

DRAFT PRELIMINARY ENGINEERING REPORT

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY

Lake / Orange County Connector (US 27 to SR 429)
Lake and Orange Counties, Florida

CFX Project Number: 599-225

Prepared for

**CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY**

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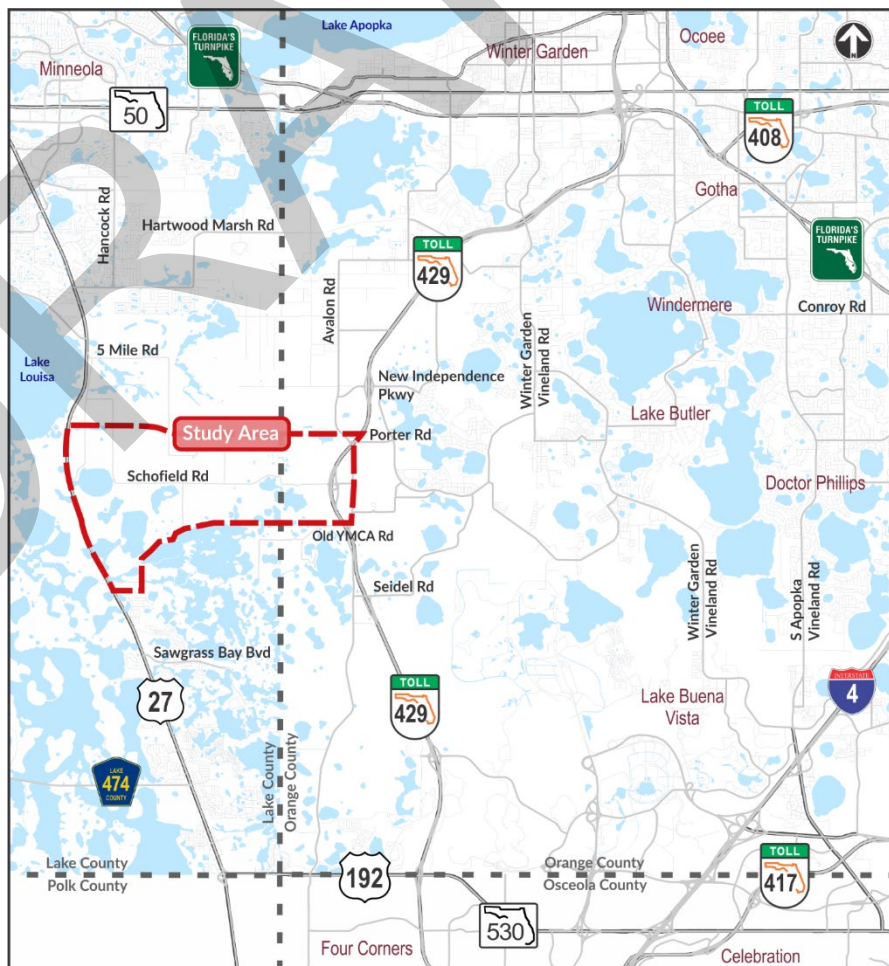
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EXECUTIVE SUMMARY

The purpose of the Lake/Orange County Connector Feasibility/Project Development and Environment (PD&E) Study is to develop a proposed improvement strategy that is technically sound, environmentally sensitive and publicly acceptable. Emphasis has been placed on the development, evaluation and documentation of detailed engineering and environmental studies including data collection, conceptual design, environmental analyses, project documentation and the preparation of a Preliminary Engineering Report.

The Central Florida Expressway Authority (CFX) is presently evaluating the feasibility to provide a Lake/Orange County Connector, a strategic transportation investment aimed at supporting existing and future growth in south Lake and west Orange Counties. The primary objectives of this transportation improvement project are to expand regional system linkage and connectivity in Lake and Orange counties; enhance mobility between US 27 and SR 429; and accommodate the expected increase in traffic due to population and employment growth within the study area, while being consistent with accepted local and regional plans. As such, the proposed improvements include the construction of a limited-access facility

Figure E1: Study Area



that provides a new east-west connection from US 27 in south Lake County to SR 429 in west Orange County.

Summary of Needs

The overall study was initiated with a detailed, comprehensive analysis of existing substandard conditions. In general terms, some of the most critical existing deficiencies include:

- **Linkage Deficiencies:** At the present time, the east-west connectivity within the study area is deficient with Schofield Road, an unpaved 20-foot wide rural facility, providing the only connection between US 27 on the west and SR 429 on the east. A new limited-access, direct connection expressway facility would not only provide the much-needed connectivity in the area but would also significantly improve regional mobility and travel time.
- **Anticipated Transportation Demand:** An origin and destination (OD) study conducted by CDM Smith in 2017 for CFX revealed that much of the potential traffic for a new toll road would come from planned developments. Two of the main areas of development generating additional population are the Wellness Way Area Plan (WWAP) in south Lake County and the Horizon West Special Planning Area (HWSPA) in southwestern Orange County. The WWAP includes more than 16,000 acres. Horizon West is a growing community of several villages occupying more than 20,000 acres and projected to house over 60,000 residents when completed. In the year 2045, there is a potential for 34,000 daily trips traveling between US 27 and SR 429 in the vicinity of Schofield Road. With the proposed project as a tolled expressway, approximately 19,000 daily trips would be diverted from local roadways.
- **Economic Viability/Job Creation:** The proposed facility is needed to further support the economic viability of the WWAP. This development has been recognized for many years as having significant potential for economic growth in southeast Lake County. It is projected to be an economic engine for job creation

in the region and is envisioned to strengthen its connectivity with other regional economic hubs.

- **Support Intermodal Opportunities:** The Horizon West Town Center is an intermodal and freight staging facility potentially providing access to trucks, rails, airports and/or ports. Its presence enhances the integration and connectivity of the multimodal transportation system. The proposed connector would link this freight staging facility with two major Strategic Intermodal System (SIS) highways (US 27 and SR 429) and thus connect Lake County via a network of limited-access facilities to the Orlando International Airport and Port Canaveral.
- **Evacuation and Emergency Services:** The East Central Florida Region has been identified by the National Oceanic and Atmospheric Administration (NOAA) as a high hurricane-vulnerable area within the United States and thus requires sufficient and efficient evacuation routes. There are no existing designated east-west evacuation routes within the immediate project area. Only SR 50, approximately 7 miles to the north, and US 192 (SR 530), approximately 7 miles to the south, provide effective east-west evacuation connection to important north-south SIS routes in the area (US 27 and SR 429).
- **Planning Consistency:** Planning consistency of the proposed project is documented in various local comprehensive plans (see **Table E1**).

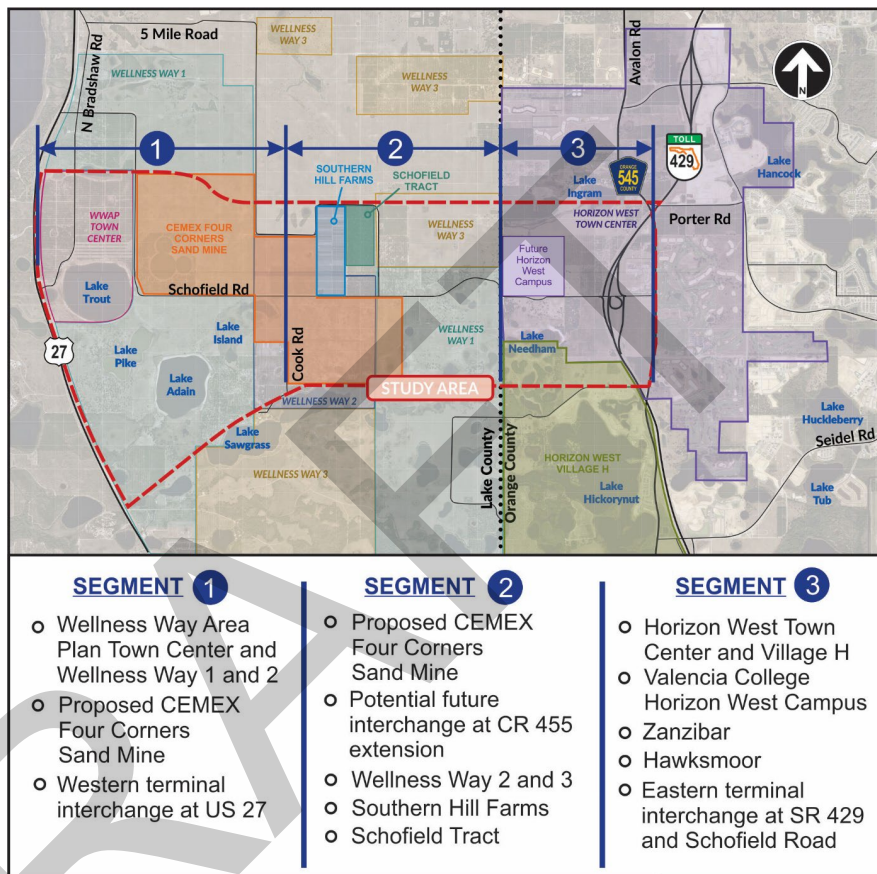
Table E1: Local Planning Consistency

Agency	Remarks
Central Florida Expressway Authority (CFX)	Included in the 2040 Master Plan and the Five-Year Work Plan (2019-2023)
Lake-Sumter MPO	Identified the proposed project in the 2040 LRTP Needs Plan
West Orange/South Lake Transportation and Economic Development Task Force	Identified a connection between US 27 to Orange County in its Transportation Plan
MetroPlan Orlando	Identified in its Technical Report 3: "Plan Development and Cost Feasible Projects"

Summary of Recommendations

Initially, the study area was divided into three segments that reflect predominant land uses, natural resources, etc. to facilitate the analysis. The segmental breakdown approach ensures that the generated corridor alternatives are more responsive to the needs of each segment rather than only to the generalized project needs. The figure to the right illustrates the study segments and provides a description of each. Each segment has unique characteristics as well as differences in environmental, engineering and socio-economic features.

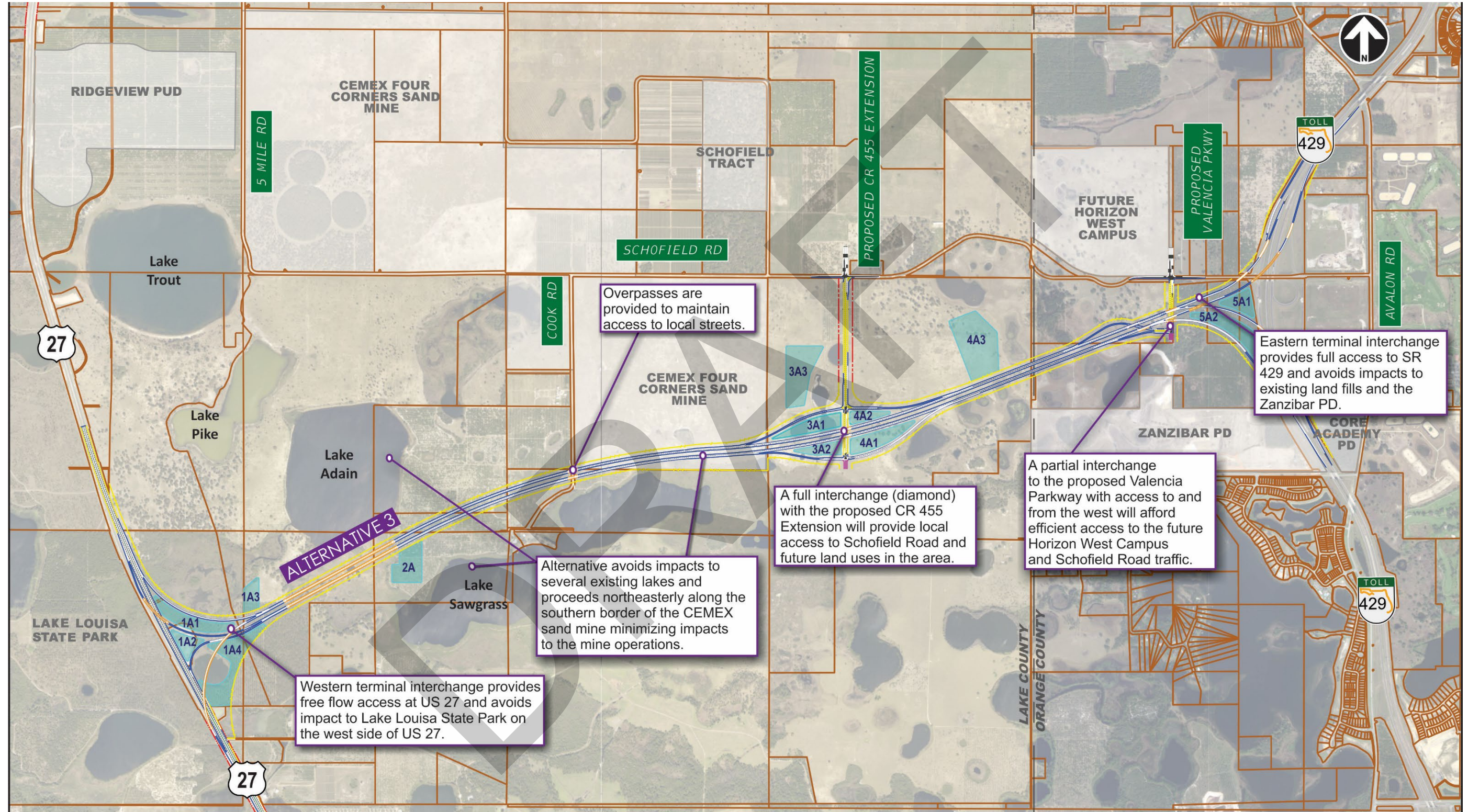
Figure E2: Segmental Breakdown



In general, all alternatives were the result of combinations of the three project segments as well as various interchange configurations at each access point. The “No Build” alternative assumes the retainment of existing conditions and was maintained as a viable option providing an effective baseline condition by which other project alternatives were compared.

After a comprehensive evaluation process, one alternative was selected as being the most effective option. This alternative is illustrated on **Figure E3**.

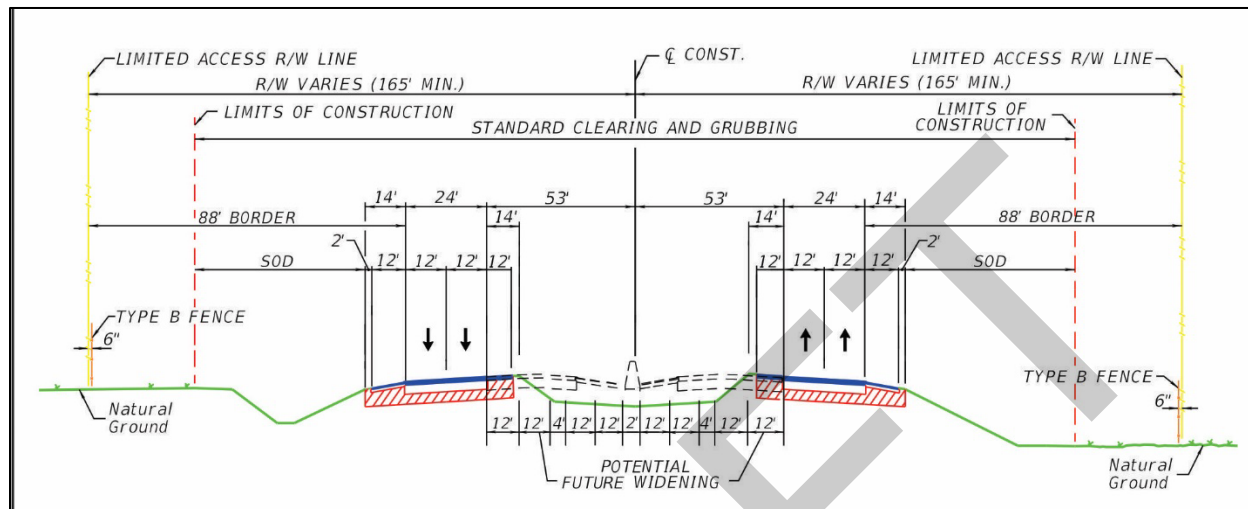
Figure E3: Preferred Alternative



The typical section for the preferred alternative is depicted below (see **Figure E4**).

A brief description of the preferred alternative follows:

Figure E4: Preferred Alternative Typical Section



Segment 1 (from US 27 [Begin Project] to Cook Road): Within Segment 1, the preferred alternative features a four-lane rural expressway typical section, with 330 feet of right-of-way, 12-foot travel lanes, 12-foot outside shoulders, an 88-foot divided median and a 94-foot border width. The section will feature grade separations in order to provide access to local facilities. The western interchange at US 27 provides direct connect ramps with free flow access to/from US 27. In order to avoid impacts to the abutting Lake Louisa State Park, a portion of US 27 will be slightly shifted to the east. Within this segment, the preferred alternative generally follows a northeast direction, thus avoiding impacts to Lakes Adain and Sawgrass.

Segment 2 (from Cook Road to the Lake/Orange County Line): Within this segment, the preferred alternative continues with the same typical section previously described under Segment 1. The alignment generally shifts slightly southward just east of Cook Road in order to minimize impacts to the CEMEX Four Corners Sand Mine property. A full diamond interchange will be provided at the proposed CR 455 Extension facility to provide local access.

Segment 3 (from the Lake/Orange County Line to the SR 429 and Schofield Road interchange [End Project]): Within Segment 3, the preferred alternative continues the

same typical section described under Segment 1. A partial interchange at the proposed Valencia Parkway will provide access to and from the west. At the SR 429 with Schofield Road interchange, direct connect ramps will provide access to/from both Northbound and Southbound SR 429

Commitments

CFX commitments are listed below.

- To minimize adverse impacts to the eastern indigo snake, during construction, CFX will adhere to the *USFWS Standard Protection Measures for the Eastern Indigo Snake*.
- CFX will mitigate for any unavoidable impacts to wood stork Suitable Foraging Habitat (SFH) at an approved mitigation bank and in accordance with the *USFWS Wood Stork Effect Determination Key* (U.S. Army Corps of Engineers and USFWS 2008).
- A preconstruction gopher tortoise burrow survey and any resultant permitting will be conducted in accordance with Florida Fish and Wildlife Conservation Commission (FWC) protocols.
- CFX will mitigate for unavoidable impact to wetlands consistent with state and Federal standards.
- CFX will continue to coordinate with stakeholders and impacted property owners during final design regarding pond locations and potential design modifications.
- CFX will continue to coordinate with Lake and Orange Counties regarding final location and design of the future CR 455 and Valencia Parkway.
- CFX will coordinate with the Florida Department of Transportation (FDOT) in final design regarding joint use ponds for impacts to the existing FDOT stormwater ponds located along US 27 in the project study area.
- CFX will maintain the proposed alignment as south as possible to minimize impacts to the future mining operations of the CEMEX Four Corners Sand Mine.

- CFX will maintain previous access agreements for private property owners that were put in place when the SR 429 was constructed.

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Appendix F: Concept Plans

Appendix G: Conceptual Signing Plans

Appendix H: Cost Estimates

1 Introduction

The proposed Lake/Orange County Connector is a strategic transportation investment aimed at supporting existing and future growth in south Lake and west Orange counties. It has been identified as a system expansion project need in the last four consecutive Central Florida Expressway Authority (CFX) master plans, the most current being the 2040 CFX Master Plan. The Orlando-Orange County Expressway Authority (OOCEA), now CFX, completed the 2007 SR 429 to US 27 Connector Concept Development and Evaluation Study which developed various viable corridors/alternatives and identified an unmet need for an east-west connection between US 27 and SR 429. This study will confirm the feasibility of the connector and will conduct a Project Development and Environment (PD&E) Study on defined alignments. **Figure 1-1** illustrates the location of the project.

The purpose of the Lake/Orange County Connector PD&E Study is to develop a proposed improvement strategy that is technically sound, environmentally sensitive and publicly acceptable. As with every PD&E Study, emphasis has been placed on the development, evaluation and documentation of detailed engineering and environmental studies including data collection, conceptual design, environmental analyses, project documentation and the preparation of a Preliminary Engineering Report (PER).

1.1 Project Description/Background

The vision of this critical east-west corridor has been documented in prior concept studies. In 2002, the OOCEA first investigated the potential to extend SR 408 (East-West Expressway) to the west to address the transportation needs of west Orange and east Lake counties. A report titled “Western Extension Concept Development and Feasibility Study” was prepared which investigated the feasibility of a limited-access toll road. Four primary corridors were identified (**see Figure 1-2**): a “Northern Corridor”, a “SR 50 Corridor”, a “Hartwood-Marsh Corridor” and a “Southern Corridor”. The study concluded that only the “Southern Corridor” connecting SR 429 with US 27 in the general area of Schofield Road offered any long-term opportunity for Expressway Authority participation.

Figure 1-1: Project Location Map

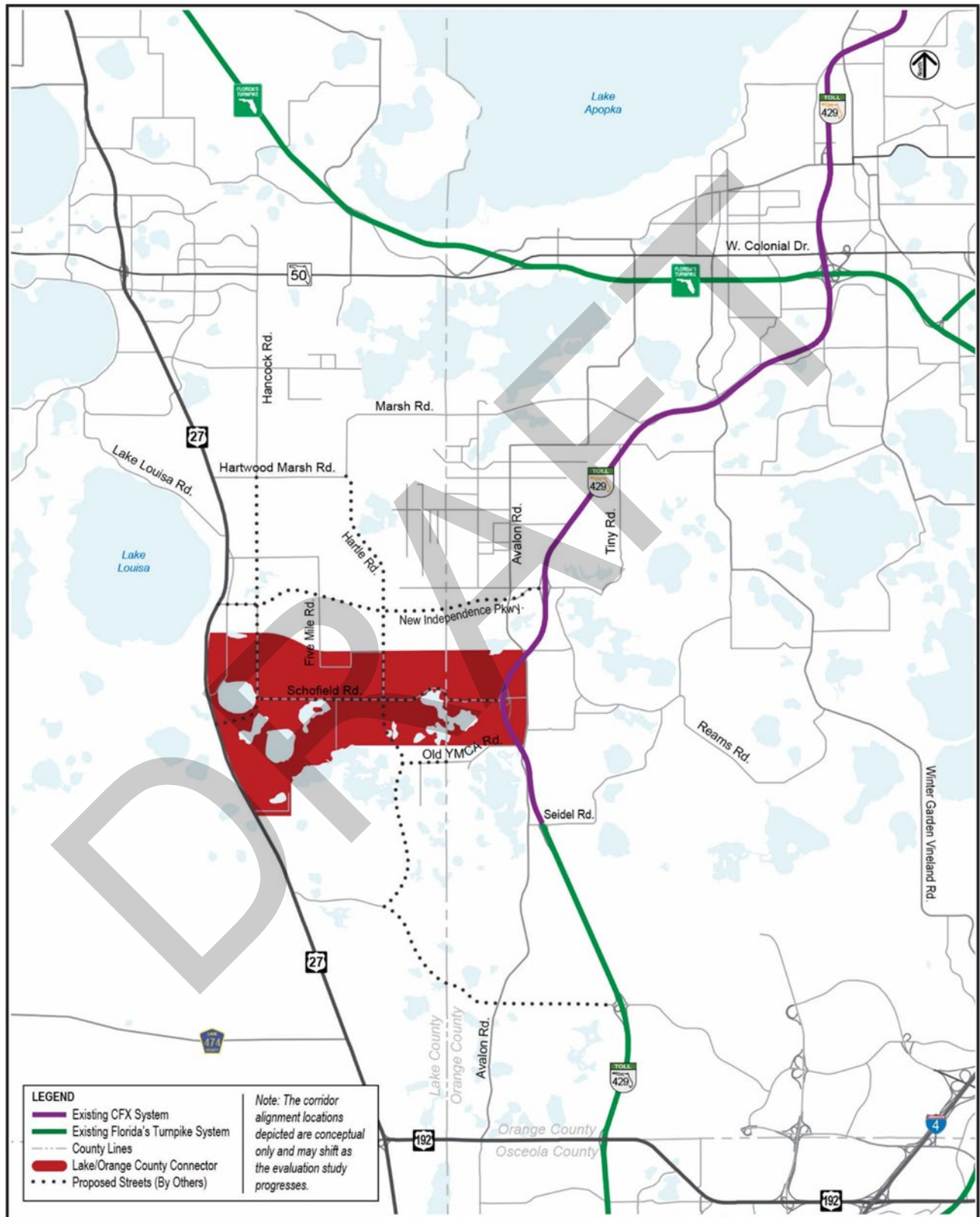
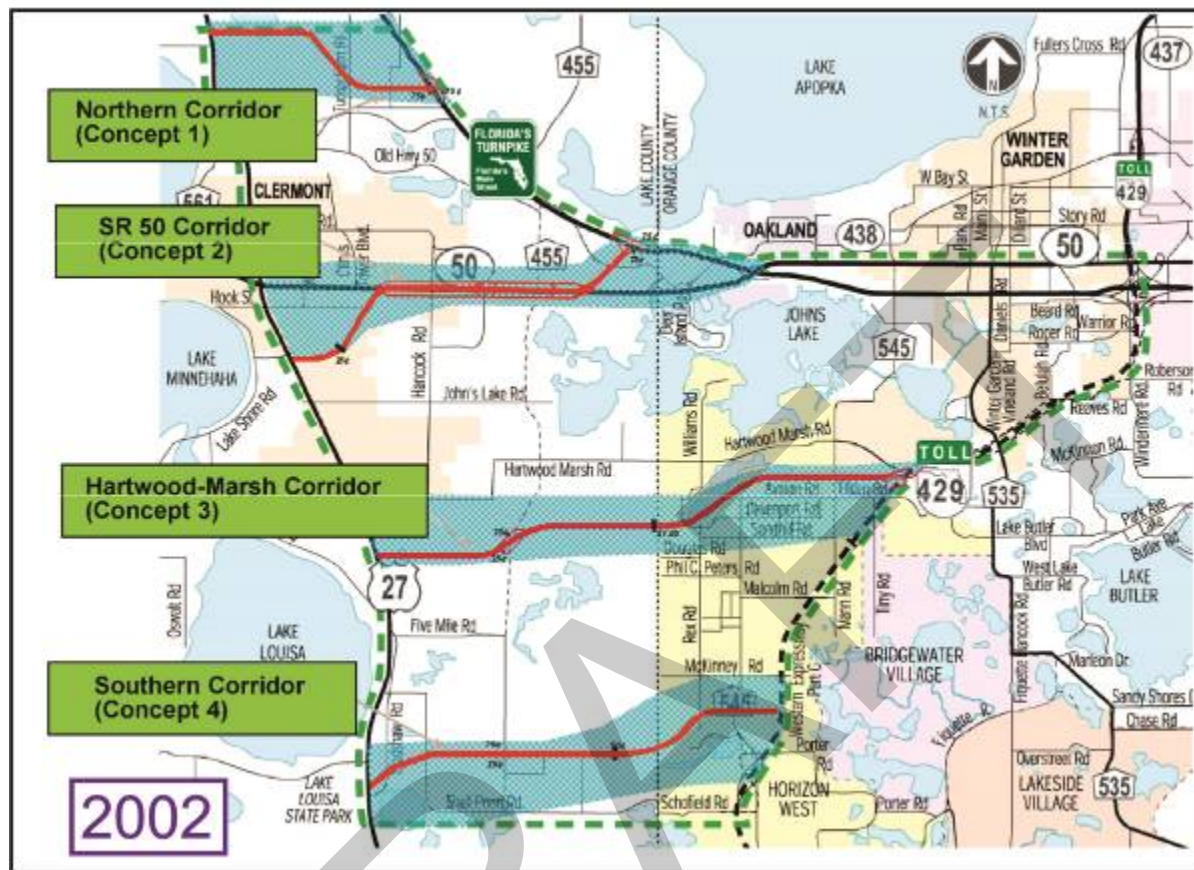
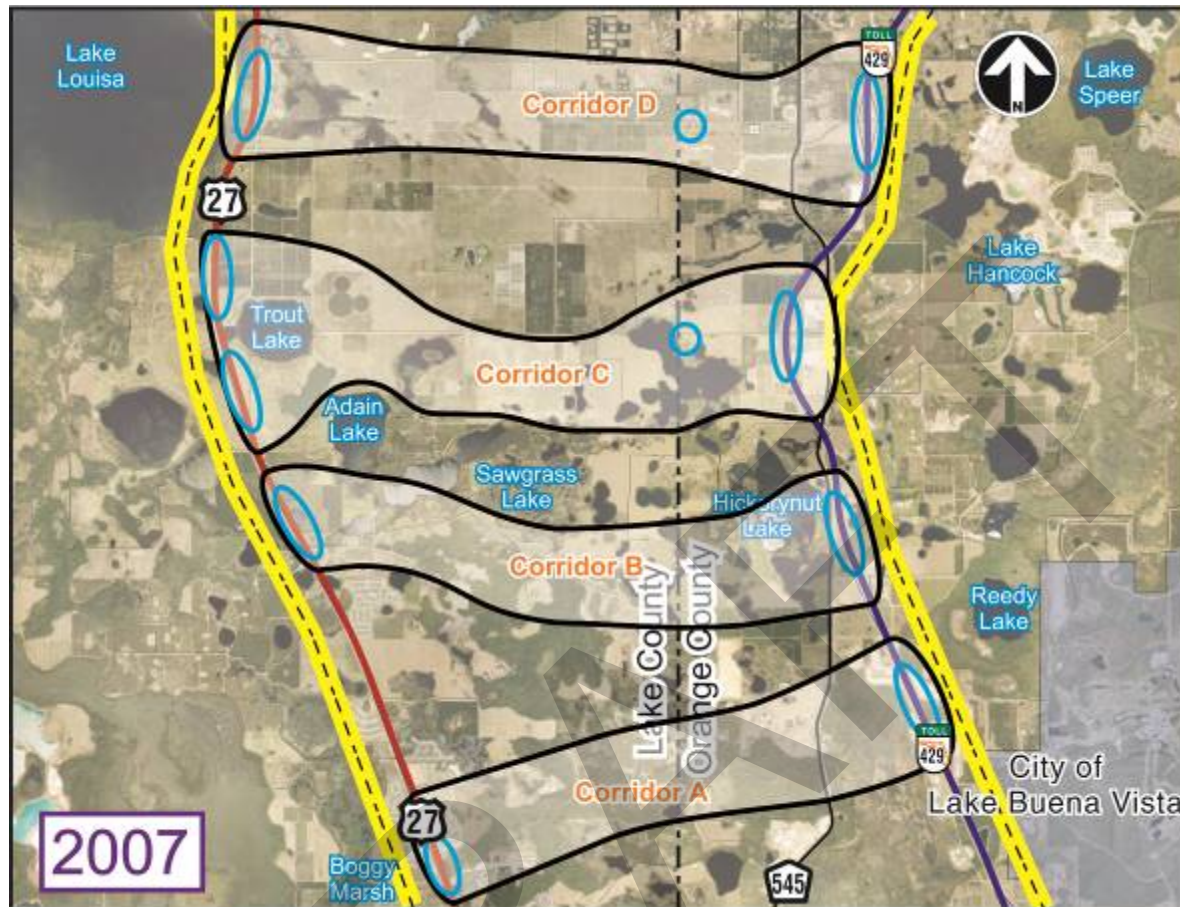


Figure 1-2: 2002 Western Extension Study Corridors



In 2007, a Concept Development and Evaluation Study for a potential SR 429 to US 27 Connector was prepared by the OOCEA. The purpose of the study was to determine the feasibility and viability of a potential SR 429 to US 27 expressway connection within an area south of Hartwood Marsh Road and north of US 192. Four distinct corridors were investigated (see **Figure 1-3**). The study found that Corridor B was not viable due to significant wetland and surface water impacts and relatively low traffic attraction. Corridor A (the southernmost option) had the largest traffic attraction but extended through an environmentally sensitive area while Corridor D (the northernmost option) had the lowest traffic attraction. Corridor C, which generally traversed the area adjacent to Schofield Road within the central portion of the study area, offered a potential balance between traffic attraction and minimization of environmental impacts.

Figure 1-3: 2007 SR 429 to US 27 Connector Study Corridors



1.2 Need

There are six project needs that serve as justification for the proposed improvements. These needs are: 1) Provide improved system connectivity/linkage; 2) Accommodate anticipated transportation demand; 3) Provide consistency with local and regional plans; 4) Support economic viability and job creation; 5) Support intermodal opportunities; and 6) Enhance evacuation and emergency service. The following sections describe the needs in more detail.

1.2.1 System Connectivity/Linkage

System linkage is defined as linking two or more existing transportation facilities or types of modal facilities between geographic areas or regional traffic generators.

Figure 1-1 illustrates the existing roadway network within the vicinity of the proposed project. There are two major north-south facilities serving the project area, SR 429, a four-

lane limited-access rural toll road at the eastern project terminus and US 27, a four-lane divided rural arterial at the western project terminus. In the east-west direction, SR 50, a six-lane urban arterial facility located approximately 7 miles to the north, and US 192, a six-lane urban divided arterial located approximately 7 miles south, connect Lake County to the Orlando urban core. These existing east-west facilities not only serve through traffic but also provide significant local access, thus limiting their ability to provide effective overall mobility.

At the present time, the east-west connectivity within the study area is deficient with Schofield Road, an unpaved 20-foot wide rural facility, providing the only connection between US 27 on the west and SR 429 on the east. A new limited-access, direct connection expressway facility would not only provide the much-needed connectivity in the area but would also significantly improve regional mobility and travel time.

A PER was completed in 2016 for Wellness Way, a new four-lane divided arterial extending from US 27 and connecting to New Independence Parkway in the vicinity of SR 429. It should be noted that the 2007 SR 429 to US 27 Connector Concept Development and Evaluation Study prepared by the OOCEA stated that a network of east-west six-lane roadway arterials could also meet the capacity need of the study area. The proposed Wellness Way facility alone will not be sufficient to provide the necessary east-west linkage to meet the anticipated growth of the area when compared to a new limited-access, direct connection expressway facility.

Interchanges are proposed at US 27 in Lake County, SR 429 in Orange County, and the future extension of CR 455 in Lake County. Lake County's Visionary Map shows a southerly extension of CR 455 from its current terminus to the future extension of Sawgrass Bay Boulevard.

1.2.2 Anticipated Transportation Demand

According to the Central Florida Expressway Authority's 2040 Master Plan, Lake County's population is projected to increase by 56% (to 493,000 residents) and employment is projected to increase by 60% (to 212,700) by 2040. During the same time period, the population and employment growth within Orange County are expected to each increase by more than 50%. Two of the main areas of development generating additional

population are the Wellness Way Area Plan (WWAP) in south Lake County and the Horizon West Special Planning Area (HWSPA) in southwestern Orange County. The WWAP includes more than 16,000 acres. Horizon West is a growing community of several villages occupying more than 20,000 acres and projected to house over 60,000 residents when completed. Horizon West also features the future site of a Valencia College satellite campus.

The January 2018 Bureau of Economic and Business Research (BEBR) population projections show from 2017 to 2045 a 54% growth in population is anticipated for both Lake and Orange counties.

The study area traverses all five of the WWAP Future Land Use Categories (FLUC); Town Center and Wellness Way 1, 2, 3 and 4. The planning horizon for the WWAP is projected to be 2040 with a build-out of 16,500 dwelling units and a projected employment of 36,000. CEMEX, a multinational building materials supply company, submitted an updated permit for the proposed Four Corners Sand Mine in August 2017. They propose to operate on 1,200 acres within the WWAP, on property divided by Schofield Road. The permit allows mining approximately 525 acres over a 22-year period.

The study area also falls within the Town Center and Village H (Hickory Nut) of Horizon West. The Town Center will be a regional employment center with a projected employment force of over 27,000 and home to a host of new developments including a satellite campus of Valencia College and Orlando Health hospital. Overall, Horizon West has an anticipated build-out of 40,000 dwelling units and a projected commercial area of 9.5 million square feet.

An origin and destination (OD) study conducted by CDM Smith in 2017 for CFX revealed that much of the potential traffic for a new toll road would come from planned developments. In the year 2045, there is a potential for 34,000 daily trips traveling between US 27 and SR 429 in the vicinity of Schofield Road. With the proposed project as a tolled expressway, approximately 19,000 daily trips would be diverted from local roadways.

The proposed connector is anticipated to help accommodate the expected increase in traffic due to population and employment growth within the study area by expanding the limited-access expressway system.

1.2.3 Consistency with Local and Regional Plans

Planning consistency of the proposed project is documented in various local comprehensive plans (see **Table 1-1**). A brief explanation of each follows.

CFX 2040 Master Plan and Five-Year Work Plan: The subject project is a major component of the Authority's plan to provide additional capacity to address the area's increasing projected population and employment growth. The Lake/Orange County Connector would support the economic vitality of the WWAP and the HWSPA developments and is widely supported among local landowners and community leaders. The project is listed in the five-year work plan (2019-2023) and funded for PD&E in years 2018/2019 and for potential design in years 2021/2022 and 2022/2023.

Lake-Sumter Metropolitan Planning Organization (MPO) – 2040 Long Range Transportation Plan (LRTP): The Lake-Sumter MPO provides a forum for cooperative decision-making concerning transportation issues throughout the urbanized area of Lake and Sumter counties. The latest draft list of priority projects (May 2018) shows that a "New Road Alternative Corridor Evaluation" between US 27 and SR 429 is listed as priority #20 under the Preliminary Engineering projects. In addition, the portion of the Lake/Orange Parkway project extending from US 27 to the Lake/Orange County line is included in the Lake-Sumter 2040 LRTP as a cost feasible element and as an Emerging Regional Significant Corridor.

West Orange South Lake Transportation and Economic Development Task Force (WOSLTED): This task force was initiated in 2000 with the goal of promoting transportation in the West Orange/South Lake (WOSL) region. In 2008, the task force started a planning process to ensure coordinated transportation and housing development which eventually resulted in a proposed system of new roadways and roadway improvements which included the provision of a proposed east-west connector from US 27 to SR 429. This connector has always been a main focus of this organization.

MetroPlan Orlando: MetroPlan Orlando is the metropolitan planning organization for the greater Orlando area. It coordinates and leads transportation planning efforts in Orange, Osceola and Seminole Counties. The subject project is listed on the 2040 LRTP Plan Development Cost Feasible projects (updated June 2017) as a funded project for both PD&E and design.

Table 1-1: Local Planning Consistency

Agency	Remarks
Central Florida Expressway Authority (CFX)	Included in the 2040 Master Plan and the Five-Year Work Plan (2019-2023)
Lake-Sumter MPO	Identified the proposed project in the 2040 LRTP Needs Plan
West Orange/South Lake Transportation and Economic Development Task Force	Identified a connection between US 27 to Orange County in its Transportation Plan
MetroPlan Orlando	Identified in its Technical Report 3: "Plan Development and Cost Feasible Projects"

1.2.4 Economic Viability and Job Creation

The proposed facility is needed to further support the economic viability of the WWAP. This 16,000-acre service area has been recognized for many years as having significant potential for economic development in southeast Lake County. It is projected to be an economic engine for job creation in the region and is envisioned to strengthen its connectivity with other regional economic hubs. With an anticipated buildout of over 16,000 residential units, this important planned development is expected to generate over 26,800 jobs in the future.

The proposed connector will also directly benefit the economic and job creation potential of the Horizon West development by expediting the efficient delivery of goods and services in this developing area of west Orange County.

1.2.5 Support Intermodal Opportunities

The Horizon West Town Center is proposed as an intermodal and freight staging facility potentially providing access to trucks, rails, airports and/or ports. Its presence enhances the integration and connectivity of the multimodal transportation system. The proposed connector would link this freight staging facility with two major Strategic Intermodal System (SIS) highways (US 27 and SR 429) and thus connect Lake County to a network of limited-access facilities that provide access to the Orlando International Airport and Port Canaveral. In addition, the MetroPlan Orlando's "Regional Freight and Goods Movement Facilities Profile" noted that there is "limited existing east-west highway and rail connectivity within the region – which provides logistical challenges for some shippers". The proposed project will add a valuable east-west mobility link to the area's transportation network.

1.2.6 Evacuation and Emergency Services

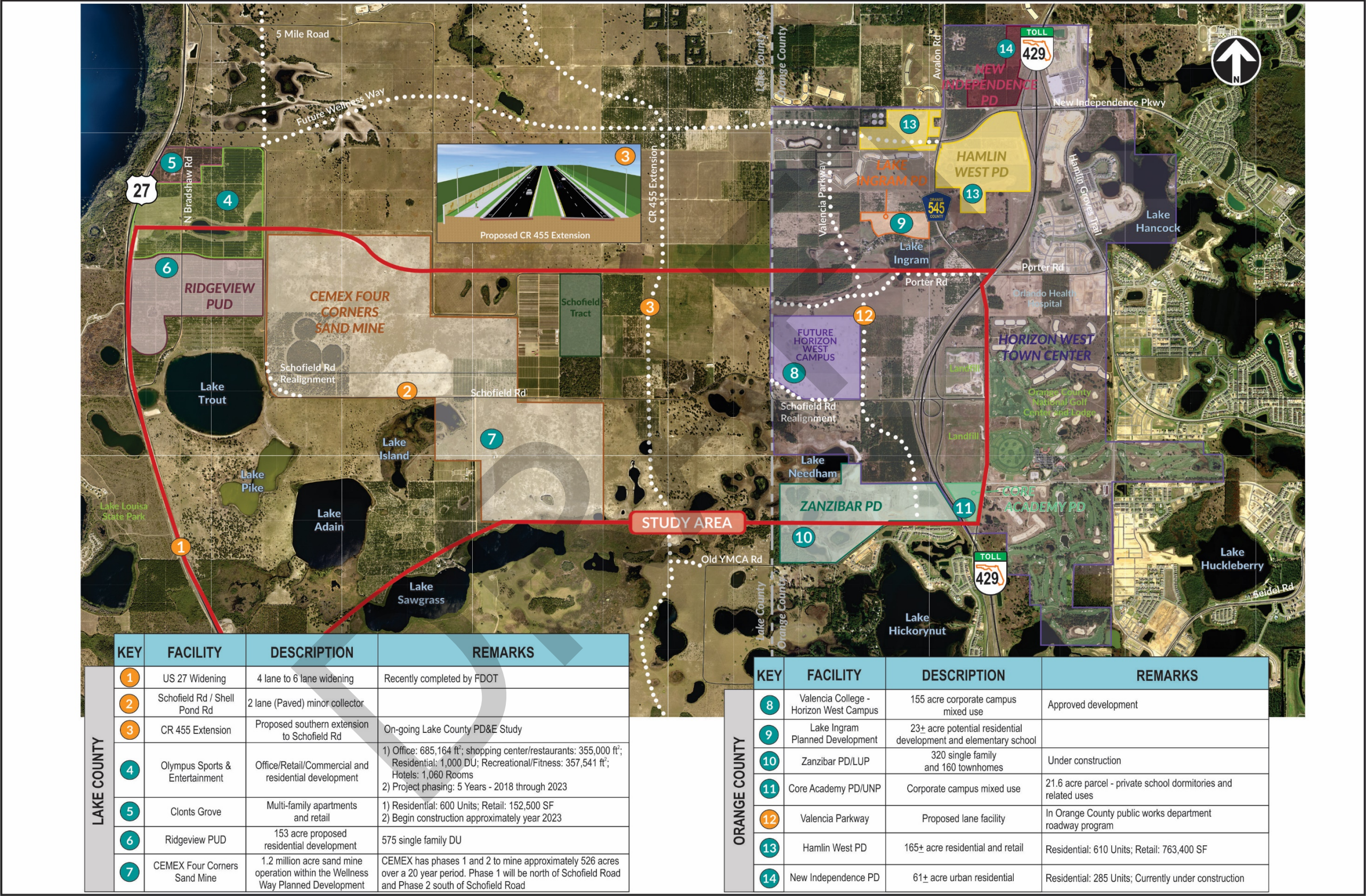
The East Central Florida Region has been identified by the National Oceanic and Atmospheric Administration (NOAA) as a high hurricane-vulnerable area within the United States and thus requires sufficient and efficient evacuation routes. There are no existing designated east-west evacuation routes within the immediate project area. Only SR 50, approximately 7 miles to the north, and US 192 (SR 530), approximately 7 miles to the south, provide effective east-west evacuation connection to important north-south SIS routes in the area (US 27 and SR 429). The provision of an additional high-speed, limited-access east-west facility will afford desirable redundancy of the highway network to accommodate diverted local and regional traffic during times of natural or man-made emergencies.

Another critical issue deals with potential delays of fire and emergency services. There are two fire stations just north and south of the study area along US 27 but their linkage to the east is ineffective due to the lack of a paved or limited-access facility connecting to SR 429, potentially resulting in additional delays. The proposed connector would facilitate prompt fire and emergency response.

1.3 Other Projects in the Study Area

There are a number of on-going and future projects in the area (see **Figure 1-4**) including both public infrastructure projects and private developments that have been approved within the previously mentioned WWAP and the HWSPA. The widening of US 27 from four to six lanes was recently completed and several new roadways are being planned by Lake and Orange Counties. In addition to the approved planned developments (PD) shown on Figure 1-4, we are aware that much of the land within the study area is currently being planned for future development by several different private developers. Through extensive coordination efforts as well as the Project Advisory Group (PAG), a number of private developers have made CFX aware of their potential future plans. However, it should be noted that none of these have been submitted for permitting with Lake or Orange Counties and no conceptual plans have been shared with CFX at the time of this study. Close coordination with all projects, developments and agencies within the study area will be maintained throughout all phases of the project.

Figure 1-4: Approved Projects and Developments in the Area



2 Alternative Corridor Analysis

2.1 Identification of Project Segments

Initially, the study area was divided into three segments that reflect predominant land uses, natural resources, etc. to facilitate the analysis. The segmental breakdown approach ensures that the generated corridor alternatives are more responsive to the needs of each segment rather than only to the generalized project needs.

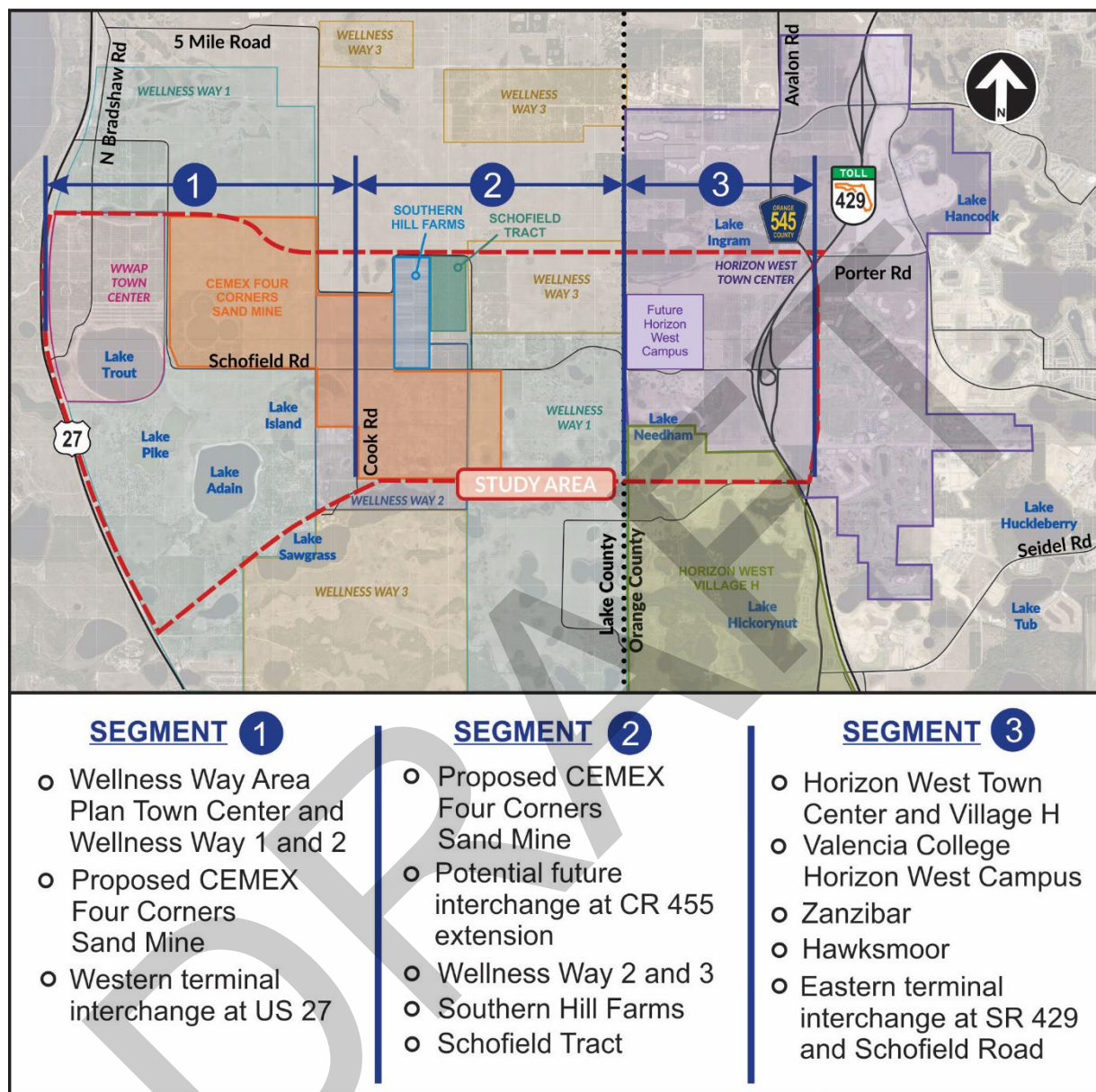
Figure 2-1 illustrates the study segments and provides a description of each. Each segment has unique characteristics as well as differences in environmental, engineering and socio-economic features.

Segment 1 comprises the project's western two miles and generally extends from US 27, a rural four-lane north-south facility, to Cook Road, a minor north-south rural road just east of Lake Island. Some of the main features within this first segment include various lakes (e.g., Trout, Pike, Adain, Island), the Wellness Way Area Plan (WWAP) Town Center, Wellness Way 1, the proposed CEMEX Four Corners Sand Mine and portions of Wellness Way 2.

Segment 2 comprises the central portion of the study area and extends from Cook Road to the Lake/Orange county line for a total length of approximately 1.8 miles. Some of the main features within this segment include portions of Wellness Way 2 and 3 and Southern Hill Farms north of Schofield Road, a rural two-lane east-west facility projected to be widened to 4 lanes in the future.

Segment 3 extends for approximately one mile from the Lake/Orange county line to the study's eastern terminus at the SR 429 and Schofield Road interchange, where Schofield Road heads west and connects to US 27. Some of the principal features within Segment 3 include the Horizon West Town Center, the proposed Valencia College Horizon West Campus, Zanzibar, Hawksmoor, Horizon West Village H and Lake Needham.

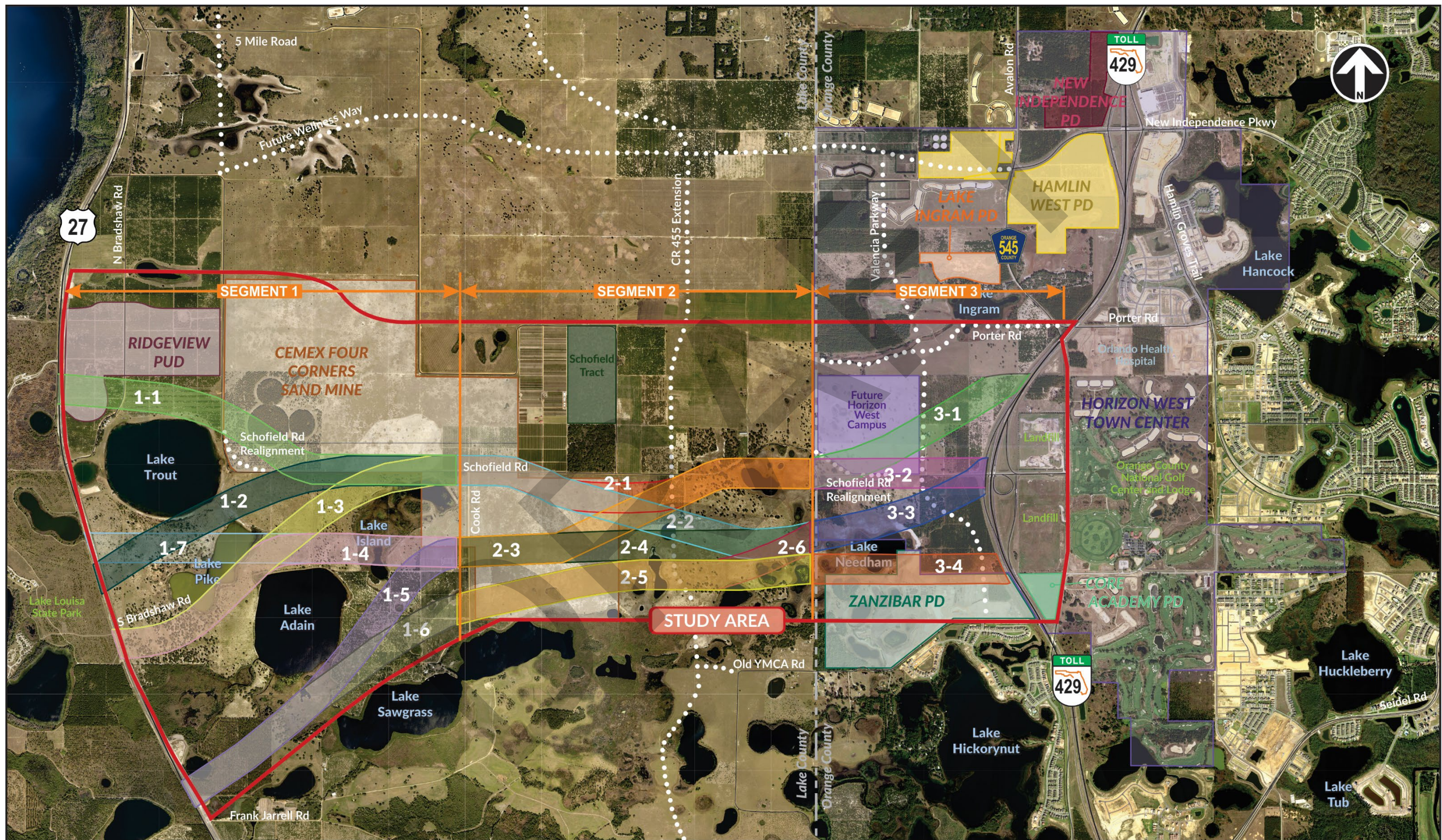
Figure 2-1: Segmental Breakdown



2.2 Identification of Preliminary Segmental Corridors

Next, various preliminary segmental corridors were developed for the potential Lake/Orange County Connector (**see Figure 2-2**). These corridors were developed based on constraint mapping and input from the Project and Environmental Advisory Groups. Each corridor represents an 800-foot wide area for the purpose of assessing community and environmental impacts. As shown on Figure 2-2, seven distinct corridor options were generated within Segment 1 ranging from just north of Lake Trout (Corridor 1-1) to just

Figure 2-2: Preliminary Segmental Corridors



south of Lake Adain (Corridors 1-5 and 1-6). Within Segment 2, six potential corridor options traverse the central study area, Corridors 2-1, 2-4 and 2-5 generally run east-west along the north, center and south, respectively, of the study area while 2-2 and 2-3 feature connections between the north and center and 2-6 between the south and center portions of the study area. There are four preliminary corridor alternatives within Segment 3 ranging from the northern border of the study area (Corridor 3-1) to just north of Old YMCA Road (Corridor 3-4). A brief description of all preliminary corridors follows:

Segment 1: As previously stated, there are seven preliminary corridors within Segment 1.

- Corridor 1-1 commences in the immediate vicinity of the Lake Louisa State Park entrance on US 27. This corridor extends southeasterly generally bordering the north edge of Lake Trout, and then easterly within the vicinity of Schofield Road and north of Island Lake until it crosses the Schofield Road/Cook Road intersection.
- Corridor 1-2 commences approximately 2000 feet north of the South Bradshaw Road intersection on US 27 and extends northeasterly between Lake Trout and Lake Pike merging into Corridor 1-1 in the vicinity of Cook Road.
- Corridor 1-3 begins approximately one mile north of Frank Jarrell Road on US 27 and proceeds northeasterly between Lake Pike and Lake Adain turning due east in the vicinity of Cook Road.
- Corridor 1-4 is similar to Corridor 1-3 from its begin point on US 27 to the area just north of Lake Adain then turns due east crossing Cook Road approximately 2500 feet south of Schofield Road.
- Corridor 1-5 begins on US 27 just north of the Frank Jarrell Road intersection and proceeds northeasterly between Lake Adain and Lake Sawgrass merging into Corridor 1-4 in the vicinity of Cook Road.
- Corridor 1-6 is similar to Corridor 1-5 from its begin point on US 27 to the area between Lake Adain and Lake Sawgrass then turns more easterly until it crosses Cook Road at a point generally bordering the southern limit of the project area.

- Corridor 1-7: In order to consider an option with maximum directness within the first segment Corridor 1-7 was generated. This option begins in the same general vicinity as Corridor 1-2 on US 27 and extends due east just north of Lake Adain where it merges with Corridor 1-4.

Segment 2: This central segment features six distinct corridors as follows:

- Corridor 2-1 generally follows the existing Schofield Road alignment except in the vicinity of the Schofield Tract, an environmentally sensitive site, where this option dips farther south in order to avoid impacting the site.
- Corridor 2-2 is similar to Corridor 2-1 from the vicinity of the Cook Road/Schofield Road intersection to the Schofield Tract approaches. At this point, the corridor continues in a southeasterly direction and merges with Corridor 2-4 just west of the Lake/Orange county line.
- Corridor 2-3 initially extends from Cook Road at a point approximately 2500 feet south of Schofield Road to a point approximately 2600 feet to the east, then it veers northeasterly and merges with Corridor 2-1, just west of the Lake/Orange county line.
- Corridor 2-4 is initially similar to Corridor 2-3 but then continues eastward along the central portion of Segment 2 to the Lake/Orange county line at a point 1500 feet south of Schofield Road.
- Corridor 2-5 generally borders the southern study area limits just north of Lake Sawgrass and extends from Cook Road on the west to the Lake/Orange county line.
- Corridor 2-6 is similar to Corridor 2-5 from Cook Road to just west of the Lake/Orange county line, then it veers northeasterly and merges with Corridor 2-4 at the Lake/Orange county line.

Segment 3: There are four preliminary alternative corridors as follows:

- Corridor 3-1 extends northeasterly from the Lake/Orange county line in the vicinity of Schofield Road to just southeast of the existing SR 429/Avalon Road overpass.

- Corridor 3-2 generally follows the existing Schofield Road alignment from the Lake/Orange county line to the existing SR 429/Schofield Road interchange.
- Corridor 3-3 extends from the Lake/Orange county line at a point approximately 1500 feet south of Schofield Road and veers northeast terminating at the existing SR 429/Schofield Road interchange.
- Corridor 3-4 extends from the Lake/Orange county line just north of the southern study area limits to just south of the existing SR 429/Schofield Road interchange.

2.3 Initial Screening/Purpose and Need Compliance

An initial screening to assess how well each alternative corridor satisfies the previously established project's purpose and need was conducted. An alternative that does not satisfy the project's purpose and need may be eliminated from further consideration.

In order to avoid elimination, each corridor alternative would need to provide improved connectivity/linkage as compared to the No-Build (or No Action) Alternative. In addition, each corridor option was evaluated for traffic volume accommodated, planning consistency, support of economic development and job creation, and enhanced multimodal opportunities and emergency services.

Table 2-1 provides the screening criteria and results related to the purpose and need compliance. In order to better appreciate the obtained outcome, color values were assigned to the results as follows: Green cells (generally high compliance); Yellow cells (generally moderate compliance) and Orange cells (generally low compliance).

<div><div><div></div><div></div><div></div></div><div><div><div>GOOD</div><div>FAIR</div><div>POOR</div></div><div><div>HIGH COMPLIANCE</div><div>MODERATE COMPLIANCE</div><div>LOW COMPLIANCE</div></div></div></div>		TABLE 2-1																
		PURPOSE AND NEED EVALUATION																
ALTERNATIVES		SEGMENT 1 - CORRIDORS							SEGMENT 2 - CORRIDORS						SEGMENT 3 - CORRIDORS			
		1-1	1-2	1-3	1-4	1-5	1-6	1-7	2-1	2-2	2-3	2-4	2-5	2-6	3-1	3-2	3-3	3-4
Improved Connectivity/ Linkage																		
Traffic Volume Accomodated																		
Planning Consistency																		
Support Economic Vitality and Job Creation																		
Enhanced Intermodal Opportunities																		
Enhanced Emergency Services																		

Basis of Evaluation

A	- Based on the provision of effective connection to the existing/proposed major transportation facility/network within the project area
B	- Projected traffic volume diverted from existing/projected congested transportation facilities
C	- Consistency with existing/proposed local/regional transportation plan
D	- Based on the perceived likelihood of desirable economic development adjacent to the proposed interchange locations and their compatibility with existing/proposed abutting land use
E	- Based on typical section design speed, high speed facility and strategic intermodal system criteria
F	- Based on access, safety and design measures

In addition, the evaluation was conducted by segments in order to more clearly judge the performance of each corridor alternative within each individual segment it traverses rather than its “overall” performance. This approach provides a more in depth evaluation by showing where the corridor ranks higher and lower segmentally. The results from Table 2-1 show that generally all the corridors have green cells except for three corridors. Corridor 1-1 crosses over the Ridgeway PUD, within Segment 1 and Corridors 3-1 and 3-4 impact the Horizon West Campus and the Zanzibar PUD respectively within Segment 3. These potential impacts could affect the support of economic vitality and job creation.

In summary, although some corridors address the purpose and need more efficiently than others, it was determined that all of the established corridors do generally address the purpose and need.

2.4 Preliminary Alternative Corridor Evaluation

The preliminary alternative corridor evaluation was based on their potential impact with respect to engineering, socio-economic, and environmental issues. As previously stated, the objective of this preliminary evaluation is to eliminate inferior or suboptimal alternatives. In order to simplify the nomenclature of the various corridor options, the previous segmental corridors were aggregated to produce alternative corridors spanning all three project segments. According to **Table 2-2** twenty (20) different aggregated corridors extending from US 27 to SR 429 resulted from these combinations.

In order to better appreciate the obtained results, numerical values/scores were assigned to the results of the evaluation tables (**Tables 2-3** and **2-4**) as follows: Green cells (generally desirable or positive impacts = +2); Yellow cells (generally minor or moderate impacts = +1) and Orange cells (generally undesirable or negative impacts = 0). In addition, each evaluation component was assigned a percentage value (weight) depending on its perceived degree of importance. For example, the importance of the total engineering component was judged to merit 37% (see **Table 2-3**) of the total decision while the environmental (see **Table 2-4**) and socio-economic components (see **Table 2-5**) were assigned relative weights of 25% and 38%, respectively. These parameter weightings were developed from the average of individual weighting sets prepared by members of the consultant’s team, reflecting a broad range of professional backgrounds.

Table 2-2: Preliminary Project Corridors

Segment 1 Corridors		Segment 2 Corridors		Segment 3 Corridors		Preliminary Project Corridors
1-1	+	2-1	+	3-1	=	Alternative 1
				3-2	=	Alternative 2
		2-2	+	3-3	=	Alternative 3
1-2	+	2-1	+	3-1	=	Alternative 4
				3-2	=	Alternative 5
		2-2	+	3-3	=	Alternative 6
1-3	+	2-1	+	3-1	=	Alternative 7
				3-2	=	Alternative 8
		2-2	+	3-3	=	Alternative 9
1-4	+	2-3	+	3-1	=	Alternative 10
				3-2	=	Alternative 11
		2-4	+	3-3	=	Alternative 12
1-5	+	2-3	+	3-1	=	Alternative 13
				3-2	=	Alternative 14
		2-4	+	3-3	=	Alternative 15
1-6	+	2-5	+	3-4	=	Alternative 16
		2-6	+	3-3	=	Alternative 17
1-7	+	2-3	+	3-1	=	Alternative 18
				3-2	=	Alternative 19
		2-4	+	3-3	=	Alternative 20

Table 2-3: Preliminary Corridor Evaluation (Part I)

RATING		PRELIMINARY ENGINEERING EVALUATION																						
GOOD	= +2 POINTS																							
FAIR	= +1 POINT																							
POOR	= 0 POINTS																							
EVALUATION COMPONENTS		QUANTITATIVE MEASURE	SEGMENT	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9	Alternative 10	Alternative 11	Alternative 12	Alternative 13	Alternative 14	Alternative 15	Alternative 16	Alternative 17	Alternative 18	Alternative 19	Alternative 20	
Component Weight				(1-1)+(2-1)+(3-1)	(1-1)+(2-1)+(3-2)	(1-1)+(2-2)+(3-3)	(1-2)+(2-1)+(3-1)	(1-2)+(2-1)+(3-2)	(1-2)+(2-2)+(3-3)	(1-3)+(2-1)+(3-1)	(1-3)+(2-1)+(3-2)	(1-3)+(2-2)+(3-3)	(1-4)+(2-3)+(3-1)	(1-4)+(2-3)+(3-2)	(1-4)+(2-4)+(3-3)	(1-5)+(2-3)+(3-1)	(1-5)+(2-3)+(3-2)	(1-5)+(2-4)+(3-3)	(1-6)+(2-5)+(3-4)	(1-6)+(2-6)+(3-3)	(1-7)+(2-3)+(3-1)	(1-7)+(2-3)+(3-2)	(1-7)+(2-4)+(3-3)	
Major Utility Conflicts	No. of potential impacts	7%	1	14 PP, 2 WPS, & 1 LS	14 PP, 2 WPS, & 1 LS	14 PP, 2 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	14 PP, 1 WPS, & 1 LS	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	
			2	1 WPS	1 WPS	1 WPS	1 WPS	1 WPS	1 WPS	1 WPS	1 WPS	1 WPS	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP	4 PP
			3	11 PP	26 PP, 1 WPS	8 PP	11 PP	26 PP, 1 WPS	8 PP	11 PP	26 PP, 1 WPS	8 PP	11 PP	26 PP, 1 WPS	8 PP	11 PP	26 PP, 1 WPS	8 PP	8 PP	8 PP	11 PP	26 PP, 1 WPS	8 PP	
Geometric Considerations	Interchange Location & Potential Effects	11%	1																					
			2																					
			3																					
Floodplain Encroachment	Acres	7%	1	9.91	9.91	9.91	15.54	15.54	15.54	32.90	32.90	32.90	35.06	35.06	35.06	41.22	41.22	41.22	37.52	37.52	44.17	44.17	44.17	
			2	43.53	43.53	19.24	43.53	43.53	19.24	43.53	43.53	19.24	41.79	41.79	29.62	41.79	41.79	29.62	51.79	45.64	41.79	41.79	29.62	
			3	1.87	3.29	46.39	1.87	3.29	46.39	1.87	3.29	46.39	1.87	3.29	46.39	1.87	3.29	46.39	47.05	46.39	1.87	3.29	46.39	
Traffic Considerations	Traffic Volumes	12%	1																					
			2																					
			3																					
Total Engineering Weight		37%																						
Total Engineering Score for each Alternative Corridor (higher score = higher performing alternative corridor)				1.50	1.65	1.61	1.65	1.44	1.47	1.54	1.33	1.29	1.68	1.47	1.47	1.32	1.47	1.47	1.61	1.47	1.79	1.58	1.58	
REMARKS				• Highest scoring Alternatives 18 and 10 are generally highest in all criteria with the exception of the interchange location considerations within segment 3. • Lowest scoring Alternatives 9 and 13 had generally the lowest scores due to potential utility conflict issues and somewhat lower traffic attractions.																				

Sample Calculation for Alternative 1 (Segment 2) under Major Utility Conflicts

Relative Segmental Score = Segmental Rating **2 (Points)** x Major Utility Conflicts Component Weight **7%** = **0.14**

Legend	
WPS	Water Pump Station
LS	Lift Station
PP	Power Poles

Table 2-4: Preliminary Corridor Evaluation (Part II)

RATING		PRELIMINARY ENVIRONMENTAL EVALUATION																						
GOOD	= +2 POINTS																							
FAIR	= +1 POINT																							
POOR	= 0 POINTS																							
EVALUATION COMPONENTS		QUANTITATIVE MEASURE	SEGMENT	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9	Alternative 10	Alternative 11	Alternative 12	Alternative 13	Alternative 14	Alternative 15	Alternative 16	Alternative 17	Alternative 18	Alternative 19	Alternative 20	
Component Weight				(1-1)+(2-1)+(3-1)	(1-1)+(2-1)+(3-2)	(1-1)+(2-2)+(3-3)	(1-2)+(2-1)+(3-1)	(1-2)+(2-1)+(3-2)	(1-2)+(2-2)+(3-3)	(1-3)+(2-1)+(3-1)	(1-3)+(2-1)+(3-2)	(1-3)+(2-2)+(3-3)	(1-4)+(2-3)+(3-1)	(1-4)+(2-3)+(3-2)	(1-4)+(2-4)+(3-3)	(1-5)+(2-3)+(3-1)	(1-5)+(2-3)+(3-2)	(1-5)+(2-4)+(3-3)	(1-6)+(2-5)+(3-4)	(1-6)+(2-6)+(3-3)	(1-7)+(2-3)+(3-1)	(1-7)+(2-3)+(3-2)	(1-7)+(2-4)+(3-3)	
Wetlands (using Land Use Data)	Acres	7%	1	7.94	7.94	7.94	10.89	10.89	10.89	23.34	23.34	23.34	25.74	25.74	25.74	32.29	32.29	32.29	29.92	29.92	20.59	20.59	20.59	
			2	14.36	14.36	1.52	14.36	14.36	1.52	14.36	14.36	1.52	15.45	15.45	3.39	15.45	15.45	3.39	10.51	10.52	15.45	15.45	3.39	
			3	0.77	0.8	11.88	0.77	0.8	11.88	0.77	0.8	11.88	0.77	0.8	11.88	0.77	0.8	11.88	3.53	11.88	0.77	0.80	11.88	
Wildlife and Habitat	Average Wildlife Index Ranking; Ranked 1-10, 10 is the most important	5%	1	2.18	2.18	2.18	2.48	2.48	2.48	2.57	2.57	2.57	2.54	2.54	2.54	2.89	2.89	2.89	2.92	2.92	2.59	2.59	2.59	
			2	1.91	1.91	2.06	1.91	1.91	2.06	1.91	1.91	2.06	1.91	1.91	2.08	1.91	1.91	2.08	1.91	1.95	1.91	1.91	2.08	
			3	2.33	2.28	2.13	2.33	2.28	2.33	2.33	2.28	2.13	2.33	2.28	2.13	2.33	2.28	2.13	1.69	2.13	2.33	2.28	2.13	
Conservation Lands/Mitigation Banks	Acres	8%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
			3	0	0	3.72	0	0	3.72	0	0	3.72	0	0	3.72	0	0	3.72	8.46	3.72	0	0	3.72	
Farmlands (NRCS Data, Prime Farmland)	Acres	2%	1	170.7	170.7	170.7	151.24	151.24	151.24	153.26	153.26	153.26	119.56	119.56	119.56	139.27	139.27	139.27	126.73	126.73	129.75	129.75	129.75	
			2	134.87	134.87	134.87	154.56	154.56	154.56	134.87	134.87	154.56	144.72	144.72	144.72	149.63	144.72	144.72	118.57	126.53	144.72	144.72	149.63	
			3	108.82	81.77	47.35	108.82	81.77	47.35	108.82	81.77	47.35	108.82	81.77	47.35	51.38	108.82	81.77	47.35	61.38	47.35	108.82	81.77	47.35
Contamination	No. of Sites	3%	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
			2	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	1	1	2	2	2
			3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Total Environmental Weight		25%																						
Total Environmental Score for each Alternative Corridor (higher score = higher performing alternative corridor)				1.25	1.27	1.19	1.27	1.29	1.21	1.20	1.22	1.14	1.14	1.16	1.08	1.14	1.16	1.08	0.96	1.07	1.14	1.16	1.08	
REMARKS				• Alternative 5 generally scored the highest in all criteria, closely followed by Alternatives 2 and 4. • On the other hand Alternative 16 was the least desirable with significant wetland impacts within segment 1 and conservation lands/mitigation banks impacts within Segment 3 • Initial wetland impacts are based on Land Use Data and/or NWI and may change as wetlands are surveyed and assessed.																				

