EAST CENTRAL FLORIDA CORRIDOR EVALUATION STUDY

Existing Conditions Data Report
February 2018

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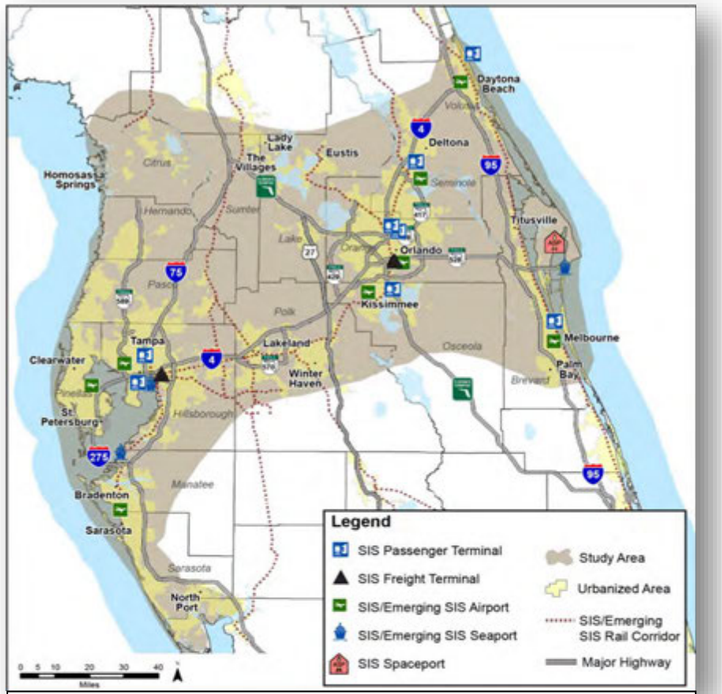
Project Overview

1.1 Project Background

In 2013, the Florida Department of Transportation (FDOT) completed the Tampa Bay-Central Florida Concept Study as part of the Future Corridors Initiative, a statewide effort to plan for major transportation corridors critical to the state's economic competitiveness and quality of life over the next 50 years. This study examined the long-term mobility and connectivity needs in the 15 counties from Tampa Bay to the Atlantic Coast, also referred to as the "Super Region". The Concept Study recommended that planning proceed to the next stage with a pilot project to address regional connectivity gaps in East Central Florida.

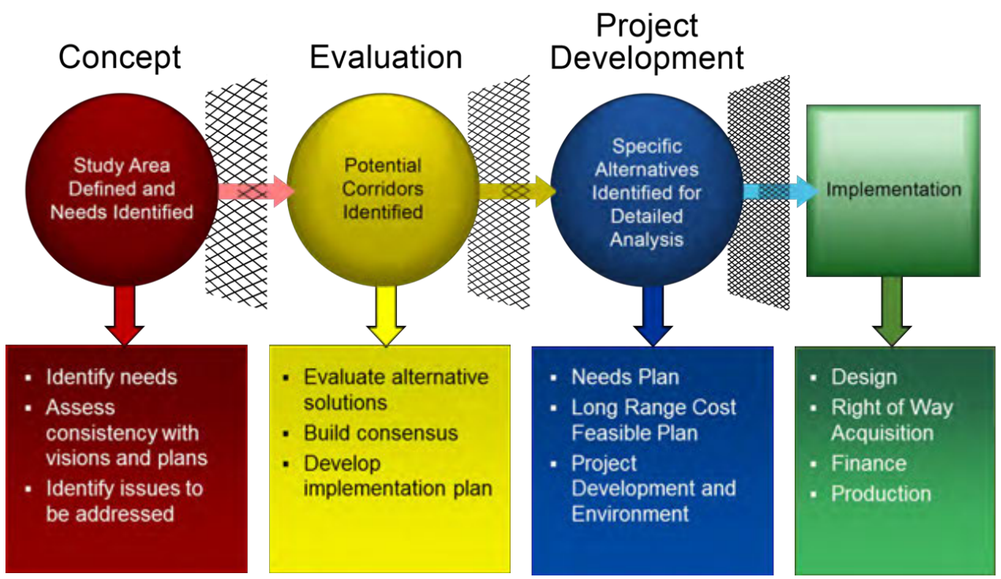


Concept Study Area

Following the Concept Study, Governor Scott, by Executive Order 13-319, created the East Central Florida Corridor Task Force (hereafter referred to as the Task Force) to develop consensus recommendations for future transportation corridors in portions of Brevard, Orange, and Osceola counties. The work of the Task Force began implementation of key recommendations from the Concept Study, providing a transition from Concept to Evaluation. At this stage, the FDOT and the Florida Department of Economic Opportunity (DEO) worked together to support the Task Force in developing future corridor recommendations. The Task Force led a collaborative effort to develop recommendations, including nine corridor alternatives for further study, a proposed Action Plan, and 21 Guiding Principles for strategic transportation corridor decisions (Appendix A).

The overall vision of Future Corridors is to efficiently move people and goods by providing multiple transportation modes and corridors where all the components act in concert with each other to maximize regional mobility. The FDOT developed the following three-stage process as part of the state's Future Corridors Initiative for planning the future of major transportation corridors:

Future Corridor Planning Process



1. Prepare a high-level Concept Study to identify anticipated statewide connectivity and mobility needs in the study area.
2. Conduct an Evaluation Study of one or more segments of the full study area to identify and assess potential alternative solutions to the anticipated mobility and connectivity needs.
3. Use FDOT's established Project Development processes to conduct more detailed analysis of specific alternative corridor improvements.

1.2 Project Introduction

In January 2016, FDOT District Five commenced the East Central Florida Corridor Evaluation Study (ECFCES) as part of the next phase of the Future Corridors planning process, and as a pilot for subsequent concept evaluations in other areas of the state. The purpose of the ECFCES is to advance the Action Plan and Guiding Principles developed by the Task Force. By developing an approach by which to evaluate the Task Force recommendations, this study will further refine nine corridor alternatives, with the goal of developing a suite of planning-level projects, assumptions, and tools, including scenario-based strategies, which can be advanced into the project development phase. The proposed Action Plan calls for the evaluation of nine multimodal corridor alternatives including five existing corridors and four new multimodal corridors (see Action Plan below and Study Area in Figure 1.2-1).

The ECFCES is part of the process to implement the fifth recommendation of the 2013 Concept Study, which states:

Convene a collaborative process to assess future development patterns and associated connectivity and mobility needs in one portion of the Super Region, and to refine the planning process for future use. *In parallel with these initial activities, FDOT should convene a collaborative process to document more fully future development patterns in one portion of the Super Region, to identify associated mobility and connectivity needs, and to develop solutions for addressing these needs in the context of the region's economic, community, and environmental goals. The intent of this pilot would be to refine the future corridor planning process while providing solutions to short-term needs and opportunities in the pilot study area of the overall Super Region.*

The fifth recommendation defines a potential pilot study area spanning from Orlando and Kissimmee to Cape Canaveral and Palm Bay, covering Brevard, Orange, and Osceola counties. The Concept Study identifies this region based on projected population over the next 50 years; land use entitlements (such as for the Viera Development of Regional Impact and the Deseret Ranch Sector Plan); the pace of development activities east of Orlando in the Lake Nona/Medical City area; and the unique transportation needs of the Space Coast as it evolves from the Space Shuttle Program, to the rapidly-growing and graduating commercial aerospace economy. The ECFCES planning horizon is 2060 to match regional development plans within the study area.

PROPOSED ACTION PLAN

1. Identify future investment needs to maximize the use of and add capacity to existing east-west corridors between Orange, Osceola, and Brevard counties. These corridors include the State Road 528 corridor from Orlando to Port Canaveral (Alternative A, Figure ES.1); the State Road 50/State Road 405 corridor from downtown Orlando and the University of Central Florida to Cape Canaveral (Alternative B, Figure ES.1); the State Road 520 corridor from eastern Orange County to Cocoa (Alternative C, Figure ES.1); and the U.S. 192 corridor from Kissimmee to Melbourne (Alternative E, Figure ES.1).

2. Identify future investment needs to maximize the use of, add capacity to, and improve the connectivity between existing and planned north-south corridors in eastern Orange and Osceola counties. These should include multimodal improvements to the Narcoossee Road corridor and the State Road 417 corridor (Alternative G, Figure ES.1); and improved connectivity among the existing Orange County expressway system, the planned Osceola County expressway system, and Florida's Turnpike.

3. Conduct one or more Evaluation Studies of potential new east-west corridors between Orange, Osceola, and Brevard counties. The proposed study or studies should consider a multimodal corridor along the Orange/Osceola county line to provide connectivity between the Orlando International Airport/Lake Nona area, the Northeast District of Osceola County, the North Ranch Master Plan, and the State Road 520 corridor (Alternative D, Figure ES.2); and a multimodal corridor from the Orlando International Airport/Lake Nona area through the proposed North Ranch Master Plan to central/southern Brevard County, including the potential need for an additional crossing of the St. Johns River (Alternative F, Figure ES.2).

4. Conduct one or more Evaluation Studies of potential new north-south corridors in eastern Orange and Osceola counties. The proposed study or studies should consider continuation of the project development process for the Northeast Connector Expressway and extension of this expressway from its planned terminus at the Osceola Parkway Extension to the State Road 528 corridor, including potential multimodal improvements (Alternative H, Figure ES.3); and a new multimodal corridor serving planned population centers on the North Ranch and connecting to existing east-west corridors including U.S. 192, Nova Road, State Road 520, State Road 528, and State Road 50/408 (Alternative I, Figure ES.3).

5. Develop a regional transit system plan to identify and set priorities for long-term transit investments in the three study area counties and the broader Central Florida region.

6. Amend existing local and regional plans, as appropriate, to include the corridors and the study areas described in actions 1 through 5, as well as to ensure consistency with the recommended guiding principles. These plans would include local government comprehensive plans; metropolitan planning organization long-range transportation plans; expressway authority master plans; the Strategic Regional Policy Plan; and the Comprehensive Economic Development Strategy.

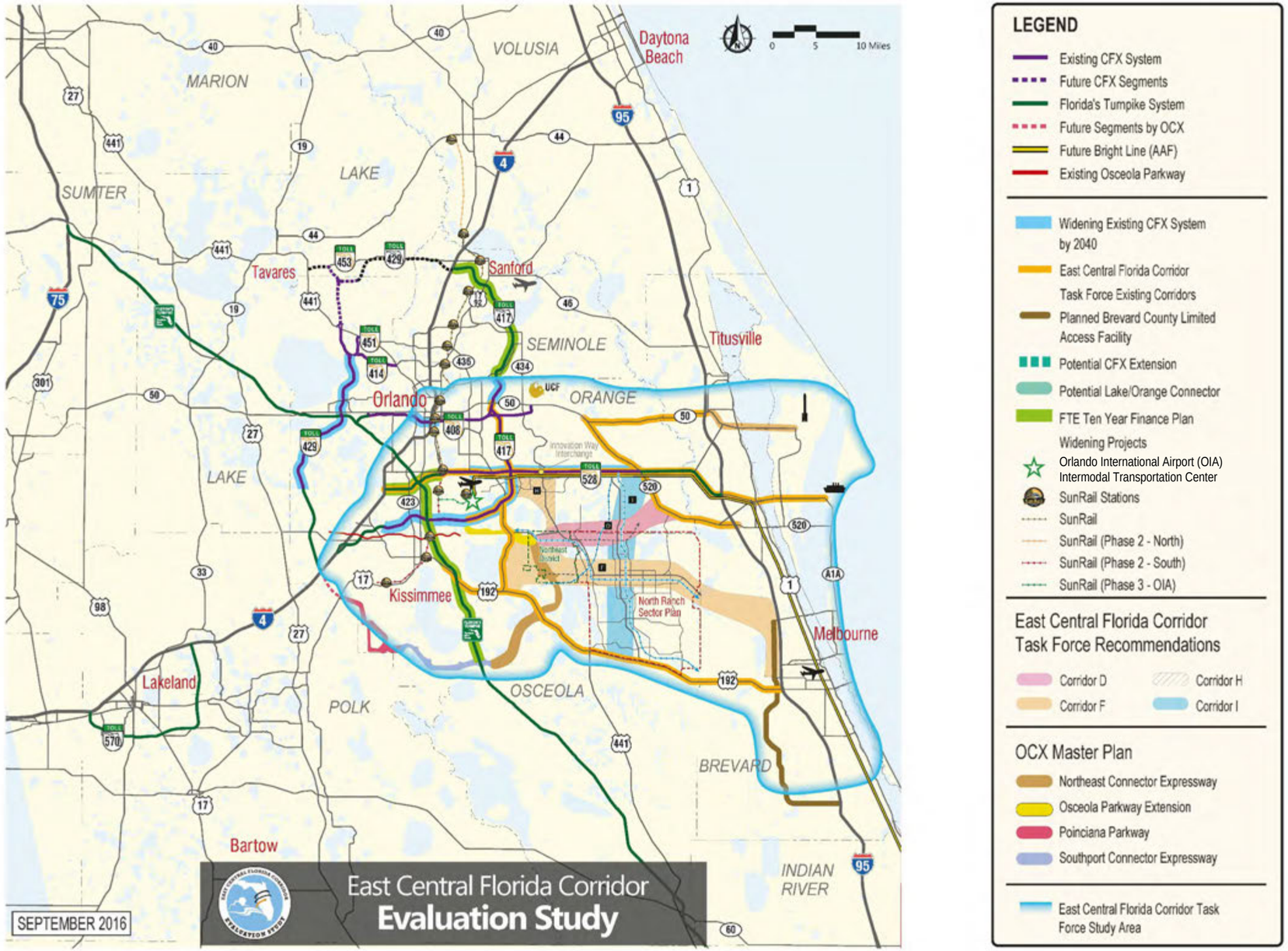
7. Develop an agreement among local governments, metropolitan planning organizations, transportation authorities, water management districts, and other entities to strengthen consistency among future transportation, land use, and water supply plans.

8. Develop planning tools, incentives, compensation approaches, and legal instruments to reserve and protect rights-of-way to support implementation of the transportation corridors recommended in the Evaluation Studies.

9. Develop a framework for potential partnership and co-location agreements with railroads, utilities, or other infrastructure providers to support implementation of the transportation corridors recommended in the Evaluation Studies.

Action Plan – Nine Recommendations

Figure 1.2-1: Study Area Map



The main objectives of the ECFCES is to identify, evaluate, and prioritize transportation investments that, if implemented over time by FDOT and other partners, would lead to the regional transportation network most consistent with the 21 Guiding Principles that the Task Force adopted as part of its Final Report.

The ECFCES provides an evaluation approach that will help identify and prioritize investments in transportation infrastructure and services to:

- **Address regional connectivity and mobility gaps** for the next 40-60 years by developing and enhancing multimodal transportation corridors.
- **Connect existing and future regional centers** where people live, work, learn, and play, considering timing and location of development expected to occur through 2060.
- **Improve access to, and connections between, major transportation hubs and corridors across all modes to support growth in tourism and trade**.
- Enhance and support **emergency evacuation**, response, and post-disaster recovery activities.

1.3 Project Approach

Corridor projects are seen as enhancements that are intended to increase the use of alternative modes of travel and thereby assist the Metropolitan Planning Organizations (MPOs) and local governments in meeting quality of life goals and objectives. The process of refining the corridor alternatives and developing projects to move forward into the project development phase was designed as a collaborative effort. Throughout the study, project partners and stakeholders are engaged as part of the development of a common vision leading to the identification of viable alternatives to be evaluated in the next project phase.

Strategies, recommendations, and improvements developed through this study will maximize the multimodal potential of existing corridors and identify viable new corridors required to sustain the economic progress of the region and protect significant investments being made today. The timeliness of this project was further stressed when Hurricane Matthew targeted the east coast of Florida in October 2016, causing bumper-to-bumper traffic on SR 528 as motorists attempted to evacuate the Space Coast and head west towards Orlando. Maintaining the safe and efficient operation of Central Florida's corridors, and ensuring the sufficiency of the transportation system itself are critical to effectively accommodating a coastal evacuation from Brevard County. The five existing corridors under review play a vital role in the emergency evacuation, emergency response, and post-disaster recovery activities (see Figure 1.3-1).

The evaluation approach will consider both regional and statewide needs, as well as align with the goals of the Florida Transportation Plan (FTP), Strategic Intermodal System (SIS) Policy Plan, Freight Mobility and Trade Plan, and the Central Florida regional vision, "How Shall We Grow?" including the 4C's: Conservation, Countryside, Centers, and Corridors.

This study refines and examines the nine corridor alternatives with the following goals:

- Develop a quantitative and qualitative evaluation approach, consistent with the 21 Guiding Principles and the goals of the Florida Transportation Plan.
- Support the statewide Future Corridors Initiative through the development of an evaluation framework.
- Identify a suite of transportation investments to address regional connectivity and mobility gaps by developing and enhancing multimodal transportation corridors.
- Identify projects to move forward to project development.

The purpose of this Existing Conditions Data Report is to document the existing facilities, conditions, and previous studies conducted relevant to the ECFCES. The Existing Conditions Data Report is a planning-level evaluation of safety, environmental, and geometric concerns along five existing corridors where needs and possible improvement options are identified. This process combines planning and engineering efforts to develop a range of feasible improvement strategies. As part of the overall analysis, improvement plans, issues/constraints, as well as an inventory of existing transportation facilities are evaluated.

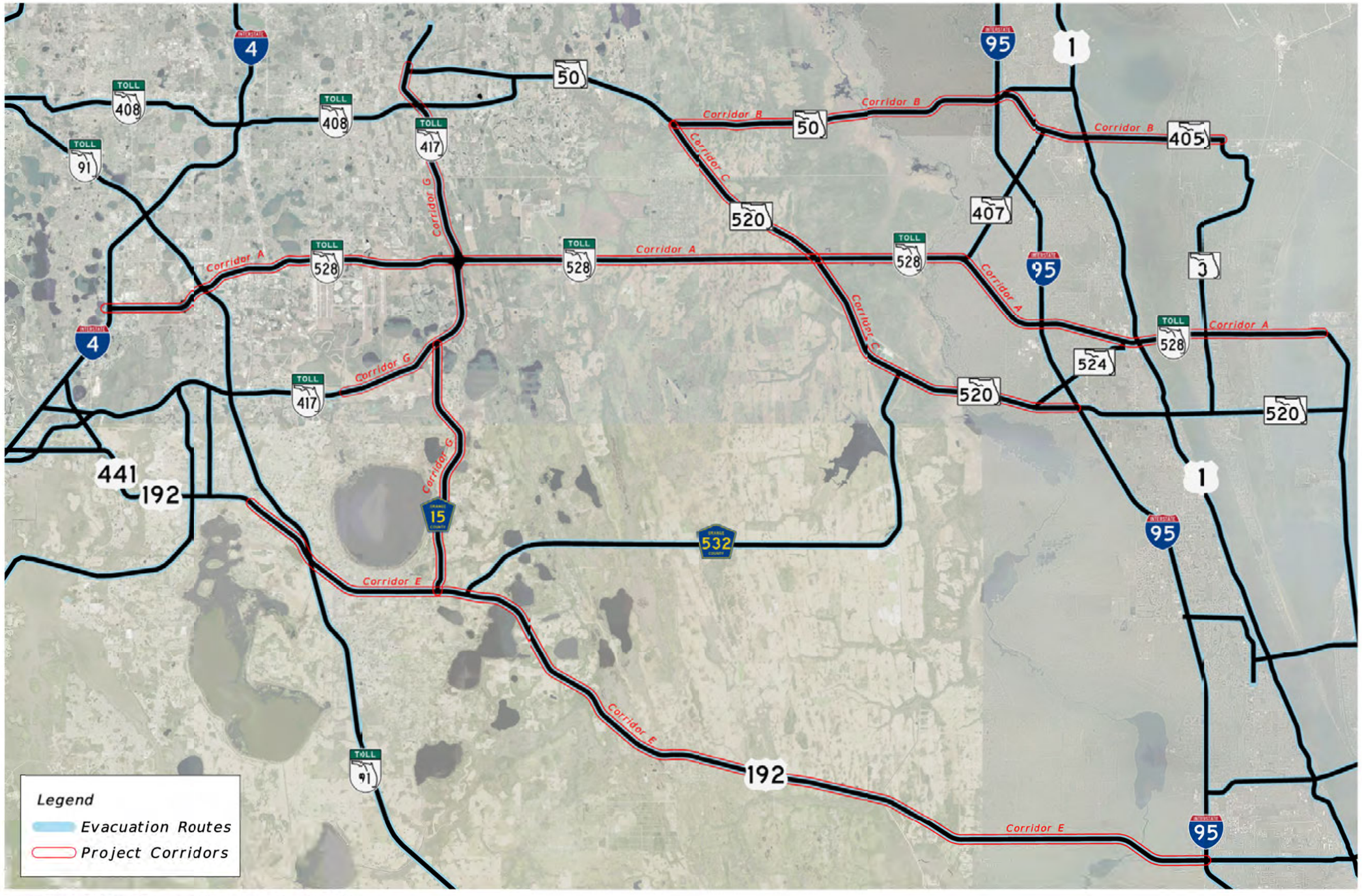
Following the Existing Conditions Data Report, a Future Conditions Report will be developed to document future characteristics and conditions relevant to this project. A Purpose and Need Statement will be crafted to define the project goals and objectives. The Final Analysis Report will build upon the Existing Conditions and Purpose and Need Statement to determine transportation improvement strategies.

1.3.1 Project Advisory Group

A Project Advisory Group (PAG) was assembled to serve as a liaison to interested stakeholders throughout the study area. The PAG comprised state, regional, and local-level representation. The PAG is a special advisory resource to the Study Team that advises upon and ensures that regional priorities are considered and incorporated into the ECFCES. The PAG reviews and provides input into the study's key deliverables, including but not limited to: existing and future conditions analyses, evaluation criteria, purpose and need statements, funding/financing reports, and final reporting of the study results. For a listing of PAG members, see Appendix B.

ECFCES PAG Meeting Summary

MEETING DATE	AGENDA
June 9, 2016	PAG #1: Project Kick-Off – Introduction/Overview
September 20, 2016	PAG #2: Progress updates, Project Purpose and Need, and next steps
December 6, 2016	PAG #3: Regional collaboration, Regional Transit Study (RTS) PAG #1 Update, Central Florida Tourism Study, CFX update, and existing/future corridors overview
May 18, 2017	PAG #4: Progress updates from ECFCES, RTS, CFX, Central Florida Partnership, TransFuture, and ECFRPC Resiliency and Route Condition tools



Source: Florida Division of Emergency Management, May 5th, 2017.

East Central Florida Corridor Evaluation Study

FDOT

Project Corridor Evacuation Routes

FIGURE 1.3-1

Regional Transit Study Meeting Summary

MEETING DATE	AGENDA
October 14, 2016	RTS PAG #1: Introductions, background of study, mission/scope, PAG involvement, resources, status and schedule
January 13, 2017	RTS PAG #2: Notice to Proceed received, clarifying what makes the RTS different and important, tourism study update
April 21, 2017	RTS PAG #3: Study update, coordination with TPO's on interpretation of their maps and plans
July 14, 2017	RTS PAG #4: Travel pattern and market analysis presentation and discussion
October 3, 2017	RTS PAG #5: ECFCES Update, Transit-Supportive Land Use Policies: Review & Summary, Funding for Transit: A Review, Multimodal Hub Accessibility Assessment Study, Transit Market Segmentation Analysis, East Central Florida Corridor Evaluation Study Update

1.3.2 Project Stakeholders

The Stakeholder Outreach Program was developed at the onset of the study with the purpose of establishing cooperative working relationships between all project stakeholders including the FDOT, Orlando Metropolitan Planning Organization, Space Coast Transportation Planning Organization, Brevard, Orange, and Osceola counties, and local municipalities. The Study Team has held a number of meetings with project partners and stakeholders. The graphics below display the activity timeline for 2016 and 2017. For a listing of Project Stakeholders, see Appendix C.

Stakeholder Meeting Summary

MEETING DATE	AGENDA	AGENCY
May 10, 2016	FDOT Cocoa one-way-road feasibility, AAF Brightline, extending study north to Titusville, Farmton DRI, St. Cloud and West Melbourne want to create/revitalize downtowns, coordination with other regional plans/studies	ECFRPC
August 11, 2016	CFX/Tavistock coordination with Deseret Ranch	CFX
August 14, 2016	E-W corridor coordination with Viera DRI, Washingtonian Rd, I-95 relief, conservation lands	Duda/Viera Company
August 16, 2016	ECFCES Update, planning for coordination with ECFRPC resiliency and sustainability work	ECFRPC
August 16, 2016	ECFCES update, RTS, future corridor "H", Narcoossee/I-95 congestion, preserving ROW	Deseret Ranch
August 26, 2016	ECFCES Update, planning for coordination, CEDS, SRPP, climate change/sustainability	ECFRPC
September 21, 2016	Study update, future corridor "H", Sunbridge (2047)	Tavistock
November 29, 2016	ECFCES update, coordination of future plans/projects, Port Master Plan	Canaveral Port Authority
November 29, 2016	ECFCES update, coordination of future plans/projects, Spaceport Master Plan	Space Florida, Kennedy Space Center, NASA, Cape Canaveral Air Force Station
January 6, 2017	Route Condition Tool, environmental hazard mapping + LMS, green infrastructure workshop, RPC funding need	ECFRPC
February 20, 2017	Deseret Ranch update, ECFCES update, RTS update, CFX concept studies	Deseret Ranch
March 31, 2017	Update on Merritt Island projects, seaport, and spaceport partners, needs coordination and needs from FDOT	Merritt Island Working Group
May 16, 2017	ECFRPC Presentation - *New Avenues in Corridor Planning: Resiliency and Route Condition*	ECFRPC

1.4 Methodology

Existing conditions data was collected and analyzed to document baseline conditions within the study area. Data collection was scoped to be supportive of future phases of project development with data that has a longer period of validity, or "shelf life". This Existing Conditions Data Report documents transportation facilities, context zones, environmental features, and socioeconomic conditions in place today, as well as the information from previous studies relevant to the ECFCES.

To identify existing conditions and future projects pertaining to the project corridors, several planning documents of various scopes were analyzed. Plans with relevant information about/with impacts to the identified corridor areas were considered pertinent. For example, the Osceola County Comprehensive Plan provided information on landscaping requirements for a segment of Corridor E. Major developments were analyzed using statewide DRI data and some county level data where available. For a complete literature review, please see Appendix D.

To ensure the highest attention to detail, the ECFCES synthesizes and assimilates data and findings from several special topic studies, such as the Central Florida Visitor Study (2018), the Central Florida MPO Alliance Regional Transit Study (2018), and the Districtwide Multimodal Connectivity Assessment (2018). Several local and regional planning documents of various scopes were also reviewed.

As noted previously, the Task Force identified five existing corridors (A, B, C, E, & G) for analysis in the ECFCES study area, as well as four potential east-west and north-south corridors. The potential new corridors were adopted by the Central Florida Expressway Authority (CFX) Master Plan (May 2016) and are addressed through their planning process. The ECFCES ensures close coordination between each planning process.

The limits and descriptions for the existing corridors are the following:

- **Corridor A:** SR 528 spans from the I-4/SR 528 interchange in Orange County to the easternmost point of the George King Boulevard interchange ramps in Brevard County
- **Corridor B:** SR 50/SR 405 spans from the westernmost point of the SR 50/SR 520 interchange in Orange County to Space Commerce Way in Brevard County
- **Corridor C:** SR 520 spans from the westernmost point of SR 50/SR 520 interchange in Orange County to the easternmost point of the SR 520/I-95 interchange in Brevard County
- **Corridor E:** US 192 spans from CR 530 in Osceola County to the easternmost point of the US 192/I-95 interchange in Brevard County
- **Corridor G:** SR 417/Narcoossee Road spans (SR417) from SR 50 interchange to Boggy Creek Road in Orange County and (Narcoosee Road) from SR 417 in Orange County to US 192 in Osceola County

Each corridor was subdivided based on County and designated urbanized area. A 1,000-foot buffer from the centerline of each corridor, with a flat buffer end at connecting segments and rounded buffer ends at corridor termini were chosen to avoid potential buffer overlap in data collected. Corridor segments located outside an urbanized area were designated as "rural" with the exception of one segment (Segment G2) which forms the border of an urbanized area and is designated instead as "transitional".

Maps were created for community, roadway, and environmental characteristics. Demographics, existing land use, major developments, community features, and public parcels are included as community characteristics. Noise, historic and archaeological sites, contamination, wetlands, flood zones, and biological resources are included as environmental characteristics. A tabular list of which features were used for each map can be found in Table 1.4-1. Demographics data was primarily based on the 2010-2014 American Community Survey while existing land use was based on land use codes in county parcel data.

Archaeological sites were evaluated using the Environmental Screening Tool (EST) and, due to the sensitive nature of their locations, were not mapped. The majority of files were downloaded from the Florida Geographic Data Library (FGDL) county and city websites, and the Florida Department of Environmental Protection (DEP). Many of the biological resource shapefiles, particularly consultation zones, were provided upon request by the Fish and Wildlife Service (FWS), and some data was derived from EST summaries.

