US 98 and US 301 intersection as it underwent a control change during the proposed 5 year analysis period.

## F. Traffic Forecasts

- 1) The latest available version of the Tampa Bay Regional Planning Model (TBRPM), Version 8.2 with the base year 2010 will be used to develop design traffic forecasts. The 2010 validation model will be checked for reasonableness and, if necessary, adjustments will be made to improve accuracy. The guidelines of the FDOT *"Project Traffic Forecasting Handbook"* will be used as the criteria for evaluating model validity. Base year adjustments will be carried over to the 2040 model structure. The forecasted 2040 Peak Season Weekday Average Daily Traffic (PSWADT) will be converted to AADTs using the appropriate Model Output Conversion Factor (0.95).
- 2) While corridor configuration will vary throughout the ACE process, the objective of this study is to reroute 'No Build' trips rather than provide additional capacity. To support this, while testing various network configurations, the original Origin-Destination matrix for the 'No Build' scenario will be held constant and the TBRPMv8.2 will only be run to test assignments.
- 3) The Department will review and approve the forecasted AADTs. The opening year (2025) volumes will be developed by linear interpolation of the existing year (2019) and design year (2045).

## G. Future Traffic Analysis

- 2) No-Build and Build analysis will be conducted for the opening year (2025) and design year (2045). The FDOT *"Quality Level of Service Handbook"* LOS Tables, 2012 will be utilized to conduct such analyses for daily traffic volumes.

## H. Documentation

- 1) The results of this analysis will be summarized in *Traffic Technical Memorandum* which will cover the following:
  - a. Existing Conditions Analysis
    - i. Corridor level capacity analysis
    - ii. Qualitative historical crash analysis
  - b. Traffic Forecasting
    - i. Base Year Model Refinement of the TBRPMv8.2
    - ii. Corridor level AADT development for No-Build and Build Alternatives
  - c. Future Conditions Analysis
    - i. Corridor level capacity analysis for each alternative