Sample Calculation for Alternative 1 (Segment 2) under Wetlands

Relative Segmental Score = Segmental Rating **1 (Point)** x Wetlands Component Weight **7%** = **0.07**

Table 2-5: Preliminary Corridor Evaluation (Part III)

RATING		PRELIMINARY SOCIO-ECONOMIC EVALUATION																						
GOOD	= +2 POINTS																							
FAIR	= +1 POINT																							
POOR	= 0 POINTS																							
EVALUATION COMPONENTS		QUANTITATIVE MEASURE	SEGMENT	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9	Alternative 10	Alternative 11	Alternative 12	Alternative 13	Alternative 14	Alternative 15	Alternative 16	Alternative 17	Alternative 18	Alternative 19	Alternative 20	
Component Weight				(1-1)+(2-1)+(3-1)	(1-1)+(2-1)+(3-2)	(1-1)+(2-2)+(3-3)	(1-2)+(2-1)+(3-1)	(1-2)+(2-1)+(3-2)	(1-2)+(2-2)+(3-3)	(1-3)+(2-1)+(3-1)	(1-3)+(2-1)+(3-2)	(1-3)+(2-2)+(3-3)	(1-4)+(2-3)+(3-1)	(1-4)+(2-3)+(3-2)	(1-4)+(2-4)+(3-3)	(1-5)+(2-3)+(3-1)	(1-5)+(2-3)+(3-2)	(1-5)+(2-4)+(3-3)	(1-6)+(2-3)+(3-4)	(1-6)+(2-6)+(3-3)	(1-7)+(2-3)+(3-1)	(1-7)+(2-3)+(3-2)	(1-7)+(2-4)+(3-3)	
Approved Developments/Future Land Use		Acres	1	109.95	109.95	109.95	43.27	43.27	43.27	24.35	24.35	24.35	3.68	3.68	3.68	1.09	1.09	1.09	0.00	0.00	3.68	3.68	3.68	
	2		69.83	69.83	70.72	69.83	69.83	76.17	69.83	69.83	70.72	75.26	75.26	72.64	75.26	75.26	72.64	72.63	72.4	75.26	75.26	72.64		
	3		36.82	16.36	0	36.82*	16.36	0	36.82*	16.36	0	36.82*	16.36	0	36.82*	16.36	0	44.71	0	36.82*	16.36	0		
Historical/Archaeological	15%	Number of Sites	1	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	
	2		1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 historic structure within 100m/330ft (note: eligible)	2 medium archaeological sites intersecting (note: eligible)	2 medium archaeological sites intersecting (note: eligible)	1 medium archaeological site intersecting (note: eligible)	1 medium archaeological site intersecting (note: eligible)		
	3		1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	No previously recorded cultural resources intersecting	1 small archaeological site intersecting (note: eligible)	1 small archaeological site intersecting (note: eligible)	No previously recorded cultural resources intersecting		
Parks/Recreational Facilities	7%	Interaction with Planned Recreational Trail or State Park	1	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	
	2		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	NO	YES	YES	NO	NO	NO	YES	YES	NO		
	3																							
Right-of-way Impacts	7%	Acres per land use type; hydric (wetlands and waterbodies)	1	AGRICULTURE 86.64 NATURAL 3.77 HYDRIC 4.15 TOTAL 94.56	AGRICULTURE 86.64 NATURAL 3.77 HYDRIC 4.15 TOTAL 94.56	AGRICULTURE 86.64 NATURAL 3.77 HYDRIC 4.15 TOTAL 94.56	AGRICULTURE 86.95 NATURAL 48.96 HYDRIC 8.62 TOTAL 144.53	AGRICULTURE 86.95 NATURAL 48.96 HYDRIC 8.62 TOTAL 144.53	AGRICULTURE 86.95 NATURAL 48.96 HYDRIC 8.62 TOTAL 144.53	AGRICULTURE 93.83 NATURAL 49.34 HYDRIC 26.10 TOTAL 172.07	AGRICULTURE 93.83 NATURAL 49.34 HYDRIC 26.10 TOTAL 172.07	AGRICULTURE 93.83 NATURAL 49.34 HYDRIC 26.10 TOTAL 172.07	AGRICULTURE 95.62 NATURAL 49.37 HYDRIC 32.81 TOTAL 177.80	AGRICULTURE 95.62 NATURAL 49.37 HYDRIC 32.81 TOTAL 177.80	AGRICULTURE 95.62 NATURAL 49.37 HYDRIC 32.81 TOTAL 177.80	AGRICULTURE 95.62 NATURAL 49.37 HYDRIC 32.81 TOTAL 177.80	AGRICULTURE 98.82 NATURAL 42.29 HYDRIC 37.18 TOTAL 178.09	AGRICULTURE 98.82 NATURAL 42.29 HYDRIC 37.18 TOTAL 178.09	AGRICULTURE 98.82 NATURAL 42.29 HYDRIC 37.18 TOTAL 178.09	AGRICULTURE 92.25 NATURAL 42.12 HYDRIC 34.62 TOTAL 168.99	AGRICULTURE 92.25 NATURAL 42.12 HYDRIC 34.62 TOTAL 168.99	AGRICULTURE 79.34 NATURAL 58.34 HYDRIC 40.5 TOTAL 176.18	AGRICULTURE 79.34 NATURAL 58.34 HYDRIC 40.5 TOTAL 176.18	AGRICULTURE 79.34 NATURAL 58.34 HYDRIC 40.5 TOTAL 176.18
	2		AGRICULTURE 95.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 95.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 105.02 NATURAL 4.91 HYDRIC 4.15 TOTAL 109.93	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 85.87 NATURAL 1.92 HYDRIC 21.75 TOTAL 109.54	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 96.86 NATURAL 5.92 HYDRIC 102.78 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 96.86 NATURAL 5.92 HYDRIC 102.78 TOTAL 104.52	AGRICULTURE 91.12 NATURAL 17.04 HYDRIC 108.16 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 84.21 NATURAL 1.92 HYDRIC 21.78 TOTAL 107.91	AGRICULTURE 96.86 NATURAL 5.92 HYDRIC 102.78 TOTAL 102.78		
	3		AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 12.49 TOTAL 86.2	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 12.49 TOTAL 86.2	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 12.49 TOTAL 86.2	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 53.28 NATURAL 26.45 WETLANDS 12.48 TOTAL 92.21	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.77 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 12.49 TOTAL 86.2	AGRICULTURE 40.82 NATURAL 0.08 HYDRIC 5.72 TOTAL 46.42	AGRICULTURE 47.25 NATURAL 26.46 HYDRIC 12.49 TOTAL 86.2	AGRICULTURE 51.95 NATURAL 18.37 HYDRIC 0.8 TOTAL 71.09	AGRICULTURE 46.45 NATURAL 17.49 HYDRIC 0.8 TOTAL 64.65	
Total Socio-Economic Weight		38%																						
Total Socio-Economic Score for each Alternative Corridor (higher score = higher performing alternative corridor)				0.85	0.94	0.92	0.85	1.09	1.07	0.76	1.00	0.98	0.90	1.14	1.41	0.83	1.07	1.34	1.28	1.34	0.90	1.14	1.41	
REMARKS				* Alternative 12 had the highest total score generally due to its avoidance of significant impacts in two of the three segments to approved developments, historical/archaeological, and park and recreational facilities. * Alternative 1 on the other hand ranked the lowest with potential significant land use impacts within segment 1 and potential impacts to parks and recreational facilities within the first two segments.																				
Sample Calculation for Alternative 1 (Segment 2) under Approved Developments/Future Land Use				* Major impacts to the Future Valencia College West Campus and Horizon West Town Center																				
Relative Segmental Score = Segmental Rating				1 (Point) x Approved Developments/Future Land 15% = 0.15																				

Table 2-6 summarizes the composite results obtained previously in **Tables 2-3, 2-4** and **2-5** (engineering, environmental and socio-economic evaluations). The resulting total scores of these previous tables are shown on the last row of **Table 2-6**. The higher ranking “superior” alternative corridors are highlighted in yellow.

According to **Table 2-7**, Alternative Corridors 2, 5, 12, 15, 16, 17, 18, 19 and 20 were selected for further evaluation based on the criteria that they are the only ones that exceed the group median value of 3.77 and are within the standard deviation of 0.19. As previously noted, the objective of this phase is not necessarily to determine which options are the best but rather to identify which alternative(s) are clearly inferior so that they can be eliminated before even more stringent evaluation criteria and procedures are used during the next evaluation phase. The results obtained show that options 1, 3, 4, 6, 7, 8, 9, 10, 11, 13, and 14 are clearly inferior and were thus eliminated from further consideration. **Figure 2-3** illustrates the remaining superior corridors.

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Table 2-6: Preliminary Composite Results

ALTERNATIVES CRITERIA	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6	Alternative 7	Alternative 8	Alternative 9	Alternative 10	Alternative 11	Alternative 12	Alternative 13	Alternative 14	Alternative 15	Alternative 16	Alternative 17	Alternative 18	Alternative 19	Alternative 20
	(1-1)+(2-1)+ (3-1)	(1-1)+(2-1)+ (3-2)	(1-1)+(2-2)+ (3-3)	(1-2)+(2-1)+ (3-1)	(1-2)+(2-1)+ (3-2)	(1-2)+(2-2)+ (3-3)	(1-3)+(2-1)+ (3-1)	(1-3)+(2-1)+ (3-2)	(1-3)+(2-2)+ (3-3)	(1-4)+(2-3)+ (3-1)	(1-4)+(2-3)+ (3-2)	(1-4)+(2-4)+ (3-3)	(1-5)+(2-3)+ (3-1)	(1-5)+(2-3)+ (3-2)	(1-5)+(2-4)+ (3-3)	(1-6)+(2-5)+ (3-4)	(1-6)+(2-6)+ (3-3)	(1-7)+(2-3)+ (3-1)	(1-7)+(2-3)+ (3-2)	(1-7)+(2-4)+ (3-3)
Engineering	1.50	1.65	1.61	1.65	1.44	1.47	1.54	1.33	1.29	1.68	1.47	1.47	1.32	1.47	1.47	1.61	1.47	1.79	1.58	1.58
Environmental	1.25	1.27	1.19	1.27	1.29	1.21	1.20	1.22	1.14	1.14	1.16	1.08	1.14	1.16	1.08	0.96	1.07	1.14	1.16	1.08
Socio-Economic	0.85	0.94	0.92	0.85	1.09	1.07	0.76	1.00	0.98	0.90	1.14	1.41	0.83	1.07	1.34	1.28	1.34	0.90	1.14	1.41
TOTAL	3.60	3.86	3.72	3.77	3.82	3.75	3.50	3.55	3.41	3.72	3.77	3.96	3.29	3.70	3.89	3.85	3.88	3.83	3.88	4.07

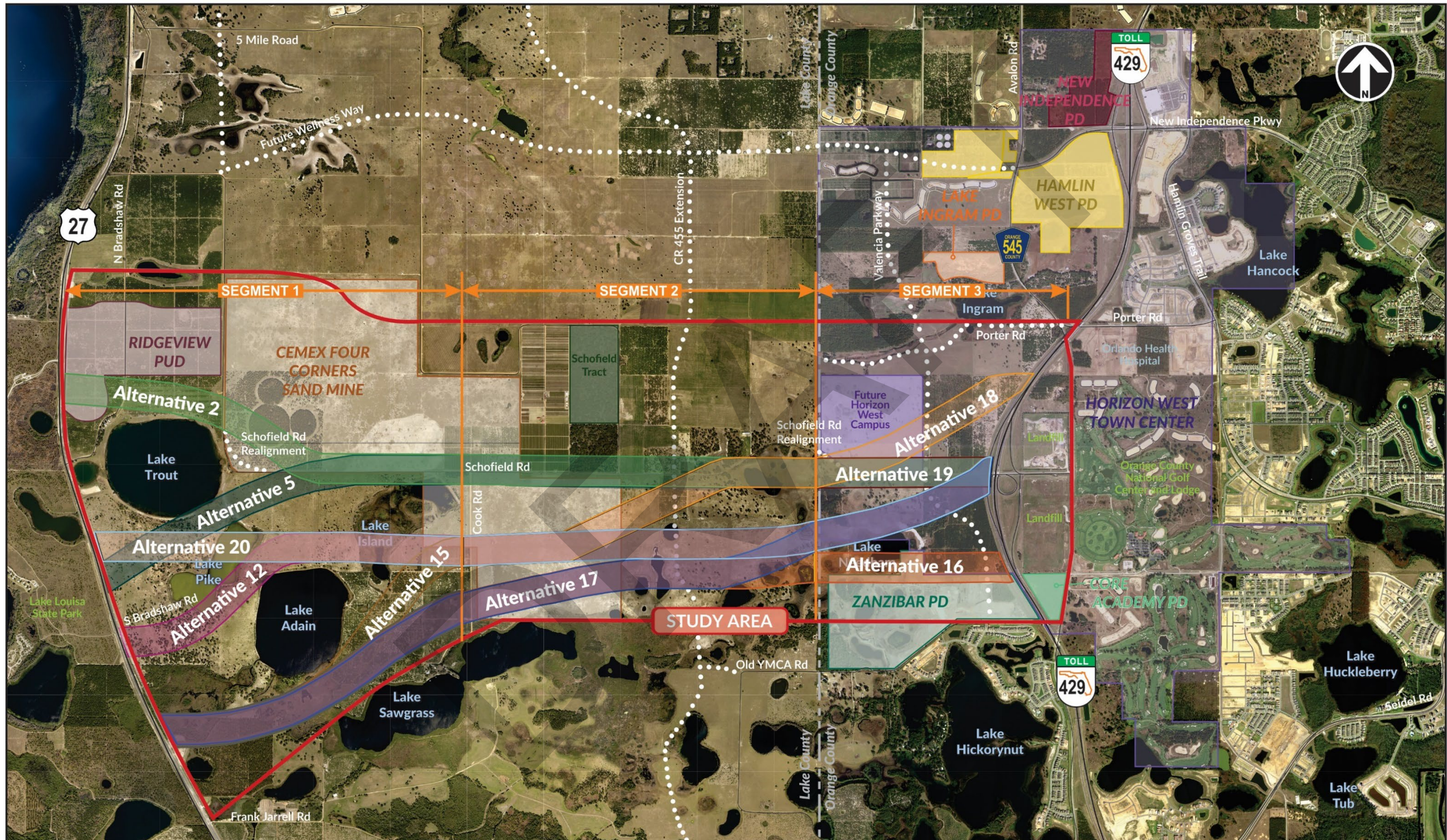
Table 2-7: Preliminary Alternative Corridor Elimination				
Alternative	SCORE	MEDIAN	STANDARD DEVIATION	REASONS FOR ELIMINATION
1	3.60	3.77	0.19	Failed Criterion #1
2	3.86			Remains Viable
3	3.72			Failed Criterion #1
4	3.77			Failed Criterion #1
5	3.82			Remains Viable
6	3.75			Failed Criterion #1
7	3.50			Failed Criterion #1
8	3.55			Failed Criterion #1
9	3.41			Failed Criterion #1
10	3.72			Failed Criterion #1
11	3.77			Failed Criterion #1
12	3.96			Remains Viable
13	3.29			Failed Criterion #1
14	3.70			Failed Criterion #1
15	3.89			Remains Viable
16	3.85			Remains Viable
17	3.88			Remains Viable
18	3.83			Remains Viable
19	3.88			Remains Viable
20	4.07			Remains Viable

Selection Criteria

#1 - Only those alternatives which score higher than the median value for the group will be selected

#2 - The maximum gap between the last selected alternative and the next must not be greater than one standard deviation

Figure 2-3: Pre-Final Corridors



2.5 Pre-Final Alternative Corridor Evaluation

In order to refine the previous analysis, a multi-objective approach using a weighted numerical/descriptive technique was used for the remaining alternative corridors. **Table 2-8** is a numerical/descriptive matrix, which describes and evaluates the features of the remaining corridor alternatives (see **Figure 2-3**). The evaluation used involved the generation of weighting scheme for each of the evaluation parameters. The evaluation parameters generally fall within four general criteria categories, engineering, socio-economic, environmental, and cost. Ten (10) different evaluation sub-criteria were used. Each sub-criteria was assigned a value depending on its perceived degree of importance. These criteria and sub-criteria weightings were developed from the average of individual weighting sets prepared by members of the consultant's team reflecting a broad range of professional backgrounds. In addition, the alternative performance with respect to each parameter was compared using two benchmarks; 1) the overall effect on the specified parameter and/or 2) the relative effect between the competing alternatives. The overall effect received one of the five judgmental values (++ = 1.00, + = 0.80, o = 0.60, - = 0.40, - - = 0.20). If, however any of the alternatives had an overall negative effect, then the worst alternative received a (- -) and the relatively better alternative received a higher score (-). If any two values were approximately equal then they both received the relatively lowest score. If the alternatives had an overall positive effect then the best alternative received a (++) and the relatively worse alternative received a lower score (+). A common value, therefore, signifies an equal overall and relative effect. This evaluation involves a combination of both qualitative and quantitative values resulting in an overall score. Each score indicated on the matrix is the result of multiplying the judgmental analysis rating times the relative weight for that parameter. For example, on **Table 2-8**, Corridor 2 under the "Geometric Features" parameter was given a (-) designation (judgmental value = 0.4) due to the potential access management issue resulting from its close proximity to Lake Louisa State Park's main entrance and the potential operational issues due to the close proximity of the proposed CR 455 interchange to Schofield Road. This judgmental value of 0.4 was then multiplied by the relative weight of the "Geometric Features" parameter (12.0) resulting in an overall score of 4.8. Those alternative options found most feasible, which merited further development and evaluation, are shown in yellow.

Table 2-8: Pre-Final Alternative Corridor Evaluation

LEGEND																
++													1.0			
+													0.8			
0													0.6			
-													0.4			
--													0.2			
IMPACTS	ENGINEERING				43	ENVIRONMENTAL				26	SOCIO-ECONOMIC				31	TOTAL SCORE
	GEOMETRIC FEATURES	TRAFFIC ATTRactions	CONNECTIVITY/ DIRECTNESS	UTILITY IMPACTS	CONSERVATION LANDS	WETLAND IMPACTS	RECREATIONAL RESOURCES	APPROVED DEVELOPMENT IMPACTS	CONTROVERSY POTENTIAL	RIGHT-OF-WAY IMPACTS						
ALTERNATIVES	12	12	8	11	10	8	8	12	9	10						
2 (1-1) + (2-1) + (3-2)	Potential access management issue due to the close proximity of Lake Louisa State Park main entrance. Potential operational issues due to the close proximity of the proposed CR 455 interchange to Schofield Road.	- Projected to attract 24,300 AADT (generally higher)	+ Provides systems connectivity / Good directness	+ Potential to impact 3.5 miles of major utilities along Schofield Road and other minor utilities (highest overall)	-- No direct impacts to conservation lands	+ Potentially 30.29 acres of wetland impacts (least overall)	+ Potentially minor visual and noise impacts due to close proximity to Lake Louisa State Park cabins.	o Potential impacts to Ridgeview PUD (moderate), CEMEX sand mine (minor) and Valencia College campus (minor).	- Highest controversy caused by the potential impacts to the Ridgeview PUD, to the parcels that are located in the Horizon West Town Center that front Schofield Road, the Southern Hills Farms, and a limited access facility located in close proximity to Schofield Road.	-- Potentially 334.46 acres of right-of-way impacts (moderate)	+ 56.8					
5 (1-2) + (2-1) + (3-2)	Potential operational issues due to the close proximity of the proposed CR 455 interchange to Schofield Road.	o Projected to attract 23,700 AADT (generally medium)	o Provides systems connectivity / Good directness	+ Potential to impact 3.5 miles of major utilities along Schofield Road and other minor utilities (highest overall)	-- No direct impacts to conservation lands	+ Potentially 33.24 acres of wetland impacts (relatively minor)	+ Potentially minor visual and noise impacts due to close proximity to Lake Louisa State Park cabins.	o Potential impacts to CEMEX sand mine (minor) and Valencia College campus (minor).	o High controversy potential due to the potential impacts to the parcels that are located in the Horizon West Town Center that front Schofield Road, the Southern Hills Farms, and a limited access facility located in close proximity to Schofield Road	- Potentially 384.43 acres of right-of-way impacts (moderate)	o 59.0					
12 (1-4) + (2-4) + (3-3)	Potential access management issue on US 27 with S Bradshaw Road and potential geometric issues due to the S-Curve around Lake Pike approaching US 27 in Segment 1	o Projected to attract 23,700 AADT (generally medium)	o Provides systems connectivity / Good directness	+ Potential to impact minor utilities	+ Potentially 3.72 acres of impacts to conservation lands (moderate)	o Potentially 41.01 acres of wetland impacts (moderate)	o Potentially minor visual and noise impacts due to close proximity to Lake Louisa State Park cabins	o Potential impacts to CEMEX sand mine (moderate).	- Moderate controversy potential due to the potential impacts through the middle of the CEMEX Four Corners Sand Mine. Lower controversy potential with reduced impacts to the parcel that fronts Schofield Rd in the Horizon West Town Center.	o Potentially 372.79 acres of right-of-way impacts (moderate)	o 61.4					
15 (1-5) + (2-4) + (3-3)	Low potential for geometric issues due to the S-Curve around Lake Pike approaching US 27 in Segment 1	+ Projected to attract 23,100 AADT (generally medium)	o Provides systems connectivity / Low directness	- Potential to impact minor utilities	+ Potentially 3.72 acres of impacts to conservation lands (moderate)	o Potentially 88.25 acres of wetland impacts (relatively high)	- No impacts to recreational resources	+ Potential impacts to CEMEX sand mine (moderate).	- Moderate controversy potential due to the potential impacts through the middle of the CEMEX Four Corners Sand Mine. Lower controversy potential with reduced impacts to the parcels that front Schofield Rd in the Horizon West Town Center.	o Potentially 370.11 acres of right-of-way impacts (moderate)	o 60.6					
16 (1-6) + (2-5) + (3-4)	Potential interchange spacing issue at SR 429	- Projected to attract 24,100 AADT (generally higher)	+ Provides systems connectivity / Low directness	- Potential to impact minor utilities	+ Potentially 8.46 acres of impact to conservation lands (highest overall)	- Potentially 65.02 acres of wetland impacts (relatively high)	- No impacts to recreational resources	+ Potential impacts to CEMEX sand mine (moderate) and Zanzibar PD (minor).	- Moderate controversy potential due to the potential impacts to the Zanzibar PD (currently under construction), but impacting the CEMEX Four Corners Sand Mine in the south. Lower controversy potential with reduced impacts to the parcel that fronts Schofield Rd in the Horizon West Town Center.	o Potentially 323.76 acres of right-of-way impacts (lowest overall)	+ 58.2					
17 (1-6) + (2-6) + (3-3)	Low potential for geometric issues due to the S-Curve around Lake Pike approaching US 27 in Segment 1	+ Projected to attract 23,100 AADT (generally medium)	o Provides systems connectivity / Low directness	- Potential to impact minor utilities	+ Potentially 3.72 acres of impacts to conservation lands (moderate)	o Potentially 72.98 acres of wetland impacts (highest overall)	- No impacts to recreational resources	+ Potential impacts to CEMEX sand mine (minor).	o Low controversy potential due to potential impacts to the CEMEX Four Corners Sand Mine in the south. Lower controversy potential with reduced impacts to the parcels that front Schofield Rd in the Horizon West Town Center.	+ Potentially 356.18 acres of right-of-way impacts (moderate)	o 64.8					
18 (1-7) + (2-3) + (3-1)	Potential operational issues due to the close proximity of the proposed CR 455 interchange to Schofield Road. Potential interchange spacing issue at SR 429	- Projected to attract 23,700 AADT (generally medium).	o Provides systems connectivity / slightly better than low directions.	o Potential to impact 1 mile of major utilities along Schofield Road and other minor utilities.	- No direct impacts to conservation lands.	+ Potentially 36.81 acres of wetland impacts (relatively minor).	+ No impact to recreational resources.	+ Potential impacts to CEMEX sand mine (moderate) and Valencia College campus (major).	-- Highest controversy potential due to the potential impacts to the parcels that are located in the Horizon West Town Center that front Schofield Road, the Valencia College Future Campus, the Southern Hills Farms, and a limited access facility located in close proximity to Schofield Road.	-- Potentially 355.18 acres of right-of-way impacts (moderate)	o 52.2					
19 (1-7) + (2-3) + (3-2)	Low potential for detrimental geometric issues on US 27 but potential operational issues due to close proximity of the proposed CR 455 interchange to Schofield Road.	- Projected to attract 23,700 AADT (generally medium).	o Provides systems connectivity / Good directness	+ Potential to impact 1.5 miles of major utilities along Schofield Road and other minor utilities.	- No direct impacts to conservation lands.	+ Potentially 36.84 acres of wetland impacts. (relatively minor)	+ No impacts to recreational resources.	+ Potential impacts to CEMEX sand mine (moderate) and Valencia college campus (minor).	- High controversy potential due to the potential impacts to the parcels that are located in the Horizon West Town Center that front Schofield Road, and through the middle of the CEMEX Four Corners Sand Mine	- Potentially 348.74 acres of right-of-way impacts (moderate).	o 58.0					
20 (1-7) + (2-4) + (3-3)	Lowest potential for geometric issues	++ Projected to attract 23,700 AADT (generally medium)	o Provides systems connectivity / Good directness	+ Potential to impact minor utilities	+ Potentially 3.72 acres of impacts to conservation lands (moderate)	o Potentially 35.86 acres of wetland impacts (relatively minor)	+ Potentially minor visual and noise impacts due to close proximity to Lake Louisa State Park cabins	o Potential impacts to CEMEX sand mine (moderate).	- Moderate controversy potential due to the potential impacts through the middle of the CEMEX Four Corners Sand Mine. Lower controversy potential with reduced impacts to the parcel that fronts Schofield Rd in the Horizon West Town Center.	o Potentially 365.4 acres of right-of-way impacts (moderate)	o 67.8					

According to **Table 2-9**, both the group median scores and standard deviation were initially used as the basis for elimination of inferior options. The results obtained show that Alternative Corridors 2, 5, 16, 18 and 19 are clearly inferior since they did not meet selection criterion #1. In addition, Alternative 15 was eliminated from further consideration due to failing Criterion #3.

Table 2-9: Pre-Final Alternative Corridor Elimination

Corridor	Score	Median	Standard Deviation	Reasons for Elimination
2	56.8	59.0	4.09	Failed Criterion #1
5	59.0			Failed Criterion #1
12	61.4			Remains Viable
15	60.6			Failed Criterion #3
16	58.2			Failed Criterion #1
17	64.8			Remains Viable
18	54.6			Failed Criterion #1
19	58.0			Failed Criterion #1
20	67.8			Remain Viable

Selection Criteria

- #1 – Only those alternatives which score higher than the median value for the group will be selected
- #2 – The maximum gap between the last selected alternative and the next must not be greater than one standard deviation
- #3 – Only the top three alternatives which comply with the previous criteria (#1 and #2) will be selected for further consideration

Table 2-10 illustrates the general performance of the three top remaining alternatives. According to the table, Alternative 20 is the best option in terms of engineering features, but only “fair” (i.e. – moderately effective) in terms of avoiding potential environmental and socio-economic impacts. Alternative 12 is generally “fair” in all three decisional components and Alternative 17 is “fair” in terms of engineering features and avoidance of potential environmental impacts but is the highest ranked in terms of socio-economic issues. In summary, the total resulting scores of these three top alternatives are indeed very close and indicate that each could potentially provide a superior solution with an adequate balance between the three decisional components (engineering, environmental and socio-economic).

Table 2-10: Pre-Final Alternative Corridor Summary Results

DECISIONAL COMPONENTS ALTERNATIVES	ENGINEERING	ENVIRONMENTAL	SOCIO-ECONOMIC	SUMMARY
12	<ul style="list-style-type: none"> Provides medium traffic attraction (23,700 AADT). Minor potential utility impacts generally similar to alternatives 17 and 20. Provides systems connectivity/moderate directness. Potential access management issues with US 27 and S. Bradshaw Road. 	<ul style="list-style-type: none"> Generally minor visual and noise impacts due to its close proximity to Lake Louisa State Park cabins. 41.01 acres of potential wetland impacts. Only moderate impacts (3.72 acres) of impacts to conservation lands. 	<ul style="list-style-type: none"> Moderate controversy potential due to the potential impacts through the middle of the CEMEX Four Corners Sand Mine. Potential right-of-way impact = 373 acres\pm 	<ul style="list-style-type: none"> Although this alternative was not the best in any of the 3 decisional categories (engineering, environmental and socio-economic) it was the second best in engineering, resulting in a relatively high total score.
17	<ul style="list-style-type: none"> Provides medium traffic attraction (23,100 AADT). Minor potential utility impacts generally similar to Alternatives 12 and 20. Not as direct as Alternatives 12 and 20. 	<ul style="list-style-type: none"> Moderate impacts to conservation lands (3.72 acres) and no impacts to recreational resources but with higher wetland impacts (72.98 acres). 	<ul style="list-style-type: none"> Good alternative with only minor potential impacts to approved developments and the CEMEX Four Corners Sand Mine Potential right-of-way impact = 356 acres\pm 	<ul style="list-style-type: none"> Good alternative but not as direct as some of the other corridors. Good option in terms of potential avoidance of impacts to approved developments (only minor impacts).
20	<ul style="list-style-type: none"> Provides medium traffic attraction (23,700 AADT) generally similar to alternatives 12 and 17. Minor potential utility impacts generally similar to the other two alternatives. Most direct of all alternatives. 	<ul style="list-style-type: none"> Adequate alternative with only relatively minor impacts to wetlands (36 acres \pm) and conservation lands (3.7 acres). 	<ul style="list-style-type: none"> Similar to Alternative 12 with moderate controversy potential due to the impacts to the middle of the CEMEX Four Corners Sand Mine. Potential right-of-way impact = 365 acres\pm 	<ul style="list-style-type: none"> Generally best solution in terms of engineering issues (most direct, minimal utility conflicts no significant problems in terms of future interchange locations). Tied with other two options in terms of environmental issues with moderate potential impacts to conservation lands and wetlands

2.6 Final Alternative Corridor Evaluation

In order to further test the validity of the results previously obtained in **Table 2-8**, the use of a more detailed evaluation procedure is necessary. The core decision-making tool used for the evaluation was the "Expert Choice" computer software, which utilizes the Analytical Hierarchy Process (AHP) procedure. The AHP method is based on the breakdown of each problem into a system of stratified levels of hierarchies where each level consists of criteria or objectives to be compared. The relative importance or priority for all the criteria in a given level is then established through a sequence of pair-wise comparisons, which will ultimately lead to the derivation of priorities (i.e., weights or

importance) for each criterion. Each alternative is then compared in a series of pair-wise comparisons in relation to each of the evaluation criteria that leads to the determination of the recommended corridor alternative. A complete description of the project evaluation criteria and AHP methodology as well as the AHP computer run results are included in **Appendix A**. The results from the final alternative evaluation confirm that Corridor 20 is the top ranked alternative but only by a small margin (see **Figure 2-4**). In order to further reduce potential individual bias and investigate any sensitive criterion that could yield a different alternative ranking, a thorough sensitivity analysis of the AHP evaluation results was conducted. This feature investigates the effect on the ranking of the top priority alternative if the criteria take on other possible weight values.

Figure 2-5 illustrates distinct sensitivity analyses or “cases” which explore potential changes in the engineering deficiencies parameter (case 1), environmental impacts parameter (case 2), and socio-economic impacts parameter (case 3). The solid red vertical line shown for each case indicates the original assigned weight and the arrow pointing to the dashed line, the necessary increase (arrow pointing to the right) or reduction (arrow pointing to the left) in the original assigned weight that would be required for another alternative to overtake the superior alternative. In terms of case 1 (engineering deficiencies) the original assigned weight was 0.430. According to **Figure 2-5**, the weight would only need to be slightly decreased to 0.405 for Alternative Corridor 17 to overtake Alternative Corridor 20. As shown on the table at the bottom of the figure, this change would reassign values of 0.271 for the environmental impacts (instead of its original value of 0.260) and 0.324 for socio-economic impacts (instead of 0.310). Under Case 2 (environmental impacts), Corridor 20 maintains its relative superiority regardless of a change in criteria weights since the lines representing the competing alternatives never meet. Lastly, under Case 3 (socio-economic impacts), the original assigned weight of 0.310 would only have to be increased to 0.338 for Corridor 17 to overtake Corridor 20. This change would also result in relatively minor weight reassignments for the engineering (0.413) and environmental impacts categories (0.250). In summary, the sensitivity analysis confirms that both Corridors 20 and 17 are essentially tied and that the obtained results lack the necessary robustness to affirm that one is superior to the other since a slight shift in criteria weights could alter their final ranking.

Figure 2-4: AHP Results

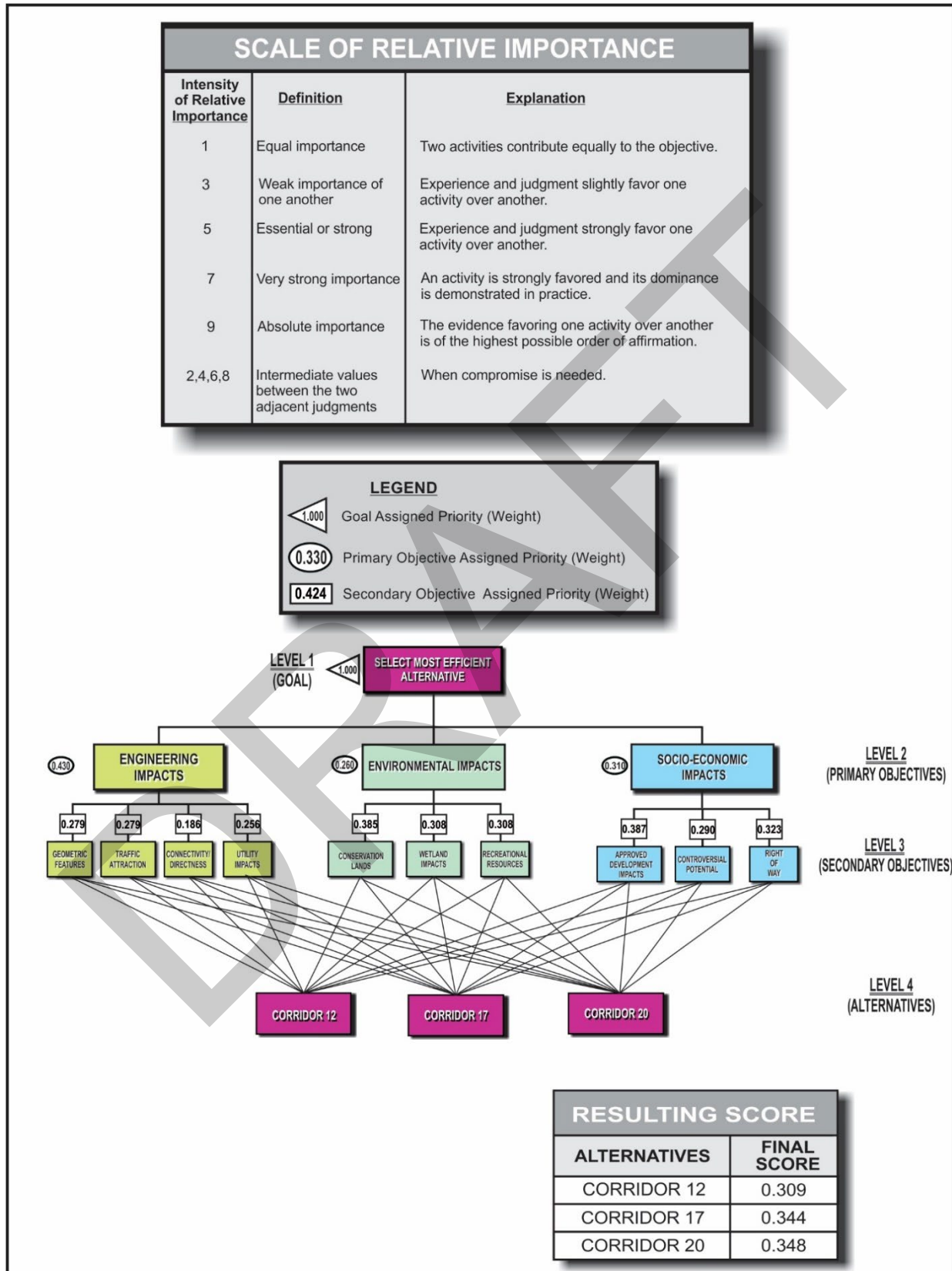
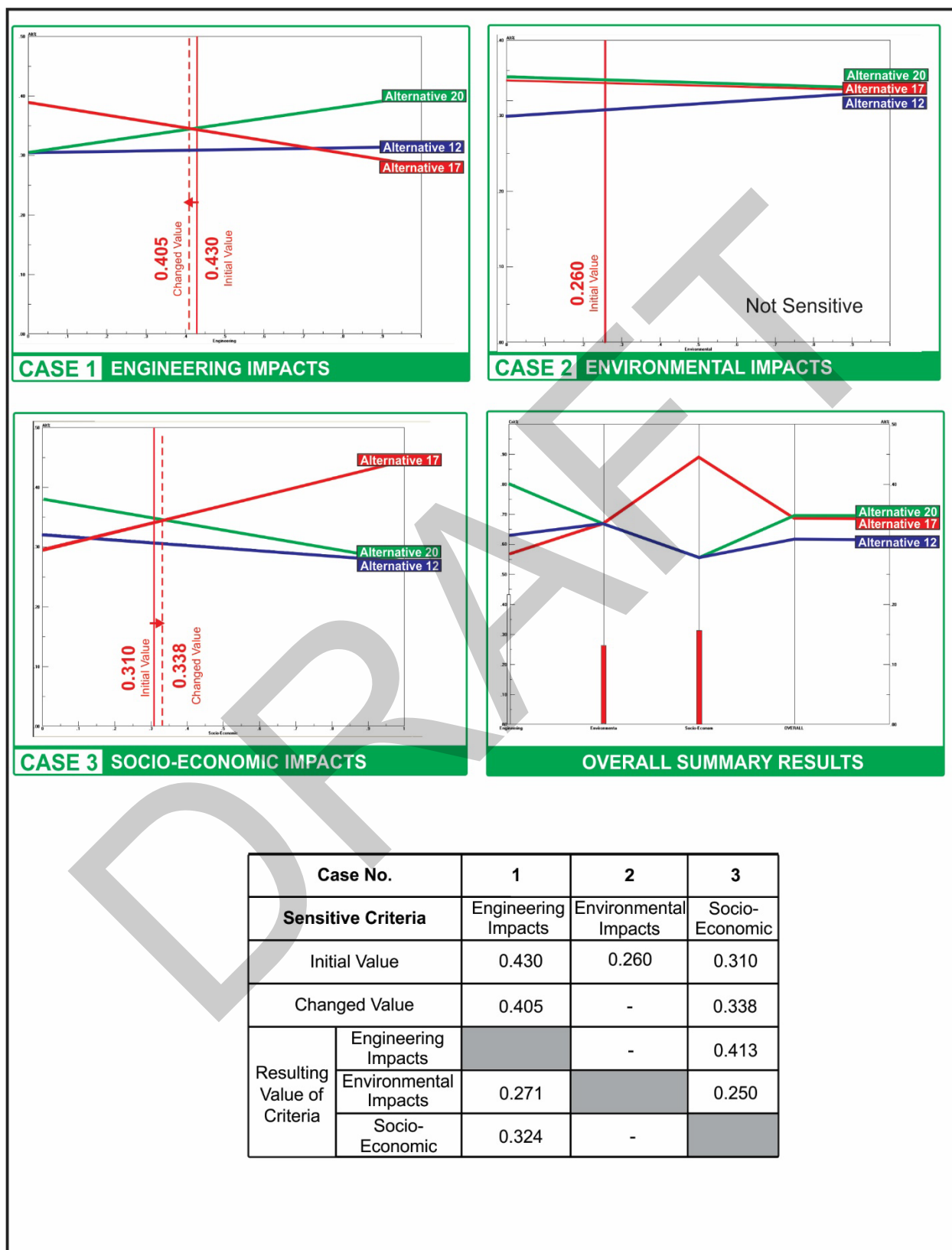


Figure 2-5: Sensitivity Results

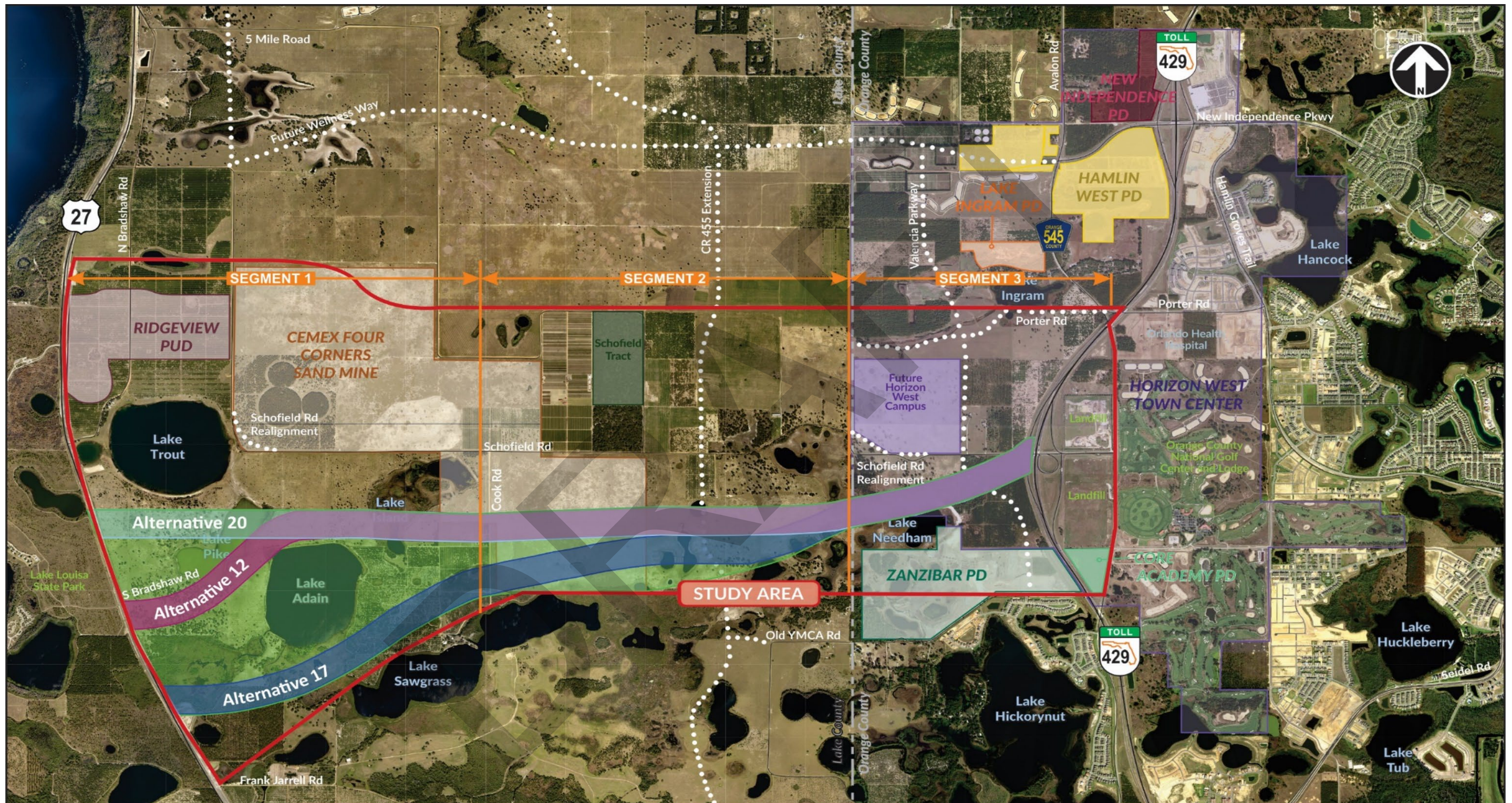


2.7 Corridor Conclusions

The conclusions obtained from the previous corridor evaluation show that the project area bounded by Corridor 20 on the north and Corridor 17 on the south (as shown on **Figure 2-6**) is generally the superior option.

It should be noted that the consideration for developing a major highway at a new location can be severely limited by physical, environmental and economic constraints. The next steps involve the generation of various alternatives within the selected corridor area which strive to mitigate or remove the existing and projected impacts and deficiencies and optimize the provision of an effective Lake/Orange County Connector facility.

Figure 2-6: Recommended Corridor Area



3 Existing Corridor Conditions

According to the results of the Corridor Analysis (summarized in Section 2 of this document), the preferred corridor area would provide an efficient location for the proposed Lake/Orange County Connector. This section of the report will briefly describe existing physical, operational and environmental issues prevalent within this corridor.

This section involved an on-site inventory and verification of current existing conditions as well as the collection of pertinent data that would serve as the basis for a detailed evaluation. Other important features along the study corridor such as utilities, as well as the social/environmental characteristics were reviewed and summarized. **Appendix B** of this report contains a list of references of previous study reports and other pertinent documents that were consulted during this task.

3.1 Utilities

Utility companies with known facilities within the proposed project limits were contacted and requested to submit as-built plans and information on any proposed utilities within the project limits. **Table 3-1** presents a list of utilities owners and types of utilities. A summary of the utility location based on the responses received is included in **Appendix C**.

Table 3-1: Existing Utilities

Utility	Contact Information	Utility Type
AT&T Corp/PEA	Steve Eriksson – (407) 578-8000	Telephone
AT&T Florida	Alan Reynolds – (407) 351-8180	Telephone
Centurylink	Marlon Brown – (863) 452-3132	Telephone
Centurylink	Roy Dowless – (352) 368-8861	Telephone
Duke Energy	Jennifer Williams – (813) 909-1210	Electric
Duke Energy	Robb Brown – (352) 459-4671	Electric
Lake Utilities Services, Inc.	Bryan Gongre – (407) 869-8588	Water
Level 3 Communications, LLC	(720) 888-1089	Fiber Optic
Orange County Utilities	Jose Hernandez – (407) 254-9718	Water
Orlando Telephone Company, Inc.	Aaron Pickle – (321) 356-2995	Fiber and Telephone
Smart City Solutions	David Cawley – (407) 828-6648	Fiber Optic
Bright House Networks Charter	Paul Rymer – (321) 757-6503	Internet, Cable TV, Telephone
Sumter Electric Cooperative	David Nelson – (352) 569-9637	Electric
Verizon Business	Thomas Clark – (918) 590-9903	Telephone
Water Conserv II	Phil Cross – (407) 656-2332	Water

3.2 Environmental Characteristics

The following sections briefly summarize some of the key environmental conditions prevalent within the project study area. For additional information regarding the existing environmental conditions please refer to the Project Environmental Impact Report (PEIR) and associated environmental documents prepared for this study.

3.2.1 Land Use

Land use descriptions provided for both uplands and wetlands are classified utilizing the Florida Land Use Cover and Forms Classifications System (FLUCCS) designations. Existing land use in the project area was initially determined utilizing U.S. Geological Survey (USGS) maps, historical images, aerial photographs, and land use mapping from the St. Johns River Water Management District (SJRWMD) (2012).

Land use categories mapped by SJRWMD are shown in **Figure 3-1**. Descriptions of FLUCCS codes are taken primarily from the Florida Department of Transportation (FDOT) (1999) and South Florida Water Management District (SFWMD) (2009). The majority of land in the project area consists of Improved Pastures (FLUCCS 2110), Citrus Groves (FLUCCS 2210), and Freshwater Marshes (FLUCCS 6410), with small intermixed Lakes (FLUCCS 5200).

The western side of the project area is composed of larger Lakes (FLUCCS 5200) and areas of Field Crops (FLUCCS 2150), Pine Plantation (FLUCCS 4410), Upland Hardwood Forest (FLUCCS 4200) and Mixed Upland Nonforested (FLUCCS 3100). The eastern side of the project area is composed of small areas of Xeric Oak (FLUCCS 4210), Citrus Groves (FLUCCS 2210) and Herbaceous Upland Nonforested (FLUCCS 3100).

3.2.2 Soils

The Natural Resources Conservation Service (NRCS) (2017) indicates that fifteen soil types occur in the study area (see **Figure 3-2**). Four hydric soil types, Basinger Fine Sand, Placid Sands, Oklawaha Muck, and Organic Soil are mapped in the project area. **Table 3-2** describes the soils listed by the Soil Survey as occurring on-site. In general, and based upon the USDA-NRCS Soil Survey for Lake and Orange Counties, sandy soils to depths of 80 inches below the natural ground surface are reported along the majority

Figure 3-1: Existing Land Use Map

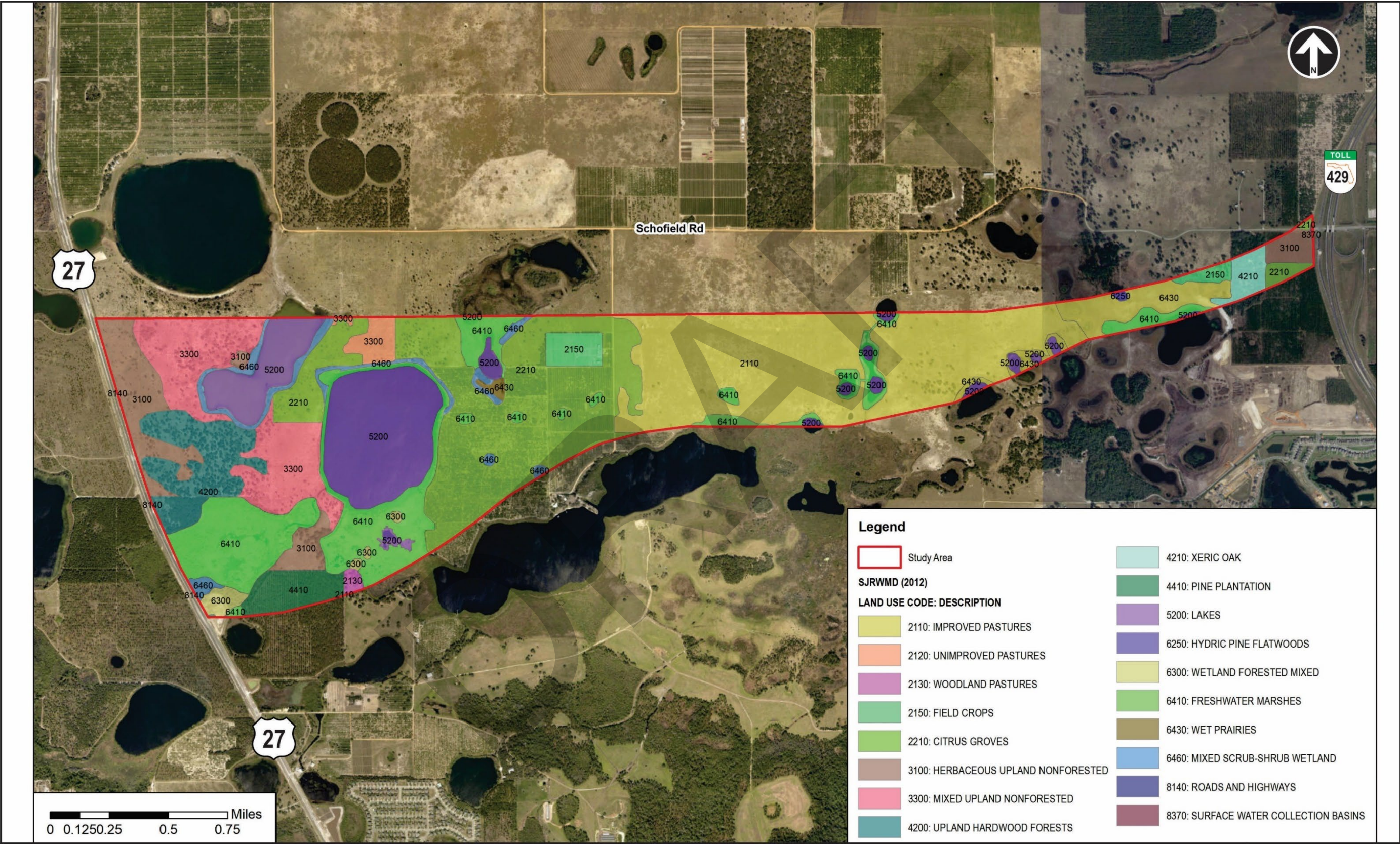


Figure 3-2: Existing Soils Map

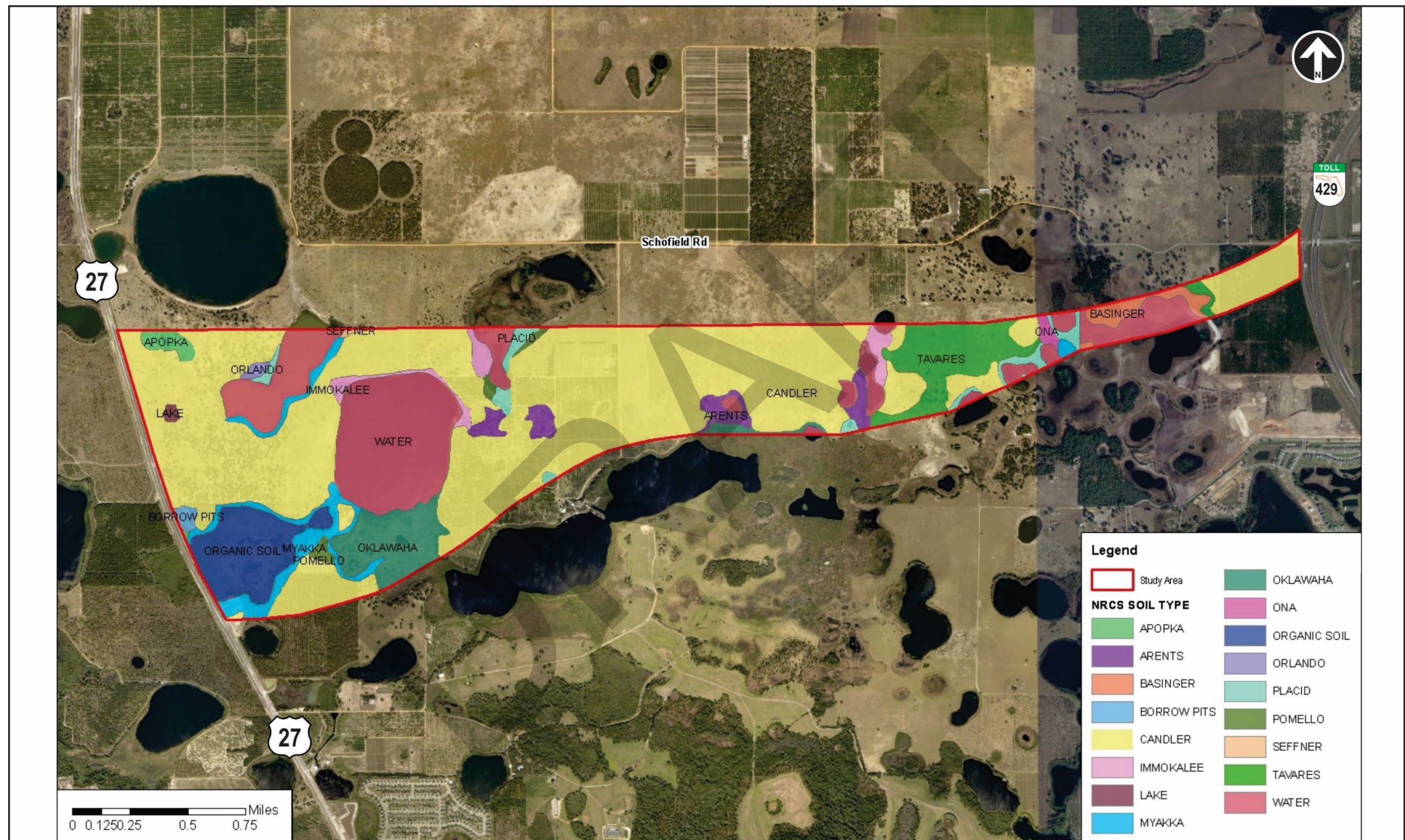


Table 3-2: On-Site Soils Based on USDA NRCS

Soil Type	Slope	Characteristics
Apopka Sand	5 to 12 Percent	This soil type consists of very deep, well drained, moderately slowly permeable soils on upland ridges, side slopes and knolls. They formed in thick beds of sandy and loamy marine or eolian deposits. This is not a hydric soil.
Arents	-	Soils that have been deeply mixed by plowing, spading, or other methods of moving by humans. These soils are used mostly as cropland, urban land, or pasture.
Basinger Fine Sand	0 to 2 Percent	This soil type consists of very deep, very poorly and poorly drained, rapidly permeable soil in low flats, sloughs, depressions and poorly defined drainage ways. They formed in sandy marine sediments. Permeability is rapid. This is a hydric soil.
Candler Sand	12 to 40 Percent	This soil type consists of very deep, excessively drained, very rapidly to rapidly permeable soils on uplands. They formed in thick beds of eolian or sandy marine deposits. This is not a hydric soil.
Immokalee Fine Sand	0 to 5 Percent	This soil type consists of very deep, very poorly and poorly drained soils on flatwoods and in depressions. They formed in sandy marine sediments. Permeability is very rapid to moderate. This is not a hydric soil.
Lake Sand	0 to 5 Percent	This soil type consists of excessively drained, rapidly to very rapidly permeable soils formed in thick beds of sand. They are on nearly level to steep slopes in central Florida. This is not a hydric soil.
Myakka Sands	0 to 2 Percent	This soil type consists of very deep, very poorly or poorly drained, moderately rapid or moderately permeable soils that occur primarily in mesic flatwoods of peninsular Florida. They formed in sandy marine deposits. This is not a hydric soil.
Oklawaha Muck	0 to 2 Percent	This soil type consists of deep, very poorly drained soils that formed in herbaceous organic material and loamy and clayey mineral material. These soils are on floodplain, freshwater marshes, and depressions. This is a hydric soil.
Ona fine sand	0 to 2 Percent	This soil type consists of poorly drained, moderately permeable soils that formed in thick sandy marine sediments. They are in the flatwood areas of central and southern Florida. Permeability is moderate. This is not a hydric soil.
Organic Soil	-	Soils rich in nutrients and minerals, often found in wet, swampy areas. This is a hydric soil.
Orlando Fine Sand	0 to 5 Percent	This soil type consists of very deep, well drained, rapidly permeable soils that formed in thick deposits of sandy marine or fluvial sediments. They are on uplands in Peninsular Florida. This is not a hydric soil.
Placid Sand	0 to 2 Percent	This soil type consists of very deep, very poorly drained, rapidly permeable soils on low flats, depressions, poorly defined drainageways on uplands, and flood plains on the Lower Coastal Plain. They formed in sandy marine sediments. This is a hydric soil.
Pomello Sand	0 to 5 Percent	This soil type consists of very deep, moderately well to somewhat poorly drained soils that formed in sandy marine sediments. Pomello soils are on ridges, hills, and knolls in the flatwoods on marine terraces. This is not a hydric soil.
Seffner Sand	0 to 2 Percent	This soil type consists of very deep, somewhat poorly drained, rapidly permeable soils on the rims of depressions and on lower lying flats and knolls in the Lower Coastal Plain of south Florida. They formed in sandy marine sediments. This is not a hydric soil.
Tavares Sand	0 to 5 Percent	This soil type consists of very deep, moderately well drained soils that formed in sandy marine or eolian deposits. Tavares soils are on hills, ridges and knolls of the lower Coastal Plain. This is not a hydric soil.

of the project corridor with intermittent areas of plastic soils. In general, these soils are suitable for supporting proposed roadway embankments after proper subgrade preparation and removal of unsuitable materials.

To evaluate the subsurface conditions and groundwater table levels along the proposed project limits Standard Penetration Test (SPT) borings were advanced to depths of approximately 20 feet below the existing ground surface along the project corridor. The borings were located in areas along the various corridor alternatives in an attempt to encounter problematic soil conditions. The soil types encountered during this exploration have been assigned a stratum number and are listed in **Table 3-3**.

Table 3-3: General Soil Conditions Based on Borings

Stratum Number	Typical Soil Description	AASHTO Classification
1	Gray to Light gray, brown to light brown sand to sand with silt	A-3
2	Gray to gray-brown silty sand	A-2-4
3	Gray clayey sand	A-2-6.

It should be noted that although soil conditions considered detrimental to the proposed roadway alignment were not encountered during field explorations (at boring depths of 20 feet), further explorations will be required during design. The proposed alignments do traverse wetland areas and, although not encountered during this exploration, deeper organic soil may be encountered.

3.2.3 Groundwater

Results of field explorations show that the groundwater table, when apparent, was found to range from depths of approximately 6 inches to 10 feet below the existing ground surface. The seasonal high groundwater table (SHGWT) levels at the boring locations along the project corridor are estimated to range from at or above the existing ground surface to depths greater than 6 feet below existing grades. In general, the seasonal high groundwater table levels estimated along the project alignments were based on soil

stratigraphy, measured groundwater levels from the borings, the USDA NRCS Soil Survey information for Lake and Orange Counties, Florida, and surrounding topography.

3.2.4 Contamination

A Contamination Screening Evaluation Report (CSER) was prepared for this study. The analysis included information from Florida Department of Environmental Protection (DEP) and US Environmental Protection Agency (USEPA) databases as well as field investigations and reviews of historic and aerial photographs. The contamination sites are summarized in **Table 3-4**. **Figure 3-3** shows the locations of each site.

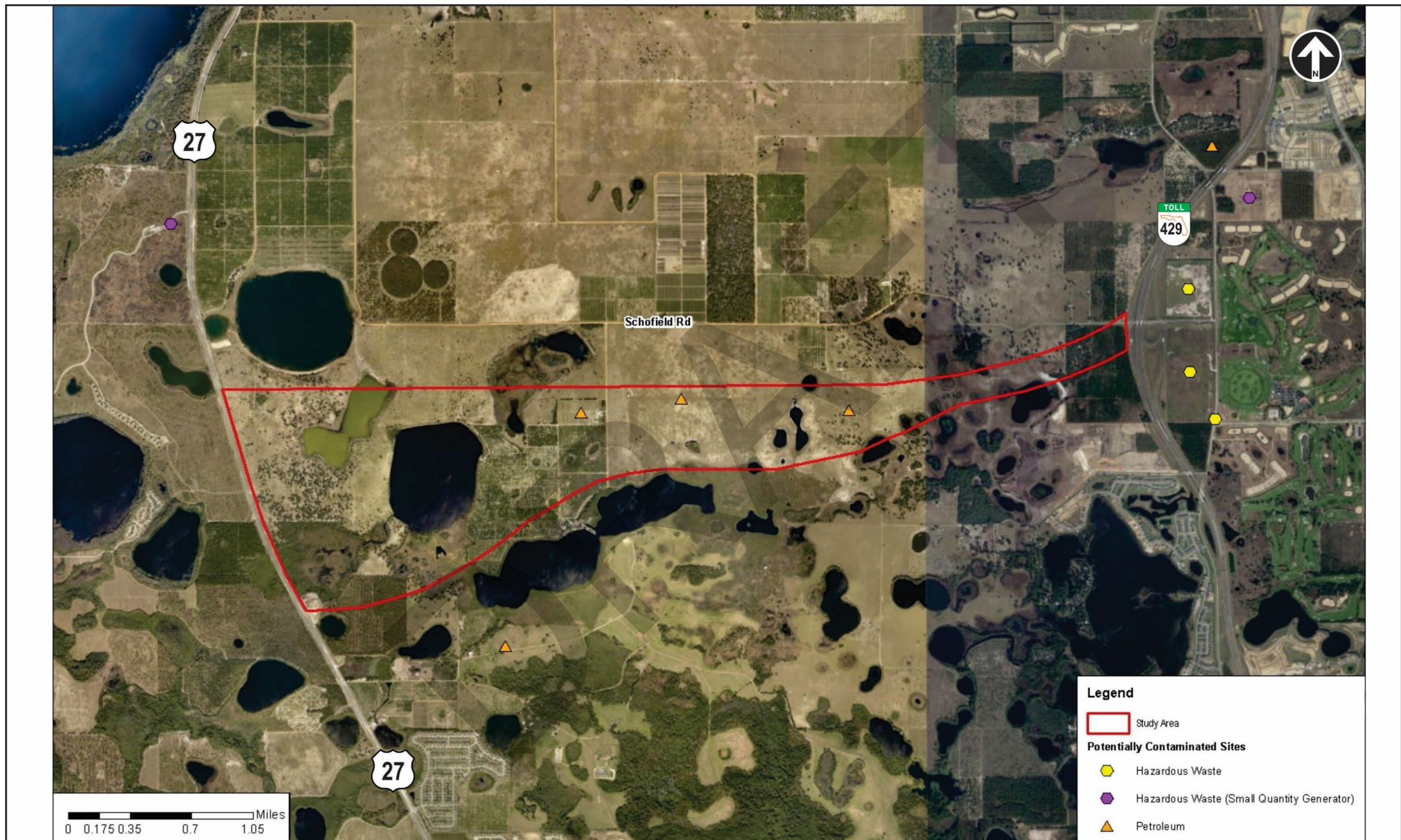
3.2.5 Flood Zones

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (updated December 4, 2012 [Lake County] and September 25, 2009 [Orange County]), a large portion of the project corridor is located within Flood Zone X, which is a flood zone that has a 0.2% annual flood chance. Small portions of the project area are located within flood zones A and AE, which are flood zones that are inundated by the 100-year flood. FEMA FIRM maps are included in **Appendix D**.

Table 3-4: Contamination Site Summary

Site #	Facility Name	Address	Facility ID (FDEP/ RCRA)	Databases	Concern	Owner	Distance of Contamination from Project Corridor
1	West Orange Environmental Resources C&D	7706 Avalon Road	85524	FDEP Solid Waste	Hazardous Waste	Orange County Environmental LLC	Approximately 0.3 miles northeast
2	Schofield Corporation of Orlando/545 Landfill	8050 Avalon Road	25291 / 9801128	FDEP Solid Waste / STCM	Hazardous Waste	Schofield Corporation of Orlando, Inc.	Approximately 0.4 miles southeast
3	Arnold Groves Storage Tank	15625 Frank Jerrell Road	9100695	STCM	Petroleum	JJJR Properties LLC	Approximately 0.5 miles south
4	Sun Ridge Four MGMT Inc.	6535 Cook Road	9803085	STCM	Petroleum	Catherine E. Ross Groves, Inc.	Adjacent
5	Island Lake Storage Tank-Lake County Grove	Cook Road	9700467	STCM	Petroleum	Lake Louisa LLC	Adjacent
6	Lake County Grove Storage Tank	732 Shell Pond Road	9201649	STCM	Petroleum	Davidson Harvest LLC et al C/O Karl Corporation	Adjacent
7	Hancock Grove Storage Tank	Porter Road East of Highway 545	8737209	STCM	Petroleum	Boyd Horizon West JV LLC	Approximately 1 mile northeast
8	Former Agricultural Areas	Throughout Project Area	None	None	Pesticides, Fertilizers	*not mapped*	Adjacent
9	Braun Properties	8815 Avalon Road	FLD984216531	RCRA	Hazardous Waste	N/A	Approximately 0.6 miles southeast
10	Orlando Health Emergency Room and Medical Pavilion	17000 Porter Road	FLR000229385	RCRA	Hazardous Waste (small quantity generator)	Orlando Health Central, Inc.	Approximately 1 mile northeast
11	Lake Louisa State Park	7305 US 27	FLR000148049	RCRA	Hazardous Waste (small quantity generator)	TIITF/REC & Parks Lake Louisa State Park	Approximately 1 mile northwest

Figure 3-3: Contamination Site Map



3.2.6 Elevation and Hydrologic Features

Figure 3-4 shows elevation maps created with data collected using available LIDAR in North American Datum 1983 (NAD 83). The project area has a ground elevation ranging between approximately 90 and 210 feet. The lowest elevations, between 90 and 110 feet, are found throughout the project area, while the highest elevations are found on the western side of the area near the northwestern corner.

Hydrologic features and wetland areas mapped by the USFWS National Wetlands Inventory are shown in **Figure 3-5**. There are numerous freshwater ponds scattered throughout the area, along with two large lakes on the western side. Major wetland areas are located in the southwest portion of the project area, with smaller wetlands scattered throughout the western half and along the southern edge of the eastern half.