Table 1.4-1: Features Mapped

Sector	Data	Location of Data
Land Use/Zoning	Osceola County FLU and Zoning Shapefiles	Osceola County
	Orange County FLU and Zoning Shapefiles	Orange County
	Unincorporated Brevard County FLU and Zoning Shapefiles	Brevard County
	City of St. Cloud FLU and Zoning Information	City of St. Cloud
	City of Belle Isle FLU and Zoning Information	City of Belle Isle
	City of Titusville FLU and Zoning Information	City of Titusville
	City of Melbourne FLU and Zoning Shapefiles	City of Melbourne
	City of Cocoa FLU and Zoning Shapefiles	City of Cocoa
	City of West Melbourne FLU and Zoning Shapefiles	City of West Melbourne
	Planned Unit Development	FGDL
	Urbanized Areas	FGDL
Context Zones	Future Land Use Data	FGDL
	Visual Surveys	Google Earth
Community Services	Cemeteries	FGDL
	Census Bureau Landmarks - Polygons	FGDL
	Community Centers	FGDL
	Cultural Centers (and Libraries)	FGDL
	Geocoded Assisted Housing	FGDL
	Geocoded Civic Centers	FGDL
	Geocoded Fire Stations	FGDL
	Geocoded Government Buildings	FGDL
	Geocoded Health Care Facilities	FGDL
	Geocoded Hospitals	FGDL
	Geocoded Law Enforcement Facilities	FGDL
	Geocoded Schools	FGDL
	Geocoded Social Service Facilities	FGDL
	Geocoded Veteran Facilities	FGDL
	Mobile Home and RV Parks	FGDL
	Religious Centers	FGDL

Sector	Data	Location of Data
	Wastewater Facilities	FGDL
Demographics	2010 Census Block Groups in Florida (With Selected Fields from the 2010-2014 American Community Survey)	FGDL
Recreation	CERP Boundaries	FGDL
	Existing Recreational Trails	FGDL
	FFWCC Management Areas	FGDL
	Florida Forever BOT Projects	FGDL
	Florida Managed Areas	FGDL
	Florida State Parks	FGDL
	Local Florida Parks and Recreational Facility Boundaries	FGDL
	National Park Projects	FGDL
	Park Parcels	FGDL
	School Parcels	FGDL
	South Florida Water Management District Critical Restoration Project	FGDL
Noise	Community Centers	FGDL
	Cultural Centers	FGDL
	Florida Managed Areas	FGDL
	Florida National Wildlife Refuges	FGDL
	Florida Parcel Data Statewide 2015	FGDL
	Florida State Parks	FGDL
	Geocoded Assisted Housing	FGDL
	Geocoded Cemeteries	FGDL
	Geocoded Health Care Facilities	FGDL
	Geocoded Hospitals	FGDL
	Geocoded Laser Facilities	FGDL
	Geocoded Schools	FGDL
	Group Care Facilities	FGDL
	Marine Facilities	FGDL
	National Park Projects	FGDL
	Noise Barriers	FGDL
	School Parcels	FGDL
	Wild and Scenic Rivers	FGDL
Historic and Archaeological Sites	Florida Site File Archaeological or Historic Sites	EST
	Florida Site File Cemeteries	FGDL
	Florida Site File Field Survey Project Boundaries	FGDL
	Florida Site File Historic Bridges	FGDL
	Florida Site File Historic Standing Structures	FGDL
	Florida Site File Resource Groups	FGDL
	National Register of Historic Places	FGDL
	State Historic Highways	FGDL
Prime Farmlands	Florida Generalized Agricultural Land Use	FGDL
	Prime Farmland in Florida with Associated Level 3 Water Management District Land Use	FGDL
	US Census Urbanized Areas	FGDL
Contamination	Brownfields	Florida DEP
	DEP Cleanup Sites	Florida DEP
	Large Quantity Generators	Florida DEP
	Small Quantity Generators	Florida DEP
	Facilities with NPDES Permits	Florida DEP
	Solid Waste Facilities	Florida DEP
	State Funded Cleanup Sites	Florida DEP

Sector	Data	Location of Data
	Florida NPL Superfund Sites	Florida DEP
	Open Case Waste Cleanup Sites	Florida DEP
	Closed Case Waste Cleanup Sites	Florida DEP
	Inactive Case Waste Cleanup Sites	Florida DEP
	Transporter Facilities	Florida DEP
Wetlands	National Wetlands Inventory	FGDL
	Mitigation Banks in Florida	FGDL
Flood Zones	Flood Hazard Zones of the Digital Flood Insurance Rate Map in the State of Florida	FGDL
Biological Evaluation	Atlantic Coast Plants Consultation Area	Data Request From FWS
	Audubon's Crested Caracara Occurrences in Florida	Data Request From FWS
	Bald Eagle Nests	FGDL
	Black Bear Range	FGDL
	Black Bear Road Kills	FGDL
	Caracara Consultation Area	Data Request From FWS
	Critical Habitat for Frosted Flatwoods Salamander	FWS Website
	Critical Habitat for Reticulated Flatwoods Salamander	FWS Website
	Critical Habitat for West Indian Manatee	FWS Website
	Crocodile Consultation Area	Data Request From FWS
	Ecosystem Management Areas	FGDL
	FWC Bird Rookery Surveys	FGDL
	FWC Black Bear Nuisance Reports	FGDL
	Final Designation of Critical Habitat in Florida for the Elkhorn Coral	FWS Website
	Final Designation of Critical Habitat in Florida for the Staghorn Coral	FWS Website
	Final Designation of Critical Habitat in Florida for the Smalltooth Sawfish	FWS Website
	Florida Forever BOT Projects	FNAI Website
	Florida Grasshopper Sparrow Consultation Area	Data Request From FWS
	Florida National Wildlife Refuges	Environmental Screening Tool
	Florida Panther Mortalities	FGDL
	Florida Sand Skink Suitability	FGDL
	Freshwater Mussels Critical Habitat	Environmental Screening Tool
	Gopher Tortoise Relocations	FGDL
	Gulf Sturgeon Critical Habitat	FWS Website
	Lake Wales Ridge Plants Consultation Areas	Data Request From FWS
	Manatee Consultation Area	Data Request From FWS
	National Park Projects	Environmental Screening Tool
	National Parks and Seashores	Environmental Screening Tool
	Okeechobee Gourd Consultation Area	Data Request From FWS
	Panther Consultation Area	Environmental Screening Tool
	Panther Focus Area	FGDL
	Piping Plover Locations	FGDL
	Piping Plover Consultation Zone	Data Request From FWS
	Piping Plover Critical Habitat	FWS Website
	Public Land	Environmental Screening Tool
	Rare and Imperiled Fish	Environmental Screening Tool
	Red-Cockaded Woodpecker Consultation Area	Data Request From FWS
	Red-Cockaded Woodpecker Occurrences	FGDL
	Sand Skink Consultation Area	Data Request From FWS
	Scrub Jay Consultation Area	Data Request From FWS
	Scrub Jay Occurrences	FGDL

Sector	Data	Location of Data
	Short-Tailed Hawk and Swallow-Tailed Kite Nests	Environmental Screening Tool
	Snail Kite Consultation Area	Data Request From FWS
	Snail Kite Critical Habitat	FWS Website
	Snail Kite Priority Management Zones	Environmental Screening Tool
	Snowy Plover Nest Locations	FGDL
	TNC Ecological Resource Conservation Areas	FGDL
	Wood Stork Core Foraging Areas	FWS Website
	Wood Stork Nests	FWS Website
Additional Files	Roads	FGDL
	County Boundaries	FGDL

1.4.1 Context Zones/Complete Streets

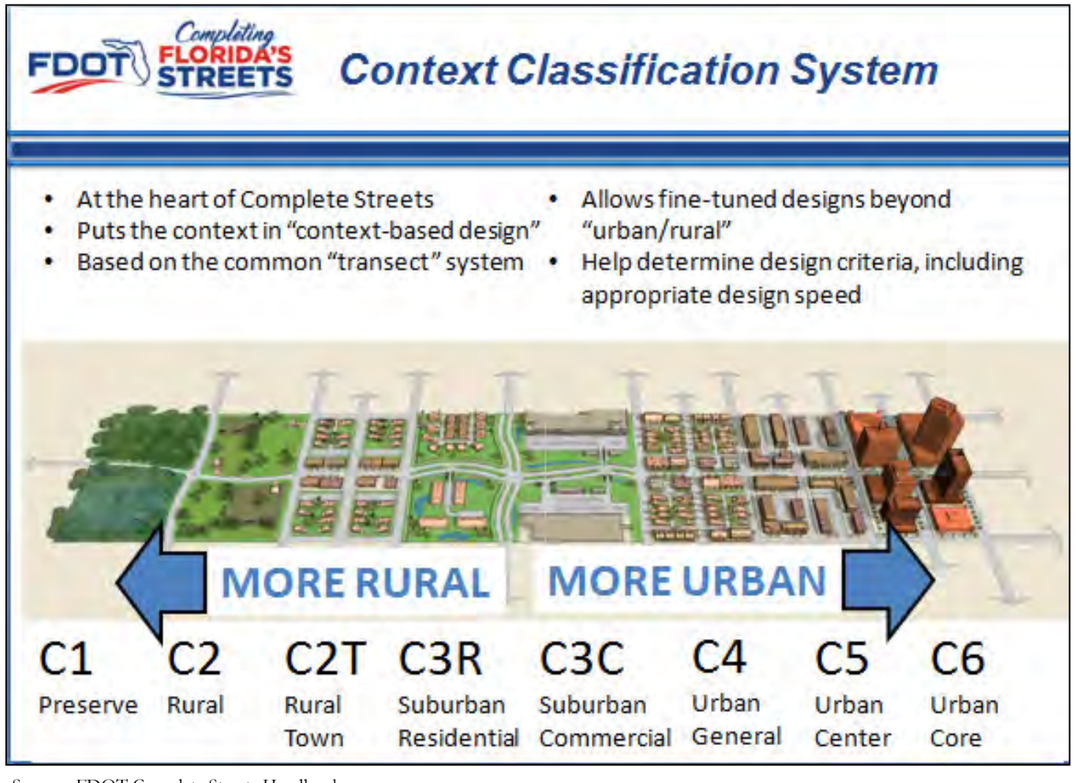
In September 2014, FDOT adopted a statewide Complete Streets policy (Topic No. 000-625-017-a). The Policy states that it is the goal of the Department of Transportation to implement a policy that promotes safety, quality of life, and economic development in Florida. To implement this policy, the Department will routinely plan, design, construct, reconstruct and operate a context sensitive system of Complete Streets. Implementing context-based criteria in the Florida Design Manual (FDM) are required for projects beginning design after January 1, 2018. For future Project Development & Environment (PD&E) projects, context zone data will be required in the design phase.

The FDOT Context Classification System consists of eight classification zones that are based on the general land use characteristics of the areas surrounding the corridor. The eight classifications are illustrated below:

FDOT Context Classification System

Context Zone	Classification	Description
Natural	C1	Lands preserved in a natural or wilderness condition, including lands unsuitable for settlement due to natural conditions.
Rural	C2	Sparsely settled lands; may include agricultural land, grassland, woodland, and wetlands.
Rural Town	C2T	Small concentrations of developed areas immediately surrounded by rural and natural areas; includes many historic towns.
Suburban Residential	C3R	Mostly residential uses within large blocks and a disconnected/ sparse roadway network
Suburban Commercial	C3C	Mostly non-residential uses with large building footprints and large parking lots. Buildings are within large blocks and a disconnected/ sparse roadway network.
General Urban Residential	C4	Mix of uses set within small blocks with a well-connected roadway network. May extend long distances. The roadway network usually connects to residential neighborhoods immediately along the corridor and/or behind the uses fronting the roadway.
Urban Center	C5	Mix of uses set within small blocks with a well-connected roadway network. Typically concentrated around a few blocks and identified as part of the civic or economic center of a community, town, or city.
Urban Core	C6	Areas with the highest densities and building heights and within FDOT classified Large Urbanized Areas (population> 1,000,000). Many are regional centers and destinations. Buildings have mixed uses, are built up to the roadways, and are within a well-connected roadway network.

Illustrated Context Classification System



Source: FDOT Complete Streets Handbook

For all five corridors, the GIS Shapefiles were overlaid on top of an aerial base map provided by ESRI using ArcMap 10.3.1. The 2008 South Florida Water Management District's (SFWMD) existing land use GIS data layer and the 2009 St. John's River Water Management District's (SJRWMD) existing land use GIS data layer were consulted for current land use designations, and the East Central Florida Regional Planning Council's (ECFRPC) Future Land Use GIS data layer was consulted for future land use designations.

The context zones were established within the Florida Department of Transportation's (FDOT) Land Use Context Zones Table (Revised May 2016) that was used as a guideline when creating segment zone and context designations. For each corridor the land use was compared to the FDOT Context Zones and the corridors were subsequently divided into segments dominated by a single context zone. The zones were further analyzed by exporting the corridors as "kmz" files to Google Earth Pro. This allowed the use of aerial imagery dated between March and December 2016. It also allowed the use of Google Earth street views to help evaluate the context from a surface point of view. Based on this analysis the context zones were refined and the end points for each zone were adjusted as needed. The results of the analysis are presented for each of the five corridors in the respective sections.

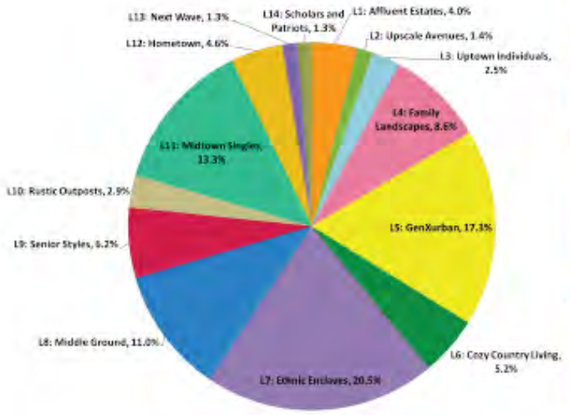
1.4.2 Tapestry Market Segmentation

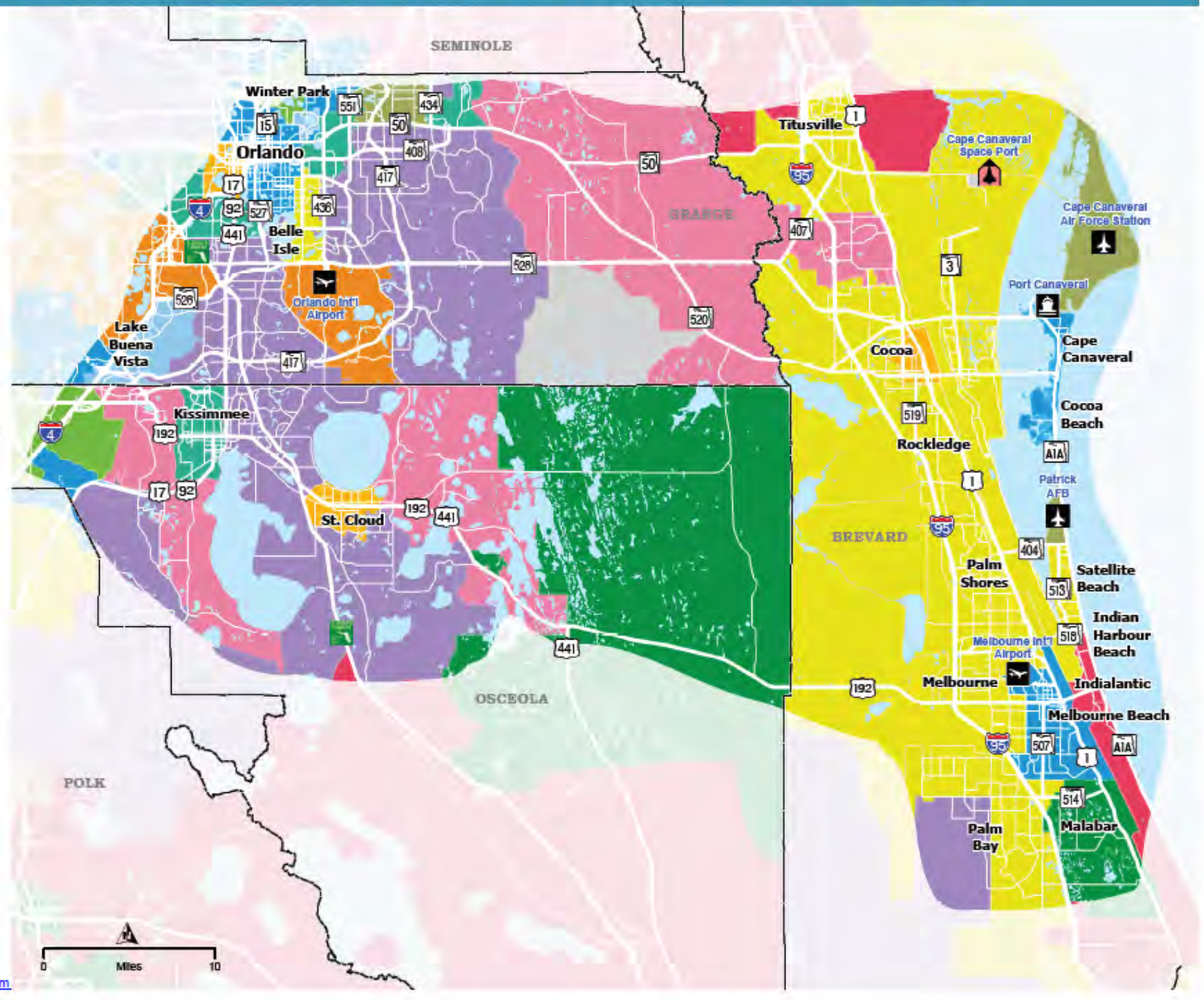
A Tapestry Market Segmentation analysis was performed for the ECFCES study area to provide a snapshot of the existing consumer markets. Information provided through this analysis will be utilized in future phases to develop and evaluate project alternatives. Market segmentation analysis began 35 years ago. Over that time frame, changing demographics and socioeconomic paradigms have led to the now fourth generation of market segmentation, the Esri **Tapestry Market Segmentation** system. The Esri Tapestry Market Segmentation system includes 67 distinct market segments in the US based on socioeconomic and demographic characteristics to provide a profile of US consumers' spending, demographic, lifestyle, and behavioral trends. This new generation of market segmentation has evolved to include two (2) new groups: immigrants and millennials.

This system provides the planning community, regional leaders, and interested parties spatial analytics for any US population within a defined geography based on their socioeconomic and demographic composition. According to Esri, data sources for the Tapestry Segmentation system include Census 2010; the American Community Survey (ACS); Esri's demographic updates; Experian's ConsumerView database; and consumer surveys, such as GfK MRI's Survey of the American Consumer to capture the subtlety and vibrancy of the US marketplace.

The 67 distinct market segments can be applied at the micro level. Esri has combined these segments into 14 summary groups to provide a more macro view of the consumer markets within a geography. These summary, or "LifeMode", groups have been aggregated through cluster analysis based on lifestyle and life stage. Additionally, six (6) "Urbanization" groups have been generated by cluster analysis based on geographic and physical characteristics (ex., population density, size of city, and location relative to a metropolitan area). The "LifeMode" and the "Urbanization" summary groups are depicted to the right. For more information on the tapestry market segmentation methodology, visit: http://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm). For access to the Tapestry Segmentation tool, visit: http://www.esri.com/data/tapestry. The results of the analysis are provided on the following pages in the graphic: East Central Florida – Esri 2017 Dominant Tapestry Segments by Census Tracts.

EAST CENTRAL FLORIDA - ESRI 2017 DOMINANT TAPESTRY SEGMENTS BY CENSUS TRACTS





SIS Facilities

- SIS Airport
- SIS Spaceport
- SIS Seaport
- Military Installation

Dominant Tapestry Segments

- L1: Affluent Estates
- L2: Upscale Avenues
- L3: Uptown Individuals
- L4: Family Landscapes
- L5: GenXurban
- L6: Cozy Country Living
- L7: Ethnic Enclaves
- L8: Middle Ground
- L9: Senior Styles
- L10: Rustic Outposts
- L11: Midtown Singles
- L12: Hometown
- L13: Next Wave
- L14: Scholars and Patriots
- Unclassified

Source: http://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm

Esri 2017 Tapestry Segment LifeMode Groups

Source: http://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm

L1: Affluent Estates

- Established wealth—educated, well-traveled married couples
- Homeowners (almost 90%), with mortgages (70%)
- Married couple families with children ranging from grade school to college
- Expect quality; invest in time-saving services
- Participate actively in their communities
- Active in sports and enthusiastic travelers

L2: Upscale Avenues

- Ambitious and hard-working
- Homeowners (70%) prefer denser, more urban settings with older homes and townhomes
- Primarily married couples, many with older children
- Financially responsible, but still indulge in casino gambling and lotto tickets
- Serious shoppers, from Nordstrom's to Marshalls or DSW, that appreciate quality, and bargains

L3: Uptown Individuals

- Young, successful singles in the city
- Intelligent, hard-working, and averse to traditional commitments of marriage and home ownership
- Urban denizens, partial to city life, high-rise apartments and uptown neighborhoods
- Green and generous to environmental, cultural and political organizations
- Internet dependent, from social connections to shopping for groceries

L4: Family Landscapes

- Successful young families in their first homes
- Two workers in the family and low unemployment
- Prosperous married-couple families, residing in suburban or semirural areas with a low vacancy rate
- Do-it-yourselfers, who work on home improvement projects, as well as their lawns and gardens
- Sports enthusiasts, typically owning newer sedans or SUVs, dogs, and savings accounts/plans, comfortable with the latest technology

L5: GenXurban

- Comprised of Gen X married couples, and a growing population of retirees
- Own older single-family homes in urban areas, with 1 or 2 vehicles
- Live and work in the same county, creating shorter commute times
- Invest wisely, well-insured, comfortable banking online or in person

L6: Cozy Country Living

- Empty nesters in bucolic settings
- Homeowners with pets, residing in single-family dwellings in rural areas
- Own domestic trucks, motorcycles, and ATVs/UTVs
- Prefer to eat at home, shop at discount retail stores, bank in person, and spend little time online
- Own every tool and piece of equipment imaginable to maintain their homes, vehicles, vegetable gardens, and lawns

L7: Ethnic Enclaves

- Multilingual and multigenerational households feature children that represent second-, third- or fourth-generation Hispanic families
- Neighborhoods feature single-family, owner-occupied homes built at city's edge, primarily built after 1980
- Hard-working and optimistic
- Shopping and leisure also focus on their children—baby and children's products from shoes to toys and games and trips to theme parks, water parks or the zoo

L8: Middle Ground

- Millennials in the middle: single/married, renter/homeowners, middle class/working class
- Urban market mix of single-family, townhome, and multi-unit dwellings
- Householders have ditched their landlines for cell phones, which they use to listen to music, read the news, and get the latest sports updates of their favorite teams
- Online all the time: use the Internet for entertainment, social media, shopping and news

L9: Senior Styles

- Senior lifestyles reveal the effects of saving for retirement
- Households are commonly married empty nesters or singles living alone, homes are single-family (including seasonal getaways), retirement communities, or high-rise apartments
- Cell phones are popular, but so are landlines
- Many still prefer print to digital media: Avid readers of newspapers, to stay current

L10: Rustic Outposts

- Rustic Outposts depend on manufacturing, retail and healthcare, with pockets of mining and agricultural jobs
- Own affordable, older single-family or mobile homes; vehicle ownership, a must
- Residents live within their means, shop at discount stores and maintain their own vehicles and homes

L11: Midtown Singles

- Millennials on the move—single, diverse, urban
- Work in service and unskilled positions, usually close to home or public transportation
- Midtown Singles embrace the Internet, for social networking and downloading content
- Brand savvy shoppers select budget friendly stores

L12: Hometown

- Growing up and staying close to home; single householders
- Close knit urban communities of young singles (many with children)
- Owners of old, single-family houses, or renters in small multi-unit buildings
- Canned, packaged and frozen foods help to make ends meet
- Purchase used vehicles to get them to and from nearby jobs

L13: Next Wave

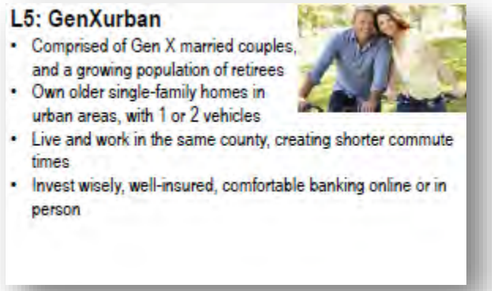
- Urban denizens, young, diverse, hard-working families
- Most are renters in older multi-unit structures, built in the 1960s or earlier
- Hard-working with long commutes to jobs, often utilizing public transit to commute to work
- Spending reflects the youth of these consumers, focus on children and personal appearance

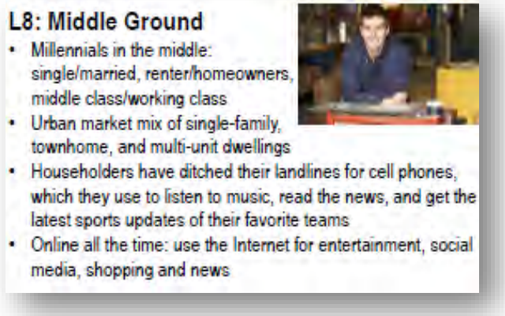
L14: Scholars and Patriots

- Highly mobile, recently moved to attend school or serve in military
- Renters with roommates in nonfamily households
- For many, no vehicle is necessary as they live close to campus, military base or jobs
- Part-time jobs help to supplement active lifestyles
- Tethered to their phones and electronic devices, typically spending over 5 hours online every day

As one can see, each of the existing corridors is dominated by a few LifeMode groups. Corridor A - SR 528 is comprised of the Ethnic Enclaves, Family Landscapes, and GenXUrban groups. Corridor B - SR 50 / SR 405 and Corridor C - SR 520 are predominately comprised of the Family Landscapes and GenXUrban market segments. Corridor E - US 192 is comprised mostly of the Cozy Country Living and GenXUrban markets, with small sections of Ethnic Enclave, Hometown, and Family Landscapes located in the western section of the corridor. Finally, Corridor G - SR 417 / Narcoosee Road is comprised of Ethnic Enclaves with a small section classified as Affluent Estates south of the Orlando International Airport.

When we marry the preferences of the respective market segments with other conditions known within the corridor, such as targeted industry served by each corridor, the preferences of each LifeMode group within/served by each of the existing corridors becomes significant. For instance, the GenXUrban LifeMode is comprised of married couples and a growing population of retirees that own 1 to 2 vehicles. The GenXUrbans also predominately live and work in the same county and have shorter commute trips. What does this say about the population within that area as we consider the time horizon of 2060? What industries will be located in that area in 2060 and how do their current and future workforce, customers, and commodities travel? What transportation options will GenXUrbans of today support and invest in to serve them in the future?





The GenXUrbans of today will make policy and transportation decisions for the users of the 2060 system. The GenXUrban areas may also graduate to some future LifeMode comprised of neighboring LifeModes. In this instance, the Family Landscapes and Middle Ground groups may occupy the GenXUrban areas. These groups are very tech-savvy, but have different housing and transportation preferences. In the future conditions phase of this study, the preferences of the LifeMode and Urbanization groups will be considered in developing packages of multimodal projects. Further, this data is available for future project development phases.

1.4.3 Field Verification

Field verification of all five corridors was conducted from October 17 - 19, 2016. Map features were confirmed and special notes were made for any identified features that were not included in the initial GIS analysis. Notes were also made when features closely bordered the corridor or appeared to be further from the corridor than expected.

2

Corridor A: SR 528 – "Super Corridor"

2.1 General Corridor Overview

The SR 528 "Super Corridor" is a limited-access, multimodal highway that serves commuter, tourism, commercial, and goods mobility between Greater Orlando, Port Canaveral, and the Space Coast. It is the principal east-west corridor in the study area connecting I-4 and the Orlando International Airport with I-95 and Port Canaveral. SR 528 is designated at the state level as part of the Strategic Intermodal System (SIS), at the federal level as part of the National Highway System (NHS), and provides a vital connection to several SIS hubs, such as Port Canaveral, Cape Canaveral Air Force Station, and Kennedy Space Center. Maintaining mobility on this corridor will serve future regional and interregional developments as well as preserve coastal emergency evacuation route and unique and critical ecosystems.