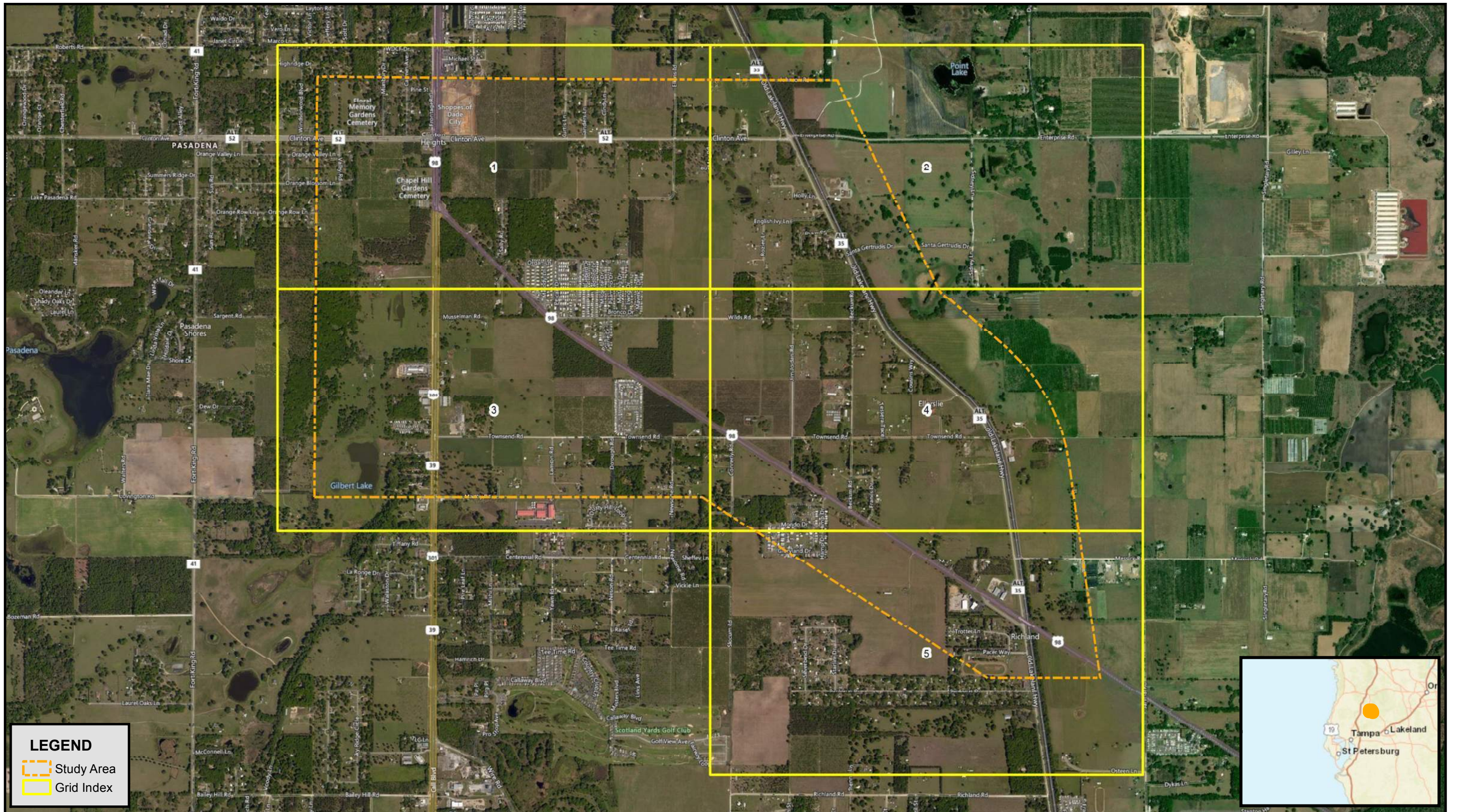
## I. PD&E Tasks

- 1) The following items will be addressed during the PD&E phase of this project:
  - a. Existing Conditions Analysis
    - i. Design traffic factor development
    - ii. Existing volume development
    - iii. Existing operational analysis
  - b. Traffic Forecasting
    - i. Base Year Model Refinement of the newly adopted TBRPM (anticipated for December 2019) for updated forecasts
    - ii. Future analysis year volume development
  - c. Future Conditions Analysis
    - i. Future operational analysis
    - ii. ICE procedure for study intersections
    - iii. Quantitative safety analysis leveraging Highway Safety Manual procedures
  - d. Project Traffic Analysis Report
    - i. Summarize finding from Traffic Technical Memorandum
    - ii. Documentation of above items a, b, and c.

# *Appendix B*

## **Land Use Maps**





**LEGEND**

- Study Area
- Grid Index

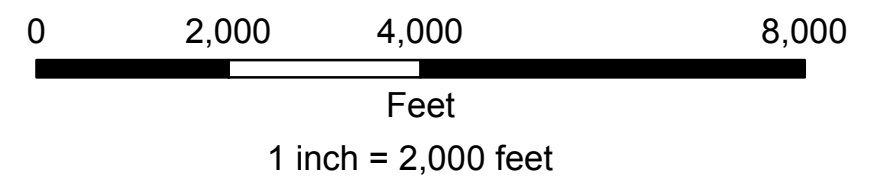


**U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection**  
FPID No.: 443368-1-22-01

Realignment Study

Sources:  
ESRI, 2019

## FLUCFCS Map Index





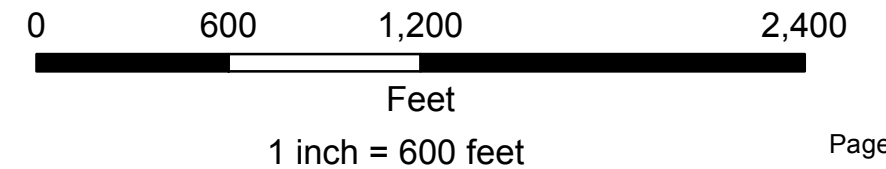


U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection  
FPID No.: 443368-1-22-01