3.3 Drainage

The proposed Lake/Orange County Connector corridor is located within the jurisdiction of the SJRWMD and SFWMD and hydrologically within the Reedy Creek Drainage Basin. The general drainage pattern for the project and the adjacent land is from west to east. Under existing conditions, the project discharges into a series of lakes/ponds, wetlands adjacent to the lakes/ponds, and depressional/low areas. Most of the existing on-site drainage sub-basins are open drainage basins that appear to overtop and combine at or before the 100-year FEMA flood plain storms. Some of the depressional/low area sub-basins are closed basins. None of the existing water/bodies in the project area were found to be outstanding or impaired water bodies.

3.4 Existing Traffic Conditions

The purpose of this section is to describe data collection efforts, document field observations, and summarize the existing (2018) operational characteristics of the roadway network in the Lake Orange Connector (LOC) Study Area. More information can be found in the Project Traffic Analysis Report (PTAR), a supplemental document to this report.

3.4.1 Data Collection

The data collection tasks were performed during the last week of May 2018. The study area is bounded by Avalon Road on the east, Florida Turnpike on the north, U.S. 192 on

the south and U.S. 27 on the west. The counts were supplemented with historic traffic counts obtained by the FDOT, Orange County and Lake County.

DRAFT

Figure 3-4: Elevation Map

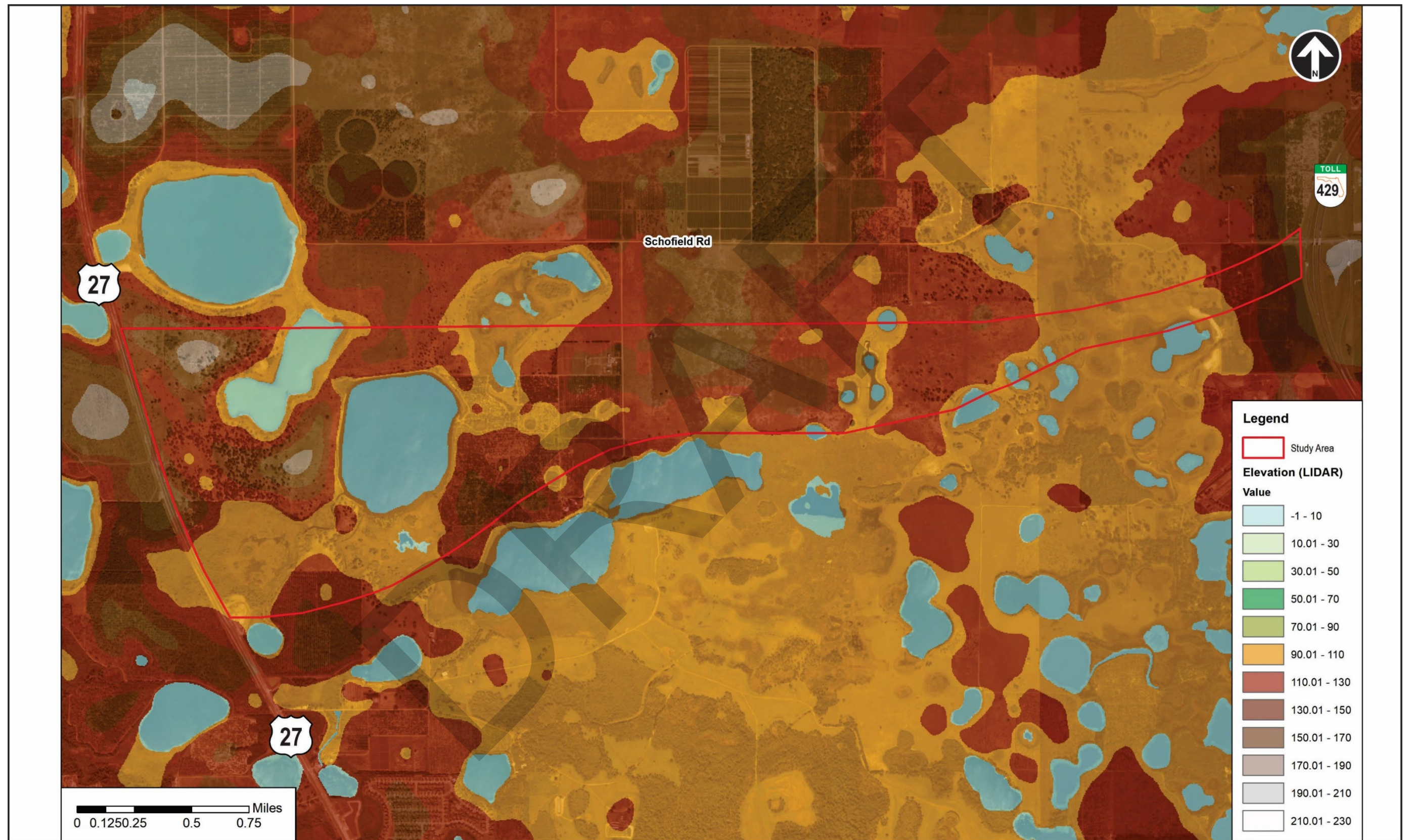
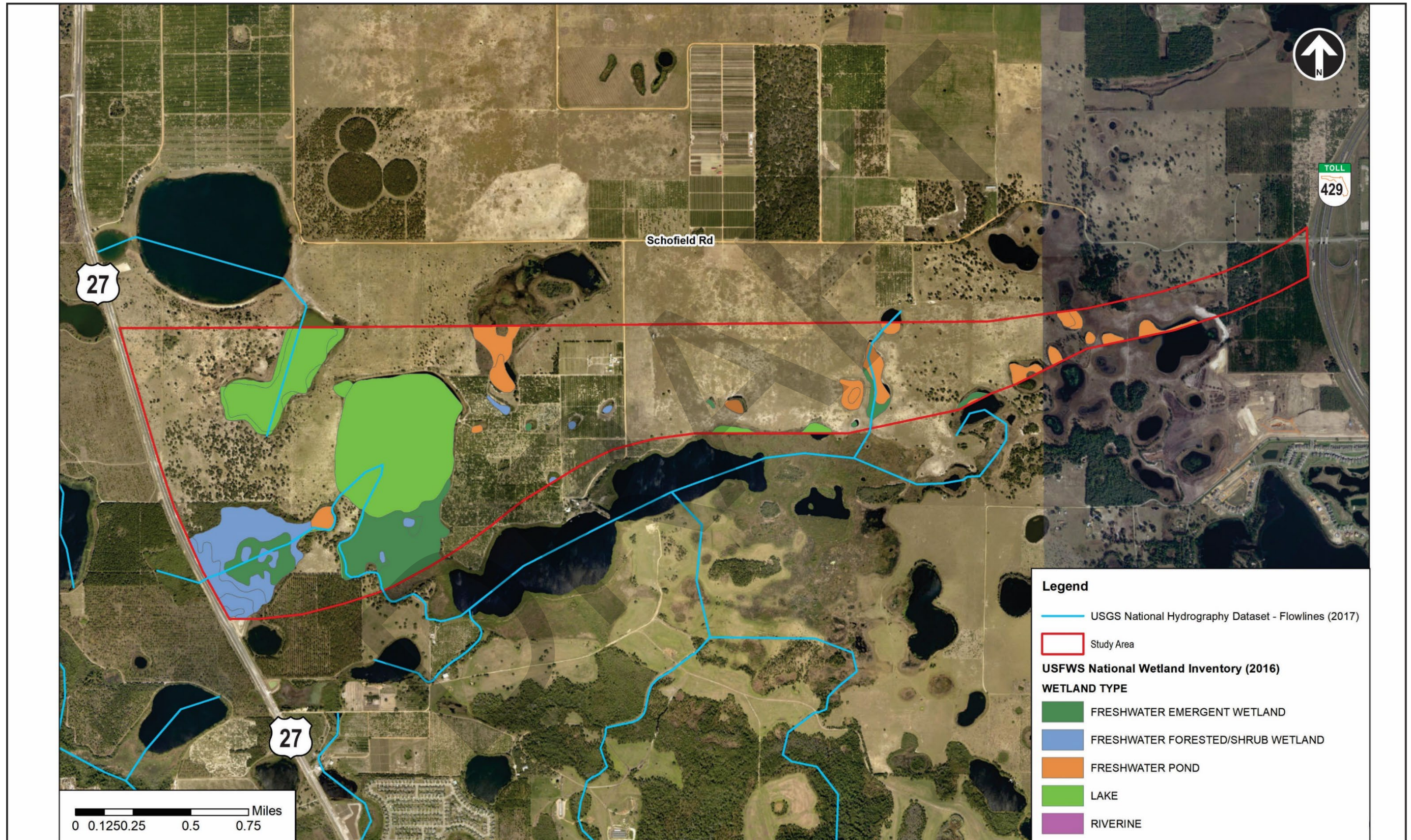


Figure 3-5: Hydrologic Features



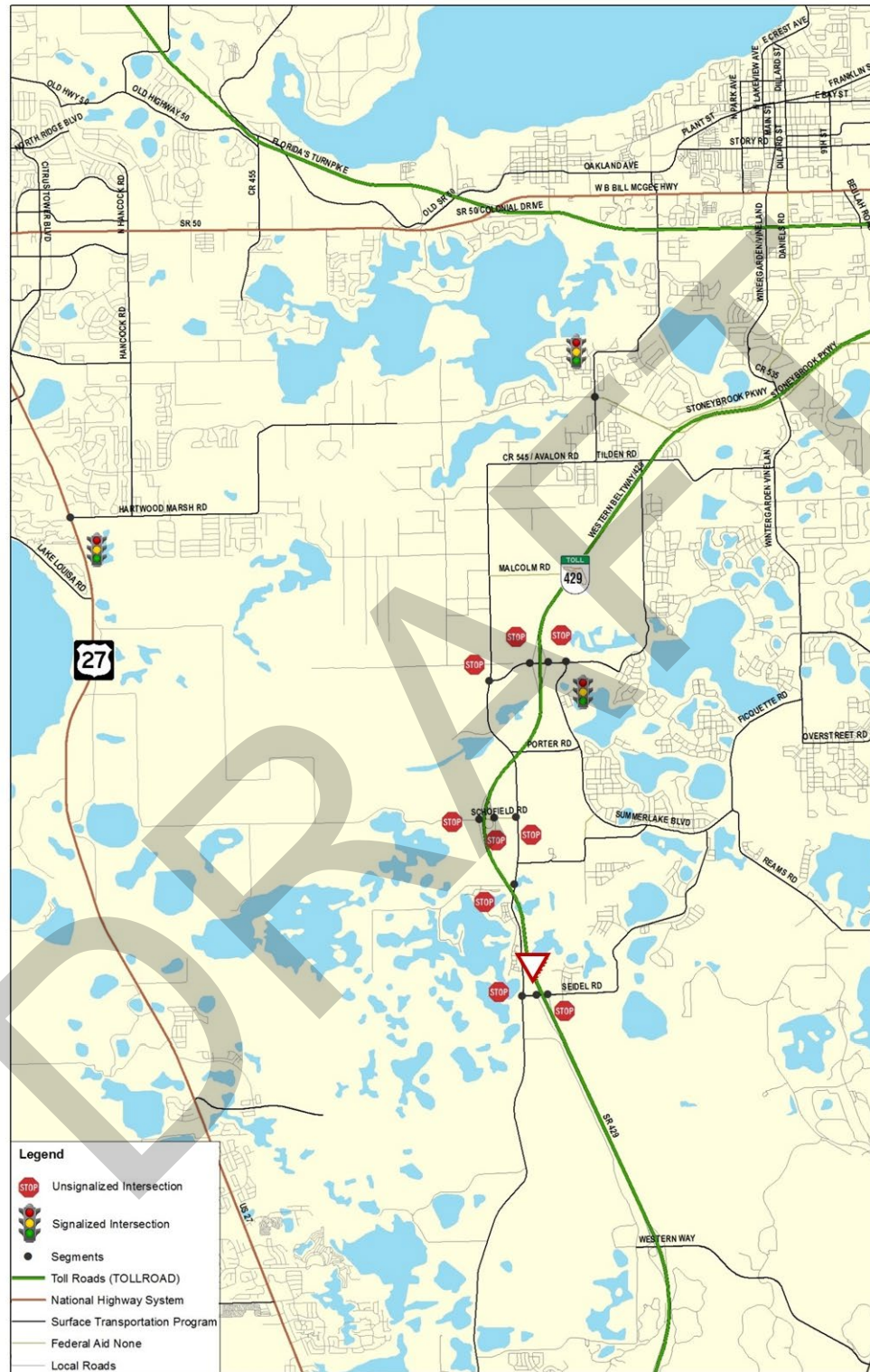
3.4.2 Traffic Counts

Table 3-5 below lists the locations (both signalized and unsignalized) at which counts were collected. As shown in **Figure 3-6**, traffic counts were collected along Schofield Road, Seidel Road, Avalon Road, and cross streets intersecting SR 429 near where the Lake/Orange County Connector will be located. No traffic counts were collected along US 27 as the area was under construction at the time of data collection for this project. All traffic counts consisting of approach volume were adjusted using the latest FDOT axle and seasonal correction factors for Orange County to estimate 2018 annual average daily traffic (AADT). The traffic count data along with the FDOT adjustment factors are provided in the Project Traffic Analysis Report (PTAR), a supplemental document to this report.

Table 3-5: Turning Movement Counts (TMCs) Locations

#	Intersection Type	Count Location
1	Unsignalized	SR 429 SB Ramps at New Independence Pkwy
2	Unsignalized	SR 429 NB Ramps at New Independence Pkwy
3	Unsignalized	SR 429 SB Ramps at Schofield Road
4	Unsignalized	SR 429 NB Ramps at Schofield Road
5	Unsignalized	SR 429 SB Ramps at Seidel Road
6	Unsignalized	SR 429 NB Ramps at Seidel Road
7	Unsignalized	Avalon Road at New Independence Pkwy
8	Unsignalized	Avalon Road at Schofield Road
9	Unsignalized	Avalon Road at Seidel Road
10	Unsignalized	Avalon Road at Old YMCA Road
11	Signalized	US 27 at Hartwood Marsh Road
12	Signalized	Avalon Road at Marsh Road
13	Signalized	New Independence Pkwy at Hamlin Grove Tr

Figure 3-6: Traffic Count Locations



3.4.3 Historical Count Data

The historical count data from FDOT, Lake County, and Orange County since 2012 and compound annual growth rates (CAGR) are presented in **Table 3-6**.

Table 3-6: Historical Traffic (2012-2017)

Roadway	Location	2012	2013	2014	2015	2016	2017	CAGR
US 27	2.78 mi S of SR 50	28,000	29,500	30,500	34,500	32,500	36,000	5.15%
US 27	1.05 mi S of SR 50	29,000	31,500	32,000	34,000	26,000	35,000	3.83%
US 27	0.78 mi S of SR 50	37,000	43,000	41,000	43,500	42,000	45,000	3.99%
Hartwood Marsh Rd	0.15 mi E of US 27	11,470	11,220	11,910	10,700	14,100	14,930	5.42%
Avalon Rd (CR 545)	0.1 mi S of Old YMCA Rd	3,400	3,400	3,900	3,900	3,900	7,000	15.54%
US 192	2.3 mi E of Orange Co. Line	58,000	55,500	55,000	49,000	56,500	60,000	0.68%
SR 429	North Seidel Rd	14,880	15,600	17,510	22,950	26,790	31,920	16.49%

3.4.4 Existing Volumes

The 2018 AADT turning movement volumes are shown in **Figure 3-7**. Turning movement volumes are at SR 429 SB Ramps at Schofield Road, SR 429 NB Ramps at Schofield Road, Avalon Road at Schofield Road, SR 429 SB Ramps at New Independence Pkwy, and SR 429 NB Ramps at New Independence Pkwy. The 2018 AM and PM Peak Hour turning movement volumes are provided in **Figure 3-8**.

Figure 3-7: 2018 AADT

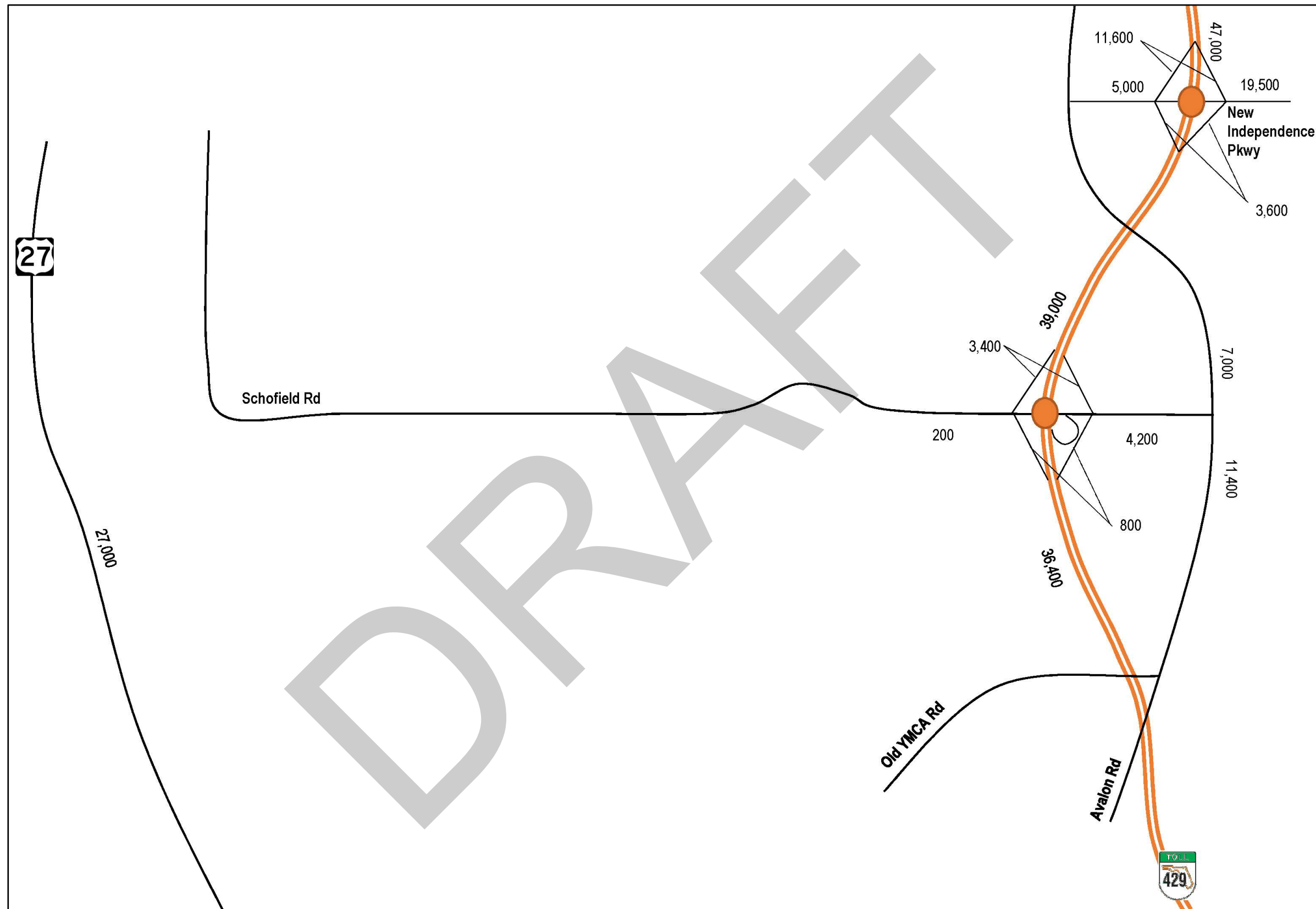
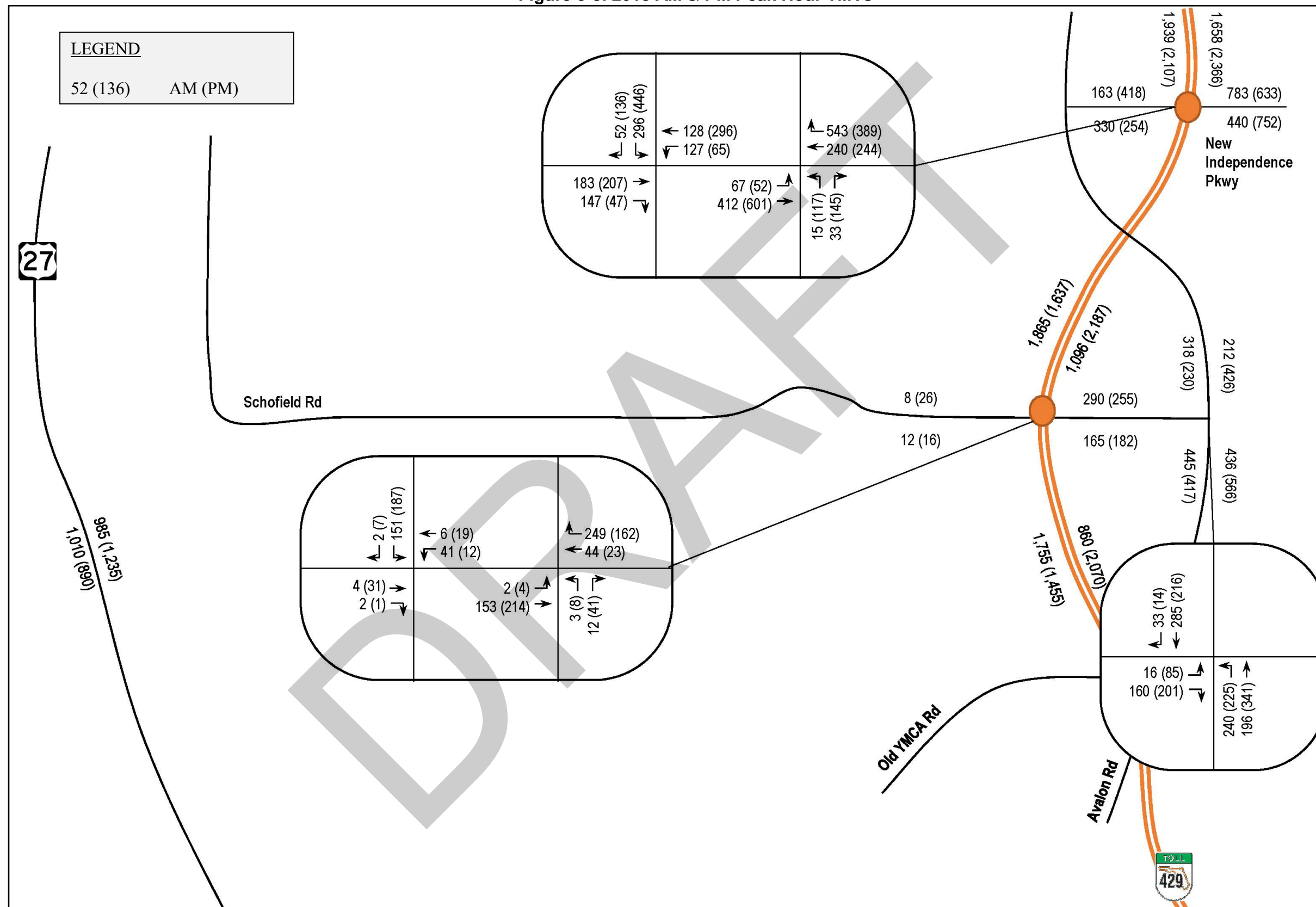


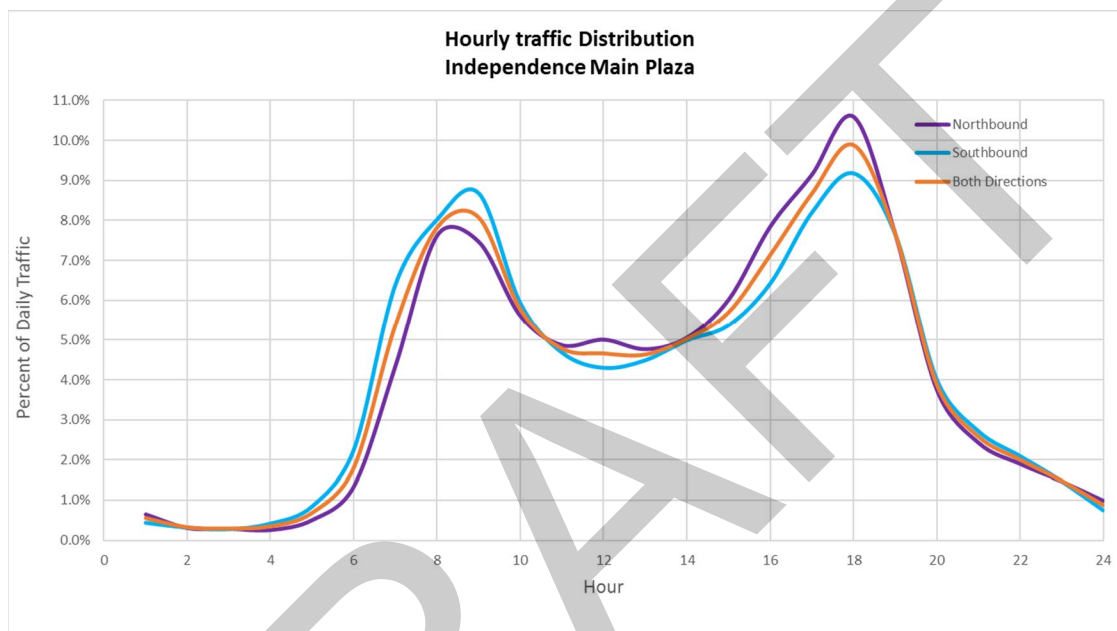
Figure 3-8: 2018 AM & PM Peak Hour TMVs



3.4.5 Hourly and Directional Distribution of Traffic (K and D Factors)

The hourly distribution of traffic includes information on the usage characteristics of the facility. The hourly distributions represent counts collected during a typical week from the Florida Transportation Information (FTI) webpage, field and CFX plaza data. **Figure 3-9** represent the hourly traffic distribution on SR 429 within the Project limits.

Figure 3-9: Hourly Distribution of Traffic (SR 429 at Independence Plaza)



Traffic on SR 429 at the Independence Main Plaza has a commuter traffic pattern with strong AM Peak and even stronger PM Peak traffic volumes. The directionality is southbound in the morning and Northbound in the afternoon. Traffic on distribution on US 27 south of SR 50 has less of a commuter pattern, which is indicative of the retirement housing development along the US 27 corridor in Clermont. The pattern in **Figure 3-10** shows that the prevalent direction of travel is northbound in both the AM and PM peak periods, while traffic further south (**Figure 3-11**) has a southbound directionality in the PM peak period.

Figure 3-10: Hourly Distribution of Traffic (US 27, South of SR 50)

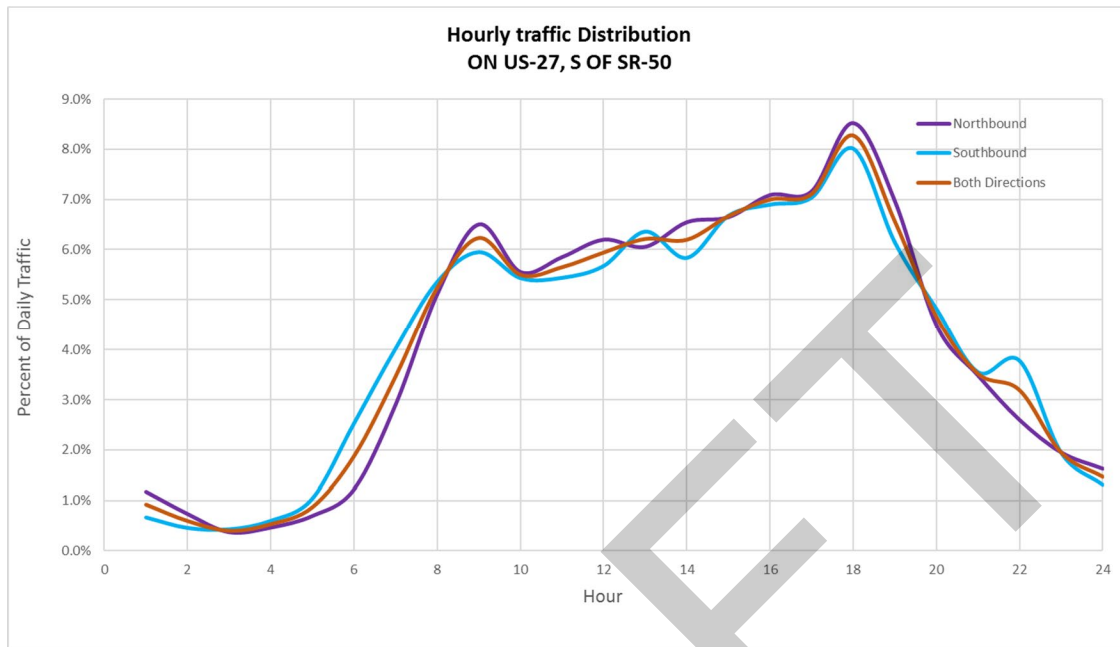
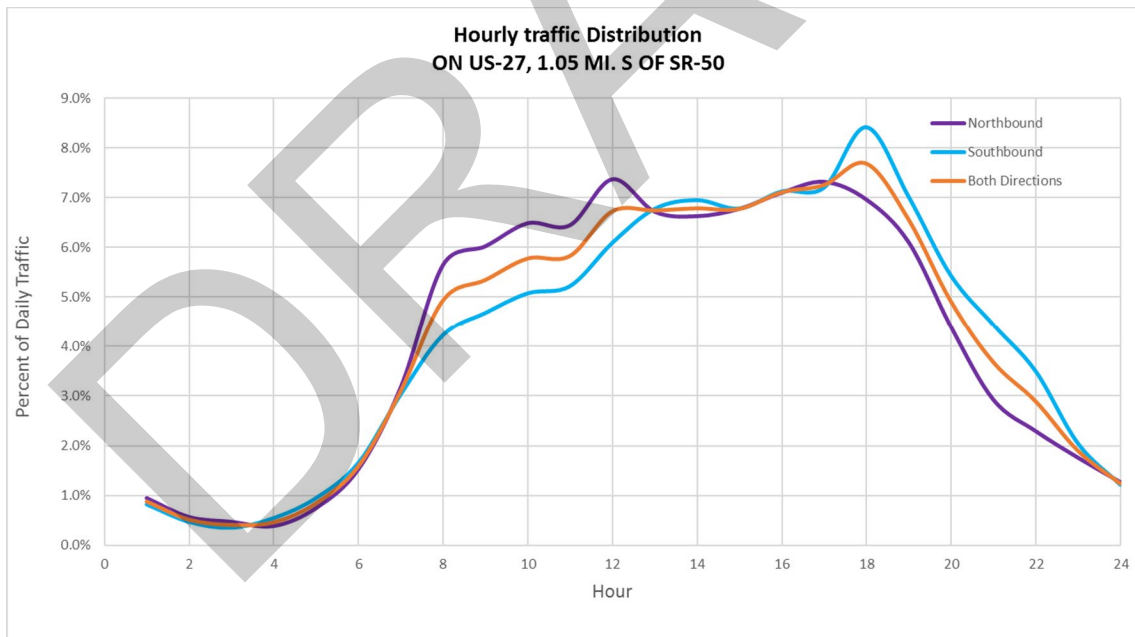


Figure 3-11: Hourly Distribution of Traffic (US 27, 1.05 Mi. South of SR 50)



For a conservative analysis, a K-factor of 11.0% and a D-factor of 60.0% were assumed for the Lake/Orange County Connector traffic analysis, as shown in **Table 3-7**. Truck traffic is typically lower on toll facilities and a T-factor of 4.0% was assumed in this study.

Table 3-7: Recommended K, D and T Factors

Location	K Factor	D Factor	T Factor
Lake Orange Connector	11.0%	60.0%	4.0%
SR 429	10.0%	55.0%	7.0%
Schofield Road	9.0%	60.0%	4.0%

Standard K-factor (9.0%) was assumed for the Schofield Road. However, slightly higher K- factor (10.0%) was used for SR 429 as the facility observed peaks in both directions during both AM and PM Peaks. Since SR 429 has been in operation for several years, 10.0%K- factor was considered for SR 429 instead of 9.0%.

3.4.6 Existing Level of Service

In the study area, Level of Service (LOS) is determined by use of the FDOT 2012 Generalized Service Volume Tables for interrupted flow facilities on State Signalized Arterials. Within this context, the majority of the study area facilities are treated as an urban major collector whereas US 27 is designated as a rural principle arterial. The determined LOS for 2018 AADT values is shown in **Table 3-8** below.

Table 3-8: 2018 Roadway Segment Level of Service

Roadway	Lanes	AADT	LOS
SR 429 N of Schofield Road	4L	39,000	B
SR 429 S of Schofield Road	4L	36,400	B
Avalon Road N of Schofield Road	4L	7,000	C
Avalon Road S of Schofield Road	4L	11,400	C
US 27 N of LOC	6L	27,000	B
US 27 S of LOC	6L	27,000	B
Schofield Road E of SR 429	4L	4,200	B
Schofield Road W of SR 429	4L	200	C

The 2018 existing turning movement counts were utilized in performing the intersection level of service operations analysis using the HCS software. **Table 3-9** below shows a summary of the intersection LOS for the peak hour conditions (both AM and PM Peaks).

Under the existing conditions, most signalized and unsignalized intersections were found to operate at LOS B or better during both AM and PM peak hour conditions. Improvements are recommended at the unsignalized intersection of Southbound SR 429 & New Independence Parkway and Avalon Road & Schofield Road.

Table 3-9: 2018 AM and PM Intersection Level of Service

Intersection	Movement	AM Peak			PM Peak		
		V/C	Delay	LOS	V/C	Delay	LOS
SR 429 NB Ramp at New Independence Pkwy	NB L	0.04	14.90	B	0.43	26.40	D
	NB R	0.04	9.80	A	0.23	11.90	B
SR 429 SB Ramp at New Independence Pkwy	SB L	0.63	23.90	C	1.22	147.60	F
	SB R	0.06	8.90	A	0.19	10.30	B
Avalon Road at Schofield Road	EB L	0.10	27.80	D	0.50	41.60	E
	EB R	0.26	12.00	B	0.28	11.30	B
SR 429 NB at Schofield Road	NB L	0.01	10.90	B	0.01	10.60	B
	NB R	0.02	9.30	A	0.05	9.60	A
SR 429 SB at Schofield Road	SB L	0.22	10.20	B	0.23	10.20	B
	SB R	0.00	8.40	A	0.01	8.50	A

3.4.7 Adjacent Roadways

US 27: US 27 is owned and maintained by the FDOT, is designated as part of the Strategic Intermodal System (SIS) and is functionally classified as an urban principal arterial. This segment of US 27 has a posted speed of 60 mph and has an access

classification of 3. FDOT recently completed construction of US 27 within the limits of this study to 6 lanes with a divided median.

SR 429: SR 429 is owned and maintained by CFX, is designated as part of the Strategic Intermodal System (SIS) and is functionally classified as an urban principal expressway. This segment of SR 429 has a posted speed of 70 mph and has an access classification of 1.

DRAFT

4 Design Controls and Standards

Design controls and standards must be established prior to the formulation of design alternatives to ensure an adequate, safe, functional and operational roadway. These criteria are needed to develop typical sections, horizontal and vertical alignments, and other design features such as drainage, aesthetics, landscaping, and multimodal facilities. The controls and standards are those specified by CFX.

4.1 Roadway Design Criteria

As previously stated, the proposed Lake/Orange County Connector facility is a limited access tolled east-west expressway owned and operated by CFX. The standards that apply to this project are detailed in **Table 4-1**

Table 4-1: Roadway Design Criteria

Design Element	Design Standard	Source
<u>Design Year</u>	2045	- Scope of Services
<u>Design Vehicle</u>	WB-62FL/WB-67	- AASHTO 2004, Pg. 18 - FDM Part 2, Sect. 201.5
<u>Design Speed</u> Rural Freeway Urban Freeway Urban Arterial Rural Arterial Other Frontage Road Service Road Access Road Ramp Directional Loop	70 mph 60 mph 30-45 mph ¹ 55-70 mph 45 mph 50 mph As appropriate 50 mph 30 mph	- FDM Part 2, Tbl. 201.4.1 & Tbl. 201.4.2
<u>Lane Widths</u> Freeway Ramp 1-lane 2-lane Turning Roadway Arterial Collector/Service Road Bicycle Rural/Urban	12-ft 15-ft 24-ft Case dependent 11-ft (DS 40-45) 11-ft (DS 40-45) 7-ft (new construction)	- FDM Part 2, Sect. 211.2 - FDM Part 2, Sect. 210.2 - FDM Part 2, Sect. 223.2.1.1

Table 4-1: Roadway Design Criteria (Continued)

Design Element	Design Standard				Source
<u>Cross Slope (lanes 1-way)</u> Roadway 2-lane (2) 3-lane (3) 4-lane (4) ₂ Bridge Section	-0.02 ft/ft (2) -0.02 ft/ft (2), -0.03 ft/ft (1) +0.02 ft/ft (1), -0.02 ft/ft (2), -0.03 (1) -0.02 (typical, uniform, no slope break)				- FDM Part 2, Fig. 210.2.1 - FDM Part 2, Sect. 260.4
<u>Max. Lane "Roll-over"</u> DS < 35 mph DS => 35 mph	6.0% 5.0%				- FDM Part 2, Tbl. 210.2.2
<u>Median Width</u> Freeway DS 60 mph ≥ DS 60 mph < All Arterial & Collector DS 45 mph ≤ DS 45 mph > Offset Left Turn Lanes Median width 30-ft < Median width 30-ft >	60-ft (64-ft for Interstate without barrier) 40-ft 26-ft (with barrier) 22-ft 30-ft (Curbed); 40-ft (Flush Shoulders) Parallel offset lane Taper offset lane				- FDM Part 2, Tbl. 211.3.1 - FDM Part 2, Tbl. 210.3.1 - FDM Part 2, Sect. 212.14.4 & Fig. 212.14.3 - AASHTO Exh. 9-52
<u>Shoulder Width (lanes 1-way)</u>	Total (ft)		Paved (ft)		
	Outside	Left	Outside	Left	
Freeway					-FDM Part 2, Tbl. 211.4.1, Tbl. 210.4.1
3-lane or more	12	12	10	10	
2-lane	12	8	10	4	
Ramp					
1-lane	6	6	4	2	
2-lane	10	8	8	4	
Aux. Lane	12	10	8	4	
Arterial & Collector (Norm. vol.)					
2-lane with gutter	15.5	13.5	8	6	
1-lane without gutter	10	8	5	N/A	
Service Road, 2-Lane, 2-Way, Undivided	10	8	5	N/A	
<u>Shoulder Cross Slope</u>	0.06	0.05	-	-	
<u>Max. Shoulder "Roll-over"</u>	7.0%	7.0%	-	-	

Table 4-1: Roadway Design Criteria (Continued)

Design Element	Design Element				Design Element
<u>Bridge section (lanes 1-way)</u> 2-lane 3-lane or more 1-lane ramp 2-lane ramp Service Road, 2-Lane, 2-Way Undivided	10 10 6 10 10	6 10 6 6 10	- - - - -	- - - - -	-FDM Part 2, Figure 260.1.1
<u>Border Width</u> Freeway Ramp Arterial/Collector DS ≥ 50 mph DS < 50 mph Arterial/Collector (Curb & Gutter) DS = 45 mph DS ≤ 40 mph	94-ft, (94-ft desirable) 94-ft, (L.O.C. plus 10-ft as min.) 40-ft 33-ft 14-ft (12-ft with bicycle lane) 12-ft (10-ft with bicycle lane)				- FDM Part 2, Tbl. 210.7.1 - (CFX Policy) ₃
<u>Roadside Slopes</u> Front slope Front slope (curb & gutter) Back slope Back slope (curb & gutter)	Fill Height (ft)		Rate		- FDM Part 2, 215.2.3
	All		1:4 or flatter (Use 10-ft bench at half the height of fill)		- (CFX Policy) ₃
	All		1:4 or flatter		Use 1:3 slopes, avoid 1:2 slopes except where as necessary
	All		1:4 but not steeper than 1:3		
	All		1:3 or flatter located within the clear zone		

Table 4-1: Roadway Design Criteria (Continued)

Design Element	Design Standard		Source
<u>Max. Grade /</u> <u>Max. Change in Grade</u> Freeway (Rural / Urban) Ramp Directional Loop Arterial DS 55 mph DS 45 mph Collector DS 35 mph to 45 mph Min. Grade Curb & Gutter	Max. Grade	%	- FDM Part 2, Tbl. 210.10.1, Tbl. 210.10.2
	3.0%	0.20% / 0.30%	
	8.0%	0.60%	
	7.0%	0.90%	
	6.0%	0.50%	
	6.0%	0.70%	
	6.0% to 7.0%	0.70% to 0.90%	
	0.3%	-	
<u>Minimum Stopping Sight Distance</u> (Grades 2.0%) (Non-Interstate/All Other Facilities)	Dsgn. Speed (mph)	Distance (ft)	- FDM Part 2,, Tbl. 210.11.1
	70	730	
	65	645	
	55	495	
	50	425	
	45	360	
	30	200	
<u>Decision Sight Distance</u> (Per avoidance maneuver)	Dsgn. Speed (mph)	Distance (ft)	- AASHTO Exh. 3-3
	70	780-1445	
	65	610-1280	
	55	535-1135	
	50	465-1030	
	45	395-930	
	30	220-620	
<u>Horizontal Curve Length</u> Freeway Others <u>Max. Curvature (Degree of Curve)</u> Freeway DS = 70 mph DS = 60 mph Arterial DS = 55 mph DS = 45 mph Collector (Urban) DS = 45 mph DS = 50 mph Ramp (Rural) DS = 50 mph Directional DS = 30 mph Loop	V = Design Speed 30V (15V min.) 15V (30V for high speed ramps)		- FDM Part 2, Tbl. 211.7.2
	3 30' 00"		- FDM Part 2, Tbl. 210.9.1
	5 15' 00"		
	6 30' 00"		
	10 15' 00"		
	10 15' 00"		
	8 15' 00"		
	10 15' 00"		
	8 15' 00"		
	8 15' 00"		
	24 45' 00"		

Table 4-1: Roadway Design Criteria (Continued)

Design Element	Design Standard		Source
<u>Superelevation Transition</u> Tangent Curve Spirals	80% (50% min.) 20% (50% min.) (Curves 1'30' 00" do not use spirals)		-FDM Part 2, Tbl. 210.9.3 - (CFX Policy) ₃
<u>Superelevation Rates</u> Freeway DS = 70 mph DS = 65 mph Arterial DS = 55 mph DS = 45 mph Collector DS = 45 mph DS = 50 mph Ramp (Rural) DS = 50 mph Directional DS = 30 mph Loop	emax	SE Trans.	- FDM Part 2, Tbl. 210.9.1, Tbl. 210.9.2, Tbl. 210.9.3 - Design Standards Ind. No. 510, 511 - AASHTO Exh. 3-28
	0.10 0.10 0.10 0.05 0.05 0.10 0.10 0.10	1:250 1:250 1:225 1:150 1:150 1:200 1:200 1:175	
<u>Vertical Curves</u> Length, $L = KA$	Design Speed (mph)	K-value Crest Sag	
	70	401	181
	65	313	157
	55	185	115
	50	136	96
	45	98	79
	30	31	37
<u>Minimum Lengths</u> Freeway DS = 65-70 mph Arterial DS = 55 mph DS = 45 mph Collector DS = 45 mph DS = 50 mph Ramp DS = 50 mph Directional DS = 30 mph Loop	Crest 1000-ft - 1800-ft 350-ft 135-ft 135-ft 300-ft 300-ft 90-ft	Sag 800-ft 250-ft 135-ft 135-ft 200-ft 200-ft 90-ft	- FDM Part 2, Table 210.10.3 - AASHTO Exh. 3-72 (crest) 3-75 (sag) - CFX Policy ₃ Note: FDOT K-values for "ALL OTHER FACILITIES" are desirable - FDM Part 2, Table 211.9.3 - FDM Part 2, Table 210.10.4 - FDM Part 2, Table 211.9.3

Table 4-1: Roadway Design Criteria (Continued)

Design Element	Design Standard		Source
<u>Ramps</u> Ramp Terminals Length Taper	<u>Entrance</u> "Parallel-Type" 900 to 1200-ft 300-ft (25:1)	<u>Exit</u> "Taper-Type" 550-ft (2° to 5°, 4° desirable)	- Design Standards Ind. No. 525 - AASHTO Pg. 850-856
<u>Minimum Spacing</u> Entrance to Exit ⁶ Exit to Entrance Entrance to Entrance Exit to Exit Turning Roadways	1,600 to 2,000-ft 500-ft 1,000-ft 1,000-ft 600 to 800-ft		- AASHTO Exh. 10-68, Pg. 844
<u>Lane Drop Taper</u>	L = WS (DS > 45 mph) L = WS ² /60 (DS ≤ 40 mph) 50:1 min, 70:1 desirable (freeways)		- FDM Part 2, Sect. 211.2.4 - AASHTO Pg. 818
<u>Clear Zone</u> (new construction) Freeway DS = 70 mph DS = 65 mph Arterial DS = 55 mph DS = 45 mph Collector DS = 45 mph Frontage Road DS = 50 mph Service Road Ramp DS = 50 mph Directional 1 to 2-lane DS = 30 mph Loop 1 to 2-lane	36-ft 36-ft 30-ft 4-ft (Curb & Gutter) As appropriate 4-ft (Curb & Gutter) 24-ft 14-ft to 24-ft 10-ft to 12-ft		- FDM Part 2, Tbl. 215.2.1, Tbl. 215.2.2
<u>Vertical Clearance</u> Over Roadway Over Railroad Sign over Roadway Over Water	16'-6" 23'-6" 17'-6" 12'-0" min.		- FDM Part 2, Tbl. 260.6.1
<u>Limited Access Limits</u> Rural Urban Crossroad overpass/ no interchange	300-ft min. 100-ft min. 200-ft		- FDM Part 2, Sect. 211.15

4.2 Structures Design Criteria

The structures design criteria is depicted in **Table 4-2**.

Table 4-2: Structures Design Criteria

Design Element	Design Standard	Source
Design Specifications	FDOT Structures Manual, January 2019	FDOT
	AASHTO LRFD Bridge Design Specifications, 8 th Edition (LRFD)	AASHTO
	FDOT Design Manual, January 2019	FDOT
	FDOT Structures Design Manual, January 2019 • Structures Design Guidelines (SDG) • Structures Detailing Manual (SDM)	FDOT
Governing Standards and Construction Specifications	FDOT FY 2019-20 Standard Plans and July 2019 Standard Specifications for Road and Bridge Construction	FDOT
Design Methodology	Load and Resistance Factor Design (LRFD) method using strength, service (extreme event) and fatigue limit states. For bridges designed by grid or 3-D analyses provide name and version number of design software	LRFD, FDOT
Design Loadings	Live Loads: HL-93 with Dynamic Load Allowance	LRFD 3.6
	Dynamic Load Allowance: • Deck joints: 75%: • Fatigue and Fracture: 15% • All Other Limit States: 33%	LRFD 3.6
	Pedestrian Loads: N/A	LRFD 3.6
	36" single slope Traffic Railing: 430 plf	SDG 2.2
	42" single slope Traffic Railing: 580 plf	SDG 2.2
	Aluminum Pedestrian/Bicycle Bullet Railing: 10 plf	SDG 2.2
	Stay-In-Place Forms: 20 psf	SDG 2.2
	Unit Weight of Soil: 115 pcf	SDG 2.2
	Unit Weight of Reinforced Concrete: 150 pcf	SDG 2.2
	Unit Weight of Structural Steel: 490 pcf	LRFD 3.5
Seismic Provisions	Minimum bridge support lengths only	SDG 2.3
Wind Load	Design Wind Speed: 150 mph	SDG 2.4
Vehicular Collision Force	For intermediate piers	SDG 2.6
Thermal Forces	• Mean temperature: 70 °F • Temperature rise/fall (concrete only): 35 °F • Temperature rise/fall (concrete deck on steel girder): 40 °F	SDG 2.7
	Coefficient of thermal expansion – concrete: $6.0 \times 10^{-6}/^{\circ}\text{F}$	LRFD 5.4
	Coefficient of thermal expansion – steel: $6.5 \times 10^{-6}/^{\circ}\text{F}$	LRFD 6.4
Environmental Classification	Substructure: moderately aggressive	SDG 1.3
	Superstructure: slightly aggressive	SDG 1.3
Clearance	Horizontal: 36 ft edge of travel lane & multilane ramps	FDM 215
	Horizontal: 24 ft edge of auxiliary lane & single lane ramps	FDM 215
	Vertical: 16.5 ft	FDM 260

4.3 Drainage Criteria

The design of stormwater management facilities for this project are governed by the rules and criteria set forth by the SJRWMD, SFWMD, and FDOT, where applicable. The following criteria was obtained from the 2018 SJRWMD's Permit Information Manual, 2016 Environmental Resource Permit Applicant's Handbooks, and 2019 FDOT Drainage Manual.

4.3.1 Water Quality and Pond Recovery

- Wet Detention (SJRWMD and SFWMD)
 - Water quality treatment – Greater of 1" over the total basin or 2.5" over the added impervious area.
 - Recovery – One-half the treatment volume within the first 24 to 30 hours after a storm event.
- Dry Retention (on-line) (SJRWMD – Lake County Segment)
 - Treatment – Greater of 0.5" over the total basin area or 1.25" over the added impervious area, plus an additional 0.5" over the total basin area.
 - Recovery – Treatment volume within 72 hours after a storm event.
- Dry Retention (on-line) (SFWMD – Orange County Segment)
 - Treatment – Greater of 0.5" over the total basin area or 1.25" over the added impervious area.
 - Recovery – Treatment volume within 72 hours after a storm event.

4.3.2 Water Quantity

- Closed Basins (SJRWMD – Lake County Segment)
 - The post-development volume of direct runoff must not exceed the predevelopment volume of direct runoff for a 25-year frequency, 96-hour duration storm for systems discharging to land-locked lakes which are adjacent to properties of more than one ownership. These systems shall not cause an increase in the total pre-development flood stage.
- Closed Basins (SFWMD – Orange County Segment)

- A storm event of a 25-year frequency, 3-day duration shall be used in computing off-site discharge rates.

4.3.3 Pond Design (FDOT Criteria)

- Ponds shall be designed to provide a minimum 20-foot of horizontal clearance between the top edge of the normal pool elevation and the ROW line. Maintenance berm shall be at least 15-feet with a slope of 1:8 or flatter.
- Corners of ponds shall be rounded to provide an acceptable turning radius for maintenance equipment (30-foot minimum inside radius).
- At least 1-foot of freeboard is required above the maximum design stage of the pond below the front of the maintenance berm.

4.3.4 FEMA Floodplain Compensation

- The proposed project may not cause a net reduction in flood storage within the 10-year floodplain.
- Structures shall cause no more than a one-tenth (0.1) of a flood increase in the 100-year flood elevation 500-feet upstream and no more than one foot of a flood increase in the 100-year flood elevation directly upstream.
- Proposed construction shall not cause a reduction in flood conveyance capabilities.
- Best Management Practices (BMP's) shall be employed to minimize velocity to avoid undue erosion.
- The design of encroachments shall be consistent with standards established by FEMA.

5 Alternatives Considered

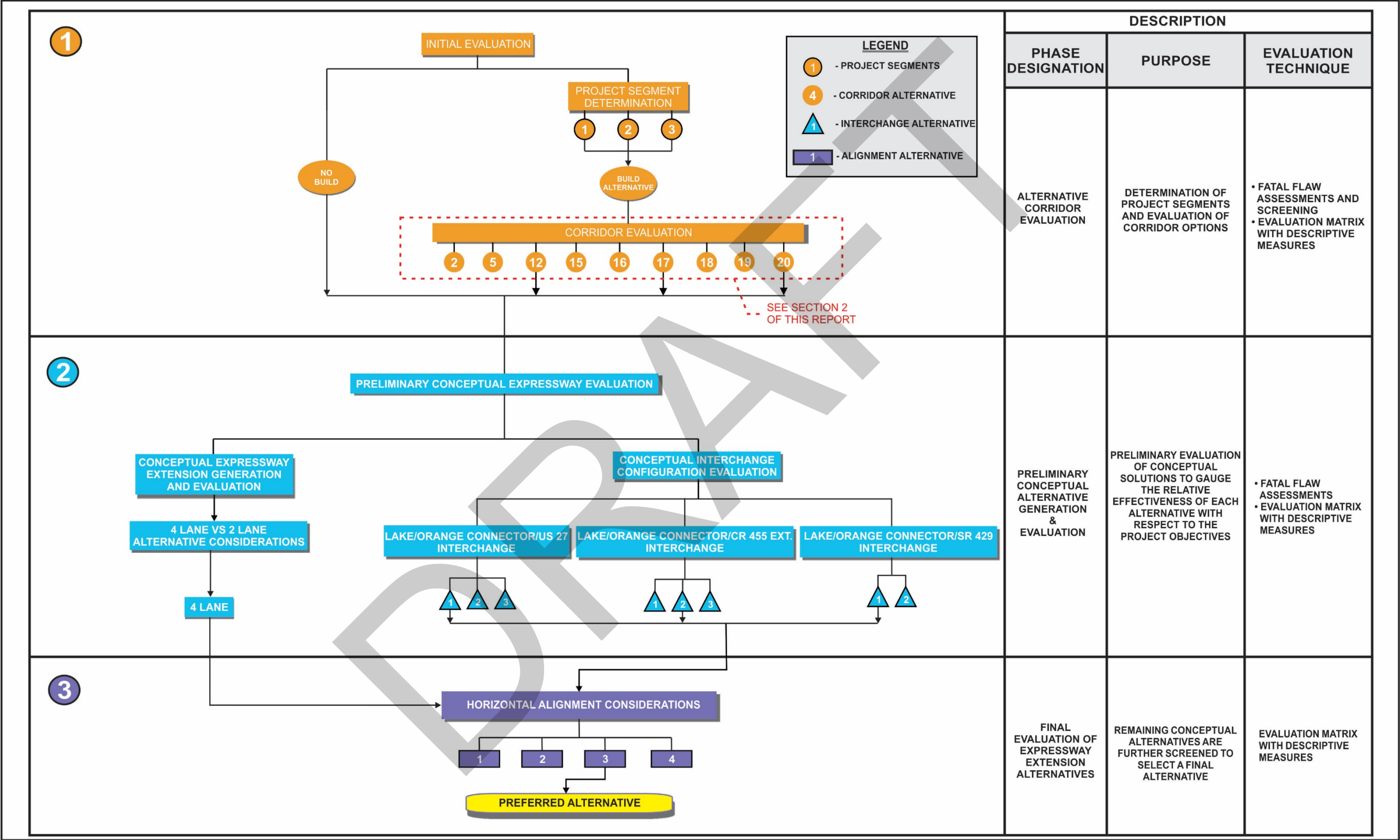
It was previously established and summarized in Section 1 of this report, that a new transportation corridor is needed in order to meet the needs of this project. As indicated by the results shown in Section 2, the corridor area bounded by Alternative 20 on the north and Alternative 17 on the south was selected as the best option for implementation. This section provides a comparison of various alignments within the selected corridor area to determine the most efficient preferred Lake/Orange County Connector alternative. Based on the needs, existing conditions and anticipated impacts of the selected corridor as well as public/agency input, a comprehensive alternative development and evaluation process was initiated and conducted for the proposed project improvements as documented herein.

As illustrated on **Figure 5-1**, a multi-phase alternative development, evaluation and selection process was employed to properly assess all alternatives considered for the proposed improvements within the previously selected corridor. Essentially, three (3) different phases comprised the alternative selection process for the proposed project. A description of each of the three (3) different phases follows.

5.1.1 Phase 1 – Initial Evaluation

The “No Build” alternative is an alternative solution frequently used in PD&E studies that assumes the retainment of existing conditions. It is mostly used as a benchmark condition in order to compare the costs and benefits of implementing the proposed improvements to those incurred by continuing to use the existing facilities. In this case, the only existing east-west transportation facility (Schofield Road) within the project confines is inadequate not only in terms of future projected capacity needs but, more importantly, it would not provide the desirable redundancy in evacuation and emergency response potential nor the required additional freeway regional connectivity to between US 27 and SR 429 on the east. It is evident that, because of the reasons previously discussed in this document, adoption of this alternative would not solve many of the existing needs associated with the goals of this project. However, the “No Build” alternative will be maintained as a viable option providing an effective baseline condition by which other project alternatives will be compared throughout the project alternative selection process.

Figure 5-1: Alternative Selection Process



Build Alternatives: Expressway extension options need to consider various major components of providing a new, multilane facility which includes the selection of a preferred corridor in conjunction with the most efficient typical section and alignment options as well as access point locations and configurations. The generation and selection of a preferred corridor was previously discussed in Section 2. The following sections provide a detailed discussion concerning other critical system components of the preferred extension option.

5.2 Phase 2 - Preliminary Conceptual Expressway Evaluation

This phase entailed the generation and evaluation of alternatives for the provision of an effective freeway connection within the previously selected corridor. Alternatives were generated for two (2) distinct system components: typical section options for the Lake/Orange County Connector mainline and interchange configuration options.

The first step in the evaluation of the mainline options was to breakdown the project into distinct segments. The segmental breakdown methodology was previously described and utilized in the development of the various corridor options (see Section 2.2.1, page 2-1). According to the previously obtained results, the project was divided into three distinct segments (see Figure 2-1).

5.2.1 Expressway Connector Typical Sections

This task entailed the generation and preliminary evaluation of various mainline typical section options. In view of the fact that traffic projections indicate a relatively modest traffic demand (see Section 1.2.2), the potential use of two-lane options were also initially considered. **Table 5-1** summarizes the overall characteristics of a “representative” divided two-lane facility versus a four-lane facility in the context of meeting the project needs. As shown in the table, the two-lane option would not fulfill the intended project needs, thus it was eliminated from further consideration.

Table 5-1: Two Lane VS Four Lane Comparisons

Alternatives Parameters	2-LANE DIVIDED	4-LANE DIVIDED
Safety	Even though the provision of a non-traversable median would virtually eliminate the fatal head-on crashes, it is a fixed object that is proximate to both directional lanes. This fixed object could be struck by errant vehicles traveling at high speeds and cause crashes. Previous statistical evidence clearly shows that from both a crash frequency and severity perspective, two lane divided highways are not as safe as four lane divided facilities.	- Ample divided median and additional capacity contributes to a safer facility. +
Traffic Service	In case of increasing traffic demand, provision of a divided non-traversable median on a two-lane roadway will worsen the level-of-traffic service. In addition, the provision of lower posted and enforced speeds could produce even greater driver frustration and an overall reduction in mobility. Provision of a divided median on a two-lane facility will increase the percentage of time that a vehicle will be delayed in a platoon trying to pass. In addition, forcing vehicles to go unusually slow on this type of low access/high mobility facility will result in lower average speeds, more delay and thus overall lower service quality.	- The provision of a divided four-lane facility would provide acceptable levels of service, throughout the project segment and accommodate potential future growth. +
Evacuation / Emergency Service	A divided non-traversable median will also worsen conditions in terms of hurricane evacuation or emergency services. With the non-traversable median concept, less continuous pavement is provided on each side. A crash or incident on the outbound side could easily disrupt the flow of traffic since vehicles are basically restricted by the median. Maneuvering large vehicles (RV's, trailers, trucks, etc.) within this narrower width will be more difficult. In addition, a lower design and posted speed facility with a narrow median will not be able to evacuate as many people as a higher speed, unconstrained facility.	- A four-lane facility provides an adequate evacuation route and improves traffic safety during a mass evacuation or emergency situation. +
Planning Consistency	The limited additional mobility provided by a two-lane facility extension is not consistent with the freeway/expressway functional classification envisioned in all previous/existing master plans.	- Fully compatible with all previous/existing master plans. +
Provide Effective Transit Support	Potentially provides only limited (due to capacity limitations) additional interagency transit service that could extend between Lake and Orange Counties.	- Provides a realistic effective option for commuters and visitors traveling between the two counties. +
Transportation Connectivity / Linkage	Provision of only marginal additional capacity limits desired additional connectivity between Lake and Orange Counties.	- Enhances potential future freeway connectivity between Lake and Orange Counties and is consistent with the ultimate vision to provide an effective expressway connection from US 27 to SR 429. +
Cost	Least expensive option in terms of initial capital expenditure, but will generate higher road user cost, as well as potential future expansion costs.	+ Most expensive option in terms of initial capital cost but offers reduced road user costs. -

LEGEND

+ GENERALLY POSITIVE EFFECT

- GENERALLY NEGATIVE EFFECT

5.2.2 Conceptual Interchange Configuration Evaluation

The main objective of this task was to screen out all non-viable (inferior) interchange configurations and thus identify at an early stage what configuration(s) would work best at each interchange location. Summaries of these evaluations are illustrated on **Figures 5-2** through **5-4**. These descriptive matrices show various potential interchange configurations at each of the three interchange locations. It should be noted that several additional interchange options were conceptually developed and preliminarily evaluated for fatal flaws from a traffic and geometric standpoint. Several options were eliminated due to serious operational and/or constructability concerns.

It should be noted that when evaluating the potential interchanges along the Lake/Orange County Connector corridor one parameter that was considered was that the future interchanges should be at least 600 feet away from the existing/future parallel roadways in order to minimize potential detrimental traffic operational interfaces. These interchange locations have been analyzed based on the traffic models with areas of higher congestion and demand to alleviate the traffic from the neighboring existing/future local streets. The proposed interchange locations are as follows:

- Segment 1: Lake/Orange County Connector Interchange at US 27 (Begin Project)
- Segment 2: Lake/Orange County Connector at the Proposed CR 455 Extension Interchange
- Segment 3: Lake/Orange County Connector at SR 429 Interchange (End Project)

Figure 5-2: Lake / Orange County Connector at US 27 Interchange

LEGEND				
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0		
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8		
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6		
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4		
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2		

ALTERNATIVES		1	2	3
PARAMETERS				
ENGINEERING	42	GEOMETRIC / OPERATIONAL FEATURES		
		Effective interchange configuration generally providing good operational features.	+ At grade junction between exiting WB to SB movement and entering SB to EB movement might require a signal.	- Required weaving between loop ramps along the west side will detrimentally affect the operational efficiency. Provision of loop ramps will likely require the introduction of a longer and curvilinear alignment for the relocated portion of US 27.
		12	9.6	4.8
		TRAFFIC SERVICE/MULTIMODAL EFFECTS		
SAFETY		Affords free flow operation for all traffic movements.	+ Although most movements are free flow, a signal might be required for the SB to EB and the WB to SB movements.	- Affords free flow operation for all traffic movements.
		11	8.8	4.4
		CONSTRUCTABILITY / M.O.T. IMPLICATIONS		
SOCIOECONOMIC	30	IMPACTS TO SENSITIVE SITES		
		Requires relocation of a portion of US 27 further east to avoid impacts to Lake Louisa State Park.	0 No impacts anticipated.	+ Results in impacts to Lake Louisa State Park.
		11	6.6	8.8
		IMPACTS TO APPROVED DEVELOPMENTS		
AESTHETIC/VISUAL IMPACTS		Generally modest impacts.	0 Minor impacts due to limited interchange footprint.	+ Generally modest impacts.
		11	6.6	8.8
ENV.	16	ENVIRONMENTAL IMPACTS		
		Generally modest visual impacts.	0 Minor visual impacts due to limited interchange footprint.	+ Generally modest visual impacts.
		8	4.8	6.4
COST	12	CONSTRUCTION		
		Minor environmental impacts.	+ Minor environmental impacts.	+ Minor environmental impacts.
		16	12.8	12.8
RIGHT-OF-WAY & RELOCATION IMPACTS		Two level interchange with curved structures has highest cost.	- Simple configuration with only one structure and generally minor cost.	+ Moderate cost.
		6	2.4	3.6
SUMMARY REMARKS		Moderate right-of-way required and no relocation impacts anticipated.	0 Generally minor right-of-way required and no relocation impacts anticipated.	+ Provision of loop ramps increases the required footprint but no relocation impacts are anticipated.
		6	3.6	4.8
REMAINS VIABLE?		Simple and effective interchange configuration but with higher cost.	Potential signal requirement could be a disadvantage with increases in future traffic demand.	Significant right-of-way impacts and weaving concerns.
		70.4	67.4	57.8

Figure 5-3: Lake / Orange County Connector at CR 455 Interchange

		LEGEND				Schofield Tract		Legend		Schofield Tract		Legend		Schofield Tract		Legend	
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE			1.0													
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE			0.8													
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE			0.6													
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE			0.4													
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE			0.2													
		12		CRITERIA WEIGHT													
		9.6		RESULTING SCORE													
		71.6		TOTAL SCORE													

Figure 5-4: Lake / Orange County Connector at SR 429 Interchange

LEGEND		
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE	1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE	0.8
o	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE	0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE	0.4
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE	0.2

12 CRITERIA WEIGHT		
9.6 RESULTING SCORE		
71.6 TOTAL SCORE		
PARAMETERS		
ENGINEERING	42	1
	GEOMETRIC / OPERATIONAL FEATURES	Effective interchange configuration, generally providing good operational features. Retains two existing entrance ramps from Schofield Road to NB and SB SR 429.
	TRAFFIC SERVICE/MULTIMODAL EFFECTS	Generally provides good traffic service with the connection between Schofield Road and the proposed Lake/Orange Co. Connector being provided at the adjacent Valencia Parkway interchange.
	SAFETY	Generally safe option. Minor concern regarding distance from SR 429/Independence Parkway interchange and SB exit ramps at the proposed interchange.
SOCIOECONOMIC	30	2
	IMPACTS TO SENSITIVE SITES	Avoids impacting existing landfills just west of Avalon Road.
	IMPACTS TO APPROVED DEVELOPMENTS	Relatively modest impact to Horizon West due to its restricted footprint.
	AESTHETIC/VISUAL IMPACTS	Generally limited footprint reduces potentially objectionable visual impact.
ENV.	16	
	ENVIRONMENTAL IMPACTS	Minor environmental impacts.
COST	12	
	CONSTRUCTION	Three level interchange with curved structure requires a high cost.
	RIGHT-OF-WAY & RELOCATION IMPACTS	Moderate right-of-way impacts and no relocation impacts anticipated.
SUMMARY REMARKS		Most effective alternative with least impacts
REMAINS VIABLE?		Yes

Legend		
Mainline L/O County Connector	NB SR 429 to EB L/O County Connector	WB L/O County Connector to SB SR 429
SB SR 429 to EB L/O County Connector	WB L/O County Connector to NB SR 429	SB Valencia Pkwy to WB L/O County Connector
EB L/O County Connector to NB Valencia Pkwy		

Schofield Rd		
Proposed Valencia Pkwy		
Avalon Rd		
Lake Orange County Connector		
TOLL 429		
2		
Indirect NB SR 429 to WB Lake/Orange Co. Connector is long/ineffective and must weave with the EB Lake/Orange Co. Connector movement to NB SR 429.		
Generally provides good traffic service but the connection from NB SR 429 to WB Lake/Orange Co. Connector is very indirect and involves a weaving segment. The connection between Schofield Road and the proposed Lake/Orange Co. Connector is provided at the adjacent Valencia Parkway Interchange.		
Potential insufficient distance between the SR 429/Independence Parkway interchange just to the north and this alternative configuration.		
No significant constructability nor detrimental MOT implications expected.		
Substantial impacts to existing landfills just west of Avalon Road and to the Horizon West Town Center and future Valencia Community College.		
Major impacts to Horizon West Town Center and other critical land uses.		
Potentially objectionable visual impact due to extensive interchange footprint.		
Extensive footprint increases environmental impacts.		
Although it retains significant portions of the existing interchange, the new configuration will require a high construction cost.		
Major right-of-way impacts to critical future land uses.		
Although it would serve traffic, this alternative has weaving and safety concerns to the impacts to landfills		
No		

5.3 Phase 3 – Horizontal Alignment Considerations

5.3.1 Alignment Alternatives

In order to evaluate different alternative roadway concepts, it is also necessary to take into account their horizontal alignment or relative position within the chosen corridor. As shown on **Figure 5-5**, four distinct alignment choices were investigated as follows:

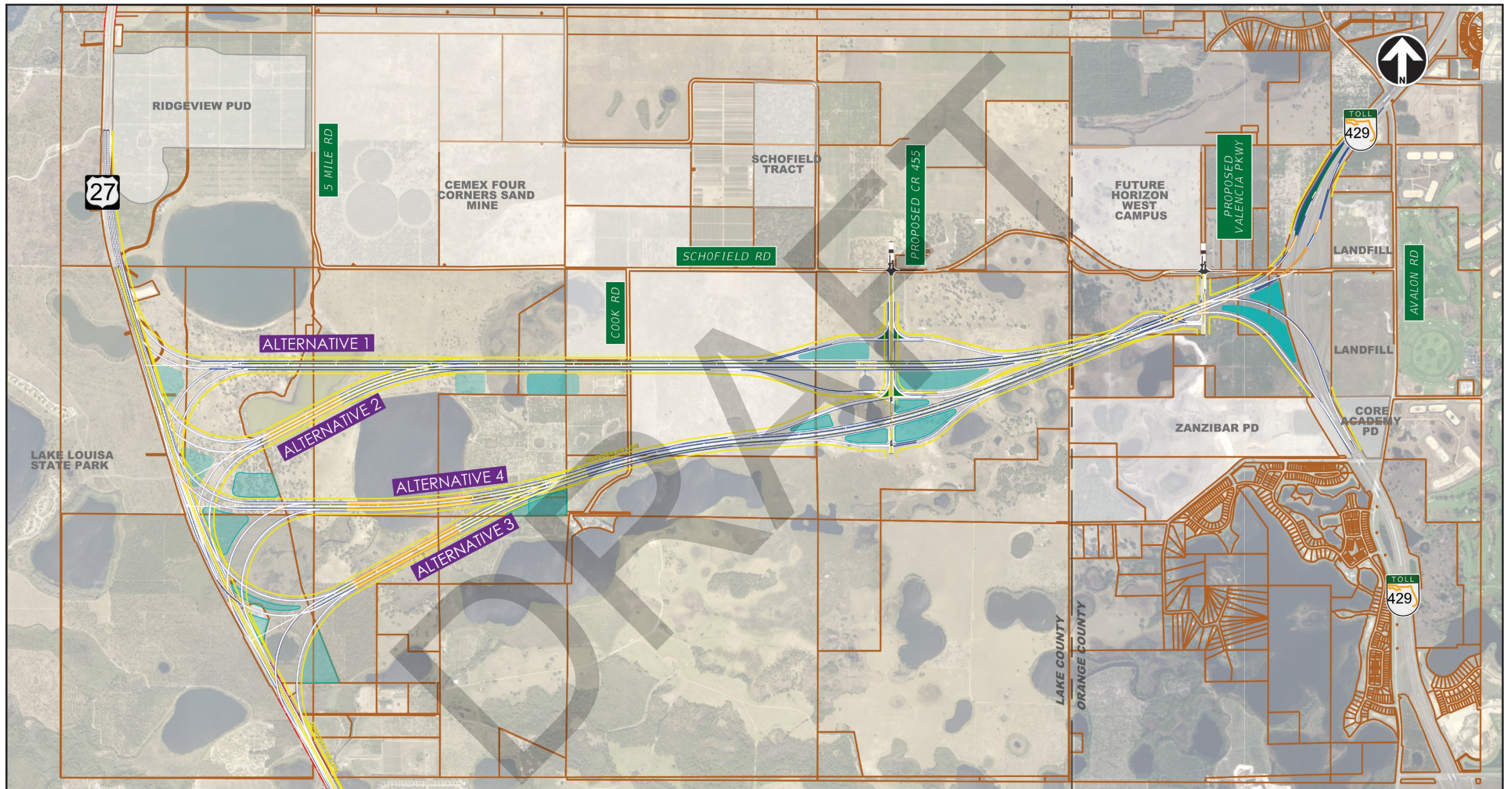
Alternative 1 – This option generally follows the northern boundary of the preferred corridor throughout all three project segments. It commences with an interchange at US 27 approximately 2,000 feet north of the southern terminus of the South Bradshaw Road intersection and proceeds due east, crossing Lake Pike and Lake Island and providing an interchange at the proposed CR 455 extension. At this point, the alignment turns slightly to the northeast, crossing the Lake/Orange county line and terminating at the SR 429/Schofield Road interchange area where a new combined interchange is provided.