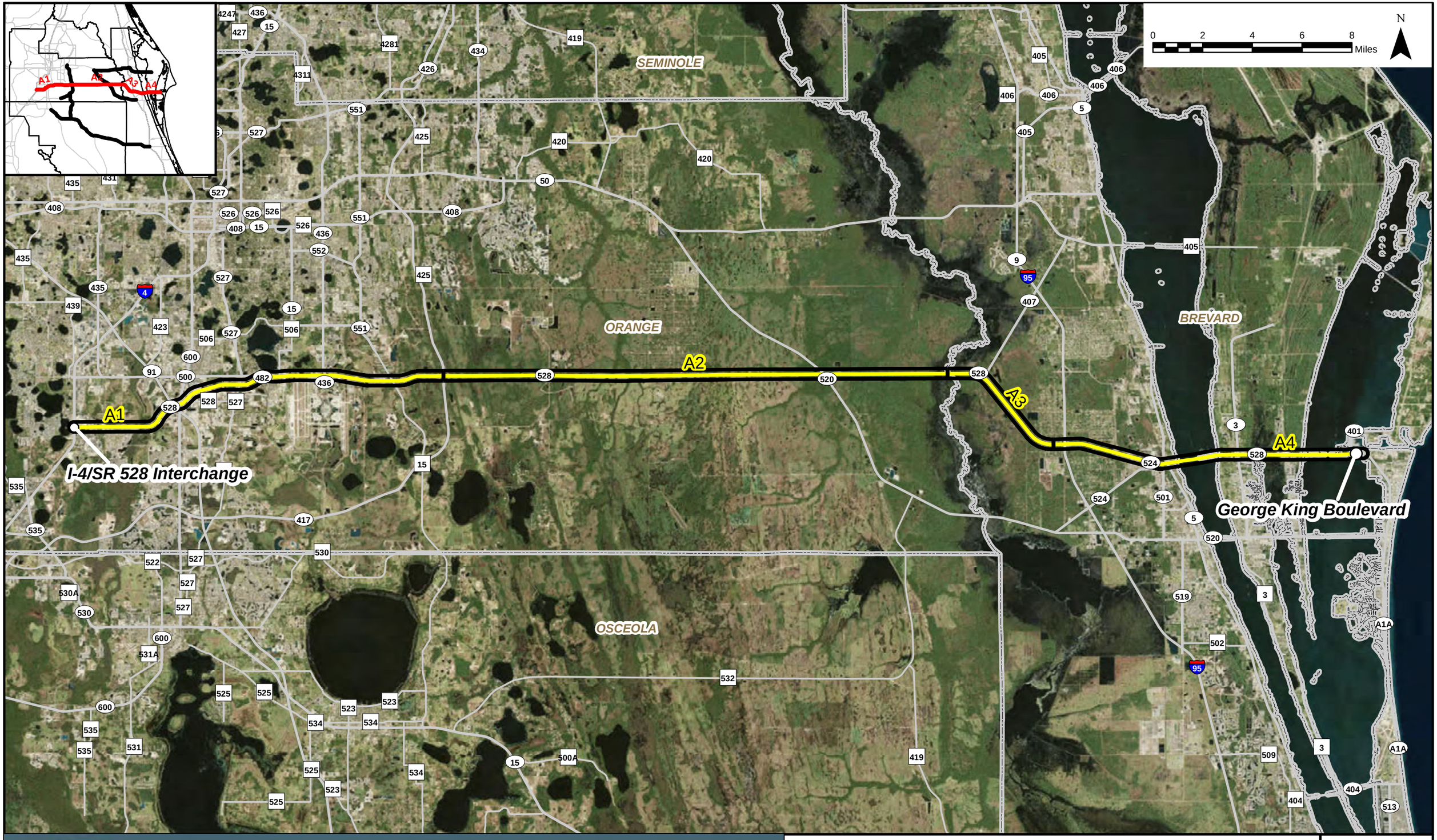
Corridor A runs from west to east spanning from the I-4/SR 528 interchange in Orange County to the George King Boulevard at the easternmost point of interchange ramps in Brevard County. Corridor A is divided into four segments: A1, A2, A3, and A4. Segment A1 forms the westernmost portion of the corridor, in the urbanized area of Orange County from I-4/ SR528 interchange to SR-417. Segment A2 constitutes the entirety of "rural" roadway in Orange County along Corridor A, running from SR 417 to the Orange/Brevard County line. Segment A3 constitutes the entirety of "rural" roadway in Brevard County along Corridor A, running from Orange/Brevard County line to Pine Street. Segment A4 constitutes the easternmost portion of the corridor, in the urbanized area of Brevard County from the Pine Street to the end of the interchange ramps (Table 2.1-1 and Figure 2.1-1).

Table 2.1-1: Corridor A Segment Lengths

Segment	Length (miles)
A1	15.6
A2	20.3
A3	5.5
A4	13.0
Corridor A	54.4

Throughout the Existing Conditions Analysis, the Study Team met with the PAG and stakeholders as part of an extensive due diligence process to collect the appropriate available data and inventory physical characteristics of transportation facilities and the natural environment within the corridor. These discussions provided the Study Team with a greater understanding of the community characteristics to help identify potential issues and opportunities in the region, such as:

- As part of the Central Florida Expressway Authority (CFX) agreement to acquire right-of-way along SR 528, CFX agreed to conduct a study of a north-south expressway through the North Ranch. This study area could be a derivative of corridors "H" and "I", dependent upon the sale of property to land developer, Tavistock, and direction from Deseret Ranch. Preliminary traffic projections conducted by Tavistock do not indicate sufficient demand to support a limited access facility through subject property (as would be constructed and operated by CFX). CFX is in the process of conducting a mobility evaluation study which will include the new corridor derivative and multimodal analyses.
- Port Canaveral Authority serves as a major internal and external generator served by the SR 528 corridor. Traffic projections are expected to increase from 4.5 to 8.5 million in annual passengers by the year 2030.
- PAG members noted that close coordination between the various jurisdictions will be the key to success for this study.
- Consideration must also be given to the development of All Aboard Florida and the preservation of right-of-way for existing and future utilities expansion.
- CFX has reserved 50 feet of ROW along SR 528 (just south of All Aboard Florida [AAF] ROW) that was envisioned to include a multimodal element should the CFX Board decide to pursue such a strategy; may tie into the SR 417/Narcoossee Road corridor.
- SR 528 is the primary coastal evacuation route for the study area. Major issues are directly related to effectively accommodating a coastal evacuation from Brevard County. Enhancing emergency evacuation, emergency response, and post-disaster recovery activities for east-west travel is critical for this study.



East Central Florida Corridor Evaluation Study

Corridor A

SR 528

FIGURE 2.1-1

2.2 Community Characteristics

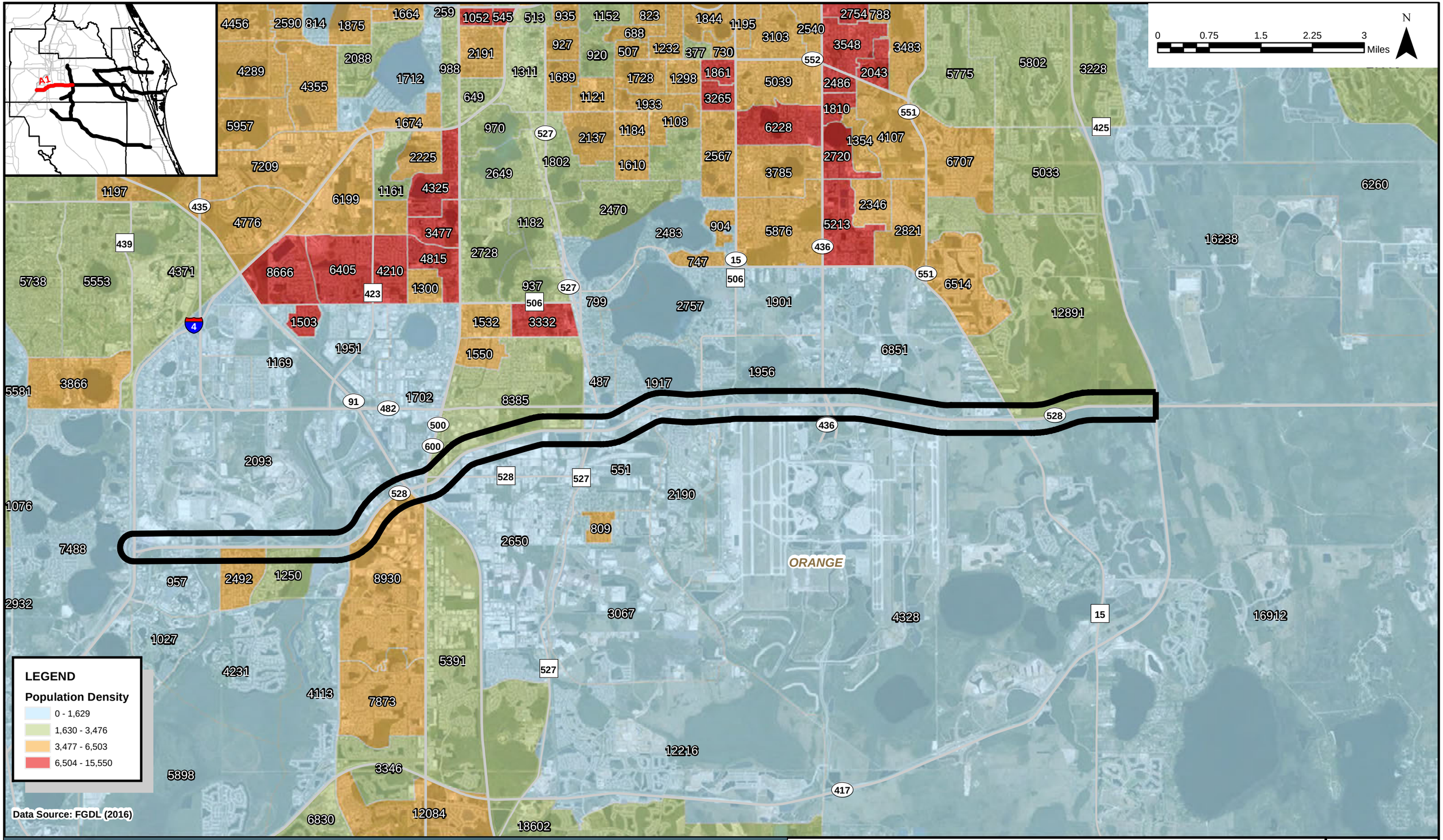
2.2.1 Demographics

The total population for all census block groups in Corridor A is 162,515. Population density for Segments A1 and A4 were generally above the Florida average of 346.16 people per square mile. The poverty rate for Corridor A block groups ranged between 0.0% and 53.5%. Although each segment includes at least one block group with a poverty rate higher than the statewide rate of 11.97%, most of A3 is below the poverty line while the majority of A1 block groups have poverty rates above the statewide average.

The percentage of population identifying as minority for block groups in Corridor A ranges from 2.0% to 84.6%. The majority of census block groups in Segments A1 and A2 have minority population percentages above the statewide average of 43.4%. The percentage of the population with Limited English Proficiency (LEP) in Corridor A block groups range from 0.0% to 20.3%. The majority of census block groups in Segment A1 have LEP population percentages above the statewide average of 6.4%. Demographics data can be found in Table 2.2-1 (see Figure 2.2-1, Figure 2.2-2, Figure 2.2-3 and Figure 2.2-4).

Table 2.2-1: Corridor A Demographics

Segment	Block Group	Population				Median Age	Percent Poverty	Median HH Income	Percent Disabled	No Vehicle	LEP Percent
		Total	Density	Minority	5-17 & 65 and Over						
A1	12-095-0168021	4,328	129.66	1,694	1,076	40	3.5%	$ 103,864	5.0%	0.0%	5.7%
	12-095-0168022	2,190	1,095.00	1,852	357	32	5.3%	$ 45,625	7.0%	8.2%	12.0%
	12-095-0169021	1,702	718.14	1,433	310	37	16.9%	$ 35,884	9.0%	9.7%	20.3%
	12-095-0135071	6,851	1,550.00	5,244	1,313	30	25.9%	$ 41,875	4.3%	3.3%	8.2%
	12-095-0168041	551	362.5	260	131	44	15.2%	$ 55,600	17.3%	3.0%	7.3%
	12-095-0170041	957	825	385	66	24	20.7%	$ 33,202	2.3%	20.5%	4.2%
	12-095-0170042	2,492	4,792.31	719	328	44	14.2%	$ 46,343	12.2%	2.5%	0.0%
	12-095-0171071	7,488	1,097.95	3,378	1,963	41	6.2%	$ 110,694	5.9%	2.5%	3.4%
	12-095-0167341	12,891	2,069.18	9,057	2,999	34	14.2%	$ 55,797	7.9%	1.8%	14.5%
	12-095-0141001	1,917	1,340.56	353	293	47	12.2%	$ 76,944	4.0%	2.3%	2.1%
	12-095-0142001	8,385	3,005.38	6,804	1,970	32	34.7%	$ 31,108	12.0%	9.0%	12.7%
	12-095-0168031	2,650	532.13	1,817	601	42	16.3%	$ 52,115	8.1%	1.7%	11.0%
	12-095-0170061	4,113	1,534.70	2,505	772	34	9.3%	$ 67,428	6.2%	0.6%	10.2%
	12-095-0167041	16,912	107.17	8,928	4,265	33	4.6%	$ 77,000	3.3%	0.7%	4.4%
	12-095-0170043	1,250	2,118.64	393	194	46	9.0%	$ 35,509	15.2%	2.4%	7.2%
	12-095-0170081	8,930	3,488.28	6,648	1,992	35	12.4%	$ 37,476	4.8%	2.8%	9.3%
	12-095-0136061	1,956	1,105.08	952	376	40	18.0%	$ 42,339	22.0%	1.4%	2.8%
	12-095-0170012	2,093	240.85	1,327	260	27	24.0%	$ 39,122	12.0%	2.3%	3.3%
	12-095-0167321	16,238	909.18	9,682	3,893	38	8.9%	$ 76,165	9.3%	2.3%	4.4%
	Total	**21,324**	**1,148.05**	**63,431**	**23,159**	**35.6**	**13.0%**	**$ 62,852**	**7.0%**	**7.2%**	**7.6%**
A2	12-009-0711002	1,416	75.44	28	989	70	8.8%	$ 55,083	13.1%	3.5%	0.0%
	12-009-0712001	9,936	133.87	2,414	3,859	42	5.8%	$ 75,075	6.2%	0.8%	0.6%
	12-095-0166012	4,446	46.21	1,311	1,201	42	16.5%	$ 59,239	6.8%	2.9%	4.5%
	12-095-0166022	8,450	269.80	4,252	2,253	35	12.7%	$ 71,404	7.7%	3.3%	2.3%
	12-095-0167041	16,912	107.17	8,928	4,542	33	4.6%	$ 77,000	3.3%	0.7%	4.4%
	12-095-0167311	6,260	384.99	3,160	936	33	5.7%	$ 53,542	4.1%	2.0%	3.1%
	12-095-0167321	16,238	909.18	9,682	4,291	38	8.9%	$ 76,165	9.3%	2.3%	4.4%
	Total	**29,735**	**220.05**	**29,775**	**18,071**	**37.4**	**8.1%**	**$ 72,317**	**6.3%**	**6.4%**	**3.2%**
A3	12-009-0711002	1,416	75.44	28	989	70	8.8%	$ 55,083	13.1%	3.5%	0.0%
	12-009-0712003	1,471	174.29	145	316	50	11.7%	$ 56,736	6.1%	4.7%	0.0%
	12-009-0712001	9,936	133.87	2,414	3,859	42	5.8%	$ 75,075	6.2%	0.8%	0.6%
	12-095-0167041	16,912	107.17	8,928	4,542	33	4.6%	$ 77,000	3.3%	0.7%	4.4%
	Total	**29,735**	**122.11**	**11,515**	**9,706**	**38.6**	**5.5%**	**$ 73,548**	**4.6%**	**1.2%**	**2.7%**
A4	12-009-0686021	789	555.63	46	476	68	0.0%	$ 71,618	5.1%	0.0%	0.0%
	12-009-0623022	1,136	1,670.59	643	377	29	53.5	$ 19,387	6.5%	16.2%	0.0%
	12-009-0624001	1,792	719.68	408	492	36	12.8	$ 35,519	12.2%	0.0%	0.0%
	12-009-0621034	1,087	365.99	37	319	30	36.6	$ 35,313	13.1%	0.0%	0.0%
	12-009-0712003	1,471	174.29	145	316	50	11.7	$ 56,736	6.1%	4.7%	0.0%
	12-009-0621032	1,351	567.65	300	389	44	1.1	$ 77,540	3.1%	0.0%	0.0%
	12-009-0621033	2,737	2,189.60	428	827	51	8.2	$ 49,358	7.9%	0.0%	1.0%
	12-009-0621035	2,025	580.23	367	660	52	3.0	$ 67,879	10.2%	0.0%	0.0%
	12-009-0715001	1,689	675.6	287	717	47	5.1	$ 61,750	9.1%	1.1%	0.7%
	12-009-0621071	1,570	552.82	91	588	48	11.2	$ 61,845	14.0%	4.3%	0.0%
	12-009-0712001	9,936	133.87	2,414	3,859	42	5.8	$ 75,075	6.2%	0.8%	0.6%
	12-009-0699012	2,516	579.72	404	1,059	47	5.8	$ 74,321	4.8%	1.2%	0.8%
	12-009-0699021	1,071	877.87	284	383	39	15.7	$ 36,319	15.7%	3.9%	0.9%
	12-009-0698011	2,025	2275.28	447	773	54	10.5	$ 80,114	11.5%	1.2%	5.8%
	12-009-0691002	2,813	671.36	336	958	48	6.2	$ 92,688	10.8%	1.4%	2.9%
	12-009-0691001	1,988	720.29	207	708	50	7.0	$ 59,156	15.5%	0.0%	1.7%
	12-009-0686011	2,053	741.16	243	733	56	15.0	$ 46,373	9.1%	13.5%	1.2%
	Total	**38,049**	**889.88**	**7,087**	**13,634**	**46.05**	**9.6%**	**$ 63,373**	**8.8%**	**2.6%**	**1.1%**

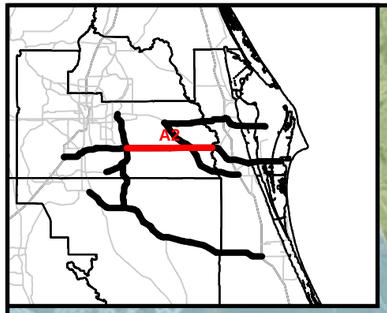


East Central Florida Corridor Evaluation Study

Corridor A
Population Density

FIGURE 2.2-1

SEGMENT A1



N

0 0.75 1.5 2.25 3 Miles

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6465
50
29951
4446
16238
6260
8450
12891
520
528
417
ORANGE
16912
9936
532

LEGEND

Population Density

- 0 - 1,629
- 1,630 - 3,476
- 3,477 - 6,503
- 6,504 - 15,550

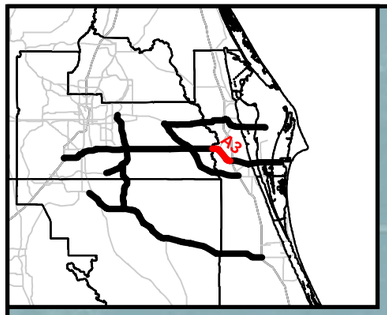
Data Source: FGDL (2016)

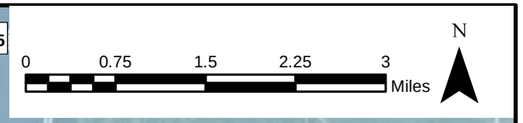
East Central Florida Corridor Evaluation Study

Corridor A
Population Density

FIGURE 2.2-1

SEGMENT A2





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3073
2257
2268
2416
2717
1996
1778
1034
2535
BREVARD
8450
528
9
2566
95
1834
1307
1471
5
3096
626
1351
2516
3
1087
1570
528
ORANGE
520
524
1071
16912
9936
2737
2813
2025
1136
1988
1792
2008
501
1689
1538
524
1226
705
1230
1328
2725
503
1337
1254
1065
2133
985
1932
927
1075
894
886
648
1391
1510
95
1815
1038
795
936
520
1768
1120
1205
532

LEGEND

Population Density

- 0 - 1,629
- 1,630 - 3,476
- 3,477 - 6,503
- 6,504 - 15,550

Data Source: FGDL (2016)

East Central Florida Corridor Evaluation Study

Corridor A

Population Density

FIGURE 2.2-1

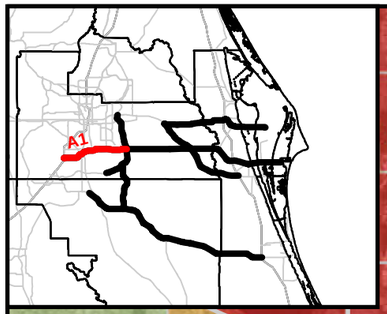
SEGMENT A3

East Central Florida Corridor Evaluation Study

Corridor A
Population Density

FIGURE 2.2-1

SEGMENT A4



N

0 0.75 1.5 2.25 3 Miles

435 439 423 527 506 552 551 425 436 15 506 551 4 91 482 600 500 528 436 528 527 ORANGE 15 417 527

LEGEND

Poverty Rates

- 0% - 2.8%
- 2.9% - 6.1%
- 6.2% - 12%
- 12.1% - 72%

Data Source: FGDL (2016)

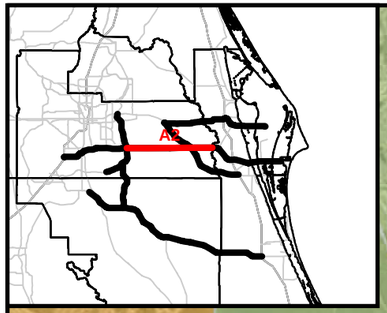
East Central Florida Corridor Evaluation Study

Corridor A

Household Poverty Rates

FIGURE 2.2-2

SEGMENT A1



N

0 0.75 1.5 2.25 3 Miles

50

520

528

417

532

LEGEND

Poverty Rates

- 0% - 2.8%
- 2.9% - 6.1%
- 6.2% - 12%
- 12.1% - 72%

Data Source: FGDL (2016)

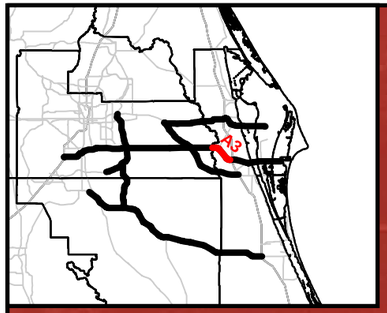
East Central Florida Corridor Evaluation Study

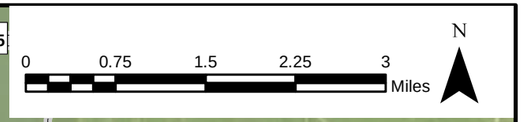
Corridor A

Household Poverty Rates

FIGURE 2.2-2

SEGMENT A2





ORANGE

BREVARD

405
407
528
9
95
5
3
520
524
532
501
503
519

LEGEND

Poverty Rates

- 0% - 2.8%
- 2.9% - 6.1%
- 6.2% - 12%
- 12.1% - 72%

Data Source: FGDL (2016)

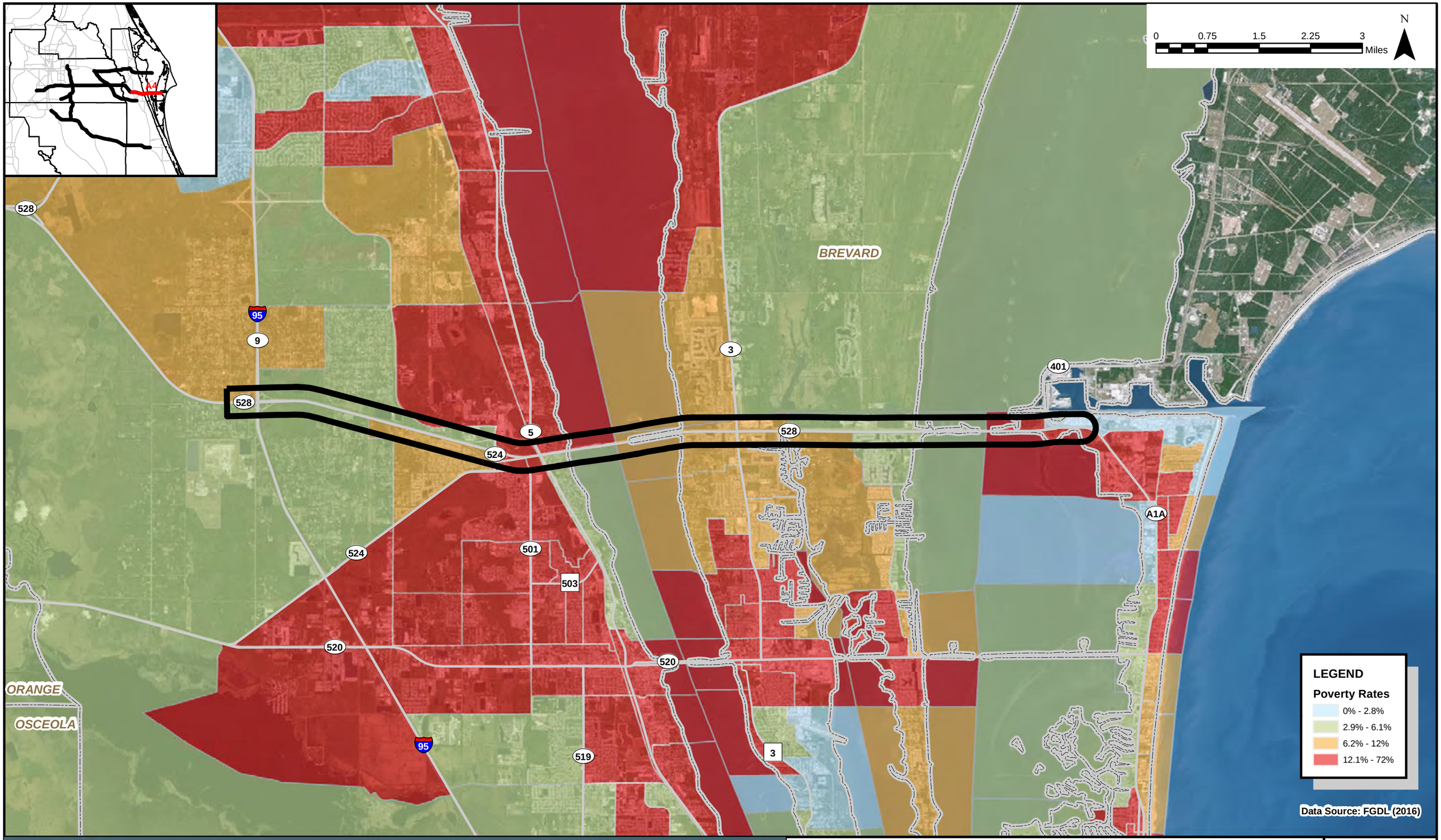
East Central Florida Corridor Evaluation Study

Corridor A

Household Poverty Rates

FIGURE 2.2-2

SEGMENT A3

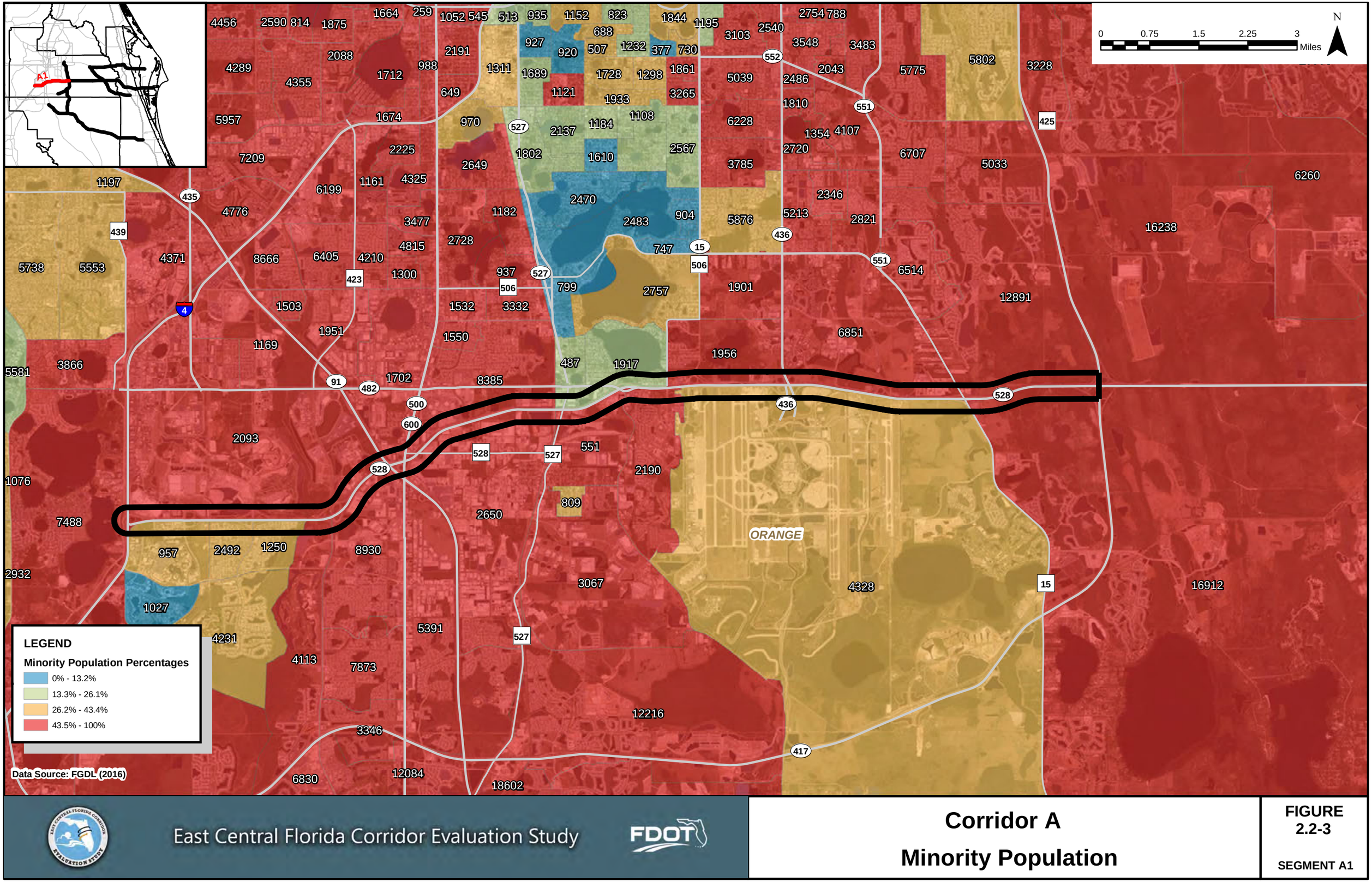


East Central Florida Corridor Evaluation Study

Corridor A
Household Poverty Rates

FIGURE 2.2-2

SEGMENT A4

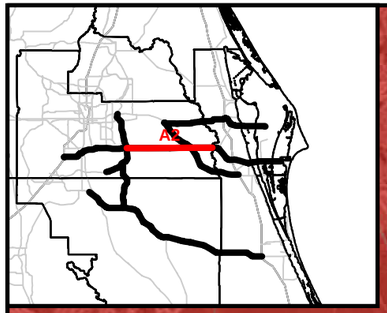


Corridor A

Minority Population

FIGURE 2.2-3

SEGMENT A1



N

0 0.75 1.5 2.25 3 Miles

17138
1321
6465
50
29951
4446
16238
6260
8450
12891
520
528
9936
417
ORANGE
16912
532

LEGEND

Minority Population Percentages

- 0% - 13.2%
- 13.3% - 26.1%
- 26.2% - 43.4%
- 43.5% - 100%

Data Source: FGDL (2016)

