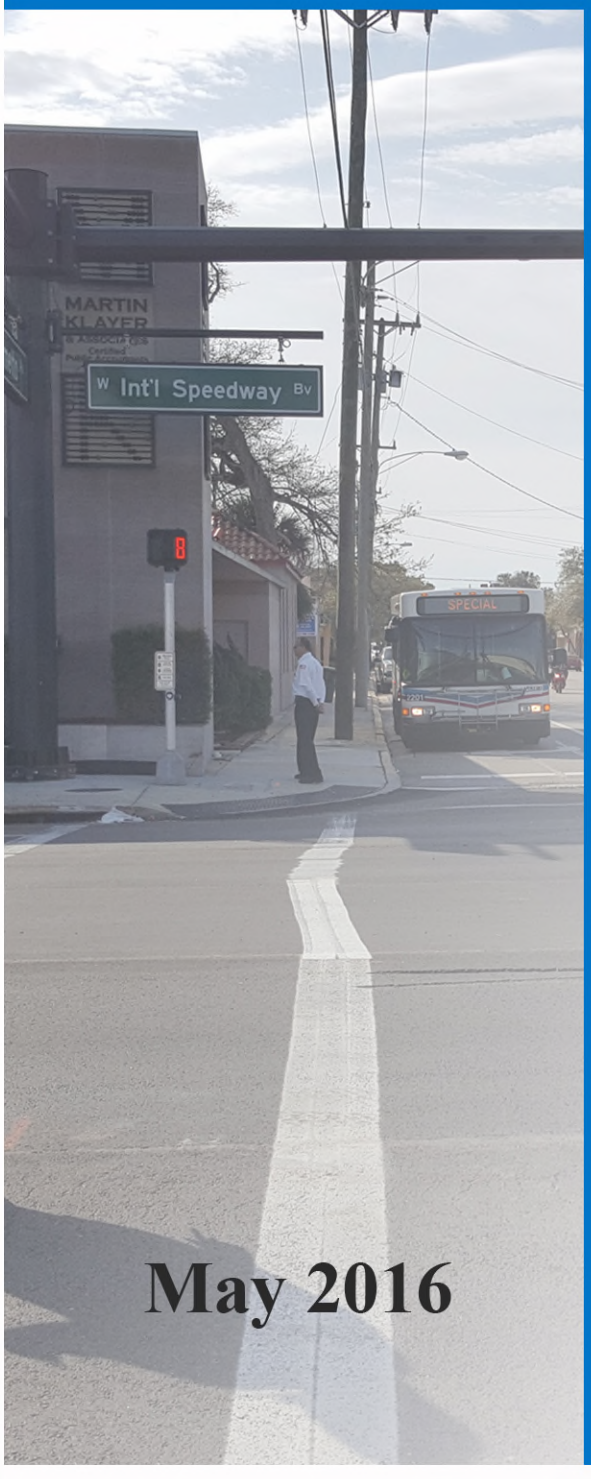


ISB Pedestrian Connectivity & Safety Assessment Study - Phase II

Existing Conditions Summary Report

May 2016

Table of Contents

Tables

Figures

Appendix

1 INTRODUCTION

The Pedestrian Connectivity and Safety Assessment (PCSA) Phase II study is a Florida Department of Transportation (FDOT) project in collaboration with the River to Sea Transportation Planning Organization (R2CTPO), Votran, City of Daytona Beach, Volusia County, International Speedway Boulevard (ISB) Coalition and other stakeholders in the study area.

The major purpose of the PCSA Phase II is to identify the existing pedestrian facilities along United States Highway (US) 92/State Road (SR 600)/International Speedway Boulevard (ISB), as well as along any neighboring roadways that connect to specific pedestrian-generating development, and determine/prioritize the improvements needed for enhanced pedestrian connectivity and safety. For the purposes of this report, the roadway will be referred to as US 92/SR 600/ISB.

Closely coordinated with the recent efforts of the Volusia County ADA Transition Plan, the study will proceed through a phased series of tasks, as shown below, and culminate in a Final Report summarizing the results of the evaluation and the decision-making process leading to the identification and prioritization of recommended improvement strategies. This Existing Conditions Summary Report describes the data analysis efforts including a review of relevant background data collected; an evaluation of the physical and transportation characteristics of the study area (such as existing and future land uses, zoning, accessibility, environmental constraints, pedestrian and bicycle accessibility, safety, and existing and future transportation systems and proposed improvements), planned and programmed projects, historical crash data, and issues/opportunities impacting pedestrian connectivity within the study area.

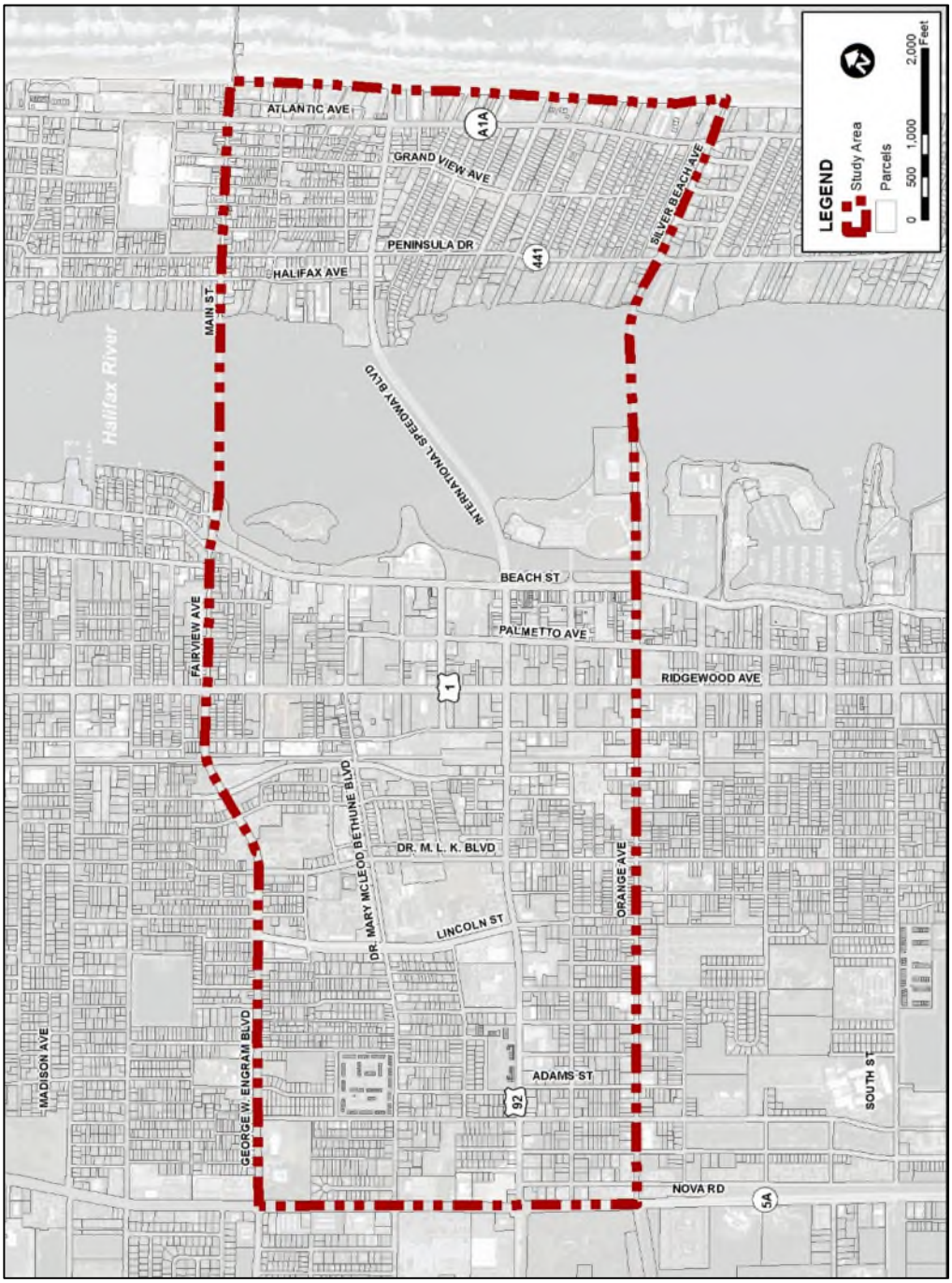
- **Existing Conditions Summary Report**
- Field Evaluation Report
- Development of Draft and Final Report

1.1 PROJECT OVERVIEW AND STUDY AREA

The core study area includes the geographic area generally bounded on the west by SR 5A/Nova Road; on the east by SR A1A/Atlantic Avenue; on the north by George W. Engram Boulevard/Fairview Avenue/Main Street; and on the south by Orange Avenue/Silver Beach Avenue. The study area is depicted in Figure 1.

Development of the study is being assisted by a Project Visioning Team (PVT) which was assembled to provide feedback throughout the study progress and to identify any outstanding issues concerning the study. The PVT consists of representatives from: FDOT District 5; the City of Daytona Beach; Embry Riddle Aeronautical University (ERAU); Volusia County; Volusia County School Board; Votran; R2CTPO, including a member of the Citizen's Advisory Committee; ISB Coalition; Bethune-Cookman University; Midtown HEAT; Volusia County Association for Responsible Development (VCARD); Daytona Beach Downtown Development Authority; Daytona Chamber of Commerce; Daytona Beach International Airport (DBIA); Daytona Beach Mayor's Alliance of Persons with Disabilities; Halifax Council for the Blind; and the Halifax Heritage Byway.

Figure 1: Project Study Area



2 BACKGROUND DATA ANALYSIS

Background data was obtained to document the transportation, land use and environmental information pertinent to the development of the PCSA Phase II. Listed below are reports, studies, data and other information that may be useful in later phases of the PCSA Phase II.

2.1 ADA TRANSITION PLAN

The Volusia County ADA Transition Plan was developed in 2013 in order to bring Volusia County into compliance with the American Disabilities Act (ADA) of 1990. The Plan provides the county with a framework for bringing pedestrian facilities into compliance with this legislation.

The Plan examines locations of curb ramps and flares where a sidewalk or pedestrian path exists, information barriers (intersection detection, lack of street crossing information) or insufficient pedestrian signals within ½ mile of a hospital, school, transit stop, government building or similar facility. The Plan also assigns a priority and a priority code to each needed improvement.

Recommendations from the ADA Transition Plan that apply to right-of-way within the study area are included in Appendix A. Twelve locations within the study corridor are identified for improvements, including sites on Main Street, Fairview Avenue, George W. Engram Boulevard, Orange Avenue and Silver Beach Avenue.

2.2 AERIAL PHOTOGRAPHY

Recent aerial photography (2014) was obtained from ESRI Geographic Information System (GIS) for the study area.

2.3 EXISTING PROJECTS/TRANSPORTATION PLANS OR STUDIES

2.3.1 2040 Long Range Transportation Plan

The 2040 Long Range Transportation Plan (LRTP) was developed by the River to Sea Transportation Planning Organization (R2CTPO) to look 25 years into the future to identify strategies that to address the transportation needs of the River to Sea TPO Metropolitan Planning Area (MPA). The LRTP is the guiding document that identifies needed transportation projects and the anticipated federal and state funds that will support their development. Federal law requires the LRTP to be "cost-feasible" which means that the TPO must identify the federal, state, and local financial resources that will cover the costs of the proposed projects. The LRTP, adopted on January 27, 2016, includes a broad range of multi-modal transportation projects to achieve a well-balanced transportation system.

2.3.2 2012-2021 Transit Development Plan Major Update

As required every ten years, a Transit Development Plan (TDP) was prepared by Votran, which is the transit public transit service provider for Volusia County. The TDP serves as the vision for Votran and is updated every 5 years. The TDP must be consistent with the Florida Transportation Plan, approved local government comprehensive plans, and the R2CTPO LRTP. It is the source for determining the projects and priorities for the public transportation component of the Transportation Improvement Plan (TIP). The TDP includes a 10-year implementation plan with agency strategies and policies, maps indicating areas to be served

along with the types and levels of service, monitoring programs to track performance, and a 10-year financial plan. The current plan is dated September 2011 and Votran has just begun the required five-year update.

2.3.3 *US 92/International Speedway Boulevard Pedestrian Connectivity and Safety Assessment*

This 2015 study was conducted for FDOT District 5 to identify challenges and potential opportunities to improve pedestrian and bicyclist accessibility along the ISB corridor and surrounding roadway networks. A connectivity plan to improve pedestrian facilities is also included in this study's final report.

2.3.4 *Operational Evaluation for US 92 Roundabouts*

This August 2014 study, conducted by City of Daytona Beach, provides an operational evaluation of three intersections along US 92/SR 600/ISB: US 1/Ridgewood Avenue, SR 441/South Peninsula Drive, and SR A1A/Atlantic Avenue. The study examines the current and future operational conditions of these intersections under both signalized traffic control and as conversion to roundabouts.

2.3.5 *Orange Avenue Reconstruction*

The City of Daytona Beach is reconstructing Orange Avenue from SR 5A/Nova Road to Beach Street. This streetscape project began in June 2014 and is anticipated to be completed in 2017. When complete, this 1.5 mile stretch of road will have a redesigned roadway base and surface as well as upgraded signalization, crosswalks and streetlights. Sidewalks will also be widened to six (6) feet and utilities will be relocated underground.

2.3.6 *International Speedway Boulevard Streetscape*

The City of Daytona Beach has developed a beautification project for US 92/SR 600/ISB, which spans from SR 5A/Nova Road to Lincoln Street and from Martin Luther King, Jr Boulevard to US 1/Ridgewood Avenue. The planned streetscape project will include the addition of sidewalks and decorative lighting. The block from Lincoln Street to Martin Luther King, Jr. Boulevard has already been completed.

2.3.7 *Tom Staed Veterans Memorial Bridge Replacement*

Also known as the Orange Avenue Bridge or Silver Beach Bridge, the Veterans Memorial Bridge across the Halifax River is located at the southern extent of the study area. Volusia County, in conjunction with FDOT District 5, is replacing the existing 50-year old bascule bridge with a fixed open spandrel design. Construction is anticipated to begin in spring 2016 and will take two years. The design includes multimodal features such as sidewalks, paved shoulder, and mobility device recharging stations.

2.3.8 *City of Daytona Beach Wayfinding Signage Masterplan*

The Lassiter Transportation Group completed in March 2015 an inventory of city landmarks, existing signage and regulatory requirements, and determine a plan to guide vehicular and pedestrian traffic to venues of interest within the city, through the use of distinct wayfinding signage.

2.3.9 US 92 Corridor Master Management Plan

This study, completed in November 2015 for FDOT District 5, focused on the development of a Corridor Master Management Plan for future FDOT safety, enhancement, transit, congestion management and economic development projects along the US 92 corridor between Interstate 4 and SR A1A/Atlantic Avenue in Daytona Beach, FL.