Realignment Study

## FLUCFCS Map

Sources:  
ESRI, 2019; SWFWMD, 2014







**LEGEND**

**FLUCFCS**

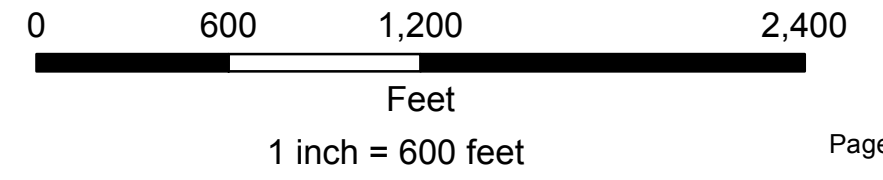
- 1100 : Residential Low Density
- 1180 : Rural Residential
- 1400 : Commercial and Services
- 1500 : Industrial
- 1700 : Institutional
- 2110 : Improved Pastures
- 2210 : Citrus Groves
- 4400 : Tree Plantation
- 5300 : Reservoirs
- 6430 : Wet Prairies
- 6440 : Emergent Aquatic Vegetation
- 6530 : Intermittent Ponds
- 8100 : Transportation



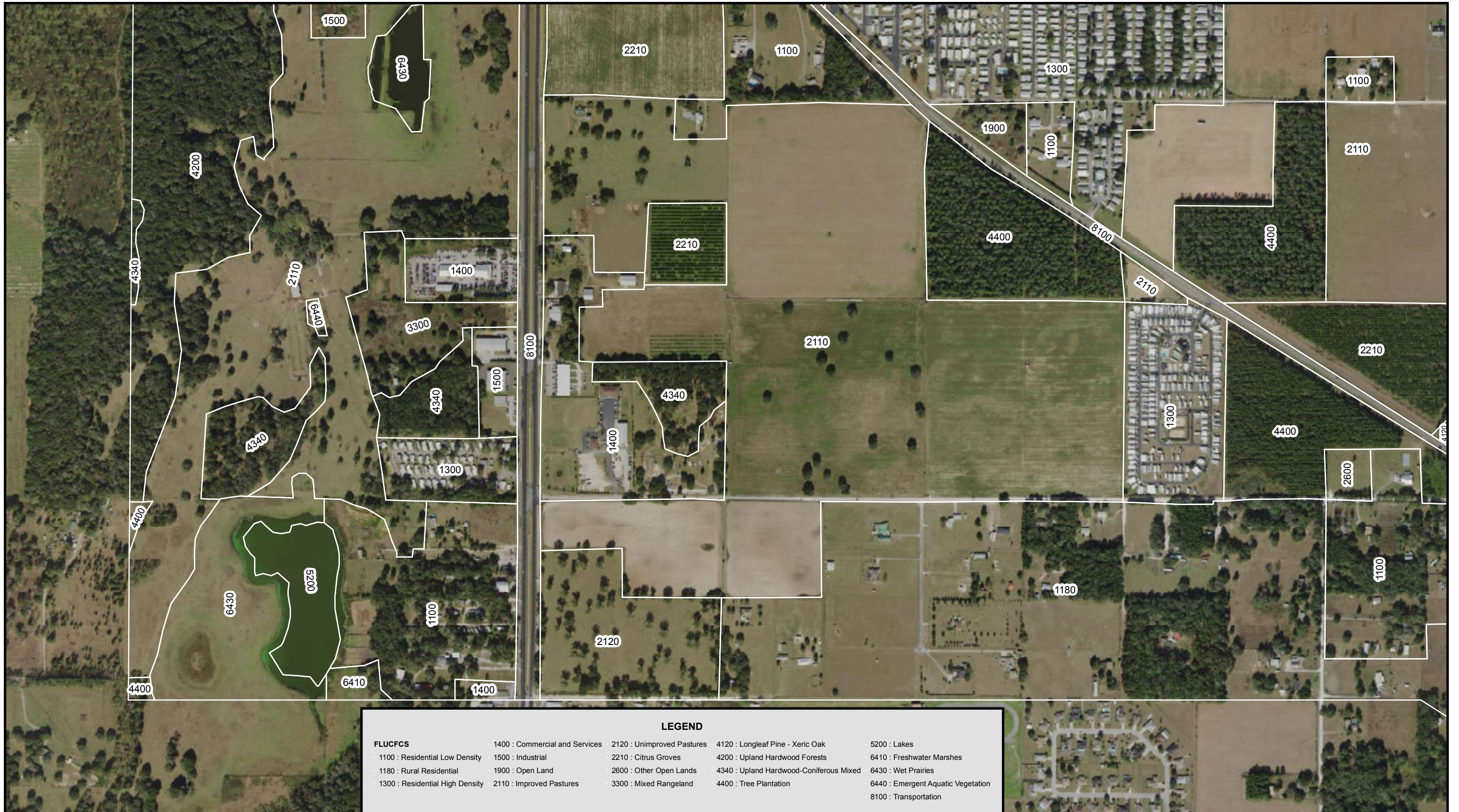
**U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection**  
**FPID No.: 443368-1-22-01**  
 Realignment Study