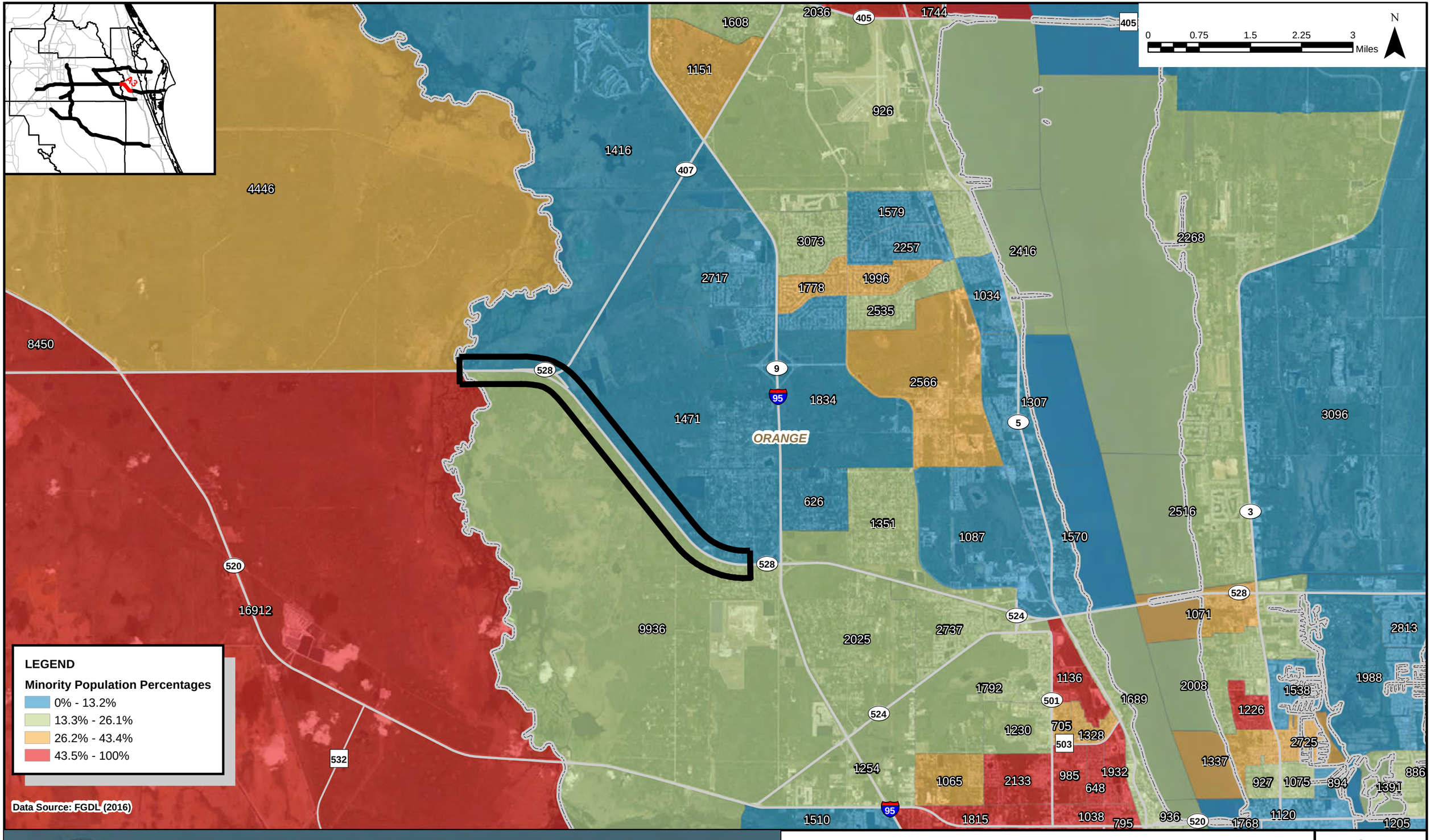
East Central Florida Corridor Evaluation Study

Corridor A

Minority Population

FIGURE 2.2-3

SEGMENT A2



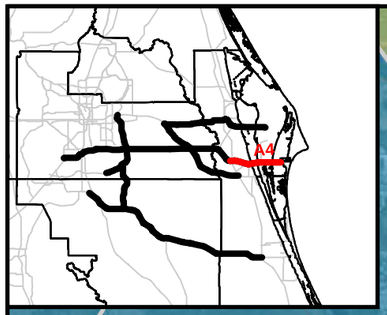
East Central Florida Corridor Evaluation Study

Corridor A

Minority Population

FIGURE 2.2-3

SEGMENT A3



N

0 0.75 1.5 2.25 3 Miles

926 1579 3073 2257 2416 2268 1778 1996 1034 2535 2566 1834 1307 1471 3096 7 BREVARD 626 1351 1087 1570 2516 1071 2025 2737 789 1101 2053 1707 2813 1107 987 603 9936 1792 1136 1689 2008 1538 1988 852 1230 705 1328 1226 2725 1449 0 1254 1337 1065 2133 985 1932 927 1075 894 1391 886 1605 636 648 1038 1120 1041 16912 1815 1215 795 936 1768 1205 447 ORANGE OSCEOLA 1510 738 506 830 1885 663 2408 2344 3840 1628 1836 556 1592 1525 1191 1638 1401 2589 2232 639

528 95 9 524 5 3 401 A1A 501 503 520 519

LEGEND

Minority Population Percentages

- 0% - 13.2%
- 13.3% - 26.1%
- 26.2% - 43.4%
- 43.5% - 100%

Data Source: FGDL (2016)

East Central Florida Corridor Evaluation Study

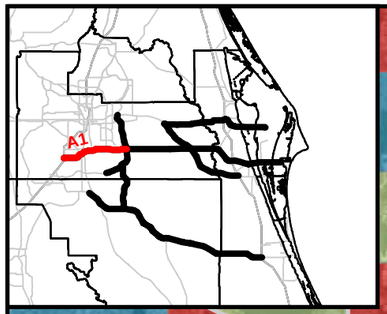
FDOT

Corridor A

Minority Population

FIGURE 2.2-3

SEGMENT A4



N

0 0.75 1.5 2.25 3 Miles

435 439 423 527 506 552 551 425 436 15 506 527 551 4 91 482 600 500 436 528 528 527 ORANGE 15 527 417 527

LEGEND

Limited English Proficiency

- 0% - 2.3%
- 2.4% - 5.1%
- 5.2% - 6.4%
- 6.5% - 40%

Data Source: FGDL (2016)

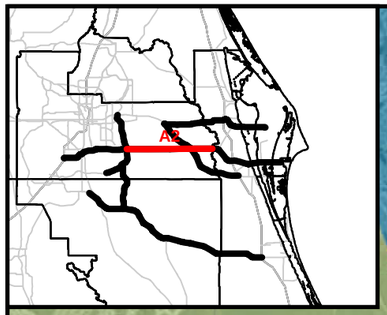
East Central Florida Corridor Evaluation Study

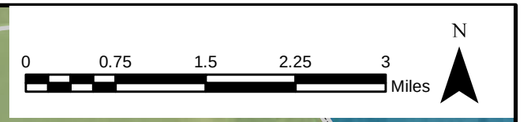
Corridor A

Limited English Proficiency

FIGURE 2.2-4

SEGMENT A1





50

520

528

417

ORANGE

532

LEGEND

Limited English Proficiency

- 0% - 2.3%
- 2.4% - 5.1%
- 5.2% - 6.4%
- 6.5% - 40%

Data Source: FGDL (2016)

East Central Florida Corridor Evaluation Study

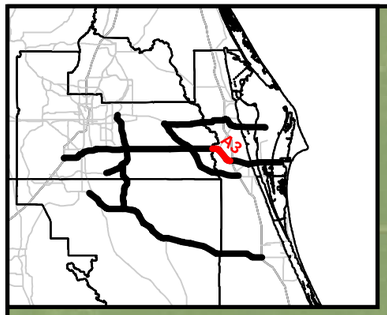
FDOT

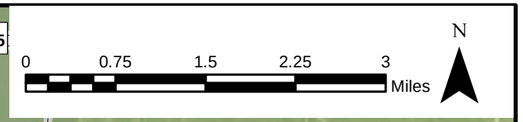
Corridor A

Limited English Proficiency

FIGURE 2.2-4

SEGMENT A2





405
407
528
9
BREVARD
95
5
ORANGE
520
524
501
503
532
519
3

LEGEND

Limited English Proficiency

- 0% - 2.3%
- 2.4% - 5.1%
- 5.2% - 6.4%
- 6.5% - 40%

Data Source: FGDL (2016)

East Central Florida Corridor Evaluation Study

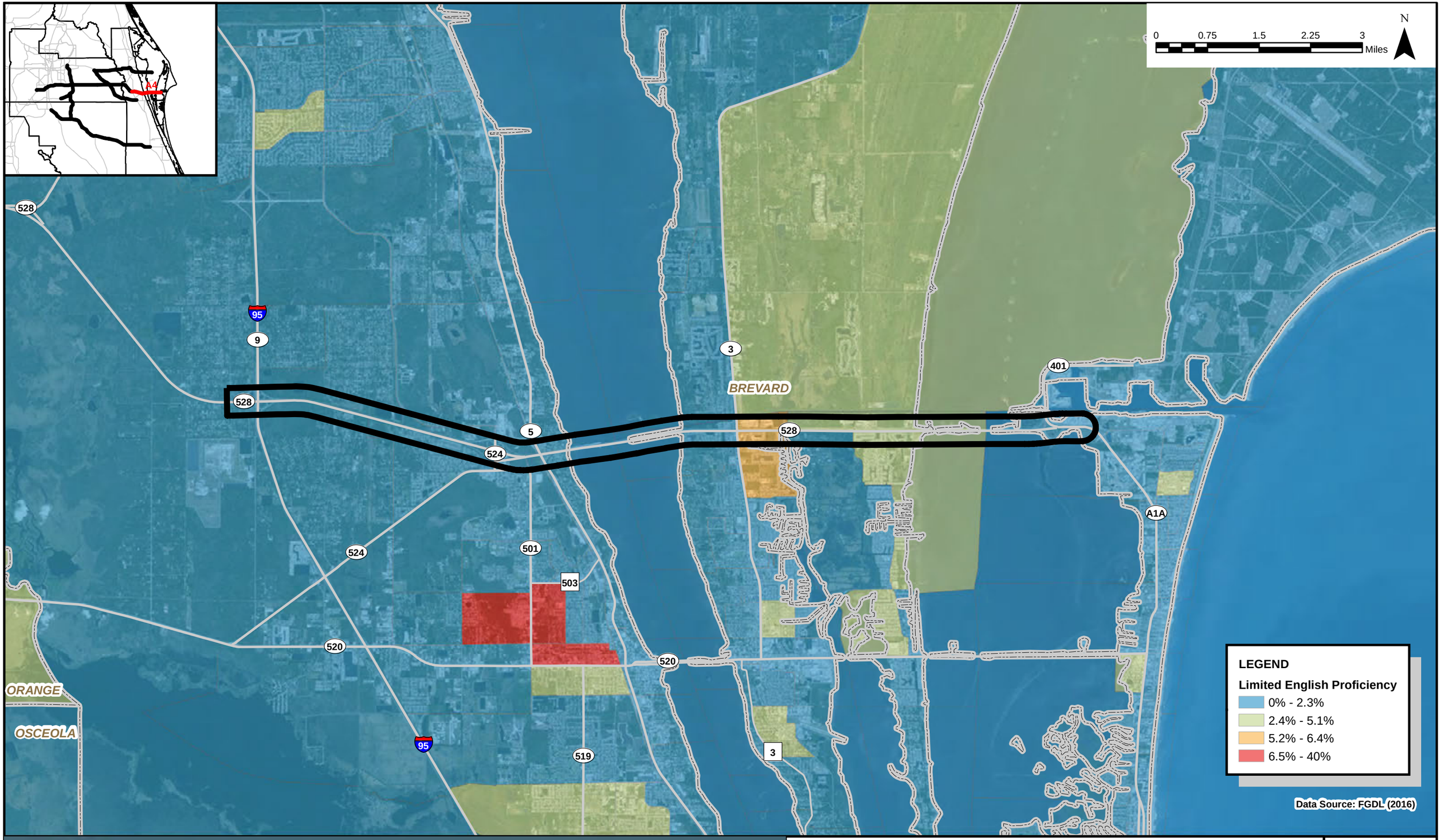
FDOT

Corridor A

Limited English Proficiency

FIGURE 2.2-4

SEGMENT A3



East Central Florida Corridor Evaluation Study

Corridor A

Limited English Proficiency

FIGURE 2.2-4

SEGMENT A4

2.2.2 Land Use

As shown in Figure 2.2-5, the majority of Corridor A is mostly vacant/unclassified (31%) agricultural (20.3%), and institutional (17.8%). Segment A1 is more developed with commercial and industrial uses, while Segment A4 is nearly 60% low density residential. Segments A2 and A3 are more rural in nature, featuring agricultural, vacant/unclassified and institutional land uses (see Table 2.2-2).

Table 2.2-2: Corridor A Land Use

Segment	Land Use	Acres	Percent
Corridor A	Vacant/Unclassified	803.09	24.3%
	Low Density Residential	245.86	7.4%
	Medium Density Residential	8.57	0.3%
	High Density Residential	0	0.0%
	Mixed Use	0.06	0.0%
	Light Commercial	104.34	3.2%
	Heavy Commercial	210.70	6.4%
	Light Industrial	190.05	5.8%
	Heavy Industrial	0	0.0%
	Institutional	720.17	21.8%
	Transportation/Utilities	77.93	2.4%
	Recreation/Conservation	133.32	4.0%
	Agricultural	709.89	21.5%
	Water	98.46	3.0%
	Total	3,302.44	100.0%
A1	Vacant/Unclassified	69.40	6.5%
	Low Density Residential	34.17	3.2%
	Medium Density Residential	5.24	0.5%
	Mixed Use	0.06	0.0%
	Light Commercial	100.62	9.5%
	Heavy Commercial	209.66	19.8%
	Light Industrial	144.39	13.6%
	Institutional	190.61	18.0%
	Transportation/Utilities	48.48	4.6%
	Recreation/Conservation	91.17	8.6%
	Agricultural	69.07	6.5%
	Water	97.31	9.2%
	Total	1,060.18	100.0%
A2	Vacant/Unclassified	412.74	26.8%
	Low Density Residential	13.73	0.9%
	Medium Density Residential	1.56	0.1%
	Institutional	505.19	32.8%
	Transportation/Utilities	0.18	0.0%
	Recreation/Conservation	36.38	2.4%
	Agricultural	570.97	37.1%
	Total	1,540.75	100.0%
A3	Vacant/Unclassified	2.19	0.5%
	Vacant/Unclassified	317.85	76.8%
	Low Density Residential	32.10	7.8%
	Transportation/Utilities	0.57	0.1%
	Agricultural	61.26	14.8%
	Total	413.97	100.0%
A4	Vacant/Unclassified	0.91	0.3%
	Low Density Residential	165.86	57.7%
	Medium Density Residential	1.77	0.6%
	Light Commercial	3.72	1.3%
	Heavy Commercial	1.04	0.4%
	Light Industrial	45.66	15.9%
	Institutional	24.37	8.5%
	Transportation/Utilities	28.70	10.0%
	Recreation/Conservation	5.77	2.0%
	Agricultural	8.59	3.0%
	Water	1.15	0.4%
	Total	287.54	100.0%

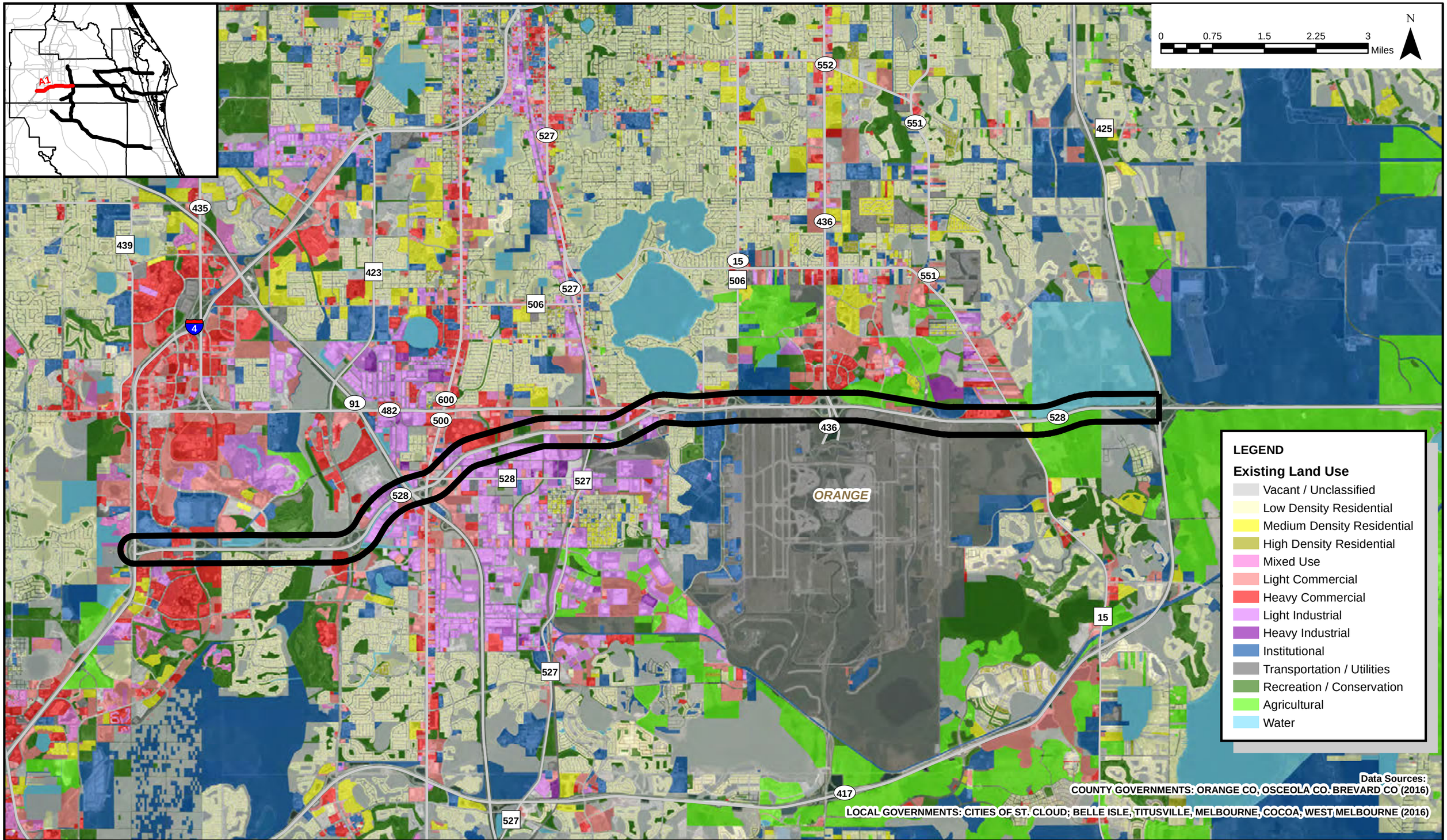
2.2.3 Community Features

The Segment A1 buffer in the urban area of Orange County includes a number of community services including Durrance Elementary School and the Orlando International Airport Hotel and Conference Center. Segments A2 and A3 are predominantly rural and have few community features. Segments A2 and A3 buffers include 24 and 43 residential parcels respectively. Segment A2 residential parcels are located on the north side of SR 528 near Dallas Boulevard, and Segment A3 parcels are located just west of I-95 at the end of the corridor. Five recreational trails are included in the A2 buffer, and both A2 and A3 go through Florida managed lands (Table 2.2-3).

There are multiple preservation areas located along Corridor A, typically within rural Orange and Brevard counties, and along the coast in Port Canaveral. Segment A2 passes immediately adjacent to Hal Scott Preserve where it crosses the Econlockhatchee River. A portion of Split Oak Forest is also within the vicinity of this segment, south of the Tavistock and Moss Park developments. Before its terminus at the Orange/Brevard County line, Segment A2 also bisects the Tosohatchee State Preserve. The final preserve land located along the corridor occurs in Segment A4. The roadway runs along the southern extent of the Pine Island Conservation Area which covers portions of land on Merritt Island and north of Cocoa Beach, as well as a section of the Banana River between them (Figure 2.3-1).

Table 2.2-3: Corridor A Community Features

Segment	Type	Name
A1	Florida Managed Areas	Shingle Creek
	Schools	School Board of Orange County
A2	Existing Trails	CR 532 to Tosohachee Wildlife Management Area Connector
	Existing Trails	Tosohatchee Wildlife Management Area Trail
	Existing Trails	Tosohatchee Wildlife Management Area Trail
	Existing Trails	Tosohatchee Wildlife Management Area Trail
	Existing Trails	Tosohatchee Wildlife Management Area Trail
	Florida Managed Areas	Tosohatchee Wildlife Management Area
	Florida Managed Areas	Ranger Property
	Florida Managed Areas	Hal Scott Regional Preserve and Park
	Florida Managed Areas	Canaveral Marshes Conservation Area
	FFWCC Management Areas	Tosahatchee WMA
A3	Florida Managed Areas	St. Johns National Wildlife Refuge
	Florida Managed Areas	Canaveral Marshes Conservation Area
A4	Existing Trails	Florida Circumnavigational Paddling Trail
	Florida Forever	Indian River Lagoon Blueway Florida Forever Bot Project
	Florida Managed Areas	Ulumay Wildlife Sanctuary
	Parks	Kelly Park East & Boat Ramp



East Central Florida Corridor Evaluation Study

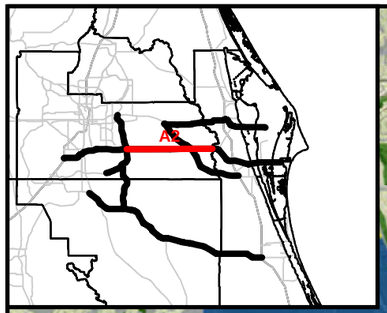
FDOT

Corridor A

Land Use

FIGURE 2.2-5

SEGMENT A1



0 0.75 1.5 2.25 3 Miles

N

50

520

528

417

ORANGE

LEGEND

Existing Land Use

- Vacant / Unclassified
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Use
- Light Commercial
- Heavy Commercial
- Light Industrial
- Heavy Industrial
- Institutional
- Transportation / Utilities
- Recreation / Conservation
- Agricultural
- Water

Data Sources:
COUNTY GOVERNMENTS: ORANGE CO, OSCEOLA CO, BREVARD CO (2016)
LOCAL GOVERNMENTS: CITIES OF ST. CLOUD; BELLE ISLE, TITUSVILLE, MELBOURNE, COCOA, WEST MELBOURNE (2016)

East Central Florida Corridor Evaluation Study

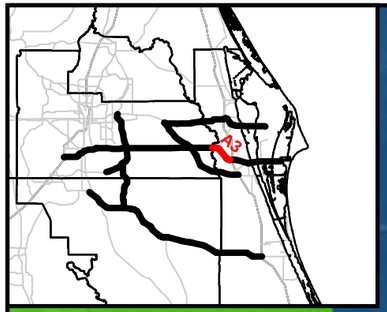
FDOT

Corridor A

Land Use

FIGURE 2.2-5

SEGMENT A2



0 0.75 1.5 2.25 3 Miles

N

ORANGE

BREVARD

405 407 528 9 95 5 3 520 524 501 503 532 519

LEGEND

Existing Land Use

- Vacant / Unclassified
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Use
- Light Commercial
- Heavy Commercial
- Light Industrial
- Heavy Industrial
- Institutional
- Transportation / Utilities
- Recreation / Conservation
- Agricultural
- Water

Data Sources:
COUNTY GOVERNMENTS: ORANGE CO, OSCEOLA CO. BREVARD CO (2016)

LOCAL GOVERNMENTS: CITIES OF ST. CLOUD; BELLE ISLE, TITUSVILLE, MELBOURNE, COCOA, WEST MELBOURNE (2016)

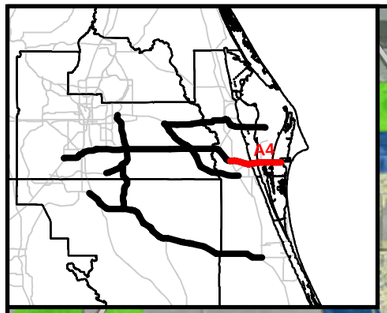
East Central Florida Corridor Evaluation Study

FDOT

Corridor A
Land Use

FIGURE 2.2-5

SEGMENT A3



N

0 0.75 1.5 2.25 3 Miles

BREVARD

528 95 9 528 524 5 524 501 503 520 95 519 520 3 528 401 A1A 3

LEGEND

Existing Land Use

- Vacant / Unclassified
- Low Density Residential
- Medium Density Residential
- High Density Residential
- Mixed Use
- Light Commercial
- Heavy Commercial
- Light Industrial
- Heavy Industrial
- Institutional
- Transportation / Utilities
- Recreation / Conservation
- Agricultural
- Water

Data Sources:
COUNTY GOVERNMENTS: ORANGE CO, OSCEOLA CO, BREVARD CO (2016)
LOCAL GOVERNMENTS: CITIES OF ST. CLOUD, BELLE ISLE, TITUSVILLE, MELBOURNE, COCOA, WEST MELBOURNE (2016)

East Central Florida Corridor Evaluation Study

FDOT

Corridor A

Land Use

FIGURE 2.2-5

SEGMENT A4

2.2.4 Context Zone Classification

For a distance of 54.4 miles, Corridor A encompasses long stretches of natural (C1) land use. There are eight interchanges within the 15.6 mile area of Segment A1 between I-4 and SR 417. The remaining 38.8 miles of the corridor includes 10 interchanges. Due to the limited access nature of the facility, the context of the roadway is not expected to change. The context zones described in this section refer to the adjoining land uses depicted in Table 2.2-4 and Figure 2.2-6.

Table 2.2-4: Corridor A Context Zones

Corridor	SR 528 (Martin Anderson Beachline Expressway)				
From	I-4				
To	George King Boulevard				
Distance	54.4 miles				
Segment	**Sub-Segment**	**From**	**To**	**Distance (Miles)**	**Existing Context Zones**
A1	1	I-4	.2 mi W of bridge	2.6	C3C
	2	.2 mi W of Bridge	.2 mi E of Bridge	0.4	C1
	3	.2 mi E of Bridge	.3 mi E of S Orange Avenue	4.6	C3C
	4	.3 mi E of S Orange Avenue	N Narcoossee Road	6.1	C5
	5	N Narcoossee Road	Central Florida GreeneWay	1.9	C1
A2-1	1	Central Florida GreeneWay	.7 mi W of SR 13	7.6	C1
	2	.7 mi W of SR 13	2 mi E of SR 13	2.6	C3R
A2-2	1	2 mi E of SR 13	Brevard County Line	10.1	C1
A3	1	Brevard County Line	.7 mi W of Pine Street	4.8	C1
	2	.7 mi W of Pine Street	Pine Street	0.7	C2
A4	1	Pine Street	I-95	0.4	C2
	2	I-95	1 mi E of I-95	1.0	C1
	3	1 mi E of I-95	1 mi W of Industrial Road	1.6	C2
	4	1 mi W of Industrial Road	Indian River Dr.	2.0	C3C
	5	Indian River Drive	E side of Indian River	1.7	C1
	6	E side of Indian River	.6 mi E of SR 3	1.4	C3C
	7	.6 mi E of SR 3	1 mi W of N Banana River Drive	1.0	C1
	8	1 mi W of N Banana River Drive	N Banana River Drive	1.0	C3C
	9	N Banana River Drive	SR 401	2.9	C1

As shown in the table above**,** the existing context zones are classified primarily as suburban commercial (C3C) or urban (C5). From SR 417 to I-95 the existing context zones are mostly natural (C1) as indicated in the table above, however a rural context zone (C2) could also be assigned. In either case no significant development is expected in the future. The area in Segment 2-1 near the Monument Parkway interchange is expected to develop into a rural town context zone (C2T) due to its proximity to a large prison complex and the Stanton Energy Complex to the north as well as development of a large warehouse complex to the south. To the east of this area, Wedgefield represents a suburban residential (C3R) context zone with a small interchange located at Dallas Boulevard.