2.3.10 Volusia Transit Connector Study

This ongoing study conducted by FDOT District 5 considers connections between east Volusia County and the SunRail service, which began operation in May 2014. The study examines possible alignments as well as types of transportation options that may provide greater connectivity. Specifically, the study limits stretch from SR 46 in Seminole County to US 1/SR 5/Ridgewood Avenue in Volusia County. This study was initiated by FDOT at the request of the R2CTPO and should be completed by December 2016.

2.3.11 City of Daytona Beach, US 92 Streetscape Project

This proposed streetscape project will improve US 92/SR 600/ISB from US 1/Ridgewood Avenue to SR A1A/ Atlantic Avenue except for the bridge over the Halifax River. Improvements consist of decorative lights, enhanced landscaping, and improved crosswalks. The roundabout feasibility study (Section 2.3.4) was developed as a result this beautification project.

2.3.12 Amtrak/FEC Corridor Coalition Update #3

This document is a 2010 update which proposes a preferred location for the Daytona Beach Amtrak Station on Magnolia Avenue in downtown Daytona Beach. It also depicts a potential station concept.

2.3.13 Intermodal Transit Station Study

This study, completed in March 2014 for FDOT District 5, analyzes five potential locations for an Intermodal Transit Station (ITS). Integral to the study is an understanding of the system characteristics, needs and public vision. The study determines that an ITS can provide increased connectivity and reduced congestion and recommends an Alternatives Analysis to determine a site. It also recommends an exploration of public-private partnerships.

2.3.14 Central Florida Regional Freight Mobility Study

This study, completed in 2013, develops a regional freight and goods movement plan. The study was prepared for MetroPlan Orlando, FDOT District 5, Lake-Sumter MPO, Space Coast TPO and the Volusia TPO (now R2CTPO). An assessment of the freight conditions and needs of the area led to short-term and long-term recommendations in order to support the increasing demand for freight and goods movement in the Central Florida area. Within the study area, US 92/SR 600/ISB, between SR 5A/Nova Road and downtown Daytona Beach, is identified as Strategic Intermodal System (SIS) facility. The Florida East Coast Railway is another major freight corridors within the study area.

2.3.15 *Volusia County Freight and Goods Movement*

This December 2009 report develops a preliminary Truck Route Plan. This was borne of the need to develop a safe and efficient means for trucks to share the road with personal vehicles. Through literature review, analysis of data, and input from freight industry representatives, this report provides a Truck Route Map. The study identifies US 92/SR 600/ISB and all state roads as truck routes. This study also prioritizes projects for operational freight improvement.

2.3.16 *Transit Corridor Feasibility Analysis Study*

This study, prepared for FDOT District 5 and Volusia County MPO[1] and completed in March 2009, assesses the feasibility of potential future transit corridors within Volusia County. The corridors studied included north-south cross-county corridors, east-west cross-county corridors, and corridors considered to be local circulators within various communities.

2.3.17 *City of Daytona Beach Area-Wide Traffic Study*

This January 2008 study examines existing traffic conditions (Year 2006), projected travel demands (Year 2025), and identifies capacity deficiencies for the functionally classified roadway network within the City of Daytona Beach.

2.3.18 *International Speedway Boulevard Corridor Transportation Plan*

This October 2011 transportation study, conducted by FDOT at the request of the ISB Coalition, was initiated to create a transportation vision for the US 92/SR 600/ISB corridor and to develop strategies to support the area's ability to be more economically competitive in the region. While the study was not finalized, it contains extensive background traffic and land use data for the corridor.

2.3.19 *Transit Alternate Funding Options Study, Technical Memo, Task 1 and Final Report*

This study, prepared for the Volusia TPO, analyzes alternative revenue strategies for near to medium term implementation of the recommendations contained in the Transit Development Plan, along with other potential service improvements. The Final Report was submitted completed on May 31, 2011.

2.3.20 *Transit Development Design Guidelines*

The report, adopted February 26, 2008, is a comprehensive set of development design standards adopted by the Volusia County MPO and Votran to provide for the integration of transit service into developing and redeveloping areas. Included are design standards for roadway design, bus stops, shelters, boarding and alighting areas, and other transit infrastructure.

---

[1] Volusia MPO became the Volusia TPO which has since changed its name to River to Sea TPO

2.3.21 Votran East Side Transit Study Final Report

The June 2009 report, prepared for Votran and the Volusia County MPO, summarizes the analysis conducted for a Comprehensive Operations Analysis (COA) of the eastern and southeastern portions of the Votran service area. It also includes recommendations for service improvements over a ten-year period.

2.3.22 Votran's Integrated Sustainability Implementation Plan

This report, dated August 3, 2010, outlines Votran's sustainability initiatives and improvements, and details a plan for meeting emission reduction targets established in Executive Order 2007-126 and the goals of the Green Volusia Program. The Implementation Plan was prepared for Votran and the Volusia County MPO.

2.3.23 Volusia County Transportation Disadvantaged Service Plan Final Report

The Transportation Disadvantaged program for Votran was established to improve coordination among transportation disadvantaged services sponsored by social and human service agencies. The Transportation Disadvantaged Service Plan (TDSP) provides the service plan for arranging transportation for the transportation disadvantaged. The TDSP is required by the Florida Commission for the Transportation Disadvantaged (FCTD) for each Community Transportation Coordinator (CTC). It also serves as the Locally Coordinated Human Services Transportation Plan (LCHSTP) for Volusia County. In Volusia County, the designated CTC is Votran.

2.3.24 Investigation of Potential Local Area Transportation Alternatives for an Aging Population

This November 2006 study, prepared for the Volusia County MPO, examines the socioeconomic and demographic characteristics of an aging population and their potential impacts on public transportation. The report includes recommended resources and strategies to meet the mobility needs of an aging population.

2.3.25 Examination of Night Service Alternatives for Votran

This July 2002 technical memorandum investigates the feasibility of Votran providing later evening transit service.

2.3.26 Volusia County MPO Bicycle/Pedestrian Plan

The bicycle/pedestrian plan of the R2CTPO, adopted January 25, 2005, includes existing and planned bicycle/pedestrian facilities.

2.3.27 Volusia County Bicycling Route Map East

This document is a map illustrating bicycle routes in East Volusia County. It is dated July 24, 2014. Bicycle routes identified within the study area include Orange Avenue, Silver Beach Avenue, the Halifax River Greenway and the World's Most Famous Beach Trail. It was developed in cooperation with the Florida Bicycle Association, Florida Freewheelers Bicycle Club, Bike Florida and local governments in Volusia County.

2.3.28 *Various Presentation Materials*

- Votran TDP – Transit Improvements for International Speedway Boulevard: Presentation to ISB Coalition Planning Committee (October 15, 2012)
- SunRail presentations to the River to Sea TPO

2.4 EXISTING AND FUTURE LAND USE

2.4.1 *Daytona Beach Comprehensive Plan*

This document includes the Comprehensive Plan for the City of Daytona Beach (amended July 23, 2015), including the Transportation Element and Future Land Use Element Goals, Objectives and Policies and Future Land Use Map (FLUM).

2.4.2 *Daytona Beach Zoning Map*

This map depicts the zoning districts within the City of Daytona Beach. Zoning designations and boundaries are also included within the Daytona Beach GIS system.

2.4.3 *Daytona Beach Land Development Code Update*

This document includes the adopted January 2015 the City of Daytona Beach's Land Development Code, including further implementation of the City's Comprehensive Plan and Vision Plan with an update of land development regulations including areas such as Zoning Districts, Use Regulations, and Development Standards.

2.4.4 *Daytona Beach Vision Plan – 2008 and Beyond*

This document represents a community wide planning effort which resulted in a Daytona Beach Vision Plan. It includes a vision statement and implementation strategies within the areas of Quality of Life, Education, Government, Economic Development, Infrastructure and Environment.

2.4.5 *Midtown Redevelopment Area Plan*

The Midtown Redevelopment Area is a designated Community Redevelopment Area (CRA) located north and south of the US 92/SR 600/ISB corridor between SR 5A/Nova Road and the Florida East Coast (FEC) Railroad within the City of Daytona Beach. The Midtown Redevelopment Area Plan, last amended in December 2012, is the Community Redevelopment Plan, as established through Florida Statutes, for this area.

2.4.6 *Volusia Smart Growth Implementation Committee, Final Report*

This August 2005 report provides recommendations for the implementation of "Smart Growth" principles within Volusia County.

2.4.7 *Daytona Beach E-Zone Master Plan & Form Based Guidelines*

The E-Zone Master Plan sets up the framework for developing a half mile stretch of Main Street, from the Halifax River to the Atlantic Ocean, into a walkable retail and entertainment district. The Daytona E-Zone is intended as a mixed use development offering 150,000 square feet of quality residential, retail, dining, cultural and entertainment venues with a linking

pedestrian alley. The plan provides guidelines and technical data, as well as architectural and design elements, for implementing the plan.

2.4.8 *Main Street Redevelopment Plan – City of Daytona Beach*

The goal of this plan, last amended in 2012, is to redevelop blighted areas in order to promote public safety, health and welfare. This plan provides a framework for eliminating the spread of blight through the Main Street Redevelopment Area. This includes incentive for private investment in the area, greater use of public amenities, establishment of future land uses, and the creation of a walkable beach-themed corridor with high quality commercial establishments. This plan also includes the addition of parking spaces and other transportation developments that are consistent with the E-Zone Master Plan.

2.4.9 *South Atlantic Redevelopment Plan*

This City of Daytona Beach plan was most recently amended in December 2013. Amendments included authorization of funding for enhanced law enforcement programs in order to create a safe environment and attract private investment for the South Atlantic Redevelopment Area, which is from US 92/SR 600/ISB to Silver Beach Avenue. It establishes desirable future uses for the small lots in this area, such as quality apartments, offices, neighborhood service centers, clothing centers etc. Policies established in this plan also include mobility enhancements such as development of a pedestrian network, improved image of parking facilities, encouragement of public transit, and reduction of traffic impacts on residential areas.

2.4.10 *Retail Market Analysis*

This April 2011 study prepared for the City of Daytona Beach Community Development Agency examines the market conditions of the Greater Daytona Beach area, with a focus on the Daytona Beach Street District. This study found that the region is not meeting the commercial needs of its local and visitor community and not utilizing its internationally-recognized brand.

2.4.11 *Riverfront Master Plan*

The goal of this study by the City of Daytona Beach is to spur economic vitality in the Beach Street commercial area through the development of a conceptual master plan and implementation plan. Enactment of the master plan requires a variety of funding sources and a 15-year implementation process. The plan divides the area into five districts: Nature, Art, Esplanade, City Docks and Halifax Harbor. The intention is that the addition of facilities that complement the use of each district will attract additional visitors to the area and therefore encourage private investment.

2.4.12 *Bethune-Cookman University Master Plan*

This 2008 document analyzes the state and design of the campus infrastructure and environment, and assesses the current and future development needs. The Master Plan includes conceptual plans for new development, interior renovations for current infrastructure, and expansion of current infrastructure. It also includes a streetscape project

for Mary McLeod Bethune Boulevard in order to create a center point for the campus rather than a separator.

2.5 HIGHWAY AND TRANSIT SYSTEMS DATA

2.5.1 FDOT Florida Traffic Online

This web database provides statistical traffic information for Florida's State Highway System such as historical traffic volume counts, location of count sites, and traffic data reports.

2.5.2 FDOT Complete Streets Implementation Plan

The Department's Complete Streets Policy, adopted in September 2014, states that FDOT will routinely plan, design, construct, reconstruct and operate a context sensitive transportation network that works for all modes of travel. Completed in December 2015, this document guides the Department's efforts to implement the Complete Streets Policy. It includes a five-part implementation framework and process for integrating a Complete Streets approach into FDOT's practices and proposes a two-year schedule concluding in December 2017.

2.5.3 Volusia County 2014 Average Annual Daily Traffic & Historical Counts

Historical traffic counts and other roadway data (number of lanes, posted speed limits, LOS, etc.) for facilities including US 92/SR 600/ISB, SR 5A/Nova Road, US 1/Ridgewood Avenue, SR 441/Peninsula Drive and SR A1A/Atlantic Avenue.

2.5.4 Volusia County FY 2013/14 – 2017/18 5-Year Road Program

This is a Volusia County Government list of funded road construction projects in Volusia County, using various revenue sources, for FY 2013/14 through 2017/18.

2.5.5 National Transit Database

The National Transit Database (NTD) is the primary source of information and statistics on transit systems in the United States. Performance, operating, and financial information are collected through an Internet-based reporting system using uniform categories. Detailed statistics and Agency Profiles, with data such as Annual Passenger Miles, Annual Vehicle Revenue Miles, Annual Unlinked Trips, Vehicles Available for Maximum Service, etc. are provided through the online database.

2.5.6 Transportation Improvement Program FY 2015/2016 – FY 2019/2020

The Transportation Improvement Program (TIP) for the River to Sea TPO is an intermediate-range planning document that reflects the transportation expenditures that are planned to be spent over the next five-years. Project details are provided, such as: project description, cost, funding source, and funding year. The TIP contains information on a wide array of transportation projects including aviation, bicycle facilities, planning studies, road improvements and transit, among others. Other local or privately funded projects are also included for informational purposes.

2.5.7 Various Votran Website Documents

The Votran website (www.votran.org) features several documents detailing the routes, schedules and services of Volusia County's public transportation system. The following Votran bus routes serve at least a portion of the Pedestrian Connectivity and Safety Assessment study area, operating primarily on 60-minute headways (with 30-minute peak hour headways on selected routes) from Monday through Saturday with some limited evening and Sunday service:

- Route 1 – A1A North
- Route 3 – North Ridgewood
- Route 4 – South Ridgewood
- Route 5 – Center
- Route 6 – North Nova
- Route 7 – South Nova
- Route 8 - Halifax
- Route 10 – Medical Center
- Route 11 – Mason Avenue
- Route 12 – Clyde Morris
- Route 15 – Orange Avenue
- Route 17 – South Atlantic
- Route 18 – International Speedway
- Route 19 – Granada
- Route 60 – East/West Connector

A summary of the service operating characteristics of these routes from the TDP is provided in Table 1 and a map of the service routes is shown in Figures 21 and 22 in Section 3.

2.5.8 Strategic Intermodal System Highway Connectors Assessment – Daytona Beach Greyhound Bus Terminal Connector

This is a 2008 assessment of the Daytona Beach Greyhound Bus Terminal Connector by FDOT. The Greyhound bus terminal is an Emerging SIS facility and the Greyhound Bus Terminal Connector includes US 92/SR 600/International Speedway Boulevard within the PCSA study area. Existing and future operating conditions and recommended improvements are provided.