Alternative 2 – This option commences with an interchange within the center portion of Segment 1 approximately 2,600 feet south of the north alignment. It then proceeds northeasterly generally between Lake Pike and Lake Adain and merges with the north alignment just west of Lake Island.

Alternative 3 – This alignment generally follows the southern boundary of the preferred corridor. It commences with an interchange approximately 1,800 feet north of the Frank Jarrell Road intersection on US 27 and proceeds in a northeasterly direction until it merges with the previous two alignments just east of the Lake/Orange county line.

Alternative 4 – This alignment also commences with an interchange within the center portion of Segment 1 approximately 600 feet south of Alternative 2. It then proceeds due east crossing the southern portion of Lake Adain and then turns slightly to the northeast generally following the southern boundary of the preferred corridor until it merges with the previous alignment.

Figure 5-5: Alignment Alternatives



5.3.2 Alignment Evaluation

Table 5-2 is a numerical descriptive matrix that evaluates the advantages and disadvantages of the four distinct alignment options. According to the table although the two northern alignment alternatives (Alternatives 1 and 2) cause only marginally less detrimental impacts in terms of wetlands, farmlands and mitigation, they have much greater negative impacts on the CEMEX Mine property. These impacts involve not only additional land acquisition but also negative repercussions on their future mining operations. In summary according to the results obtained, Alternatives 3 and 4 are generally superior than Alternatives 1 and 2.

The results of the evaluation show that Alternatives 3 and 4 are generally similar and the only difference between the two corridors occurs within Segment 1, thus additional factors must be considered for the selection of the preferred alternative. Alternative 3 received positive feedback from the public and major stakeholders. The Alternative 4 interchange with US 27 is slightly closer to the Lake Louisa State Park cabins and main entrance while the Alternative 3 interchange with US 27 is farther south. In addition, although much of the development in the area has not yet been approved, according to project stakeholders Alternative 3 would be most beneficial for future/planned developments in the area. Based on the feedback received from the public and major stakeholders during public meetings as well as during the Environmental and Project Advisory Group meetings (see Section 8 for more details), Alternative 3 was determined to be generally superior to Alternative 4 and is thus selected as the preferred alternative.

Table 5-2: Alternatives Evaluation

LEGEND														
++	SUBSTANTIALLY POSITIVE EFFECT OR BEST ALTERNATIVE													1.0
+	GENERALLY POSITIVE EFFECT OR GOOD ALTERNATIVE													0.8
0	GENERALLY NO EFFECT OR MODERATE ALTERNATIVE													0.6
-	GENERALLY NEGATIVE EFFECT OR INFERIOR ALTERNATIVE													0.4
--	GENERALLY NEGATIVE EFFECT OR WORST ALTERNATIVE													0.2

ALTERNATIVES	ENGINEERING			31	ENVIRONMENTAL		18	SOCIO-ECONOMIC	13	PHYSICAL	6	COST			32	TOTAL SCORE
	FLOODPLAIN IMPACTS	UTILITY IMPACTS	CONSTRUCTABILITY ISSUES	WETLAND IMPACTS	FARMLAND IMPACTS (NRCS)	IMPACTS TO APPROVED DEVELOPMENTS (CEMEX MINE)	NOISE & AESTHETICS/VISUAL IMPACTS	CONSTRUCTION	RIGHT-OF-WAY	MITIGATION						
	12	6	13	14	4	13	6	13	13	6						
1	Approximately 67.1 acres of floodplain impacts 7.2	o Relatively minor utility impacts anticipated throughout the corridor except at the US 27 interchange where 35 transmission pole impacts are anticipated. 2.4	- Requires realignment of US 27 at the interchange location. Relatively minor issues anticipated 7.8	o Approximately 16.3 acres of impacts to wetlands 8.4	o Approximately 291.1 acres of impacts to Farmland of Local Importance 0.8	-- Impacts approximately 43 acres of the CEMEX mine and bisects the main Phase Two mining area potentially critically affecting their mining operations. 2.6	-- Relatively minor noise or aesthetic impacts anticipated to Lake Louisa State Park or the cabins 3.6	o Approximately \$349M 5.2	- Approximately \$179M (378 acres) 5.2	o Approximately \$3.4M in mitigation costs for impacts to wetlands and gopher tortoise 3.6	46.8					
2	Approximately 74.1 acres of floodplain impacts 7.2	o Relatively minor utility impacts anticipated throughout the corridor except at the US 27 interchange where 48 transmission pole impacts are anticipated. 2.4	- Requires realignment of US 27 at the interchange location. Relatively minor issues anticipated 7.8	o Approximately 23.7 acres of impacts to wetlands 8.4	o Approximately 293.2 acres of impacts to Farmland of Local Importance 0.8	-- Impacts approximately 43 acres of the CEMEX mine and bisects the main Phase Two mining area potentially critically affecting their mining operations. 2.6	-- Relatively minor noise or aesthetic impacts anticipated to Lake Louisa State Park or the cabins 3.6	o Approximately \$358M 5.2	- Approximately \$178M (380 acres) 5.2	o Approximately \$4.4M in mitigation costs for impacts to wetlands and gopher tortoise 3.6	46.8					
3	Approximately 115.3 acres of floodplain impacts 4.8	- Relatively minor utility impacts anticipated throughout the corridor except at the US 27 interchange where 36 transmission pole impacts are anticipated. 2.4	- Requires realignment of US 27 at the interchange location. Relatively minor issues anticipated 7.8	o Approximately 55.7 acres of impacts to wetlands 5.6	- Approximately 224.7 acres of impacts to Farmland of Local Importance 2.4	o Impacts approximately 33 acres of the CEMEX mine. Less impacts as compared to Alternatives 1 and 2 and avoids major impacts to the Phase Two mining area since it skirts the property's southern edge. 10.4	+ Relatively minor or no noise or aesthetic impacts anticipated to Lake Louisa State Park or the cabins 4.8	+ Approximately \$373M 2.6	- Approximately \$102M (370 acres) 7.8	o Approximately \$8.4M in mitigation costs for impacts to wetlands and gopher tortoise 2.4	51.0					
4	Approximately 109.2 acres of floodplain impacts 4.8	- Relatively minor utility impacts anticipated throughout the corridor except at the US 27 interchange where 47 transmission pole impacts are anticipated. 2.4	- Requires realignment of US 27 at the interchange location. Relatively minor issues anticipated 7.8	o Approximately 48.7 acres of impacts to wetlands 5.6	- Approximately 231.7 acres of impacts to Farmland of Local Importance 2.4	o Impacts approximately 33 acres of the CEMEX mine. Less impacts as compared to Alternatives 1 and 2 and avoids major impacts to the Phase Two mining area since it skirts the property's southern edge. 10.4	+ Relatively minor noise or aesthetic impacts anticipated to Lake Louisa State Park or the cabins 3.6	o Approximately \$379M 2.6	- Approximately \$105M (372 acres) 7.8	o Approximately \$7.5M in mitigation costs for impacts to wetlands and gopher tortoise 2.4	49.8					

6 Future Traffic Analysis

Design traffic for the Lake/Orange County Connector was forecasted using the CFX Model 3.5 that was developed for the purpose of evaluating the proposed Lake/Orange County Connector Project, as described in the Project Traffic Analysis Report (PTAR), a supplemental document to this report. This section provides a summary of the traffic analysis completed. This section also provides the AADT and Directional Design Hour Volumes (DDHV) for the preferred alternative in opening year and design year.

6.1 Average Annual Daily Traffic (AADT)

The alternatives were broken into three traffic segments: Segment 1 runs from US 27 to the CR 455 interchange in the western end of the study area; Segment 2, or the middle section, runs from the CR 455 interchange to the Valencia Parkway interchange; and, Segment 3 which runs from the Valencia Parkway interchange to SR 429 on the eastern end of the study area.

Table 6-1 below provides the 2045 AADT for the four alternatives along with the weighted average AADT. The 2045 segment volumes were weighted using the distances of each segment to calculate the weighted average AADT. To compare the alternatives, each one was compared to “Alternative 1”, which had the highest weighted average AADT. In terms of the ranking, “Alternative 2” becomes the second, followed by “Alternative 3” and “Alternative 4”.

Table 6-1: 2045 AADT

Alternatives North to South	Segment1	Segment2	Segment 3	Weighted Average AADT	Percent Compared to Best Alternative	Ranking
	US 27 to CR 455	CR 455 to Valencia CC	Valencia CC to SR 429			
Alternative 1	25,700	37,000	25,000	29,800	100%	1
Alternative 2	24,500	36,800	25,100	29,000	97%	2
Alternative 3	24,900	35,000	23,900	28,600	96%	3
Alternative 4	23,900	34,300	23,400	27,700	93%	4

All of the alternatives are anticipated to attract similar future volumes, with average weighted AADT's between 27,700 and 29,800. **Figures 6-1 and 6-2** below provide the AADT for the 2045 No-Build and preferred alternative, respectively.

Figure 6-1: 2045 No-Build AADT

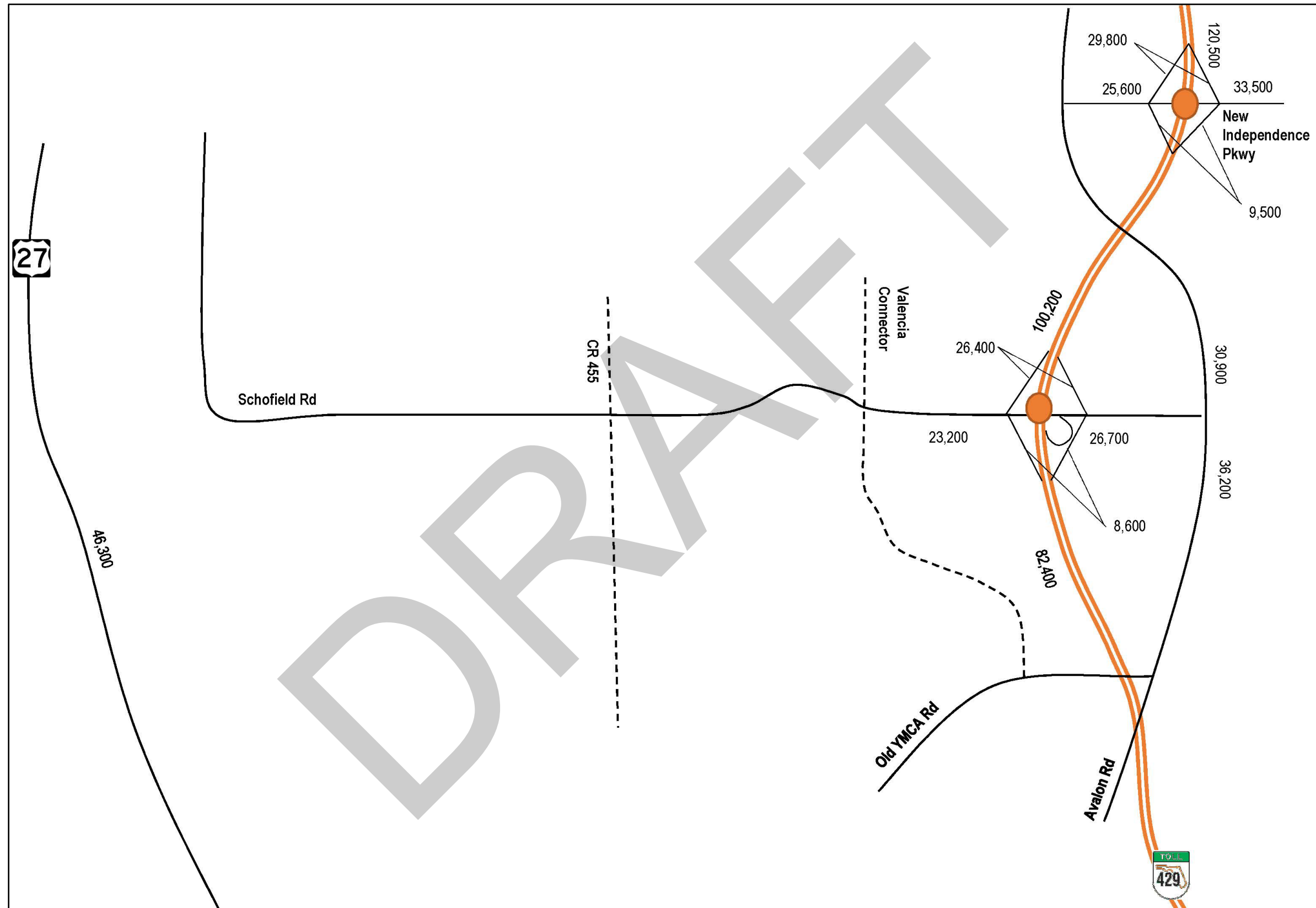
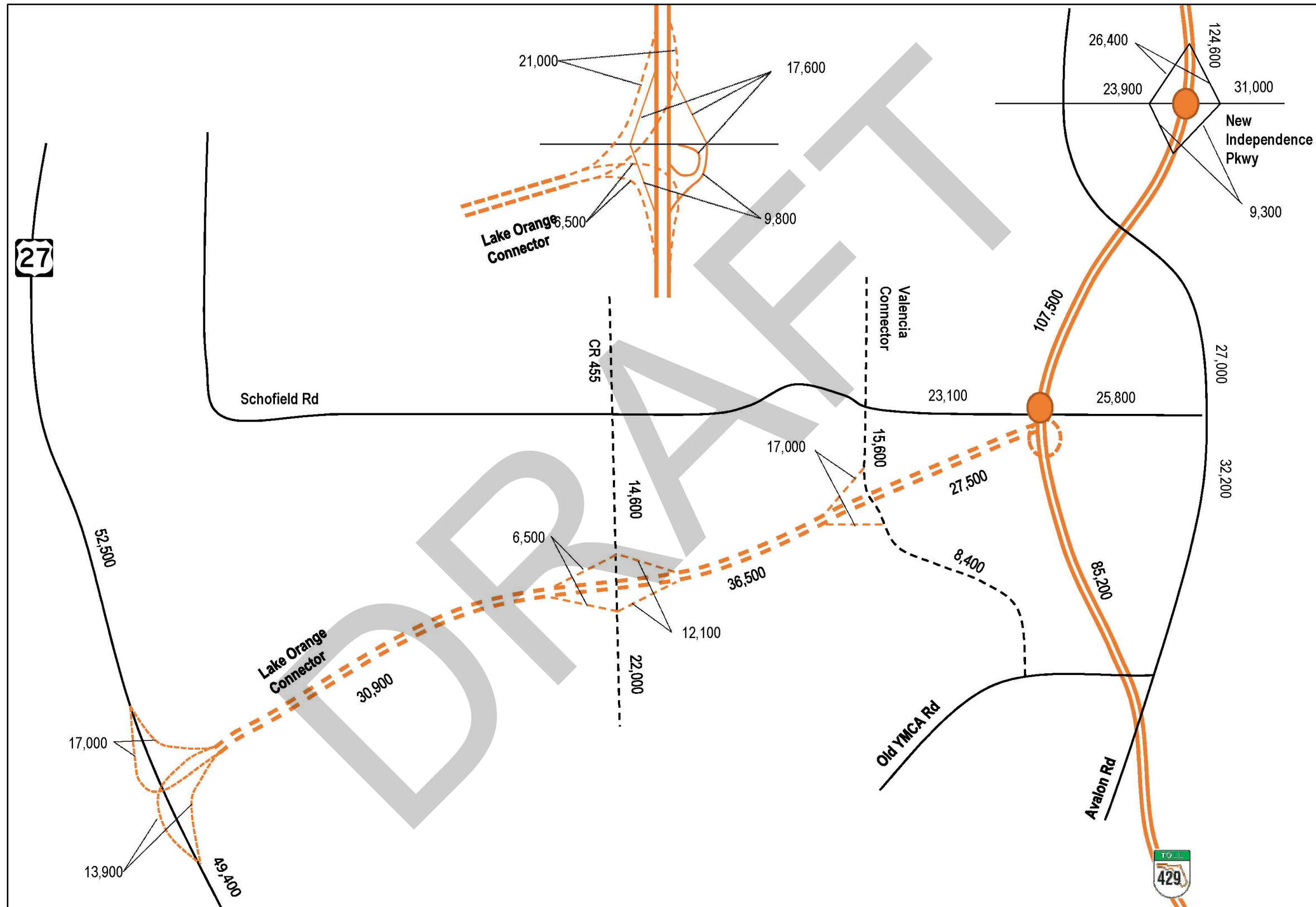


Figure 6-2: 2045 Build AADT



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

The daily roadway segment LOS analysis was conducted for the No-Build and Build conditions using the 2012 FDOT Quality and Level of Service Handbook tables. A summary of No-Build daily LOS is provided in **Table 6-2** and Build daily LOS is provided in **Table 6-3**, respectively. As shown in the tables, all the roadway segments are projected to operate at LOS D or better in 2045 under both No-Build and Build conditions.

Table 6-2: No-Build 2045 Daily Roadway Segment LOS

Roadway	Lanes	AADT	LOS
SR 429 N of Schofield Rd	6L	100,200	D
SR 429 S of Schofield Rd	6L	82,400	C
Avalon Rd N of Schofield Rd	4L	30,900	C
Avalon Rd S of Schofield Rd	4L	36,200	C
US 27 N of LOC	6L	46,300	B
US 27 S of LOC	6L	46,300	B
Schofield Rd E of SR 429	4L	26,700	C
Schofield Rd W of SR 429	4L	23,200	C

Table 6-3: Build 2045 Daily Roadway Segment LOS

Roadway	Lanes	AADT	LOS
SR 429 N of Schofield Rd	6L	107,500	D
SR 429 S of Schofield Rd	6L	85,200	C
Avalon Rd N of Schofield Rd	4L	27,000	C
Avalon Rd S of Schofield Rd	4L	32,200	C
US 27 N of LOC	6L	52,500	B
US 27 S of LOC	6L	49,400	B
Schofield Rd E of SR 429	4L	25,800	C
Schofield Rd W of SR 429	4L	23,100	C
CR 455 N of LOC	4L	22,000	C
CR 455 S of LOC	4L	14,600	C
Valencia Connector N of LOC	4L	15,600	C
Valencia Connector S of LOC	4L	8,400	C

6.2 Design-Hour Traffic Forecasts and LOS

The DDHV for the traffic forecast year 2045 were developed for the No-Build and Build alternatives. DDHV's were developed using the K and D factors along with the forecasted AADTs and present-day intersection turning movement volumes.

The DDHVs for 2045 design year for the No Build and Build conditions are presented in **Figure 6-3** and **Figure 6-4**, respectively.

Figure 6-3: 2045 Build AM & PM Peak Hour DDHVs

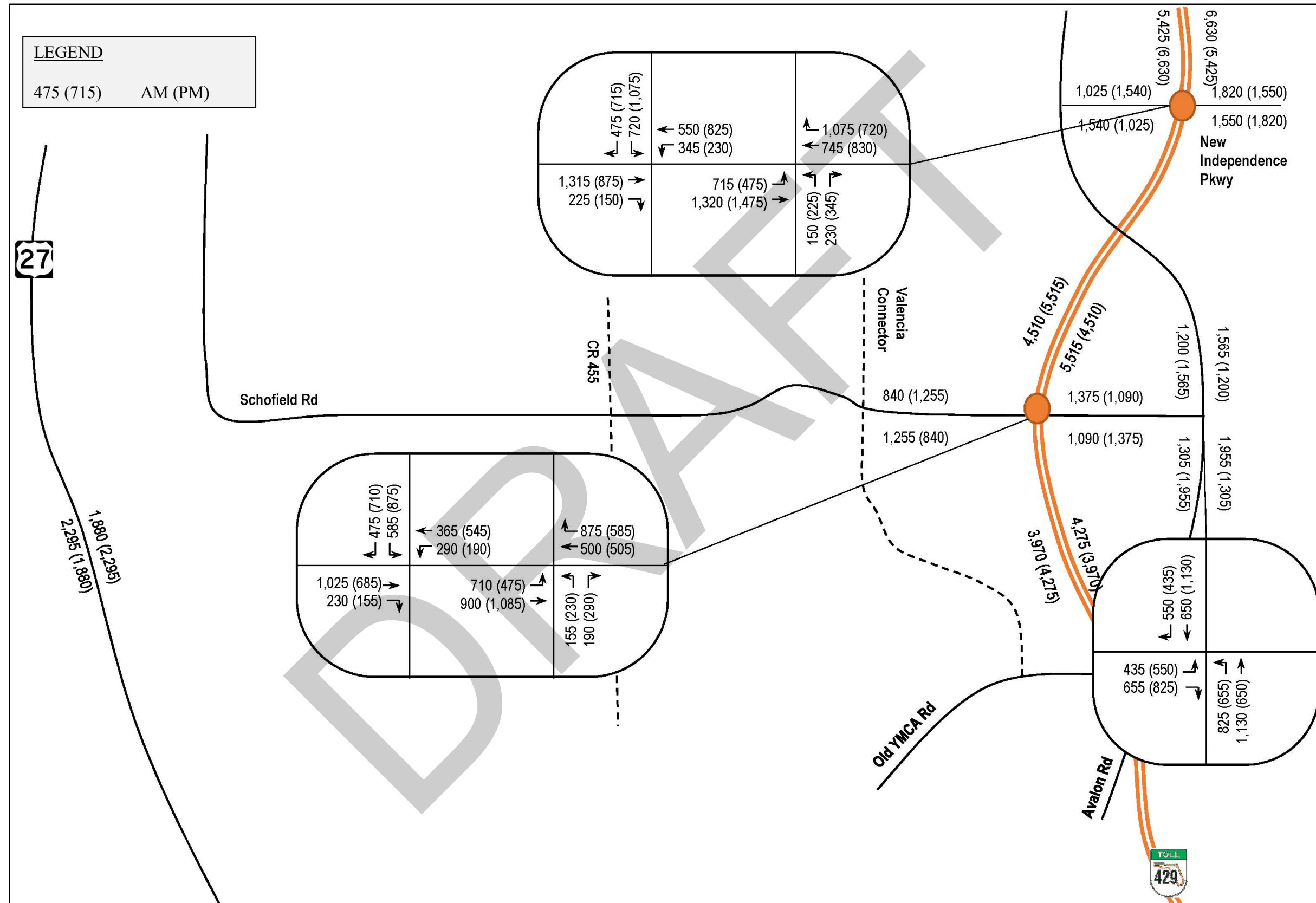
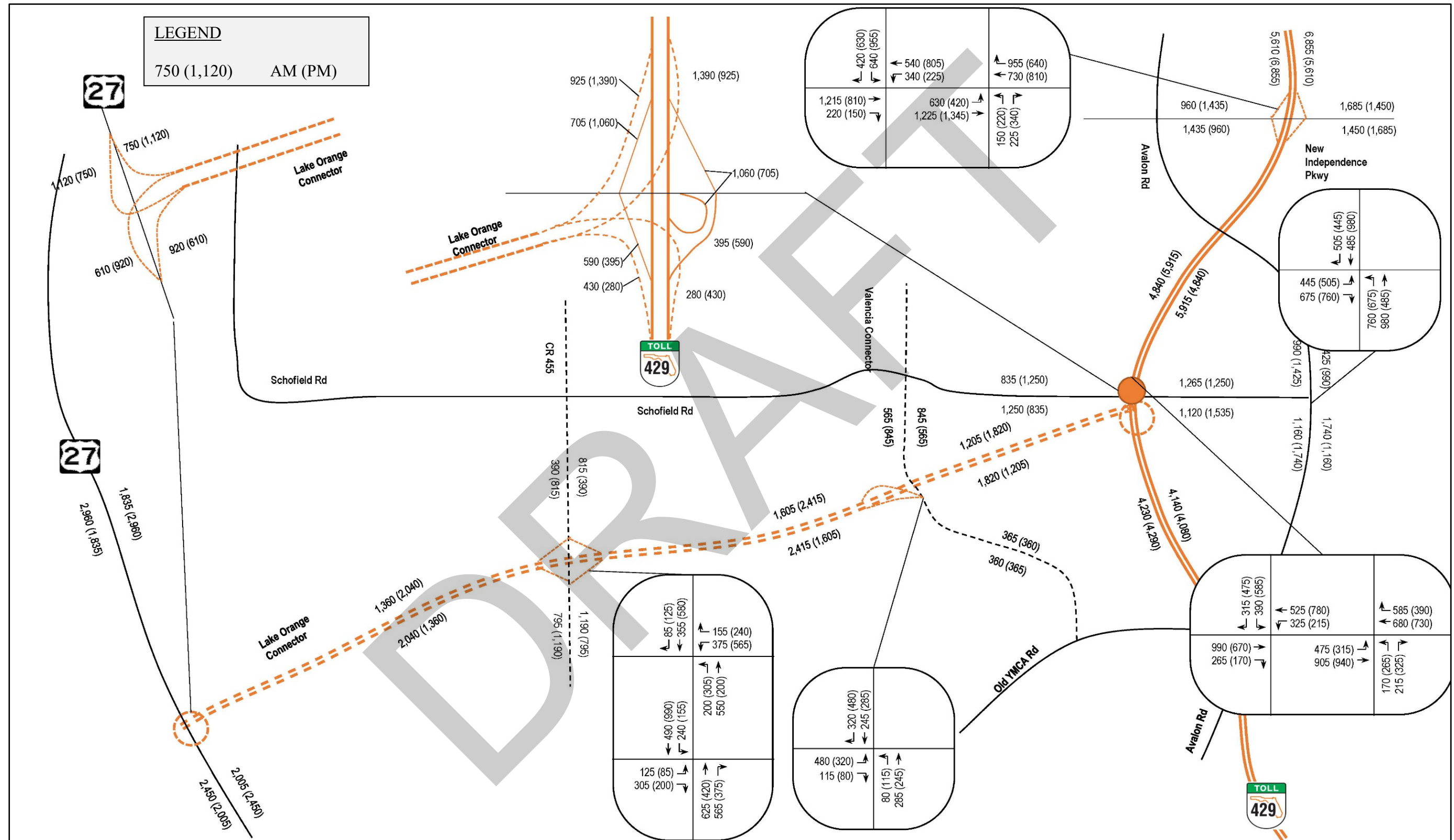


Figure 6-4: 2045 Build AM & PM Peak Hour DDHVs



The roadway segment LOS analysis was conducted in the AM Peak and PM Peak hours for the No-Build and Build conditions using the DDHVs. A summary of No-Build AM Peak Hour Segment LOS is provided in **Table 6-4** and No-Build PM Peak Hour Segment LOS is provided **Table 6-5**.

Table 6-4: 2045 No-Build Peak Hour Roadway Segment LOS

Roadway	Lanes	Peak Hour Volume	LOS
SR 429 N of Schofield Rd	6L	5,515	E
SR 429 S of Schofield Rd	6L	4,275	C
Avalon Rd N of Schofield Rd	4L	1,565	C
Avalon Rd S of Schofield Rd	4L	1,955	D
US 27 N of LOC	6L	2,295	B
US 27 S of LOC	6L	2,295	B
Schofield Rd E of SR 429	4L	1,375	B
Schofield Rd W of SR 429	4L	1,255	C

Table 6-5: 2045 Build Peak Hour Roadway Segment LOS

Roadway	Lanes	Peak Hour Volume	LOS
SR 429 N of Schofield Rd	6L	5,915	E
SR 429 S of Schofield Rd	6L	4,290	C
Avalon Rd N of Schofield Rd	4L	1,425	C
Avalon Rd S of Schofield Rd	4L	1,740	C
US 27 N of LOC	6L	2,960	C
US 27 S of LOC	6L	2,450	B
Schofield Rd E of SR 429	4L	1,535	B
Schofield Rd W of SR 429	4L	1,250	C
CR 455 N of LOC	4L	815	C
CR 455 S of LOC	4L	1,190	C
Valencia Connector N of LOC	4L	845	C
Valencia Connector S of LOC	4L	365	C

The intersection LOS analysis was also conducted for the AM Peak and PM Peak hours for each turning movement.

A summary of No-Build 2045 AM and PM Peak Hour Intersection LOS are provided in **Tables 6-6 and 6-7**, and Build 2045 AM and PM Peak Hour Intersection LOS are provided **Table 6-8 and 6-9**. The queue lengths for the 2045 Build AM and PM Peak conditions are presented in **Table 6-10**.

Table 6-6: 2045 No-Build AM Peak Hour Intersection LOS

Location	SR 429 SB Ramps @ Schofield Road		SR 429 NB Ramps @ Schofield Road		Avalon Rd @ Schofield Road		SR 429 SB Ramps @ New Independence		SR 429 NB Ramps @ New Independence	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
EBL	-	-	-	-	42.5	D	-	-	81.4	F
EBT	40.3	D	6.1	A	-	-	47.9	D	7.5	A
EBR	5.1	A	-	-	5.7	A	8.1	A	-	-
WBL	33.5	C	-	-	-	-	77.6	E	-	-
WBT	9.7	A	2.9	A	-	-	9.6	A	19.7	B
WBR	-	-	13.7	B	-	-	-	-	76.6	E
NBL	-	-	56.7	E	53.5	D	-	-	95.1	F
NBT	-	-	-	-	15.4	B	-	-	-	-
NBR	-	-	10.6	B	-	-	-	-	64.1	F
SBL	54.1	D	-	-	-	-	57.8	E	-	-
SBT	-	-	-	-	50.6	D	-	-	-	-
SBR	7.5	A	-	-	10.3	B	21.6	C	-	-
All Movement	30.6	C	11.4	B	31.5	C	41.0	D	45.8	D

Table 6-7: 2045 No-Build PM Peak Hour Intersection LOS

Location	SR 429 SB Ramps @ Schofield Rd		SR 429 NB Ramps @ Schofield Rd		Avalon Rd @ Schofield Rd		SR 429 SB Ramps @ New Independence		SR 429 NB Ramps @ New Independence	
Movements	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
EBL	-	-	-	-	54.9	D	-	-	66.6	E
EBT	56.1	E	21.1	C	-	-	58.4	E	24.5	C
EBR	7.2	A	-	-	11.1	B	8.3	A	-	-
WBL	43.4	D	-	-	-	-	103.2	F	-	-
WBT	30.7	C	2.3	A	-	-	24.8	C	36.0	D
WBR	-	-	4.8	A	-	-	-	-	9.1	A
NBL	-	-	64.5	E	72.2	E	-	-	48.3	D
NBT	-	-	-	-	13.7	B	-	-	-	-
NBR	-	-	51.3	D	-	-	-	-	51.1	D
SBL	26.7	C	-	-	58.5	E	30.7	C	-	-
SBT	-	-	-	-	11.1	B	-	-	-	-
SBR	33.8	C	-	-	-	-	48.3	D	-	-
All Movement	35.4	D	21.0	C	43.2	D	42.4	D	32.6	C

Table 6-8: 2045 Build AM Peak Intersection LOS

Location	SR 429 SB Ramps @ Schofield Rd		SR 429 NB Ramps @ Schofield Rd		Avalon Rd @ Schofield Rd		SR 429 SB Ramps @ New Independence		SR 429 NB Ramps @ New Independence		CR 455 @ LOC EB Ramps		CR 455 @ LOC WB Ramps		Future Valencia Rd @ LOC Ramps	
Movements	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
EBL	-	-	-	-	34.5	C	-	-	73.7	E	43.7	D	-	-	36.9	D
EBT	37.4	D	12.3	B	-	-	41.7	D	7.5	A	-	-	-	-	-	-
EBR	3.8	A	-	-	4.1	A	6.3	A	-	-	7.2	A	-	-	5.7	A
WBL	27.3	C	-	-	-	-	75.3	E	-	-	-	-	38.3	D	-	-
WBT	7.7	A	12.5	B	-	-	8.9	A	19.0	B	-	-	-	-	-	-
WBR	-	-	8.0	A	-	-	-	-	37.6	D	-	-	5.8	A	-	-
NBL	-	-	43.7	D	50.5	D	-	-	95.1	F	-	-	72.2	E	15.6	B
NBT	-	-	-	-	16.4	B	-	-	-	-	25.4	C	13.0	B	15.9	B
NBR	-	-	15.6	B	-	-	-	-	47.9	D	3.7	A	-	-	-	-
SBL	55.6	E	-	-	-	-	56.6	E	-	-	76.5	E	-	-	-	-
SBT	-	-	-	-	50.2	D	-	-	-	-	17.3	B	37.8	D	26.0	C
SBR	8.4	A	-	-	7.7	A	14.5	B	-	-	-	-	6.9	A	3.7	A
All Movement	26.8	C	13.7	B	28.7	C	37.0	D	33.3	C	22.4	C	29.6	C	20.8	C

Table 6-9: 2045 Build PM Peak Intersection LOS

Location	SR 429 SB Ramps @ Schofield Rd		SR 429 NB Ramps @ Schofield Rd		Avalon Rd @ Schofield Rd		SR 429 SB Ramps @ New Independence		SR 429 NB Ramps @ New Independence		CR 455 @ LOC EB Ramps		CR 455 @ LOC WB Ramps		Future Valencia Rd @ LOC Ramps	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Movements																
EBL	-	-	-	-	38.4	D	-	-	73.1	E	40.7	D	-	-	50.3	D
EBT	46.8	D	25.0	C	-	-	68.7	E	26.9	C	-	-	-	-	-	-
EBR	6.0	A	-	-	6.3	A	8.9	A	-	-	18.8	B	-	-	9.8	A
WBL	26.5	C	-	-	-	-	76.9	E	-	-	-	-	41.9	D	-	-
WBT	24.5	C	46.2	D	-	-	25.6	C	37.3	D	-	-	-	-	-	-
WBR	-	-	22.1	C	-	-	-	-	5.3	A	-	-	5.4	A	-	-
NBL	-	-	29.6	C	65.1	E	-	-	44.0	D	-	-	79.7	E	8.3	A
NBT	-	-	-	-	13.2	B	-	-	-	-	24.0	C	11.8	B	7.9	A
NBR	-	-	26.9	C	-	-	-	-	44.8	D	3.3	A	-	-	-	-
SBL	32.3	C	-	-	-	-	35.5	D	-	-	72.0	E	-	-	-	-
SBT	-	-	-	-	55.5	E	-	-	-	-	23.8	C	40.0	D	15.9	B
SBR	31.2	C	-	-	9.4	A	45.1	D	-	-	-	-	5.8	A	2.6	A
All Movement	31.4	C	31.1	C	37.6	D	44.0	D	33.2	C	23.9	C	37.5	D	16.8	B

Table 6-10: 95th Percentile Queue Lengths for 2045 Build

Intersection	Movement	AM Peak	PM Peak
SR 429 SB Ramps @ Schofield Rd	EBT	509	380
	EBR	55	56
	WBL	286	178
	WBT	113	318
	SBL	243	272
	SBR	86	436
SR 429 NB Ramps @ Schofield Rd	EBT	253	391
	WBT	202	401
	WBR	196	m253
	NBL	104	125
Avalon Rd @ Schofield Rd	NBR	124	279
	EBL	237	298
	EBR	31	62
	NBL	437	423
	NBT	325	142
	SBT	289	591
CR 455 @ LOC EB Ramps	SBR	103	151
	EBL	81	57
	EBR	80	136
	NBT	261	172
	NBR	63	57
	SBL	184	128
CR 455 @ LOC WB Ramps	SBT	150	312
	WBL	195	301
	WBR	52	62
	NBL	156	223
	NBT	132	52
	SBT	188	306
Future Valencia Rd @ LOC Ramps	SBR	40	47
	EBL	241	194
	EBR	44	45
	NBL	64	60
	NBT	96	57
	SBT	111	96
	SBR	58	50

6.3 Traffic Recommendations

The intersections within the study area for the preferred alternative are analyzed with the following recommended improvements:

Due to the developing nature of the study area, the many unknowns regarding specific development patterns, and to ensure adequate rights of way are secured for future demand, the future interchange geometry proposed as a part of Lake/ Orange County Connector is recommended for the new interchanges at CR 455 Extension and Valencia Connector to include:

- Signalization
- Dual exclusive left turn lanes and single right turn lane at the ramp termini,
- Dual exclusive left turn lanes from cross street on to the receiving ramps, and
- On-ramps will need to accommodate two lanes of receiving traffic.

The traffic analysis shows that the Lake / Orange County Connector will help traffic conditions in the study area in the Build condition over the No-Build condition. The Lake / Orange County Connector provides opportunity for high-speed east-west travel between US 27 and SR 429 and provides much needed regional connectivity in this rapidly growing area of Central Florida.

7 Public Involvement

A public involvement program was developed and implemented for this Lake / Orange County Connector PD&E study. The program is documented in the Public Involvement Program (PIP) (see **Appendix E**).

Public information meetings began in June 2018 and have continued throughout the study process. The public involvement effort for this phase of the project included three (3) public meetings (the Public Hearing is scheduled for June 27, 2019), with three (3) additional Project Advisory Group (PAG) meetings and three (3) Environmental Advisory Group (EAG) meetings. **Table 7-1** lists the members of both groups and the respective company/organization. Additionally, a study website was developed and maintained throughout the entire study.

Table 7-1: PAG / EAG Group Members

Group	Name	Company/Organization
PAG	Loren Bender	Valencia College
	Julie Bendure	Floribra-Bradshaw
	Chris Carmody	Apartment Association of Greater Orlando
	Roger Chapin	Mears Transportation
	Rex Clonts	Clonts Grove, Inc.
	Diane Dethlefs	Orange County (Commissioner's Aide – District 1)
	Chris Dougherty	S&ME (Consultant)
	Jonathan Droor	Lennar Land Development
	Stina D'Uva	West Orange Chamber of Commerce
	Mark Griffith	Cra-Mar Groves
	Hugh Harling	East Central Florida Regional Planning Council
	Jose Hernandez	Orange County Utilities
	Lisa Hill	Southern Hill Farms
	David Hill	Southern Hill Farms
	Rafael Jimenez	CEMEX
	Herb Kahlert	Karl Corporation
	Jim Karr	South Lake Crossing
	Nick Lepp	MetroPlan Orlando
	Mike Litvany	Hickory Grove LLC
	Richard Levey	Hickory Grove LLC
	Mark Massaro	Orange County Public Works
	Brandon Matulka	Lake County (Agency for Economic Prosperity)
	Tim McClendon	Lake County Planning & Zoning

Table 7-1: PAG / EAG Group Members

Group	Name	Company/Organization
	Renzo Natasi	Orange County (Community, Environmental and Development Services)
	Jimmy Roper	Land owner
	Scott Ruland	Water Conserv II
	Jenelle Schmidli	Greater Orlando Builders Association
	Shannon Schmidt	City of Clermont
	Lee Steinhauer	Greater Orlando Builders Association
	Marcie Tinsley	Karl Corporation
	Keith Trace	Mattamy Homes
	Thomas Werner	City of Clermont
	Ed Williams	City of Winter Garden
	Cuqui Whitehead	City of Clermont
EAG	John Classe	Reedy Creek Improvement District
	William Graf	South Florida Water Management District (SFWMD)
	Mark Griffin	City of Clermont
	Ron Hart	Lake County Water Authority
	James Hollingshead	St. Johns River Water Management District (SFWMD)
	Beth Jackson	Orange County, Environmental Protection Division
	Aldin Mathews	Florida Park Service, Lake Louisa State Park
	Chris Matson	Florida Department of Environmental Protection (FDEP) District 3
	Brandon Matulka	Lake County, Agency for Economic Prosperity
	Lee Pulham	Reedy Creek Improvement District
	Lex Veech	Property Owner
	Casey Lyon	Florida Department of Transportation (FDOT) District 5
	Ginny Jones	Florida Division of Historic Resources
	Kathy Pagan	Lake County
	Richard Mospens	Florida Fish and Wildlife Conservation Commission (FWC)
	Cammie Dewey	St. Johns River Water Management District (SJRWMD)
	Zakia Williams	US Fish and Wildlife

Appendix E includes sign-in sheets and meeting summaries from each of the meetings held to date. For a complete list of all public involvement activities and coordination meetings held see **Appendix E**. Exhibits and project information were provided for public

review and comment at each meeting. All input received served as valuable information that was taken into consideration for the refinement of the alternatives and the development of the preferred alternative. Representatives from the CFX were available at each meeting to discuss the project and answer questions.

Environmental Advisory Group (EAG) Meeting 1

An EAG meeting was held on July 30, 2018. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The project study was introduced as well as the study overview, history and purpose was presented. Sixteen (16) corridor alternatives were identified to the group. A total of 18 people including eight (8) staff members attended the meeting.

Project Advisory Group (PAG) Meeting 1

A PAG meeting was held on July 30, 2018. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The project study was introduced as well as the study overview, history and purpose was presented. Sixteen (16) corridor alternatives were identified to the group. A total of 44 people including 10 staff members attended the meeting.

Public Informational Meeting 1

A Public Informational Meeting was held on August 30, 2018. The meeting was an open-house format and presented the Corridor Alternatives that were developed in order to obtain public feedback. The meeting provided an opportunity for residents, business owners, stakeholders and other interested parties to view the project alternatives with members of CFX and the consultant team to get answers to questions and responses to their concerns. One hundred and twenty-six (126) people attended the meeting and nine (9) comment sheets were received.

Environmental Advisory Group (EAG) Meeting 2

An EAG meeting was held on February 12, 2019. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The top four

corridor alternatives was presented at the EAG meeting. A total of 24 people including one (1) guest, and eight (8) staff members attended the meeting.

Project Advisory Group (PAG) Meeting 2

A PAG meeting was held on February 12, 2019. The meeting was held to provide an opportunity for input from stakeholders, agencies and public participation. The top four corridor alternatives were presented at the PAG meeting. A total of 41 people including ten (10) staff members attended the meeting.

Public Informational Meeting 2

A Public Informational Meeting was held on March 07, 2019. The meeting was an open-house format and presented the top four alternatives in order to obtain public feedback. The meeting provided an opportunity for residents, business owners, stakeholders, and other interested parties to view the project alternatives with members of CFX and the consultant team to get answers to questions and responses to their concerns. A total of 54 attendees – 34 community members and 20 staff members attended the meeting and twelve (12) comments were received.

Environmental Advisory Group (EAG) Meeting 3

An EAG meeting was held on May 2, 2019. The meeting was held to provide an opportunity for input from stakeholders, agencies, and public participation. The evaluation of the top four alternatives and the preferred alternative (Alternative 3) was presented. Feedback from the EAG members was positive for the preferred alternative as it avoided the Schofield Tract and the Lake Louisa State Park's main entrance and cabins. A total of 24 people including 11 staff members attended the meeting.

Project Advisory Group (PAG) Meeting 3

A PAG meeting was held on May 2, 2019. The meeting was held to provide an opportunity for input from stakeholders, agencies, and public participation. The evaluation of the top four alternatives and the preferred alternative (Alternative 3) was presented. Feedback from the PAG members was positive for the preferred alternative as it had the least

impacts to the CEMEX Four Corners Sand Mine, farthest south to the Southern Hill Farms, and no direct impacts to the Water Conserv II. A total of 31 people including two (2) guests and nine (9) staff members attended the meeting.

Public Hearing

The public hearing is scheduled to be held on June 27, 2019. This section will be updated after the public hearing.

DRAFT

8 Preferred Alternative

After a comprehensive evaluation process, Alternative 3 was selected as being the most effective option and is illustrated on **Figure 8-1**. In general, this alternative was the result of combinations of the three project segments as well as various interchange configurations at each access point. For more details on Alternative 3, see the Concept Plans in **Appendix F**.

The typical section for the preferred alternative is depicted on **Figure 8-2**.

A brief description of the preferred alternative follows:

Segment 1 (from US 27 [Begin Project] to Cook Road): Within Segment 1, the preferred alternative features a four-lane rural expressway typical section, with 330 feet of right-of-way, 12-foot travel lanes, 12-foot outside shoulders, an 88-foot divided median and a 94-foot border width. The section will feature grade separations in order to provide access to local facilities. The western interchange at US 27 provides direct connect ramps with free flow access to/from US 27. In order to avoid impacts to the abutting Lake Louisa State Park, a portion of US 27 will be slightly shifted to the east. Within this segment, the preferred alternative generally follows a northeast direction, thus avoiding impacts to Lakes Adain and Sawgrass.

Segment 2 (from Cook Road to the Lake/Orange County Line): Within this segment, the preferred alternative continues with the same typical section previously described under Segment 1. The alignment generally shifts slightly southward just east of Cook Road in order to minimize impacts to the CEMEX Four Corners Sand Mine property. A full diamond interchange will be provided at the proposed CR 455 Extension facility to provide local access.

Segment 3 (from the Lake/Orange County Line to the SR 429 and Schofield Road interchange [End Project]): Within Segment 3, the preferred alternative continues the same typical section described under Segment 1. A partial interchange at the proposed Valencia Parkway will provide access to and from the west. At the SR 429 with Schofield Road interchange, direct connect ramps will provide access to/from both Northbound and Southbound SR 429.

Figure 8-1: Preferred Alternative

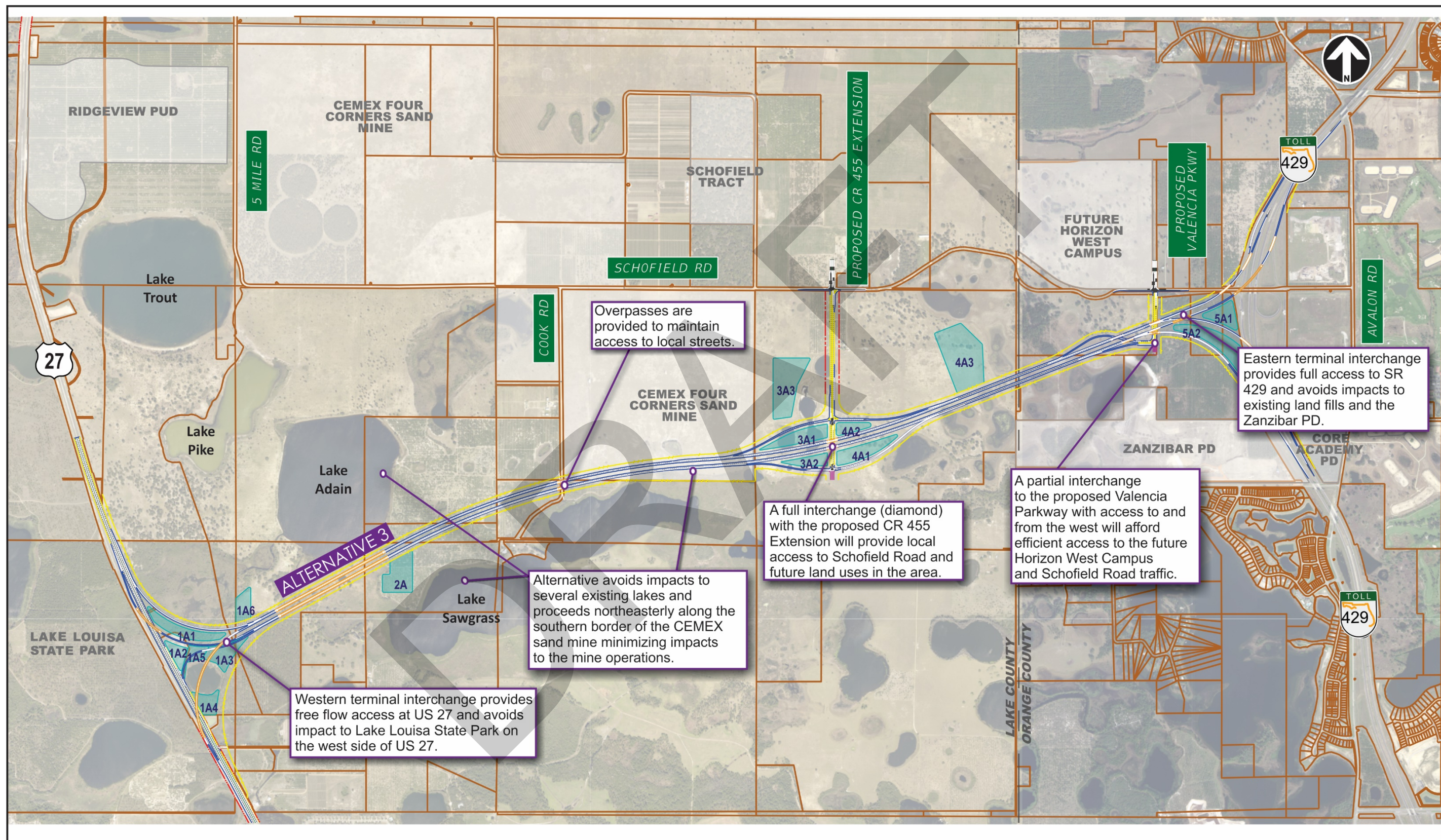
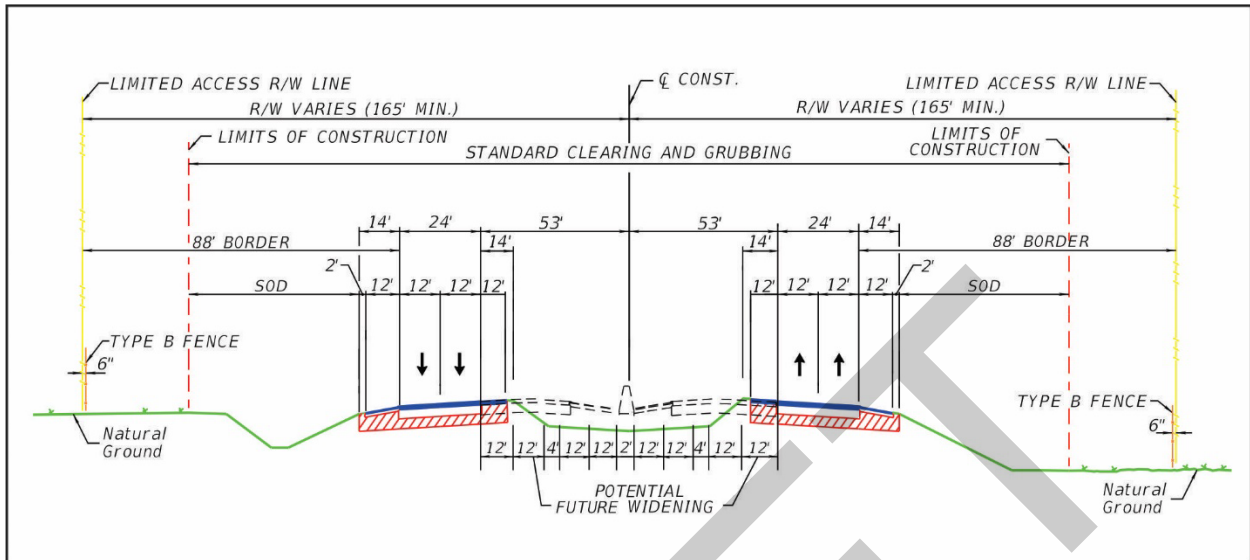


Figure 8-2: Preferred Alternative Typical Section



8.1 Preliminary Roadway Design

8.1.1 Proposed Typical Sections

As illustrated on **Figure 8-2** the preferred alternative features a four-lane rural expressway typical section, with 330 feet of right-of-way, 12-foot travel lanes, 12-foot outside shoulders, an 88-foot divided median and a 94-foot border width. The typical section has the potential for future widening to a 10-lane typical section with five 12-foot travel lanes in each direction.

8.1.2 Horizontal Alignment

The mainline horizontal curves of the preferred alternative are described in **Table 8-1**. For additional information including horizontal curve information for the ramps, refer to the concept plans in **Appendix F**.

Table 8-1: Proposed Horizontal Curves

Location	Curve Name	PC STA	PI STA	D	Delta	L (ft)	R (ft)
Lake / Orange County Connector Mainline	ALT031	150+88.20	184+49.62	0°22'55"	25°15'43" (RT)	6,613.57	15,000
	ALT032	217+01.77	240+57.28	0°22'55"	17°50'56" (LT)	4,672.85	15,000

8.1.3 Vertical Alignment

A preliminary profile was developed to verify constructability and estimate construction costs. The existing ground was created from 1' contour Lidar maps, which were obtained

from Lake county and Orange county websites. The Lidar data does not provide an accurate survey of the existing ground. During the final design, a topographic survey should be performed for the project area to provide more accurate information. The vertical curves for the preferred alternative are described in **Table 8-2**. For additional information including the vertical curve information for the ramps refer to the concept plans in **Appendix F**.

Table 8-2: Proposed Vertical Curves

Location	Curve Type	VPI Station (ft)	VPI Elevation	Grade (Back) %	Grade (Ahead) %	Length of Curve (ft)	K
Lake / Orange County Connector Mainline	Crest	135+00.00	133.05	+0.430	-0.340	1250	1623
	Sag	161+05.17	124.19	-0.340	+1.170	1250	828
	Crest	189+98.97	158.05	+1.170	-1.821	1400	468
	Sag	218+00.00	107.05	-1.821	+1.502	1400	421
	Crest	245+00.00	147.60	+1.502	-1.791	1800	547
	Sag	273+00.00	97.45	-1.791	+1.317	2800	901
	Sag	307+50.00	142.90	+1.317	+0.887	2000	4649

8.1.4 Bicycle and Pedestrian Accommodations

Lake / Orange County Connector is proposed as a limited access facility; therefore, no bicycle nor pedestrian facility will be provided along the Lake / Orange County Connector.

8.1.5 Potential Design Exceptions and Variations

A border width variance may be required for the proposed 88-foot border width. According to the FDOT Design Manual a new construction limited access facility requires a border width of 94-feet. No additional design exceptions or variations are anticipated.

8.1.6 Access Management

Administrative Rule 14-97 establishes the seven classifications for state highways that contain separation standards for access features as stated in the FDOT Median Handbook. Access Class 1 applies limited access facilities, which do not provide direct property connections. Since the proposed Lake / Orange County Connector is a new limited access facility, the proposed access classification is considered Access Class 1.

The Lake / Orange County Connector includes four proposed interchanges: direct connect ramps at US 27, a diamond interchange at the proposed CR 455 Extension, a partial interchange to and from the west at the proposed Valencia Parkway, and a

systems interchange at SR 429. The proposed CR 455 Extension is currently in the PD&E Phase and the exact location of the tie-in to Schofield Road is currently being determined. Coordination with Lake County will continue during final design for the final location of the CR 455 Extension.

For median openings along the cross streets at interchange locations the standard distance to the first full median opening shall be at least 2,640 feet as measure from the end of the taper of the off ramp. A meeting was held with FDOT District 5 staff on August 24, 2018 to coordinate efforts and access along US 27. FDOT staff indicated that the FDOT preference is a direct connect interchange that allows free-flow movement at US 27. A new signal at US 27 is undesirable given the high speeds (55 MPH posted speed) along US 27.

It should also be noted that there are planned developments (e.g. Olympus and Ridgeview) with proposed access to US 27 north of the preferred alternative. Coordination between FDOT and future developments is on-going.

8.1.7 Lighting

Preliminarily, lighting will be provided at the interchange locations. A lighting analysis will be done in final design to determine lighting requirements.

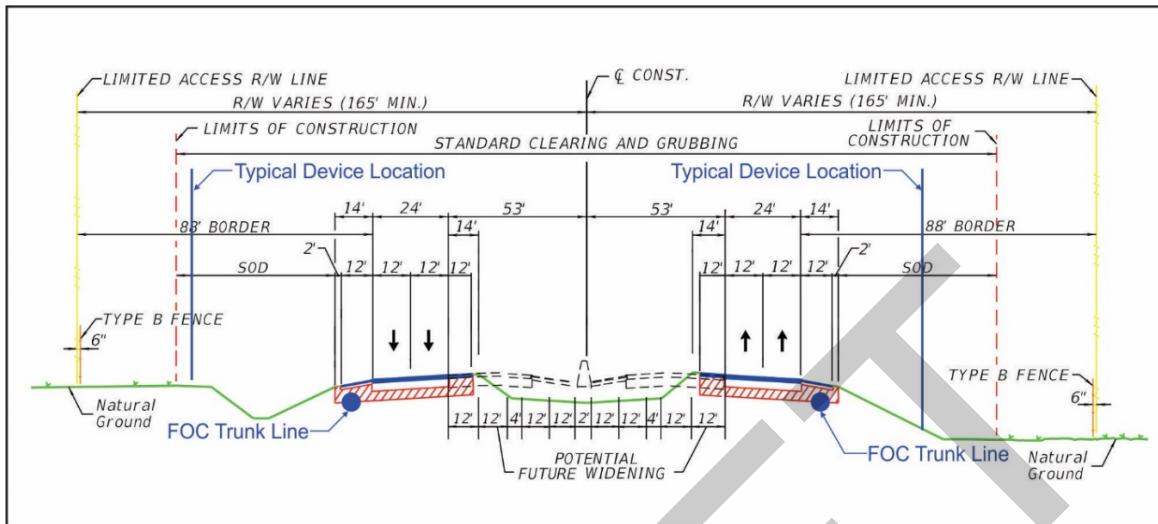
8.1.8 Signing

Signing will be provided throughout the preferred alternative. See **Appendix F** for a preliminary conceptual signing layout.

8.1.9 Proposed ITS Devices

ITS network elements to be installed are expected to include: new DMS, CCTV, TMS, DCS, Wrong Way Signs, power subsystem and fiber optic network. Please note that the preliminary ITS estimate was based on a high-level engineering design and the final quantities should be determined at the time of design. As shown on **Figure 8-3** the ITS equipment and conduit are recommended to be installed in the following locations:

Figure 8-3: Typical ITS Devices and Fiber Placement



DMS: DMS will provide the motorists with the travel information, such as travel time, amber alerts, traffic incident, and others. The signs will be strategically placed in advance of off ramps to allow the motorist to decide to remain on the highway or find an alternative route.

CCTV Cameras: The purpose of the CCTV cameras is to provide 100% comprehensive video coverage along the Lake/ Orange County Connector. The cameras will also cover mainline, side streets, and view the DMS to verify that the correct information is being displayed. The cameras will be placed using approximately one-mile spacing.

TMS: The Traffic Monitoring Stations will provide volume, lane occupancy, and speed information in multiple detection zones. Each vehicle detection device will collect and process the data on a lane-by-lane basis. The vehicle detectors will automatically identify and detect speed fluctuations along the road and send an alert to the operator(s) at the Regional Traffic Management Center (RTMC). TMS sensors will be installed at every on/off ramp and in between the interchanges.

DCS: The DCS are used in travel time analysis by detecting transponders. The DCS sites will be installed at every on/off ramp and will collect accurate travel time information to be disseminated to the traveling public via DMS signs.

Underground Power Distribution System: An underground power distribution system with Uninterrupted Power Supply (UPS) backup will be included as part of the analysis for the new SR 429 to US 27 connection. For the purpose of this study, one power service per HUB location will be considered. The future design firm shall be responsible for verifying the proposed locations, determining available power sources and voltages, and coordinating with Utility Companies. The electrical design will consist of commercially available power sources. Disconnects and service meters are to be installed at all locations.

Wrong way signs: The “Wrong Way” signs are equipped with flashing beacons to prevent wrong-way drivers from entering CFX’s expressway system. The devices also send out alerts to the RTMC where operators can post wrong-way driving alerts on overhead Dynamic Message Signs when these events are detected. The Wrong Way signs are included in the cost estimate for every on ramp within the extension.

The design and cost estimate for the ITS system is based on the typical section described in previous sections.

8.1.10 ITS Cost Estimate

As part of this study, a high-level cost analysis was performed to determine the preliminary funding requirements for the replacement of existing ITS infrastructure as well as for the deployment of the new ITS devices.

There are several items that will be included to ensure a fully functional system and efficient ITS devices. The capital cost pricing used in this calculation was a combination of the CFX Long Range Estimate and past projects’ Engineer’s Estimates. For the estimated cost, the Fiber Optic Network (FON) cost was estimated for the mainline on a per mile basis. The ITS infrastructure has been estimated based on interchanges. The 4 proposed interchanges are US 27, CR 455, Valencia Parkway and SR 429. Below is a list of the primary items for the ITS equipment/devices.

- Fiber Optic Cable and Hardware
- Pull Boxes
- Conduit

- Power Services, Service Wire and Conduit for new power connections
- CCTV Cameras
- Data Collection Sensors (DCS)
- Traffic Monitoring Stations (TMS)
- Dynamic Message Signs (DMS)
- Wrong Way Signs
- Field Ethernet Switches
- Cabinets

Note: This estimate does not include any tolling items.

The overall engineer's estimate capital cost is \$3,875,541. For a detailed cost breakdown and item descriptions, please see **Appendix G**.

8.1.11 Structural Analysis

A total of 20 new bridges are proposed within the Lake / Orange County Connector and are shown on **Figure 8-4**. There are 11 bridges that will consist of steel plate girder superstructures due to their long spans (over 200') and/or their sharp curves. The remaining 9 bridges have medium length spans (less than 125') and will consist of prestressed concrete Florida-I Beams superstructures. The substructure types will vary by location and will include Pile Bents, Multi-Column Piers, Hammerhead Piers, and Intermediate Pier with straddle caps. The conceptual structural plans for the proposed structures are included in **Appendix F**. A summary of the proposed structures is presented in **Table 8-3**.

Bridge 1: US27 SB Ramp to Connector EB over US27

This flyover bridge carries the US 27 SB off-ramp to Connector EB over US 27. It consists of a 15-foot single lane ramp, a 9-foot inside shoulder, a 6-foot outside shoulder, and 2-42" single slope railings for a total bridge width of 33.0 feet out to out. The overall length of this bridge is 651 feet, it has 3 spans, and it is supported on curved steel plate girders with a maximum span length of 249 feet. The span lengths were established by having shorter approach spans that are in the range of 70% to 80% of the main span. This span arrangement will provide efficient structure for final design. The intermediate piers will

consist of straddle pier caps, spanning over US 27, due to the lack of horizontal clearance at US 27 and the geometric layout of the ramp in relation to US 27. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 2: Connector WB Ramp to US 27 SB over US 27 and pond

This flyover bridge carries the Connector WB off-ramp to US 27 SB over US 27, Pond, and US 27 SB to Connector EB off-ramp. It consists of a 15-foot single lane ramp, a 9-foot inside shoulder, a 6-foot outside shoulder, and 2-42" single slope railings for a total bridge width of 33.0 feet out to out. The overall length of this bridge is 2205 feet, it has 11 spans, and it is supported on curved steel plate girders with a maximum span length of 206 feet. The span lengths were established by having shorter approach spans that are in the range of 70% to 80% of the main spans. This span arrangement will provide efficient structure for final design. The intermediate piers will consist of hammerhead or multi-

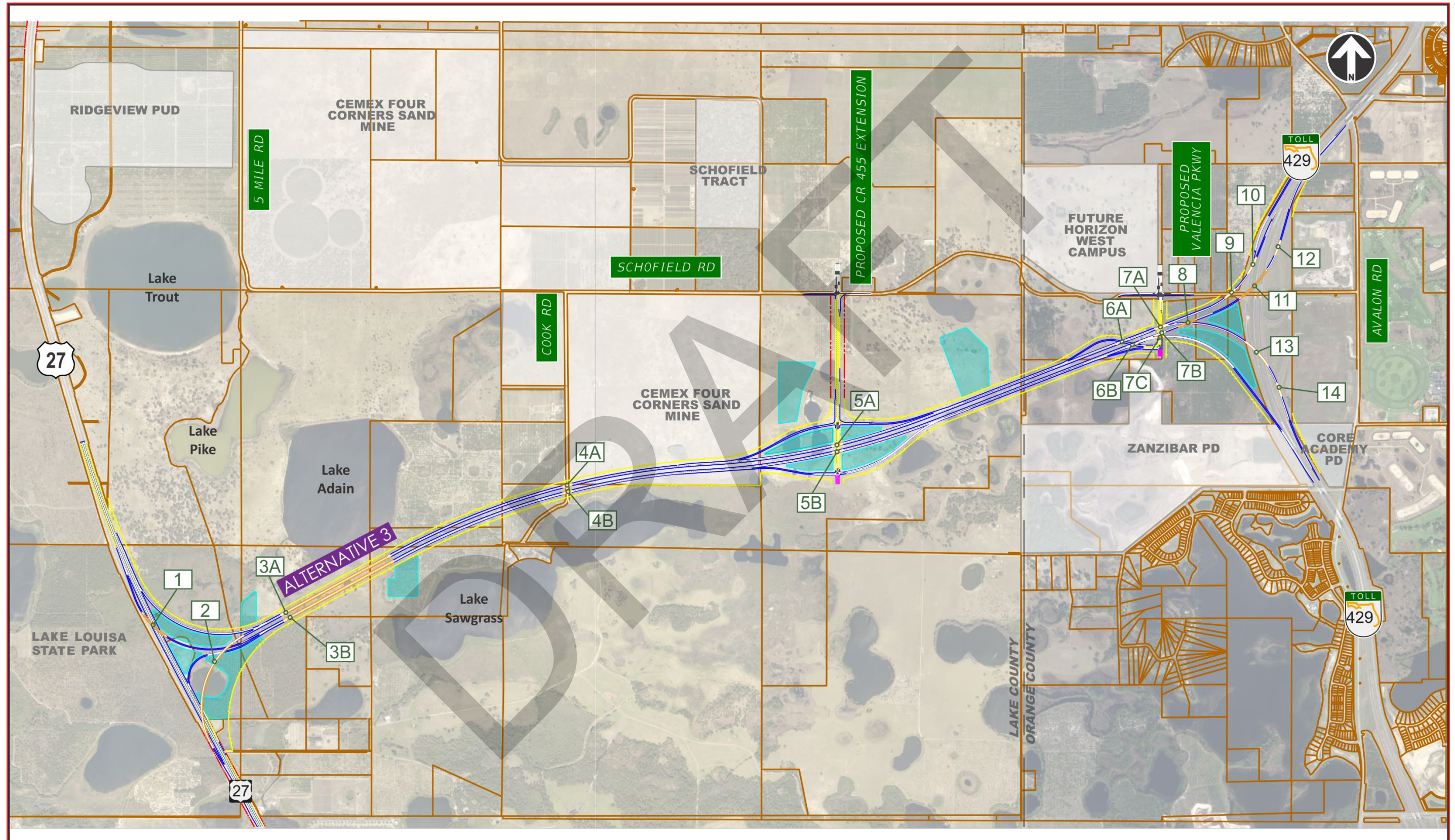
Table 8-3: Proposed Bridges

Bridge No.	Bridge Location/Description	Possible Superstructure				Possible Substructure		Total Superstructure Depth (FT)	No. of Spans	Total Bridge Length (FT)	Average Bridge Width (FT)	Deck Area (SF)	Base Bridge \$/SF (SDG 9.2.3)	% Increase for Special Construction	Bridge \$/SF	Approach Slab Area (SF)	Approach Slab \$/CY	Estimated Cost
		Anticipated Type	Min. CL Radius (FT)	Max. Span Length (FT)	Approximate Depth (FT)	Anticipated Type	Approximate Depth below Superstructure (FT)											
1	US27 SB Ramp to Connector EB over US27	Curved Steel Plate Girders	1643.00	249	7.97	Straddle / Pile Bents	2.00	9.97	3	651	33.00	21483	170	20%	204	1980	600	\$ 4,426,532
2	Connector WB Ramp to US27 SB over US27 and pond	Curved Steel Plate Girders	1643.00	206	6.59	Straddle / Pile Bents	2.00	8.59	11	2204	33.00	72732	170	20%	204	1980	600	\$ 14,881,328
3A	Connector WB over Sawgrass Lake Wetland area	Prestressed Concrete Florida I Beams	N/A	103	4.75	Piers / Pile Bents	0.00	4.75	24	2467	50.67	124995	145	3%	150	3040	600	\$ 18,816,756
3B	Connector EB over Sawgrass Lake Wetland area	Prestressed Concrete Florida I Beams	N/A	103	4.75	Piers / Pile Bents	0.00	4.75	24	2467	50.67	124995	145	3%	150	3040	600	\$ 18,816,756
4A	Connector WB over Cook Road	Prestressed Concrete Florida I Beams	15065.00	126	5.50	Pile Bents	0.00	5.50	1	126	50.67	6384	145	0%	145	3040	600	\$ 993,236
4B	Connector EB over Cook Road	Prestressed Concrete Florida I Beams	14935.00	126	5.50	Pile Bents	0.00	5.50	1	126	50.67	6384	145	0%	145	3040	600	\$ 993,236
5A	Connector WB over CR 455	Prestressed Concrete Florida I Beams	14935.00	80	4.00	Piers / Pile Bents	0.00	4.00	2	159	50.67	8056	145	0%	145	3040	600	\$ 1,235,676
5B	Connector EB over CR 455	Prestressed Concrete Florida I Beams	15065.00	80	4.00	Piers / Pile Bents	0.00	4.00	2	159	50.67	8056	145	0%	145	3040	600	\$ 1,235,676
6A	Connector WB over Valencia Parkway Ramp	Steel Plate Girders	N/A	203	8.12	Pile Bents	0.00	8.12	1	203	50.67	10285	135	0%	135	3040	600	\$ 1,456,076
6B	Connector EB over Valencia Parkway Ramp	Steel Plate Girders	N/A	212	8.48	Pile Bents	0.00	8.48	1	212	50.67	10741	135	0%	135	3040	600	\$ 1,517,636
7A	Connector WB over Valencia Parkway	Prestressed Concrete Florida I Beams	1923.00	82	5.50	Multicolumn / Pile Bents	0.00	5.50	2	162	48.53	7862	145	0%	145	3055	600	\$ 1,207,859
7B	Connector EB to SR 429 NB over Valencia Parkway	Prestressed Concrete Florida I Beams	N/A	83	4.75	Multicolumn / Pile Bents	0.00	4.75	2	165	29.67	4895	145	0%	145	1780	600	\$ 749,331
7C	Connector EB to SR 429 SB over Valencia Parkway	Prestressed Concrete Florida I Beams	1643.00	78	4.00	Multicolumn / Pile Bents	0.00	4.00	2	155	32.67	5063	145	0%	145	1960	600	\$ 777,739
8	Connector EB over SR 429 NB Ramp to Connector WB	Steel Plate Girders	N/A	164	5.25	Straddle / Pile Bents	2.00	7.25	2	327	29.67	9701	135	0%	135	1780	600	\$ 1,349,191
9	SR 429 SB Ramp to Connector WB over Schofield Rd	Curved Steel Plate Girders	1917.00	218	8.72	Pile Bents	0.00	8.72	1	218	31.00	6758	155	20%	186	1860	600	\$ 1,298,321
10	SR 429 SB Ramp to Connector WB over SR 429 SB off Ramp	Curved Steel Plate Girders	1917	167	5.34	Straddle / Pile Bents	2.00	7.34	2	333	31.00	10323	170	20%	204	1860	600	\$ 2,147,225
11	Connector EB Ramp to SR 429 NB over Schofield Rd and SR 429	Curved Steel Plate Girders	2299.5	275	8.80	Piers / Pile Bents	0.00	8.80	4	1007	30.00	30210	165	30%	215	1800	600	\$ 6,535,150
12	Connector EB Ramp to SR 429 NB over SR 429 NB on Ramp	Curved Steel Plate Girders	2299.50	262	10.48	Pile Bents	0.00	10.48	1	262	30.00	7860	155	20%	186	1800	600	\$ 1,501,960
13	SR 429 NB Ramp to Connector WB over SR 429	Curved Steel Plate Girders	1917	229	7.33	Piers / Pile Bents	0.00	7.33	3	620	31.00	19220	165	20%	198	1860	600	\$ 3,846,893
14	SR 429 NB Ramp to Connector WB over SR 429 NB off Ramp	Steel Plate Girders	1917.5	227	9.08	Pile Bents	0.00	9.08	1	227	30.00	6810	135	20%	162	1800	600	\$ 1,143,220

Notes:
1. Bridge lengths and superstructure depths have been rounded up for estimation purposes and may not match the Plan Sheets and Typical Sections.
2. % Increase for Special Construction per SDG 9.2.3, add 20% for construction over traffic and 3% for structures over open water; Add 30% for High Level flyovers.