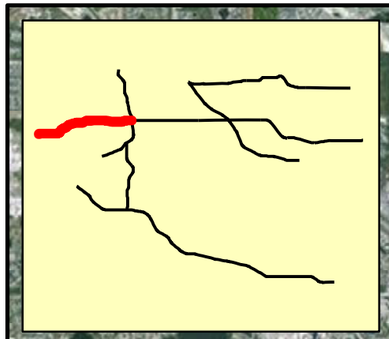
There is also a rural (C2) context zone near the I-95 interchange. This was determined based on the size of residential parcels that do not appear to be part of a subdivision development. This area is built out so no change is expected in the future. East of I-95 is a small area of natural context (C1). The future land use indicates that this area will develop in a similar fashion to the areas around it so it was assigned a future context zone of rural (C2). The context changes back to rural (C2) due to the types of residences and parcel size. The context changes to suburban commercial (C3C) in the area approaching the N Industrial Road interchange and continues on to the Indian River Lagoon Bridge. On Merritt Island the context is suburban commercial (C3C) with a short span of natural (C1) over a marshy area as well as over the Banana River to the end of the corridor at SR 401 (see Figure 2.2-6).

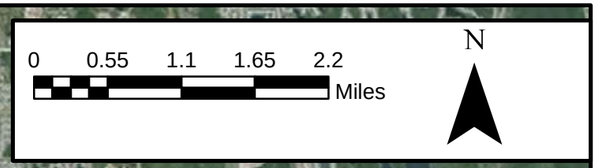
2.2.5 Major Developments

There are 11 DRIs along Corridor A, although several of the identified DRIs are around the Orlando International Airport. Major developments are listed in Table 2.2-5 and the DRIs are shown on Figure 2.3-1.

Table 2.2-5: Corridor A Major Developments

Segment	Name	Acres
A1	Florida Mall Properties	21.84
	Lee Vista Center	21.77
	Orlando International Airport 4th Runway Develop	290.66
	Orlando International Airport Consolidated	290.66
	Orlando International Airport Improvements	196.96
	Orlando Tradeport	290.66
	Southmark Centre	7.12
	South Terminal Complex (Orlando Airport)	290.66
A2	Innovation Way East	93.38
	International Corporate Park	144.1
A4	Harbortown Marina	4.69





Legend

Land Use Class/Zone

- C1--Natural
- C3C--Suburban Commercial
- C5--Urban Center

East Central Florida Corridor Evaluation Study

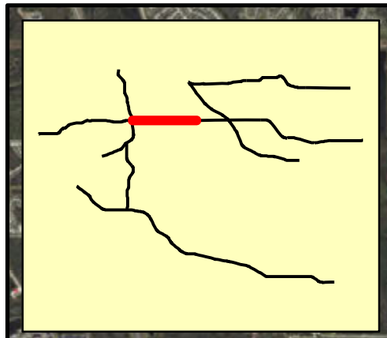
FDOT

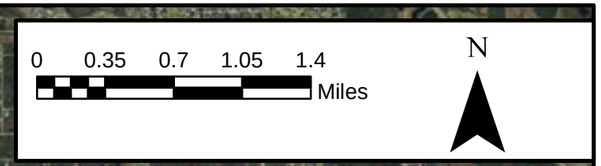
Corridor A

Context Zone

FIGURE 2.2-6

SEGMENT A1





Legend

Land Use Class/Zone

- C1--Natural
- C3R--Suburban Residential

East Central Florida Corridor Evaluation Study

FDOT

Corridor A

Context Zone

FIGURE 2.2-6

SEGMENT A2-1

0 0.35 0.7 1.05 1.4
Miles

N

Legend

Land Use Class/Zone

C1--Natural

East Central Florida Corridor Evaluation Study

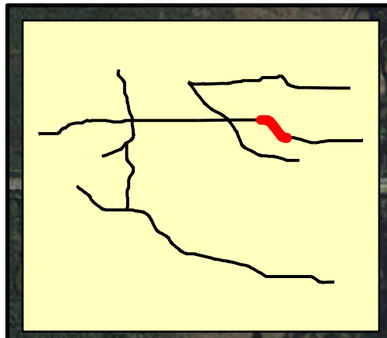
FDOT

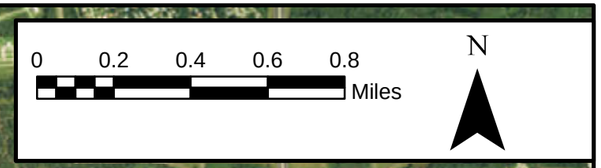
Corridor A

Context Zone

FIGURE 2.2-6

SEGMENT A2-2





Legend

Land Use Class/Zone

- C1--Natural
- C2--Rural

East Central Florida Corridor Evaluation Study

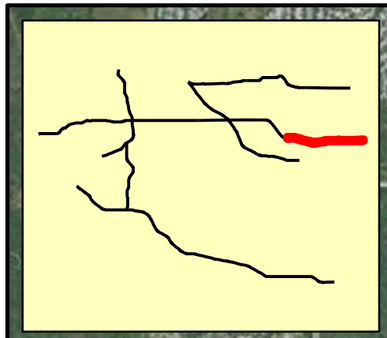
FDOT

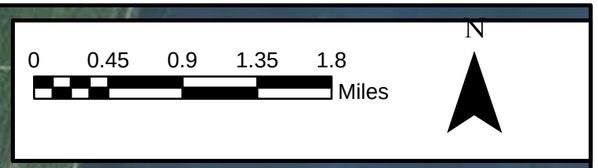
Corridor A

Context Zone

FIGURE 2.2-6

SEGMENT A3





Legend

Land Use Class/Zone

- C1--Natural
- C2--Rural
- C3C--Suburban Commercial

East Central Florida Corridor Evaluation Study

FDOT

Corridor A

Context Zone

FIGURE 2.2-6

SEGMENT A4

2.3 Roadway Characteristics/Operations

2.3.1 Jurisdiction and Classification

Corridor A is owned and operated by three transportation agencies including: the Florida Turnpike Enterprise from I-4 to SR 482, and from SR 520 to SR 524; Central Florida Expressway Authority (CFX) from SR 482 to SR 520; and FDOT from SR 524 to SR 401 near Port Canaveral.

Corridor A is primarily classified as a Principal Arterial Freeway/Expressway (toll facility) urban, with a rural status between SR 417 in Orange County to West of Pine Street in Brevard County. The corridor is also part of the SIS.

2.3.2 Typical Section and Posted Speed

The typical section of Corridor A varies from four to six through lanes, with a minimum 200-foot right-of-way. Segments A1 and A3 are 300-foot right-of-way consisting of four 12-foot through lanes separated by a 40-foot median (20 feet between edges of curbs sloped at 1:6 to a ditch, with an 8-foot paved interior shoulder on each side). The through lanes are edged with10-foot paved outside shoulders and a 1:6 slope to natural ground or a 5-foot drainage ditch. Segment A4 consists of the same configuration with 200-foot of right-of-way, and the exterior drainage ditch omitted. Segment A2, with a minimum 300-foot width, typically has six 12-foot through lanes, a 28-foot median (two 12-foot paved shoulders with guard rails), 10-foot paved outside shoulders, and a 1:6 graded slope on each side to natural ground or drainage ditch.

Two portions of Segment A1 consist of four lanes of traffic from I-4 to US 441 and from Narcoossee Road to the segment terminus at SR 417. Between the portions from US 441 to Narcoossee Road, six through lanes are present. The remaining segments, A2, A3, and A4, from SR 417 to the terminus of Corridor A in Port Canaveral consist of four through lanes (see Figure 2.3-1).

The Maximum speed on Corridor A varies between 45 mph and 70 mph. The majority of Segment A1 passing through urbanized Orlando has a speed limit of 55 mph, which increases to 65 mph at Narcoossee Road. The speed changes to 70 mph around GreeneWay, and continues through the rural stretch of the corridor, Segments A2 and A3. The speed reduces to 45 mph approaching east, and increases to 60 mph around George King Boulevard, Segment A4.

2.3.3 Traffic Volumes

Annual Average Daily Traffic (AADT) and Level of Service (LOS) 2015 on all four segments of Corridor A are shown on Table 2.3-1 and in Figure 2.3-1.

Table 2.3-1: Corridor A Annual Average Daily Traffic and Level of Service 2015

Roadway	Corridor Section	Count Location	AADT	LOS	Speed
SR 528	A1	I-4 - John Young Parkway	86,000	F	55
	A1	John Young Parkway - US 441	74,000	D	55
	A1	US 441 - McCoy Road	77,000	C	55
	A1	McCoy Road - Semoran Boulevard	103,500	D	55
	A1	Semoran Boulevard - Narcoossee Road	77,203	C	55-65
	A1	Narcoossee Road - Central Florida GreeneWay	63,500	D	70
	A2	Central Florida GreeneWay - SR 520	45,937	D	70
	A2/A3	SR 520 - Challenger Memorial Parkway	21,000	B	70
	A3/A4	Challenger Memorial Parkway - I-95	17,200	B	70
	A4	I-95 - N Cocoa Road	20,100	B	65-70
	A4	N Cocoa Road - Courtenay Parkway	34,500	B	55-60
	A4	Courtenay Parkway - George King Boulevard	46,355	B	45-60

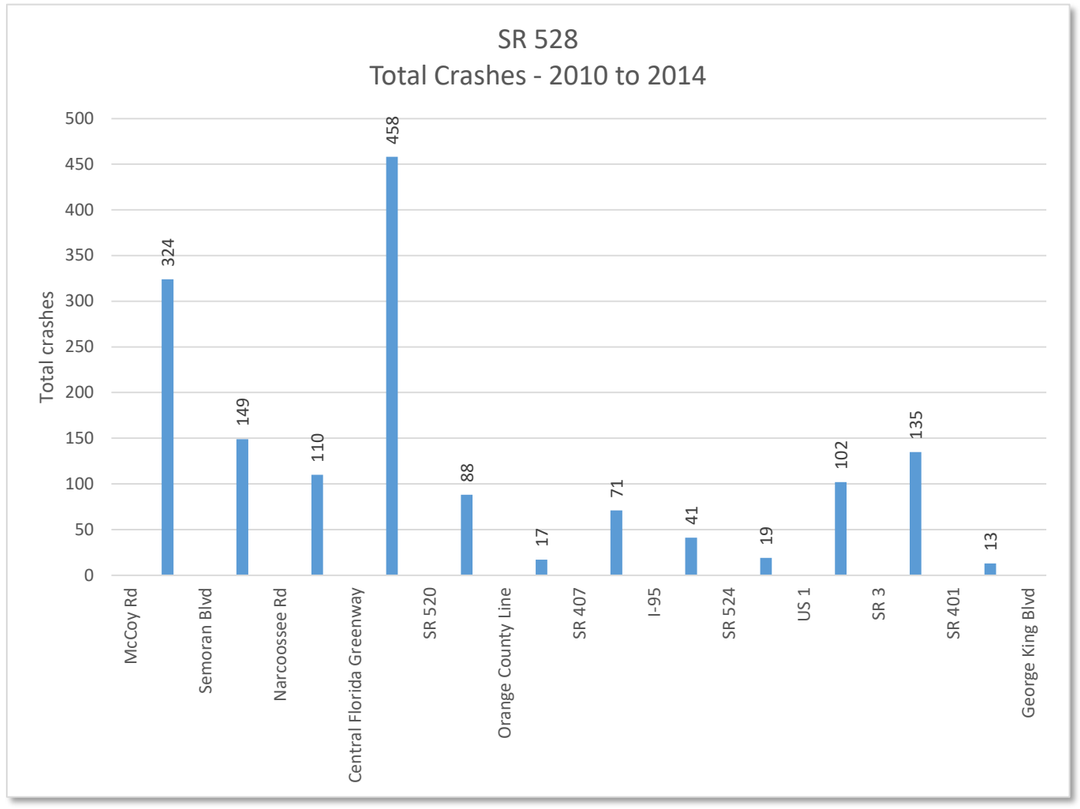
2.3.4 Safety and Crash Data

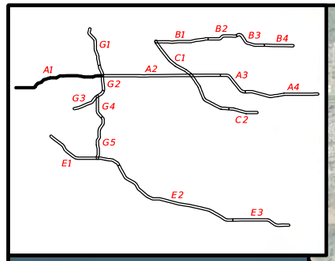
The results of the historical crash analysis are used to identify or confirm safety problems in the project study area. Understanding crash characteristics and crash contributing factors helps to determine and evaluate corrective actions or countermeasures that can be applied to Corridor A.

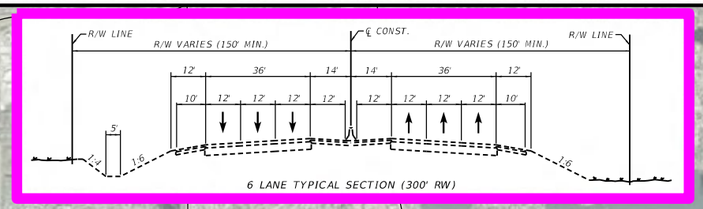
The following bar chart summarizes the total crashes for SR 528 for the five-year period between 2010 and 2014. Per the crash data received there are no recorded crashes between I-4 and McCoy Rd, therefore only data from McCoy Rd to George King Blvd was analyzed. As shown below, the highest number of crashes occurred between McCoy Road and SR 520. The highest concentration of crashes was located along a two mile stretch of highway starting at Daetwyler Drive overpass and heading east to the Semoran Blvd Interchange. There was a total of 229 crashes and within that total there were 152 rear end collisions, and 41 sideswipes. These two types account for 66.4% and 17.9% of all accidents with other vehicles in this short stretch of roadway.

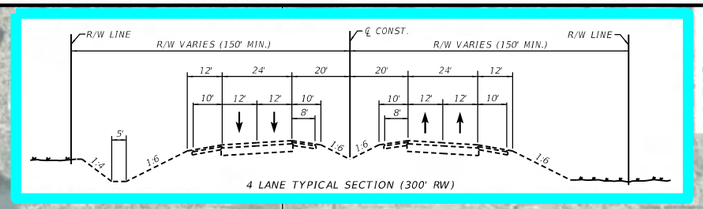
The second highest concentration of crashes occurred at the SR 3/N Courtenay Parkway interchange. There was a total of 41 accidents between two vehicles, 60.9% of which were rear end collisions. The rest were sideswipes, head on collisions, and angle crashes. Another factor of this interchange is the high number of accidents on Courtenay Parkway between the on/off ramps at the north and south-end of the roadway. Within this area, a total of 95 collisions occurred on Courtenay Parkway with over 75% being rear-end collisions and angled crashes. The third highest concentration of crashes occurred at the US 1/N. Cocoa Rd interchange. There was a total of 25 accidents at this interchange with 60% being rear-ends. Similarly, the N. Cocoa Rd interchange experienced a total of 55 crashes on Cocoa Rd with over 60% being rear-end collisions. The remaining crashes were spread fairly evenly across the rest of the corridor with a few small concentrations at the I-95 interchange, Yates Road interchange, and the Dallas Boulevard interchange.

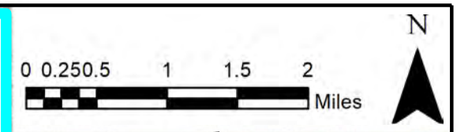
Corridor A SR 528 Total Crashes – 2010 to 2014











LEGEND

- Number of Lanes
- DRI's
- Preservation Areas

MAJOR DRI'S

1. Granada
2. Southchase
3. Orlando International Airport
4. Lake Nona / Medical City
5. Eagle Creek
6. Campus Crusade for Christ
7. Lee Vista Center
8. Airport Industrial Park
9. Greenway Park
10. Innovation Place

A1

RW-300'
AADT - 86,000
LOS - F

I-4

JOHN YOUNG PKWY.

RW-300'
AADT - 74,000
LOS - D

U.S. 441

RW-300'
AADT - 77,000
LOS - C

McCOY RD.

RW-300'
AADT - 91,000
LOS - C

SEMORAN RD.

RW-300'
AADT - 77,203
LOS - C

NARCOSSEE RD.

RW-300'
AADT - 63,500
LOS - D

CENTRAL FLORIDA GREENWAY

A2

G1

G2

G3

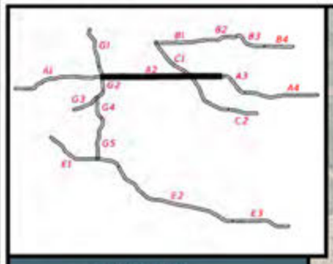
G4

East Central Florida Corridor Evaluation Study

Corridor A
Roadway Characteristics

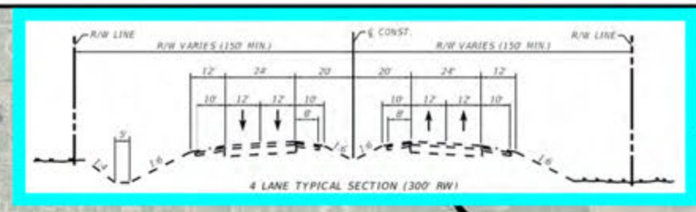
FIGURE 2.3-1

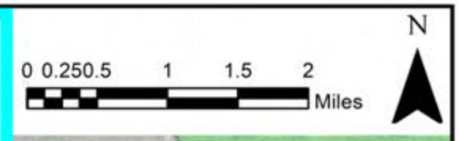
SEGMENT A1



LEGEND

- Number of Lanes
- DRI's
- Preservation Areas





HAL SCOTT PRESERVE

SPLIT OAK FOREST

520

C1

G1

TOLL 417

A1

TOLL 528

4

A2

TOLL 528

G2

4

5

3

1

2

TOLL 417

CENTRAL FLORIDA GREENWAY

G3

S.R. 520

RW-300'
AADT - 45,937
LOS - D

MAJOR DRI'S

1. Campus Crusade for Christ
5. Camino Reale
3. Magonlia Ranch
4. Innovation Place
5. International Corp Park

East Central Florida Corridor Evaluation Study

FDOT

Corridor A
Roadway Characteristics

FIGURE 2.3-1

SEGMENT A2

LEGEND
Number of Lanes
DRI's
Preservation Areas

TOSOHATCHEE STATE PRESERVE

ORANGE COUNTY
BREVARD COUNTY

A2
A3
A4
C1
C2

4

TOLL 528

520

407

I-95

524

532

CHALLENGER MEMORIAL PKWY.

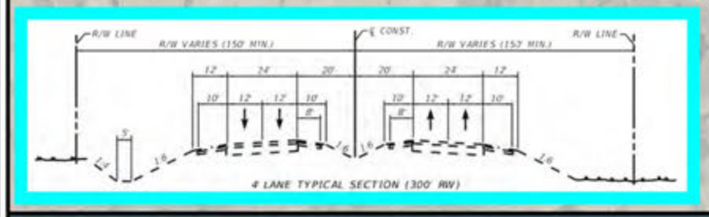
S.R. 520

RW-300'
AADT - 21,000
LOS - B

RW-300'
AADT - 17,200
LOS - B

0 0.250.5 1 1.5 2 Miles

N



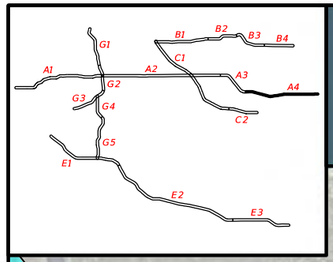
East Central Florida Corridor Evaluation Study

FDOT

Corridor A
Roadway Characteristics

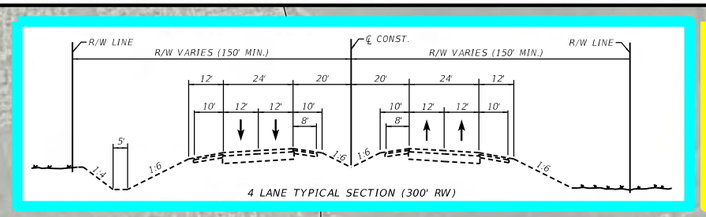
FIGURE 2.3-1

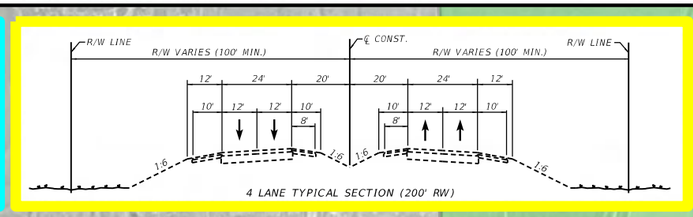
SEGMENT A3



LEGEND

- 4 — Number of Lanes
- DRI's
- Preservation Areas





0 0.250.5 1 1.5 2 Miles

N

PINE ISLAND CONSERVATION AREA

COCOA

INDIAN RIVER

BANANA RIVER

MERRITT ISLAND

COCOA BEACH

TOSOHATCHEE STATE PRESERVE

A3

A4

C2

I-95

N. COCOA RD.

COURTENAY PKWY.

GEORGE KING BLVD.

RW-300'
AADT - 20,100
LOS - B

RW-200'
AADT - 46,355
LOS - C

RW-200'
AADT - 46,355
LOS - B

TOLL 528

95

1

3

401

524

520

4

East Central Florida Corridor Evaluation Study

FDOT

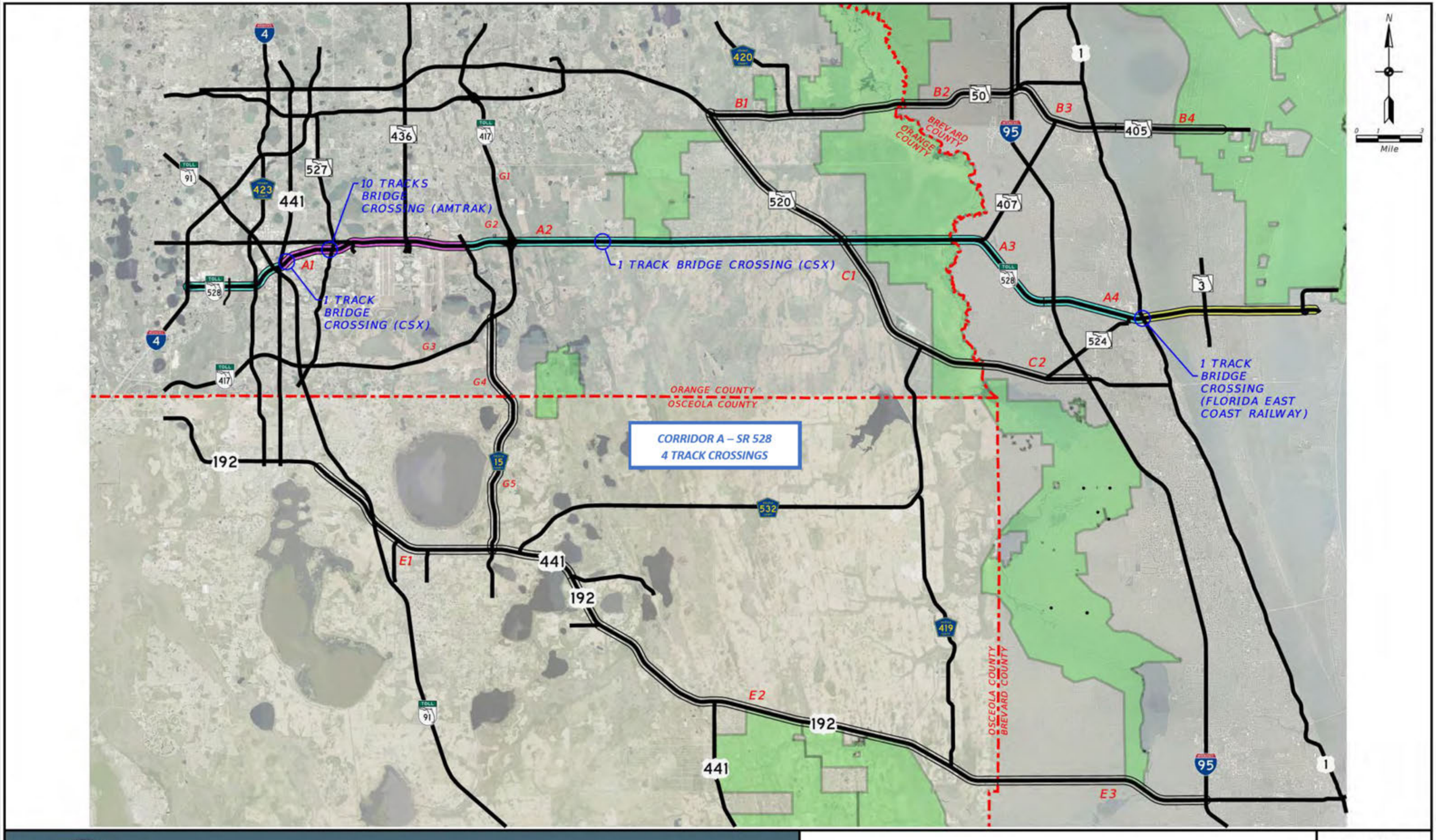
Corridor A
Roadway Characteristics

FIGURE 2.3-1

SEGMENT A4

2.4 Railroad Crossings

Corridor A crosses CSX and the Florida East Coast Railway (FEC) railroads at four locations. These railroad corridors are owned and operated by CSX and FEC. CSX is a Class I railroad that operates 2,800 miles (1,508 route miles) of track in Florida; and both of their major north-south lines, the A- and the S-line, terminate in Central Florida. The first railroad-highway grade crossing is along Segment A1 in Orlando, just east of US 441, where one CSX track passes under the roadway. The second overpass is also on Segment A1, just west of SR 527. This crossing has ten tracks with operation rights given to Amtrak and Florida Central Railroad. The third crossing is in segment A2 and is located at the overpass of International Corporate Park Blvd in East Orange County, where there is one track of CSX rail present. The final crossing consists of two tracks of the Florida East Coast Railway, which lie just west of US 1 in Brevard County along Segment A4. South Central Florida Express has haulage rights on this line (Figure 2.4-1).



East Central Florida Corridor Evaluation Study

FDOT

Corridor A

Existing Railroad Crossings

FIGURE 2.4-1

2.5 Engineering and Site Characteristics

As noted previously, one of the key benefits of this phase of the study is that it provides an opportunity to plan on a holistic, system-level. Engineering analyses and documentation of site characteristics is a required step in the PD&E process. The following section provides the results of the ECFCES Engineering and Site Characteristics analyses.

2.5.1 Structures

Corridor A has 45 crossings with bridges or underpasses. At these locations, there are 89 structures. This section focuses on underpasses only. Corridor A underpasses I-4, West Entrance Drive, SR 436, Goldenrod Road, SR 417 and SR 407. Information was collected from FDOT Straight Line Diagrams, FDOT Bridge Reports, and Google Maps.

SR 528 On-ramp Underpass at I-4 (Structure #750087)

- One structure at the interchange.
- Structure #750087 has a vertical clearance of 16.32 feet.

This interchange is being reconfigured as part of the I-4 widening project.

SR 528 Underpass at West Entrance Drive (Structure #754128)

- One structure at the underpass. No ramps.
- Structure #754128 has a vertical clearance of 21.5 feet.

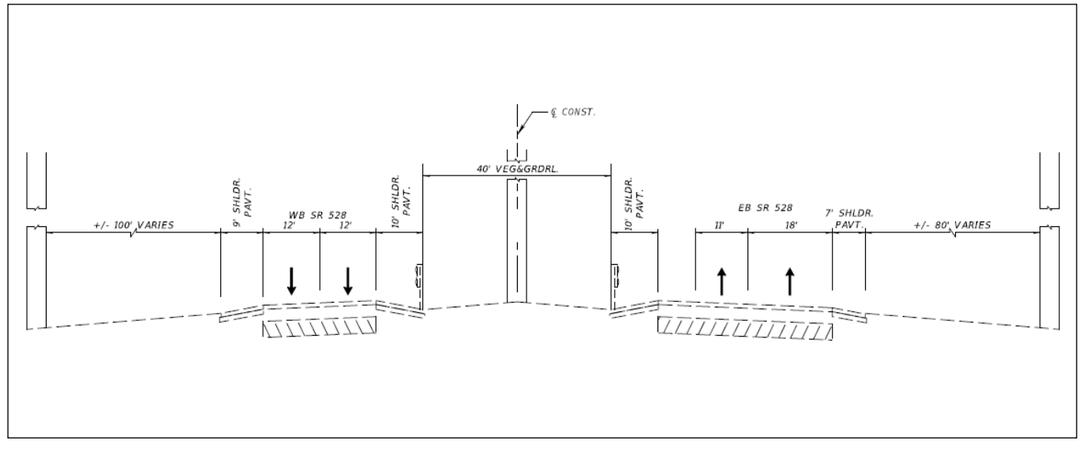
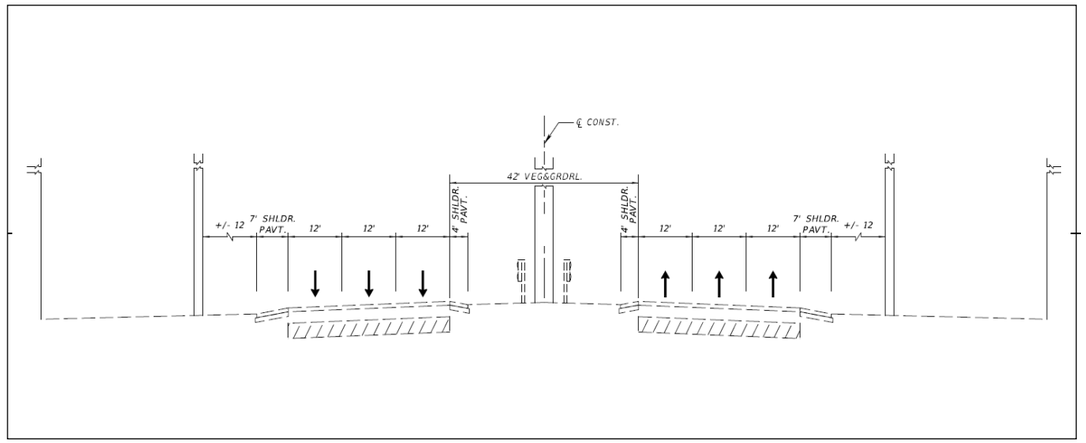


Figure 2.5-1: Typical Section at SR 528 Underpass at West Entrance Drive (Structure #754128)

SR 528 Underpass at SR 436 (Structure #s 750316, 750729, 750317)

- Three structures at the interchange.
- Structure #750316 has a vertical clearance of 17.5 feet.
- Structure #750729 has a vertical clearance of 25.2 feet.
- Structure #750317 has a vertical clearance of 16.4 feet.