Table 1: Summary of Transit Service Operating Characteristics

Route Number	Route Description	Days of Operation	Service Span	Headways
1	A1A North	Monday-Friday	5:40 am – 7:10 pm	60 Minutes
		Saturday	6:35 am – 7:10 pm	60 Minutes
		Sunday	7:03 am – 6:10 pm	60 Minutes
3	North Ridgewood	Monday-Friday	6:02 am – 6:30 pm	30 Minutes
		Saturday	6:02 am – 6:30 pm	30 Minutes
		Sunday	7:00 am – 6:25 pm	30 Minutes
4	South Ridgewood	Monday-Friday	6:32 am – 6:58 pm	30 Minutes
		Saturday	6:32 am – 6:34 pm	30 Minutes
		Sunday	7:00 am – 6:54 pm	30 Minutes
5	Center Street	Monday-Friday	6:37 am – 5:56 pm	60 Minutes
6	North Nova	Monday-Friday	6:05 am – 7:33 pm	60 Minutes
		Saturday	6:35 am – 7:33 pm	60 Minutes
7	South Nova	Monday-Friday	6:02 am – 7:19 pm	60 Minutes
		Saturday	6:05 am – 7:19 pm	60 Minutes
8	Halifax	Monday-Friday	6:32 am – 6:56 pm	60 Minutes
		Saturday	7:32 am – 5:55 pm	60 Minutes
10	Medical Center	Monday-Friday	6:35 am – 6:25 pm	30 Minutes
		Saturday	7:32 am – 6:09 pm	30 Minutes
		Sunday	7:00 am – 6:20 pm	30 Minutes
11	Mason Ave	Monday-Friday	6:17 am – 6:42 pm	60 Minutes
		Saturday	6:17 am – 6:42 pm	60 Minutes
12	Clyde Morris	Monday-Friday	6:32 am – 7:24 pm	60 Minutes
		Saturday	6:32 am – 7:24 pm	
15	Orange Ave	Monday-Friday	5:37 am – 6:43 pm	30 Minutes
		Saturday	6:07 am – 6:43 pm	30 Minutes
		Sunday	7:00 am – 6:24 pm	60 Minutes
17	South Atlantic	Monday-Friday	6:07 am – 6:33 pm	60 Minutes
		Saturday	6:32 am – 6:54 pm	60 Minutes
		Sunday	7:00 am – 6:22 pm	60 Minutes
18	Int'l Speedway	Monday-Friday	7:02 am – 6:25 pm	60 Minutes
		Saturday	7:02 am – 6:09 pm	60 Minutes
19	Granada	Monday-Friday	6:07 am – 6:40 pm	60 Minutes
		Saturday	6:07 am – 6:40 pm	
60	East/West Connector	Monday-Friday	5:15 am – 7:00 pm	60 Minutes
		Saturday	7:01 am – 6:39 pm	60 Minutes

Source: 2*012-2021 Transit Development Plan Major Update*, Votran (September 2011)

2.6 EXISTING RIGHT-OF-WAY AND PROPERTY OWNERSHIP

2.6.1 Existing Right-of-Way

Right-of-way maps, in PDF file format, were obtained from the FDOT for US 92/SR 600/ISB, SR 5A/South Nova Road, US 1/Ridgewood Avenue, SR A1A/Atlantic Avenue and SR 441/Peninsula Drive.

2.6.2 Property Ownership

Parcel data with property ownership information was obtained from the Volusia County Property Appraiser for the study area.

2.7 OTHER MISCELLANEOUS REPORTS AND STUDIES

2.7.1 Accessing Transit: Design Handbook for Florida Bus Passenger Facilities, Version III

This 2013 FDOT publication provides guidelines for physical design criteria to be used in the planning of access improvements to transit facilities in Florida. Of particular note, Chapter 3: Facility Prototypes contains prototypical designs and an inventory of design elements for bus passenger facilities such as Primary Stops, Transit Malls, Transfer Centers, Park-and-Ride Facilities, Intermodal Transfer Centers and Bus Rapid Transit (BRT) facilities. In addition, *Chapter 4: Land Use Guidelines* describes methods for creating transit supportive development with appropriate types of development and development standards supportive of transit and a multi-modal transportation network.

2.7.2 Statewide Transit Facility Standards, Criteria, and Guidelines

This 2011 FDOT report was prepared as part of the Statewide Transit Accessibility and Facilities Design Course to provide guidance on incorporating transit facilities into roadway, infrastructure and other improvement plans. It also includes standards, criteria and guidelines for implementing the requirements of the Americans with Disabilities Act (ADA).

2.7.3 Florida Transit Handbook

This 2015 handbook provides a general overview of public transit in Florida with a synopsis of FDOT's transit resources and a profile of Florida's transit systems.

2.7.4 A Framework for Transit Oriented Development in Florida

This March 2011 publication, prepared for the FDOT and Department of Community Affairs (DCA),[2] provides a framework to address how TOD can be part of the transformation of Florida's existing auto-oriented, largely suburban patterns of development into more compact, livable patterns that support walking, biking, transit and shorter-length auto trips.

---

[2] Florida Department of Community Affairs (DCA) now known as Florida Department of Economic Opportunity (DEO)

2.7.5 *Florida TOD Guidebook*

This report, prepared for the FDOT and released in December 2012, provides TOD research and case studies as well as TOD Place Type Analysis and model TOD Comprehensive Plan Goals, Objectives and Policies and Land Development Regulations for Florida.

2.8 TRAVEL DEMAND CHARACTERISTICS

In order to identify and support the study area's multi-modal needs, it is important to develop an understanding of how the key land uses within the study area interact with each other. This includes an understanding of existing travel characteristics and an estimation of current mode split for vehicular traffic as well as bicyclists, pedestrians and transit riders. The data collected during the evaluation of travel characteristics is intended to provide a representative sampling sufficient to support a planning-level evaluation.

US 92/SR 600/ISB is a key east-west regional arterial linking I-95 to major tourist destinations, other transportation modes, educational and health care facilities, local businesses, and residential areas. Within the PCSA Phase II study area, west of Seagrave Street, it's designated as being a part of the FDOT's Strategic Intermodal System (SIS). SIS facilities promote high volume, fast moving vehicular traffic making regional trips. This portion of US 92/SR 600/ISB is officially a SIS Connector to the Daytona Beach Greyhound Bus Terminal, located at Seagrave Street and Magnolia Avenue. As transportation alternatives are developed and evaluated, it will be important to understand vehicle travel patterns and to differentiate local verses regional travel.

This portion of US 92/SR 600/ISB serves as the gateway to the region's primary tourist destinations and provides access to Bethune-Cookman University, Downtown Daytona Beach, and numerous retail, office and residential uses within the city. FDOT's 2011 ISB Corridor Transportation Plan Report used Bluetooth technology throughout the study area to gain an understanding of existing travel data and characteristics, including automobile and person trip data, trip lengths and purpose (local or regional). Automatic Traffic Recorder (ATR) count data for 24-hour traffic volume counts was collected for seven (7) days (Monday, April 5, 2010 through Sunday, April 11, 2010). Figure 2 illustrates the location of Bluetooth stations used to collect data

While the ISB Corridor Transportation Plan Report evaluated three segments of US 92/SR 600/ISB between I-95 and SR A1A/Atlantic Avenue, the PCSA Phase II study area shares the same boundary as Segments 2 and 3 in Figure 2.

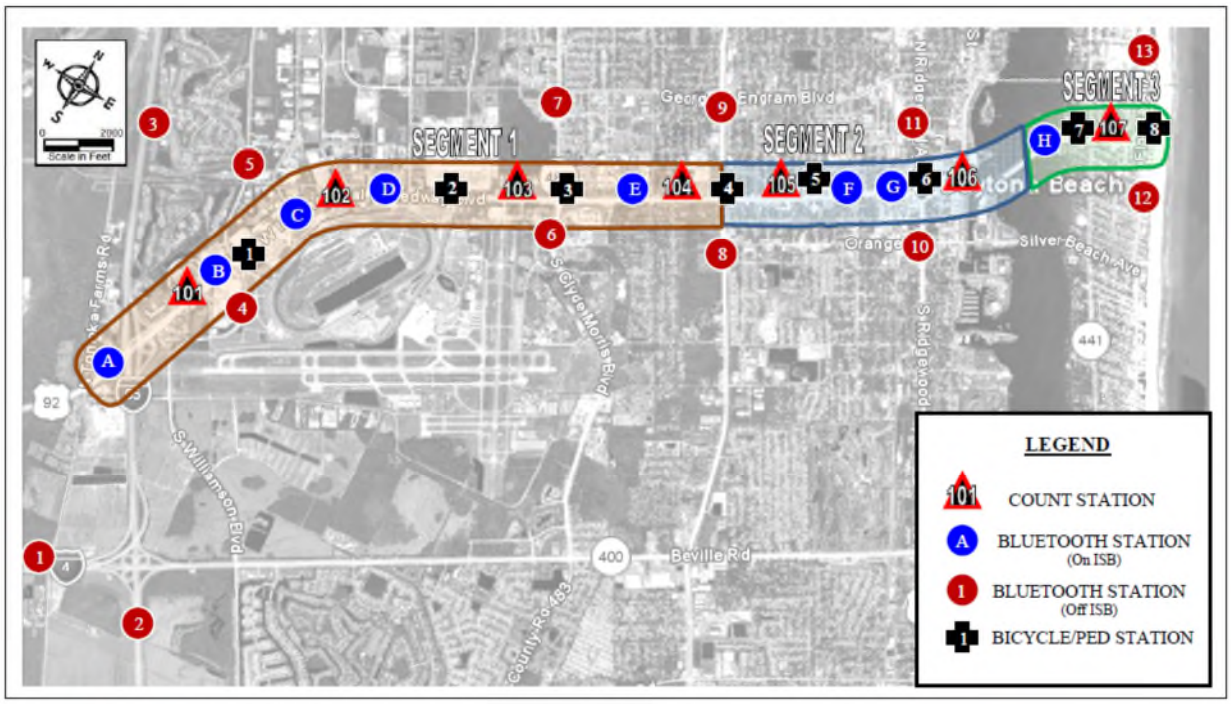


Figure 2: ISB Corridor Bluetooth and Bicycle/Pedestrian Count Station Locations

Source: ISB Corridor Transportation Plan Report

In addition, video data collection equipment was utilized to document the existing bicycle and pedestrian vehicle/person trips along the US 92/SR 600/ISB corridor. Locations for the video data collection were based on field observations of bicycle and pedestrian activity. Video data collection was conducted for 13 hours from 6:00 AM to 7:00 PM on Tuesday, April 6, 2010. This time period was selected to correspond with the span of service during which Votran provides weekday bus transit service along the US 92/SR 600/ISB corridor. Major intersections were targeted in order to capture bicycle and pedestrian travel both along the corridor and across it. The bicycle and pedestrian counts were summarized in terms of Annual Average Daily Traffic (AADT) at the locations where the automobile/truck vehicle counts were conducted. Table 2 summarizes trips by mode for each ISB Corridor Transportation Plan segment. The PCSA Phase II study area aligns with Segments 2 and 3 of the *ISB Corridor Transportation Plan Report*. Segment 2 Bicycle/Pedestrian Stations were located along US 92/SR 600/ISB at the intersections of SR 5A/Nova Road, Lincoln Street, and US 1/Ridgewood Avenue. Segment 3 Bicycle/Pedestrian Stations were located at the intersections of Halifax Avenue and SR A1A/Atlantic Avenue.

According to the *ISB Corridor Transportation Plan Report*, 98.14% of the person trips along US 92/SR 600/ISB within the Segment 2 (in Figure 2) section of the study area, are made by Auto/Truck Mode, 1.00% by Transit Mode, 0.22% by Bicycle Mode, and 0.64% by Pedestrian Mode. In Segment 3 (the Beachside), 90.11% of the person trips along US 92/SR 600/ISB are made by Auto/Truck Mode, 1.76% by Transit Mode, 0.33% by Bicycle Mode, and 7.80% by Pedestrian Mode.

Collected data also illustrated while there is a dramatic decrease in automobile trips, on US 92/SR 600/ISB east of Nova Road, there is a corresponding significant increase in pedestrian and bicycle trips within the study area between SR 5A/Nova Road, US 1/Ridgewood Avenue and SR A1A/

Atlantic Avenue. Factors for this phenomenon include a connected traditional gridded roadway network, the presence of sidewalks with street trees, land uses with limited building setbacks, higher densities and a built environment where the feasibility of using alternative forms of mobility becomes a competitive option.

Table 2: Summary of Average Daily Trips by Mode

Corridor Segment	Vehicle Trips		Person Trips by Mode						Mode Split (Percentage)			
	Auto Trips	Truck Trips	Auto Trips 1.339/Veh	Truck Trips 1.339/Veh	Transit Trips (Persons)	Bicycle Trips (Persons)	Pedestrian Trips (Persons)	Total Person Trips	% Auto/Truck Mode	% Transit Mode	% Bicycle Mode	% Pedestrian Mode
Segment 1	35,040	1,759	46,918	2,355	175	50	133	49,631	99.3%	0.4%	0.1%	0.3%
Segment 2	19,535	688	36,158	921	276	61	177	27,591	98.1%	1.0%	0.2%	0.6%
Segment 3	9,612	280	12,870	375	259	49	1,146	14,699	90.1%	1.8%	0.3%	7.8%

Source: ISB Corridor Transportation Plan Report

2.9 LOCAL EVENTS IMPACT & SUMMARY

The City of Daytona Beach hosts many events throughout the year attracting an influx of tourist within and around the PCSA study area. Major events impacting the study area include Bike Week, Biketoberfest and several NASCAR events. Visitors attending activities associated with major local events bring business to restaurants, hotels, and retail stores as well as an increase in automobile and pedestrian traffic within study area. A summary of major local events impacting the study area is shown below:

- Bike Week: a ten-day annual festival, including motorcycle racing, concerts, parties and street festivals during the first full week of March. Approximately 500,000 people attend the event
- Biketoberfest: a four-day annual event, attracting 125,000 motorcyclists; typically held the weekend immediately following Columbus Day
- Speedweeks at Daytona: a series of NASCAR racing events that take place annually during January and February at the Daytona International Speedway. The events lead up to and conclude with the Daytona 500.
- Halifax Art Festival: the second oldest continual art festival in the state of Florida takes place in November. The festival, held in downtown Daytona Beach at US 92/SR 600/ISB, attracts approximately annual 45,000 visitors.
- Coke Zero 400: an annual NASCAR Sprint Cup Series stock car race held at Daytona International Speedway in July.

Pedestrian and bicyclist cash data was obtained from the FDOT Crash Analysis Reporting (CAR) system. Table 3 depicts this information by year from 2010-2014 as well during the five events, listed above.