Total Estimated Bridge Cost = \$ 84,929,797
Total Bridge Area (SF) = 502,813
Average Cost/SF = \$ 169

Figure 8-4: Location of Proposed Bridges



column piers over the water, and straddle pier caps, spanning over US 27, due to the lack of horizontal clearance at US 27 and the geometric layout of the ramp in relation to US 27. The end bents will consist of pile bents with wrap around MSE walls.

Bridges 3A & 3B: Connector WB & EB over Lake Sawgrass Wetland area

These twin bridges carry the Connector WB and EB mainline over Lake Sawgrass Wetland area. Each bridge consists of 2-12' lanes, 2-12' shoulders, and 2-36" single slope railings for a total bridge width of 50.67 feet out to out. The overall length of each bridge is 2467 feet, each bridge has 24 spans with equal lengths of 103 feet and it is supported on Florida-I Beams. The intermediate bents will consist of pile bents and the end bents will consist of pile bents with wrap around MSE walls. To minimize wetland impact during construction, the proposed bridges can be built from a temporary trestle built in the median or build the proposed bridges using the top down construction method. The temporary trestle would also require top down construction. The top construction method involves a span by span methodology wherein the first span is built from the approach roadway then the following span is constructed from a previously constructed span. In this method, the crane will be placed on top of the previously placed span which will eliminate adding temporary fill in the wetland area.

Bridges 4A & 4B: Connector WB & EB over Cook Road

These twin bridges carry the Connector WB and EB mainline over Cook Road. Each bridge consists of 2-12' lanes, 2-12' shoulders, and 2-36" single slope railings for a total bridge width of 50.67 feet out to out. The overall length of each bridge is 126 feet, each bridge has one span and it is supported on Florida-I Beams. The end bents will consist of pile bents with wrap around MSE walls.

Bridges 5A & 5B: Connector WB & EB over CR 455

These twin bridges carry the Connector WB and EB mainline over CR455. Each bridge consists of 2-12' lanes, 2-12' shoulders, and 2-36" single slope railings for a total bridge width of 50.67 feet out to out. The overall length of each bridge is 159 feet, each bridge has two spans with similar lengths of about 79 feet and it is supported on Florida-I Beams. The intermediate pier will consist of a hammerhead or a multi-column pier and the end bents will consist of pile bents with wrap around MSE walls.

Bridges 6A & 6B: Connector WB & EB over Valencia Parkway Ramp

These two bridges carry the Connector WB and EB mainline over Valencia Parkway Ramp. Each bridge consists of 2-12' lanes, 2-12' shoulders, and 2-36" single slope railings for a total bridge width of 50.67 feet out to out. The overall length of each bridge is 203 feet and 212 feet respectively, each bridge has one span, and is supported on straight steel plate girders. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 7A: Connector WB over Valencia Parkway

This bridge carries the Connector WB mainline and SR429 NB off-ramp to Connector WB over Valencia Parkway. It consists of a 2-12' lanes, a 6-foot inside shoulder, a 12-foot outside shoulder, a variable width median gore area, and 2-36" single slope railings for a total variable bridge width of 44.67 feet to 55.42' out to out. The overall length of this bridge is 162 feet, it has two spans with a maximum span of 82 feet, and it is supported on Florida-I Beams with variable beam spacings. The intermediate pier will consist of a hammerhead or a multi-column pier and the end bents will consist of pile bents with wrap around MSE walls.

Bridge 7B: Connector EB to SR429 NB over Valencia Parkway

This bridge carries the Connector EB mainline over Valencia Parkway. It consists of a 12-foot single lane ramp, two 6-foot shoulders, and 2-36" single slope railings for a total bridge width of 29.67 feet out to out. The overall length of this bridge is 165 feet, it has two spans with a maximum span of 83 feet, and it is supported on Florida-I Beams. The intermediate pier will consist of a hammerhead or a multi-column pier and the end bents will consist of pile bents with wrap around MSE walls.

Bridge 7C: Connector EB to SR429 SB over Valencia Parkway

This bridge carried the Connector EB off-ramp to SR429 SB over Valencia Parkway. It consists of a 15-foot single lane ramp, a 9-foot inside shoulder, a 6-foot outside shoulder, and 2-36" single slope railings for a total bridge width of 32.67 feet out to out. The overall length of this bridge is 155 feet, it has two spans with a maximum span of 78 feet, and it is supported on Florida-I Beams. The intermediate pier will consist of a hammerhead or

a multi-column pier and the end bents will consist of pile bents with wrap around MSE walls.

Bridge 8: Connector EB over SR429 NB Ramp to Connector WB

This bridge carries the Connector EB off-ramp over the SR429 NB off-ramp to Connector WB. It consists of a 12-foot single lane ramp, two 6-foot shoulders, and 2-36" single slope railings for a total bridge width of 29.67 feet out to out. The overall length of this bridge is 327 feet, it has two spans with equal lengths of 164 feet, and it is supported on straight steel plate girders. The intermediate pier will consist of a straddle pier cap, spanning over SR429 NB off-ramp to Connector WB, due to the geometric layout of the ramp in relation to SR429 NB off-ramp. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 9: SR429 SB Ramp to Connector WB over Schofield Road

This flyover bridge carries the SR429 SB off-ramp to Connector WB off-ramp over Schofield Road. It consists of a 15-foot single lane ramp, a 7-foot inside shoulder, a 6-foot outside shoulder, and 2-42" single slope railings for a total bridge width of 31.0 feet out to out. The overall length of this bridge is 218 feet, it has one span, and it is supported on curved steel plate girders. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 10: SR 429 SB Ramp to Connector WB over SR 429 SB off-ramp

This flyover bridge carries the SR 429 SB off-ramp to Connector WB over SR 429 SB off-ramp to Schofield Road. It consists of a 15-foot single lane ramp, a 7-foot inside shoulder, a 6-foot outside shoulder, and 2-42" single slope railings for a total bridge width of 31.0 feet out to out. The overall length of this bridge is 333 feet, it has 2 spans, and it is supported on curved steel plate girders with a maximum span length of 167 feet. The intermediate pier will consist of a straddle pier cap, spanning over SR 429 SB off-ramp to Schofield Road, due to the geometric layout of the ramp in relation to SR 429 SB off-ramp. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 11: Connector EB Ramp to SR 429 NB over Schofield Road and SR 429

This flyover bridge carries the Connector EB off-ramp to SR 429 NB over Schofield Road and over SR 429. It consists of a 15-foot single lane ramp, two 6-foot shoulders, and 2-42" single slope railings for a total bridge width of 30.0 feet out to out. The overall length of this bridge is 1007 feet, it has 4 spans, and it is supported on curved steel plate girders with a maximum span length of 275 feet. The span lengths were established by having shorter approach spans that are in the range of 70% to 80% of the main spans. This span arrangement will provide efficient structure for final design. The intermediate piers will consist of hammerhead or multi-column piers. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 12: Connector EB Ramp to SR 429 NB over SR 429 NB on-ramp

This flyover bridge carries the Connector EB off-ramp to SR 429 NB over SR 429 NB on-ramp from Schofield Road. It consists of a 15-foot single lane ramp, two 6-foot shoulders, and 2-42" single slope railings for a total bridge width of 30.0 feet out to out. The overall length of this bridge is 262 feet, it has one span, and it is supported on curved steel plate girders. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 13: SR 429 NB Ramp to Connector WB over SR 429

This flyover bridge carries the SR429 NB off-ramp to Connector WB over SR 429 and over SR 429 SB on-ramp from Schofield Road. It consists of a 15-foot single lane ramp, a 7-foot inside shoulder, a 6-foot outside shoulder, and 2-42" single slope railings for a total bridge width of 31.0 feet out to out. The overall length of this bridge is about 620 feet, it has 3 spans, and it is supported on curved steel plate girders with a maximum span length of 229 feet. The span lengths were established by having shorter approach spans that are in the range of 70% to 80% of the main span. This span arrangement will provide efficient structure for final design. The intermediate piers will consist of hammerhead or multi-column piers. The end bents will consist of pile bents with wrap around MSE walls.

Bridge 14: SR 429 NB Ramp to Connector WB over SR 429 NB off-ramp

This bridge carries the SR429 NB off-ramp to Connector WB over SR 429 NB off-ramp to Schofield Road. It consists of a 15-foot single lane ramp, two 6-foot shoulders, and 2-

42" single slope railings for a total bridge width of 30.0 feet out to out. The overall length of this bridge is 227 feet, it has one span, and it is supported on curved steel plate girders. The end bents will consist of pile bents with wrap around MSE walls.

Bridge Foundations

This project did not include soil borings at the bridge locations for the PD&E phase. Preliminarily, possible foundation types for the bridges include 18-inch and 24-inch square prestressed concrete piles, steel H-piles, steel pipe piles, and drilled shafts. Selection of the foundation system should give significant consideration for systems that reduce the potential for vibration and noise impacts at locations within the limits defined in the FDOT Standard Specifications for Road and Bridge Construction.

8.1.12 Utility Impact Potential

Utility companies with known facilities within the proposed project limits were contacted via email informing them of the PD&E Study and requested that they mark one set of the base plans enclosed with their principal existing and proposed facilities. They were also requested to submit any general concerns and/or comments that would be useful in the evaluation process. Refer to **Table 3-1** (see Page 3-1) for a list of utilities present within the project limits.

The majority of the existing/proposed overhead and buried utilities run along US 27 and Schofield Road. As a result of the construction of the preferred alternative, most utilities located within the major interchanges where reconstruction may occur (such as US 27 and SR 429/Schofield Road) will be impacted and will need to be relocated. The preferred alternative also encroaches onto the Duke Energy Transmission Lines/Poles that are located on the east of US 27. Due to this encroachment, there are approximately 36 transmission poles that are being impacted and may require relocation. There are also impacts to the AT&T Transmission buried cable conduit which runs along US 27 from South Bradshaw Road to approximately 0.5 mile south of Frank Jarrell Road. CFX will continue to coordinate the utility owners during Final Design and Construction.

8.1.13 Proposed Drainage Conditions

The following briefly summarizes the proposed drainage conditions for the preferred alternative. For more detailed information please refer to the Location Hydraulics Report (LHR) and Pond Siting Report (PSR) prepared for this study, supplemental documents to this report.

The Lake/Orange County Connector corridor is divided into five (5) basins for stormwater management. All the proposed basins discharge into open basins. The project's recommended stormwater management system includes onsite and offsite ditches along with drainage structures to convey the onsite stormwater runoff into the stormwater facilities and the offsite stormwater runoff to its pre-existing destination. The recommended stormwater management system utilized for each basin was designed to be as consistent as possible with the pre-existing conditions. Water quality treatment and attenuation will be achieved from the construction of new wet detention ponds and new dry retention ponds. Three alternative pond options were evaluated for each basin. Based on the pond alternative evaluation matrix analysis, preferred pond sites were selected for each basin. It should be noted that the entire 82' median was assumed as an impervious area for sizing the ponds for consideration of future widening. The proposed basin limits and their respective outfall locations are listed in **Table-8-4** and a summary of the proposed conditions for each basin are included below.

Table 8-4: Summary of Proposed Basin Limits and Outfall Locations

Basin Name	From Station	To Station	Preferred Drainage Facility Outfall Locations
Basin 1	100+00.00	135+73.05	Ponds 1A1, 1A2, and 1A3 discharge into the wetlands southwest of Lake Adain. Pond 1A4 discharges into the existing natural pond to the west of Pond 1A4.
Basin 2	135+73.05	188+46.66	Pond 2A discharges into the wetlands between Lake Adain and Sawgrass Lake.
Basin 3	188+46.66	244+20.95	Ponds 3A1 and 3A2 discharge into the wetlands east of Sawgrass Lake. Pond 3A3 discharges east into the series of natural ponds.
Basin 4	244+20.95	315+05.52	Pond 4C1 discharges into the wetlands west of Lake Needham, Pond 4C2 discharges into Pond 3A1, and Pond 4C3 discharges into the wetlands north of Lake Needham.
Basin 5	315+05.52	334+66.44	Ponds 5A1 and 5A2 discharge to the southwest flowing overland into Lake Needham.

Basin 1

The section of US 27 impacted by this project had been previously permitted by SJRWMD (ERP No. 90260-2). Existing FDOT Drainage Facilities C and D (with corresponding floodplain compensation areas) from the ERP mentioned above are located within the infields of the corridor's intersection with US 27. Pond C will not be impacted by the proposed project, but existing Pond D will be greatly impacted and will be replaced by the proposed dry retention Pond 1A4.

The proposed Ponds 1A1, 1A2, and 1A3 are flood plain compensation ponds. Ponds 1A1, 1A2, and the existing lake within the intersection infield are hydraulically connected and discharge to the north of Pond 1A1 into the wetlands southwest of Lake Adain. Pond 1A3 discharges to the northwest into the wetlands southwest of Lake Adain. The proposed dry retention Pond 1A4 was sized for the new corridor and existing FDOT Pond D's attenuation and treatment volumes. Pond 1A4 discharges into the existing pond to the west of Pond 1A4, which is hydraulically connected to the wetlands southwest of Lake Adain.

Basin 2

Basin 2 falls within and impacts FEMA Flood Zones A and AE. The proposed dry retention Pond 2A is sized for the new corridor's attenuation, treatment, and floodplain compensation volumes. Pond 2A discharges into the wetlands between Lake Adain and Sawgrass Lake.

Small offsite areas along the north side of the basin drain toward the new corridor and would have been collected in a depressional/low area within the ROW, therefore the proposed basin and stormwater pond were sized to include the drainage area/volume. An offsite area near the center of the south side of the basin drained across the basin and into a depressional/low area on the north side. This will be directed via offsite ditches into a depressional/low area along the north side of the basin. The redirected area is smaller than the area taken in by project's proposed drainage pond that had drained into the destination depressional/low area.

Basin 3

The basin falls within and impacts FEMA flood Zones A and AE.

The proposed wet detention Pond 3A1 is sized for the new corridor's attenuation, treatment, and a portion of the floodplain compensation volumes. Ponds 3A2 and 3A3 are floodplain compensation ponds. Ponds 3A1, 3A2, and the existing natural ponds on the northwest side of the CR 455 interchange are hydraulically connected. Ponds 3A1 and 3A2 discharge into the wetlands east of Sawgrass Lake. Pond 3A3 discharges into the existing ponds on the northwest side of the CR 455 interchange.

Small offsite areas draining toward the north side of the new corridor will be directed into the proposed stormwater pond (Pond 3A1) which will be sized to include these offsite drainage areas/volumes. A large offsite area adjacent to the north side of the main corridor from Station 220+00 to 230+00 will be conveyed with an offsite ditch and drainage structures into the flood compensation area (Pond 3A3).

Basin 4

Portions of Basin 4 are located within SJRWMD and SFWMD therefore the drainage calculations utilized the most stringent criteria from the water management districts. The basin falls within and impacts FEMA flood Zones A and AE.

The proposed dry retention Pond 4C1 is sized for the new corridor's attenuation and treatment volumes. Ponds 4C2 and 4C3 are flood compensation ponds. Pond 4C1 discharges into the wetlands adjacent to the west side of Lake Needham. Pond 4C2 discharges into Pond 3A1, which is hydraulically connected to the flood plain. Pond 4C3 discharges into the wetlands north of Lake Needham.

A small offsite area at the northeast corner of the CR 455 intersection flows toward the new corridor and would have been collected in a depressional/low area within the ROW, therefore the proposed basin and stormwater pond were sized to include the drainage area/volume. Two offsite areas that drain from east to west across the proposed CR 455 connection will be conveyed by offsite ditches and cross-drains into their respective discharge destinations. Large offsite areas along the north side of the main corridor will

be conveyed with an offsite ditch and cross drains into their original discharge destinations.

Basin 5

The basin does not fall within FEMA flood zones.

The section of SR 429 impacted by this project was previously permitted by FDEP (ERP No. 48-205102-002-EI). Existing CFX drainage facilities are located within the basin at the corridor's interchange with SR 429. Two of the existing CFX ponds (Ponds 4A and 4B) appear to be impacted by the project's eastbound ramp to northbound SR 429. The existing impacts to the CFX ponds were estimated utilizing the plan view footprint of the lane and data obtained from the existing ERP documents. To minimize impacts the ramps are to be designed with retention walls.

The proposed dry retention Ponds 5A1 and 5A2 are sized for the new corridor's attenuation and treatment as well as impacts to the existing CFX ponds' volumes as described below. Ponds 5A1 and 5A2 discharge to the southwest flowing overland into Lake Needham.

Offsite areas draining towards SR 429 were addressed by existing cross-drains that were not impacted by the proposed project so will not require extensions. The offsite area draining toward the basin between Schofield Road and the proposed Schofield Road intersection will be conveyed with an offsite ditch and a cross drain into its original discharge destination.

Cross Drains

Due to the proposed realignment and widening of US 27 as part of the preferred alternative, three existing cross drains (cross drains 2-4) will have to be relocated to lie under the new roadway footprint and analyzed in order to maintain the connectivity of the flow without causing any significant change in the flood elevations. These cross drains were analyzed using the existing data from St. John's River Water Management District (SJRWMD) permit #90260-2. There is a total of twelve cross drains proposed along the new corridor and ramps. The proposed cross drain locations were chosen based on the natural flow of the land from the surrounding floodplains and wetlands. The proposed

Lake/Orange County Connector will have floodplain impacts along most of the corridor. These floodplain impacts will be mitigated by routing this volume to the project's proposed storm water management facilities and roadside swales. **Table 8-5** provides a summary of the proposed culverts.

Table 8-5: Proposed Cross Drain General Information

Cross Drain ID	Pipe Description	Flow Direction	Receiving Water Body	Within Floodplain (Yes/No)
CD-4A	18" RCP	South	Unnamed wetland system	Yes (Zone A)
CD-4B	18" RCP	North	Pond 1A1	Yes (Zone A)
CD-4C	18" RCP	East	Unnamed wetland system	Yes (Zone A)
CD-5	18" RCP	South	Unnamed wetland system	Yes (Zone AE)
CD-6	42" RCP	West	Unnamed surface water	Yes (Zone A)
CD-6A	24" RCP	South	Pond 3A1	Yes (Zone AE)
CD-6B	30" RCP	South	Pond 3A2	Yes (Zone AE)
CD-6C	24" RCP	South	Unnamed wetland system	Yes (Zone AE)
CD-7	30" RCP	West	Unnamed surface water	Yes (Zone A)
CD-8	18" RCP	South	Unnamed wetland system	Yes (Zone AE)
CD-9	18" RCP	South	Unnamed wetland system flowing to Lake Needham	Yes (Zone AE)
CD-10	24" RCP	West	Unnamed wetland system flowing to Lake Needham	No

- CD-2

CD-2 is an existing cross drain located along US 27. It connects the existing floodplain with Keene Lake on the west side of the road. The existing 165-foot cross drain will be extended to 190 feet in the post-development. The 50-year design stage increased by 0.09 feet due to the extension, and the 100-year stage also increased by 0.13 feet.

- CD-3

CD-3 is an existing cross drain located along US 27. It connects the depression on the west side of the road with the wetland and floodplain on the east side that leads to Square Lake. The existing 190-foot cross drain will be extended on the East and shortened on the West to a total of 195 feet in the post-development. The 50-year design stage increased by 0.08 feet due to the extension, and the 100-year stage also increased by 0.09 feet.

- CD-4

CD-4 is an existing cross drain located along US 27. It provides connectivity for the floodplains and wetlands on the east and west side of US 27. The existing 177-foot cross drain will be extended on the East and shortened on the West to a total of 192 feet in the post-development. CD-4 will outfall into proposed Pond 1A1 that is used for floodplain compensation, which then discharges through CD-4C to the downstream floodplain. The 50-year design stage increased by 0.06 feet due to the proposed modifications and extension, and the 100-year stage decreased by 0.01 feet.

- CD-4A

CD-4A will provide connectivity between the existing lake that will be in the infield and the proposed floodplain compensation Pond 1A2. This will allow the lake to continue to be a part of the floodplain without any disruption. The calculated backwater stage of 106.73 feet for the 50-year design flow from the HY-8 analysis is less than the proposed roadway elevation of 119.50 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-4B

CD-4B will provide connectivity between the Pond 1A2 and Pond 1A1. This will allow these floodplain compensation ponds to continue to be a part of the floodplain without any disruption. The calculated backwater stage of 107.02 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 138.70 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-4C

CD-4C will provide connectivity between Pond 1A1 and the downstream floodplain. This will allow the pond to continue to be a part of the floodplain without any disruption. The calculated backwater stage of 106.94 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 125.95 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-5

CD-5 is a proposed cross drain that will cross the Lake/Orange County Connector mainline. CD-5 is proposed to maintain connectivity between a 57.2-acre depressional area located just north of the mainline, and the remainder of the floodplain to the south. This basin area contains within it 14.04 acres (Basin G1) which drains into a small depression first, before overtopping and flowing into the second depression (Basin G2) and rising until it flows into CD-5. The calculated backwater stage of 106.45 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 116.63 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-6

CD-6 will be located across the proposed CR 455. It will convey runoff from a basin area of 42.4 acres on the east side of CR 455 to a depression located in a floodplain on the west. This basin area contains within it 8.1 acres (Basin E) which drains into a small depression first, before overtopping and flowing across a steep downhill slope into CD-6 (Basin F) and out to the floodplain on the west of CR 455. Since this floodplain is being bisected by the proposed Lake/Orange County Connector and ramps, three more cross drains were designed in succession to allow the runoff to continue flowing to the south. The calculated backwater stage of 110.22 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 111.48 feet. The proposed cross drain size from the HY-8 analysis is a 42-inch pipe.

- CD-6A

CD-6A will be located downstream of CD-6. It will convey runoff from a basin area of 41.8 acres on the north side of Ramp 6 and west side of CR 455 to a proposed pond (Pond

3A1) in the infield of the Lake/Orange County Connector. The calculated backwater stage of 106.79 feet for the 50-year design flow from HY-8 analysis is less than the proposed pond berm of 109.88 feet. The proposed cross drain size from the HY-8 analysis is a 24-inch pipe.

- CD-6B

CD-6B will be located downstream of CD-6A. It will connect proposed Pond 3A1 in the northern infield of the Lake/Orange County Connector to proposed Pond 3A2 in the southern infield. Pond 3A1 is also connected to floodplain compensation Pond 4C1 by an equalized pipe. The calculated backwater stage of 107.02 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 137.27 feet. The proposed cross drain size from the HY-8 analysis is a 30-inch pipe.

- CD-6C

CD-6C will be located downstream of CD-6B. It will connect proposed Pond 3A2 in the southern infield of the Lake/Orange County Connector to the floodplain to the south. Pond 3A2 is designed as a floodplain compensation pond. Therefore, CD-6C was placed at the bottom of the pond so that any runoff would flow directly into the floodplain to the south. The calculated backwater stage of 107.23 feet for the 50-year design flow from HY-8 analysis is less than the proposed pond berm elevation of 107.50 feet. The proposed cross drain size from the HY-8 analysis is a 24-inch pipe.

- CD-7

CD-7 will convey runoff from 12.4 acres of land that flows from the east side of the proposed CR 455 to a depression on the west side. The calculated backwater stage of 112.10 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 112.76 feet. The proposed cross drain size from the HY-8 analysis is a 30-inch pipe.

- CD-8

CD-8 will be located along the mainline of the Lake/Orange County Connector. The Lake/Orange County Connector transects a large Floodplain Zone AE with an elevation of 106 feet. CD-8, along with CD-9, will provide connectivity between the northern and

southern limits of this floodplain that Lake/Orange County Connector will be cutting through. The floodplain in which these cross drains are located within contains many different depressions and ridges. The calculated backwater stage of 106.31 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 109.22 feet. The calculated backwater stage of 106.41 feet for the 100-year flow from the HY-8 analysis is less than a foot greater than the floodplain elevation of 106 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-9

CD-9 will be located along the mainline of the Lake/Orange County Connector. The Lake/Orange County Connector transects a large Floodplain Zone AE with an elevation of 106 feet. The calculated backwater stage of 106.33 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 124.94 feet. The calculated backwater stage of 106.40 feet for the 100-year flow from the HY-8 analysis is less than a foot greater than the floodplain elevation of 106 feet. The proposed cross drain size from the HY-8 analysis is an 18-inch pipe.

- CD-10

CD-10 will convey runoff from the land that flows from the east side of the proposed Valencia Road to the existing depression on the west side. The basin area is approximately 6.1 acres. The calculated backwater stage of 116.64 feet for the 50-year design flow from HY-8 analysis is less than the proposed roadway elevation of 116.91 feet. The proposed cross drain size from the HY-8 analysis is a 24-inch pipe.

8.1.14 Floodplain Impacts

The project will impact the 100-year floodplain in three different ways:

- 1) Longitudinal roadway impacts resulting from filling the floodplain areas.
- 2) Impacts due to proposed pond locations in floodplain.
- 3) Impacts due to proposed cross drains in floodplain.

The longitudinal impact due to the preferred alternative cannot be avoided. During the final design phase of the project, every effort should be taken to minimize floodplain impacts. During the design phase, floodplain impacts should be mitigated by routing to proposed stormwater management facilities and roadside swales.

FEMA's Flood Insurance Rate Maps (FIRM) (Appendix D) show that portions of the project lie within the 100-year floodplain areas Zone AE (100-year Base flood elevations are provided) and Zone A (100 year base flood elevations are not provided, areas with 1% change of flooding). FEMA Map No. 12069C0675E and 12095C0375F provide flood information for the project. Floodplain elevations within the corridor range from elevation 106 to 110.4 (feet).

Floodplain impacts will be minimized by including floodplain compensation storage in the design of the proposed ponds. Total floodplain impacts due to the roadway fill for the entire proposed project corridor is 182.73 ac-ft. The total available compensation in all the proposed ponds is 190.77 ac-ft. Based on the preliminary evaluation the proposed project will provide more floodplain compensation than the impact. Therefore, a cup for cup compensation is provided by the project. Please refer to **Table 8-6** for a summary of floodplain impacts and compensation.

Table 8-6: FEMA Floodplain Impact/Compensation Summary Table

Basin ID	Pond ID	Total Basin Floodplain Impact Volume (ac-ft)	Available Compensation Volume in Pond (ac-ft)	Total Compensation Volume in Basin Ponds (ac-ft)
1	1A1	29.51	14.16	32.17
	1A2		7.29	
	1A3		10.71	
	1A4		0	
2	2A	4.51	7.73	7.73
3	3A1	68.45	15.29	70.35
	3A2		11.13	
	3A3		43.93	
4	4C1	80.27	0	80.37
	4C2		3.79	
	4C3		76.58	
5	5A1	0.00	0.00	0.00
	5A2			
Total (ac-ft):		182.74	190.62	

In addition, runoff within the corridor will be collected and conveyed to stormwater management facilities; therefore, reducing overall impacts to the remaining floodplain. The floodplain is in a medium density, semi-urbanized area and the encroachments are classified as “minimal”. Minimal encroachment of a floodplain occurs when there is floodplain involvement, but the impacts on human life, transportation facilities, and natural and beneficial floodplain values are not significant and can be resolved with minimal efforts. Normally, these minimal efforts to address the impacts will consist of applying the FDOT drainage design standards and following the SJRWMD and SFWMD procedures to achieve results that will not increase or significantly change the flood elevation and the floodplain limits.

Geotechnical exploration was underway at the time of this report to determine the feasibility of removing the proposed bridge traversing the wetlands between Lake Adain and Sawgrass Lake. If the entire bridge is removed from the project the total 106.4' floodplain impacts due to roadway fill will rise from 75.66 ac-ft to 132.86 ac-ft. Therefore, removing the bridge would add 57.20 ac-ft of impacted FEMA 106.4' floodplain. The flood compensation provided in all of the project's ponds for the 106.4' floodplain is 81.88 ac-ft. therefore a net decrease of 50.98 ac-ft will be impacted upon the approximate 1,089-acre floodplain. This would cause an approximate rise in the FEMA 106.4' Floodplain of 0.047' or 0.56". This rise is less than the 0.1' rise permitted by SJRWMD, therefore no more flood compensation would need to be provided if the entire bridge is removed from the project, however the project would not be providing a cup for cup compensation any longer. Further detail is to be completed during Final Design.

8.1.15 Right-of-Way Impacts

The preliminary cost estimates include the expenditures associated with right-of-way acquisition such as land costs. The right-of-way cost estimates and acres of impacts for the preferred alternative are currently shown in **Table 8-7**.

Table 8-7: Right-of-way Impacts

Roadway Impacts (Acres)	Pond Impacts (Acres)	Cost Estimate
403.57	39.98	\$102 Million

8.1.16 Construction Cost Estimate

The construction cost estimate for the preferred alternative is summarized in **Table 8-8**. For more details see **Appendix G**.

Table 8-8: Construction Cost Estimate

Cost	Preferred Alternative
Construction Cost	\$289,510,000
Engineering/Administration/Legal (24%)	\$69,480,000
Mitigation (Wetland Impact)	\$7,308,000
Mitigation (Gopher Tortoise Habitat)	\$1,076,400
Toll Collection Equipment	\$1,260,000
TOTAL COST	\$368,634,400

8.1.17 Traffic Control Plan

Traffic Control Plans (TCP) are necessary in order to demonstrate the ability to properly and safely implement the proposed improvements while maintaining the facility open to traffic. **Figures 8-5 through 8-7** depict pertinent information and conceptual construction sequence schemes for the recommended alternative. It should be noted that the main purpose of these preliminary traffic control plans is to ensure the adequate constructability of the proposed improvements, while avoiding any “fatal flaws”. They are not intended to provide all the details (i.e. signage, MOT devices, cost, schedule information, etc.) generally associated with more detailed maintenance of traffic control plans prepared during the final design phase.

It is anticipated that extended closure of existing lanes will not be necessary and that no major construction easements will be required for traffic control purposes. Even though some interruption of vehicular flow is unavoidable, the appropriate use of lane markings, signs, flagmen and other commonly used construction work zone traffic control techniques will be employed to minimize inconvenience.

Most of the connector mainline bridges (3A, 3B, 4A, 4B, 5A, 5B, 7A, 7B, and 7C) could be constructed with minimal maintenance of traffic using the FDOT Standard Plans

Maintenance of Traffic series 102-600 since they consist of simple span Florida-I Beam superstructures. The rest of the bridges (1, 2, 6A, 6B, 8, 9, 10, 11, 12, 13, and 14) consist of either tangent steel plate girders or curved steel plate girders and would require temporary shoring during construction due to the field splices that are needed for the girders. This will require special maintenance of traffic plans. The location of the temporary shoring and coordination with the Traffic Control Plans will be performed during final design.

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Figure 8-5: Temporary Traffic Control Plan Summary

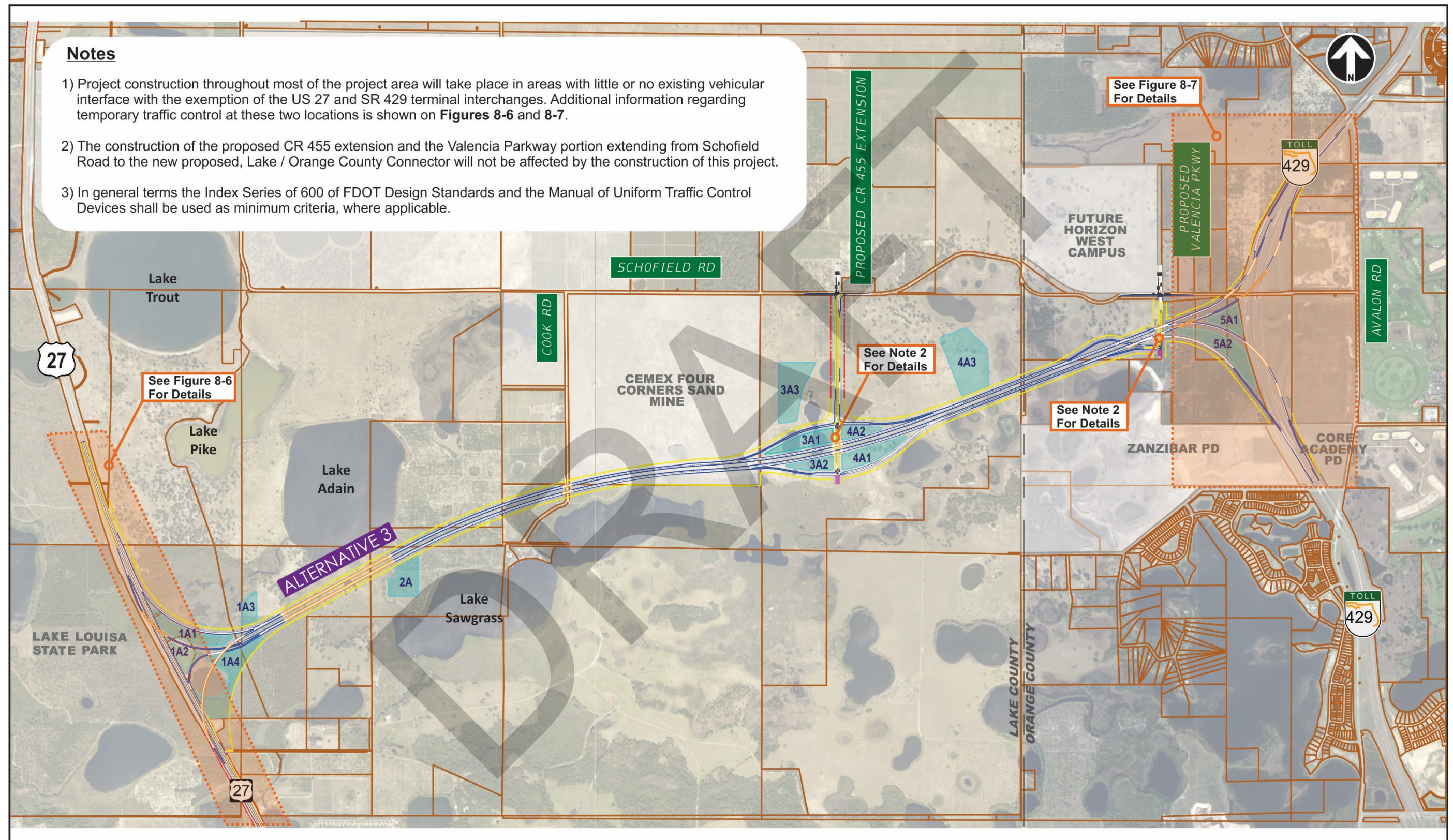


Figure 8-6: MOT at the US 27 Interchange

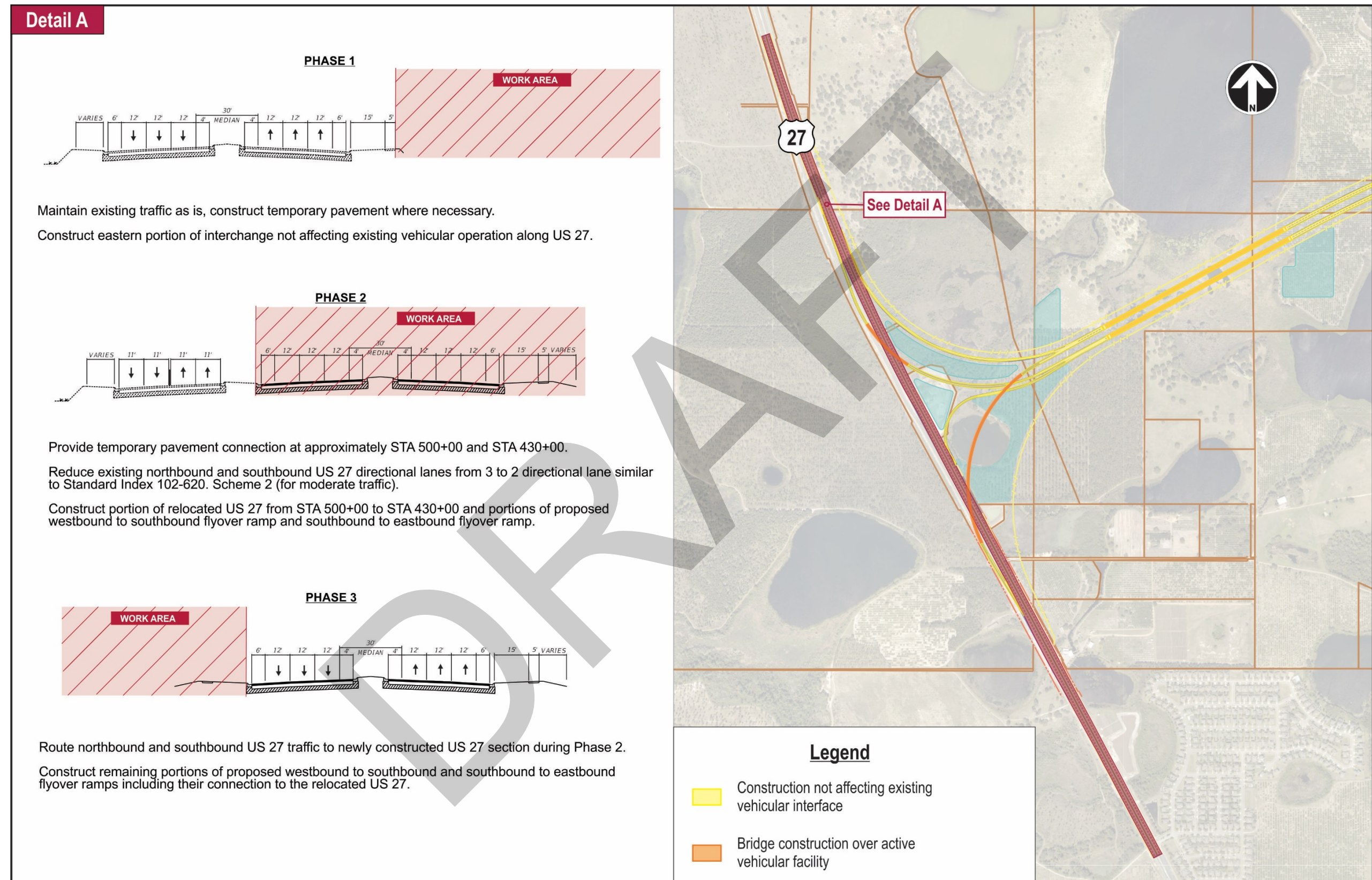
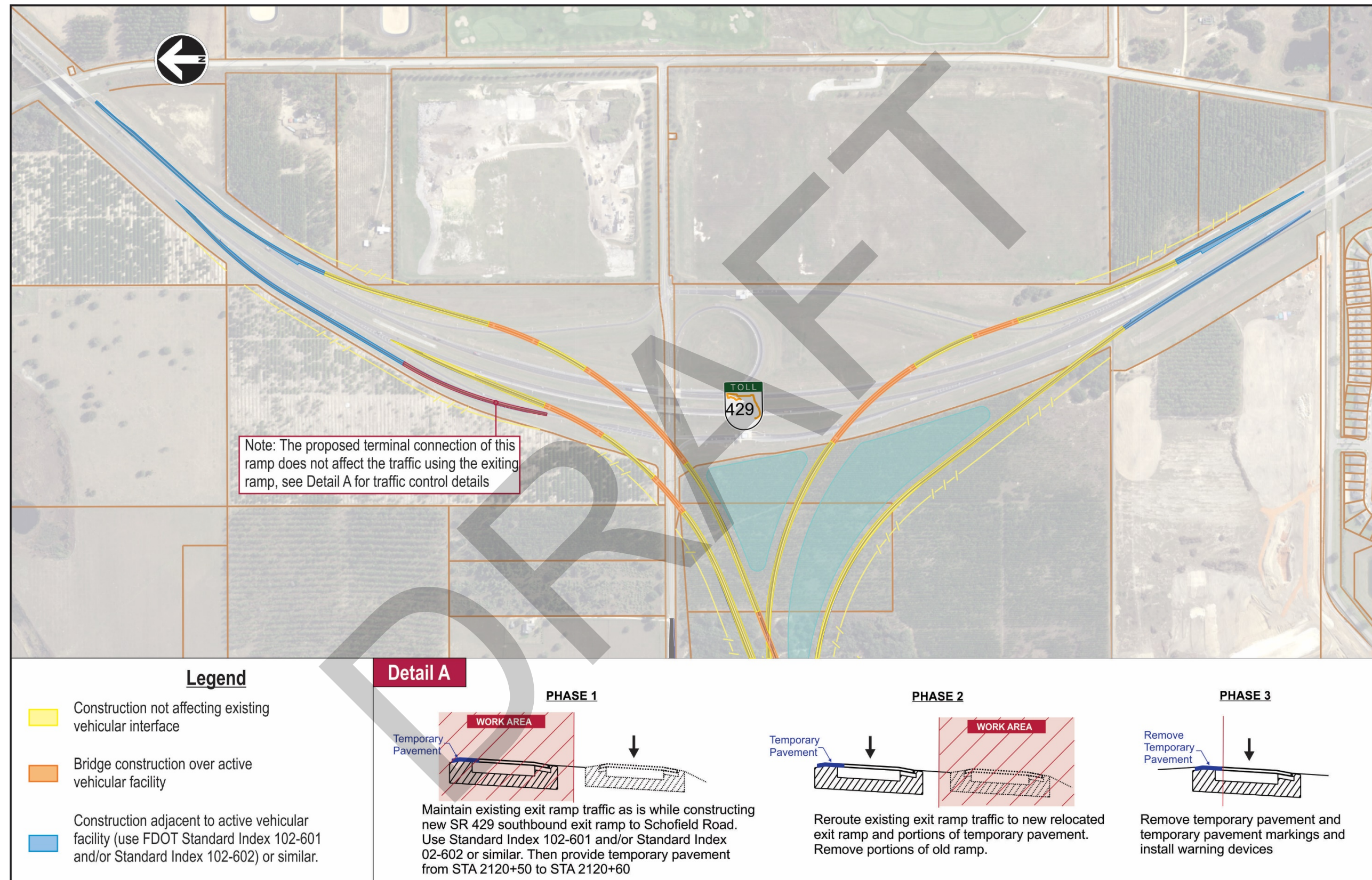


Figure 8-7: MOT at the SR 429 Interchange



8.2 Permit Agency Coordination

The project will also require a U.S. Army Corps of Engineers 404 Dredge and Fill Permit, mitigation for impacts to wetlands and wood stork SFH, as well as permitting and relocation of gopher tortoise

St. Johns River Water Management District

This project spans the boundary of two water management districts, SJRWMD and SFWMD and will therefore require Environmental Resource Permits (ERP) from both agencies or a permitting agreement between the two agencies to cover the entire project corridor. Coordination with SJRWMD and SFWMD will continue in final design.

Florida Fish and Wildlife Conservation Commission

FWC will provide commentary during the ERP review process. FWC may conduct field reviews and comment to the SJRWMD and SFWMD on any adverse effects the proposed activity may have on state protected wildlife species and their habitats.

US Army Corps of Engineers

Because impacts to wetlands under the jurisdiction of USACE would total more than one-half acre, a USACE 404 Dredge and Fill permit is anticipated. Unavoidable impacts to jurisdictional wetlands will require mitigation. The USACE provides a separate and independent review of the ERP from the WMD's.

Environmental Protection Agency

The EPA requires permits for stormwater discharge to Waters of the United States in association with the National Pollutant Discharge Elimination System (NPDES) and the Clean Water Act. The permit application requirements include a stormwater pollution prevention plan indicating both structural and non-structural controls to be implemented. A NPDES permit is anticipated.

U.S. Fish and Wildlife Service

No adverse impacts to listed species are anticipated from the proposed project. Federally listed species that may be affected but would not be adversely affected by the proposed project are American alligator, Audubon's crested caracara, Britton's beargrass, bluetail mole skink, Carter's mustard, clasping warea, eastern diamondback rattlesnake, eastern indigo snake, Everglade snail kite, Lewton's polygala, papery whitlow-wort, pygmy fringe

tree, sand skink, scrub blazingstar, scrub plum, striped newt, and wood stork. A determination of No Effect was made for Florida bonamia, Florida scrub-jay, red-cockaded woodpecker, scrub buckwheat, scrub lupine, and short-leaved rosemary.

8.3 Environmental Impacts

The following sections briefly summarize some of the key environmental considerations prevalent within the project study area. For more detailed information on the proposed environmental conditions, please refer to the PEIR prepared for this study.

8.3.1 Historic Sites

A Phase I Cultural Resource Assessment Survey (CRAS) was prepared by SEARCH Inc. for the proposed roadway alignment and included surveys for historic and archaeological sites. In addition to a CRAS of the proposed roadway improvements, a CRAS Addendum was also completed for 15 preferred pond locations. The architectural survey resulted in the identification and evaluation of eight historic resources within the Lake/Orange County Connector Area of Potential Effect, including one previously recorded resource and seven newly recorded resources. The previously recorded resource represents one historic structure (8LA02814). The newly recorded resources include one linear resource (8LA04779), one object (8OR11171), two structures (8LA04795 and 8LA04796), and three resource groups (8LA04717, 8LA04727, and 8LA04731). Additionally, during field reviews one previously recorded resource (8LA02129) was found to have been demolished.

Based on the results of the current survey for the roadway and ponds and due to a lack of historic associations, architectural significance, and/or historic integrity, all eight historic resources identified within the Lake/Orange County Connector Area of Potential Effect are likely ineligible for the National Register of Historic Places (NRHP), individually or as contributing resources to a historic district.

8.3.2 Archaeological Sites

No features, midden, or other clearly discernable intact deposits were documented during the archaeological investigation. Both of the newly recorded archaeological sites (8LA04797 and 8LA04829) exhibited a low density of cultural materials and a lack of diagnostic artifacts. These sites do not appear to contain archaeological deposits that

have the potential to yield further information important in the prehistory or history of the region. In the opinion of SEARCH, 8LA04797 and 8LA04829 are ineligible for the NRHP. Archaeological occurrences are categorically ineligible for the NRHP. No further work is recommended for 8LA04797, 8LA04829, AO 1, or AO 2.

8.3.3 Wetlands and Other Surface Waters

As part of the documentation for this PD&E study, a Natural Resources Evaluation was developed that documents wetlands and Others Surface Waters as well as potential impacts from the project.

It is anticipated that the preferred alternative would result in 64 acres of wetland impacts, 49 acres of impacts to wood stork (*Mycteria americana*) Suitable Foraging Habitat (SFH), and 71 acres of impacts to Other Surface Waters (OSW). There are four ponds proposed as part of this project which are located outside the footprint of the preferred alternative. Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S., to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344.

8.3.4 Protected Species and Habitat

A Natural Resources Evaluation was developed as part of this PD&E study and documented the potential impacts to protected species and their habitats. No adverse impacts to listed species are anticipated from the proposed project. Federally listed species which the project May Affect, but is Not Likely to Adversely Affect include the American alligator, Audubon's crested caracara, Britton's beargrass, bluetail mole skink, Carter's mustard, clasping warea, eastern diamondback rattlesnake, eastern indigo snake, Everglade snail kite, Lewton's polygala, papery whitlow-wort, pygmy fringe tree, sand skink, scrub blazingstar, scrub plum, striped newt, and wood stork. A determination of No Effect was made for Florida bonamia, Florida scrub-jay, red-cockaded woodpecker, scrub buckwheat, scrub lupine, and short-leaved rosemary.

No Adverse Effects are Anticipated for the state listed burrowing owl, Florida pine snake, Florida sandhill crane, gopher tortoise, little blue heron, southeastern American kestrel, or tri-colored heron. It is anticipated that the preferred alternative and stormwater ponds

would result in 64 acres of wetland impacts, 71 acres of OSW impacts, 49 acres of impacts to wood stork SFH, and 332 acres of impacts to vegetated uplands. The four proposed stormwater ponds that are outside the preferred alternative alignment (1A6, 2A, 3A3, 4A3) would result in 0.13 acres of impacts to wetlands and wood stork SFH as well as 50 acres of impacts to vegetated uplands.

To avoid and minimize impacts during construction, CFX will adhere to the most recent version of the *USFWS Standard Protection Measures for the Eastern Indigo Snake*. CFX will mitigate for any unavoidable impacts to wood stork SFH at an approved mitigation bank and in accordance with the *USFWS Wood Stork Effect Determination Key* (U.S. Army Corps of Engineers and USFWS 2008). CFX will conduct a 100 percent gopher tortoise burrow survey in accordance with Florida Fish and Wildlife Conservation Commission rules and guidelines.

8.3.5 Highway Traffic Noise

A traffic Noise Study Report was performed following Code of Federal Regulations Title 23 Part 772 (23 CFR 772), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*, using methodology established by the FDOT in the *Project Development and Environment Manual*, Part 2, Chapter 18 (dated January 14, 2018).

Approximately 51 residences, single-family homes, were identified as being sensitive to traffic noise along the proposed Lake/Orange County Connector within the limits of this project. Also, two non-residential special-use noise-sensitive sites, including a community pool and trail were identified along the project corridor. Design Year traffic noise levels at nearby residences are predicted to range from 52.3 to 69.8 dB(A). The Preferred Alternative noise levels at special land use sites are predicted to range from 52.3 dB(A) at the Zanzibar pool area to 56.7 dB(A) at the Zanzibar Wingspread Loop Trail during the Design Year. Noise impacts are predicted to occur at three residences. The three impacted residences are located in the Zanzibar residential community located just west of the eastbound Lake/Orange County Connector ramp to southbound SR 429. No other noise-sensitive sites within the project study area are predicted to experience traffic noise levels equal to or exceeding the Noise Abatement Criteria (NAC). None of the noise-

sensitive sites are expected to experience a substantial noise level increase [i.e., greater than 15.0 dB(A) over existing levels] with the Preferred Alternative.

Noise barriers were considered for the three Zanzibar residences where Design Year traffic noise levels were predicted to equal or exceed the NAC. Since traffic management and alignment modifications were determined to not be viable abatement measures, noise barriers were determined to be the only potentially viable abatement measure that could be implemented for this project.

Five noise barrier concepts were evaluated for the three impacted noise-sensitive sites. Although the five noise barrier concepts met the noise reduction criterion of 7.0 dB(A), noise abatement was not considered cost reasonable (\$42,000 per benefited receptor) in accordance with the policy used by CFX.

Based on the noise analysis performed to date, there are no apparent solutions available to mitigate the noise impacts at these locations. Therefore, noise barriers are not recommended for further consideration or construction.

8.3.6 Contamination

A Level I Contamination Screening Evaluation Report (CSER) has been prepared in accordance with the FDOT's *PD&E Manual, Part 2, Chapter 20 (Contamination Impacts)*, updated January 14, 2019. A total of nine sites (**Table 8-9**) were identified with potential contamination concerns. After evaluation, one of those sites was assigned a risk rating of None, five sites were assigned a risk rating of Medium, and three sites were assigned a risk rating of High. All Medium- and High-Risk sites are recommended for additional assessment, including soil and groundwater testing, if right-of-way acquisition or subsurface work (including construction of any structures or stormwater ponds) is proposed on or adjacent to them.

8.4 Summary of Impacts

Table 8-10 provides a summary of impacts for the No Build and Preferred Alternative of the Lake/Orange County Connector.

Table 8-9: Potentially Contaminated Sites

Site #	Facility Name	Address	Facility ID (FDEP/RCRA)	Databases	Concern	Owner	Contaminated Parcel Location Relative to Project Corridor	Risk Rating
1	Lake Louisa State Park	7305 US 27	FLR000148049	RCRA	Hazardous Waste (small quantity generator)	State of Florida	Adjacent	None
2	Arnold Groves Storage Tank	15625 Frank Jerrell Road	9100695	STCM	Petroleum	JJJR Properties LLC	560 feet south	Medium
3	Sun Ridge Four MGMT Inc.	6535 Cook Road	9803085	STCM	Petroleum	Catherine E Ross Groves Inc	1,200 feet north	Medium
4	Island Lake Storage Tank- Lake County Grove	Cook Road	9700467	STCM	Petroleum	Lake Louisa LLC	Co-located	Medium
5	Lake County Grove Storage Tank	732 Schofield Road	9201649	STCM	Petroleum	Davidson Harvest LLC et al	Co-located	Medium
6	Schofield Corporation of Orlando/545 Landfill	8050 Avalon Road	25291 / 9801128 / FLD984216531	FDEP Solid Waste / STCM / RCRA	Landfill	Schofield Corporation of Orlando Inc	Co-located	High
7	West Orange Environmental Resources C&D	7706 Avalon Road	85524 / 25291	FDEP Solid Waste	Landfill	Oce West Orange LLC	Co-located	High
8	Braun Properties	8815 Avalon Road	FLD984216531	RCRA	Farm Chemicals	Undetermined	Co-located	High
9	Former Agricultural Areas	Throughout Project Area	None	None	Farm Chemicals	Multiple	Co-located	Medium

Table 8-10: Summary of Impacts

Summary of Issues		No Build	Build - Preferred Alternative
Description		No additional freeway connection is provided between South Lake and West Orange Counties	New freeway connection is provided between US 27 and SR 29
Purpose and Need	Provide Additional Capacity/Transportation Demand Evacuation/Emergency Response	Potentially worse due to expected increased congestion resulting from additional population generated by the Wellness Way Area Plan (WWAP) in South Lake County and the Horizon West Special Planning Area (HWSPA) in Orange County	Planned project improvements are anticipated to accommodate the expected increase in traffic due to population and employment growth along the corridor. The Lake/Orange County Connector will help alleviate this increase by partially diverting the traffic from other east-west facilities
		Potentially worse due to increased congestion	Improved with additional capacity provided
	Transportation Connectivity	The current deficient east-west connectivity within the study area will remain the same	Would provide much needed connectivity in the area and significantly improve regional mobility and travel time
	Multimodal Support	No additional multimodal support	A new limited access facility could support inter-agency transit service between Lake and Orange counties. The Horizon West Town Center is an intermodal and freight staging facility potentially providing access to trucks, rails, airports and/or ports. The proposed connector would link this facility with two major SIS highways (US 27 and SR 429) and thus connect Lake County via a network of limited-access facilities to the Orlando International Airport and Port Canaveral
	Economic Viability/Job Creation	Does not support economic growth and job creation	Considered to be a key element in promoting further economic growth in the area
Social Environment	Right-of-way Impacts	None	403.57 acres
Planning Consistency	Consistency with Long Range Transportation Plan	No	All proposed improvements are consistent with the CFX Master Plan, CFX Five-Year Work Plan, Lake-Sumter MPO 2040 LRTP Needs Plan and the MetroPlan Orlando Plan Development and Cost Feasible Projects
Engineering	Utility Impacts	None	Yes. Transmission lines, electric, telephone, gas
	Pond Acreage	None	39.98 acres
	Number of Ponds	None	15
	Proposed Bridges	None	20
Environmental	Contamination Site Impacts	None	9 total sites - 1 None, 5 Medium and 3 High
	Number of Impacted Noise Receptors	None	3
	Proposed Noise Walls		None
	Wetland Impacts		64 acres
	Wood stork Suitable Foraging Habitat		49 acres
Cost	Construction	0	\$289,510,000
	Right-of-way	0	\$102,000,000
	Mitigation	0	\$8,384,400

Appendix A: Corridor Report Analytical Hierarchy Process Results

Alternatives Evaluation

The final evaluation of the various corridor alternatives for the proposed Lake/Orange County Connector involved essentially a multi-objective/multi-attribute decision making process. The establishment of the relative importance of each objective/criteria was critical in order to ultimately choose the most efficient or “best” corridor alternative. This process involved decisions which must make trade-offs between different and often conflicting objectives/criteria. The core decision making tool utilized during the evaluation was the Analytic Hierarchical Process (AHP). This process was developed by Thomas J. Saaty for decision analysis of complex subjective problems involving a large number of criteria. This appendix documents the application of the AHP computer decision making software used to determine the recommended corridor alternative for the proposed project. Study participants started by addressing pertinent issues such as setting priorities, subsequently establishing criteria and criteria weights, and finally by evaluating the various alternatives for the proposed project improvements. **Figure A-1** illustrates the methodology utilized in the evaluation of the corridor alternatives for the proposed project.

Evaluation Methodology

The Analytic Hierarchy Process (AHP) method is based on the breakdown of each problem into a system of stratified levels or hierarchies where each level consists of criteria or objectives to be compared. Each of the criteria or objectives in a level is further broken down in subsequent levels into sub-criteria or objectives that are easier to quantify. The relative importance or priority for all the criteria in a given level is then established through a sequence of pair-wise comparisons which will ultimately lead to the derivation of priorities (i.e., weights or importance) for each criterion as well as the determination of the recommended corridor alternative. Pair-wise comparisons have been technically proven to be more reliable in eliciting human judgment than directly assigning weights. Once the hierarchy was established and agreed upon, a questionnaire was developed based on pair-wise comparisons of the established

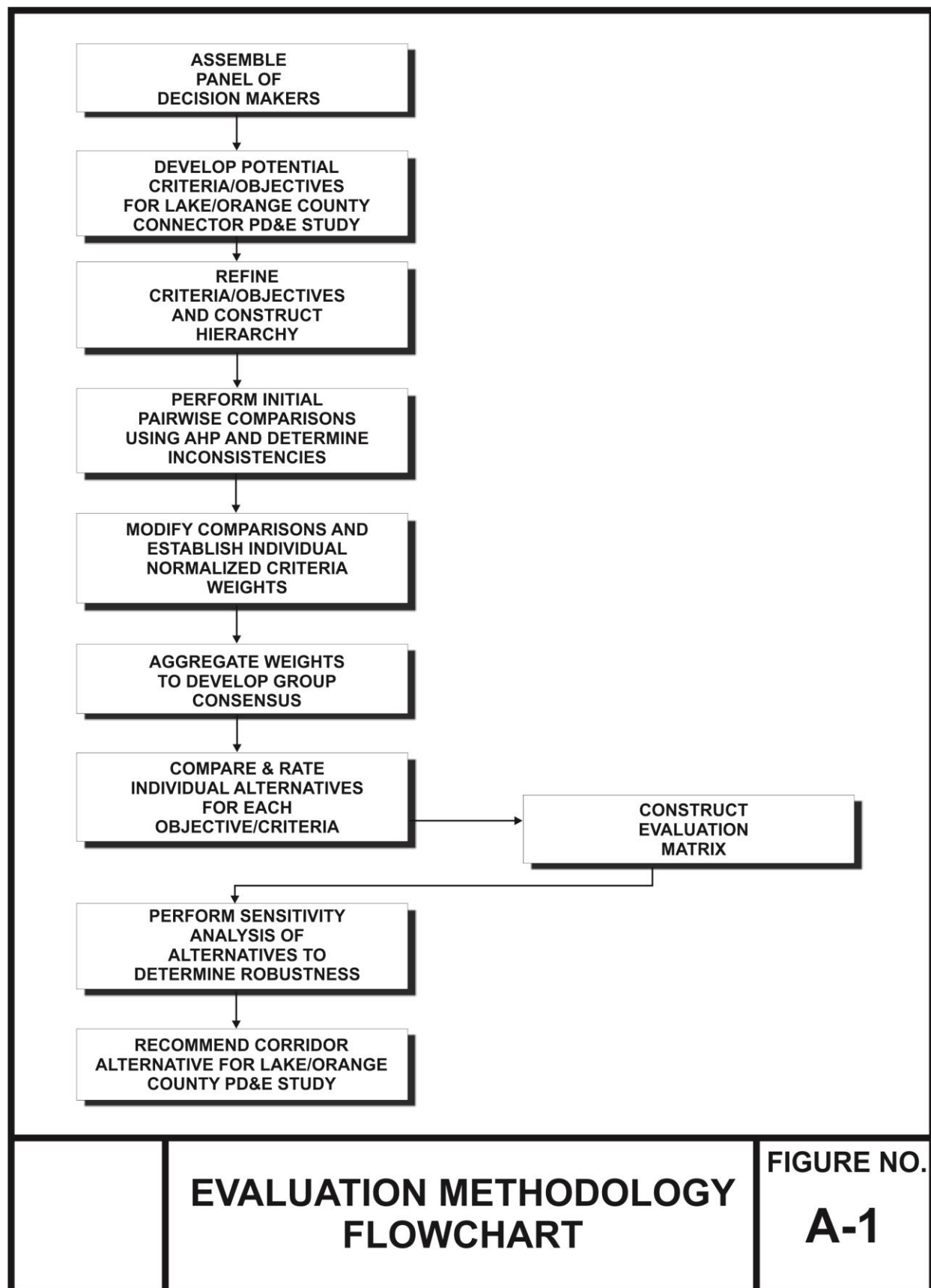


Figure A-1 criteria. It should be noted that even though project questionnaires are often utilized by participants to establish the importance, priority or weight of each criterion, in our case the panel participants agreed to adopt the weights previously established during the previous evaluation phase (see values at top of **Table 2-4**). However, a questionnaire was developed to compare each of the corridor alternatives based on each parameter comprising the criteria. After the questionnaires were completed, the data was input into the computer program.

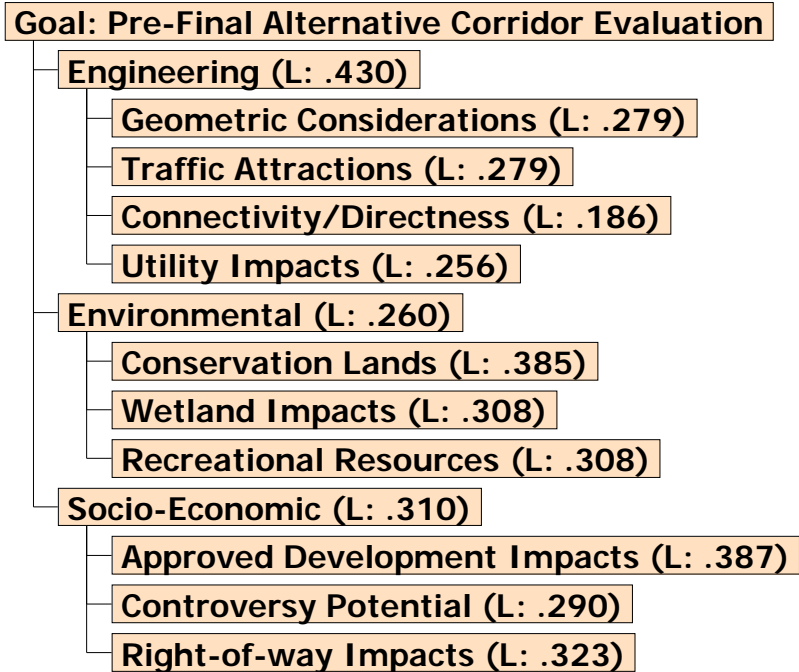
Evaluation Results

The AHP computer application was performed with a group consensus results obtained by aggregating the responses of all participants and applying the group median method. The group median judgments and preferences were then incorporated into the AHP computer program. The AHP computer application results are included at the end of this appendix and **Table A-1** provides a brief explanation of the included outputs. A thorough sensitivity analysis of the results was conducted after finding the recommended roadway alternative as selected by the participants of the study through the execution of the program. The analysis included the investigation of sensitive criterion or criteria within the results. The AHP software also includes a sensitivity analysis feature. This feature investigates the effect of the ranking of the recommended roadway alternative if criteria take on other possible values. The sensitivity analysis identifies the relatively sensitive criteria (i.e., those that cannot be changed much without changing the ranking of the top roadway alternative) to try to estimate these more closely, and then to select a solution which remains a good one over the ranges of likely values of the sensitive parameters. Usually there will be some criteria that can be assigned any reasonable value without affecting the ranking of the recommended alternative. However, there may also be criteria with likely values that would yield a new ranking of the recommended alternative.

Page No.	Table A-1 Contents
1	Weight assignment for all Primary & Secondary objectives and Final Computed results for both competing alternatives
2	Weight Assignment graph for Primary Objectives
3	Weight Assignment graph for Engineering Impacts
4 to 7	Computed alternative results with respect to secondary objectives of traffic congestion/safety, traffic accommodated, and connectivity
8	Weight Assignment graph for Environmental Impacts
9 to 11	Computed alternative results with respect to secondary objectives of SJRWMD Regulatory Easement impacts, wetland impacts, wildlife and habitat, and outstanding Florida waterway impacts
12	Weight Assignment graph for Socio-Economic Impacts
13 to 14	Computed alternative results with respect to secondary objectives of Community Cohesion and controversy potential
15 to 16	Synthesis of computed alternative results

Model Name: Lake Orange Connector AHP

Treeview



Alternatives

Alternative 12		.333
Alternative 17		.333
Alternative 20		.333

Priority Graphs

Priorities with respect to:
Goal: Pre-Final Alternative Corrid...



Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor E
>Engineering

Geometric Considerations	.279	
Traffic Attractions	.279	
Connectivity/Directness	.186	
Utility Impacts	.256	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Engineering
 >Geometric Considerations

Alternative 12	.127	
Alternative 17	.276	
Alternative 20	.597	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Engineering
 >Traffic Attractions

Alternative 12	.333	
Alternative 17	.333	
Alternative 20	.333	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Engineering
 >Connectivity/Directness

Alternative 12	.450	
Alternative 17	.100	
Alternative 20	.450	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Engineering
 >Utility Impacts

Alternative 12	.333	
Alternative 17	.333	
Alternative 20	.333	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
>Environmental

Conservation Lands	.385	
Wetland Impacts	.308	
Recreational Resources	.308	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Environmental
 >Conservation Lands

Alternative 12	.333	
Alternative 17	.333	
Alternative 20	.333	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Environmental
 >Wetland Impacts

Alternative 12	.409	
Alternative 17	.182	
Alternative 20	.409	

Inconsistency = 0.00

with 0 missing judgments.




Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Environmental
 >Recreational Resources

Alternative 12	.235	
Alternative 17	.529	
Alternative 20	.235	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor Evaluatio
>Socio-Economic

Approved Development Impacts	.387	
Controversy Potential	.290	
Right-of-way Impacts	.323	
Inconsistency = 0.00		
with 0 missing judgments.		

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Socio-Economic
 >Approved Development Im...

Alternative 12	.235	
Alternative 17	.529	
Alternative 20	.235	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 > Socio-Economic
 > Controversy Potential

Alternative 12	.235	
Alternative 17	.529	
Alternative 20	.235	

Inconsistency = 0.00

with 0 missing judgments.

Priorities with respect to:
Goal: Pre-Final Alternative Corridor
 >Socio-Economic
 >Right-of-way Impacts

Alternative 12 .333
Alternative 17 .333
Alternative 20 .333

Inconsistency = 0.00

with 0 missing judgments.