Figure 2.5-2: Typical Section at SR 528 Underpass at SR 436 (Structure #s 750316, 750729, 750317)



SR 528 Underpass at Goldenrod Road (Structure #750512)

- One structure at the interchange.
- Structure #750512 has a vertical clearance of 18 feet.

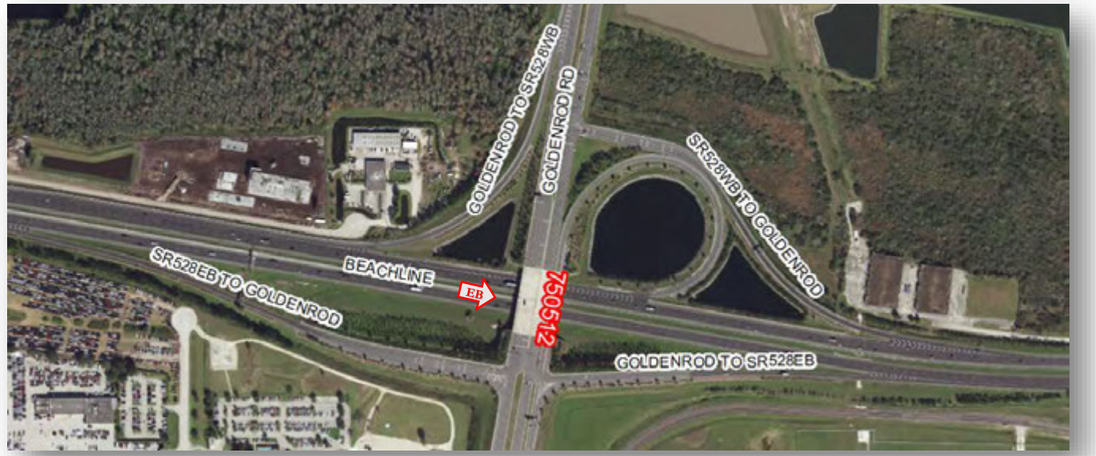
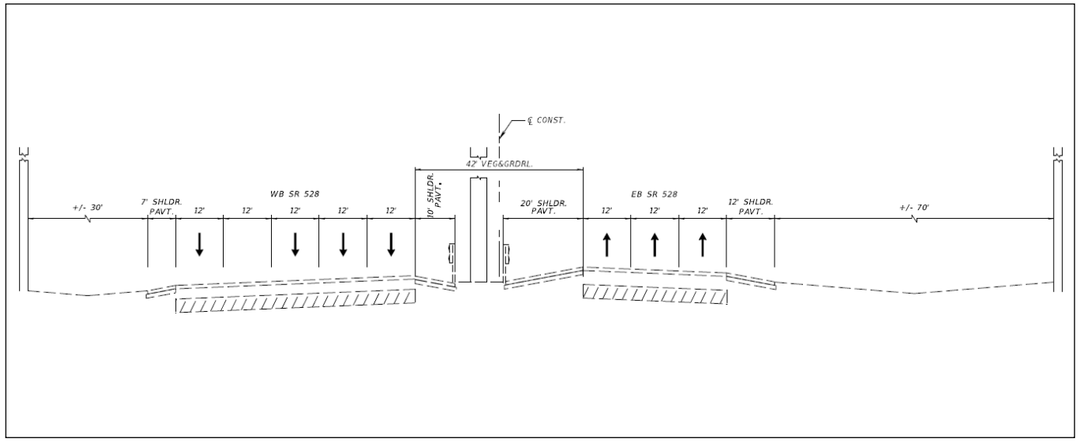


Figure 2.5-3: Typical Section at SR 528 Underpass at Goldenrod Road (Structure #750512)



SR 528 Underpass at SR 417 (Structure #s 750374, 750373, 750467, 750468, 750469, 750470)

- Six structures at the interchange.
- Structure #750374 has a vertical clearance of 17.7 feet.
- Structure #750373 has a vertical clearance of 16.7 feet.

- Structure #750467 has a vertical clearance of 16.5 feet.
- Structure #750468 has a vertical clearance of 16.5 feet.
- Structure #750469 has a vertical clearance of 16.6 feet.
- Structure #750470 has a vertical clearance of 16.2 feet.

Figure 2.5-4: Typical Section at SR 528 Underpass at SR 417 (Structure #750374)

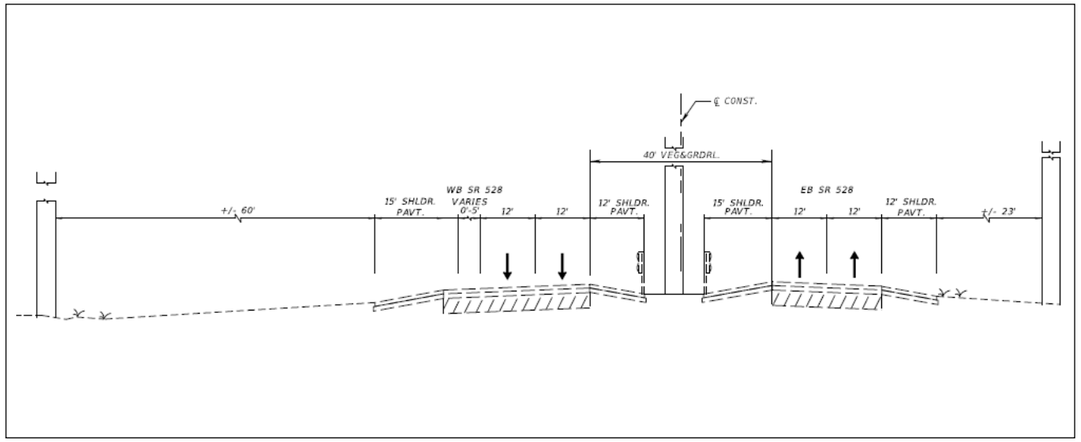


Figure 2.5-5: Typical Section at SR 528 Underpass at SR 417 (Structure #750373)

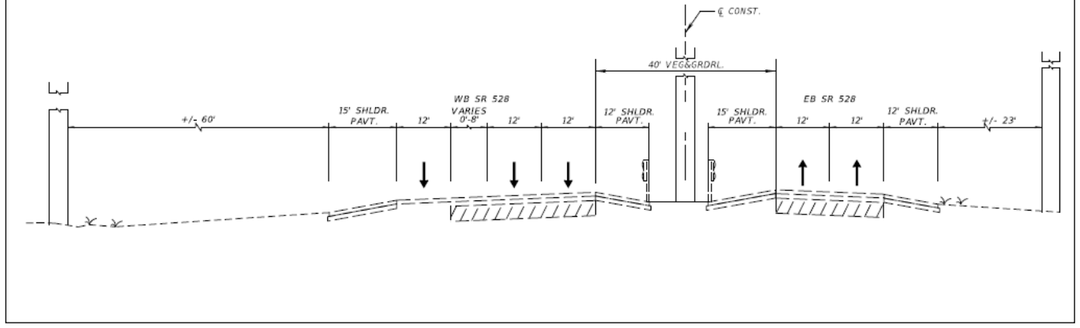


Figure 2.5-6: Typical Section at SR 528 Underpass at SR 417 (Structure #s 750467, 750468, 750469)

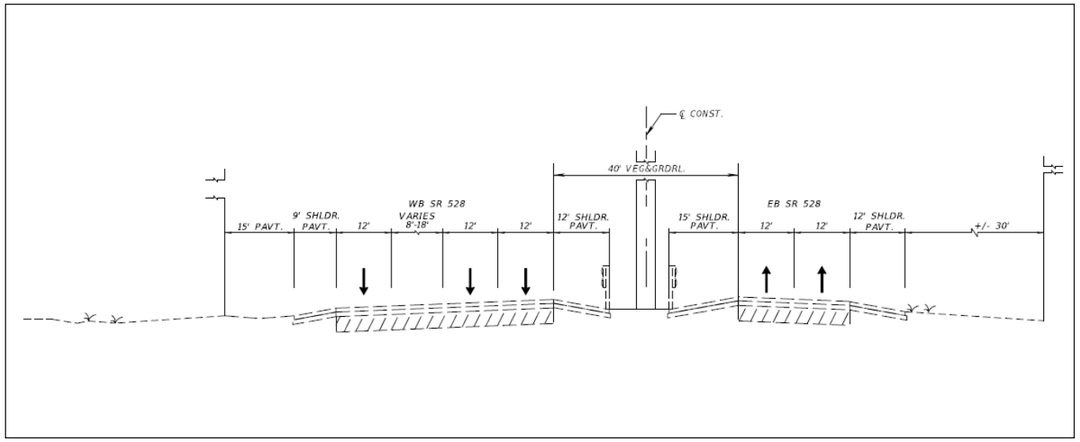
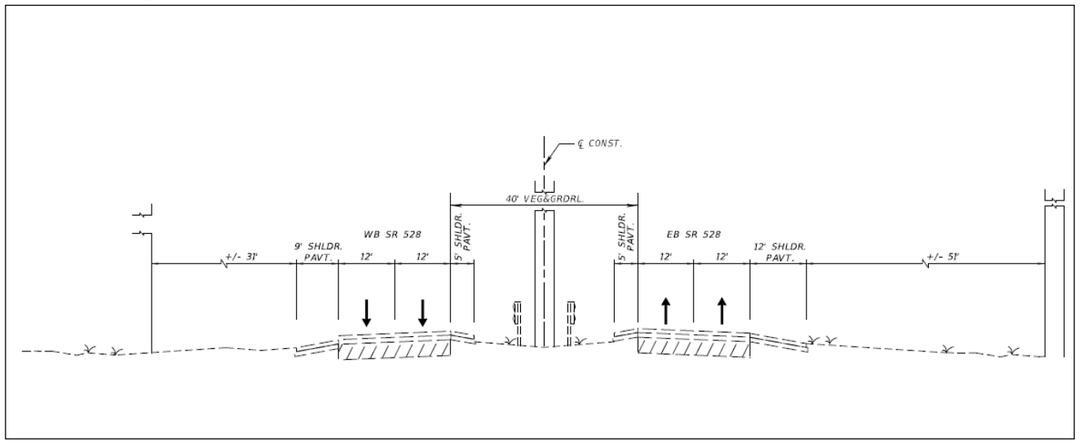


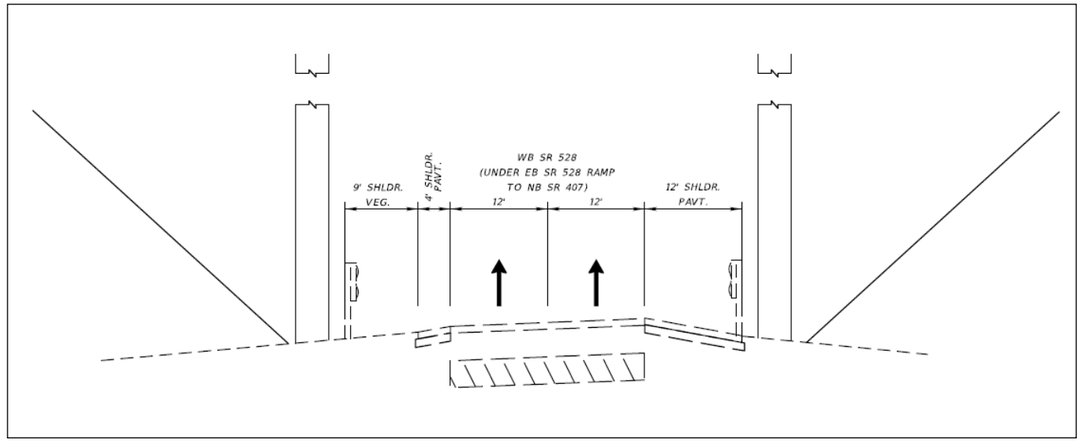
Figure 2.5-7: Typical Section at SR 528 Underpass at SR 417 (Structure #750470)



SR 528 Underpass at SR 407 (Structure #700085)

- One structure at the interchange.
- Structure #700085 has a vertical clearance of 17.7 feet

Figure 2.5-8: Typical Section at SR 528 Underpass at SR 407 (Structure #700085)



Sufficiency Rating for Bridges

Sufficiency Rating is essentially an overall rating of a bridge's fitness for the duty that it performs based on factors derived from over 20 NBI data fields. Ratings reported in this report are based on the FDOT's 2017 3rd Quarter Bridge Information Report. The designation of a bridge as Structurally Deficient (SD) or Functionally Obsolete (FO) has impact on decisions for bridge maintenance, rehabilitation or replacement. According to the FHWA Highway Bridge Replacement and Rehabilitation Program (23 CFR 650.409), highway bridges are considered eligible for rehabilitation or replacement with a sufficiency rating of less than 50.0. Highway bridges with a sufficiency rating of 80.0 or less will be eligible for rehabilitation. Ratings are on a scale of 1 to 100, with 100 considered as an entirely sufficient bridge, usually new. The Sufficiency Rating for each bridge along Corridor A is identified on Table 2.5-1.

Table 2.5-1: Corridor A Sufficiency Ratings for Bridges

Roadway Name	County	Roadway ID	Interchange/Intersection	Structure #	Sufficiency Rating (%)
SR 528	Orange	75002000	I-4	750180 750087	87.7 88.2
	Orange	75471000	W Entrance Drive	754128	96.3
	Orange	75471000	International Drive	750088 750215	92 92
	Orange	74571000	Orangewood Boulevard	750089 750216	93.1 93.1
	Orange	75471000	Shingle Creek	750090 750217	90.2 82.4
	Orange	75471000	John Young Parkway	750091 750218	93 93
	Orange	75471000	SR 91/Turnpike	750092 750219	92 92
	Orange	75471000	Orange Blossom Trail	750093 750181	90.1 – FO 85 – FO
	Orange	75471000	W Landstreet Road	750094 750221	92.1 – FO 92.1 – FO
	Orange	75471000	CSX Railroad (SCL RR)	750096 750222	94.3 94.3
	Orange	75471000	CSX Railroad (SCL RR)	750097 750223	91.5 – FO 91 – FO
	Orange	75471000	S Orange Avenue	750098 750224	96.4 96.4
	Orange	75471000	Boggy Creek/McCoy Road	750099 750225	92.1 – FO 92.1 – FO
	Orange	75002000	Via Flora	750318	85
	Orange	75002000	Daetwyler Drive	750319	85
	Orange	75002000	Tradeport Drive	750320	98
	Orange	75002000	SR 436	750316 750729 750317	91.5 99.5 92.6
	Orange	75002000	Goldenrod Road	750512	96.1
	Orange	75002000	SR 15	750807 750808	96.3 96.3

Roadway Name	County	Roadway ID	Interchange/Intersection	Structure #	Sufficiency Rating (%)
SR 528	Orange	75002000	SR 417	750374 750373 750467 750468 750469 750470	96.3 86.9 99.1 99.1 97.6 87.6
	Orange	75002000	International Corp Park Boulevard	750322 750333	94 – FO 94 – FO
	Orange	75002000	Farm Access Road	750056 750179	88.7 – FO 88.8 – FO
	Orange	75002000	Econlockhatchee River	750057 750212	66.8 66.8
	Orange	75002000	Dallas Boulevard	750058 750213	91.4 – FO 90.7 – FO
	Orange	75002000	Farm Access Road	750059 750214	91.2 – FO 91.2 – FO
	Orange	75475000	SR 520	750132 750226	93.5 – FO 93.5 - FO
	Orange	75475000	Second Creek	750133 750227	97 96.4
	Orange	75475000	Jim Creek	750134 750228	96.4 96.4
	Orange	75475000	Long Bluff Road	750135 750229	95.4 96.4
	Orange	75475000	Tosohatchee Creek	750136 750230	96.4 96.4
	Brevard	Turnpike 70470000	St. Johns River	700084 700150	97.6 97.6
	Brevard	Turnpike 70470000	SR 407	700085	98.2
	Brevard	Turnpike 70470000	Pine Street	700087 700151	96.3 95.3
	Brevard	Turnpike 70470000	I-95	700197 700198	96.3 96.3
	Brevard	Turnpike 70470000	Industry Road	700089 700153	95.4 97.4
	Brevard	70070000	US 1	700014 700108	75.5 – FO 89 – FO
	Brevard	70070000	CR 515/Indian River Drive	700015 700109	77.3 91.8
	Brevard	70070000	Indian River Bridge/Bennett Cswy	700110 700221	72.6 94.5
SR 528	Brevard	70070000	Courtenay Pkwy	700017 700111	85 – FO 85 – FO
	Brevard	70070000	Sykes Creek	700025 700112	77 – FO 87.2 – FO
	Brevard	70070000	Banana River Drive	700026 700113	74.9 – FO 86 – FO
	Brevard	70070000	Banana River Relief	700027 700114	72.9 93.4
	Brevard	70070000	Banana River	700028 700115	66.8 – FO 79
	Brevard	70070000	SR 401/SR A1A	700074 700140	90.2 90.2
	Brevard	70080000	George King Blvd	700211 700210	100 100

2.5.2 Drainage

In Orange County, Corridor A extends through three major surface water management basins as defined by the Florida Department of Environmental Protection (FDEP). This includes the Kissimmee River Basin, the Middle St. Johns River Basin, and the Upper St. Johns River Basin. Stormwater in the Kissimmee River Basin generally flows southward through a chain of lakes and into the Kissimmee River. Stormwater in this portion of the Middle St. Johns River Basin generally flows east and west to the Econlockhatchee River which flows into the St. Johns River, while stormwater in the Upper St. Johns River Basin generally flows east to the St. Johns River. There are 21 major drainage crossings (greater than five-foot diameter pipes equivalent opening), including six bridges, seven bridge culverts, eight box culvert crossings, and two large diameter pipes/pipe combinations within the Orange County portion of the corridor. These drainage crossings are noted in Figure 2.5-9. Table 2.5-2 denotes impaired drainage basins, as defined by FDEP, through which the corridor passes. A portion of Corridor A from approximately 3.52 miles east of SR 417 to approximately 4.93 miles west of SR 520 lies within the St. Johns River Water Management District's designated Econlockhatchee River Hydrologic Basin.

Table 2.5-2: Corridor A Orange County, Impaired Waterbodies

Waterbody Name	Group Name	Water Body ID	Impairment Parameter
Boggy Creek	Kissimmee River	3168B	Fecal Coliform
Little Econlockhatchee River	Middle St. Johns River	3001	Fecal Coliform
Econlockhatchee River	Middle St. Johns River	2991	Fecal Coliform
St. Johns River above Puzzle Lake (South Segment)	Upper St. Johns River	28395	Dissolved Oxygen

Corridor A in Brevard County passes from west to east through two major FDEP-defined surface water management basins: the Upper St. Johns River Basin and the Indian River Lagoon Basin. Stormwater in the Upper St. Johns River Basin generally flows west into the St. Johns River. Stormwater in the Indian River Lagoon Basin flows into the Indian River and Banana River with ultimate discharge into the Atlantic Ocean. The Brevard County portion of Corridor A contains nine major drainage crossings, including five bridges, one bridge culvert, two box culvert crossings, and one large pipe culvert. Figure 2.5-9 depicts the drainage crossing locations. Table 2.5-3 denotes impaired drainage basins, as defined by FDEP, through which the corridor passes.

Table 2.5-3: Corridor A Brevard County, Impaired Waterbodies

Waterbody Name	Group Name	Water Body ID	Impairment Parameter
St. Johns River above Puzzle Lake (South Segment)	Upper St. Johns River	28395	Dissolved Oxygen
Indian River above 520 Causeway	Indian River Lagoon	2963D1	Mercury
Sykes Creek/Barge Canal	Indian River Lagoon	3044B	Mercury
Banana River above Barge Canal	Indian River Lagoon	3057C	Mercury
Banana River above 520 Causeway	Indian River Lagoon	3057B	Mercury

2.5.3 Utilities

Except near its beginning and end, the corridor primarily consists of a limited access expressway located within a rural area. Although the abundant right of way in the expressway section has ample room for multiple utilities, the few found within or crossing the corridor are generally for long distance transmission rather than local distribution due to the sparse population. At the western end, closer to the City of Orlando and the eastern end, near the cities of Cocoa and Port Canaveral, the number of utilities in the corridor increases and becomes more diverse as the development density escalates. The most common types of utilities include:

- Electric transmission and distribution, both aerial and underground.
- Water and sanitary sewer mains from local municipalities. Both potable and reclaimed water appear as well as sanitary sewer configured as gravity lines and force mains.
- Communication lines are located throughout in various forms. This includes aerial and underground transmission and distribution lines for telephone, cable television and internet services. Fiber optic cables, mainly underground, are attributed to multiple communications and internet providers as well as FDOT and other agencies for traffic control and Intelligent Transportation Systems. In many instances, several communications lines would appear in a particular segment of the corridor in different aspects and locations.
- Gas transmission pipelines cross the corridor at several locations, while distribution pipes appear in and around the cities.

The initial listing of utilities within the corridors were obtained employing the Sunshine State One-Call system. Those utilities having a major presence in the study areas were contacted to verify the location and configuration of their facilities. The significant utilities are summarized for each of the corridor's counties.

The following table lists the primary utilities acknowledging a presence in Orange County as well as their general locations:

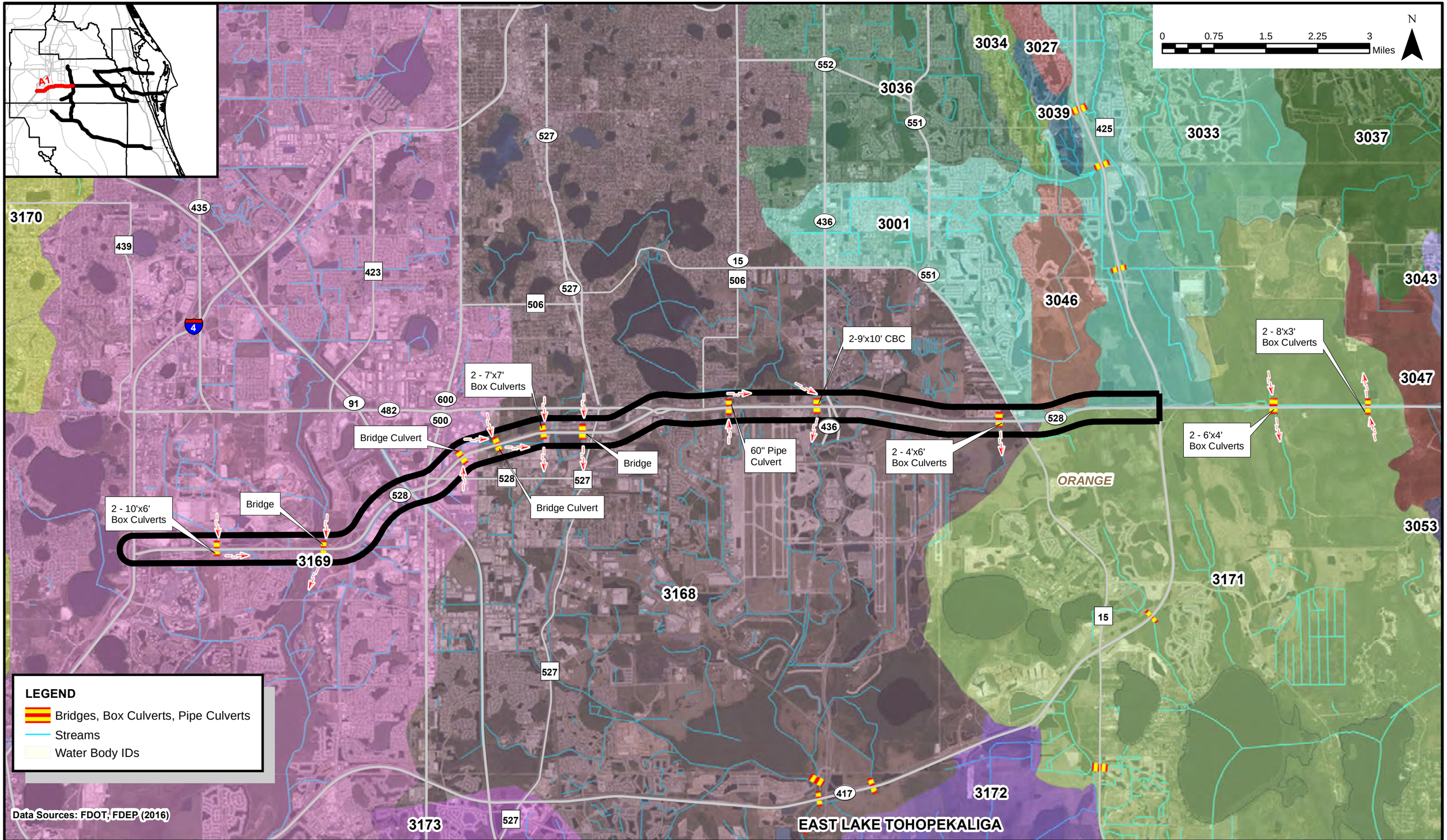
Table 2.5-4: Corridor A Orange County, Primary Utilities

Utility Name	Utility Type	Parallel or Crossing	Highway of Corridor	Cross Road/Extent
AT&T	COMM/Fiber	Crossings (2)	SR 528	SR 91, SR 527
AT&T	COMM/Fiber	Parallel	SR 528	SR 436 to County Line
CenturyLink	Fiber	Crossing	SR 528	CR 15
City of Orlando - BoWW	San. FM	Crossings (2)	SR 528	Tradeport Drive, CR 15
City of Orlando - BoWW	Reclaim	Crossings (2)	SR 528	Tradeport Drive, CR 15
Florida Gas Transmission	Gas	Crossing	SR 528	SR 91
Level 3 Communications	Fiber	Crossings (4)	SR 528	International Drive, US 441, CSX RR, CR 15
Orange County Utilities	Reclaim	Crossing	SR 528	International Drive
Orange County Utilities	Water	Crossings (2)	SR 528	International Drive, Monument Parkway
Orange County Utilities	San. FM	Crossings (6)	SR 528	International Drive, John Young Parkway (2), Orange Blossom Trail, SR 417, Monument Parkway
Orange County Utilities	San. FM	Parallel	SR 528	Universal Blvd to John Young Parkway
Orlando Utilities Commission	Electric - OH	Crossing	SR 528	Monument Parkway
Orlando Utilities Commission	Electric - UG	Crossing	SR 528	S Goldenrod Road
Orlando Utilities Commission	Electric - UG	Parallel	SR 528	S Goldenrod Road to the East, Hangar Blvd, Canal Road
Summit Broadband	Phone/Fiber	Crossings (7)	SR 528	Turkey Lake Road, International Drive, John Young Parkway, W Landstreet Road, Boggy Creek Road, Narcoossee Road, Monument Parkway
TECO Peoples Gas	Gas	Crossings (5)	SR 528	Monument Parkway (2), Hwy 527, W Landstreet Road, S Orange Blossom Trail
Verizon Business	COMM/Fiber	Crossings (8)	SR 528	International Drive, S John Young Pkwy, Amtrak RR (2), Narcoossee Road, SR 520, US 1, SR 3

The following table lists the primary utilities acknowledging a presence in Brevard County as well as their general locations:

Table 2.5-5: Corridor A Brevard County, Primary Utilities

Utility Name	Utility Type	Parallel or Crossing	Highway of Corridor	Cross Road/Extent
AT&T	COMM/Fiber	Parallel	SR 528	County Line to US 1
Charter Communications	Internet/CATV/ Phone/Fiber	Crossing	SR 528	US 1
Florida Gas Transmission	Gas	Crossings (2)	SR 528	I-95, US 1
Florida Power & Light	Electric - OH	Crossings (2)	SR 528	Between I-95 & US 1, W of US 1
Florida Power & Light	Electric - OH	Parallel	SR 528	I-95 to US 1, Eastern End Corridor
Level 3 Communications	Fiber	Crossings (2)	SR 528	US 1, FEC RR