Table 3: 2010-2014 Crash Data

Area/Timing	Crash Type	2014 Crash Data	2013 Crash Data	2012 Crash Data	2011 Crash Data	2010 Crash Data
Study Area	Total Crashes	363	376	296	278	315
	Collisions with Pedestrian	15 (4.1%[1])	22 (5.9%)	17 (5.7%)	11 (4.0%)	15 (4.8%)
	Collisions with Bicyclists	14 (3.9%)	16 (4.3%)	7 (2.4%)	10 (3.6%)	8 (2.5%)
Speedweeks	Total Crashes	7	9	5	17	4
	Collisions with Pedestrian	0	0	0	0	0
	Collisions with Bicyclists	0	0	0	0	0
Bike Week	Total Crashes	19	25	18	24	24
	Collisions with Pedestrian	2 (10.5%)	1 (4.0%)	1(5.6%)	1 (4.2%)	1 (4.2%)
	Collisions with Bicyclists	0	2 (8.0%)	1 (5.6%)	2 (8.3%)	0
Coke Zero	Total Crashes	1	2	1	5	3
	Collisions with Pedestrian	0	0	0	0	1 (33.3%)
	Collisions with Bicyclists	0	0	0	0	0
Biketoberfest	Total Crashes	6	10	9	7	11
	Collisions with Pedestrian	0	1 (10.0%)	1 (11.1%)	0	1 (9.1%)
	Collisions with Bicyclists	0	0	0	0	0
Halifax Art Festival	Total Crashes	1	1	0	1	4
	Collisions with Pedestrian	0	0	0	0	0
	Collisions with Bicyclists	0	0	0	0	0

[1] Percentage of overall crashes

Source: FDOT 2010-2014 Crash Analysis Reporting System

Comparing the crashes for each year versus the crashes during the specified events, collisions with pedestrians and bicyclists go down for most of the special event periods. Bike Week is the only event that has a similar rate to the annual crash rate percentage.

Reasons for the lower crash rate during special events could be due to a higher number of pedestrians and bicyclists on the road, leading to increased driver awareness; greater law enforcement; and lower traffic speeds.

3 STUDY AREA PHYSICAL CHARACTERISTICS

The study area is dominated by four redevelopment districts: Midtown, Downtown, Main Street and South Atlantic Redevelopment areas. The Midtown Redevelopment Area is anchored by Bethune-Cookman University and the dominate land use is single family residential. Linear commercial development within the Midtown Redevelopment Area is typically located along arterials and collectors such as US 92/SR 600/ISB, SR 5A/Nova Road, Orange Avenue, Martin Luther King Jr. Boulevard and Dr. Mary McLeod Bethune Boulevard.

The Downtown Redevelopment Area is bordered on the west by the Midtown Redevelopment Area and Florida East Coast (FEC) Railroad and the east by the Halifax River. Several government services, such as the Volusia County Tag and Title Office, the S. James Foxman Justice Center, the Votran Transfer Station and the City of Daytona Beach city hall, are located within the downtown district. Aging industrial uses and properties line the FEC Railroad, west of Seagrave Street. Downtown's Beach Street, the original commercial epicenter of the city, contains several restored historic structures featuring restaurants, bars, sidewalk cafes, specialty boutique shops, residential lofts and offices. In addition, the east side of Beach Street is dominated by a linear riverfront park that runs the entire length of the study area. This district is also the only area within the study area that features a full block of parallel parking along US 92/SR 600/ISB.

On the Beachside, the US 92/SR 600/ISB corridor serves as the border between the Main Street and South Atlantic Redevelopment Areas. Located north of US 92/SR 600/ISB, the Main Street Redevelopment Area serves as the region's premier tourism district. Major attractions include the Main Street entertainment district and the Daytona Beach Boardwalk and Pier. Also included is a collection of historic residential structures dating back to the early 20th century. The South Atlantic Redevelopment Area straddles US 92/SR 600/ISB and SR A1A, south of US 92/SR 600/ISB. This redevelopment district's physical characteristics are dominated by linear commercial uses, vacant properties, hotels, timeshares and condominium buildings.

In order to gain a better understanding of the land use, population, demographic, environmental and transportation system characteristics within the study area, a series of Geographic Information Services (GIS) maps were developed and are included as Figures 3 through 31. A description is included on each map, detailing key features. As the project progresses, GIS will also be a useful tool for identifying long-range livability, multimodal, and safety needs using factors such as land use and zoning compatibility, accessibility, environmental issues, safety, and transportation conditions.

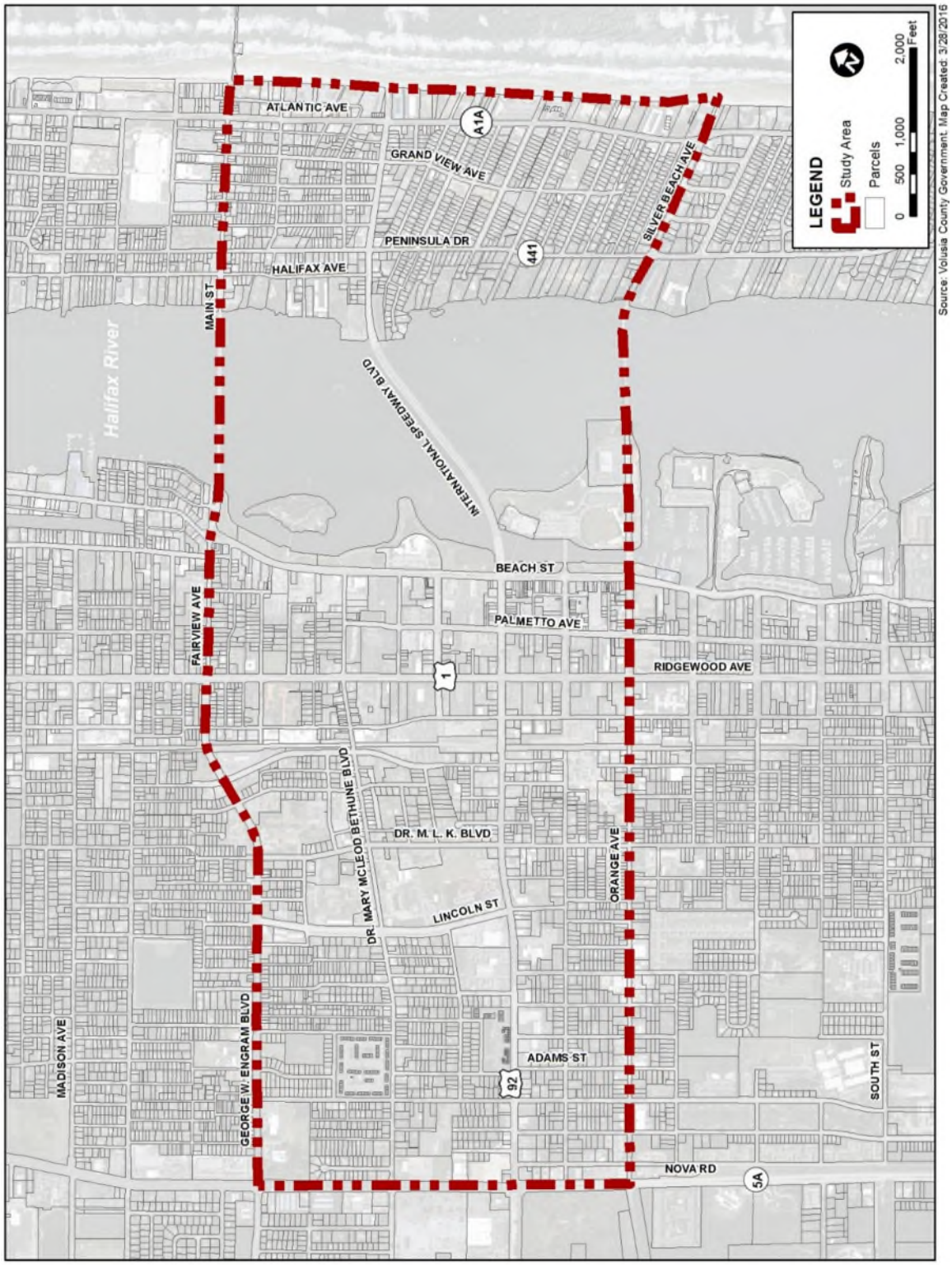


Figure 3: Study Area and Parcel

The study area is bounded by SR 5A/Nova Rd, Orange Av., SR A1A/Atlantic Ave. and George W. Engram Blvd/Fairview Ave/Main St.

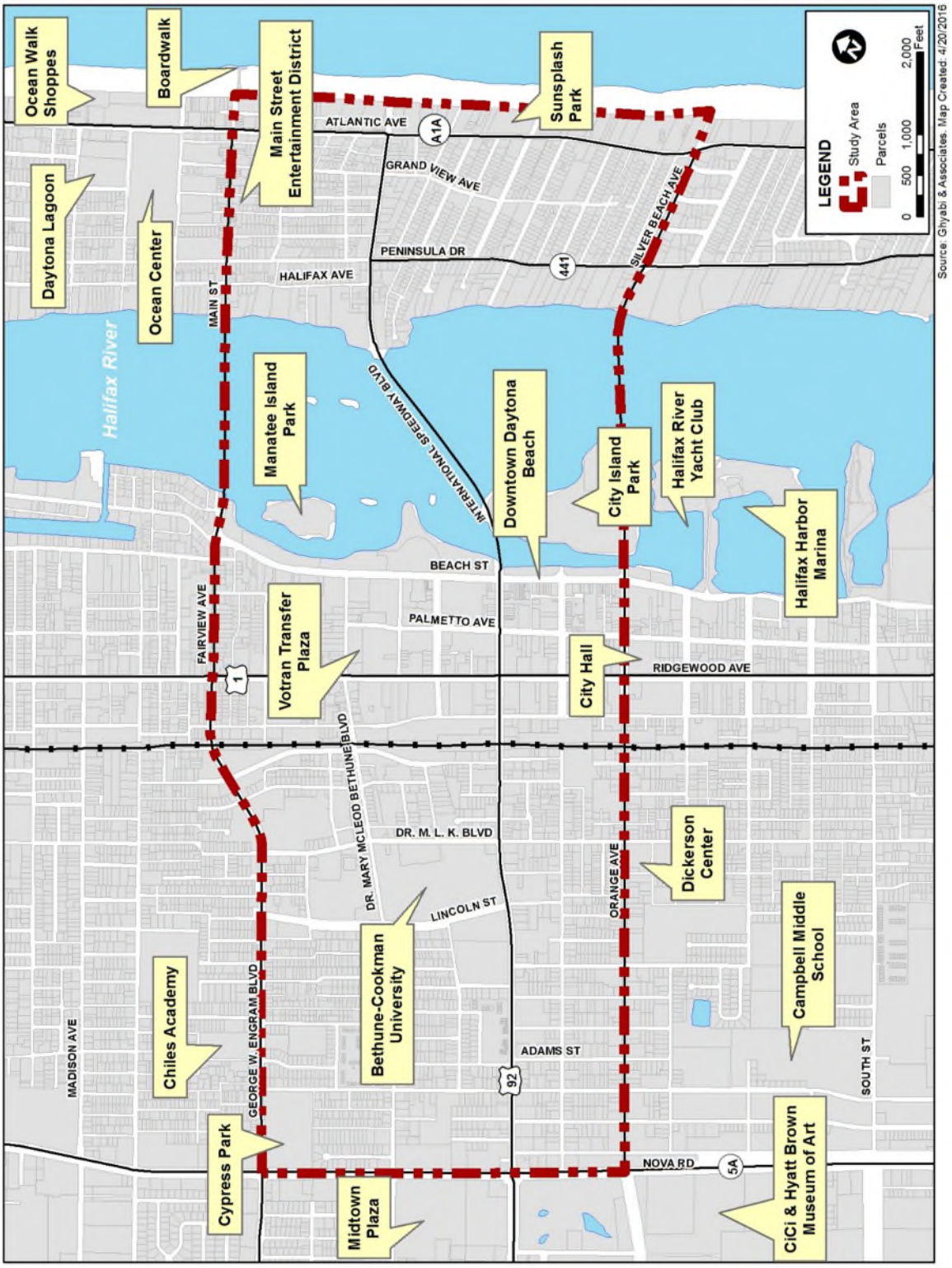


Figure 4: Activity Centers

This map depicts centers of activity within the study area as of April 2016. Major trip generators and attractors include Bethune-Cookman University, the Votran Transfer Plaza and the Main Street Entertainment District.

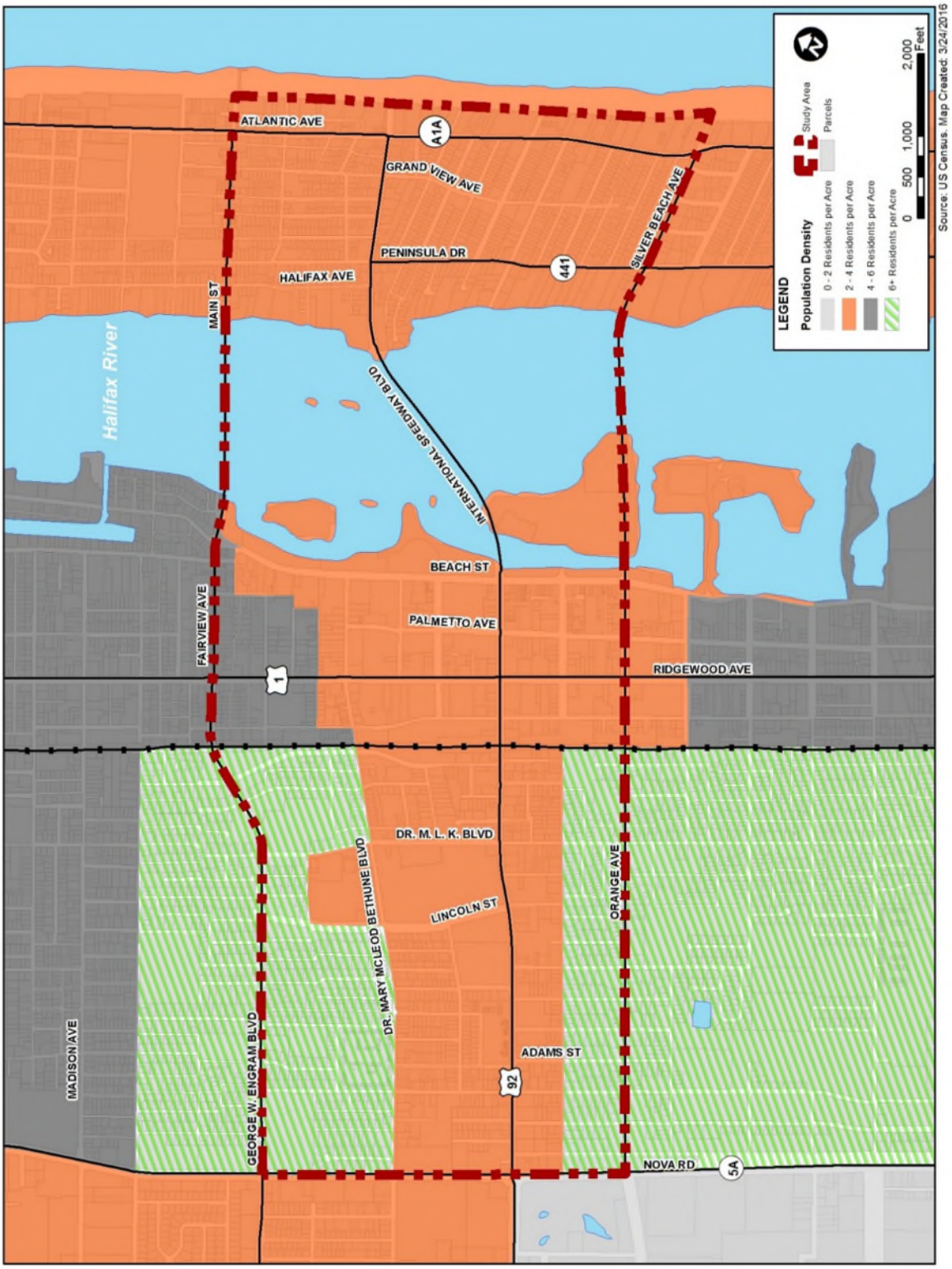


Figure 5: Population Density

The map depicts the population density (Residents per Acre) based on the 2010 US Census data. The densest areas are the northwest and southwest sections of the study area.