Synthesis: Details

Alts	Level 1	Level 2	Prty
Alternat..	Total A...		0.309
	Total Engineering (L: .430)		0.139
	Engineering (L: .430)	Geometric...	.01063
		Traffic Att...	.04975
		Connectiv...	.03316
		Utility Imp...	.04560
	Total Environmental (L: .260)		0.089
	Environmental (L: .260)	Conservat...	.04146
		Wetland I...	.03316
		Recreatio...	.01474
Alternat..	Total Socio-Economic (L: .310)		0.080
	Socio-Economic (L: .310)	Approved02211
		Controver...	.01658
		Right-of-w...	.04146
	Total A...		0.344
	Total Engineering (L: .430)		0.126
	Engineering (L: .430)	Geometric...	.02299
		Traffic Att...	.04975
		Connectiv...	.00737
		Utility Imp...	.04560
Alternat..	Total Environmental (L: .260)		0.089
	Environmental (L: .260)	Conservat...	.04146
		Wetland I...	.01474
		Recreatio...	.03316
	Total Socio-Economic (L: .310)		0.129
	Socio-Economic (L: .310)	Approved04975
		Controver...	.03731
		Right-of-w...	.04146
	Total A...		0.348
	Total Engineering (L: .430)		0.178
Alternat..	Engineering (L: .430)	Geometric...	.04975
		Traffic Att...	.04975
		Connectiv...	.03316

Final Score =
Total Sum

Alts	Level 1	Level 2	Prty
Alternat..	Engineering (L: .430)	Utility Imp...	.04560
	Total Environmental (L: .260)		0.089
		Conservat...	.04146
	Environmental (L: .260)	Wetland I...	.03316
		Recreatio...	.01474
	Total Socio-Economic (L: .310)		0.080
		Approved02211
	Socio-Economic (L: .310)	Controver...	.01658
		Right-of-w...	.04146

Appendix B: Reference Documents

A. Reference Documents

1. CFX 2040 Master Plan
2. Lake-Sumter MPO 2040 Long Range Transportation Plan
3. MetroPlan Orlando 2040 Long Range Transportation Plan
4. CFX 2019-2023 Five Year Work Plan
5. West Orange/South Lake Transportation and Economic Development Transportation Plan

B. Companion Documents

1. Project Environmental Impact Report
2. Contamination Screening Evaluation Report
3. Natural Resources Evaluation
4. Typical Section Package
5. Water Quality Impact Evaluation
6. Location Hydraulic Report
7. Pond Siting Report
8. Noise Study Report
9. Corridor Analysis Report
10. Project Traffic Analysis Report
11. Utility Assessment Report
12. Cultural Resource Assessment Survey

Appendix C: Utility Conflicts

Table C-1 - Existing Utilities

Utility & Contact Information	Utility Type	Description	Remarks
AT&T Local Transmission	Fiber, Communication Lines	Buried Cable 2’-2” Conduit	<ul style="list-style-type: none">Runs parallel along Schofield Road on the south side in the 16’-6” Easement from approximately one mile west of Cook Road to east of SR 429 Interchange (End Project)Runs parallel along South Bradshaw Road on the east side in the 16’-6” Easement from south of Trout Lake to US 27 intersection.Run parallel along US 27 in the existing US 27 right-of-way on the east side from South Bradshaw Road to approximately 0.5 miles south of Frank Jarrell Road (Begin Project)
AT&T Florida	Fiber, Communications Lines		<ul style="list-style-type: none">No existing utilities located within the project limits
Century Link	Fiber, Telephone	Buried Telephone	<ul style="list-style-type: none">Runs parallel along Cook Road on the east side at approximately STA 194+ (25 BT)Runs parallel along US 27 within the entire project limits on the west side (200 BT - pending removal)Runs perpendicular to US 27 approximately .25 ± miles south of Frank Jarrell RoadRuns parallel along Schofield Road on the north side approximately .15 ± miles east of the proposed Valencia Pkwy up to the proposed Valencia Pkwy (50 BT)Runs parallel along Schofield Road on the south side from the proposed Valencia Pkwy to SR 429/end of project limits (50 BT)Runs perpendicular to Schofield Road at the proposed Valencia Pkwy (50 BT)Runs parallel along Schofield road on the north side from the proposed Valencia Pkwy to SR 429/end of project limits (50 BT – not in service)
		Buried Fiber Optic	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the west side (BFO 24 – pending removal)Runs parallel along US 27 within the entire project limits on the west side (BFO 288)Runs parallel along US 27 on the west side from Frank Jarrell Road down south to end of project limits (BFO 144 – pending removal)Runs perpendicular to US 27 at Frank Jarrell Road (BFO 24 – pending removal)
		Conduit System 25 BT and 24 FOC	<ul style="list-style-type: none">Runs parallel along US 27 on the west side from Frank Jarrell Road down south to end of project limits
Duke Energy Florida	Electric/ Transmission	OE 69kV Overhead Transmission	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the east side
Lake Utilities Inc	Water	Existing 16” PVC Water Main (buried)	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the west side
		Existing 8” PVC Force Main (buried)	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the east side from .15 miles ± south of Frank Jarrell Road to the southern end of project limitsRuns perpendicular to US 27
		Proposed 12” Force Main (buried)	<ul style="list-style-type: none">Runs parallel along US 27 on the east side from the begin project northern limits to approximately .15 miles ± south of Frank Jarrell Road
Level 3 Communications, LLC (fka TW Telecom)	Fiber, Communication Lines		<ul style="list-style-type: none">No existing utilities located within the project limits.
Orange County Utilities	Wastewater		<ul style="list-style-type: none">Conserve II pipeline - see Water Conserv II for location
Orlando Telephone Company dba Summit Broadband	Fiber, Communication Lines	Overhead Fiber Optic Cable	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the west side
Smart City Solutions	Fiber, Telephone		<ul style="list-style-type: none">No existing utilities located within the project limits
Bright House Networks Charter		No Response	No Response
Sumter Electric Cooperative (SECO)	Energy	Single Phase Line	<ul style="list-style-type: none">Runs parallel along Cook Road on the East side
		Two Phase Line	<ul style="list-style-type: none">Runs parallel along Frank Jarrell Road on the south side starting from the intersection of US 27 continuing to the east outside of the proposed right of way
		Three Phase Line	<ul style="list-style-type: none">Runs parallel along US 27 within the entire project limits on the west side
Verizon Business f/k/a MCI	Fiber		<ul style="list-style-type: none">No existing utilities located within the project limits
Water Conserv II	Wastewater	Buried	<ul style="list-style-type: none">Runs parallel along Cook Road on the west sideRuns parallel with the preferred alternative at approximately STA 192± where the wastewater line goes into a property parcel.Runs parallel with Schofield Road on the south side throughout the entire project study limitsRuns perpendicular to Schofield Road at approximately STA 342+ where it crosses Schofield Road

Appendix D: FEMA Firm Maps

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **Floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Transverse Mercator State Plane Florida East FIPS 0901. The horizontal datum was NAD83 HARN, GRS 1980 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by Lake County and the Florida Geographic Data Library. Orthophotography was collected in 2009 by the Southwest Florida and St. Johns River Water Management District.

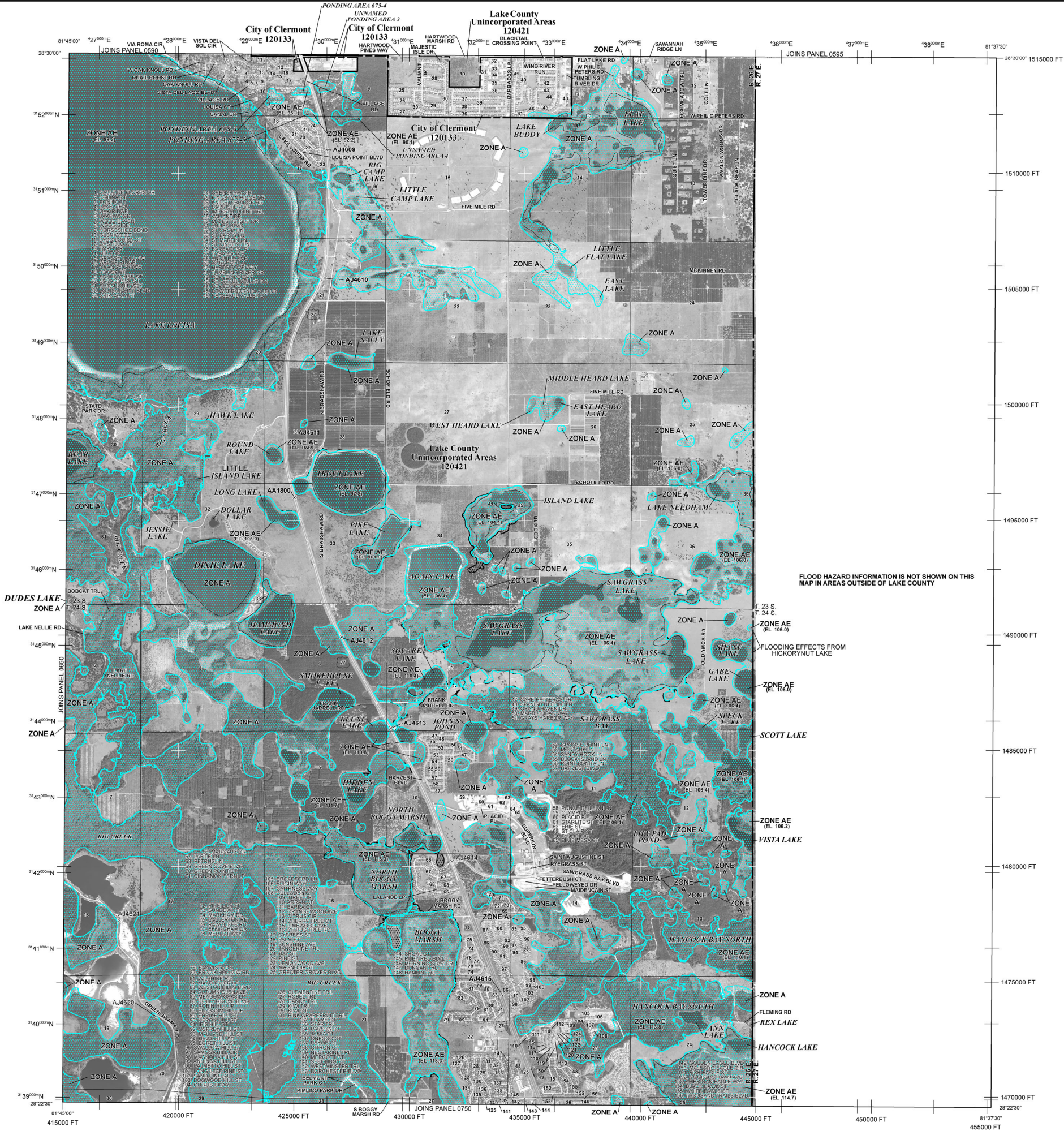
This map reflects more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels, community map repository addresses, and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information and questions about this map, available products associated with this FIRM including historic versions of this FIRM, how to order products or the National Flood Insurance Program in general, please call the FEMA Mapping Information eXchange at 1-877-FEMA-MAP (1-877-338-6227) or visit the FEMA Map Service website at <http://www.msc.fema.gov/>. Available products may include previously issued Letters of Map Change, a Flood Insurance Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website. Users may determine the current map date for each FIRM panel by visiting the FEMA Map Service Center website or by calling the FEMA Map Information eXchange.

The "profile base lines" depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the "profile base line", in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decommissioned. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities

Base Flood Elevation line and value; elevation in feet

base flood elevation value where uniform within zone; elevation in feet

* Referenced to the North American Vertical Datum of 1988

Cross section line

Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPSZONE = 0901), Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES

Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

July 3, 2002

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

December 18, 2012 - to update corporate limits, change Base Flood Elevations, add Base Flood Elevations, change Special Flood Hazard zone designations, update roads and road names, incorporate previously issued Letters of Map Revision, and reflect updated topographic information.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 2000'

600 0 600 1,200 FEET METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0675E

FIRM
FLOOD INSURANCE RATE MAP
LAKE COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 675 OF 750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CLERMONT, CITY OF	120133	0675	E
LAKE COUNTY	120421	0675	E

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12069C0675E

MAP REVISED
DECEMBER 18, 2012

Federal Emergency Management Agency

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was State Plane Florida East FIPS Zone 0801. The **horizontal datum** was NAD83, GRS1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov/>, or contact the National Geodetic Survey at the following address:

Spatial Reference System Division
National Geodetic Survey, NOAA
Silver Spring Metro Center
1315 East-West Highway
Silver Spring, Maryland 20910
(301) 713-3191

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242 or visit its website at <http://www.ngs.noaa.gov/>.

Base map information shown on this FIRM was provided in digital format by Orange County, Florida.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the *Flood Insurance Study report* (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

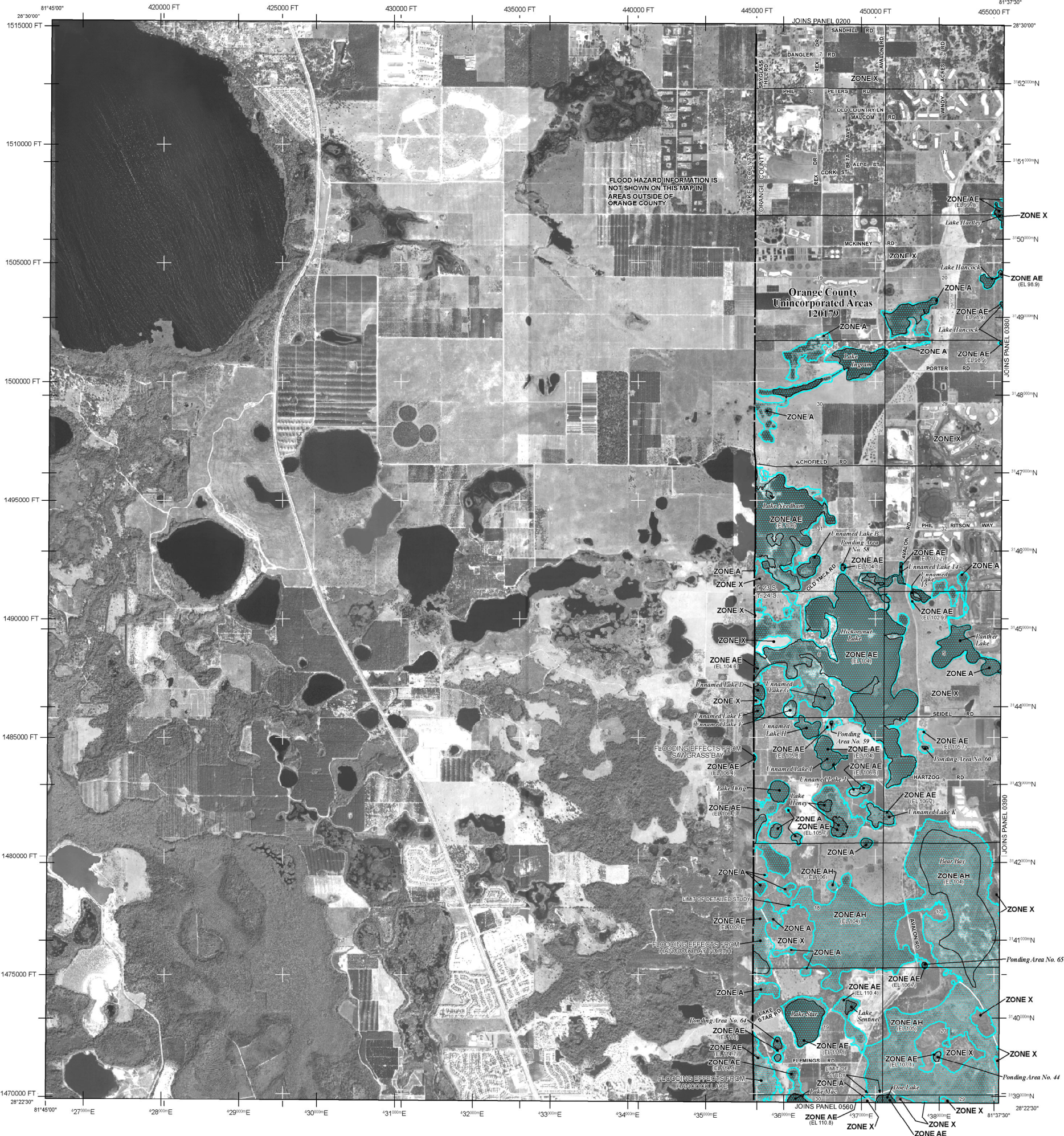
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Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a *Flood Insurance Study report*, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at <http://www.msc.fema.gov/>.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nflir/>.

NGVD29 to NAVD88 Vertical Datum Conversion Table (feet)				
Watershed Name	Minimum Conversion	Maximum Conversion	Average Conversion	Maximum Offset
Big Econochoatchee River	-1.03	-1.15	-1.09	0.06
Boggy Creek	-0.91	-1.01	-0.96	0.05
Cypress Creek	-0.87	-0.91	-0.89	0.02
Howell Branch	-0.98	-1.05	-0.98	0.07
Lake Apopka	-0.87	-0.97	-0.91	0.06
Lake Hart	-0.97	-1.07	-1.02	0.05
Little Econochoatchee River	-0.92	-1.07	-1.01	0.09
Little Wekiva River	-0.91	-1.02	-0.95	0.07
Reedy Creek	-0.88	-0.89	-0.88	0.02
Shingle Creek	-0.88	-0.95	-0.91	0.04
St. Johns River	-1.08	-1.33	-1.19	0.14
Wekiva River	-0.88	-1.01	-0.94	0.07



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD EVENT

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.
ZONE AE Base Flood Elevations determined.
ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Area of special flood hazard formerly protected from the 1% annual chance flood event by a flood control system that was subsequently decremented. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Areas to be protected from 1% annual chance flood event by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
 0.2% annual chance floodplain boundary
 Floodway boundary
 Zone D boundary
 CBRS and OPA boundary
 Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Base Flood Elevation line and value; elevation in feet*
 Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

Cross section line

Transect line

Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid ticks, zone 17

5000-foot grid values: Florida State Plane coordinate system, East Zone (FIPS2000 = 901), Transverse Mercator projection

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES

Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP

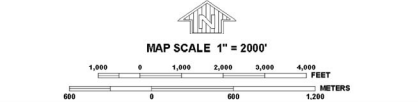
DECEMBER 6, 2000

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

SEPTEMBER 25, 2009 - to update corporate limits, to change Base Flood Elevations, to add Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to delete Special Flood Hazard Areas, to update map format, to add roads and road names, to incorporate previously issued Letters of Map Revision, to reflect updated topographic information, and to incorporate previously issued Letters of Map Amendment.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
ORANGE COUNTY,
FLORIDA
AND INCORPORATED AREAS

PANEL 0375F

PANEL 375 OF 750
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
ORANGE COUNTY 120170 0375 F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
12095C0375F

MAP REVISED
SEPTEMBER 25, 2009
Federal Emergency Management Agency

Appendix E: Public Involvement

Public Involvement Plan

PUBLIC INVOLVEMENT PROGRAM

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Lake / Orange County Connector (US 27 to SR 429) Feasibility / Project Development and Environment (PD&E) Study

This Public Involvement Program is submitted to the Central Florida Expressway Authority for review, acceptance, and approval.

Submitted By:

Kelly M. Hiden
Kelly Hiden
The Valerin Group, Inc.

William F. Sloup
William Sloup, P.E.
Metric Engineering

Date:

6.1.2018

June 4, 2018

Accepted By:

Jonathan Williamson
Jonathan Williamson, AICP
Central Florida Expressway Authority – General Engineering Consultant

Date:

6/12/18

Approved By:

Brian Hutchings
Brian Hutchings
Senior Communications Specialist
Central Florida Expressway Authority

Date:

6/6/18

PUBLIC INVOLVEMENT PROGRAM

Lake / Orange County Connector (US 27 to SR 429) Feasibility / PD&E Study Lake and Orange Counties, Florida

The purpose of this Public Involvement Program (PIP) is to assist in the exchange of information between the Central Florida Expressway Authority (CFX) and concerned residents, organizations, private groups (residential/business/special interest), and governmental agencies. The overall goal of this plan is to help ensure that the study reflects the values and needs of the communities it is designed to benefit. A schedule of events and list of documents (as they are created) exhibiting compliance with these procedures are included in the project file.

I. Description of Proposed Improvements

The proposed Lake / Orange County Connector extends from US 27 in south Lake County to SR 429 in west Orange County, a distance of approximately five (5) miles. The study includes an evaluation of a proposed interchange with the future extension of County Road 455 in Lake County. The Lake / Orange County Connector is identified in the CFX Visioning + 2040 Master Plan, the MetroPlan Orlando 2040 Long Range Transportation Plan and the Lake-Sumter 2040 Long Range Transportation Plan.

Project Limits: The study area limits are generally described as: Porter Road on the north; SR 429 on the east; Old YMCA Road on the south; and US 27 on the west.

Counties: Lake and Orange

Proposed Activity: Assess the feasibility and viability of a Lake / Orange County connection as a toll road under the CFX Master Plan policy for new projects as a system expansion.

CFX Project Number: 599-225

Contract Number: 001344

Project Contact Information

For information regarding this project contact:

CFX Director of Engineering

Glenn M. Pressimone, P.E.
Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, FL 32807
Office: 407-690-5000
Fax: 407-690-5011
E-mail: Glenn.Pressimone@CFXway.com

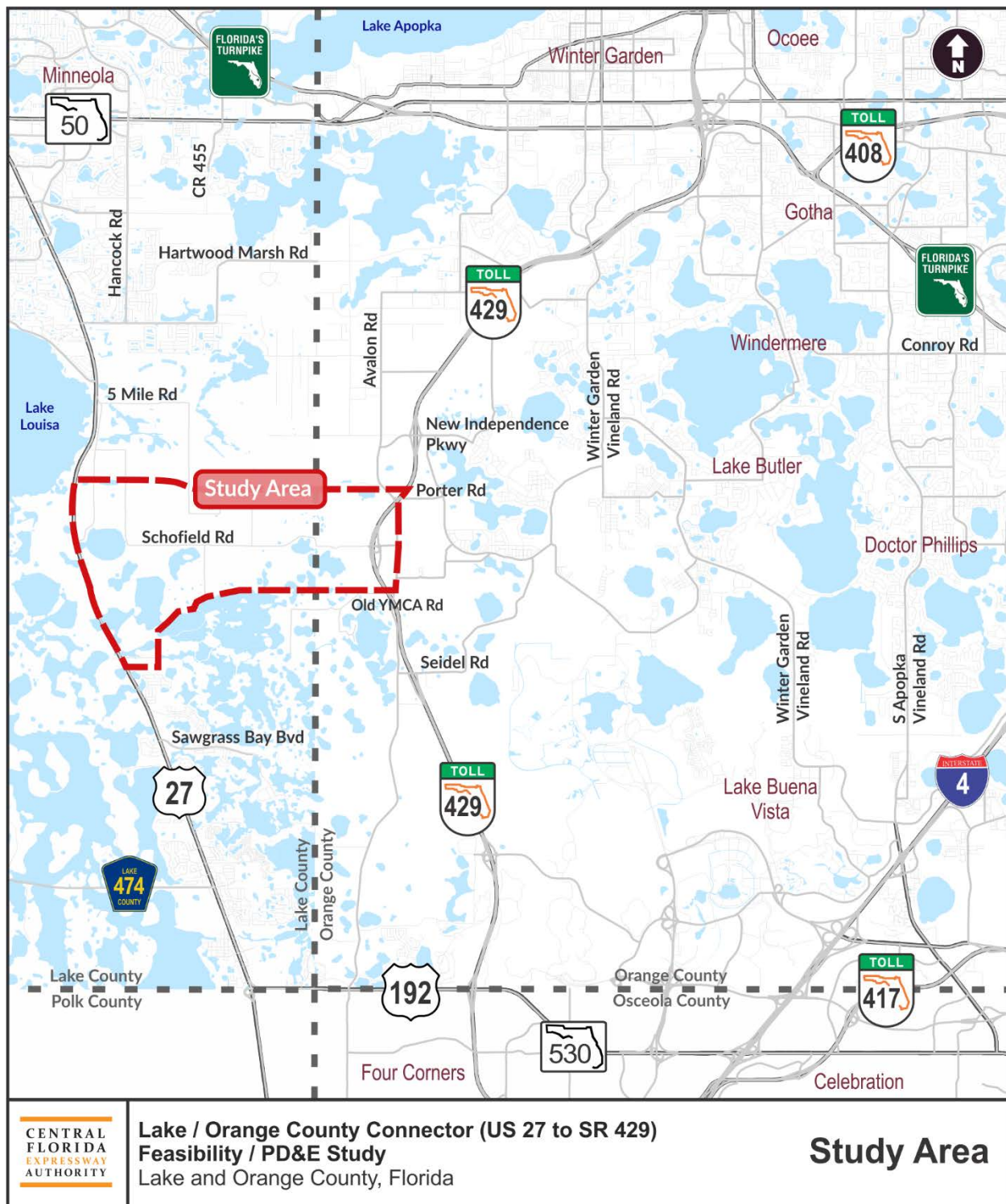
Consultant Project Manager

William Sloup, P.E.
Metric Engineering
615 Crescent Executive Court, Suite 524
Lake Mary, FL 32746
Office: 407-644-1898 ext. 1114
E-mail: William.Sloup@metriceng.com

Public Involvement Program

Lake / Orange County Connector (US 27 to SR 429) Feasibility / PD&E Study

Page 1



Public Involvement Program

Lake / Orange County Connector (US 27 to SR 429) Feasibility / PD&E Study

Page 2

II. Project Background

The County Commissioners that represent the districts in south Lake and west Orange counties have requested that the CFX consider a new tolled connection between US 27 and SR 429. This new regional connector has been previously studied in the SR 408 Western Extension Study (CFX 2002); the Wellness Way Corridor Feasibility Study (Orange/Lake Parkway Partners LLC 2013); and the Wellness Way Sector Plan (Lake County 2013). Additionally, traffic and revenue feasibility studies were performed in 2013 and again in 2017. The results of these studies showed that a long-term opportunity for CFX participation exists in developing a connector between US 27 and the SR 429 / Schofield Road interchange.

Using the results of previous studies as a foundation, a feasible corridor for the proposed toll road will first be identified. Several alignments within the corridor will then be developed and evaluated to identify a preferred alternative. All factors related to the design and location of the facility will be considered, including; transportation needs, financial feasibility, social impacts, economic factors, environmental impacts, engineering analysis, and right-of-way requirements.

III. Project Goals

- Provide improved system connectivity / linkage.
- Accommodate anticipated transportation demand.
- Provide consistency with local and regional plans.
- Support economic viability and job creation.
- Support intermodal opportunities.
- Enhance evacuation and emergency services.

IV. Identification of Agencies and Organizations

As part of the PIP, various local, regional, state, and federal agencies and/or organizations may be invited to participate as stakeholders, members of advisory groups, or as jurisdictional representatives. This includes local, regional, state and federal appointed and elected officials. A list of potential participants will be developed and vetted, with those applicable agencies and/or organizations being contacted by the CFX, General Engineering Consultant (GEC), or consultant project team. Other concerned public agencies or organizations that are identified throughout the study also will be contacted and invited to participate. The initial list of invitees is identified below; however, it is recognized that additional participants will likely be added as the study progresses. A final list of participants will be compiled and submitted at the end of the study.

V. Identification of and Outreach to Special Populations

This project spans southwestern Orange County and southeastern Lake County. The demographics of the study area were obtained through Census Place Sociocultural Data Reports (SDR) for the Clermont, Four Corners, Horizon West, and Winter Garden areas, which are attached to this PIP as well as the County level SDRs for Lake and Orange counties.

Public Involvement Program

The area demographics indicate less than 5% percent of the population within the study area are limited English proficient. Therefore, it has been determined that there is no need for outreach in any language other than English.

VI. Outreach Resources

The following media outlets may be engaged to notify the public of the proposed new connector roadway study, project meetings, and to solicit public input in the study process.

NEWSPAPERS:

Orlando Sentinel
633 North Orange Avenue
Orlando, FL 32801
citydesk@orlandosentinel.com
407-420-5000

Orlando Sentinel – Lake Zone
Jerry Fallstrom
jfallstrom@orlandosentinel.com
lakesentinel@orlandosentinel.com
407-420-5920

Clermont News Leader
637 Eighth Street
Clermont, FL 34711
635-242-9818
Linda Briody
lbriody@cfl.rr.com

West Orange Times
720 South Dillard Street
Winter Garden, FL 34787
407-656-2121
contact@orangeobserver.com

RADIO:

WMFE 90.7
11510 E. Colonial Drive
Orlando, FL 32817
407-273-2300
wmfenews@wmfe.org

WWKA K92.3
4192 N. John Young Parkway
Orlando, FL 32817
407-298-9292

WDBO 96.5
4192 N. John Young Parkway
Orlando, FL 32804
407-281-2000
Joe Kelley – news director
joe.kelley@coxinc.com

WMMO 98.9
4192 N. John Young Parkway
Orlando, FL 32804
407-422-9890

WTKS RealRadio 104.1
2500 Maitland Center Parkway, Suite 401
Orlando, FL 32751
407-916-1041

WOMX Mix 105.1
1800 Pembroke Drive
Orlando, FL 32810
407-919-1000
Susan Korgul – PSA/Community Requests
Susan.korgul@entercom.com

Public Involvement Program

TELEVISION:

WESH News Channel 2 NBC/WKCF CW18
1021 North Wymore Road
Winter Park, FL 32789
407-645-2222
lboutte@hearst.com

WFTV Channel 9 ABC
409 E. South Street
Orlando, FL 32801
407-822-8380
news@wftv.com

WOFL Fox 35
35 Skyline Drive
Lake Mary, FL 32746
407-741-5027
woflweb@foxtv.com

WKMG Channel 6 CBS
4466 N. John Young Parkway
Orlando, FL 32804
407-521-1323
desk@wkmg.com

Spectrum News 13
20 N. Orange Avenue, Suite 13
Orlando, FL 32801
407-513-1313
n-13-desk@charter.com

Additional outreach methods will be employed throughout the study, in order to keep the public engaged in the process, including the following:

ADVISORY GROUPS

A Project Advisory Group (PAG), and an Environmental Advisory Group (EAG) including staff from FDOT, Lake and Orange counties, permitting agencies, environmental organizations, special interest groups and other entities as identified by CFX will be formed. A preliminary mailing list of invitees to participate on both the PAG and EAG is included at the end of this document. The project team will meet with each advisory group up to three (3) times during the PD&E Study to present information about the project, receive input, and respond to questions.

PROJECT KICK-OFF LETTER

An informational project kick-off letter will be distributed to FDOT, MetroPlan Orlando, Lake-Sumter MPO, Lake County, Orange County, the East Central Florida Planning Council, public utility owners, environmental regulatory agencies and any group or individual that expressed an interest in the study.

PUBLIC NOTICES

Public notices will consist of display advertisements published in the publications with the largest circulation in the project's study area, prior to any public meeting, following the guidelines outlined in the PD&E Manual, Part I, Chapter 11. Public notices will also be placed in the Florida Administrative Register (FAR) and published on CFX's public meeting notices website at least seven (7) days prior to each public meeting.

PUBLIC ANNOUNCEMENTS

A project information flyer may be developed and distributed to organizations such as neighborhood associations/civic groups, and local governments to publish in existing newsletters and on websites. All correspondence will be coordinated with CFX's Public Involvement Consultant (PIC) and Public Affairs and Communications Department prior to distribution.

DIRECT MAIL

The following will be contacted by direct mail in order to obtain input into the project development process and/or in order to provide project information:

- Those whose property lies, in whole or part, within a minimum of 300 feet on either side of the centerline of each project alternative (Section 339.155 F.S.), as well as other local citizens who may be impacted by the construction of this project. This portion of the mailing list will be based on the County Property Appraiser's tax rolls.
- Local elected and appointed public officials for Lake County
- Local elected and appointed public officials for Orange County
- Project Advisory Group (PAG)
- Environmental Advisory Group (EAG)
- Public and private groups, organizations, agencies or businesses that request to be placed on the mailing list for this project

WEBSITE

A study webpage was established on the CFX website at the start of the project and will be maintained throughout its duration as a means of updating the general public on a frequent basis. Information will be provided to CFX via the PIC four (4) times during the project: (1) prior to the public kick-off meeting, (2) prior to the alternatives public workshop, (3) prior to the public hearing, and (4) at the project completion.

NEWSLETTERS

Four (4) project newsletters designed to inform interested parties of the project status, will be prepared and distributed at key milestones during the study: (1) prior to the public kick-off meeting, (2) prior to the alternatives public workshop, (3) prior to the public hearing, and (4) at the project completion. These newsletters will be distributed to interested parties, elected and appointed officials, property owners, special interest groups, etc., as identified above. Newsletters will also be posted on the project webpage.

VII. PUBLIC MEETINGS

The following informational meetings will be held to involve the public and interested agencies in the study process and to inform interested parties of the project's current status:

Project Kick-Off Meeting - The purpose of this meeting is to present the public with a general study overview, project area information and anticipated schedule. Visual displays will be available for review. The format of this meeting will be an open house to informally answer questions and receive comments from meeting attendees.

- **Meeting Preparation** - Meeting coordination, including location arrangements, equipment supply, set up of outdoor signs, tables, chairs and other equipment, preparation of letters, handouts and slide presentation materials, will be the responsibility of the consultant project team and coordinated through the PIC and GEC. All work products will be reviewed by the PIC and GEC on behalf of the CFX.
- **Meeting Location** - Proposed meeting locations are the Marriott Springhill Suites at Flamingo Crossings, 13279 Flamingo Crossings Boulevard, Winter Garden, FL 34787; or the TownePlace Suites by Marriott Orlando at Flamingo Crossing, 13295 Flamingo Crossings Boulevard, Winter Garden, FL 34787. The meeting sites meet all ADA requirements.

Alternatives Public Workshop - The purpose of this meeting is to present to the public the results of the study to date and obtain comments on the alternatives that are being considered. Visual displays will be available for review. The format of this meeting will be an open house to informally answer questions and receive comments from meeting attendees.

- **Meeting Preparation** - Meeting coordination, including location arrangements, equipment supply, set up of outdoor signs, tables, chairs and other equipment, preparation of letters, handouts and slide presentation materials, will be the responsibility of the consultant project team and coordinated through the PIC and GEC. All work products will be reviewed by the PIC and GEC on behalf of the CFX.
- **Meeting Location** - Proposed meeting locations are the Marriott Springhill Suites at Flamingo Crossings, 13279 Flamingo Crossings Boulevard, Winter Garden, FL 34787; or the TownePlace Suites by Marriott Orlando at Flamingo Crossing, 13295 Flamingo Crossings Boulevard, Winter Garden, FL 34787. The meeting sites meet all ADA requirements.

Public Hearing - The purpose of this meeting is to present the public with the recommended alternative. The format of this meeting will be a public hearing. A court reporter will be present and will provide a verbatim transcript of the hearing.

- **Meeting Preparation** - Meeting coordination, including location arrangements, equipment supply, set up of outdoor signs, tables, chairs and other equipment, preparation of letters, handouts and slide presentation materials, will be the responsibility of the consultant project team and coordinated through the PIC and GEC. All work products will be reviewed by the PIC and GEC on behalf of the CFX.
- **Meeting Location** - Proposed meeting locations are the Marriott Springhill Suites at Flamingo Crossings, 13279 Flamingo Crossings Boulevard, Winter Garden, FL 34787; or the TownePlace Suites by Marriott Orlando at Flamingo Crossing, 13295 Flamingo Crossings Boulevard, Winter Garden, FL 34787. The meeting sites meet all ADA requirements.

Board Meetings - The study team will support CFX as needed in meetings to apprise the CFX, Lake Sumter MPO, MetroPlan Orlando, Lake County Board of County Commissioners and Orange County Board of County Commissioners of the project status and to receive input from meeting attendees.

PAG and EAG Meetings - The purpose of these meetings is to apprise PAG and EAG representatives of the project status and to receive input from meeting attendees. Meetings will be held at project kick-off, prior to the Alternatives Public Workshop, and prior to the Public Hearing.

Informal Meetings - Meetings, as required and approved by CFX, will be held with city/county officials, civic groups, concerned individuals and citizen groups specific to this study segment. The purpose of these meetings will be to apprise attendees of the project status and to receive input from meeting attendees.

Public Outreach Activity Schedule

Activity	Estimated Date
Public Involvement Plan	June 2018
Mailing List	June 2018
PAG and EAG Project Kick-off Meeting	August 2018
Public Informational Meeting (Corridors)	August 2018
PAG and EAG Pre-Public Workshop Meeting	January 2019
Public Informational Meeting (Alternatives)	January 2019
PAG and EAG Closeout Meeting	April 2019
Public Hearing	June 2019

VIII. COORDINATION WITH LAKE AND ORANGE COUNTY

Extensive coordination is planned with county staff and representatives. Included in the coordination are currently unscheduled meetings, ongoing dialogue, and coordination with county departments. As part of the coordination, copies of aerial maps depicting alignment and design concepts under consideration,

Public Involvement Program

and other project information will be shared with county planning staff and representatives for review and input. Updated information will also be forwarded to the counties for review prior to the scheduled public meetings.

IX. ANALYSIS AND SUMMARY OF PUBLIC COMMENTS

A Public Meeting Summary will be developed to summarize the public meeting results. The meeting summary will include advertisements and legal notices, fact sheets, meeting notes, sign-in sheets, comment sheets, and responses to comments and inquiries (if appropriate). The study team will prepare all letters of response for review and concurrence by CFX prior to being mailed to the person or group who posed the question or comment.

X. EVALUATION OF THE PUBLIC INVOLVEMENT PROGRAM

A public involvement evaluation process will be developed to assess the effectiveness of the public involvement efforts utilized throughout this study. This process will include identification of the public involvement tools, establishment of performance measures, performance evaluations, and identification of improvement strategies.

XI. PUBLIC INVOLVEMENT DURING THE STUDY

The Consultant Project Manager will maintain the appropriate level of public involvement activities throughout the study process. These public involvement activities may include additional coordination meetings with local government and environmental permitting agencies, work sessions, and small group meetings, as directed by and coordinated with CFX.

ETDM SOCIOCULTURAL DATA REPORTS:

Lake County Profile
Orange County Profile
Census Place – Clermont
Census Place – Four Corners
Census Place – Horizon West
Census Place – Winter Garden

County Demographic Profile

Lake

Area: 1,157.198 square miles

Jurisdiction(s): **Cities:** Astatula, Leesburg, Minneola, Tavares, Apopka, Umatilla, Wildwood, Clermont, Eustis, Oakland, Mount Dora, Fruitland Park, Montverde, Mascotte, Lady Lake, Groveland, Howey-in-the-hills

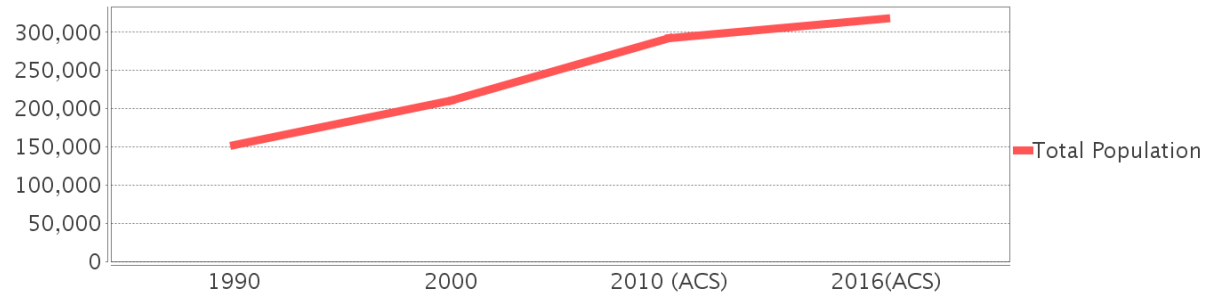
General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	152,104	210,528	291,671	317,586
Total Households	63,616	88,413	117,544	122,036
Average Persons per Acre	0.206	0.284	0.394	0.429
Average Persons per Household	2.391	2.339	2.00	2.57
Average Persons per Family	2.793	2.81	2.991	3.187
Males	72,929	101,901	141,653	153,595
Females	79,175	108,627	150,018	163,991

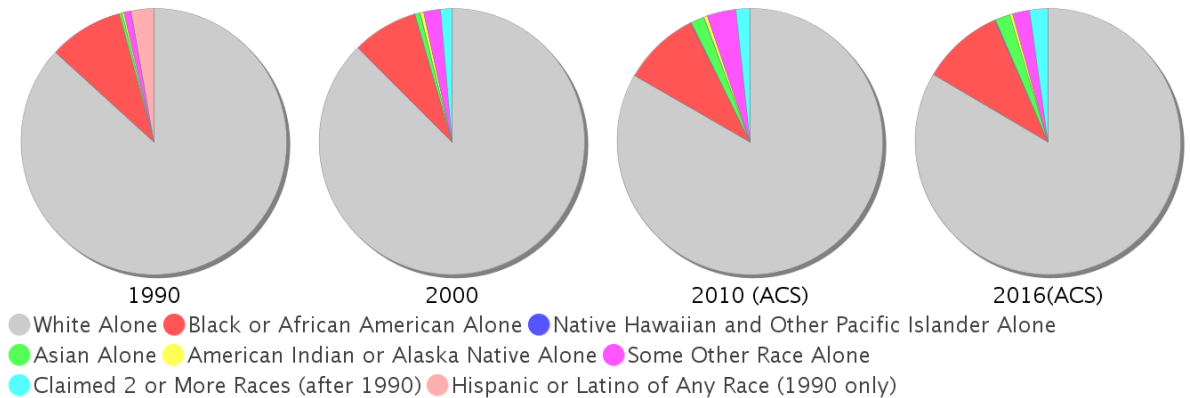
Race and Ethnicity Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	135,619 (89.16%)	184,147 (87.47%)	242,871 (83.27%)	265,082 (83.47%)
Black or African American Alone	14,191 (9.33%)	16,878 (8.02%)	27,189 (9.32%)	31,492 (9.92%)
Native Hawaiian and Other Pacific Islander Alone	(NA)	44 (0.02%)	243 (0.08%)	372 (0.12%)
Asian Alone	537 (0.35%)	1,422 (0.68%)	4,986 (1.71%)	5,790 (1.82%)
American Indian or Alaska Native Alone	384 (0.25%)	810 (0.38%)	1,123 (0.39%)	1,339 (0.42%)
Some Other Race Alone	1,344 (0.88%)	4,293 (2.04%)	10,271 (3.52%)	6,378 (2.01%)
Claimed 2 or More Races	(NA)	2,934 (1.39%)	4,988 (1.71%)	7,133 (2.25%)
Hispanic or Latino of Any Race	4,305 (2.83%)	11,836 (5.62%)	33,115 (11.35%)	43,852 (13.81%)
Not Hispanic or Latino	147,799 (97.17%)	198,692 (94.38%)	258,556 (88.65%)	273,734 (86.19%)
Minority	75,687 (49.76%)	33,261 (15.80%)	75,687 (25.95%)	89,268 (28.11%)

Population



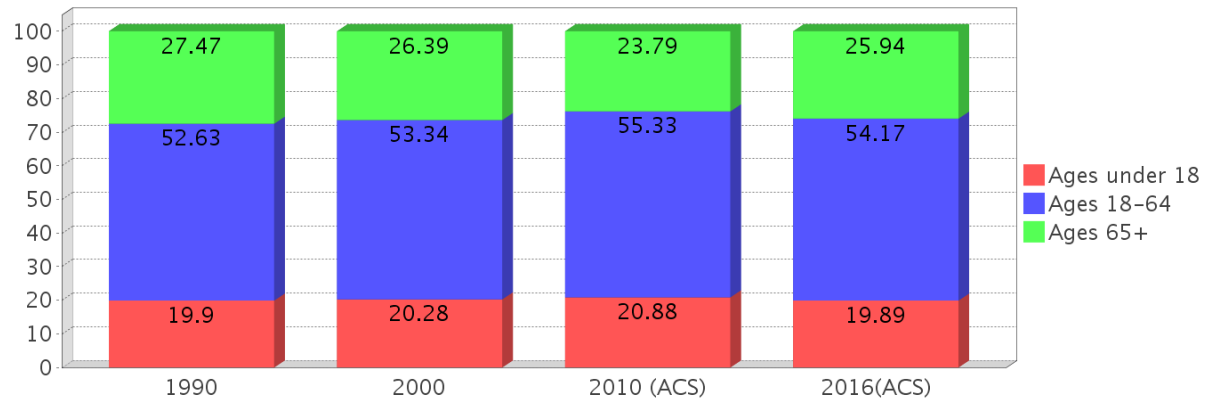
Race



Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	5.64%	5.21%	5.60%	5.09%
Ages 5-17	14.26%	15.07%	15.28%	14.80%
Ages 18-21	4.03%	3.43%	3.80%	3.94%
Ages 22-29	8.61%	6.95%	7.60%	8.03%
Ages 30-39	12.30%	12.57%	10.78%	10.43%
Ages 40-49	10.46%	12.79%	13.37%	11.90%
Ages 50-64	17.24%	17.60%	19.77%	19.87%
Age 65 and Over	27.47%	26.39%	23.79%	25.94%
-Ages 65-74	16.20%	14.39%	13.16%	14.21%
-Ages 75-84	9.08%	9.23%	8.15%	8.80%
-Age 85 and Over	2.19%	2.77%	2.48%	2.94%
Median Age	NA	45	45	47

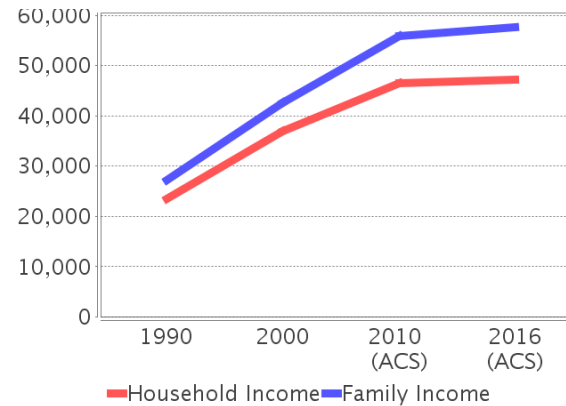
Population by Age Group



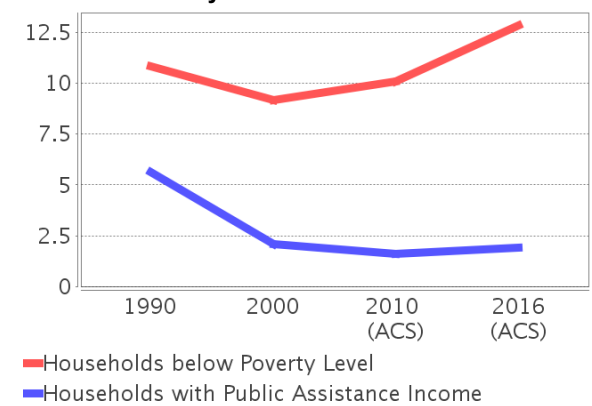
Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$23,395	\$36,903	\$46,477	\$47,141
Median Family Income	\$27,149	\$42,577	\$55,935	\$57,655
Population below Poverty Level	11.03%	9.63%	11.04%	13.50%
Households below Poverty Level	10.83%	9.15%	10.09%	12.82%
Households with Public Assistance Income	5.62%	2.09%	1.60%	1.92%

Income Trends



Poverty and Public Assistance



Disability Trends

See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	8,877 (7.18%)	27,445 (13.98%)	NA (NA)	NA (NA)
Population 20 To 64 Years with a disability	NA (NA)	NA (NA)	NA (NA)	20,782 (12.71%)

Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	11,447	8,889	8,297	9,467
9th to 12th Grade, No Diploma	21,453	22,593	19,503	18,921
High School Graduate or Higher	79,082	124,090	183,884	203,912
Bachelor's Degree or Higher	14,277	25,811	42,895	50,336

Language Trends

Age 5 and Over

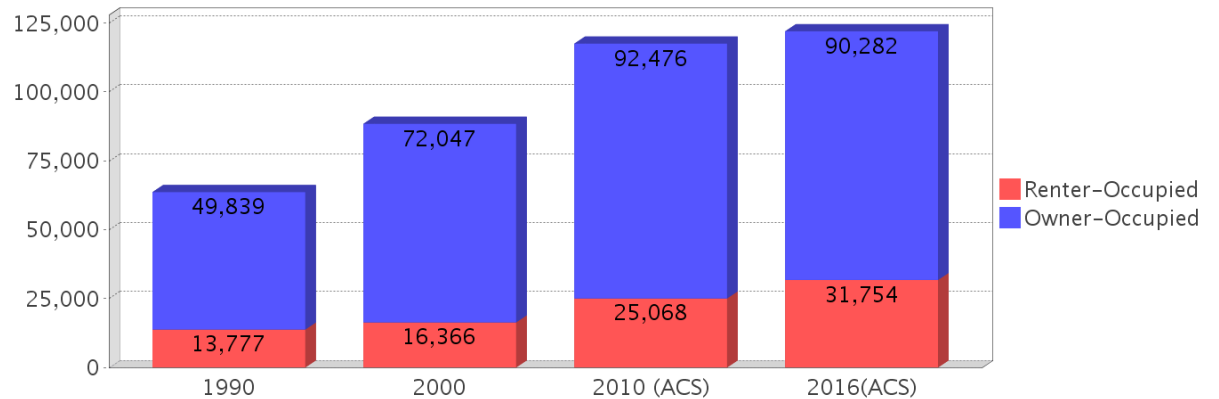
Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	1,789	2,875	6,005	6,956
Speaks English Not Well	NA	2,194	4,180	4,078
Speaks English Not at All	NA	845	1,448	1,497
Speaks English Not Well or Not at All	1,337	3,039	5,628	5,575

Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	75,707	102,830	141,568	147,372
Units per Acre	0.102	0.139	0.191	0.199
Single-Family Units	35,354	61,494	93,896	98,931
Multi-Family Units	7,020	10,107	15,419	18,649
Mobile Home Units	20,828	30,549	32,032	29,316
Owner-Occupied Units	49,839	72,047	92,476	90,282
Renter-Occupied Units	13,777	16,366	25,068	31,754
Vacant Units	12,091	14,417	24,024	25,336
Median Housing Value	\$67,400	\$83,700	\$178,400	\$145,100
Occupied Housing Units w/No Vehicle	4,335 (6.81%)	4,733 (5.35%)	4,533 (3.86%)	6,713 (5.50%)

Location Maps

Housing Tenure



County Demographic Profile

Orange

Area: 1,003.453 square miles

Jurisdiction(s): **Cities:** Orlando, Edgewood, Belle Isle, Maitland, Bay Lake, Lake Buena Vista, Kissimmee, Winter Garden, Eatonville, Casselberry, Apopka, Altamonte Springs, Winter Park, Windermere, Oakland, Mount Dora, Ocoee

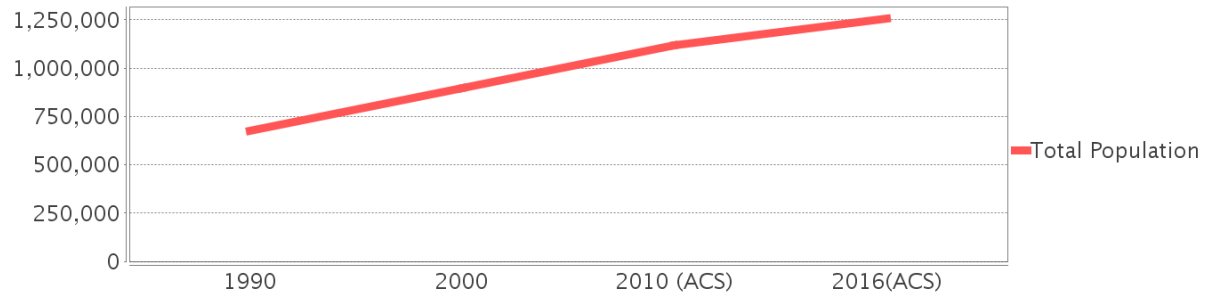
General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	677,491	896,344	1,116,094	1,256,055
Total Households	254,852	336,286	406,002	444,852
Average Persons per Acre	1.054	1.396	1.738	1.956
Average Persons per Household	2.658	2.609	3.00	2.75
Average Persons per Family	3.149	3.241	3.379	3.486
Males	336,061	442,441	550,254	617,633
Females	341,430	453,903	565,840	638,422

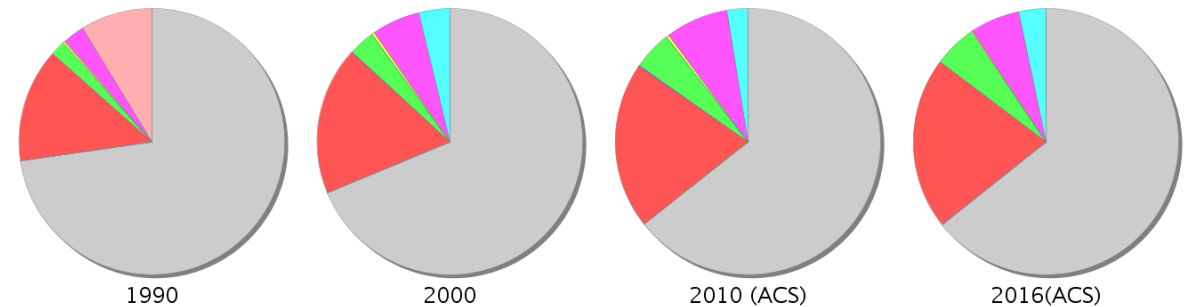
Race and Ethnicity Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	539,061 (79.57%)	615,706 (68.69%)	717,711 (64.31%)	807,479 (64.29%)
Black or African American Alone	103,092 (15.22%)	161,558 (18.02%)	226,111 (20.26%)	263,131 (20.95%)
Native Hawaiian and Other Pacific Islander Alone	(NA)	853 (0.10%)	1,547 (0.14%)	578 (0.05%)
Asian Alone	13,469 (1.99%)	28,748 (3.21%)	53,326 (4.78%)	64,845 (5.16%)
American Indian or Alaska Native Alone	2,036 (0.30%)	2,862 (0.32%)	3,560 (0.32%)	2,311 (0.18%)
Some Other Race Alone	19,308 (2.85%)	52,568 (5.86%)	85,645 (7.67%)	76,386 (6.08%)
Claimed 2 or More Races	(NA)	34,049 (3.80%)	28,194 (2.53%)	41,325 (3.29%)
Hispanic or Latino of Any Race	64,946 (9.59%)	168,191 (18.76%)	287,760 (25.78%)	368,503 (29.34%)
Not Hispanic or Latino	612,545 (90.41%)	728,153 (81.24%)	828,334 (74.22%)	887,552 (70.66%)
Minority	619,202 (91.40%)	380,320 (42.43%)	619,202 (55.48%)	720,260 (57.34%)

Population



Race

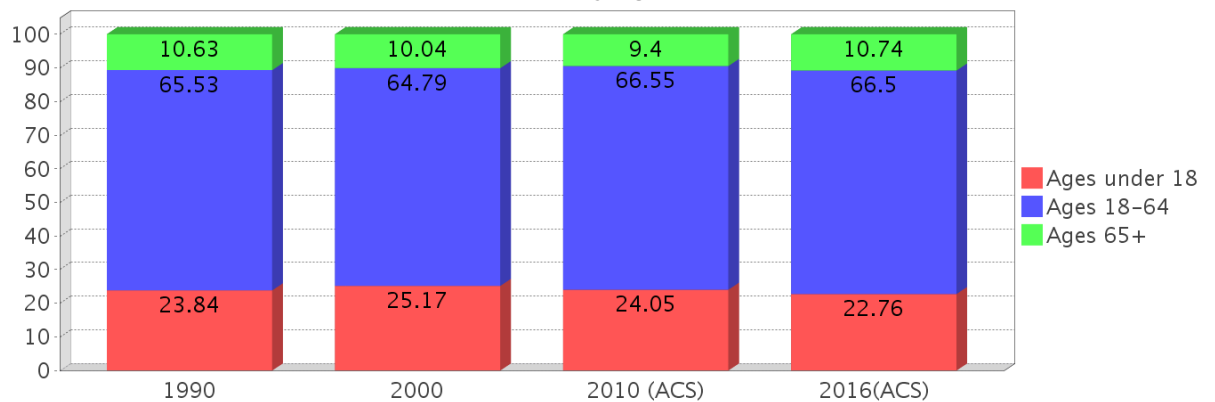


● White Alone ● Black or African American Alone ● Native Hawaiian and Other Pacific Islander Alone
 ● Asian Alone ● American Indian or Alaska Native Alone ● Some Other Race Alone
 ● Claimed 2 or More Races (after 1990) ● Hispanic or Latino of Any Race (1990 only)

Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	7.36%	6.81%	6.69%	6.29%
Ages 5-17	16.48%	18.35%	17.35%	16.47%
Ages 18-21	7.25%	6.19%	7.08%	6.51%
Ages 22-29	15.98%	12.79%	13.88%	13.73%
Ages 30-39	18.06%	17.43%	14.88%	14.74%
Ages 40-49	11.98%	15.36%	14.79%	13.90%
Ages 50-64	12.26%	13.03%	15.93%	17.62%
Age 65 and Over	10.63%	10.04%	9.40%	10.74%
-Ages 65-74	6.51%	5.52%	5.18%	6.33%
-Ages 75-84	3.16%	3.50%	3.07%	3.12%
-Age 85 and Over	0.96%	1.02%	1.16%	1.30%
Median Age	NA	33	33	34

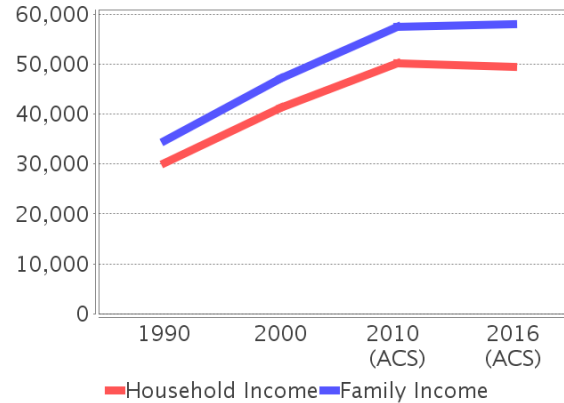
Population by Age Group



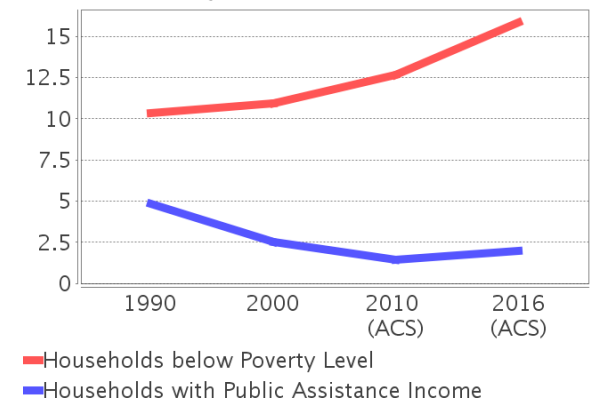
Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$30,252	\$41,311	\$50,138	\$49,391
Median Family Income	\$34,670	\$47,159	\$57,473	\$57,993
Population below Poverty Level	11.25%	12.11%	13.42%	17.34%
Households below Poverty Level	10.35%	10.91%	12.68%	15.83%
Households with Public Assistance Income	4.83%	2.50%	1.44%	1.97%

Income Trends



Poverty and Public Assistance



Disability Trends

See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	33,640 (6.57%)	119,793 (14.56%)	NA (NA)	NA (NA)
Population 20 To 64 Years with a disability	NA (NA)	NA (NA)	NA (NA)	68,092 (8.67%)

Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	29,815	31,431	36,515	39,546
9th to 12th Grade, No Diploma	61,781	73,160	56,288	62,118
High School Graduate or Higher	340,597	469,510	615,181	723,585
Bachelor's Degree or Higher	91,722	150,009	214,780	263,443

Language Trends

Age 5 and Over

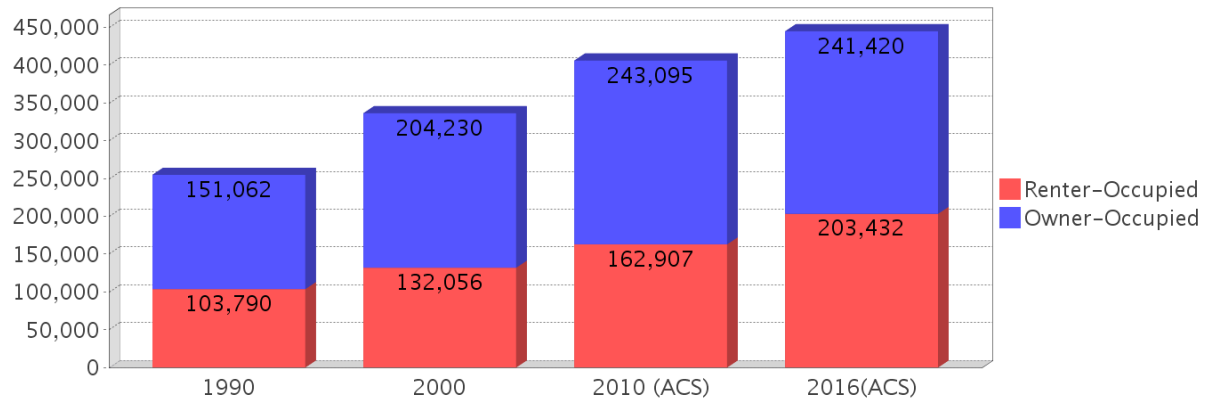
Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	20,163	47,230	65,314	76,679
Speaks English Not Well	NA	30,937	49,410	52,508
Speaks English Not at All	NA	9,102	18,544	21,134
Speaks English Not Well or Not at All	13,943	40,039	67,954	73,642

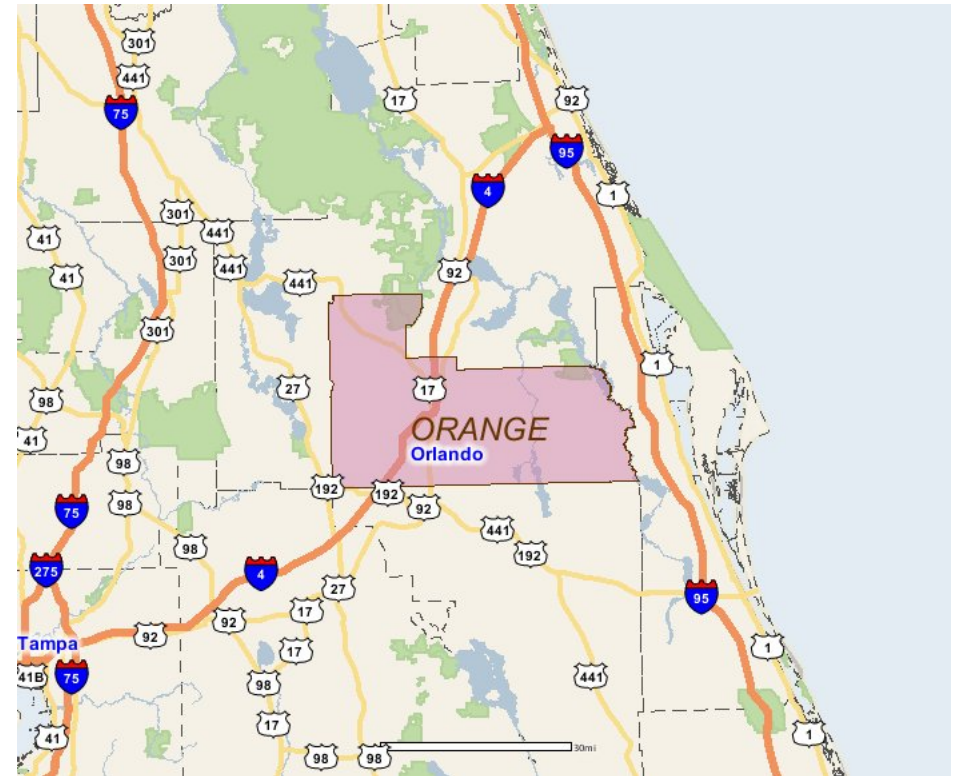
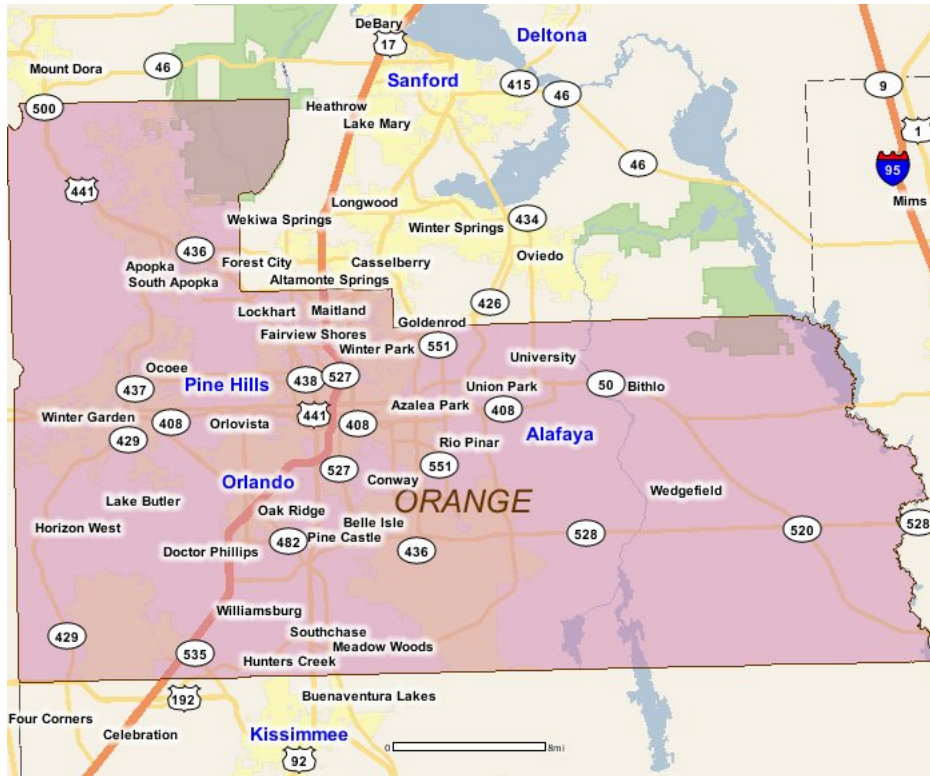
Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	282,686	361,349	474,757	508,562
Units per Acre	0.44	0.563	0.739	0.792
Single-Family Units	161,010	227,164	297,590	318,161
Multi-Family Units	73,974	113,760	156,040	169,767
Mobile Home Units	17,720	20,068	21,038	20,447
Owner-Occupied Units	151,062	204,230	243,095	241,420
Renter-Occupied Units	103,790	132,056	162,907	203,432
Vacant Units	27,834	25,063	68,755	63,710
Median Housing Value	\$81,000	\$100,300	\$228,600	\$173,700
Occupied Housing Units w/No Vehicle	18,991 (7.45%)	24,460 (7.27%)	23,926 (5.89%)	29,096 (6.54%)

Location Maps

Housing Tenure





Sociocultural Data Report

Clermont

Area: 15.845 square miles
Jurisdiction(s): **Cities:** Minneola, Clermont, Groveland
Counties: Lake

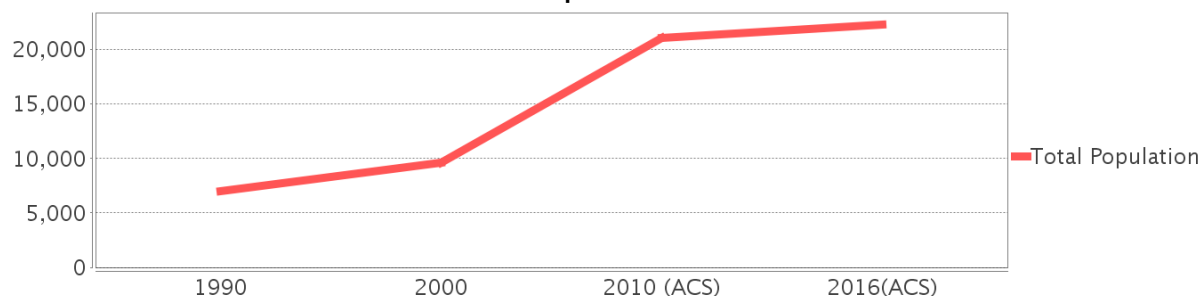
General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	6,985	9,620	21,096	22,280
Total Households	2,766	3,667	7,890	7,681
Average Persons per Acre	2.36	2.26	3.40	3.66
Average Persons per Household	2.74	2.54	2.62	2.90
Average Persons per Family	3.04	3.04	3.00	3.45
Males	3,292	4,710	10,034	11,196
Females	3,693	4,910	11,062	11,084

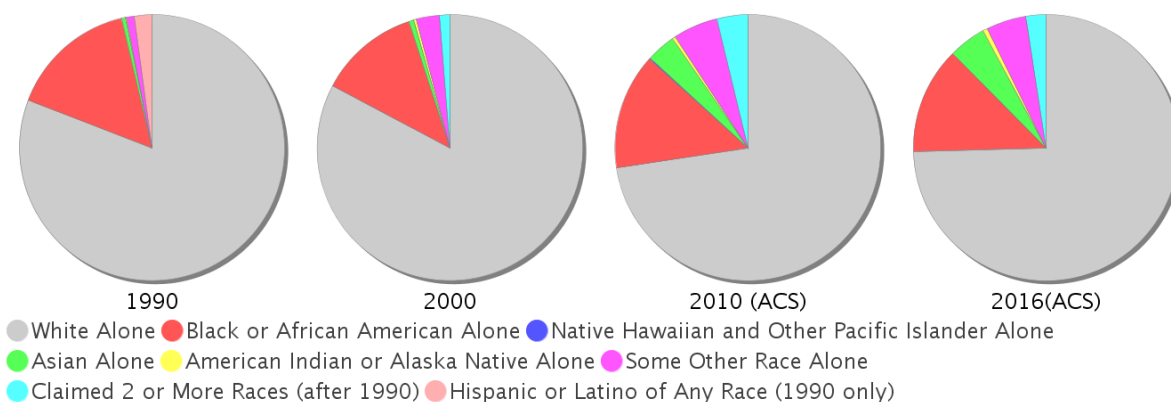
Race and Ethnicity Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	5,767 (82.56%)	7,958 (82.72%)	15,306 (72.55%)	16,615 (74.57%)
Black or African American Alone	1,106 (15.83%)	1,178 (12.25%)	2,980 (14.13%)	2,895 (12.99%)
Native Hawaiian and Other Pacific Islander Alone	0 (0.00%)	0 (0.00%)	25 (0.12%)	0 (0.00%)
Asian Alone	36 (0.52%)	62 (0.64%)	741 (3.51%)	1,010 (4.53%)
American Indian or Alaska Native Alone	9 (0.13%)	28 (0.29%)	95 (0.45%)	129 (0.58%)
Some Other Race Alone	66 (0.94%)	274 (2.85%)	1,148 (5.44%)	1,094 (4.91%)
Claimed 2 or More Races	NA (NA)	120 (1.25%)	801 (3.80%)	537 (2.41%)
Hispanic or Latino of Any Race	153 (2.19%)	762 (7.92%)	3,913 (18.55%)	4,920 (22.08%)
Not Hispanic or Latino	6,832 (97.81%)	8,858 (92.08%)	17,183 (81.45%)	17,360 (77.92%)
Minority	1,300 (18.61%)	2,162 (22.47%)	8,289 (39.29%)	9,762 (43.82%)