## FLUCFCS Map

Sources:  
 ESRI, 2019; SWFWMD, 2014







**LEGEND**

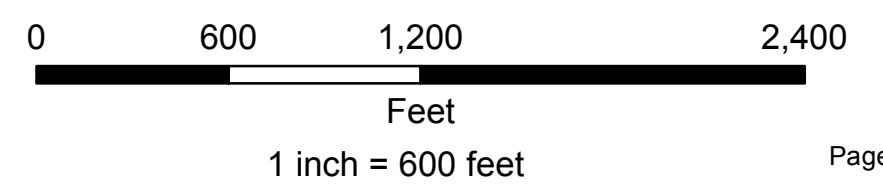
<b>FLUCFCS</b>	1400 : Commercial and Services	2120 : Unimproved Pastures	4120 : Longleaf Pine - Xeric Oak	5200 : Lakes
1100 : Residential Low Density	1500 : Industrial	2210 : Citrus Groves	4200 : Upland Hardwood Forests	6410 : Freshwater Marshes
1180 : Rural Residential	1900 : Open Land	2600 : Other Open Lands	4340 : Upland Hardwood-Coniferous Mixed	6430 : Wet Prairies
1300 : Residential High Density	2110 : Improved Pastures	3300 : Mixed Rangeland	4400 : Tree Plantation	6440 : Emergent Aquatic Vegetation
				8100 : Transportation



**U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection**  
**FPID No.: 443368-1-22-01**  
 Realignment Study

## FLUCFCS Map

Sources:  
 ESRI, 2019; SWFWMD, 2014





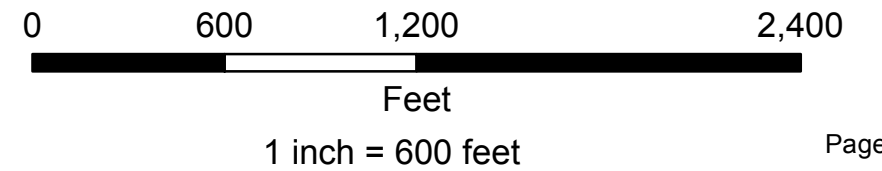


U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection  
FPID No.: 443368-1-22-01

Realignment Study

## FLUCFCS Map

Sources:  
ESRI, 2019; SWFWMD, 2014







**LEGEND**

FLUCFCS	
1100 : Residential Low Density	1800 : Recreational
1200 : Residential Med Density	2110 : Improved Pastures
1300 : Residential High Density	2150 : Field Crops
1400 : Commercial and Services	2240 : Abandoned Tree Crops
1500 : Industrial	2400 : Nurseries and Vineyards
	8100 : Transportation



**U.S. 301/ U.S. 98/ S.R.35/  
S.R. 700/ Clinton Ave Intersection  
FPID No.: 443368-1-22-01**

Realignment Study

## FLUCFCS Map

Sources:  
ESRI, 2019; SWFWMD, 2014