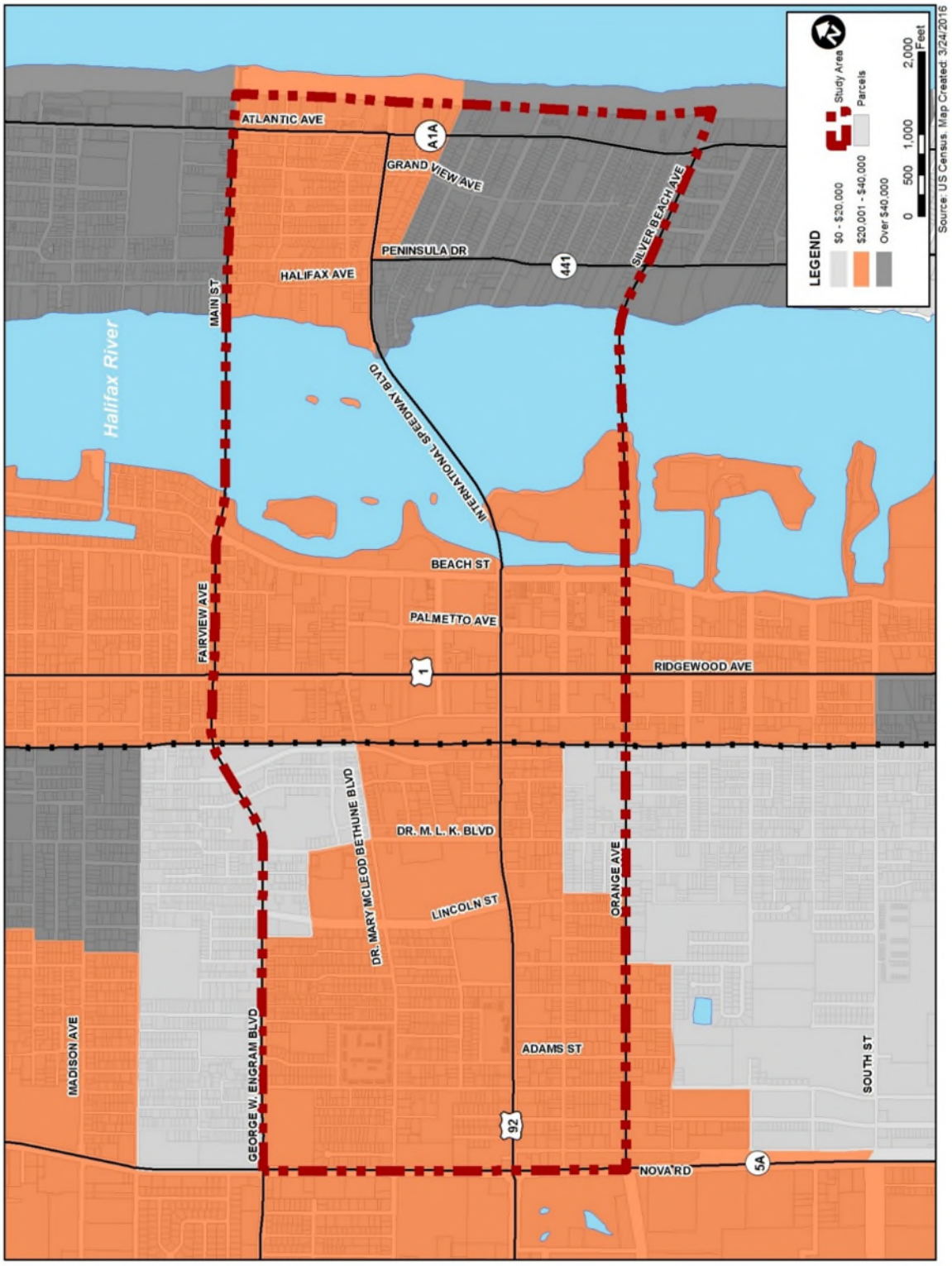


Figure 6: Median Household Income

This map depicts the median household income (2010 Adjusted Dollars) from the 2010 US Census. The majority of the study area is in the $20,001-$40,000 range, with some of the beachside in the over $40,000 range.

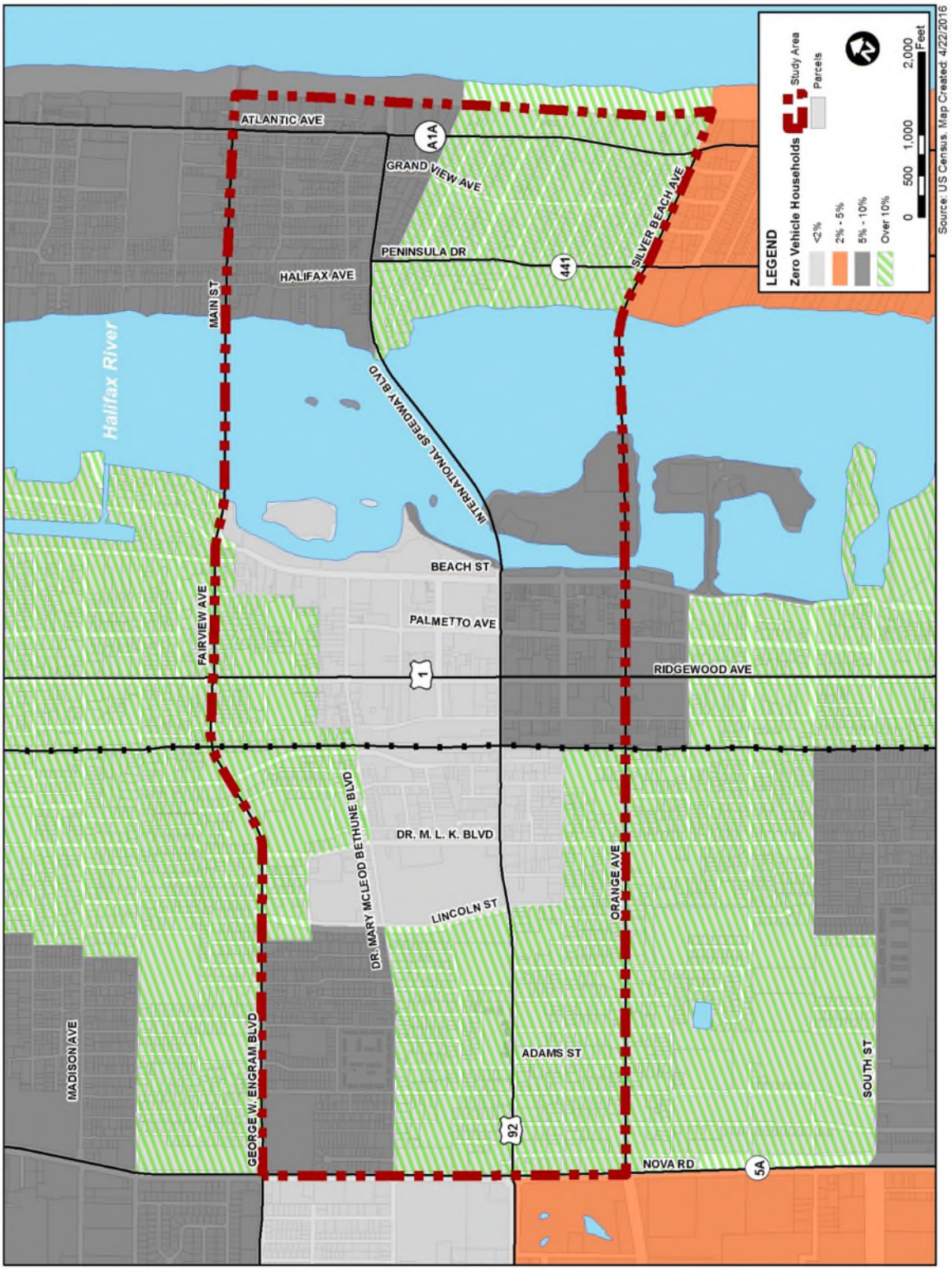


Figure 7: Percent of Occupied Households with Zero Vehicles

This map depicts the percent of occupied households with zero vehicles from the 2010 US Census. The area with the lowest percent of households with no cars is in the downtown and midtown areas.

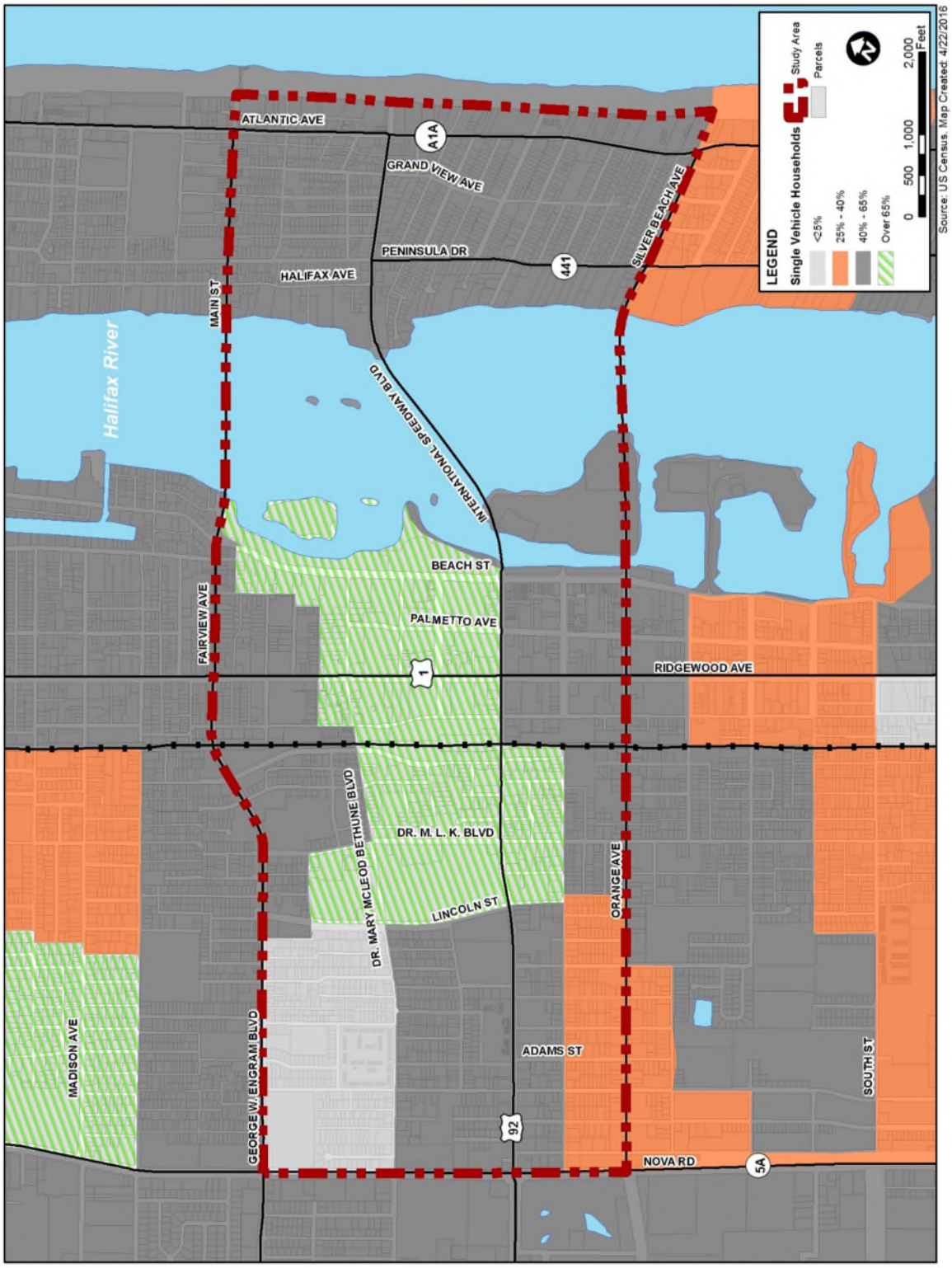


Figure 8: Percent of Occupied Households with a Single Vehicle

This map depicts the percent of occupied households with one vehicle from the 2010 US Census. The downtown and midtown areas have a high percentage of households with just one vehicle.