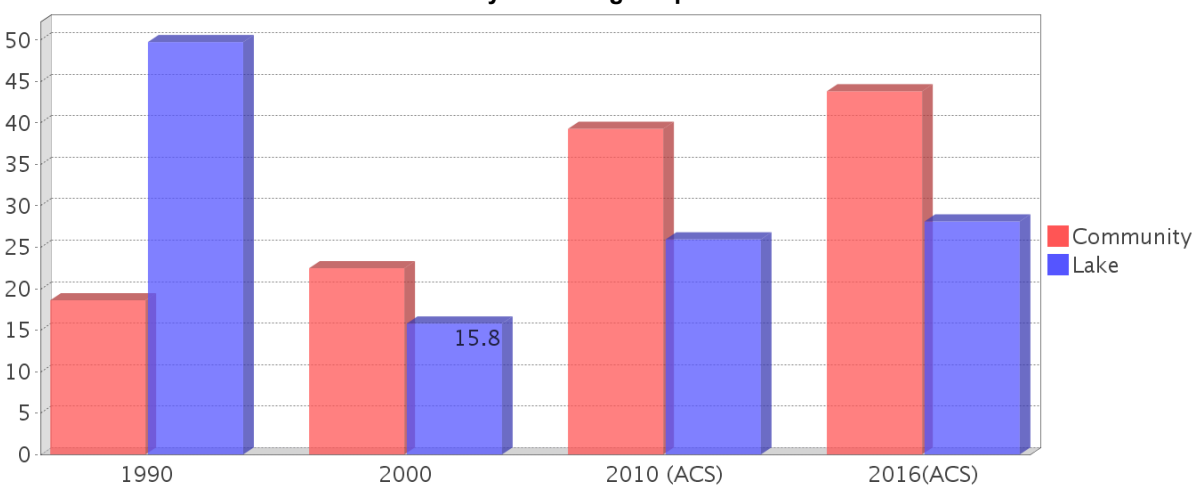
Population



Race



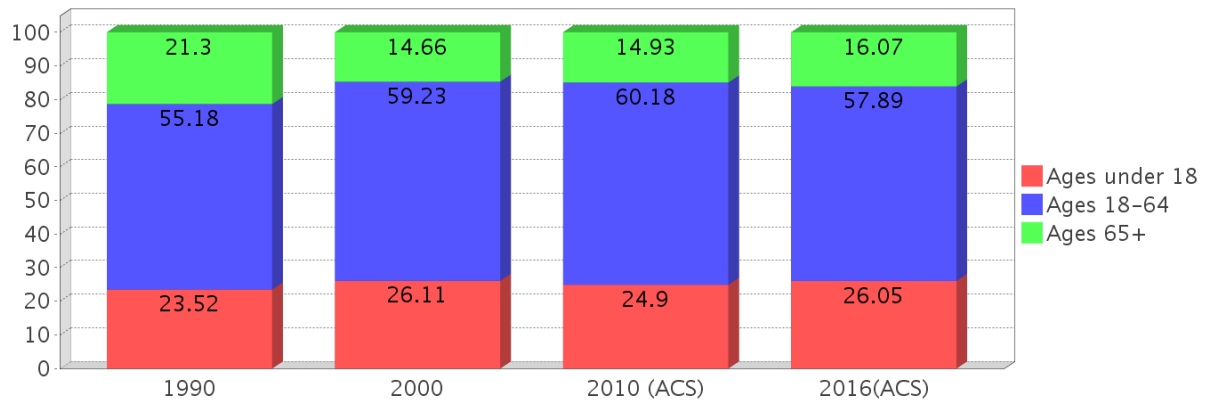
Minority Percentage Population



Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	7.20%	6.96%	6.08%	5.14%
Ages 5-17	16.32%	19.15%	18.82%	20.91%
Ages 18-21	5.00%	4.16%	5.04%	4.44%
Ages 22-29	10.67%	8.87%	9.05%	8.68%
Ages 30-39	14.37%	15.90%	12.83%	12.00%
Ages 40-49	11.01%	15.96%	15.41%	14.30%
Ages 50-64	14.13%	14.35%	17.86%	18.47%
Age 65 and Over	21.30%	14.66%	14.93%	16.07%
-Ages 65-74	11.02%	7.12%	8.62%	10.17%
-Ages 75-84	7.57%	4.81%	4.48%	4.34%
-Age 85 and Over	2.71%	2.71%	1.82%	1.55%
Median Age	NA	36	38	41

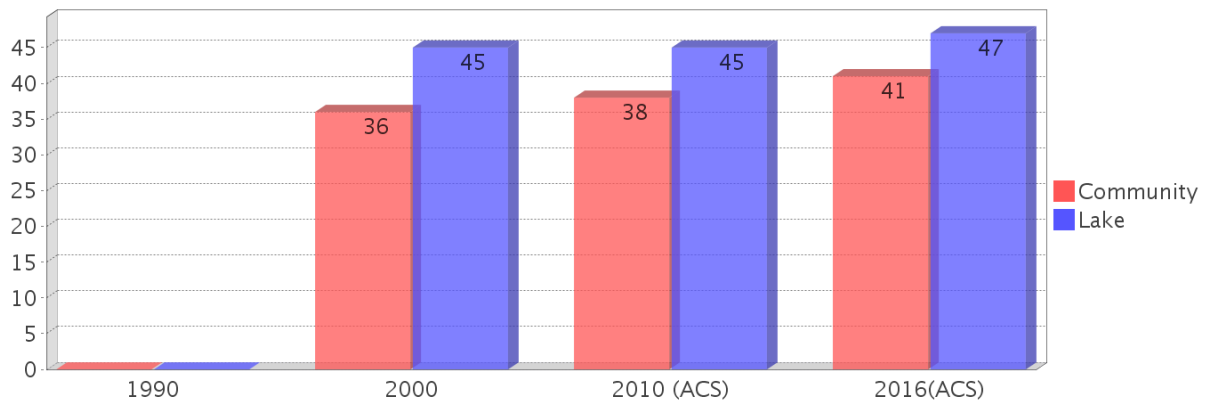
Population by Age Group



Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$25,636	\$43,628	\$53,555	\$55,398
Median Family Income	\$28,775	\$53,684	\$61,466	NA
Population below Poverty Level	10.12%	7.66%	10.84%	12.92%
Households below Poverty Level	9.47%	7.83%	9.29%	14.07%
Households with Public Assistance Income	5.57%	1.47%	1.63%	2.76%

Median Age Comparison

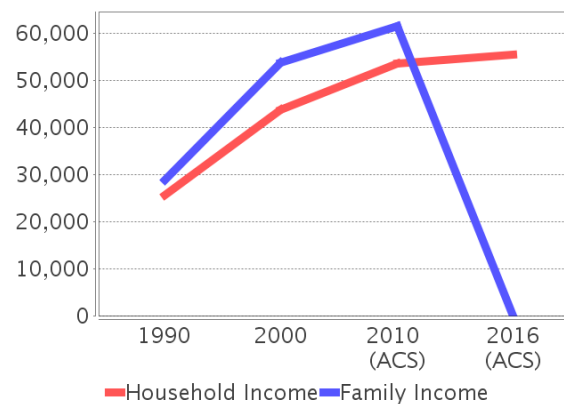


Disability Trends

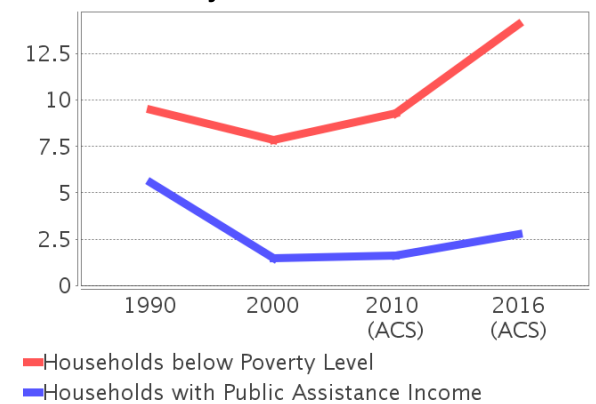
See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	342 (6.66%)	1129 (12.85%)	(NA)	(NA)
Population 20 To 64 Years with a disability	(NA)	(NA)	(NA)	930 (7.55%)

Income Trends



Poverty and Public Assistance



Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	380 (8.28%)	315 (4.94%)	329 (2.54%)	499 (3.41%)
9th to 12th Grade, No Diploma	776 (16.92%)	686 (10.75%)	684 (5.27%)	747 (5.10%)
High School Graduate or Higher	3,432 (74.82%)	5,380 (84.31%)	11,965 (92.19%)	13,397 (91.49%)
Bachelor's Degree or Higher	840 (18.31%)	1,481 (23.21%)	3,471 (26.75%)	4,323 (29.52%)

Language Trends

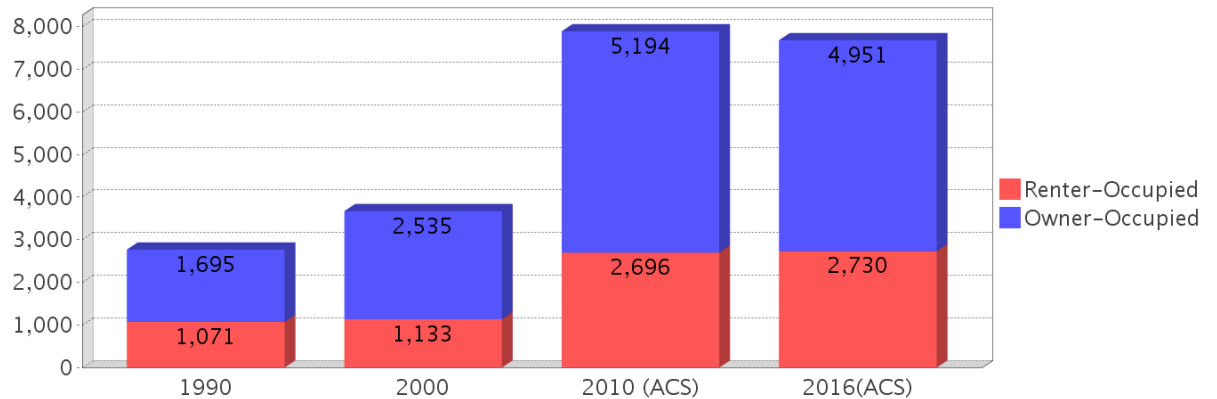
Age 5 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	44 (0.70%)	184 (2.06%)	538 (3.00%)	602 (2.85%)
Speaks English Not Well	NA (NA)	103 (1.15%)	321 (1.79%)	315 (1.49%)
Speaks English Not at All	NA (NA)	31 (0.35%)	56 (0.31%)	167 (0.79%)
Speaks English Not Well or Not at All	45 (0.71%)	134 (1.50%)	377 (2.10%)	482 (2.28%)

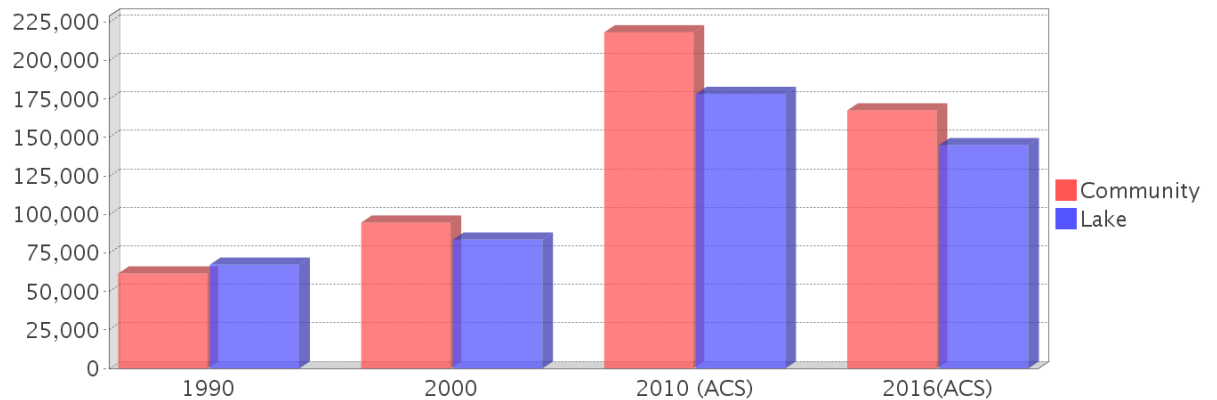
Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	3,028	3,968	8,912	8,750
Units per Acre	0.40	0.57	1.37	1.32
Single-Family Units	1,734	2,970	6,422	6,812
Multi-Family Units	781	860	1,477	1,855
Mobile Home Units	221	135	195	83
Owner-Occupied Units	1,695	2,535	5,194	4,951
Renter-Occupied Units	1,071	1,133	2,696	2,730
Vacant Units	262	301	1,023	1,069
Median Housing Value	\$61,700	\$94,800	\$218,400	\$167,650
Occupied Housing Units w/No Vehicle	234 (8.46%)	255 (6.95%)	190 (2.41%)	308 (4.01%)

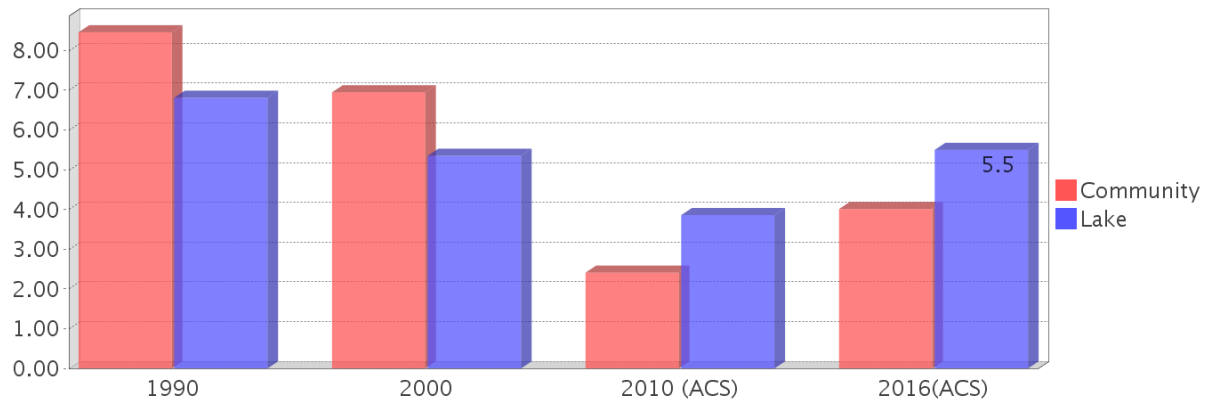
Housing Tenure



Median Housing Value Comparison

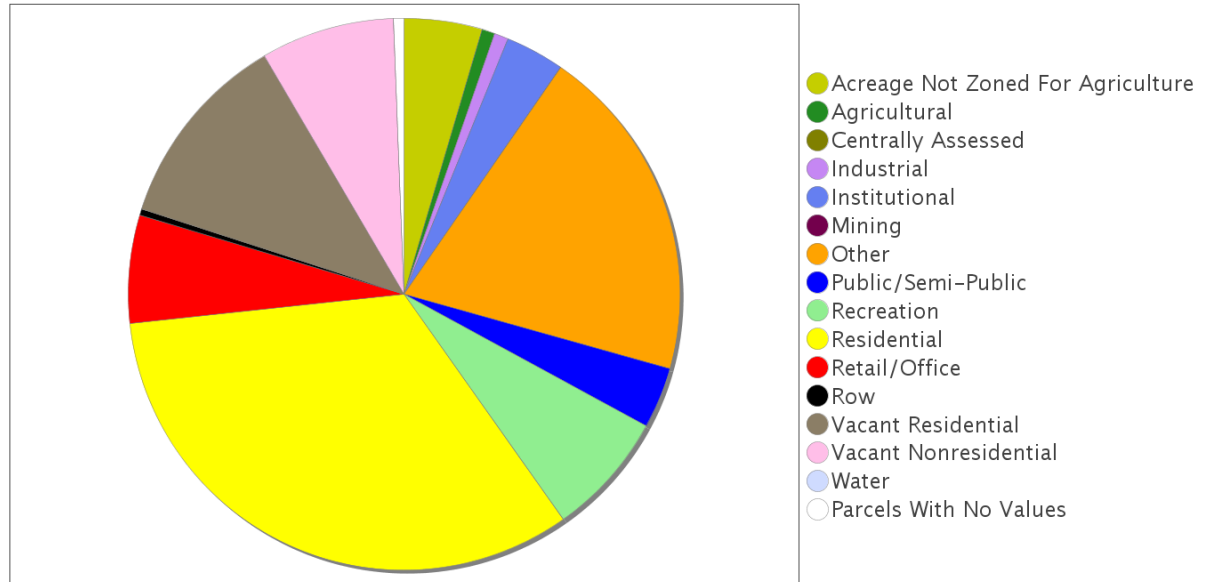


Occupied Units With No Vehicles Available

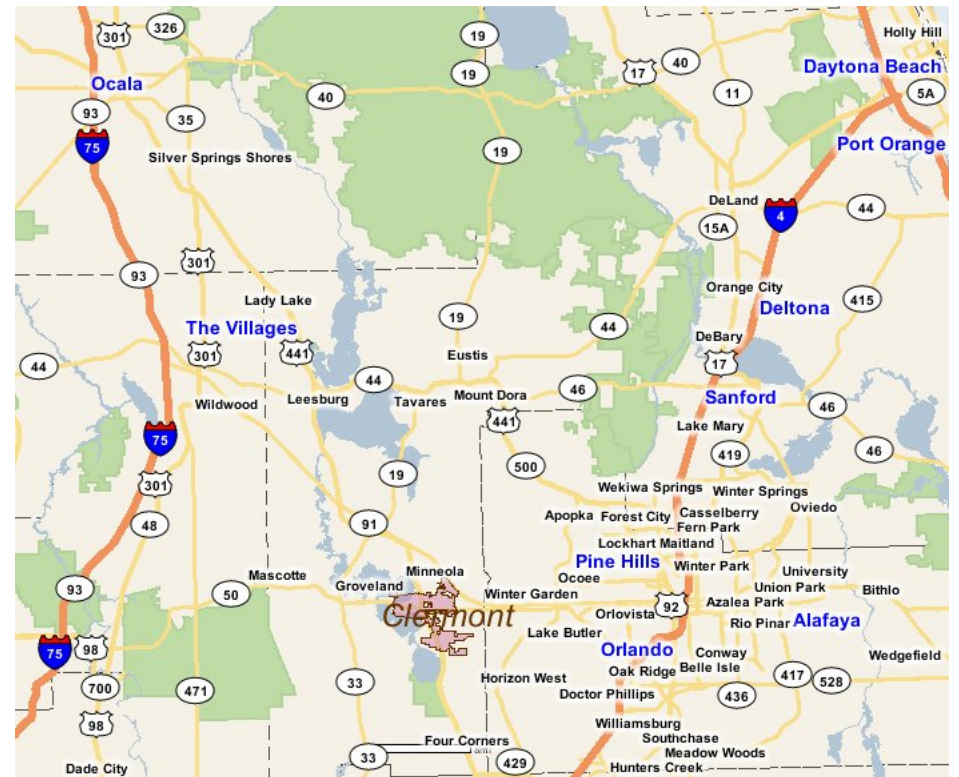
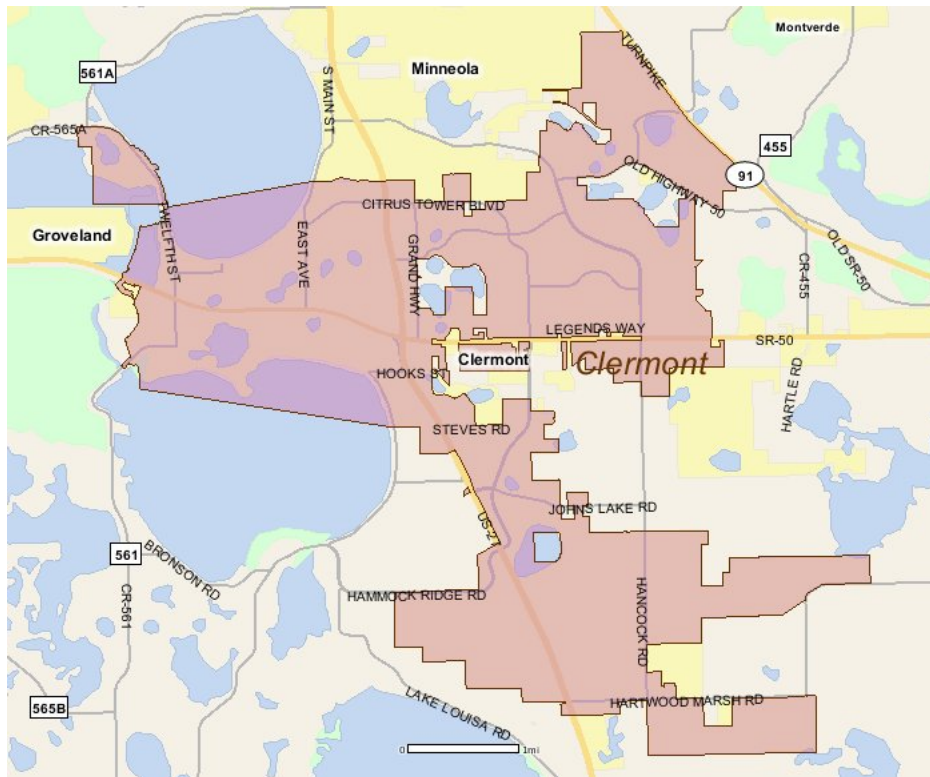


Existing Land Use

Land Use Type	Acres	Percentage
Acreage Not Zoned For Agriculture	399	3.93%
Agricultural	66	0.65%
Centrally Assessed	0	0.00%
Industrial	71	0.70%
Institutional	304	3.00%
Mining	2	0.02%
Other	1,723	16.99%
Public/Semi-Public	313	3.09%
Recreation	637	6.28%
Residential	2,892	28.52%
Retail/Office	552	5.44%
Row	32	0.32%
Vacant Residential	1,011	9.97%
Vacant Nonresidential	686	6.76%
Water	0	0.00%
Parcels With No Values	52	0.51%



Location Maps



Community Facilities

The community facilities information below is useful in a variety of ways for environmental evaluations. These community resources should be evaluated for potential sociocultural effects, such as accessibility and relocation potential. The facility types may indicate the types of population groups present in the project study area. Facility staff and leaders can be sources of community information such as who uses the facility and how it is used. Additionally, community facilities are potential public meeting venues.

Assisted Housing (Points)

Facility Name	Address	Zip Code
OSPREY RIDGE	201 HUNT STREET	34711
LAKEVIEW VILLAS LTD	200 12TH ST	32711
WOODCLIFF APTS.	1000 DISSTON AVENUE	34711
CLERMONT SANDS RRH	400-E HIGHLAND AVE	32711
SUNNY HILL	760 PITT STREET	34711

Community Centers (Points)

Facility Name	Address	Zip Code
KNIGHTS OF COLUMBUS 13240 - BLESSED SACRAMENT	720 12TH ST	34711
VFW POST 5277 - WILLIAM A. SUGGS MEMORIAL	855 W DESOTO ST	34711
CHAMBER OF COMMERCE - SOUTH LAKE	691 W MONTROSE ST	34711
AMERICAN LEGION POST 55	1063 W DESOTO ST	34711
MARINE CORPS LEAGUE DETACHMENT 1120	1063 W DESOTO ST	34711
ELKS LODGE 1848	705 W MINNEOLA AVE	34711

Cultural Centers (Points)

Facility Name	Address	Zip Code
THE MOONLIGHT THEATRE	732 W MONTROSE ST	34711
EPIC THEATRES	2405 S HWY 27	34711
SOUTH LAKE ART GALLERY	776 MONTROSE ST	34711
COOPER MEMORIAL LIBRARY	2525 OAKLEY SEAVER DR	34711

Fire Stations (Points)

Facility Name	Address	Zip Code
CLERMONT FIRE DEPARTMENT STATION 1	439 STATE ROAD 50	34711
CLERMONT FIRE DEPARTMENT STATION 2	2200 HARTWOOD MARSH RD	34711
CLERMONT FIRE DEPARTMENT STATION 3	2180 LEGENDS WAY	34711
CLERMONT FIRE DEPARTMENT SUPPORT	865 W MONTROSE ST	34711
LAKE COUNTY RESCUE STATION 32 (CLERMONT)	428 CHESTNUT ST	34711

Florida Parks and Recreational Facilities (Points)

Facility Name	Address	Zip Code
SEMINOLE PARK	12TH ST & SEMINOLE ST	34711
HANCOCK PARK	3301 HANCOCK RD	34711
LAKE HIAWATHA PRESERVE PLAYGROUND & DOG PARK (FORMERLY INLAND GROVES PARK)	HIGHWAY 561A	34711
WEST BEACH PARK	12TH ST & LAKE MINNEOLA DR	34711
VICTORY POINTE WETLAND PARK (WEST LAKE WETLANDS)	490 WEST AVE	34711
BLOXAM AVENUE PARK	BLOXHAM AVE & DESOTO ST	34712
LAKE HIAWATHA PRESERVE (FORMERLY INLAND GROVES PARK)	HIGHWAY 561A	34711
SOUTH LAKE LITTLE LEAGUE	1250 12TH ST	34711
BISHOP MEMORIAL FIELD	950 EAST AVE	34711
LAKE FELTER PARK	JOHNS LAKE RD	34711
PALATLAKAHA RECREATION AREA	1250 12TH ST	34711
SOUTH LAKE VETERANS MEMORIAL PARK	800 WEST OSCEOLA ST	34711
KIWANIS PARK	1452 4TH ST	34711

Facility Name	Address	Zip Code
VETERANS PARK	MINNEOLA AVE & CRYSTAL LAKE DR	34711
WATERFRONT PARK	EAST AVE & 8TH ST	34711
WEST PARK	650 W MONTROSE ST	34711
MONTROSE TOT LOT PARK	1169 MONTROSE ST	34711
PETER POOLE PARK / PARK OF INDIAN HILLS	LAKE SHORE DR & 12TH ST	34711
CLERMONT HISTORIC VILLAGE	490 WEST AVE	34711
KEHLOR PARK	466 W MINNEOLA AVE	34711
CHESTNUT STREET NEIGHBORHOOD PARK	290 CHESTNUT ST	34712
EDGEWOOD PARK PLACE	NORTH ST	34711
WEST MINNEOLA AVENUE PARK	617 8TH ST	34711

Government Building

Facility Name	Address	Zip Code
LAKE COUNTY HEALTH DEPARTMENT - CLERMONT OFFICE	560 W DESOTO ST	34711
CITY OF CLERMONT CITY HALL	685 W MONTROSE ST	34711
U S POST OFFICE - CLERMONT ANNEX	400 CITRUS TOWER BLVD	34711
U S POST OFFICE - CLERMONT	877 W MINNEOLA AVE	34711
LAKE COUNTY TAX COLLECTOR - SOUTH LAKE	194 N HWY 27	34711

Healthcare Facilities (Geocoded)

Facility Name	Address	Zip Code
MARY ROSE BOEHM M.D.	200 E HIGHLAND AVENUE, SUITE 2	34711
A PLUS PEDIATRICS PLLC	706 E GRAND HIGHWAY	34711
CLERMONT ANIMAL HOSPITAL	211 N HWY 27	34711
SUPERIOR RESIDENCES OF CLERMONT	1600 HUNT TRACE BOULEVARD	34711
PHYSICIANS MEDICAL GROUP LLC	825 OAKLEY SEAVER DRIVE	34711
THE BARRANCO CLINIC	1920 DON WICKHAM DRIVE 215	34711
SOUTH LAKE MEDICAL CENTER	1950 HOSPITAL VIEW WAY	34711
SOUTH LAKE HEALTH CLINIC	835 7TH STREET, SUITE B4	34711
ALLERGY ASTHMA SPECIALISTS PA-CLERMONT	3111 CITRUS TOWER BLVD U A	34711
NEYTON BALTOIANO, M.D.	3125 CITRUSTOWER BLVD BLD C	34711
MID FLORIDA DERMATOLOGY ASSOC. INC	815 OAKLEY SEAVER DRIVE	34711
FABIO ECHAVARRIS, M.D., P.A.	1715 E STATE ROAD 50, BUILDING 3	34711
KIDSVILLE PEDIATRICS III, PA	1804 OAKLEY SEAVER BOULEVARD	34711
CLERMONT CANCER CENTER	1361 CITRUS TOWER BOULEVARD, FLOOR 2	34711
ORANGE DOC FAMILY MEDICINE, PLLC	835 7TH STREET, SUITE 5	34711
CLERMONT WIC	560 W DESOTO STREET	34711
VANGUARD MEDICAL CENTER	711 S HWY 27	34711
ADVANCED KIDNEY CARE OF CENTRAL FLORIDA	3175 CITRUS TOWER BLVD	34711
INTERCOMMUNITY CANCER INSTITUTE	1920 DON WICKHAM DRIVE, SUITE 130	34711
PHYSICIANS BUSINESS ALLIANCE	2020 OAKLEY SEAVER DRIVE	34711
WOMEN'S CARE FLORIDA LLC	2400 HOOKS STREET	34711
MEDICAL INTERVENTIONS OF CENTRAL FLORIDA	265 W STATE ROAD 50	34711
CLERMONT AMBULATORY SURGICAL CENTER	255 CITRUS TOWER BOULEVARD, SUITE 100	34711
BENNETT PEDIATRICS, LLC	365 CITRUS TOWER BLVD , UNIT 104	34711
LAKE FAMILY PRACTICE INC.	2105 HARTWOOD MARSH ROAD, SUITE 8	34711
ASSOCIATES IN DERMATOLOGY	1655 E HIGHWAY 50, SUITE 201	34711
SOUTH LAKE ENDOCRINOLOGY	1920 DON WICKHAM DRIVE, SUITE 325	34711
ADVANCED DERMATOLOGY	1920 DON WICKHAM DRIVE, SUITE 330	34711
TAKE CARE HEALTH SERVICES	701 E HWY 50	34711
MARHOLIN MEDICAL INSTITUTE	221 N HIGHWAY 27, SUITE G	34711
ADVANCED GASTROENTEROLOGY & SURGERY ASSOCIATES	255 CITRUS TOWER BOULEVARD	34711
SOUTH LAKE PEDIATRICS, P.A.	3155 CITRUS TOWER BOULEVARD	34711
THE CENTER FOR RETINA & MACULAR DISEASE	1655 E HWY 50, SUITE 204	34711
CLERMONT PEDIATRICS P.A.	861 OAKLEY SEAVER DRIVE	34711
MID-FLORIDA CARDIOLOGY SPECIALISTS	1920 DON WICKHAM DRIVE 225	34711
FLORIDA CANCER SPECIALISTS - CLERMONT	1920 DON WICKHAM WAY, SUITE 305	34711

Facility Name	Address	Zip Code
CENTRAL FLORIDA INTERNISTS INC	260 MOHAWK DRIVE, SUITE 264	34711
FMC CLERMONT DIALYSIS	312 MOHAWK ROAD	34715
CLERMONT CARDIOLOGY P.A.	200 E HIGHLAND AVENUE	34711
PROFESSIONAL PEDIATRICS, INC.	265 CITRUS TOWER BOULEVARD, SUITE 102	34711
FOCUS ORTHOPEDIC INC	841 OAKLEY SEVER DRIVE STE 1B	34711
SOUTH LAKE OB-GYN	1900 DON WICKHAM DR - SUITE 120	34711
VASCULAR SPECIALISTS OF CENTRAL FLORIDA	1920 DON WICKHAM DRIVE, SUITE 120	34711
EARLY AMBULATORY MEDICINE, LLC	740 LAKE AVENUE	34711
FLORIDA SPORTS INJURY - CLERMONT	255 CITRUS TOWER BOULEVARD	34711
TOTAL FAMILY HEALTHCARE	3115 CITRUS TOWER BLVD, SUITE A	34711
FAMILY PHYSICANS OF CLERMONT	1735 E STATE ROAD 50, SUITE B	34711
MID-FLORIDA UROLOGICAL ASSOC.	1804 OAKLEY SEAVER DRIVE, SUITE D	34711
SOUTH LAKE HOSPITAL SURGERY CENTER	1800 OAKLEY SEAVER DRIVE	34711
JSA MEDICAL GROUP - SOUTH LAKE ADULT PRIMARY CARE	1920 DON WICKHAM DRIVE, SUITE 300	34711
CLERMONT MEDICAL CENTER P.A.	1135 LAKE AVENUE	34711
VISTA CLINICAL DIAGNOSTICS	235 W STATE ROAD 50	34711
CLERMONT HEALTH AND REHABILITATION CENTER	151 E MINNEHAHA AVENUE	34711
AESTHETIC DERMATOLOGY P.A.	210 N HWY 27, SUITE 1	34711
KENNETH ESSIG M.D. P.A.	235 CITRUS TOWER BOULEVARD 102	34711
FLORIDA CARDIOLOGY P.A. - CLERMONT	255 CITRUS TOWER BOULEVARD, SUITE 101	34711
THE WOMEN'S CTR OF CLERMONT ADVISION OFWOMEN'S CTR	1715 E HWY 50, SUITE B	34711
GYNECOLOGICAL SPECIALTY CARE, LLC	1725 E HIGHWAY 50, SUITE B	34711
TOPPINO EYE CARE	1804 OAKLEY SEAVER DRIVE, SUITE B	34711
NEMOURS CHILDREN'S PRIMARY CARE	1371 CITRUS TOWER BOULEVARD	34711

Hospitals (Points)

Facility Name	Address	Zip Code
SOUTH LAKE HOSPITAL	1900 DON WICKHAM DR	34711

Law Enforcement Facilities (Points)

Facility Name	Address	Zip Code
CLERMONT POLICE DEPARTMENT (HQ)	865 WEST MONTROSE STREET	34711

Mobile Home Parks in Florida

Facility Name	Address	Zip Code
MINNEHAHA TRAILER PARK	660 HOOK ST	34711
EMERALD LAKES MOBILE VILLAGE	1401 W HWY 50	34711

Public and Private Schools (Points)

Facility Name	Address	Zip Code
CITRUS HEIGHTS ACADEMY	101 N GRAND HWY	34715
CYPRESS RIDGE ELEMENTARY SCHOOL	350 E AVE	34711
THE DREAM ACADEMY INC	2400 SOUTH HIGHWAY 27	34711
WINDY HILL MIDDLE SCHOOL	3575 HANCOCK RD	34711
IMAGINE SCHOOLS AT SOUTH LAKE	15220 HARTWOOD MARSH RD	34711
CLERMONT CHRISTIAN ACADEMY INC	100 N GRAND HWY	34711
REAL LIFE CHRISTIAN ACADEMY	1501 STEVE'S RD	34711
UNIVERSITY OF CENTRAL FLORIDA - SOUTH LAKE	1250 N HANCOCK RD	34711
CLERMONT KIDZ CARE	606 WEST AVE	34711
WESLEY CHRISTIAN ACADEMY	950 7TH STREET	34711
BELIEVERS CHRISTIAN ACADEMY	796 HOOK STREET	34711
FLORIDA AUTISM CENTER	17335 PAGONIA ROAD	34711
BLESSED SACRAMENT CATHOLIC SCHOOL	70 W SR 50	34711
LAND OF LAKES MONTESSORI SCHOOL	1650 OAKLEY SEAVER DR	34711
LAKE SUMTER STATE COLLEGE - SOUTH LAKE CAMPUS	1250 N HANCOCK ROAD	34711
CLERMONT ELEMENTARY SCHOOL	680 E HIGHLAND AVE	34711

Facility Name	Address	Zip Code
LOST LAKE ELEMENTARY SCHOOL	1901 JOHNS LAKE ROAD	34711
SOUTH LAKE MONTESSORI SCHOOL	983 W DESOTO STREET	34711
MAGIC MOMENTS LEARNING CENTER	885 W DESOTO ST	34711
CLERMONT MIDDLE SCHOOL	301 E AVE	34711
APPLIED BEHAVIOR EDU AND LIFESKILLS ACADEMY	355 CITRUS TOWER BLVD	34711
FAMILY CHRISTIAN CENTER SCHOOL - CLERMONT	2500 S HIGHWAY 27	34711
BETTER LIFE K4C CHRISTIAN ACADEMY	332 MOHAWK RD.	34715

Religious Centers (Points)

Facility Name	Address	Zip Code
EGLISE DE DIEU TABERNACLE DE LOUANGE	1040 SCHOOL ST	34711
CENTRO DE ADORACION UNA MEJOR VIDA	332 MOHAWK ROAD	34715
SOUTH LAKE PRESBYTERIAN CHURCH	131 CHESTNUT STREET	34711
FAMILY CHRISTIAN CENTER OF CLERMONT	2500 SOUTH US HIGHWAY 27	34714
ST MATTHIAS EPISCOPAL CHURCH	574 W MONTROSE STREET	34711
SOUTH LAKE CHURCH OF CHRIST	GRAND HWY	34711
CHURCH AT SOUTH LAKE INC	2500 HOOK ST	34711
RIVER CHURCH	813 HOOK STREET	34711
CHRISTIAN SCIENCE CHURCH	510 W MINNEOLA AVE	34711
WOOTSON TEMPLE CHURCH OF GOD	836 SCOTT STREET	34711
REAL LIFE CHRISTIAN CHURCH OF	1501 STEVES RD	34711
FAITH FELLOWSHIP CHURCH	915 W DESOTO STREET	34711
NEW LIFE PRESBYTERIAN CHURCH	100 EAST MINNEHAHA AVENUE	34711
OAK TREE BAPTIST CHURCH	644 E HIGHWAY 50	34711
NEW JACOBS CHAPEL MISSIONARY	410 W STATE ROAD 50	34711
CHURCH OF CHRIST	500 E GRAND HIGHWAY	34711
CHURCH OF GOD BY FAITH	910 BLOXAM AVENUE	34711
CLERMONT FIRST BAPTIST CHURCH	498 W MONTROSE ST	34711
IMMANUEL TEMPLE CHURCH OF OUR LORD JESUS CHRIST	709 EAST MONTROSE ST	34711
BLESSED SACRAMENT CATHOLIC	720 12TH STREET	34711
NOAH'S ARK	938 W BROOME STREET	34711
FIRST UNITED METHODIST CHURCH OF CLERMONT	950 7TH STREET	34711
SAINT MARK AFRICAN METHODIST EPISCOPAL CHURCH	810 DISSTON AVENUE	34711
CLERMONT CHURCH OF GOD	800 US HIGHWAY 27	34711
IMMANUEL TEMPLE CHURCH-OUR LORD	709 E MONTROSE STREET	34711
NEW BEGINNINGS OF LAKE COUNTY	792 EAST MONTROSE ST	34711
CITRUS HEIGHTS CHURCH OF THE NAZARENE	101 SOUTH GRAND HIGHWAY	34711
SOUTH ENGLISH CONGREGATION OF JEHOVAHS WITNESSES	2655 SUNBURST LN	34711

Social Services (Geocoded)

Facility Name	Address	Zip Code
ANGELS OF MERCY	1330 MILLHOLLAND DRIVE	34711

US Census Places

Facility Name
Minneola
Clermont
Groveland

Veteran Organizations and Facilities (Points)

Facility Name	Address	Zip Code
VFW POST 5277 - WILLIAM A. SUGGS MEMORIAL	855 W DESOTO STREET	34711
MARINE CORPS LEAGUE DETACHMENT 1120	1063 W. DESOTO ST.	34711
AMERICAN LEGION POST 55	1063 W DESOTO STREET	34711
VETERANS AFFAIRS VET CENTER CLERMONT	1655 EAST HIGHWAY 50	34711

Sociocultural Data Report

Four Corners

Area: 50.116 square miles
Jurisdiction(s): **Cities:** NA
Counties: Polk, Orange, Osceola, Lake

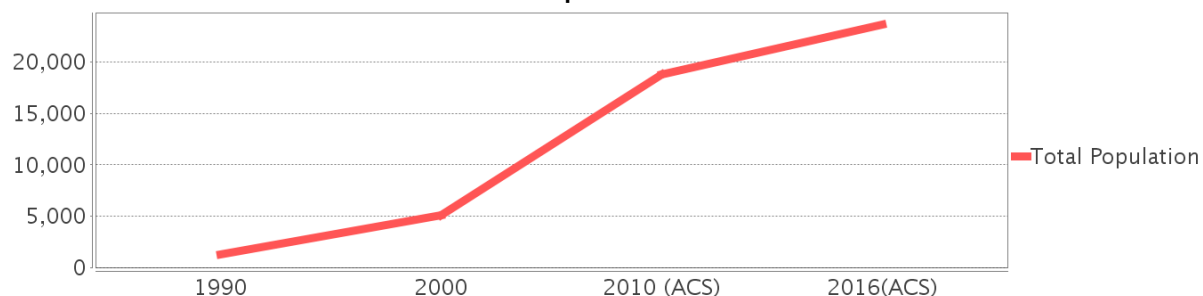
General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	1,306	5,073	18,808	23,648
Total Households	402	1,903	7,017	8,142
Average Persons per Acre	0.09	0.24	1.12	1.37
Average Persons per Household	3.06	2.57	2.86	2.91
Average Persons per Family	2.96	2.96	2.93	3.42
Males	687	2,597	9,186	11,793
Females	619	2,476	9,622	11,854

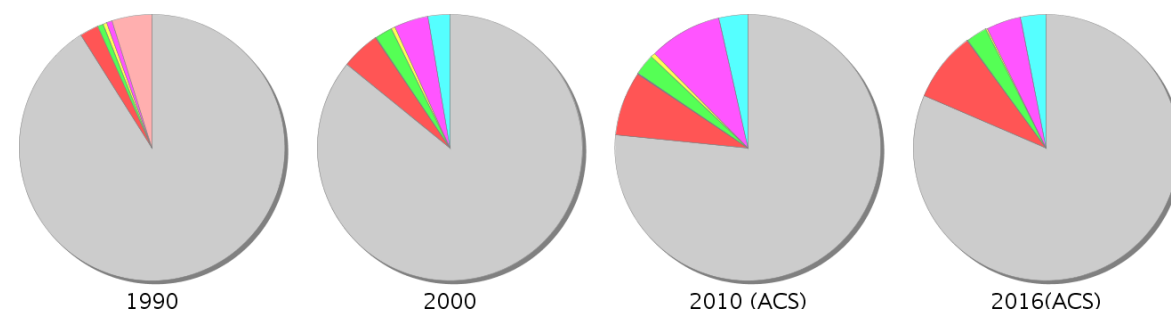
Race and Ethnicity Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	1,250 (95.71%)	4,355 (85.85%)	14,397 (76.55%)	19,251 (81.41%)
Black or African American Alone	31 (2.37%)	239 (4.71%)	1,472 (7.83%)	2,004 (8.47%)
Native Hawaiian and Other Pacific Islander Alone	0 (0.00%)	1 (0.02%)	21 (0.11%)	12 (0.05%)
Asian Alone	10 (0.77%)	109 (2.15%)	479 (2.55%)	613 (2.59%)
American Indian or Alaska Native Alone	6 (0.46%)	24 (0.47%)	100 (0.53%)	44 (0.19%)
Some Other Race Alone	9 (0.69%)	212 (4.18%)	1,682 (8.94%)	1,001 (4.23%)
Claimed 2 or More Races	NA (NA)	133 (2.62%)	657 (3.49%)	722 (3.05%)
Hispanic or Latino of Any Race	67 (5.13%)	618 (12.18%)	5,568 (29.60%)	7,720 (32.65%)
Not Hispanic or Latino	1,239 (94.87%)	4,455 (87.82%)	13,240 (70.40%)	15,928 (67.35%)
Minority	114 (8.73%)	1,068 (21.05%)	7,755 (41.23%)	10,840 (45.84%)

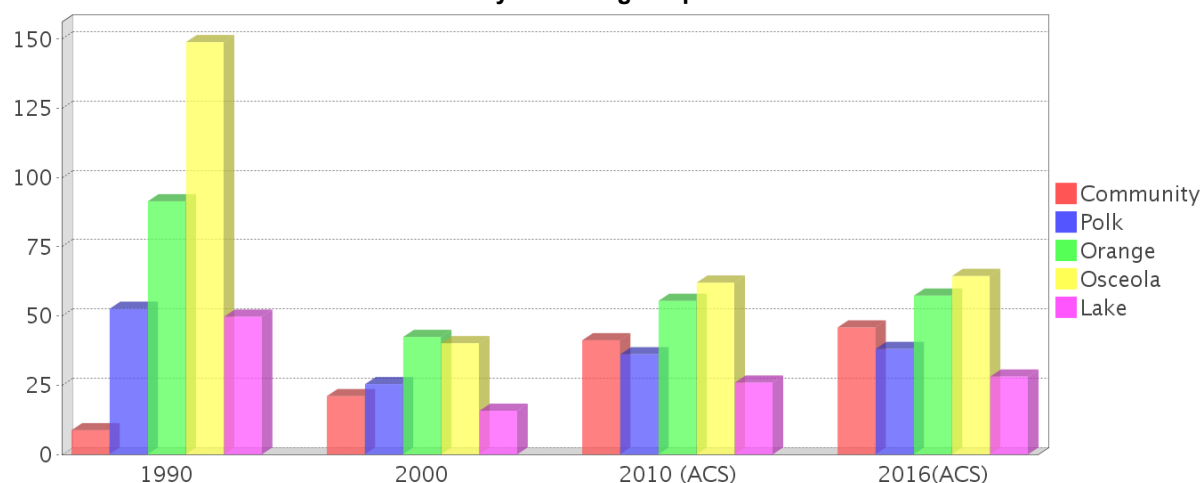
Population



Race



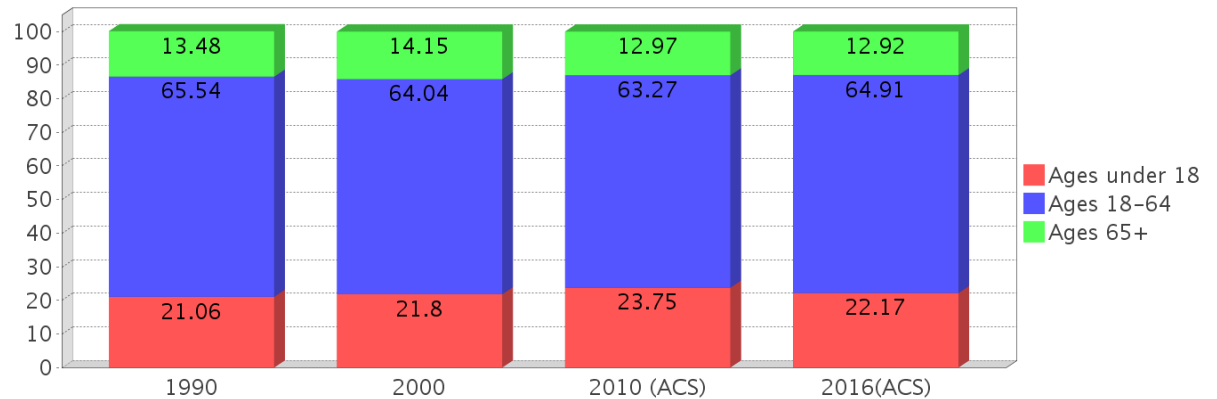
Minority Percentage Population



Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	6.43%	6.13%	6.73%	5.83%
Ages 5-17	14.62%	15.67%	17.02%	16.34%
Ages 18-21	4.98%	3.41%	4.40%	4.35%
Ages 22-29	12.71%	9.23%	11.57%	14.61%
Ages 30-39	17.00%	16.50%	15.29%	14.58%
Ages 40-49	13.48%	14.98%	14.00%	14.13%
Ages 50-64	17.38%	19.93%	18.01%	17.24%
Age 65 and Over	13.48%	14.15%	12.97%	12.92%
-Ages 65-74	10.41%	10.13%	8.48%	8.26%
-Ages 75-84	2.60%	3.51%	3.76%	3.81%
-Age 85 and Over	0.46%	0.49%	0.73%	0.84%
Median Age	NA	40	36	38

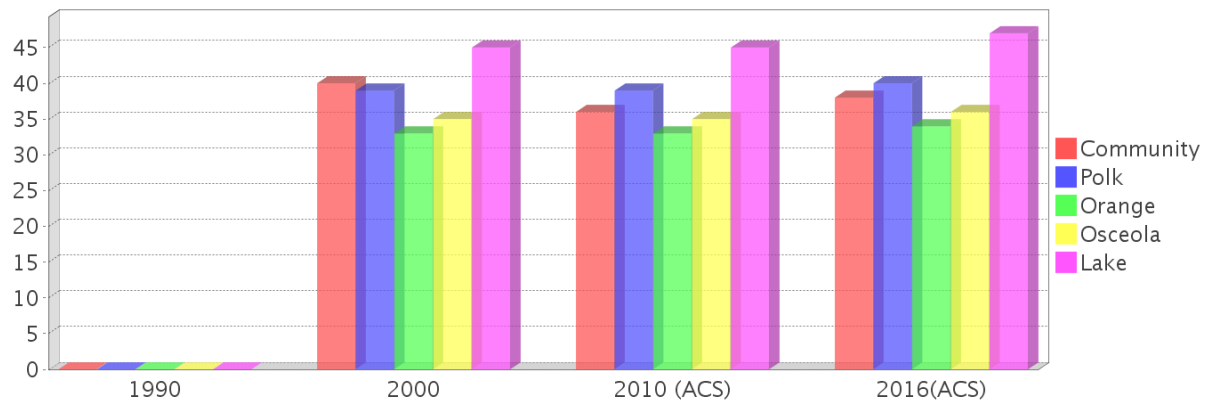
Population by Age Group



Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$31,607	\$42,663	\$54,764	\$56,122
Median Family Income	\$36,154	\$47,351	\$52,898	NA
Population below Poverty Level	11.26%	6.49%	12.17%	15.96%
Households below Poverty Level	13.43%	5.25%	10.76%	12.33%
Households with Public Assistance Income	2.24%	0.79%	0.26%	2.44%

Median Age Comparison

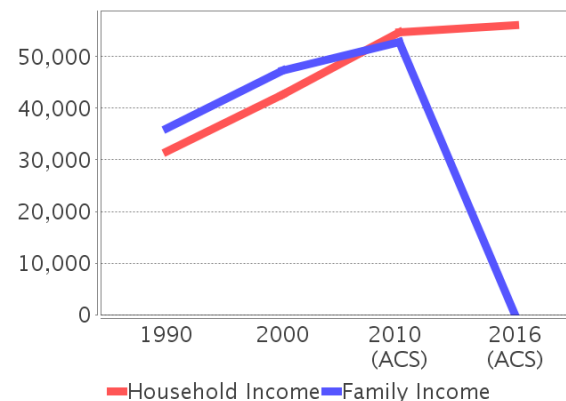


Disability Trends

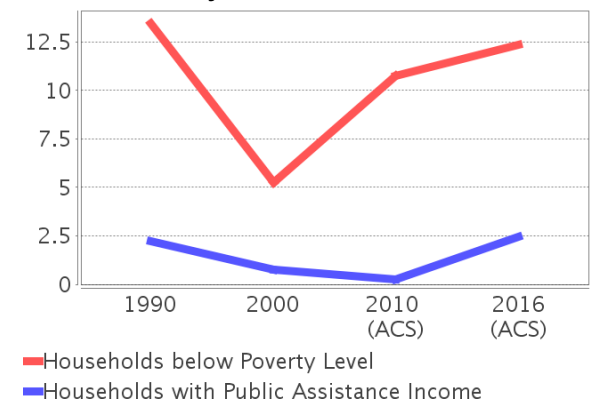
See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	114 (11.28%)	751 (16.04%)	(NA)	(NA)
Population 20 To 64 Years with a disability	(NA)	(NA)	(NA)	1305 (8.84%)

Income Trends



Poverty and Public Assistance



Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	50 (5.71%)	101 (2.77%)	260 (2.21%)	547 (3.41%)
9th to 12th Grade, No Diploma	115 (13.13%)	353 (9.68%)	641 (5.45%)	762 (4.75%)
High School Graduate or Higher	711 (81.16%)	3,192 (87.52%)	10,856 (92.34%)	14,747 (91.85%)
Bachelor's Degree or Higher	166 (18.95%)	759 (20.81%)	2,869 (24.40%)	4,376 (27.26%)

Language Trends

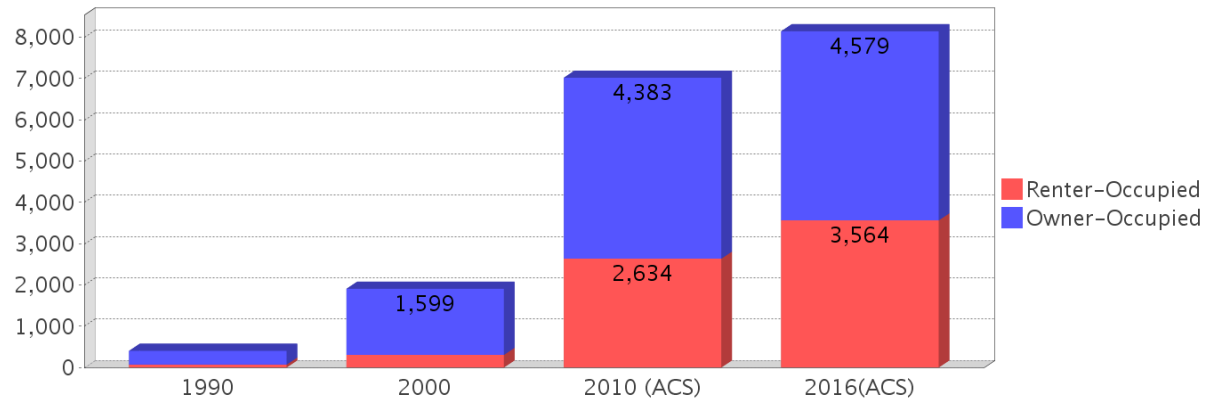
Age 5 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	36 (2.84%)	163 (3.42%)	1,096 (6.81%)	1,174 (5.27%)
Speaks English Not Well	NA (NA)	68 (1.43%)	378 (2.35%)	743 (3.34%)
Speaks English Not at All	NA (NA)	36 (0.76%)	115 (0.71%)	357 (1.60%)
Speaks English Not Well or Not at All	22 (1.74%)	104 (2.18%)	493 (3.06%)	1,100 (4.94%)

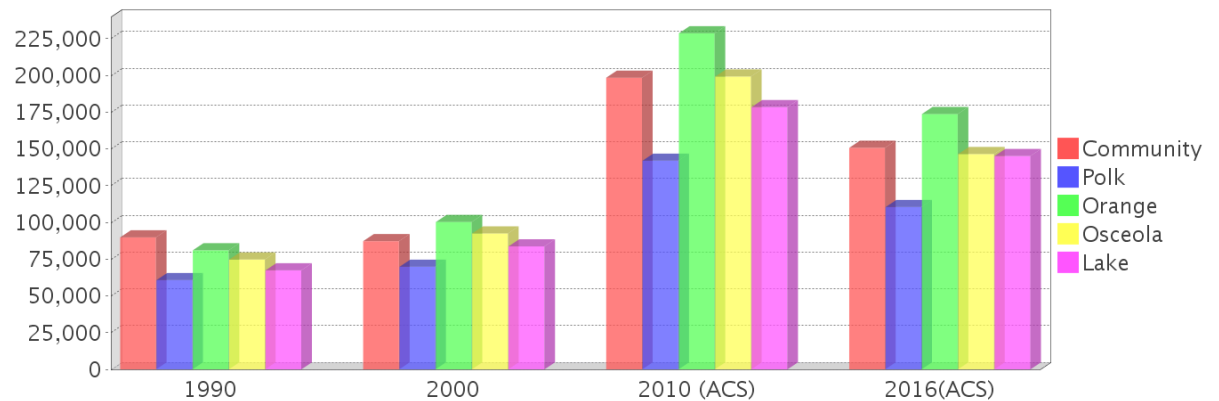
Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	1,182	3,590	20,804	22,149
Units per Acre	0.06	0.13	0.82	0.88
Single-Family Units	221	3,070	9,088	11,363
Multi-Family Units	4	171	4,128	8,773
Mobile Home Units	174	327	1,608	1,992
Owner-Occupied Units	334	1,599	4,383	4,579
Renter-Occupied Units	68	304	2,634	3,564
Vacant Units	781	1,687	13,787	14,006
Median Housing Value	\$89,800	\$87,200	\$198,400	\$150,700
Occupied Housing Units w/No Vehicle	17 (4.24%)	47 (2.47%)	222 (3.16%)	172 (2.11%)

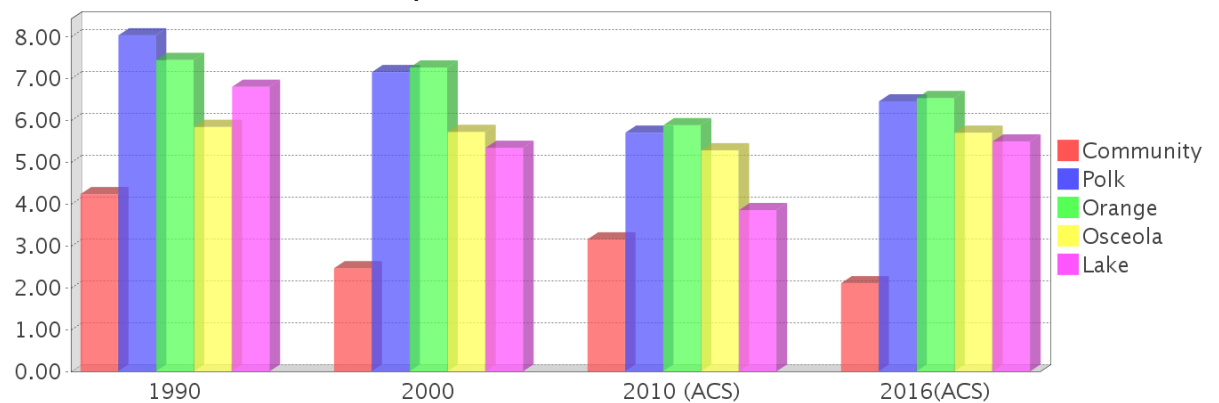
Housing Tenure



Median Housing Value Comparison

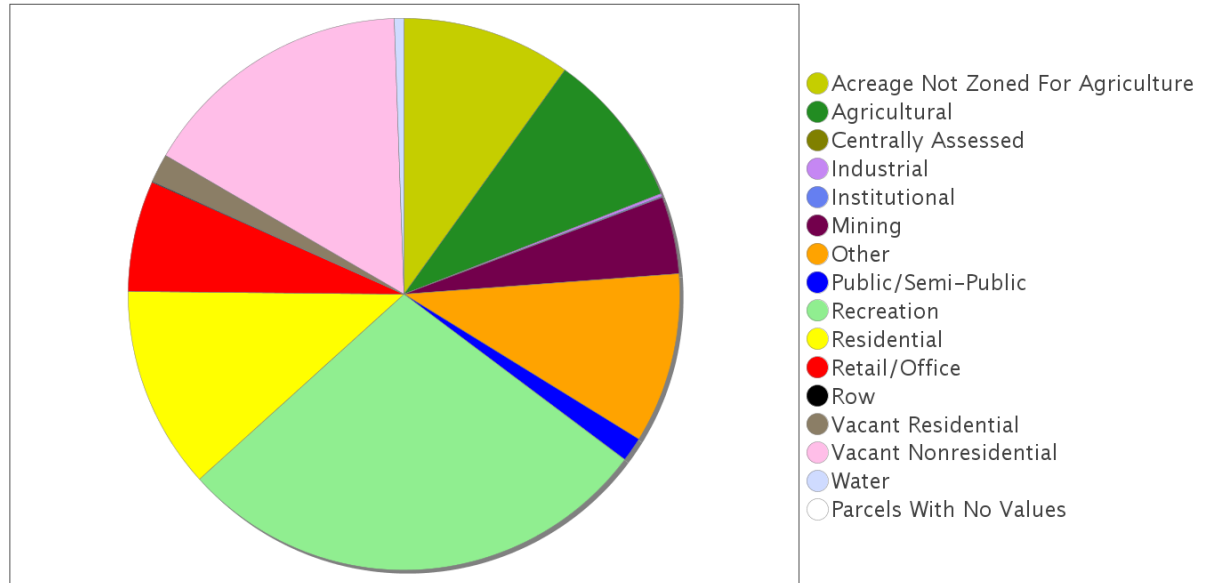


Occupied Units With No Vehicles Available

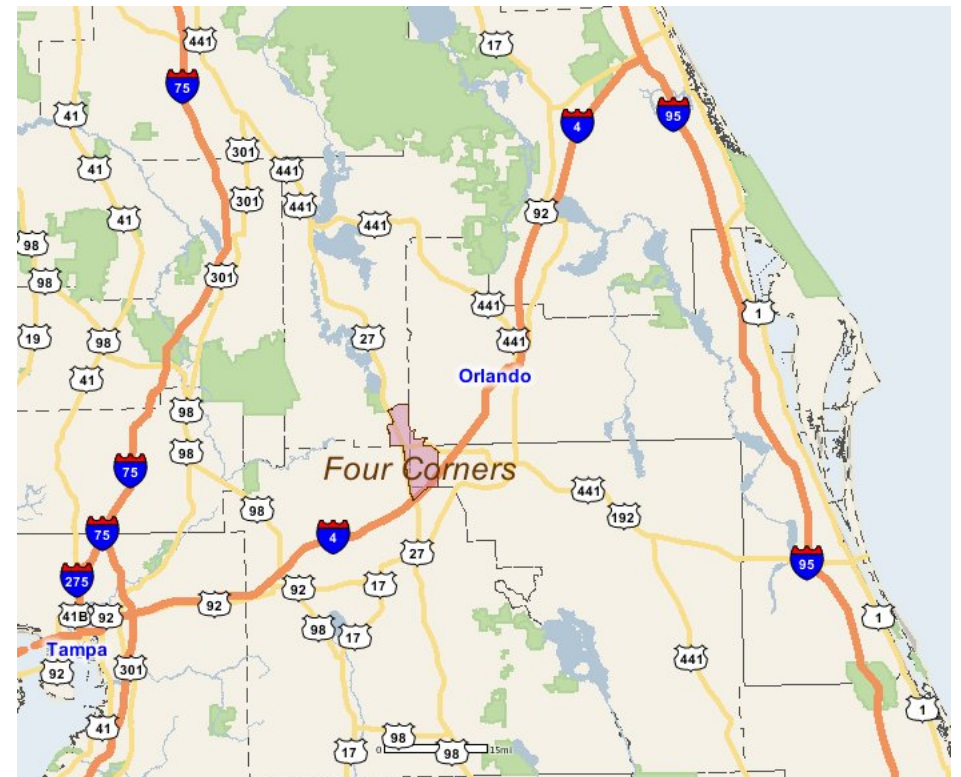
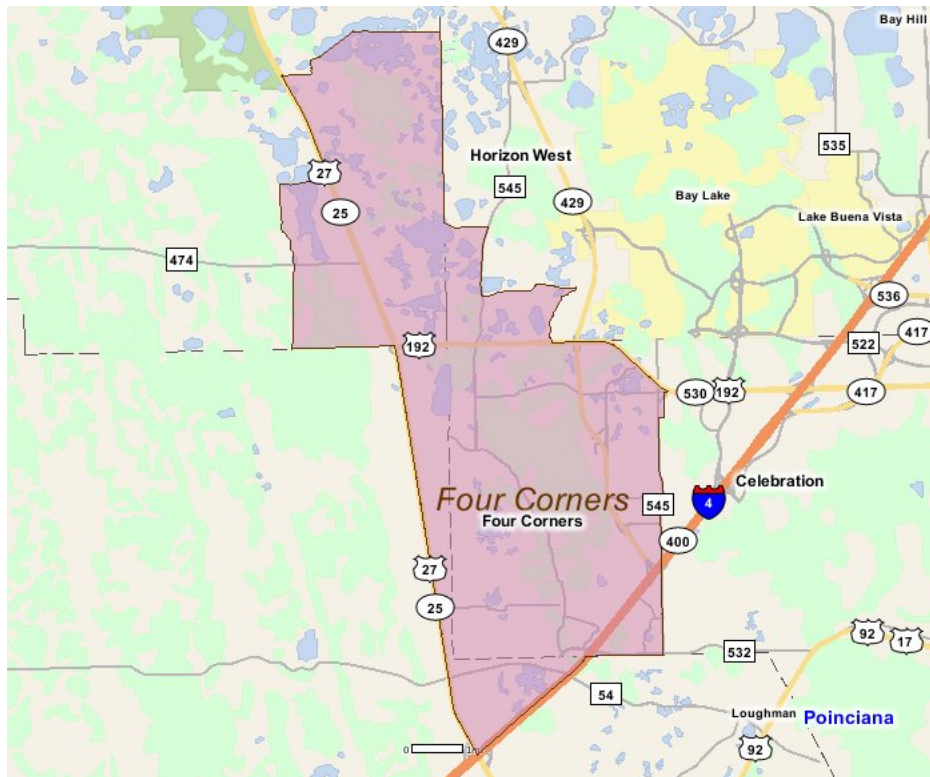


Existing Land Use

Land Use Type	Acres	Percentage
Acreage Not Zoned For Agriculture	614	1.91%
Agricultural	568	1.77%
Centrally Assessed	0	0.00%
Industrial	10	0.03%
Institutional	5	0.02%
Mining	280	0.87%
Other	620	1.93%
Public/Semi-Public	88	0.27%
Recreation	1,740	5.42%
Residential	737	2.30%
Retail/Office	402	1.25%
Row	4	0.01%
Vacant Residential	104	0.32%
Vacant Nonresidential	995	3.10%
Water	35	0.11%
Parcels With No Values	<0.5	<0.00%



Location Maps



Community Facilities

The community facilities information below is useful in a variety of ways for environmental evaluations. These community resources should be evaluated for potential sociocultural effects, such as accessibility and relocation potential. The facility types may indicate the types of population groups present in the project study area. Facility staff and leaders can be sources of community information such as who uses the facility and how it is used. Additionally, community facilities are potential public meeting venues.