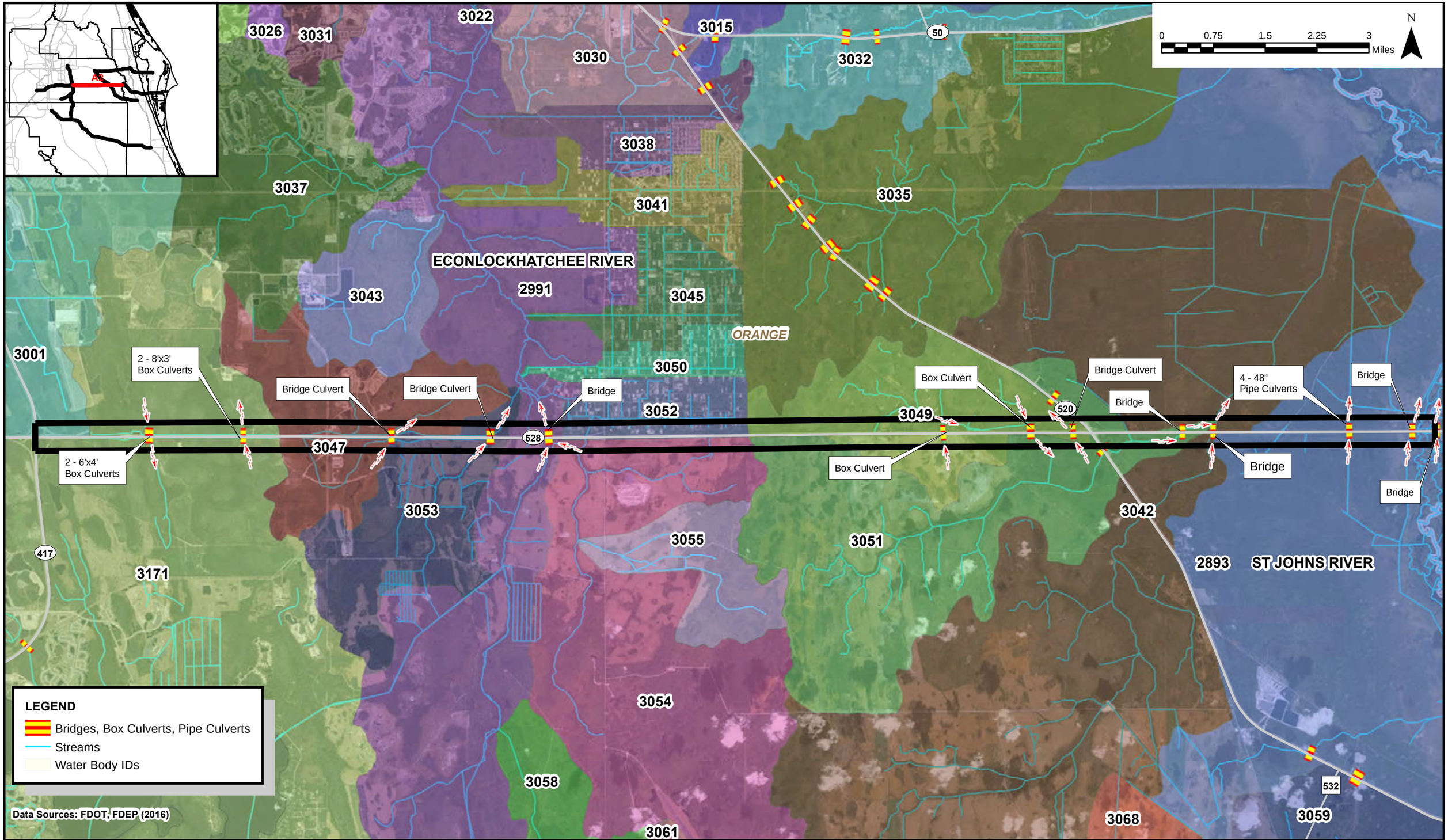


East Central Florida Corridor Evaluation Study

Corridor A
Existing Drainage Conditions

FIGURE 2.5-9

SEGMENT A1

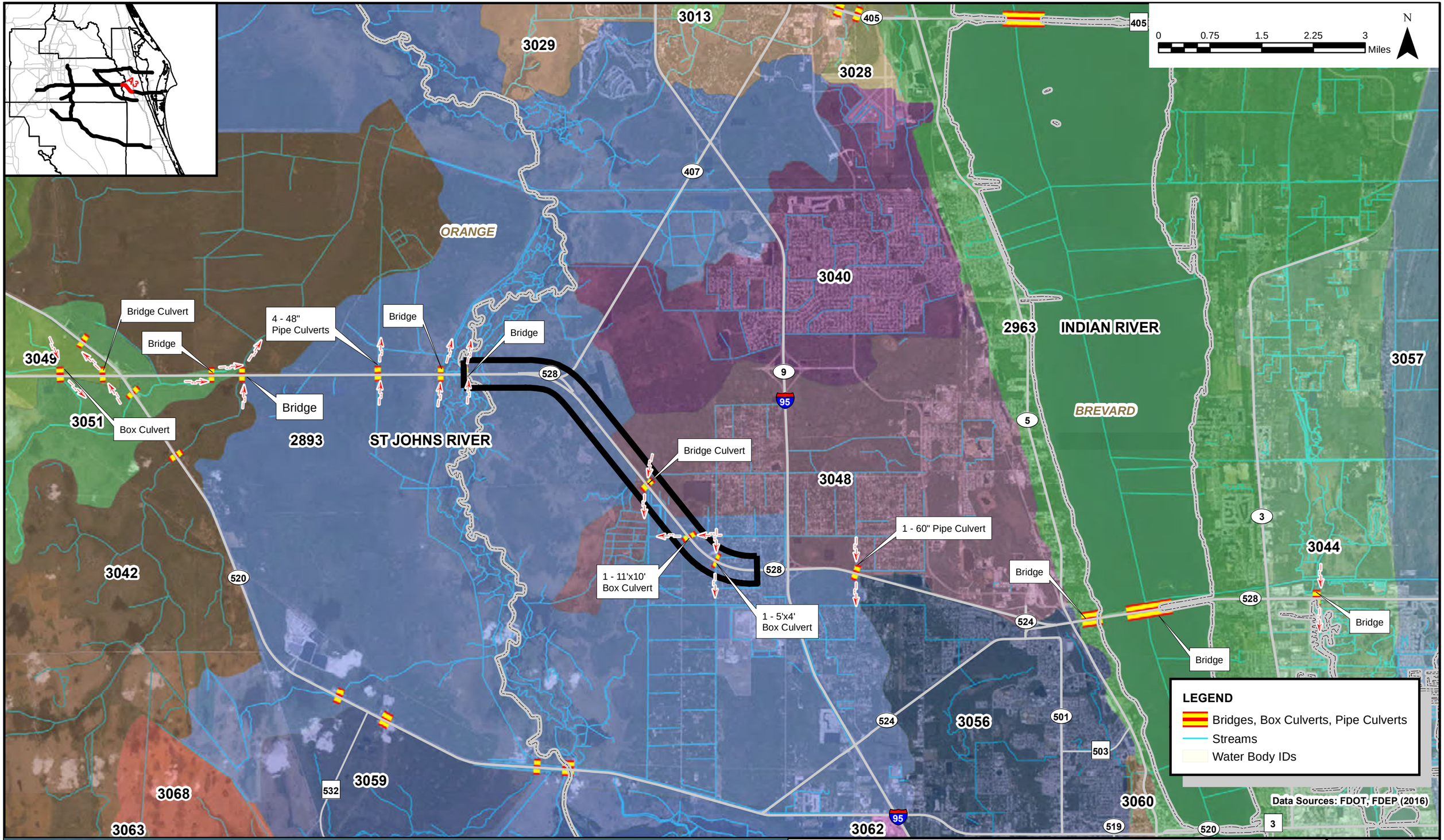


East Central Florida Corridor Evaluation Study

Corridor A
Existing Drainage Conditions

FIGURE 2.5-9

SEGMENT A2

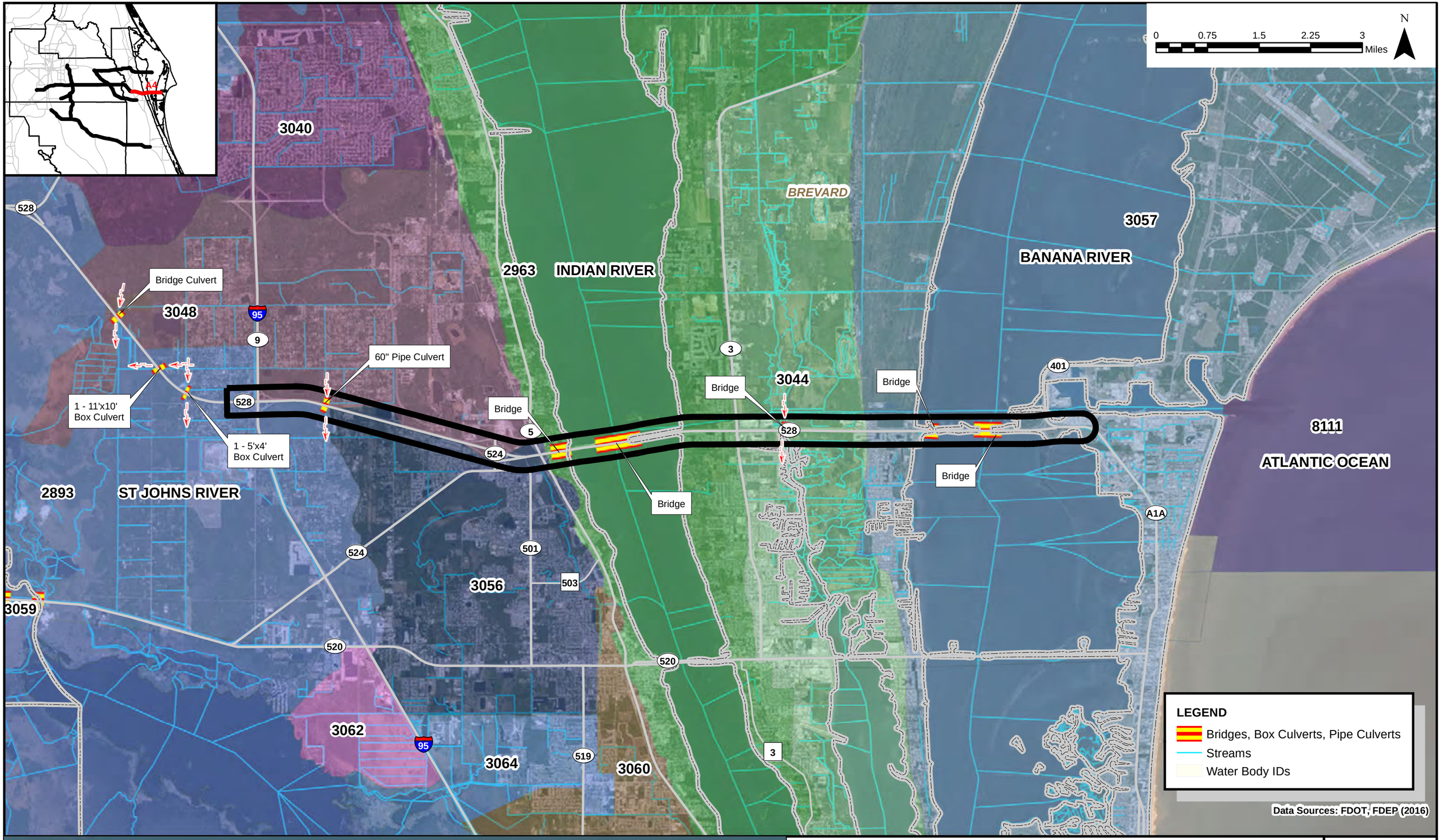


East Central Florida Corridor Evaluation Study

Corridor A
Existing Drainage Conditions

FIGURE 2.5-9

SEGMENT A3



East Central Florida Corridor Evaluation Study

Corridor A

Existing Drainage Conditions

FIGURE 2.5-9

SEGMENT A4

2.6 Environmental Characteristics

2.6.1 Wetlands

All four segment buffers traverse wetlands. Wetlands are most prevalent around water bodies such as the St. Johns River in Segments A2 and A3, and the Indian and Banana Rivers on either side of Merritt Island in Segment A4 as shown in Table 2.6-1 and Figure 2.6-1.

Table 2.6-1: Corridor A Wetlands

Segment	Wetland Type	Acres
A1	Freshwater Emergent Wetland	2.77
	Freshwater Forested/Shrub Wetland	131.67
	Freshwater Pond/Lakes	39.73
A2	Freshwater Emergent Wetland	116.66
	Freshwater Forested/Shrub Wetland	412.71
	Freshwater Pond	4.59
	Riverine	10.32
	Mitigation Bank, Tosohatchee	98.60
A3	Freshwater Emergent Wetland	299.02
	Freshwater Forested/Shrub Wetland	86.15
	Freshwater Pond	4.95
	Riverine	5.05
A4	Estuarine and Marine Deepwater	256.49
	Estuarine and Marine Wetland	54.14
	Freshwater Emergent Wetland	50.98
	Freshwater Forested/Shrub Wetland	57.63
	Freshwater Pond	26.66

2.6.2 Floodplains

As shown in Figure 2.6-2, all four segment buffers traverse the 100-year floodplain. Flood zone acres are greatest in Segment A2, where the buffer goes through swamp land and begins to cross the St. Johns River (Table 2.6-2).

Table 2.6-2: Corridor A Flood Zones

Segment	Flood Zone	Acres
A1	A	129.54
	AE	177.33
A2	A	367.84
	AE	180.53
A3	AE	79.52
A4	A	53.63
	AE	403.07

2.6.3 Historic and Cultural Resources

Historic resources in Corridor A include five historic bridges, one historic cemetery, four historic structures, five resource groups, one scenic highway and 64 recorded surveys (Figure 2.6-3). The single identified historic cemetery, Pioneer Cemetery, is located directly along the existing roadway in Segment A4. In the area of this historic resource available space is constrained by existing development and water bodies. Due to the large number of historical features, the corresponding table can be found in Appendix E.

2.6.4 Threatened and Endangered Species

Corridor A goes through consultation areas for the Caracara, Lake Wales Ridge plants (Segments A1 and A2), West Indian Manatee (Segment A4), piping plover (Segment A4), red-cockaded woodpecker (Segments A1 and A2), sand skink (Segments A1 and A2), scrub jay, and snail kite. Corridor A also notably crosses through wood stork core foraging area, critical habitat for the West Indian Manatee (mostly Segment A4), and water habitat for rare and imperiled fish (Segments A1 and A4). Two black bear nuisance reports and four black bear road kills have been reported in the buffer for Segment A2 (Table 2.6-3 and Figure 2.6-4).

Table 2.6-3: Corridor A Biological Evaluation

Feature	Acres			
	B1	B2	B3	B4
Atlantic Coast Plants Consultation Area	0	0	0	0
Audubon's Crested Caracara Occurrences in Florida (1992-2009)	0	0	0	0
Bald Eagle Nesting Territories	0	0	0	0
Black Bear Range	0	0	0	0
Black Bear Road Kills	0	4	0	0
Caracara Consultation Area	386.50	2463.10	663.00	797.37
Critical Habitat for the Reticulated Flatwoods Salamander and Frosted Flatwoods	0	0	0	0
Critical Habitat in Florida for the West Indian Manatee - 2005	0	2.84	1.23	799.99
Crocodile Consultation Area	0	0	0	0
Ecosystem Management Areas	1,890.77	2,463.10	663.00	1,472.48
FWC 1999 Wading Bird Rookery Surveys	0	0	0	0
FWC Black Bear Nuisance Reports	0	2	0	0
Final Designation of Critical Habitat in Florida for the Elkhorn and Staghorn Corals - 2009	0	0	0	0
Final Designation of Critical Habitat in Florida for the Smalltooth Sawfish - 2009	0	0	0	0
Florida Forever BOT Projects	0	0	0	38.59
Florida Grasshopper Sparrow Consultation Area	0	0	0	0
Florida Managed Areas	1.67	372.25	63.91	24.34
Florida National Wildlife Refuges	0	0	74.89	0
Florida Panther Mortality (1972 through August 2010)	0	1	0	0
Florida Sand Skink and Blue-tailed (Bluetail) Mole Skink Suitability	93.31	85.33	0	0
Florida State Parks	0	0	0	0
Freshwater Mussels Critical Habitat	0	0	0	0
Gopher Tortoise Relocation Permit Recipient Sites in Florida	0	0	0	0
Gulf Sturgeon Critical Marine Habitat	0	0	0	0
Gulf Sturgeon Critical Riverine Habitat	0	0	0	0
Lake Wales Ridge Plants Consultation Area	1,890.77	941.31	0	0
Manatee Consultation Area	0	0	0	1,041.06
National Park Projects	0	0	0	0
National Parks and Seashores	0	0	0	0
Okeechobee Gourd Consultation Area	0	0	0	0
Panther Consultation Area	0	0	0	0
Panther Zones	0	0	0	0
Piping Plover Locations	0	0	0	0
Piping Plover Consultation Area	0	0	0	1,046.17
Piping Plover Critical Habitat	0	0	0	0
Public Land	1.67	374.99	67.03	24.3
Rare and Imperiled Fish	675.33	0	0	204.09
Red-Cockaded Woodpecker Consultation Area	1,890.77	2,430.35	0	0
Red-cockaded Woodpecker Active and Inactive Occurrences in Florida - 2005	0	0	0	0
Sand Skink Consultation Area	1,890.77	702.20	0	0
Scrub Jay Consultation Area	1,892.23	2,465.07	663.53	1,482.68
Scrub Jay Occurrences in Florida (1992-1993)	0	0	0	0
Short-Tailed Hawk and Swallow-Tailed Kite Nests	0	0	0	0
Snail Kite Consultation Area	1,890.77	2,463.10	663.00	592.07
Snail Kite Critical Habitat	0	0	0	0
Snail Kite Priority Management Zones	0	0	0	0
Snowy Plover Nest Locations 2006	0	0	0	0
TNC Ecological Resource Conservation Areas	125.94	1,598.88	92.51	92.08
Wood Stork Core Foraging Areas	1,890.77	2,463.10	663.00	1,481.52
Wood Stork Nests	0	0	0	0

2.6.5 Potential Noise Sensitive Areas

In addition to the heavy commercial and industrial activity, 251 residential parcels are included in the buffer, representing potential noise sensitive receptors. These are mostly on the south side of SR 528 near Orangewood Boulevard; however, noise barriers have been implemented in the vicinity. Several community features and potential noise sensitive receptors exist in the buffer of Segment A4 (Table 2.6-4). Notably, there is a small cemetery directly next to the road on the north side of SR 528 on the west side of Merritt Island. Additionally, there are 583 residential parcels (mostly single family) in the buffer, many of which border the road on the south side of the corridor (Figure 2.6-5).

Table 2.6-4: Corridor A Potential Noise Sensitive Areas

Segment	Type	Name	Count
A1	Florida Managed Areas	Shingle Creek	
	Culture Center	Wyland Galleries of Florida	
	Laser Facility	Perfectalase	
	School	Durrance Elementary School	
	Housing Parcels	Single Family Residential	153
	Housing Parcels	Single Family Residential- Lake Front	1
	Housing Parcels	Single Family Residential- Town Home	96
	Housing Parcels	Multi-Family Residential	1

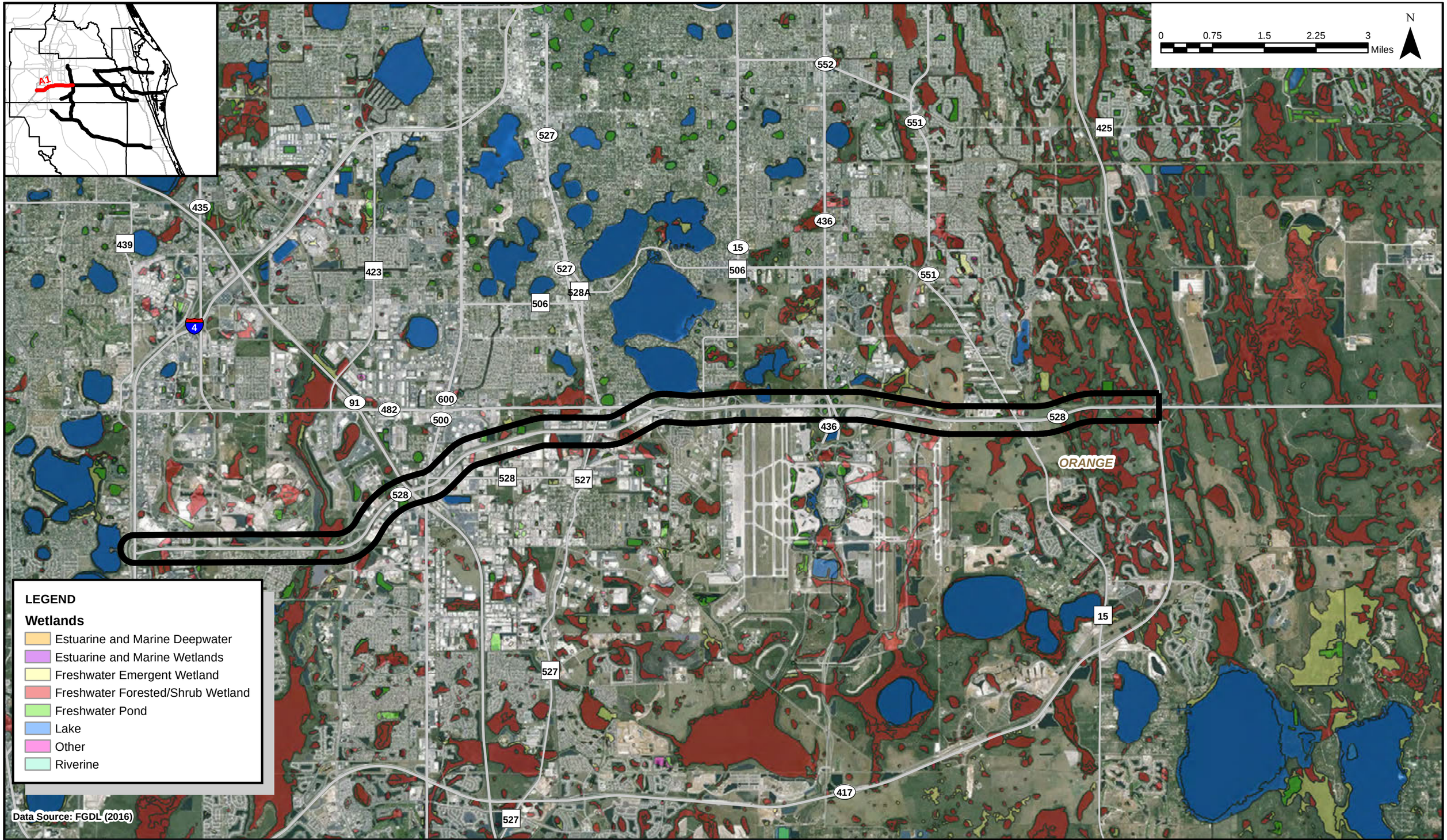
Segment	Type	Name	Count
A2	Florida Managed Areas	Tosohatchee Wildlife Management Area	
	Florida Managed Areas	Ranger Property	
	Florida Managed Areas	Hal Scott Regional Preserve And Park	
	Florida Managed Areas	Canaveral Marshes Conservation Area	
	Housing Parcels	Single Family Residential	23
	Housing Parcels	Manufactured Home	1
A3	National Wildlife Refuge Boundary	St. Johns National Wildlife Refuge	
	Florida Managed Areas	St. Johns National Wildlife Refuge	
	Florida Managed Areas	Canaveral Marshes Conservation Area	
	Housing Parcels	Single Family Residential	43
A4	Florida Managed Areas	Ulumay Wildlife Sanctuary	
	Marine Facility	Abby Marina	
	Marine Facility	Bennet Causeway	
	Marine Facility	Harbor Square Marina & Yacht	
	Marine Facility	Kelly Park-East	
	Marine Facility	New Port Marina	
	Cemetery	Williams Cemetery	
	Housing Parcels	Single Family Residential	567
	Housing Parcels	Townhomes	15
	Housing Parcels	2 Residential Units	1

2.6.6 Contamination

The density of potential sources of contamination sites is greatest in the urban areas, Segments A1 and A4. Segment A1 is notable for some clustering of DEP cleanup sites (mostly fuel stations), multiple small quantity generators comprised of industrial facilities in urban Orlando, and one large quantity generator, Regal Marine Industries, a boating company (Table 2.6-5). Segment A4 is notable for one cluster of potential contamination sources at the N Courtney Parkway intersection on Merritt Island. This includes one large quantity generator, Sea Ray Boats, Inc. as shown in Figure 2.6-6.

Table 2.6-5: Corridor A Potential Sources of Contamination

Segment	Type	Name	Acres
A1	DEP Cleanup Site	7-Eleven Food Store #32410	
	DEP Cleanup Site	Park To Fly	
	DEP Cleanup Site	Westwood Dry Clean Inc.	
	DEP Cleanup Site	Chevron #47783	
	DEP Cleanup Site	7-Eleven Food Store #33059	
	DEP Cleanup Site	Fox Rent A Car	
	DEP Cleanup Site	Rainbow Car Center	
	DEP Cleanup Site	Texaco-Redimart	
	DEP Cleanup Site	Howard Fertilizer & Chemical Co	
	DEP Cleanup Site	7-Eleven Food Store #27590	
	DEP Cleanup Site	Alamo Rent A Car	
	Large Quantity Generator	Regal Marine Industries Inc.	
	NPDES Facility	Regal Marine Industries Inc.	
	NPDES Facility	AAA Cooper Transportation	
	NPDES Facility	Howard Fertilizer	
	Small Quantity Generator	NW Sign Industries	
	Small Quantity Generator	Fuller Obrien Paints	
	Small Quantity Generator	Walmart Central Fill #5997	
	Small Quantity Generator	Howard Fertilizer & Chemical Company Inc.	
	Waste Cleanup CLOSED Responsible Party Site	Duke Energy - Pinecastle Substation	
A2	Brownfield	Innovation Way ROCC	135.56
A3	N/A		
A4	Brownfield	Cocoa Economic Enhancement District	55.37
	DEP Cleanup Site	Mr. Ni'S Restaurant	
	DEP Cleanup Site	Pipeline Transportation Ber 11-7I-44711	
	DEP Cleanup Site	Sunshine Food Mart #47	
	Large Quantity Generator	Sea Ray Boats Inc.	
	NPDES Facility	Sea Ray Boats Inc.	
	NPDES Facility	Port Canaveral Marine Services	
	NPDES Facility	Sea Ray Boats Inc.	
	NPDES Facility	Cape Crossing	
	NPDES Facility	Eller & Company Inc.	
	Solid Waste Facility	SR 528 & SR 401	
	Solid Waste Facility	Merritt Island Dump	
	Solid Waste Facility	SR 528 & SR 401	
	Solid Waste Facility	Kelly Park Debris Staging Area	



East Central Florida Corridor Evaluation Study

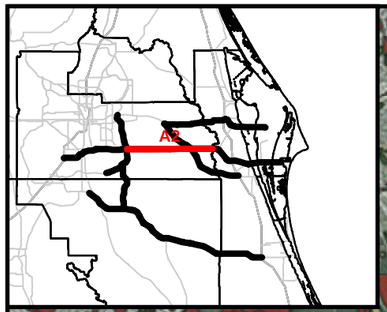
FDOT

Corridor A

Wetlands

FIGURE 2.6-1

SEGMENT A1



N

0 0.75 1.5 2.25 3 Miles

420

50

ORANGE

520

528

417

532

LEGEND

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetlands
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Data Source: FGDL (2016)