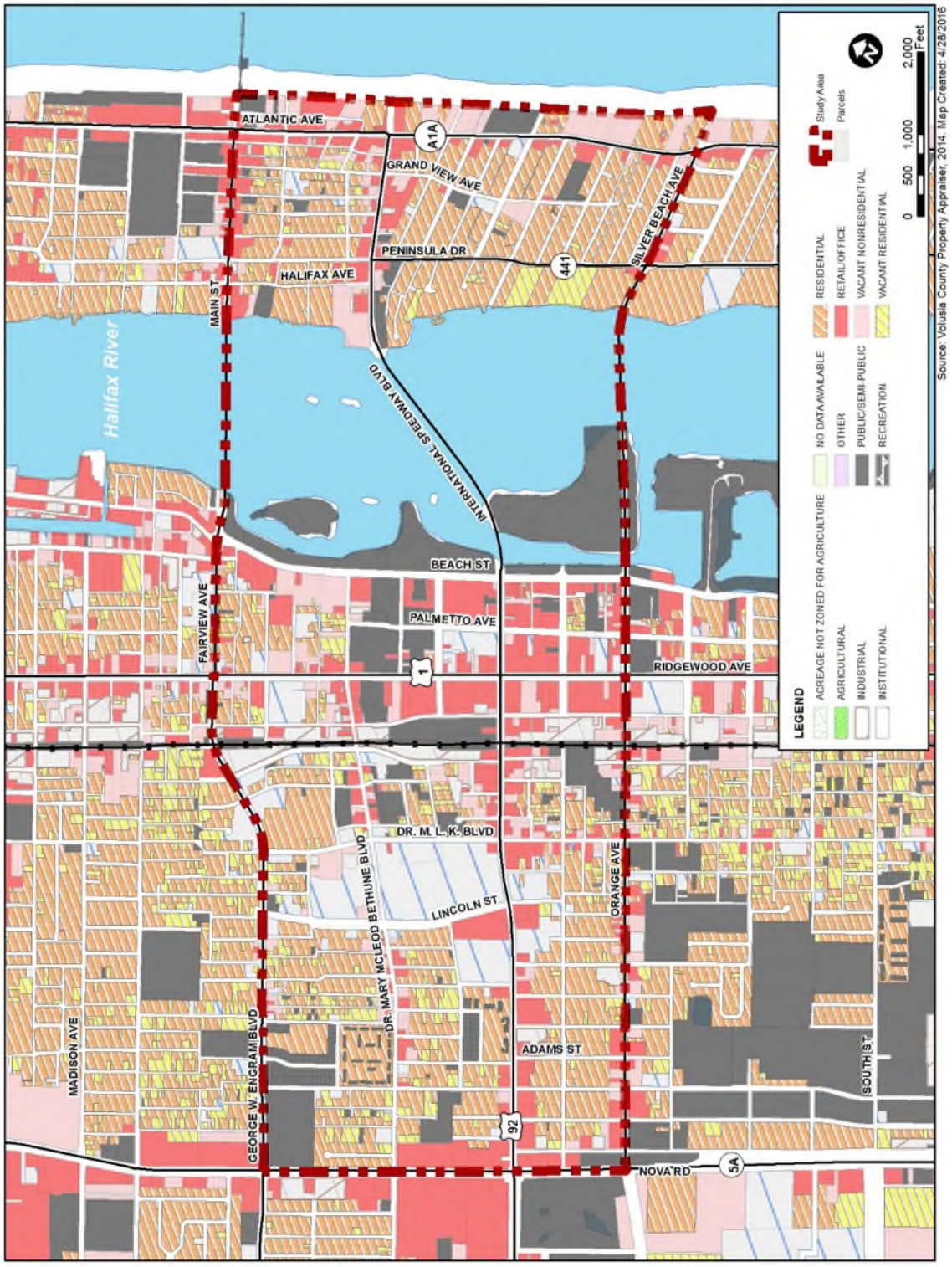


Figure 9: Existing Land Use

As depicted in the existing land use map, the western portion of the study area is dominated by residential uses with a large institutional use occupied by Bethune-Cookman University. Parcels along US 92/SR 600/ISB, US 1 and Beach St are primarily retail/commercial. The beachside of the study area is primarily residential.

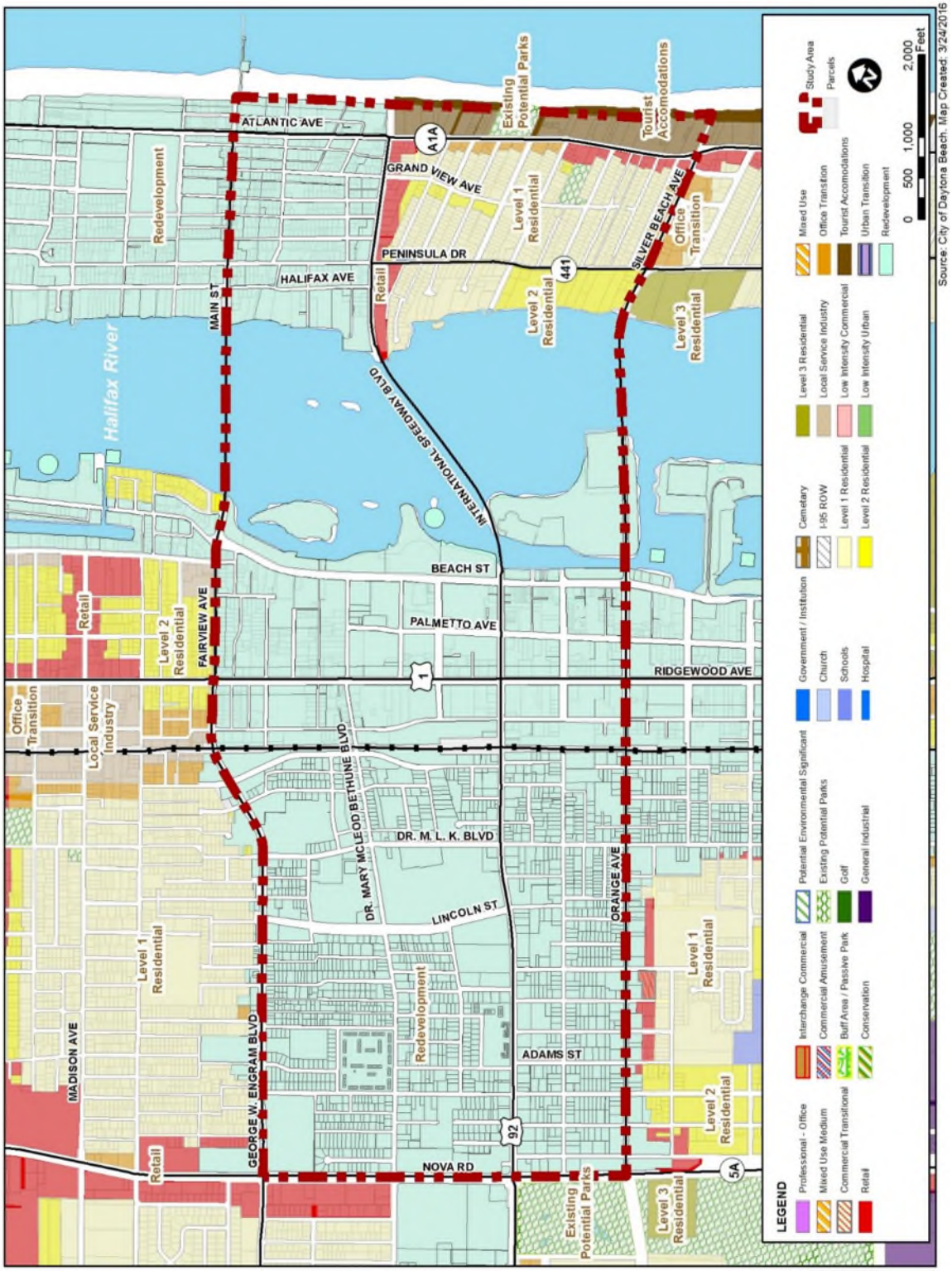


Figure 10: City of Daytona Beach 2030 Future Land Use

The 2030 Future Land Use Map includes the currently adopted future land use categories from the City of Daytona Beach Comprehensive Plan, adopted July 23, 2015.

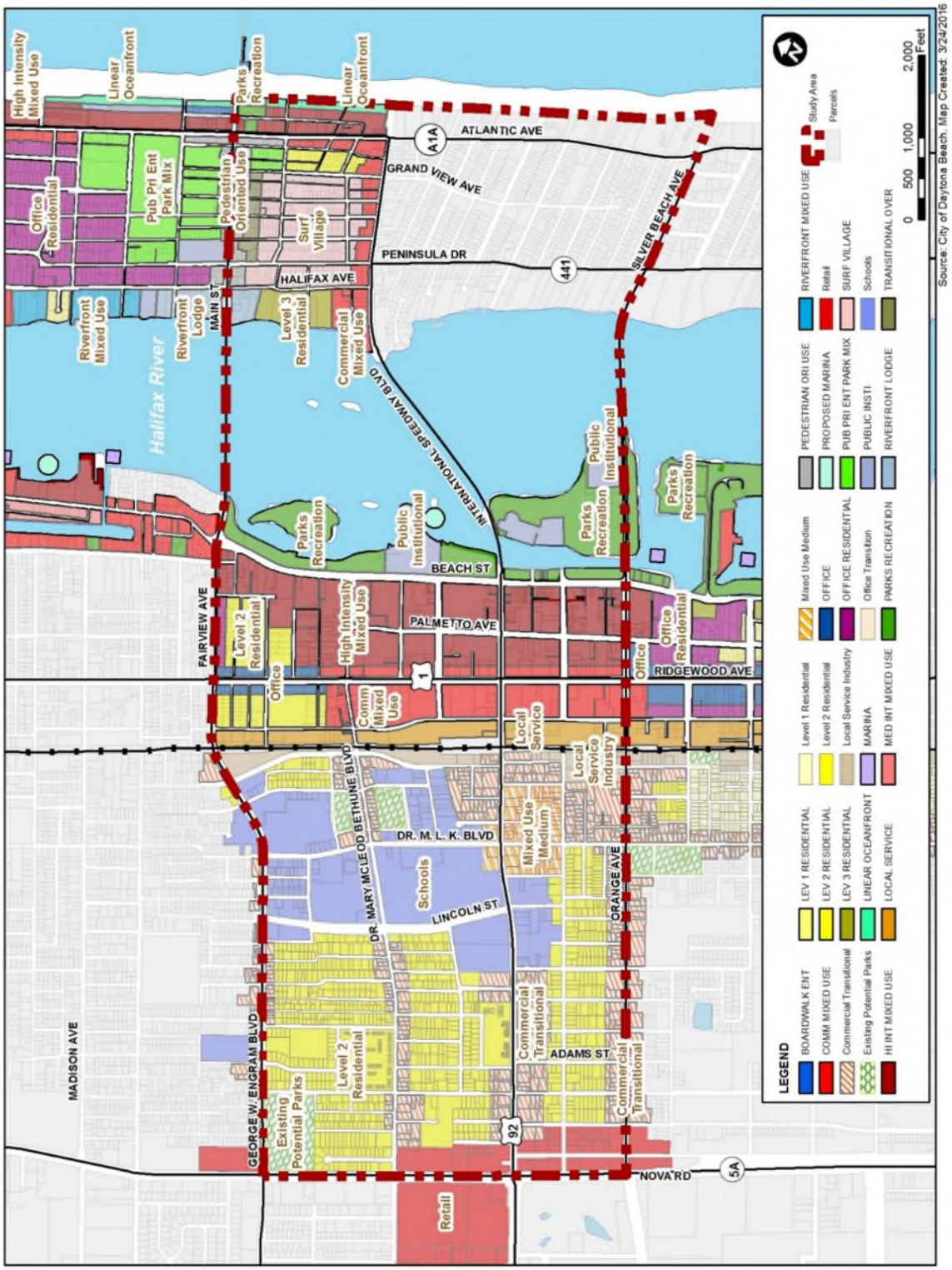


Figure 11: 2030 Future Land Use Redevelopment Area

The 2030 Future Land Use Redevelopment Area Map includes the currently adopted redevelopment area categories from the City of Daytona Beach Comprehensive Plan, adopted July 23, 2015.

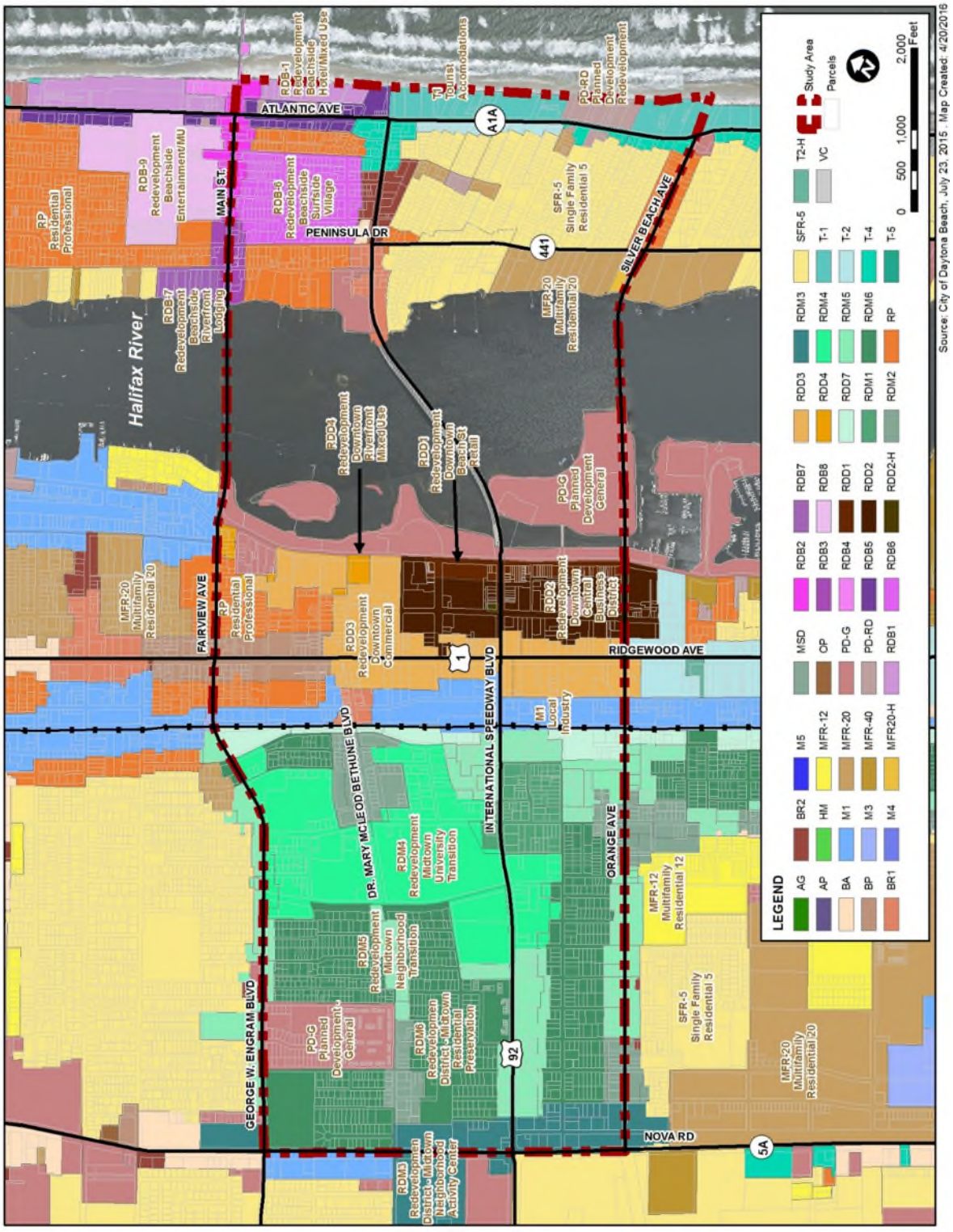


Figure 12: Zoning

This map depicts the zoning classifications within the study area as designated by the City of Daytona Beach. The western portion of the study area is primarily residential, the central portion of the study are is primarily commercial and industrial, while the beachside is residential and tourist based.