Assisted Housing (Points)

Facility Name	Address	Zip Code
TIERRA VISTA	8700 TIERRA VISTA CIRCLE	34747
RAINTREE	1305 RRAINTREE BEND	34711

Community Centers (Points)

Facility Name	Address	Zip Code
KNIGHTS OF COLUMBUS 14217 - SAINT FAUSTINA	9310 US HWY 192	34714

Cultural Centers (Points)

Facility Name	Address	Zip Code
CAGAN CROSSINGS COMMUNITY LIBRARY	16729 CAGAN OAKS	34714

Fire Stations (Points)

Facility Name	Address	Zip Code
OSCEOLA COUNTY FIRE DEPARTMENT STATION (REUNION 2) (PROPOSED)		34747
OSCEOLA COUNTY FIRE DEPARTMENT STATION 71 (FOUR CORNERS)	8706 W IRLO BRONSON MEMORIAL HWY	34747
OSCEOLA COUNTY FIRE DEPARTMENT STATION (CHAMPIONS GATE) (PROPOSED)		33896
OSCEOLA COUNTY FIRE DEPARTMENT STATION (LAKE WILSON) (PROPOSED)		34747
LAKE COUNTY FIRE DEPARTMENT AND RESCUE STATION 112 (CLERMONT)	16240 COUNTY ROAD 474	34714
OSCEOLA COUNTY FIRE DEPARTMENT STATION (STONEBROOK SOUTH) (PROPOSED)		33896
OSCEOLA COUNTY FIRE DEPARTMENT STATION 73 (DAVENPORT/REUNION)	7855 OSCEOLA POLK LINE RD	34747
POLK COUNTY FIRE DEPARTMENT AND RESCUE STATION 210 (NORTHBRIDGE)	6525 RONALD REGAN PKWY	33896

Florida Parks and Recreational Facilities (Points)

Facility Name	Address	Zip Code
NORTHEAST REGIONAL PARK & BOAT RAMP	50901 HWY 27	33897

Government Building

Facility Name	Address	Zip Code
FLORIDA DEPARTMENT OF HIGHWAY SAFETY AND MOTOR VEHICLES SERVICE CENTER	2400 S US HWY 27	34711
U S POST OFFICE - SOUTH CLERMONT	1100 US HWY 27	34714

Healthcare Facilities (Geocoded)

Facility Name	Address	Zip Code
DAVENPORT DIALYSIS CENTER	45597 US 27 HIGHWAY	33897
EXCEL PEDIATRICS - CLERMONT	265 CITRUS BOULEVARD 102	34711
DAVENPORT PEDIATRICS CLERMONT PA	1528 SUNRISE PLAZA DRIVE, SUITE 1	34714
EYE SPECIALISTS OF MID-FLORIDA, P.A.	1050 US HWY 27 N STE 1	34711
CITRUS FAMILY MEDICAL CENTER LLC LEGENDS FAMILY ME	1485 LEGENDS BOULEVARD	33896

Law Enforcement Facilities (Points)

Facility Name	Address	Zip Code
POLK COUNTY SHERIFF'S OFFICE - NE DISTRICT	1100 DUNSON RD	33896

Mobile Home Parks in Florida

Facility Name	Address	Zip Code
MOUSE MOUNTAIN MOBILE HOME PARK	7500 OSCEOLA POLK LINE ROAD	33837
THE RIDGE	49473 HWY 27	33897
VISTA DEL LAGO	14465 VISTA DEL LAGO BLVD	34787
POLO PARK EAST	525 POLO PARK EAST BLVD	33897

Public and Private Schools (Points)

Facility Name	Address	Zip Code
RIDGEVIEW GLOBAL STUDIES ACADEMY	1000 DUNSON ROAD	33896
CITRUS RIDGE A CIVICS ACADEMY	1775 SAND MINE RD	33897
FOUR CORNERS CHARTER MIDDLE SCHOOL	9160 BELLA CITTA BLVD	33896
WESTSIDE K-8 SCHOOL	2551 WESTSIDE BLVD	34746
SAWGRASS BAY ELEMENTARY SCHOOL	16325 SUPERIOR BLVD	34714
FOUR CORNERS CHARTER HIGH SCHOOL	9160 BELLA CITTA BLVD	33896
FOUR CORNERS CHARTER SCHOOL	9100 TEACHER LN	34747

Religious Centers (Points)

Facility Name	Address	Zip Code
COMMUNITY OF FAITH UNITED METHODIST CHURCH	9120 TEACHER LN	33897
GREATER WORKS MINISTRIES INTL	15441 BAY VISTA DRIVE	34714
COMMUNITY OF FAITH	9110 US HIGHWAY 192 # B	34714
OAK HILL BAPTIST CHURCH	8060 OSCEOLA POLK LINE ROAD	33896
CHURCH OF JESUS CHRIST L D S	1001 DUNSON ROAD	33896
CHAPEL BAPTIST CHURCH - OPEN DOOR BAPTIST CHURCH	15744 COUNTY ROAD 474	34714

US Census Places

Facility Name
Horizon West
Four Corners

Sociocultural Data Report

Horizon West

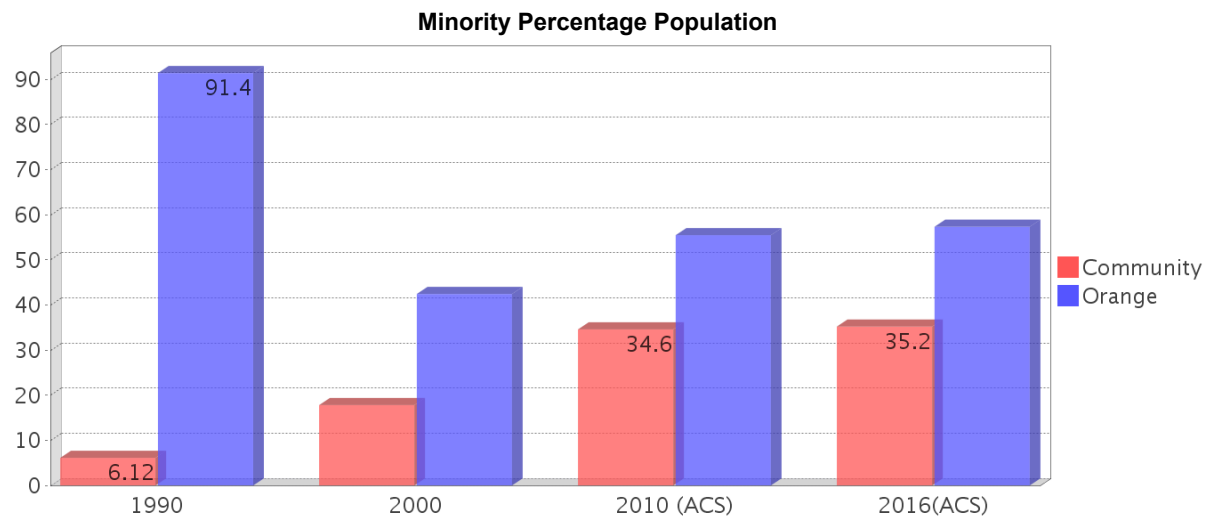
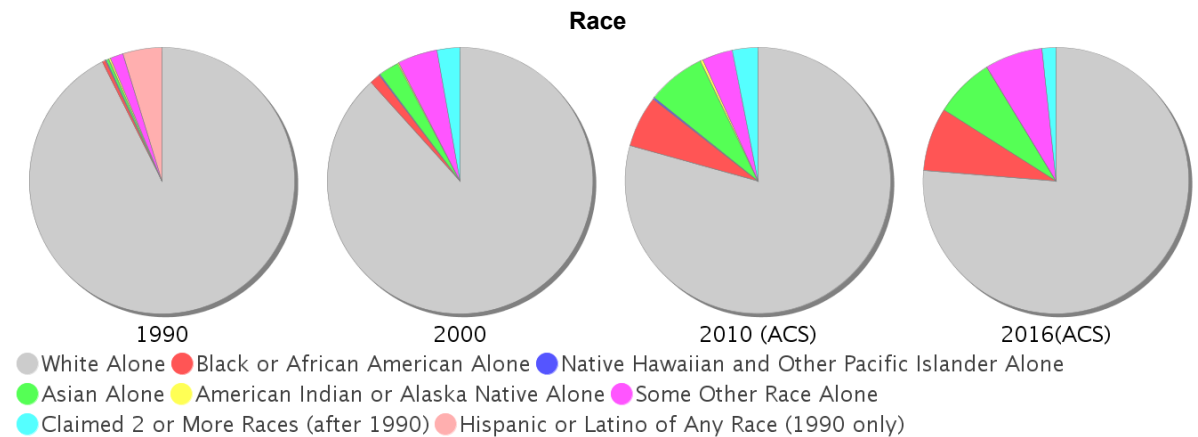
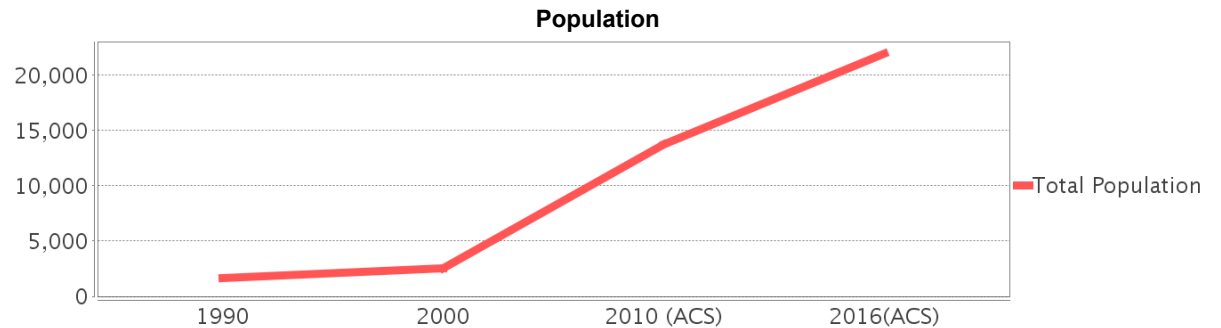
Area: 38.083 square miles
Jurisdiction(s): **Cities:** Bay Lake, Winter Garden
Counties: Orange

General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	1,649	2,510	13,724	21,942
Total Households	496	989	5,113	7,299
Average Persons per Acre	0.32	0.58	1.52	1.86
Average Persons per Household	3.09	2.79	2.89	3.03
Average Persons per Family	3.22	3.15	3.00	3.55
Males	851	1,226	6,717	10,668
Females	798	1,284	7,007	11,274

Race and Ethnicity Trends

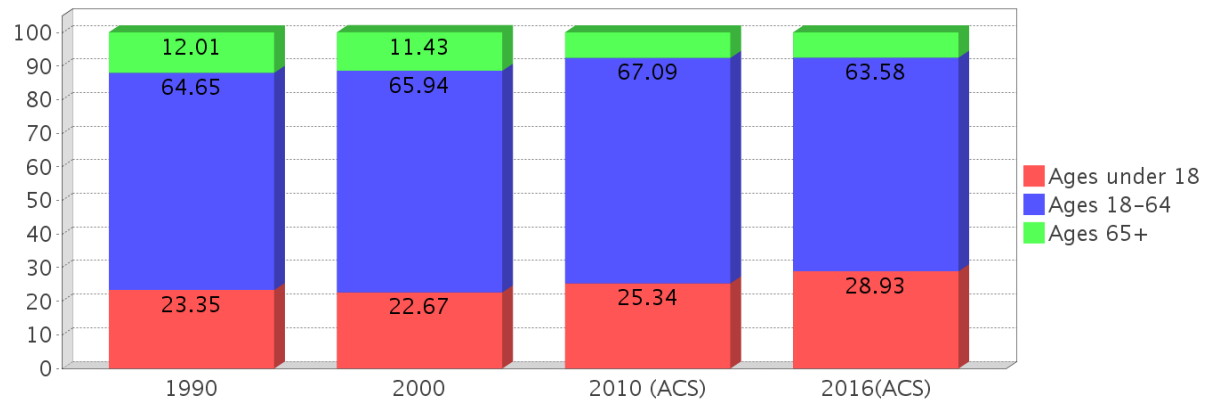
Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	1,603 (97.21%)	2,216 (88.29%)	10,878 (79.26%)	16,736 (76.27%)
Black or African American Alone	8 (0.49%)	34 (1.35%)	863 (6.29%)	1,690 (7.70%)
Native Hawaiian and Other Pacific Islander Alone	2 (0.12%)	3 (0.12%)	26 (0.19%)	0 (0.00%)
Asian Alone	6 (0.36%)	62 (2.47%)	974 (7.10%)	1,590 (7.25%)
American Indian or Alaska Native Alone	4 (0.24%)	5 (0.20%)	44 (0.32%)	15 (0.07%)
Some Other Race Alone	27 (1.64%)	121 (4.82%)	508 (3.70%)	1,544 (7.04%)
Claimed 2 or More Races	NA (NA)	70 (2.79%)	429 (3.13%)	368 (1.68%)
Hispanic or Latino of Any Race	82 (4.97%)	283 (11.27%)	2,594 (18.90%)	4,112 (18.74%)
Not Hispanic or Latino	1,567 (95.03%)	2,227 (88.73%)	11,130 (81.10%)	17,830 (81.26%)
Minority	101 (6.12%)	447 (17.81%)	4,748 (34.60%)	7,723 (35.20%)



Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	6.73%	3.23%	8.04%	8.82%
Ages 5-17	16.62%	19.44%	17.30%	20.11%
Ages 18-21	4.12%	5.42%	3.56%	3.79%
Ages 22-29	9.22%	8.57%	13.26%	11.43%
Ages 30-39	16.49%	13.43%	19.81%	21.14%
Ages 40-49	14.37%	19.04%	15.74%	14.81%
Ages 50-64	20.44%	19.48%	14.73%	12.41%
Age 65 and Over	12.01%	11.43%	7.56%	7.50%
-Ages 65-74	9.40%	8.45%	5.03%	5.25%
-Ages 75-84	2.30%	2.75%	2.04%	1.83%
-Age 85 and Over	0.36%	0.24%	0.50%	0.41%
Median Age	NA	39	34	34

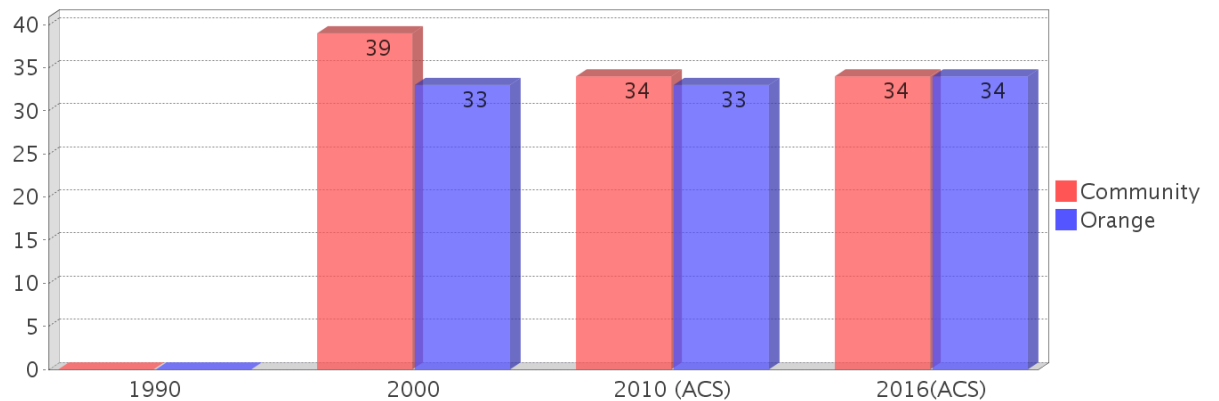
Population by Age Group



Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$42,196	\$49,779	\$71,722	\$77,746
Median Family Income	\$43,288	\$56,875	\$80,988	NA
Population below Poverty Level	8.31%	6.89%	3.96%	7.90%
Households below Poverty Level	3.83%	6.17%	3.87%	7.62%
Households with Public Assistance Income	3.23%	1.11%	1.58%	1.29%

Median Age Comparison

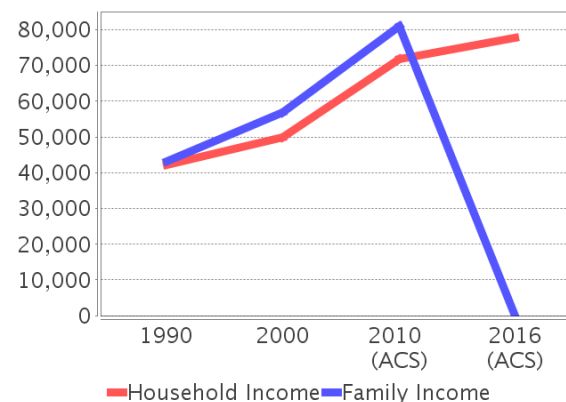


Disability Trends

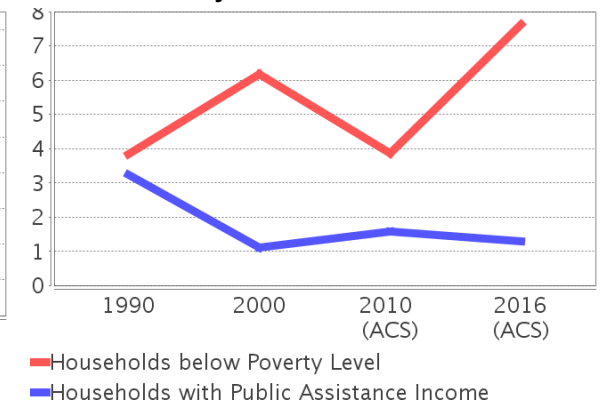
See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	78 (6.38%)	412 (16.96%)	(NA)	(NA)
Population 20 To 64 Years with a disability	(NA)	(NA)	(NA)	677 (4.98%)

Income Trends



Poverty and Public Assistance



Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	77 (7.06%)	54 (3.11%)	174 (2.42%)	228 (1.63%)
9th to 12th Grade, No Diploma	85 (7.79%)	211 (12.16%)	176 (2.44%)	374 (2.67%)
High School Graduate or Higher	929 (85.15%)	1,470 (84.73%)	6,854 (95.14%)	13,396 (95.70%)
Bachelor's Degree or Higher	278 (25.48%)	343 (19.77%)	3,093 (42.93%)	7,559 (54.00%)

Language Trends

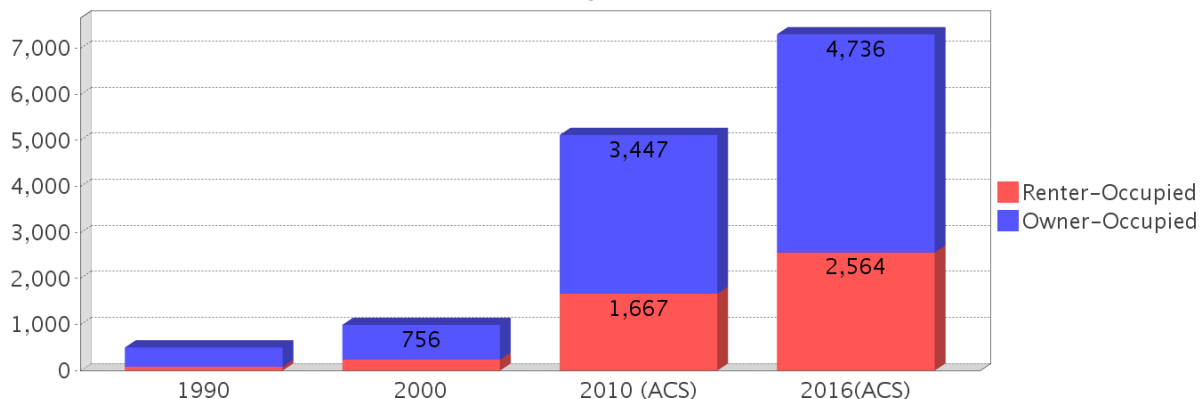
Age 5 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	20 (1.32%)	63 (2.59%)	527 (5.47%)	1,055 (5.27%)
Speaks English Not Well	NA (NA)	69 (2.84%)	292 (3.03%)	545 (2.72%)
Speaks English Not at All	NA (NA)	4 (0.16%)	51 (0.53%)	112 (0.56%)
Speaks English Not Well or Not at All	42 (2.77%)	73 (3.01%)	343 (3.56%)	657 (3.28%)

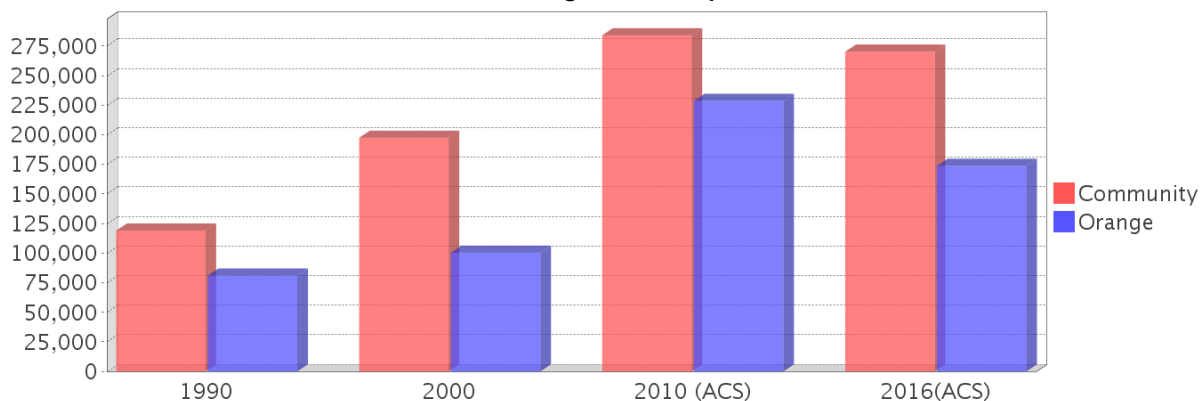
Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	1,077	1,291	6,133	8,519
Units per Acre	0.05	0.06	0.32	0.45
Single-Family Units	296	462	3,570	6,312
Multi-Family Units	0	107	673	1,400
Mobile Home Units	197	703	823	807
Owner-Occupied Units	419	756	3,447	4,736
Renter-Occupied Units	78	233	1,667	2,564
Vacant Units	581	302	1,020	1,220
Median Housing Value	\$119,000	\$197,400	\$284,000	\$270,150
Occupied Housing Units w/No Vehicle	9 (1.81%)	54 (5.46%)	94 (1.84%)	269 (3.69%)

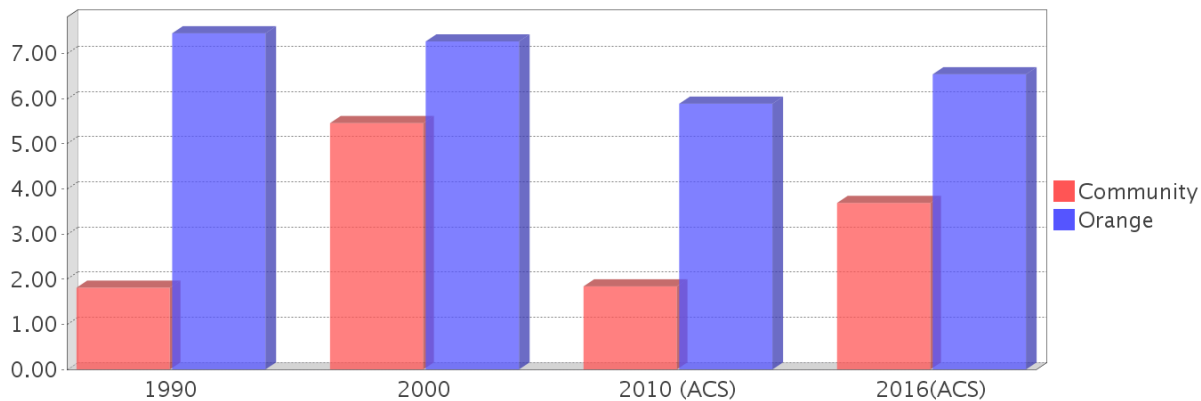
Housing Tenure



Median Housing Value Comparison

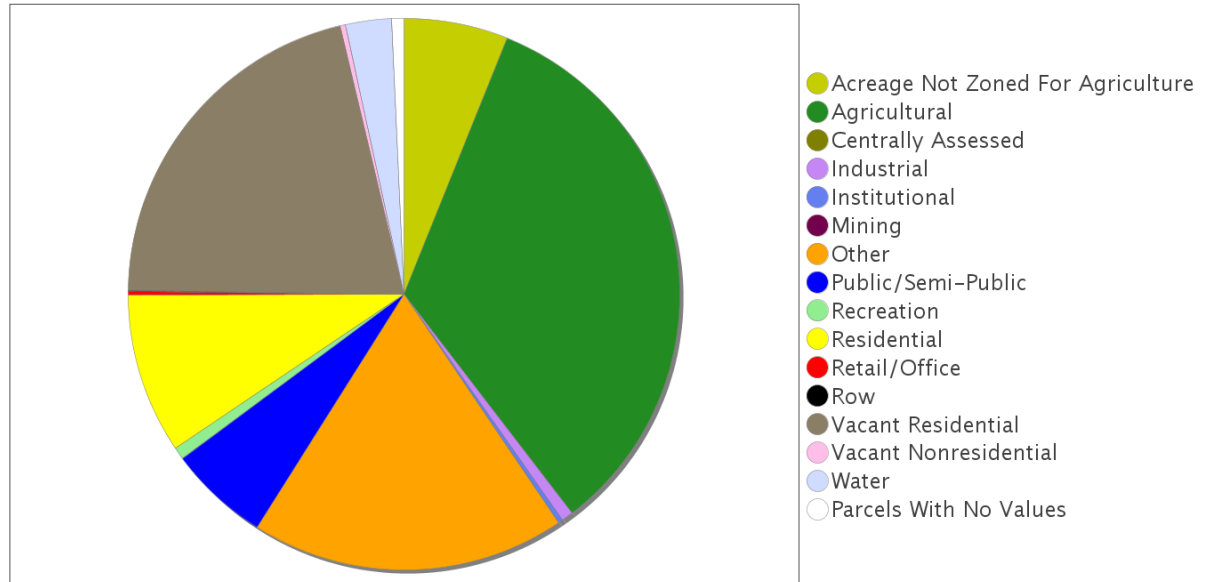


Occupied Units With No Vehicles Available

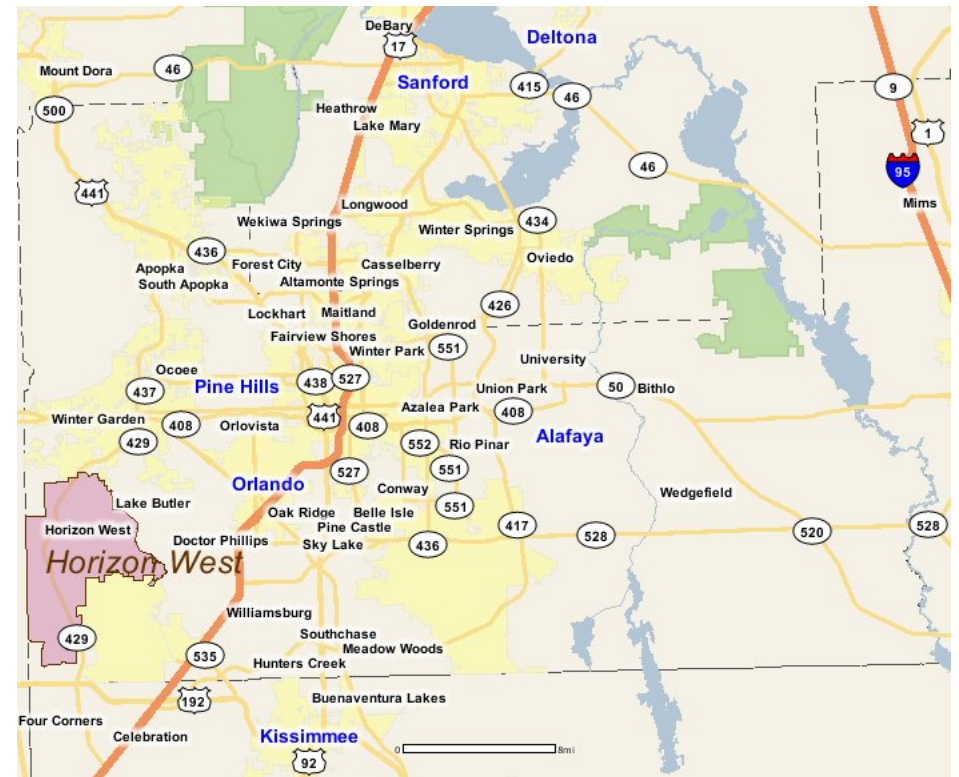
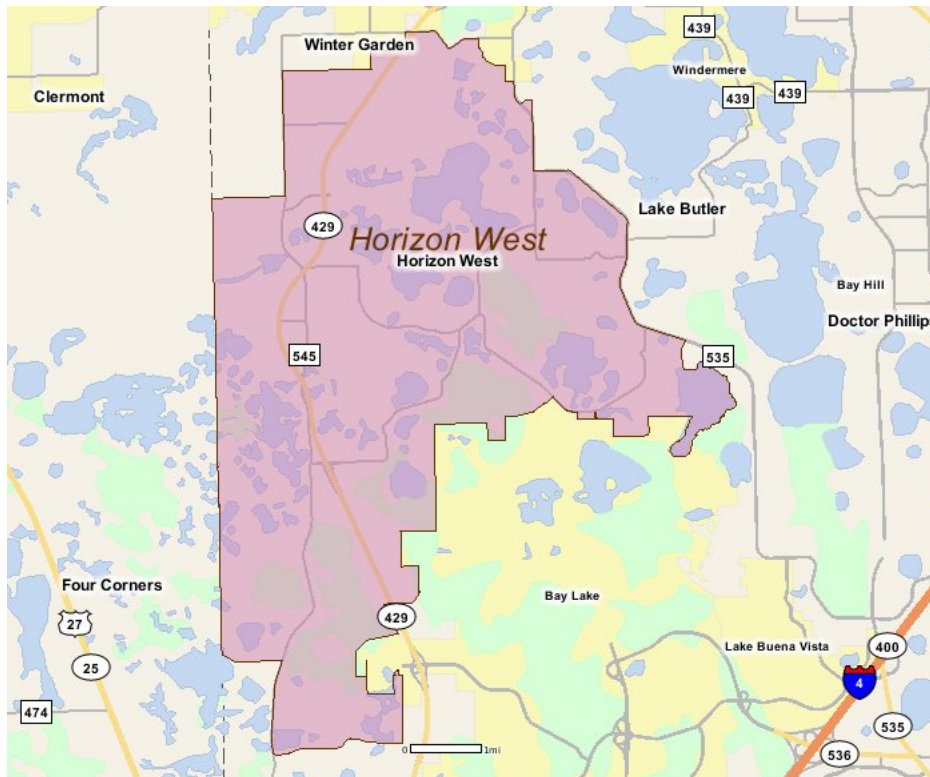


Existing Land Use

Land Use Type	Acres	Percentage
Acreage Not Zoned For Agriculture	1,401	5.75%
Agricultural	7,674	31.49%
Centrally Assessed	0	0.00%
Industrial	153	0.63%
Institutional	65	0.27%
Mining	0	0.00%
Other	4,221	17.32%
Public/Semi-Public	1,353	5.55%
Recreation	159	0.65%
Residential	2,157	8.85%
Retail/Office	44	0.18%
Row	17	0.07%
Vacant Residential	4,828	19.81%
Vacant Nonresidential	72	0.30%
Water	616	2.53%
Parcels With No Values	162	0.66%



Location Maps



Community Facilities

The community facilities information below is useful in a variety of ways for environmental evaluations. These community resources should be evaluated for potential sociocultural effects, such as accessibility and relocation potential. The facility types may indicate the types of population groups present in the project study area. Facility staff and leaders can be sources of community information such as who uses the facility and how it is used. Additionally, community facilities are potential public meeting venues.

Assisted Housing (Points)

Facility Name	Address	Zip Code
BUENA VISTA PLACE II	8825 BUENA PLACE	34786
BUENA VISTA PLACE	8825 BUENA PLACE	34786

Florida Parks and Recreational Facilities (Points)

Facility Name	Address	Zip Code
ORANGE COUNTY NATIONAL GOLF CENTER: CROOKED CAT/TOOTH COURSES	16100 PHIL RITSON WAY	34787
INDEPENDENCE PARK	5849 NEW INDEPENDENCE PKWY	34787
ORANGE COUNTY NATIONAL GOLF CENTER: PANTHER LAKE COURSE	16100 PHIL RITSON WAY	34787
SUMMERPORT NEIGHBORHOOD PARK	14491 BRIDGEWATER CROSSINGS BLVD	34786
INDEPENDENCE COMMUNITY BOAT RAMP	14914 OLD THICKET TRCE	34787
BLUEBIRD PARK ROAD PASSIVE PARK	14544 BLUEBIRD PARK RD	34786

Healthcare Facilities (Geocoded)

Facility Name	Address	Zip Code
SUMMERPORT FAMILY MEDICINE	13528 SUMMERPORT VILLAGE PARKWAY	34786
WINDERMERE DERMATOLOGY & AESTHETICS	7798 WINTER GARDEN VINELAND ROAD, SUITE 100	34786
WINDERMERE MEDICAL CENTER	11600 LAKESIDE VILLAGE LANE	34786

Public and Private Schools (Points)

Facility Name	Address	Zip Code
STARCHILD ACADEMY WINDERMERE	11815 SILVERLAKE PARK DR.	34786
CENTRAL FLORIDA PREPARATORY SCHOOL OCN	16301 PHIL RITSON WAY	34787
HORIZON WEST/LAKESIDE VILLAGE SOUTH ELEMENTARY SCHOOL (SITE 25-E-SW-4)	TABORFIELD AVE	32836
BRIDGEWATER RELIEF MIDDLE (SITE 37-M-SW-4)	WINTER GARDEN VINELAND RD	34786
BRIDGEWATER MIDDLE	5660 TINY RD	34787
INDEPENDENCE ELEMENTARY	6255 NEW INDEPENDENCE PKWY	34787
BAY LAKE ELEMENTARY	120005 SILVER LAKE PARK DR	34786
NEW HORIZON WEST ACADEMY	6121 AVALON ROAD	34787
KEENES CROSSING ELEMENTARY	5240 KEENES PHEASANT DR	34786

Religious Centers (Points)

Facility Name	Address	Zip Code
HORIZON WEST COMMUNITY CHURCH IGLESIA DE LA COMUNIDAD	6121 AVALON RD	34787
CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS	13749 REAMS RD	34786
FIRST BAPTIST CHURCH	11551 STATE ROAD 535	32836

Social Services (Geocoded)

Facility Name	Address	Zip Code
CHRISTIAN FAMILY SERVICES	6213 RIVER FRUIT CT	34786

US Census Places

Facility Name
Winter Garden
Horizon West
Lake Butler

Facility Name

Bay Lake

Four Corners

Sociocultural Data Report

Winter Garden

Area: 15.61 square miles
Jurisdiction(s): **Cities:** Winter Garden, Oakland, Ocoee
Counties: Orange

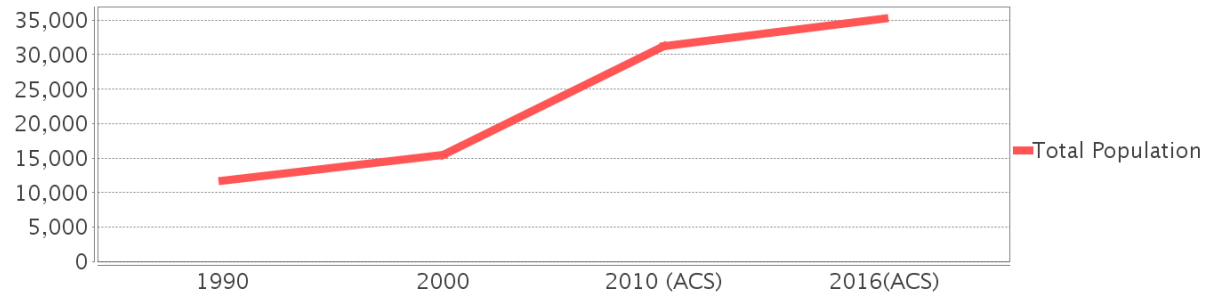
General Population Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total Population	11,764	15,449	31,247	35,217
Total Households	4,130	5,628	10,780	11,689
Average Persons per Acre	2.40	2.89	4.24	4.87
Average Persons per Household	2.81	2.79	3.08	2.94
Average Persons per Family	3.27	3.28	3.15	3.59
Males	5,653	7,406	15,184	16,591
Females	6,111	8,043	16,063	18,625

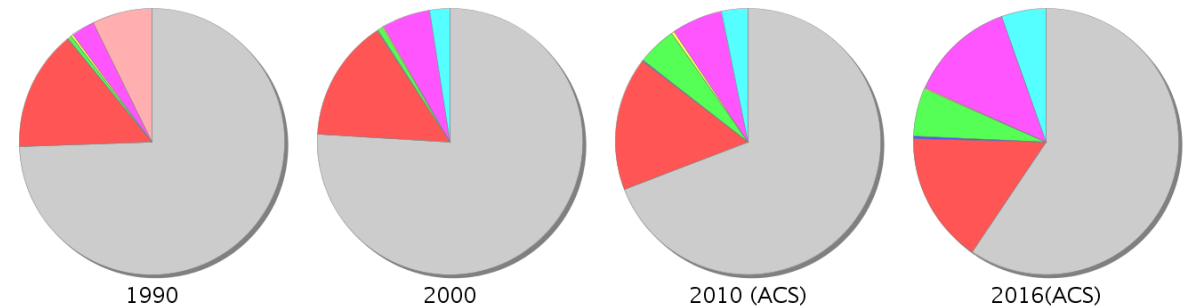
Race and Ethnicity Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
White Alone	9,446 (80.30%)	11,726 (75.90%)	21,609 (69.16%)	20,923 (59.41%)
Black or African American Alone	1,859 (15.80%)	2,298 (14.87%)	5,075 (16.24%)	5,612 (15.94%)
Native Hawaiian and Other Pacific Islander Alone	4 (0.03%)	8 (0.05%)	35 (0.11%)	111 (0.32%)
Asian Alone	67 (0.57%)	101 (0.65%)	1,474 (4.72%)	2,051 (5.82%)
American Indian or Alaska Native Alone	33 (0.28%)	31 (0.20%)	115 (0.37%)	60 (0.17%)
Some Other Race Alone	355 (3.02%)	903 (5.85%)	1,921 (6.15%)	4,546 (12.91%)
Claimed 2 or More Races	NA (NA)	382 (2.47%)	1,018 (3.26%)	1,913 (5.43%)
Hispanic or Latino of Any Race	928 (7.89%)	2,497 (16.16%)	6,759 (21.63%)	9,376 (26.62%)
Not Hispanic or Latino	10,836 (92.11%)	12,952 (83.84%)	24,488 (78.37%)	25,841 (73.38%)
Minority	2,861 (24.32%)	5,105 (33.04%)	14,041 (44.94%)	18,564 (52.71%)

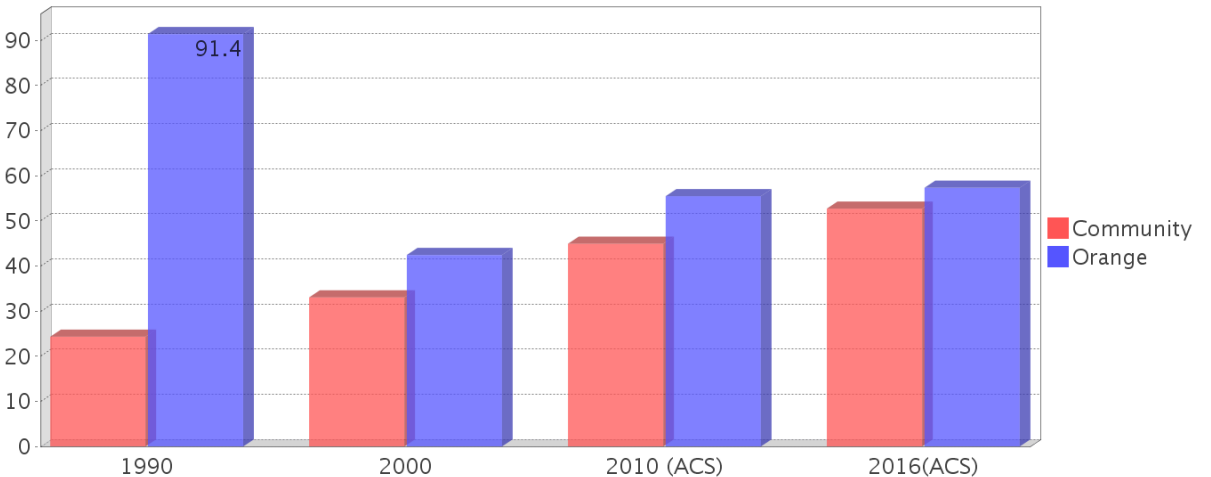
Population



Race



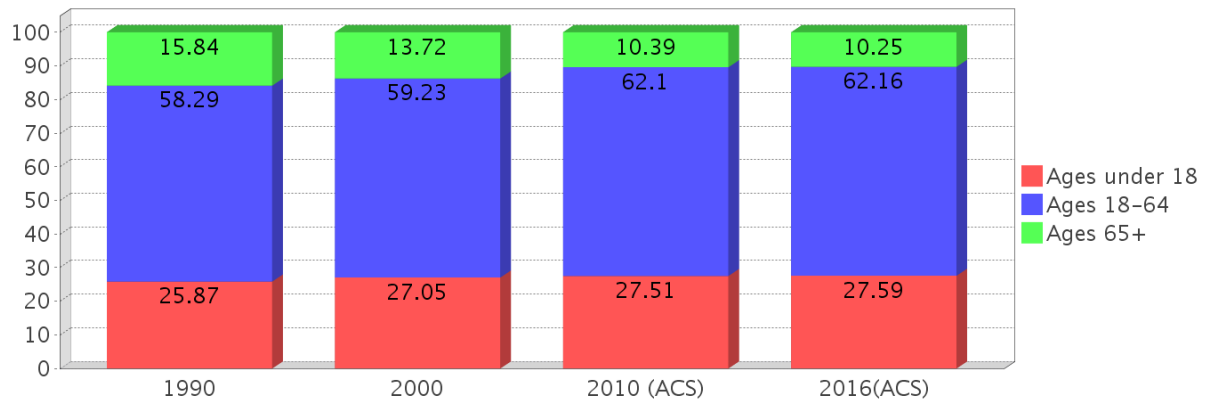
Minority Percentage Population



Age Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Under Age 5	7.97%	7.84%	7.49%	6.75%
Ages 5-17	17.89%	19.21%	20.02%	20.83%
Ages 18-21	5.16%	3.48%	4.79%	4.16%
Ages 22-29	12.56%	10.69%	9.80%	9.79%
Ages 30-39	15.21%	17.43%	14.88%	15.49%
Ages 40-49	11.44%	14.29%	16.02%	15.26%
Ages 50-64	13.92%	13.34%	16.60%	17.45%
Age 65 and Over	15.84%	13.72%	10.39%	10.25%
-Ages 65-74	8.30%	6.98%	5.53%	6.06%
-Ages 75-84	5.56%	5.03%	3.34%	3.10%
-Age 85 and Over	1.99%	1.70%	1.52%	1.08%
Median Age	NA	35	35	36

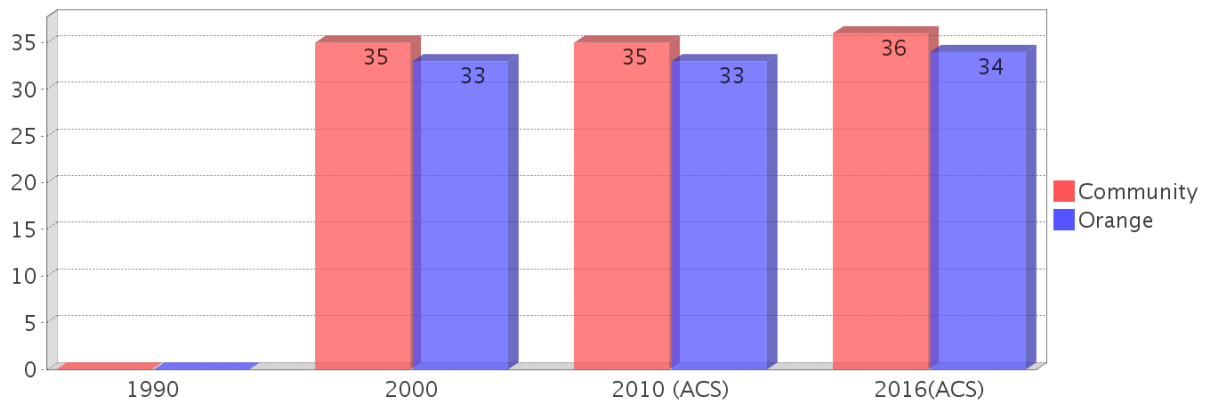
Population by Age Group



Income Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Median Household Income	\$25,068	\$37,337	\$48,355	\$51,039
Median Family Income	\$28,646	\$40,221	\$58,884	NA
Population below Poverty Level	11.38%	11.55%	8.23%	10.79%
Households below Poverty Level	11.16%	10.29%	7.76%	11.18%
Households with Public Assistance Income	7.99%	2.24%	1.08%	2.08%

Median Age Comparison

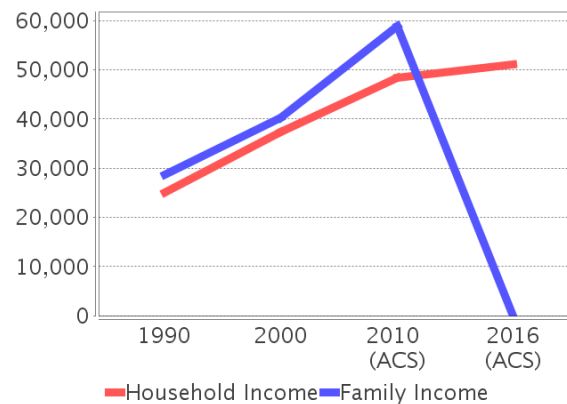


Disability Trends

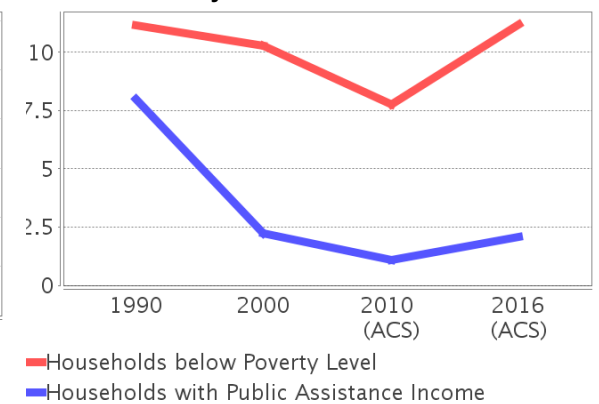
See the Data Sources section below for an explanation about the differences in disability data among the various years.

Description	1990	2000	2010 (ACS)	2016(ACS)
Population 16 To 64 Years with a disability	699 (7.89%)	2096 (15.04%)	(NA)	(NA)
Population 20 To 64 Years with a disability	(NA)	(NA)	(NA)	1592 (7.48%)

Income Trends



Poverty and Public Assistance



Educational Attainment Trends

Age 25 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Less than 9th Grade	1,290 (16.65%)	920 (9.14%)	1,169 (6.21%)	1,353 (5.95%)
9th to 12th Grade, No Diploma	1,459 (18.83%)	1,533 (15.22%)	1,185 (6.29%)	1,436 (6.31%)
High School Graduate or Higher	5,001 (64.54%)	7,617 (75.65%)	16,481 (87.50%)	19,951 (87.74%)
Bachelor's Degree or Higher	1,124 (14.51%)	1,980 (19.66%)	5,990 (31.80%)	7,925 (34.85%)

Language Trends

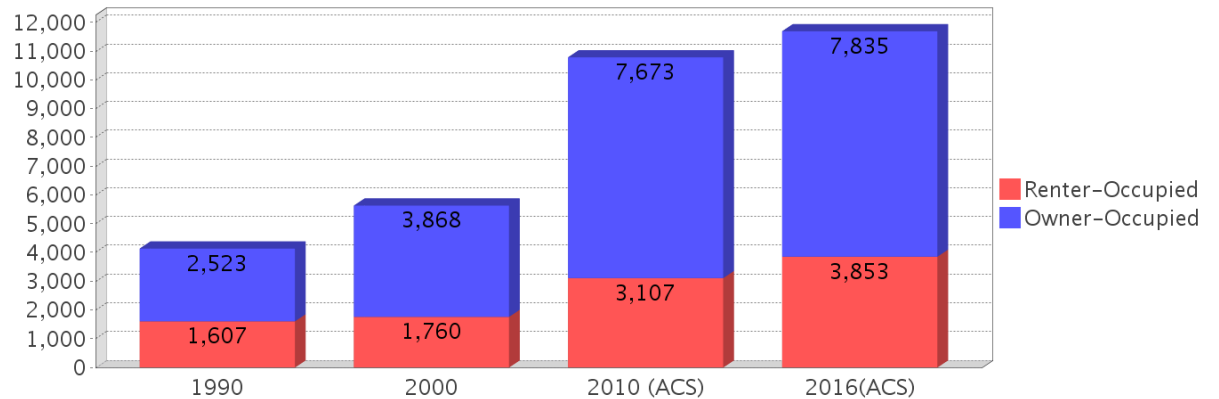
Age 5 and Over

Description	1990	2000	2010 (ACS)	2016(ACS)
Speaks English Well	214 (1.95%)	456 (3.20%)	1,596 (5.94%)	1,887 (5.75%)
Speaks English Not Well	NA (NA)	472 (3.32%)	1,315 (4.90%)	1,364 (4.15%)
Speaks English Not at All	NA (NA)	294 (2.06%)	504 (1.88%)	944 (2.87%)
Speaks English Not Well or Not at All	217 (1.98%)	766 (5.38%)	1,819 (6.78%)	2,308 (7.03%)

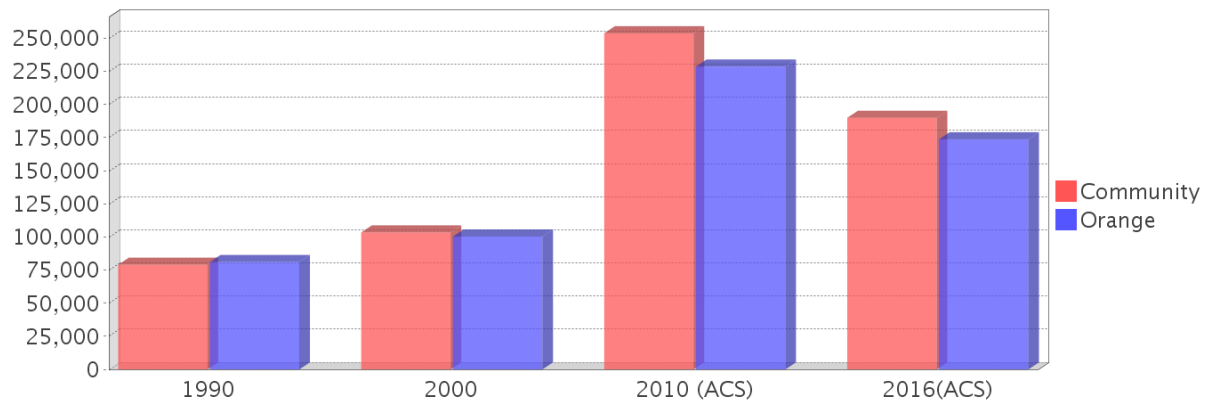
Housing Trends

Description	1990	2000	2010 (ACS)	2016(ACS)
Total	4,555	6,079	11,973	12,672
Units per Acre	0.56	0.80	1.46	1.55
Single-Family Units	2,898	4,236	9,273	9,985
Multi-Family Units	871	1,243	1,537	2,098
Mobile Home Units	328	599	800	589
Owner-Occupied Units	2,523	3,868	7,673	7,835
Renter-Occupied Units	1,607	1,760	3,107	3,853
Vacant Units	425	451	1,193	984
Median Housing Value	\$79,000	\$103,400	\$253,750	\$189,950
Occupied Housing Units w/No Vehicle	380 (9.20%)	471 (8.37%)	529 (4.91%)	597 (5.11%)

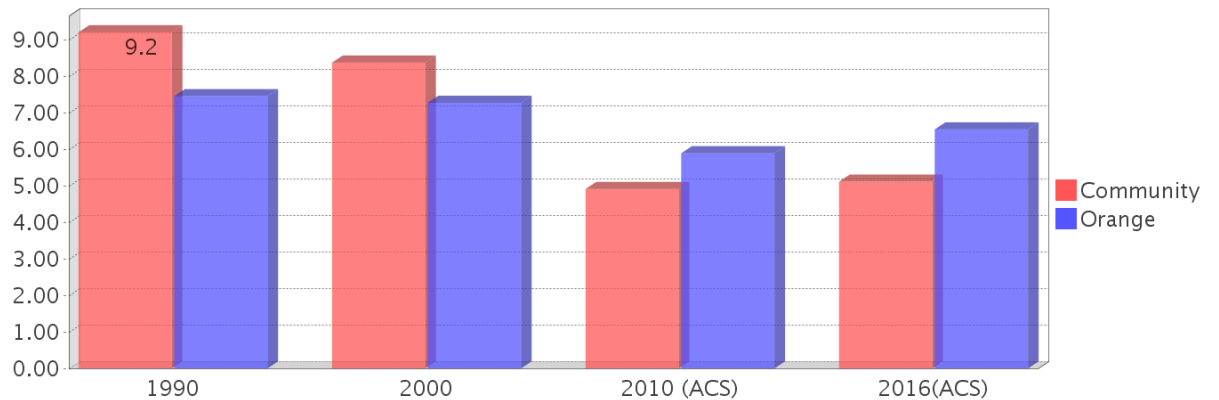
Housing Tenure



Median Housing Value Comparison

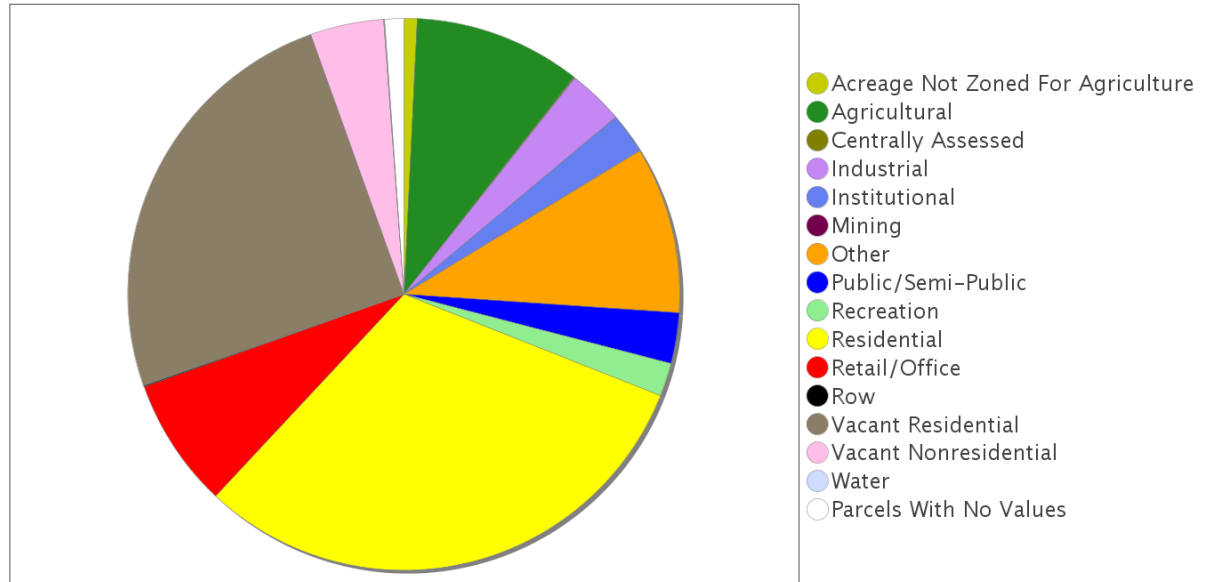


Occupied Units With No Vehicles Available

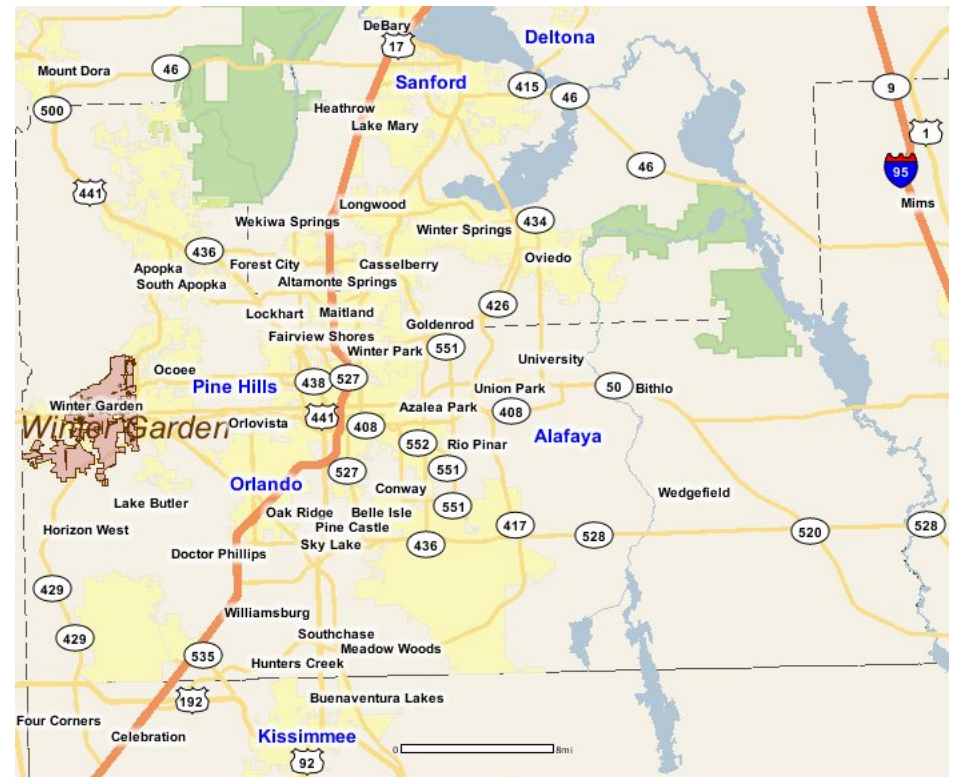
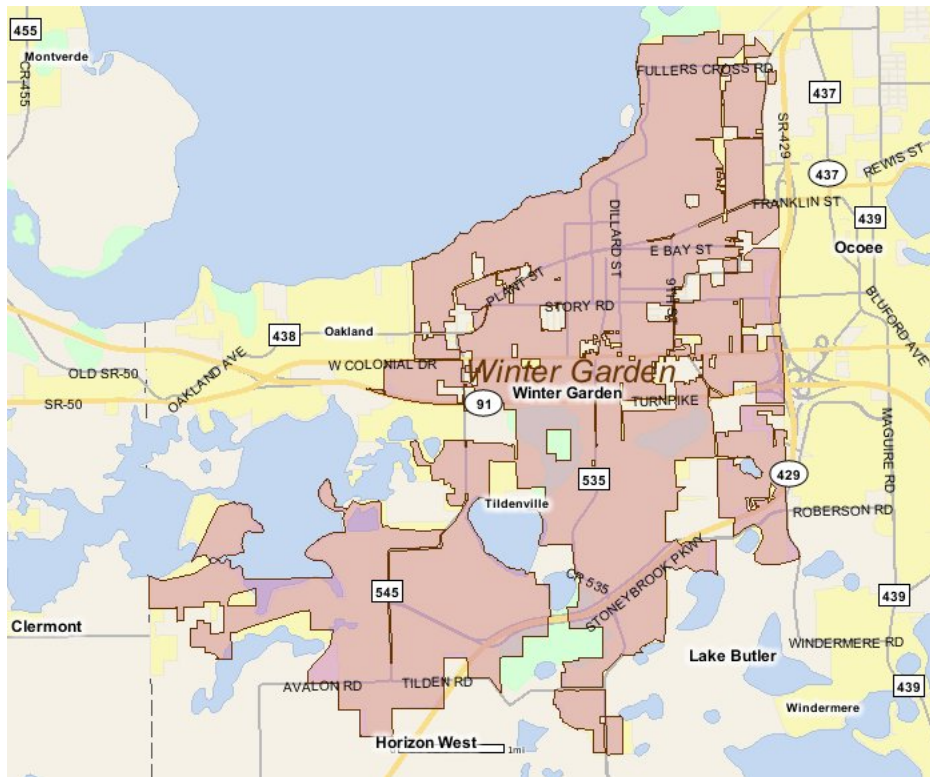


Existing Land Use

Land Use Type	Acres	Percentage
Acreage Not Zoned For Agriculture	68	0.68%
Agricultural	877	8.78%
Centrally Assessed	5	0.05%
Industrial	294	2.94%
Institutional	211	2.11%
Mining	0	0.00%
Other	873	8.74%
Public/Semi-Public	265	2.65%
Recreation	174	1.74%
Residential	2,764	27.67%
Retail/Office	679	6.80%
Row	7	0.07%
Vacant Residential	2,223	22.25%
Vacant Nonresidential	385	3.85%
Water	5	0.05%
Parcels With No Values	99	0.99%



Location Maps



Community Facilities

The community facilities information below is useful in a variety of ways for environmental evaluations. These community resources should be evaluated for potential sociocultural effects, such as accessibility and relocation potential. The facility types may indicate the types of population groups present in the project study area. Facility staff and leaders can be sources of community information such as who uses the facility and how it is used. Additionally, community facilities are potential public meeting venues.

Assisted Housing (Points)

Facility Name	Address	Zip Code
WEST POINTE VILLAS	1201 WEST POINTE VILLAS BLVD.	34787
EVERGREEN GARDEN APARTMENTS	678 W BAY STREET	32787
OSPREY LANDING APARTMENTS	584 WEST BAY ST	32787
COUNTRY GARDEN	15122 WEST COLONIAL DRIVE	347876017
OSPREY LANDING APARTMENTS II	584 WEST BAY ST	32787
BAY POINTE APTS	1053 HORIZON STREET	34787
PARK AVENUE VILLAS	48 SOUTH PARK AVENUE	34787

Community Centers (Points)

Facility Name	Address	Zip Code
YMCA - ROPER FAMILY CENTER	100 WINDERMERE RD	34787
JESSIE BROCK COMMUNITY CENTER	310 N DILLARD ST	34787
LIONS CLUB - WINTER GARDEN	39 ORANGE TREE CIR	34787
AMERICAN LEGION POST 63	271 W PLANT ST	34787
CHAMBER OF COMMERCE - WEST ORANGE	12184 W COLONIAL DR	34787
ELKS LODGE 2165	700 9TH ST	34787
KNIGHTS OF COLUMBUS 11189 - RESURRECTION	1211 S VINELAND RD	34787
MASONIC LODGE - WINTER GARDEN 165 F & AM	230 W BAY ST	34787
BOYS & GIRLS CLUB - WEST ORANGE BRANCH	303 W CROWN POINT RD	34787

Cultural Centers (Points)

Facility Name	Address	Zip Code
WINTER GARDEN LIBRARY	805 E PLANT ST	34787
CENTRAL FLORIDA RAILROAD MUSEUM	101 S BOYD ST	34787
GARDEN THEATRE	160 W PLANT ST	34787

Fire Stations (Points)

Facility Name	Address	Zip Code
WINTER GARDEN FIRE DEPARTMENT STATION 22	13521 FOXCREST BLVD	34787
WINTER GARDEN FIRE DEPARTMENT STATION 23	1029 FULLERS CROSS RD	34787
WINTER GARDEN FIRE DEPARTMENT STATION 24	131 E PALMETTO ST	34787

Florida Parks and Recreational Facilities (Points)

Facility Name	Address	Zip Code
NEWTON PARK & BOAT RAMP	29 W GARDEN AVE	34787
WEST ORANGE TRAIL-WINTER GARDEN STATION	455 E PLANT ST	32808
VETERANS MEMORIAL PARK	420 S PARK AVE	34787
ZANDERS PARK AND BOULER POOL	362 11TH ST	34787
DOWNTOWN SPLASHPAD AND PAVILION	104 S LAKEVIEW AVE	34787
MAPLE STREET PARK	135 FLORIDA AVE	34787
WEST ORANGE DOG PARK	12400 MARSHALL FARMS RD	34787
WEST ORANGE PARK	150 WINDERMERE RD	34787
NEWTON PARK AND FARNSWORTH POOL	31 W GARDEN AVE	34787
JESSIE BROCK COMMUNITY CENTER PARK	1723 BRUTON BLVD	32805
WINTER GARDEN BALL FIELDS	415 S PARK AVE	34787
COVINGTON PARK	620 MEADOW GLADE DR	34787
OLD FIRE STATION RECREATION CENTER	127 S BOYD ST	34787

Facility Name	Address	Zip Code
WALKER FOOTBALL FIELD AND SAM WILLIAMS LITTLE LEAGUE COMPLEX	415 S PARK AVE	34787
DOCTOR BRADFORD MEMORIAL PARK	220 W DIVISION ST	34787
BRADDOCK PARK	13460 LAKE BUTLER BLVD	34786
WEST ORANGE TRAIL-CHAPIN STATION	501 W CROWN POINT CROSS RD	34787

Government Building

Facility Name	Address	Zip Code
U S POST OFFICE - WINTER GARDEN	15155 W COLONIAL DR	34787
U S POST OFFICE - DOWNTOWN WINTER GARDEN	207 W PLANT ST	34787
ORANGE COUNTY HEALTH DEPARTMENT - WINTER GARDEN HEALTH CENTER	1210 E PLANT ST	34787
ORANGE COUNTY TAX COLLECTOR - WEST ORANGE TAG AGENCY	14035 W COLONIAL DR	34787
CITY OF WINTER GARDEN CITY HALL	300 W PLANT ST	34787

Healthcare Facilities (Geocoded)

Facility Name	Address	Zip Code
PHYSICIAN ASSOCIATES LLC	3724 WINTER GARDEN VINELAND ROAD	34787
LOCH HAVEN OB/GYN	15502 STONEYBROOK PARKWAY, SUITE 112	34787
CENTRAL FLORIDA KIDNEY CTRS INC WG	741 S DILLARD STREET	34787
CENTER FOR PEDIATRICS ADOLESCENT MEDICINE	15502 STONEYBROOK PARKWAY, SUITE 2-108	34787
QUALITY HEALTH CARE CENTER	12751 W COLONIAL DRIVE	34787
CAPPLEMAN, EDWARDS, CASTELLO MD PA	436 N DILLARD STREET	34787
COLONIAL LAKES HEALTH CARE	15204 W COLONIAL DRIVE	34787
NIGHT LITE PEDIATRICS	13750 W COLONIAL DRIVE 250	34787
PAIN CARE MANAGEMENT OF ORLANDO DBA PAIN CARE FIRS	13650 W COLONIAL DRIVE, SUITE 100	34787
ADVANCED PEDIATRICS	3712 WINTER GARDEN VINELAND ROAD	34787
WINTER GARDEN URGENT CARE LLC	736 S DILLARD STREET	34787
HEALTH CENTRAL PARK	411 N DILLARD STREET	34787
WENCZAK, BARBARA A MD	12200 W COLONIAL DRIVE, SUITE 102	34787
OCHD/WINTER GARDEN CLINIC	1210 E PLANT STREET, SUITE 300	34787
KID MD PEDIATRICS LLC	13848 TILDEN ROAD, SUITE 230	34787
WINTER GARDEN DIALYSIS	1222 WINTER GARDEN VINELAND RD	34787
FLORIDA HOSPITAL MEDICAL GROUP FAMILY MEDICINE AT	3131 DANIELS ROAD, SUITE 106	34787
KHOUZAM, NAGUI N MD PA	54 E PLANT STREET	34787
ALL ABOUT KIDS PEDIATRICS	4020 WINTER GARDEN VINELAND ROAD	34787
WINTER GARDEN FAMILY HEALTH	13275 W COLONIAL DRIVE	34787

Law Enforcement Facilities (Points)

Facility Name	Address	Zip Code
WINTER GARDEN POLICE DEPARTMENT	251 W PLANT ST	34787

Mobile Home Parks in Florida

Facility Name	Address	Zip Code
WESTWOOD VILLAGE	850 SWALLOWTAIL DR	34787
HYDE PARK	14253 WEST COLONIAL DRIVE	34787
TRAILER CITY MHP	21 EAST CREST AVENUE	34787
ORANGE TREE MHP	S PARK AVE	34787

Public and Private Schools (Points)

Facility Name	Address	Zip Code
PASTORA BEULA ACADEMY	13 E. CYPRESS STREET	34787
BRIGHT HORIZONS AT WINTER GARDEN	1660 DANIELS ROAD	34787
WHISPERING OAK ELEMENTARY	15300 STONEYBROOK WEST PY	34787
LAKEVIEW MIDDLE	1200 W BAY ST	34787
HOPE CHARTER	1550 EAST CROWN POINT RD	34787
STONEYBROOK ACADEMY	15493 STONEYBROOK WEST PARKWAY	34787

Facility Name	Address	Zip Code
MORNINGSIDE STEM ACADEMY	818 GRANDE REGAL POINTE	34787
THE KING'S ACADEMY	1302 EDGEWAY DRIVE	34787
SUNRIDGE ELEMENTARY	14455 SUNRIDGE BLVD	34787
DILLARD STREET ELEMENTARY	310 N DILLARD ST	34787
ST LILLIE V HIGH SCHOOL	1165 E PLANT ST STE 7	34787
CHILDRENS LIGHTHOUSE LEARNING CENTER	220 WINDERMERE RD	34787
UCP WEST ORANGE CHARTER	1297 WINTER GARDEN-VINELAND RD	34787
VISION EDUCATIONAL LEARNING CENTER	115 9TH ST	34787
LEGACY HIGH CHARTER	1550 EAST CROWN POINT RD	34787
WEST ORANGE MONTESSORI SCHOOL	227 S MAIN ST	34787
BETHLEHEM'S CHRISTIAN ACADEMY	55 CENTER ST	34787
COMMUNITY CHRISTIAN LEARNING CENTER, CORP - WINTER GARDEN	305 BEULAH RD	34787
FOUNDATION ACADEMY	15304 TILDEN RD	34787
CRANIUM ACADEMY	4068 WINTER GARDEN VINELAND RD	34787
FOUNDATION ACADEMY	125 E PLANT ST	34787
MONTESSORI OF WINTER GARDEN CHARTER	856 E PLANT ST	34787
SUNRIDGE MIDDLE	14956 SUNRIDGE BLVD	34787
STARCHILD ACADEMY WINTER GARDEN	1324 WINTER GARDEN VINELAND RD	34787
RESURRECTION PRESCHOOL	1211 WINTER GARDEN VINELAND RD	34787
MESSIAH ACADEMY	241 N. MAIN STREET	34787
APPLIED BEHAVIOR CENTER FOR AUTISM	1450 DANIELS ROAD	34787
CALVARY CHRISTIAN SCHOOL	631 SOUTH DILLARD STREET	34787
MONTESSORI ACADEMY OF WINTER GARDEN	13337 W COLONIAL DR	34787

Religious Centers (Points)

Facility Name	Address	Zip Code
CHURCH OF CHRIST	1450 DANIELS ROAD	34787
WINTER GARDEN BAPTIST CHURCH	943 W STORY ROAD	34787
NEW INSPIRATION MISSIONARY	617 S LAKEVIEW AVENUE	34787
CHURCH OF GOD OF PROPHECY	855 S DILLARD STREET	34787
CONTRACT CONNECTION	1446 EAST SPRING RIDGE CIRCLE	34787
OASIS COMMUNITY CHURCH	607 AVALON ROAD	34787
FIRST UNITED METHODIST CHURCH	125 NORTH LAKEVIEW AVENUE	34787
NORTH ORLANDO SEVENTH DAY	1114 E PLANT STREET	34787
BAY STREET CHURCH OF GOD	1301 E BAY STREET	34787
RESURRECTION CATHOLIC CHURCH	1211 WINTER GARDEN VINELAND RD	34787
WINTER GARDEN FIRST BAPTIST CHURCH	125 E PLANT ST	34787
9TH ST CHURCH OF CHRIST	115 9TH STREET	34787
BANANA BAY BAPTIST CHURCH	1333 E CROWN POINT ROAD	34761
PEOPLE OF FAITH LUTHERAN CHURCH	228 WINDERMERE ROAD	34787
GARDEN CATHEDRAL CHURCH OF GOD	1001 W PLANT STREET	34787
CORNERSTONE COMMUNITY CHURCH	1550 E CROWN POINT ROAD	34761
FAITH FAMILY COMMUNITY CHURCH OF NAZARENE	12525 WARRIOR ROAD	34787
CHIEF CORNER STONE LOVE OUTRCH	820 S PARK AVENUE	34787
MACEDONIA UNITED FREEWILL BAPT	885 1/2 E BAY STREET	34787
VINELAND ROAD CHRISTIAN FELLOWSHIP	850 VINELAND ROAD	34787
CALVARY BAPTIST CHURCH - CHAPEL	631 SOUTH DILLARD STREET	34787
SAINT PAUL AFRICAN METHODIST EPISCOPAL CHURCH	330 CENTER STREET	34787
TEMPLE FREEWILL BAPTIST CHURCH	1208 E STORY ROAD	34787
BIBLE CHAPEL INC OF WINTER GARDEN	112 TILDENVILLE SCHOOL RD	34787
LIONS & EAGLES INTERNATIONAL FELLOWSHIP INCORPORATED	442 N DILLARD ST	34787
WINTER GARDEN SPANISH SEVENTH-DAY ADVENTIST CHURCH	46 E MILLER ST	34787
CHURCH OF THE MESSIAH	260 N WOODLAND STREET	34787
BETHLEHEM MISSIONARY BAPTIST	67 NORTH STREET	34787
WEST ORLANDO BAPTIST CHURCH	1006 E CROWN POINT ROAD	34761

Social Services (Geocoded)

Facility Name	Address	Zip Code
BETHANY CHRISTIAN SERVICES	29 W SMITH ST	34787

US Census Places

Facility Name
Winter Garden
Oakland
Horizon West
Lake Butler
Ocoee
Tildenville

Veteran Organizations and Facilities (Points)

Facility Name	Address	Zip Code
AMERICAN LEGION POST 63	271 W PLANT STREET	34787