East Central Florida Corridor Evaluation Study

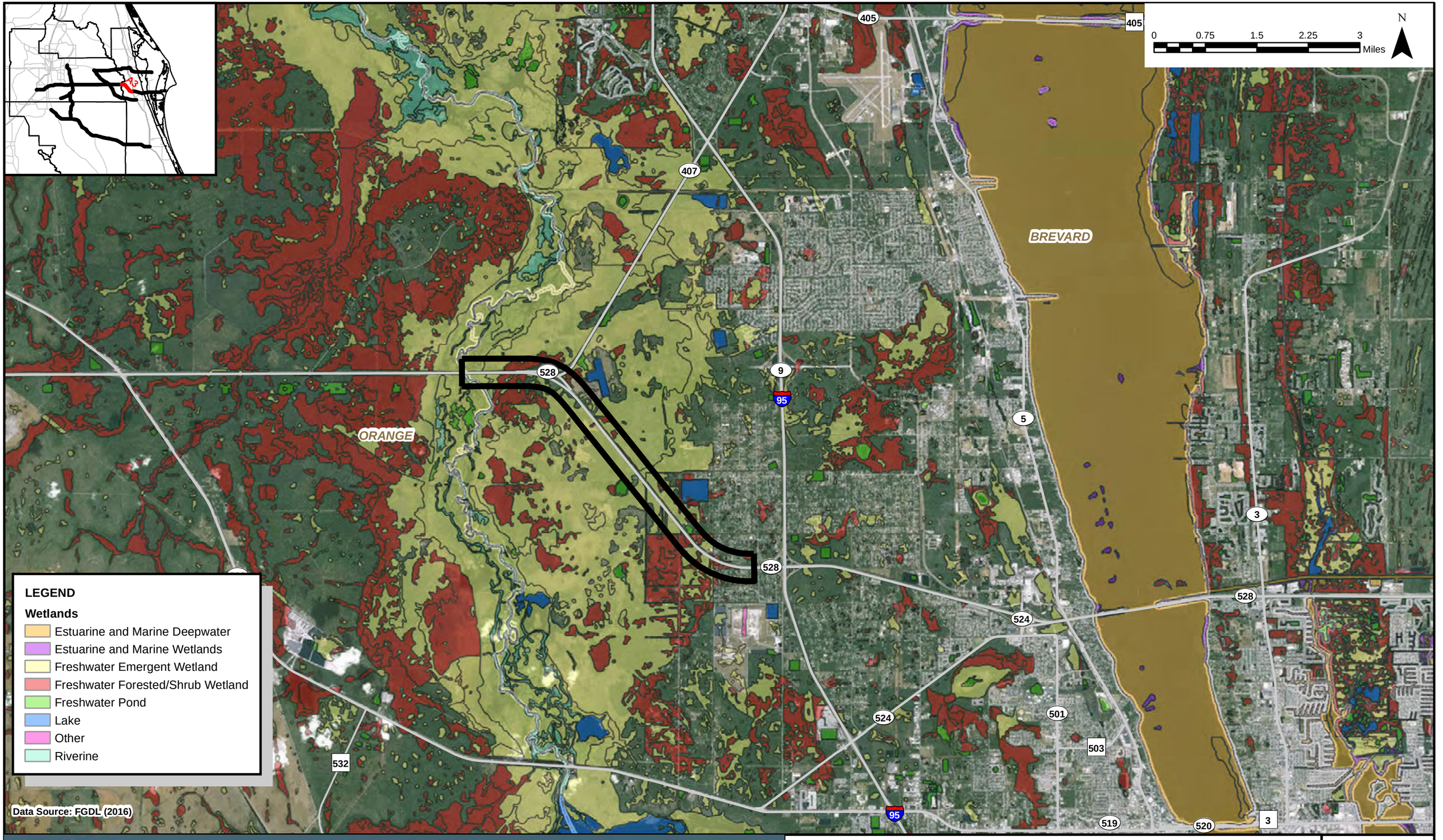
FDOT

Corridor A

Wetlands

FIGURE 2.6-1

SEGMENT A2



East Central Florida Corridor Evaluation Study

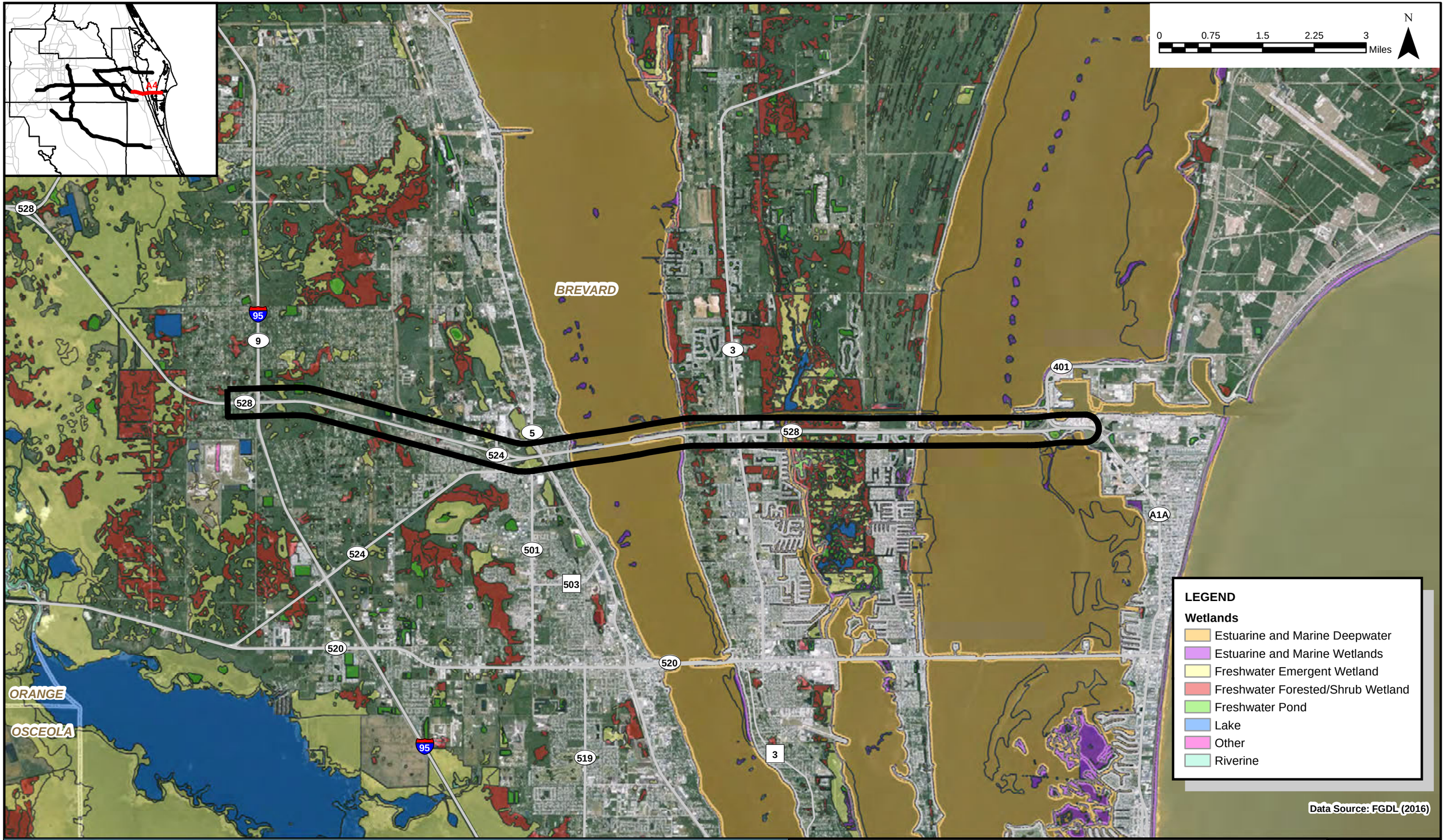
FDOT

Corridor A

Wetlands

FIGURE 2.6-1

SEGMENT A3



East Central Florida Corridor Evaluation Study

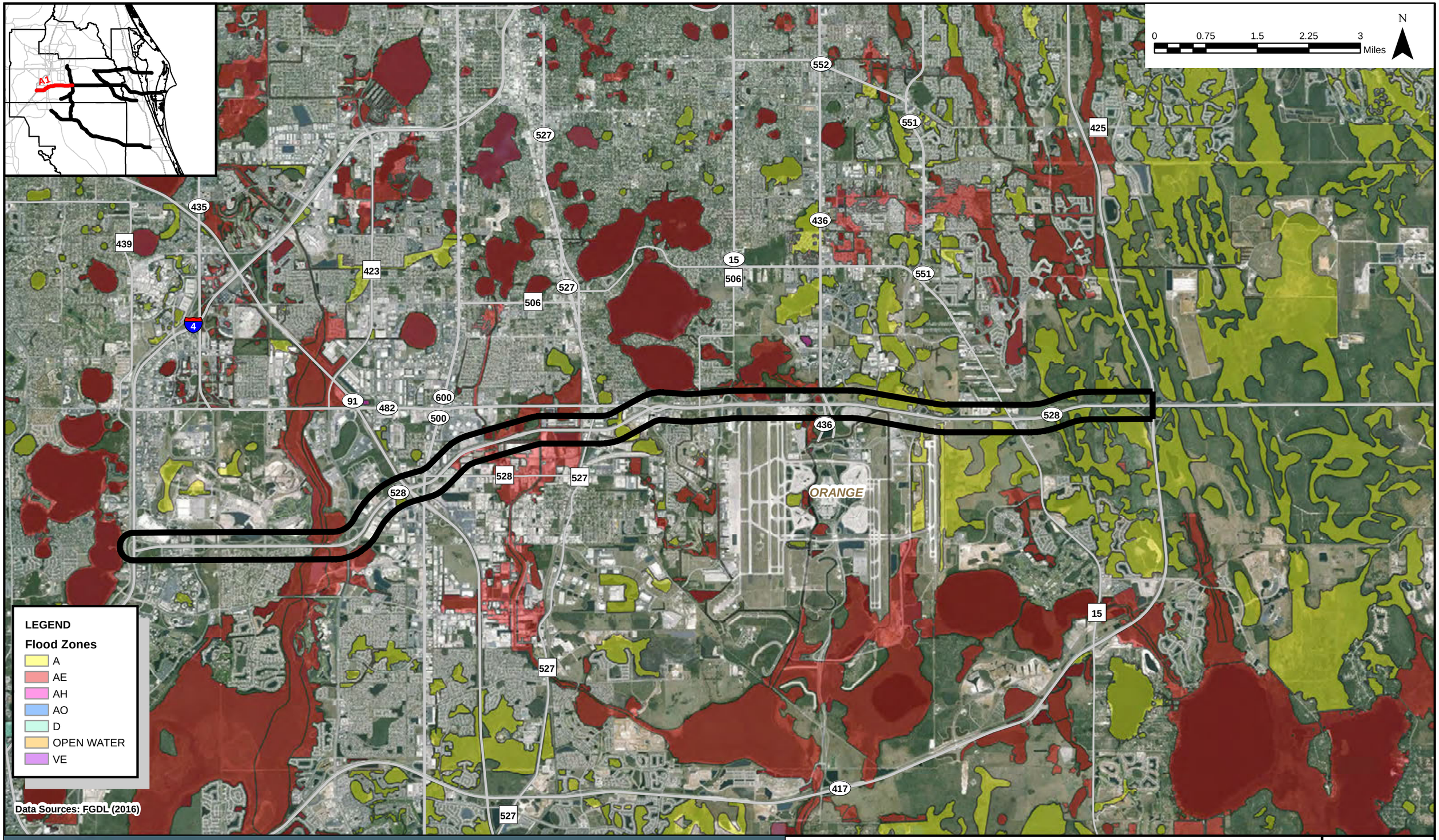
FDOT

Corridor A

Wetlands

FIGURE 2.6-1

SEGMENT A4

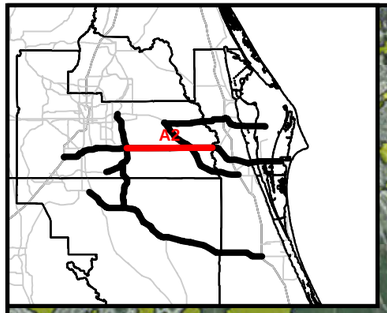


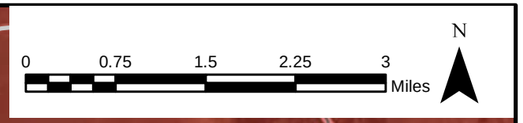
East Central Florida Corridor Evaluation Study

Corridor A
Flood Zones

FIGURE 2.6-2

SEGMENT A1





50

520

528

ORANGE

417

532

LEGEND

Flood Zones

- A
- AE
- AH
- AO
- D
- OPEN WATER
- VE

Data Sources: FGDL (2016)

East Central Florida Corridor Evaluation Study

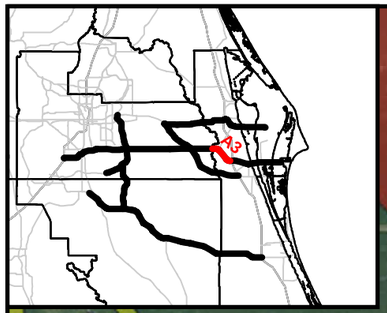
FDOT

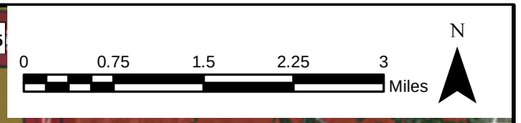
Corridor A

Flood Zones

FIGURE 2.6-2

SEGMENT A2



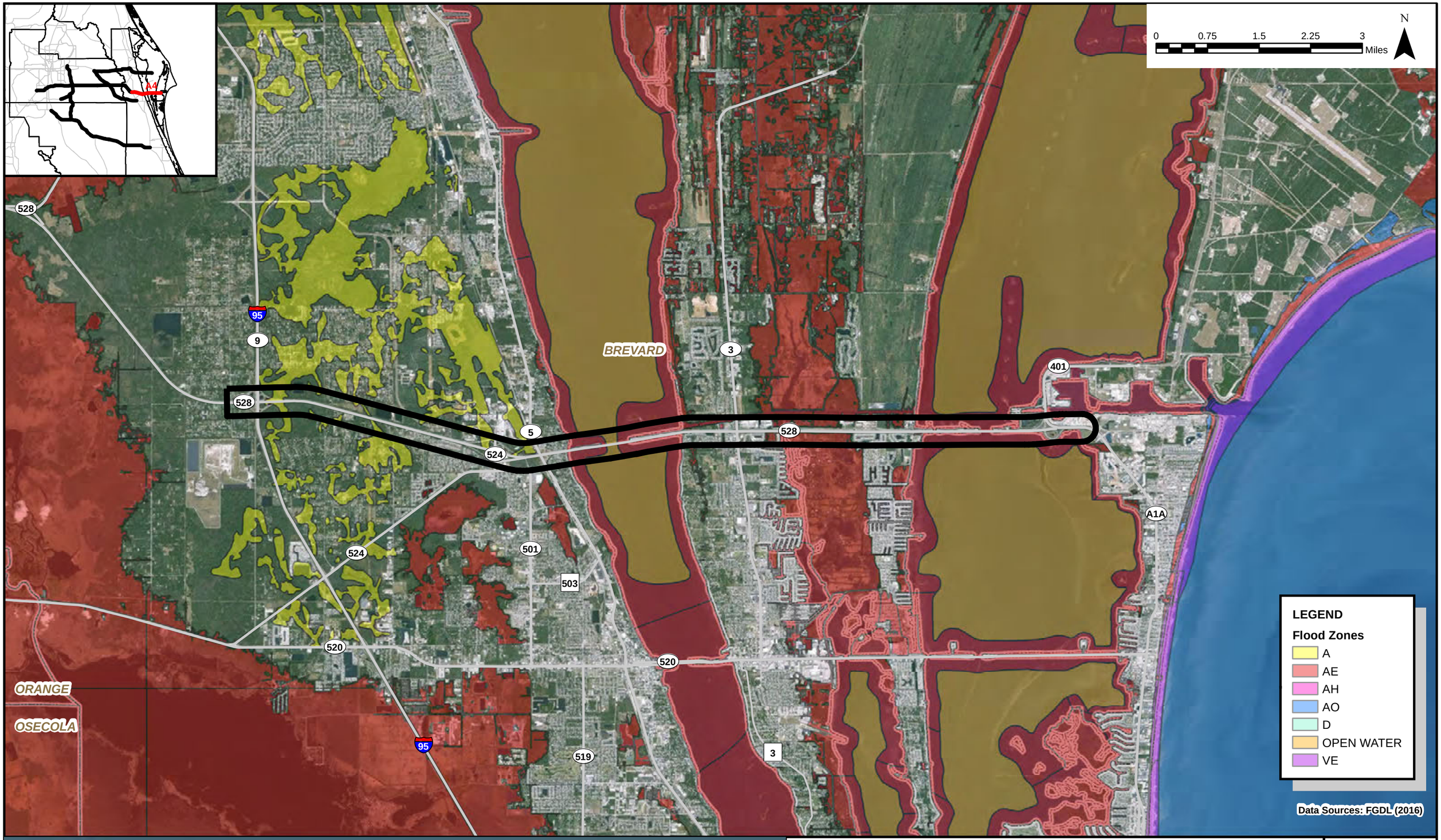


East Central Florida Corridor Evaluation Study

Corridor A
Flood Zones

FIGURE 2.6-2

SEGMENT A3

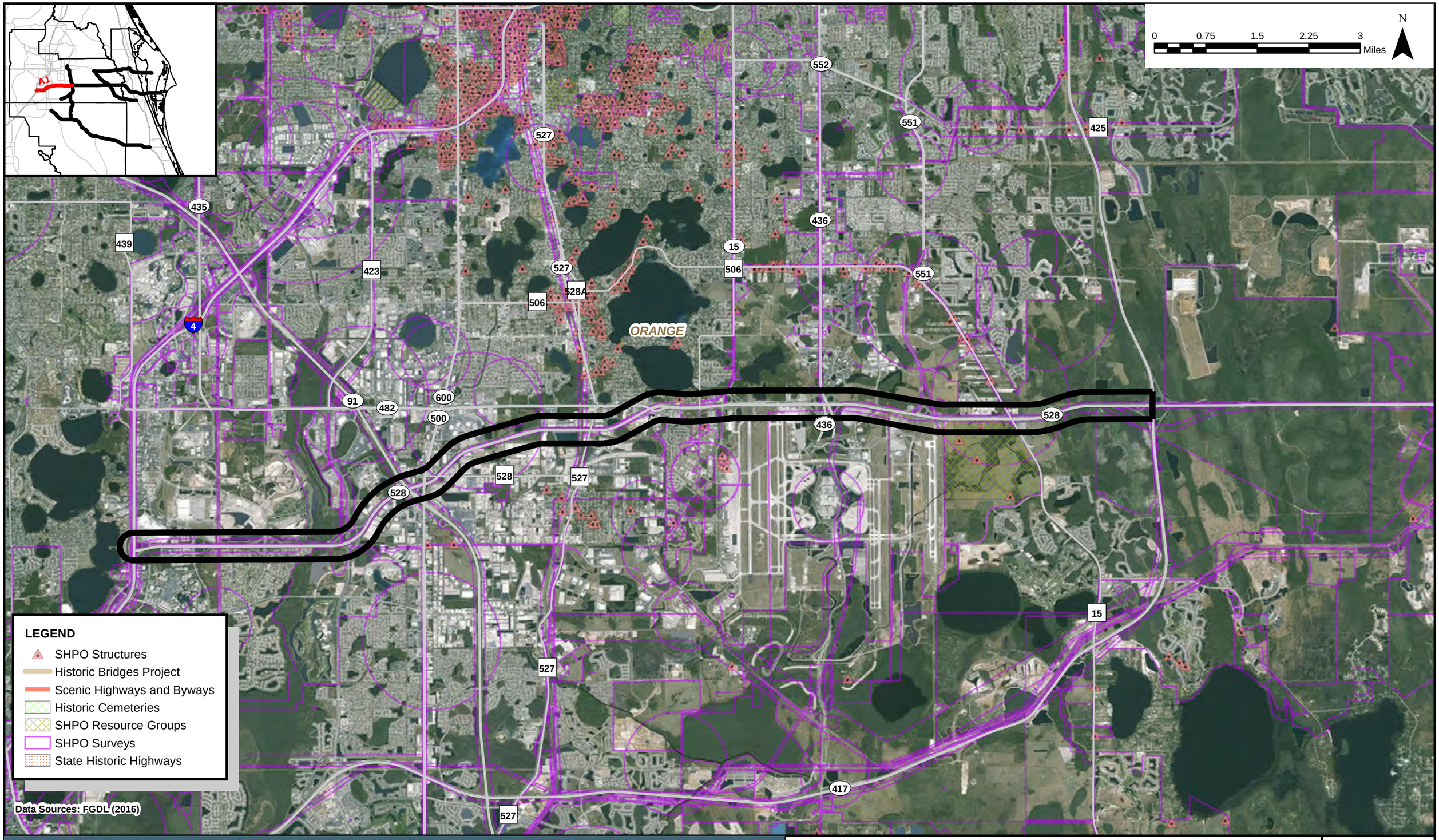


East Central Florida Corridor Evaluation Study

Corridor A
Flood Zones

FIGURE 2.6-2

SEGMENT A4



East Central Florida Corridor Evaluation Study

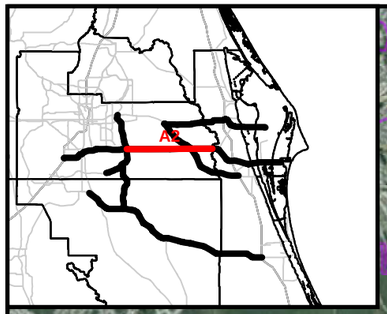
FDOT

Corridor A

Historic and Cultural Resources

FIGURE 2.6-3

SEGMENT A1



420
50
ORANGE
520
528
417
532

LEGEND

- SHPO Structures
- Historic Bridges Project
- Scenic Highways and Byways
- Historic Cemeteries
- SHPO Resource Groups
- SHPO Surveys
- State Historic Highways

Data Sources: FGDL (2016)

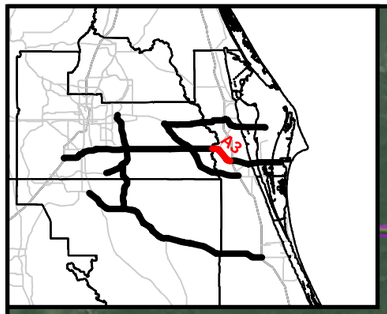
East Central Florida Corridor Evaluation Study

Corridor A

Historic and Cultural Resources

FIGURE 2.6-3

SEGMENT A2



ORANGE

BREVARD

405

407

528

95

9

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519

LEGEND

- SHPO Structures
- Historic Bridges Project
- Scenic Highways and Byways
- Historic Cemeteries
- SHPO Resource Groups
- SHPO Surveys
- State Historic Highways

Data Sources: FGDL (2016)

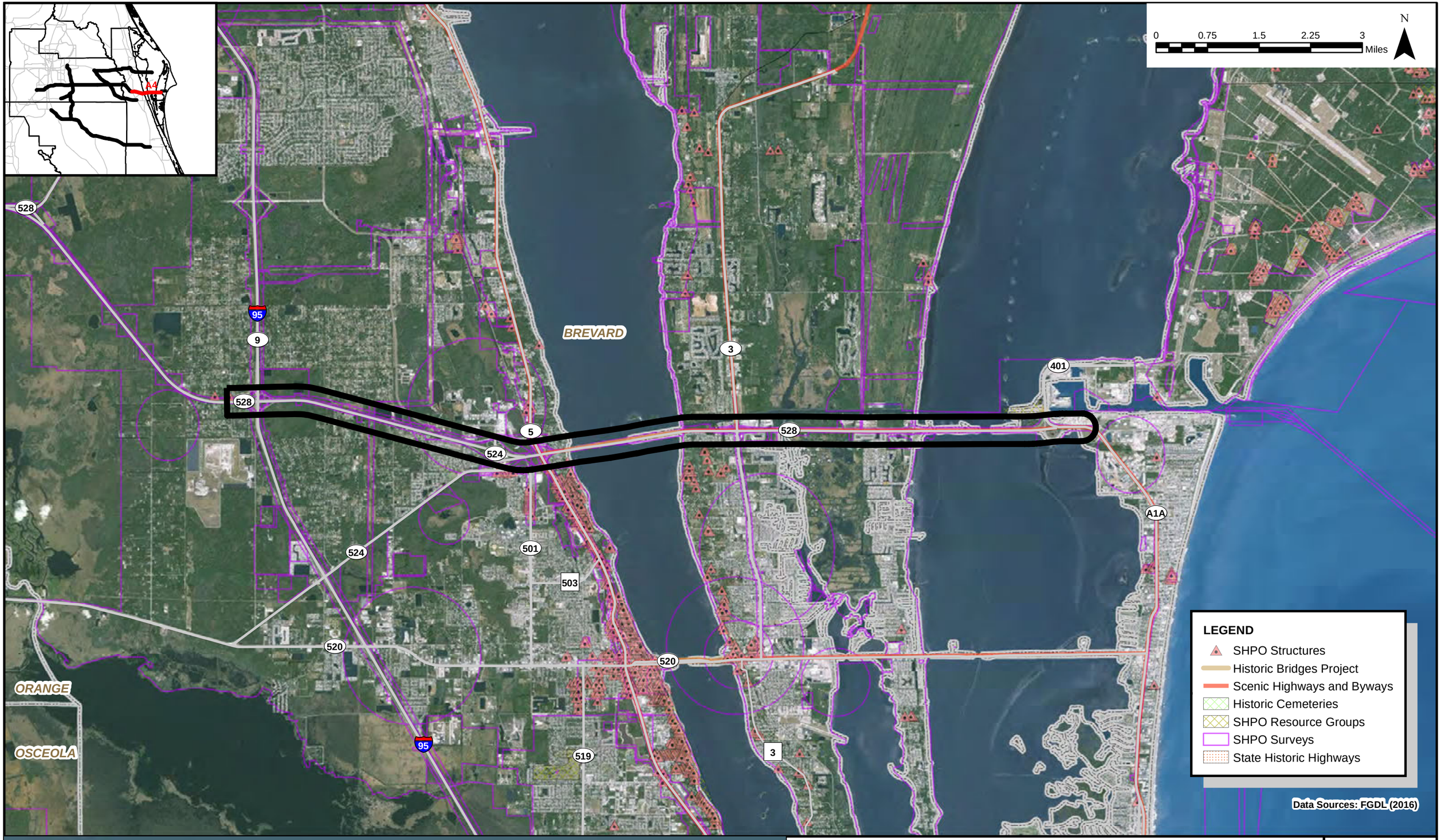
East Central Florida Corridor Evaluation Study

Corridor A

Historic and Cultural Resources

FIGURE 2.6-3

SEGMENT A3



East Central Florida Corridor Evaluation Study

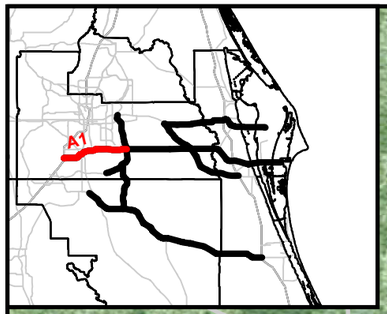
FDOT

Corridor A

Historic and Cultural Resources

FIGURE 2.6-3

SEGMENT A4



N

0 0.75 1.5 2.25 3 Miles

435 439 423 527 552 551 425 436 15 506 528A 4 91 482 600 500 528 ORANGE 417

LEGEND

Lake Wales Ridge Plants Consultation Area

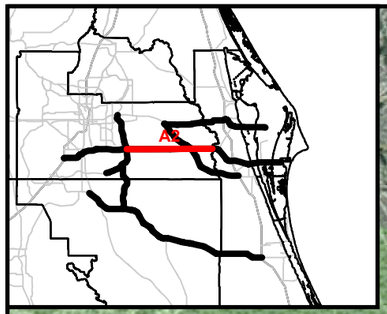
Data Sources: FWS (2016)

East Central Florida Corridor Evaluation Study

Corridor A
Threatened and Endangered Species (Plants)

FIGURE 2.6-4

SEGMENT A1



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ORANGE
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LEGEND

Lake Wales Ridge Plants Consultation Area

Data Sources: FWS (2016)

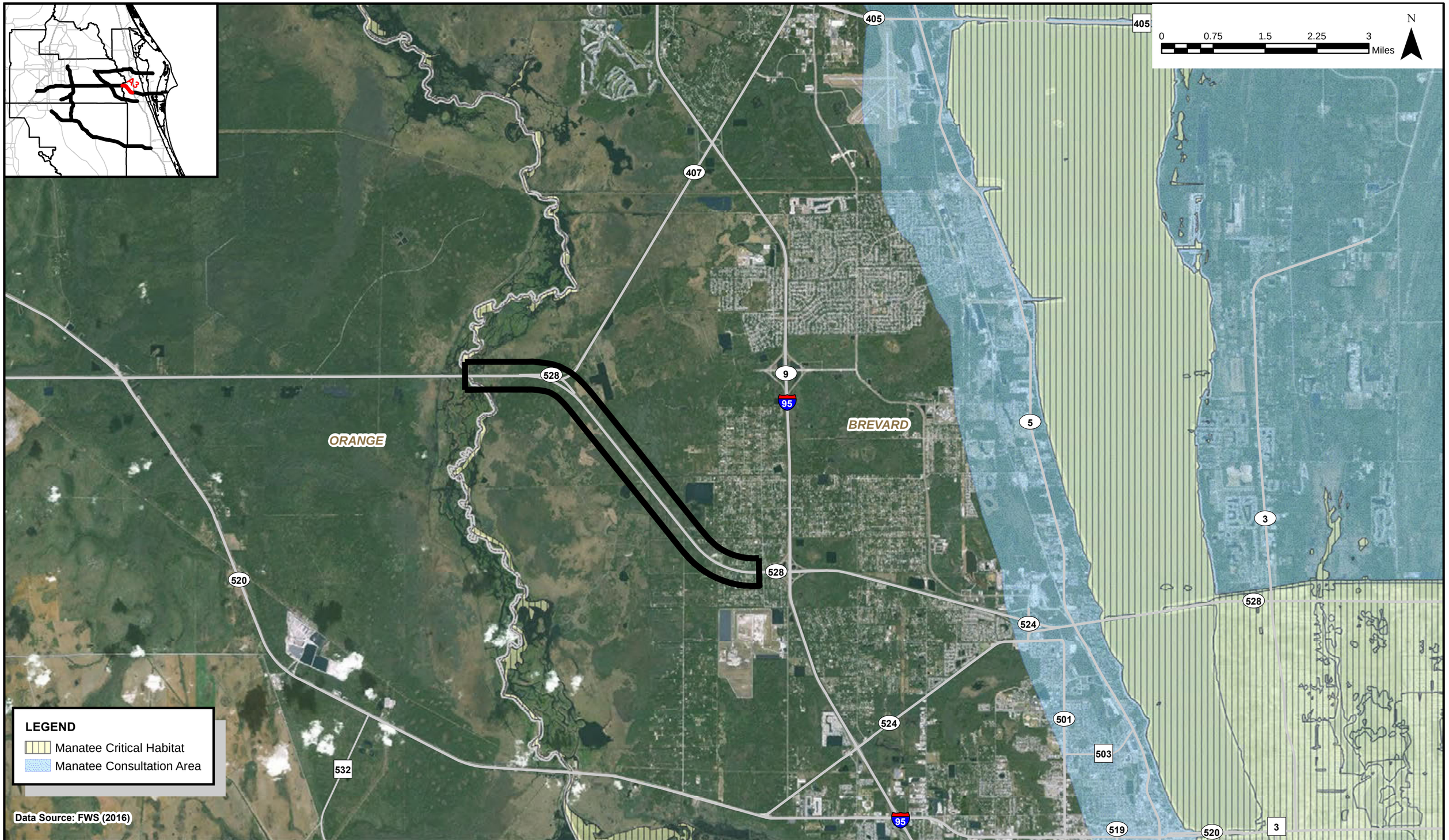
East Central Florida Corridor Evaluation Study

Corridor A

Threatened and Endangered Species (Plants)

FIGURE 2.6-4

SEGMENT A2



East Central Florida Corridor Evaluation Study

FDOT

Corridor A

Threatened and Endangered Species (Manatee)

FIGURE 2.6-4

SEGMENT A3