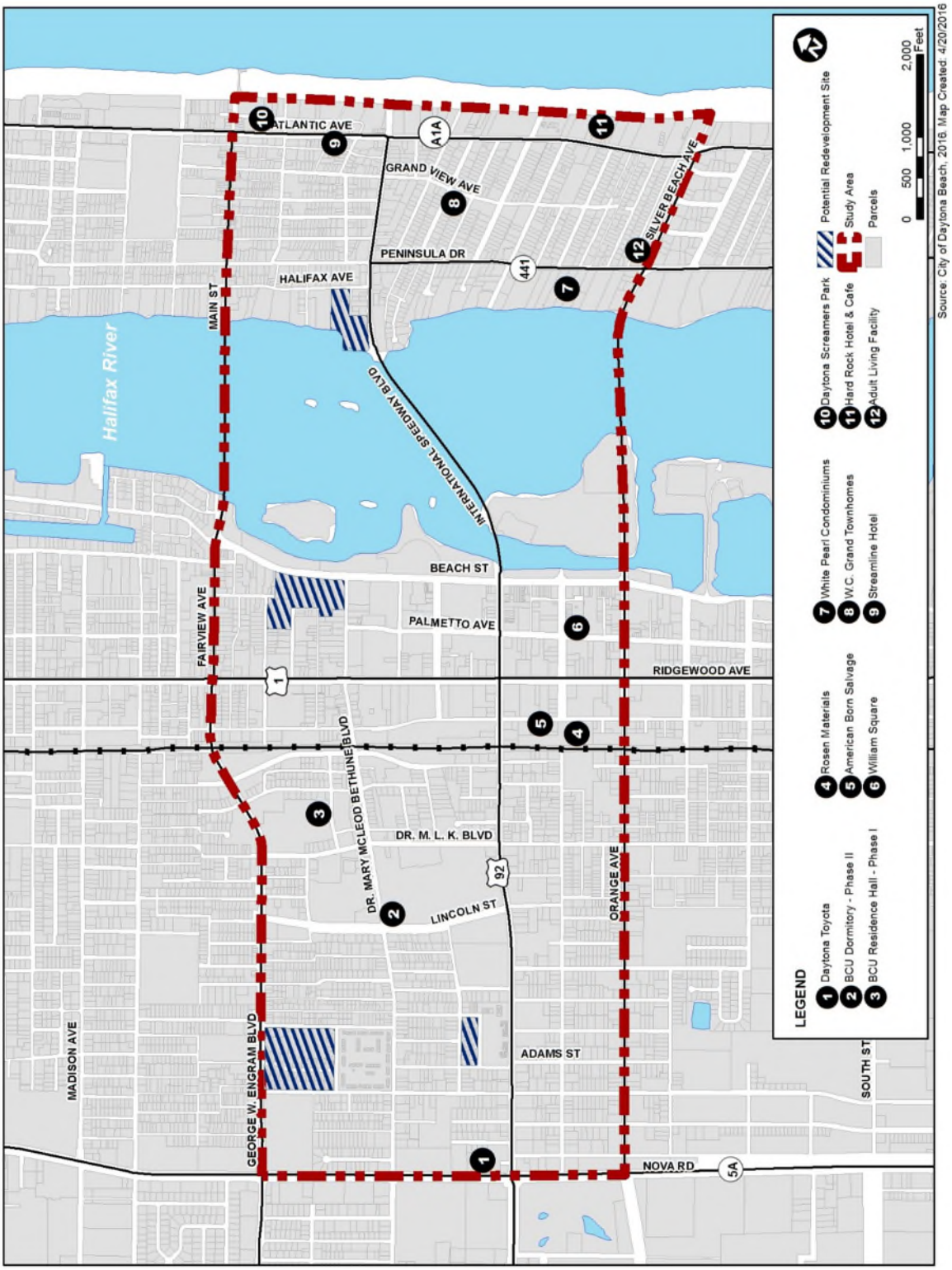


Figure 13: Planned Projects Map

This map depicts the planned projects and redevelopment sites within the study area. There are large tract redevelopment sites available along the Halifax River.

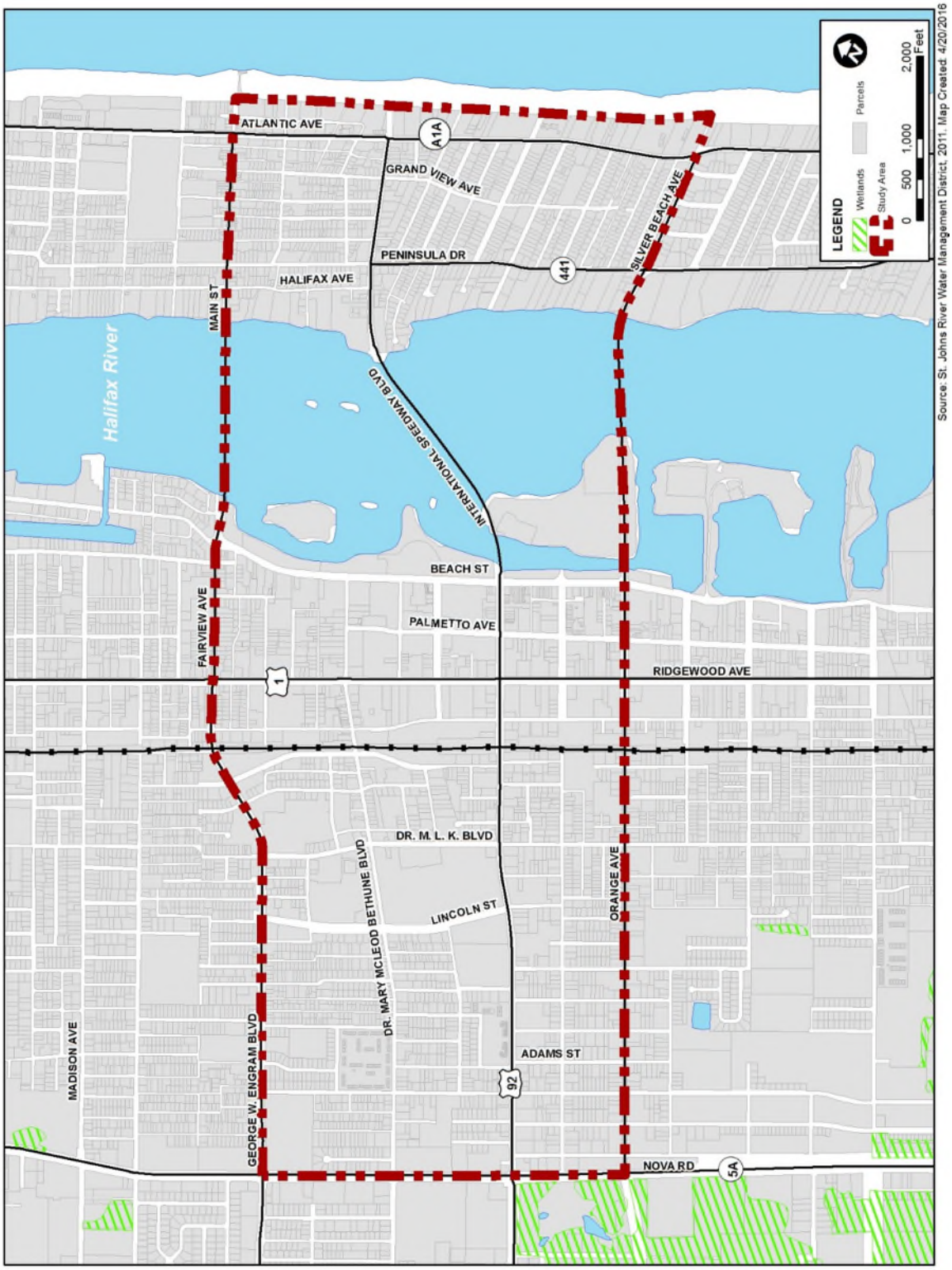


Figure 14: Wetlands Map

This map depicts the wetlands near the study area. There are no wetlands in the study area. A large amount of wetlands are to the west of SR5A/Nova Road in Tuscawilla Park.

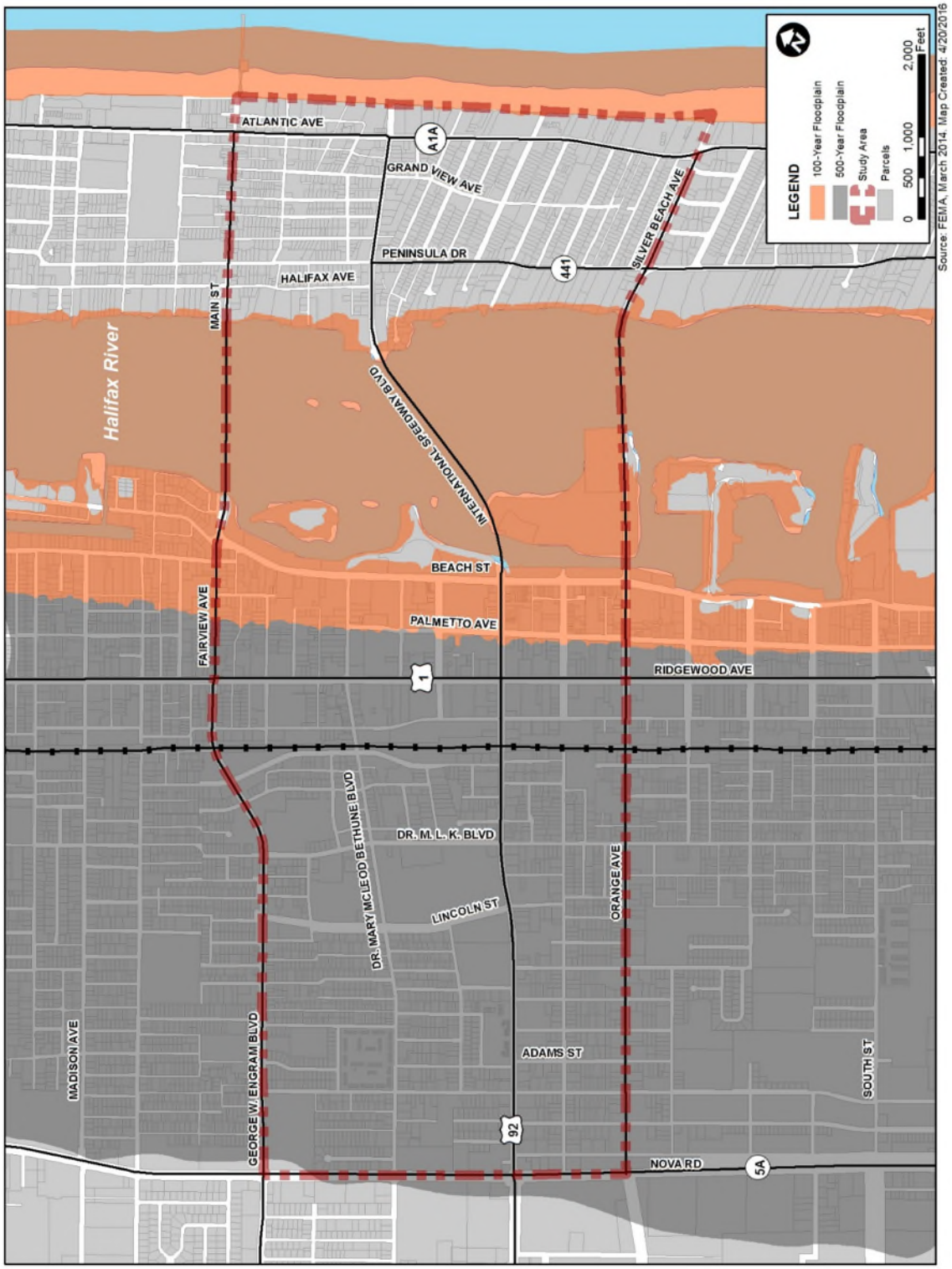


Figure 15: Flood Hazard Zones Map

This map depicts the 100-year and 500-year floodplain areas according to the Federal Emergency Management Area (FEMA). The western portion of the study area is in the 500-year floodplain area. The downtown area is in the 100-year floodplain, while most of the beachside is not in any flood zone.

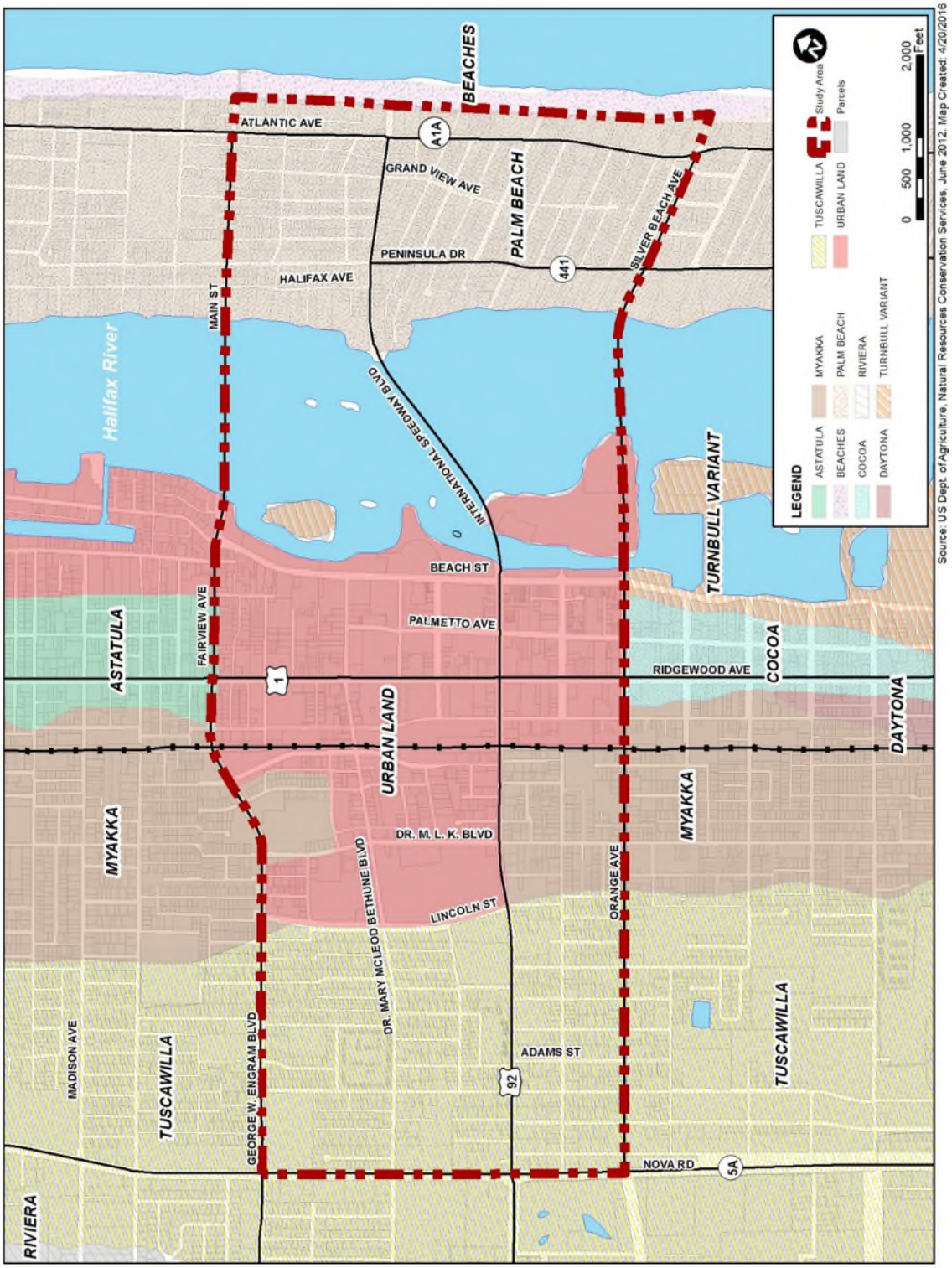


Figure 16: Soils Map

This map identifies existing soil conditions within and around the study area as defined by the US Department of Agriculture, Natural Resources Conservation Service. The most dominant soil types are Tuscawilla, Myakka and Palm Beach.

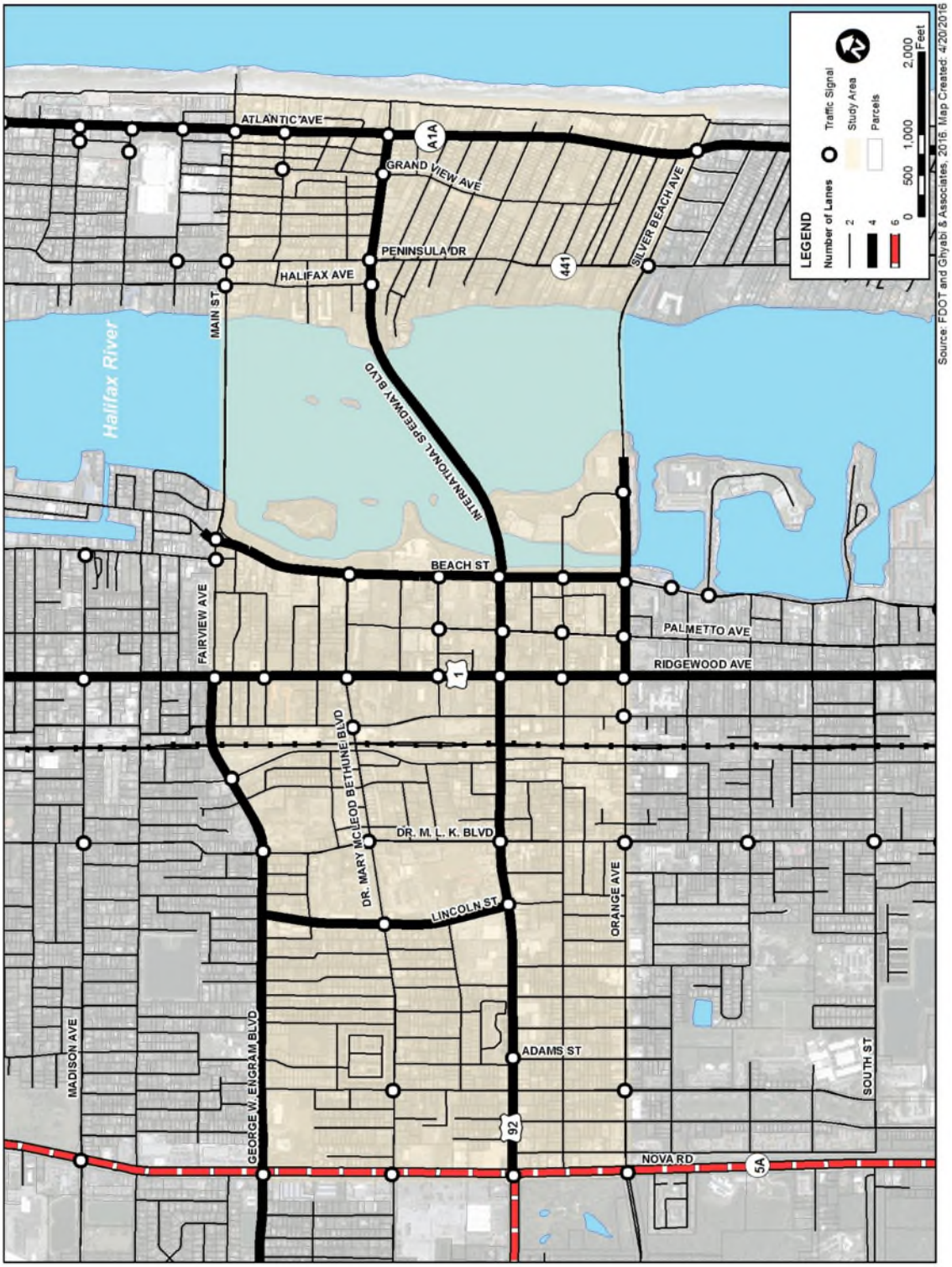


Figure 17: Existing Roadway Network

This map depicts the existing number of lanes and traffic signal location. SR 5A/Nova Road and ISB west of the study area are the only two 6-lane roadways. Major 4-lane roadways include US 92/SR 600/ISB throughout the study area, US1/Ridgewood Ave and SR A1A/Atlantic Ave.

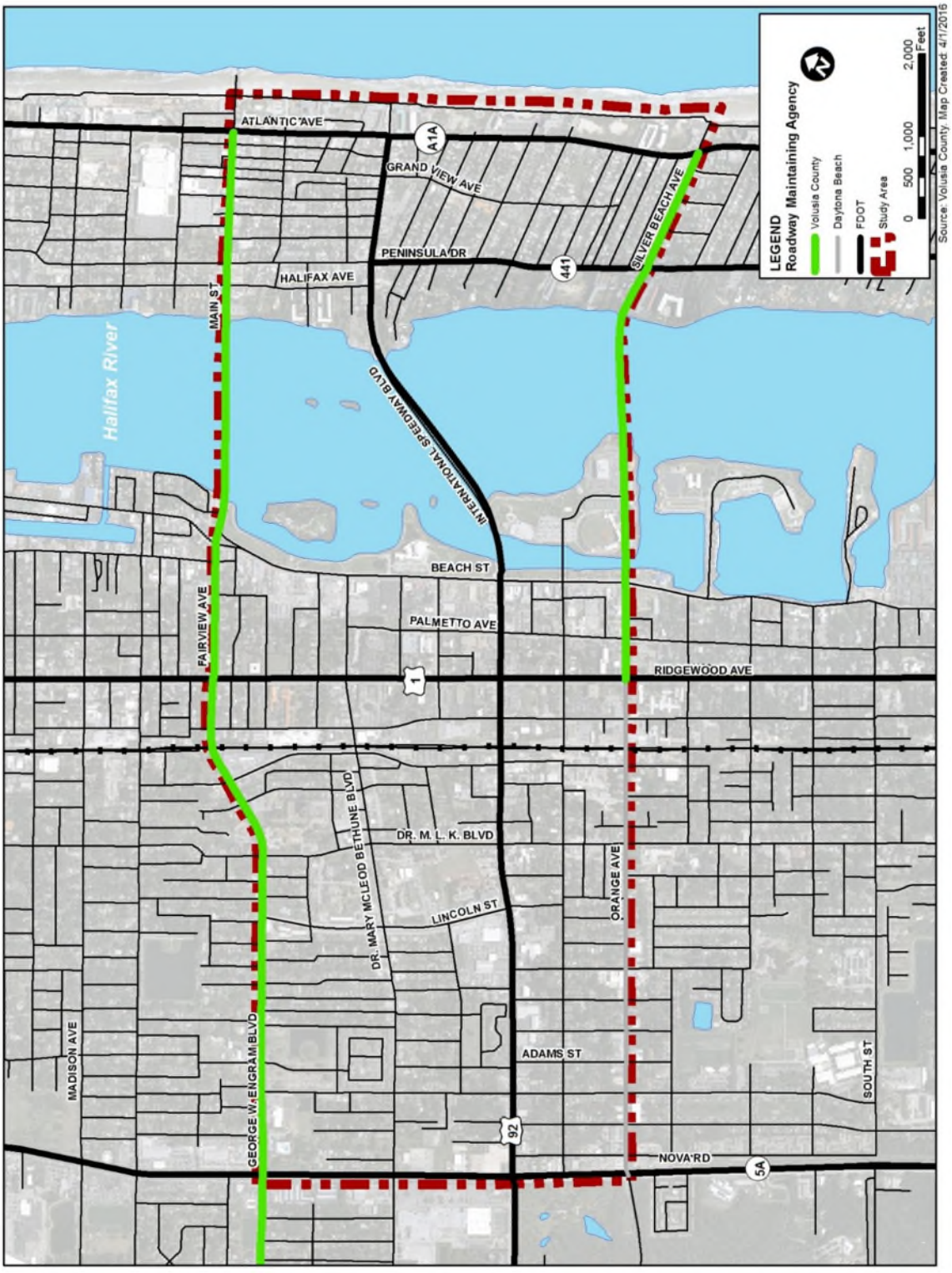


Figure 18: Roadway Maintaining Agency

This map depicts the responsible agency for each roadway. Volusia County maintains Engram Blvd/Fairview Ave/Main St and the eastern portion of Orange Ave/Silver Beach Ave. FDOT maintains SR 5A, US 92/SR 600/ISB, US 1, SR 441 and SR A1A. The City of Daytona Beach maintains the remainder of roads in the study area.

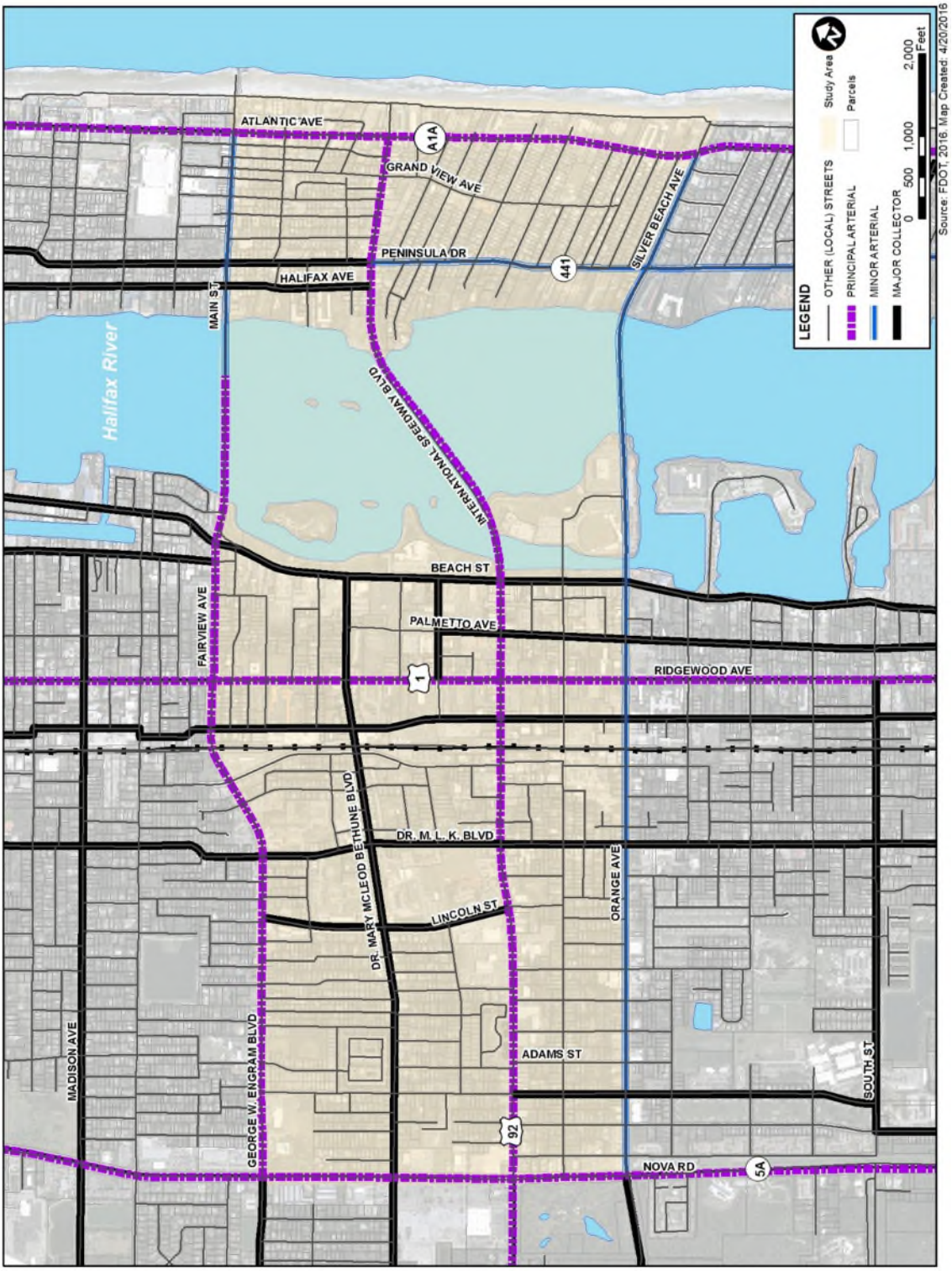


Figure 19: Roadway Classifications

The roadway classifications, such as Principal Arterial, Major Arterial, Major Collector and Other (Local) Streets are illustrated in this map. SR 5A/Nova Road, US 92/SR 600/ISB, US 1/Ridgewood Ave, SR A1A/Atlantic Ave and Engram Blvd/Fairview Ave are Principal Arterials.

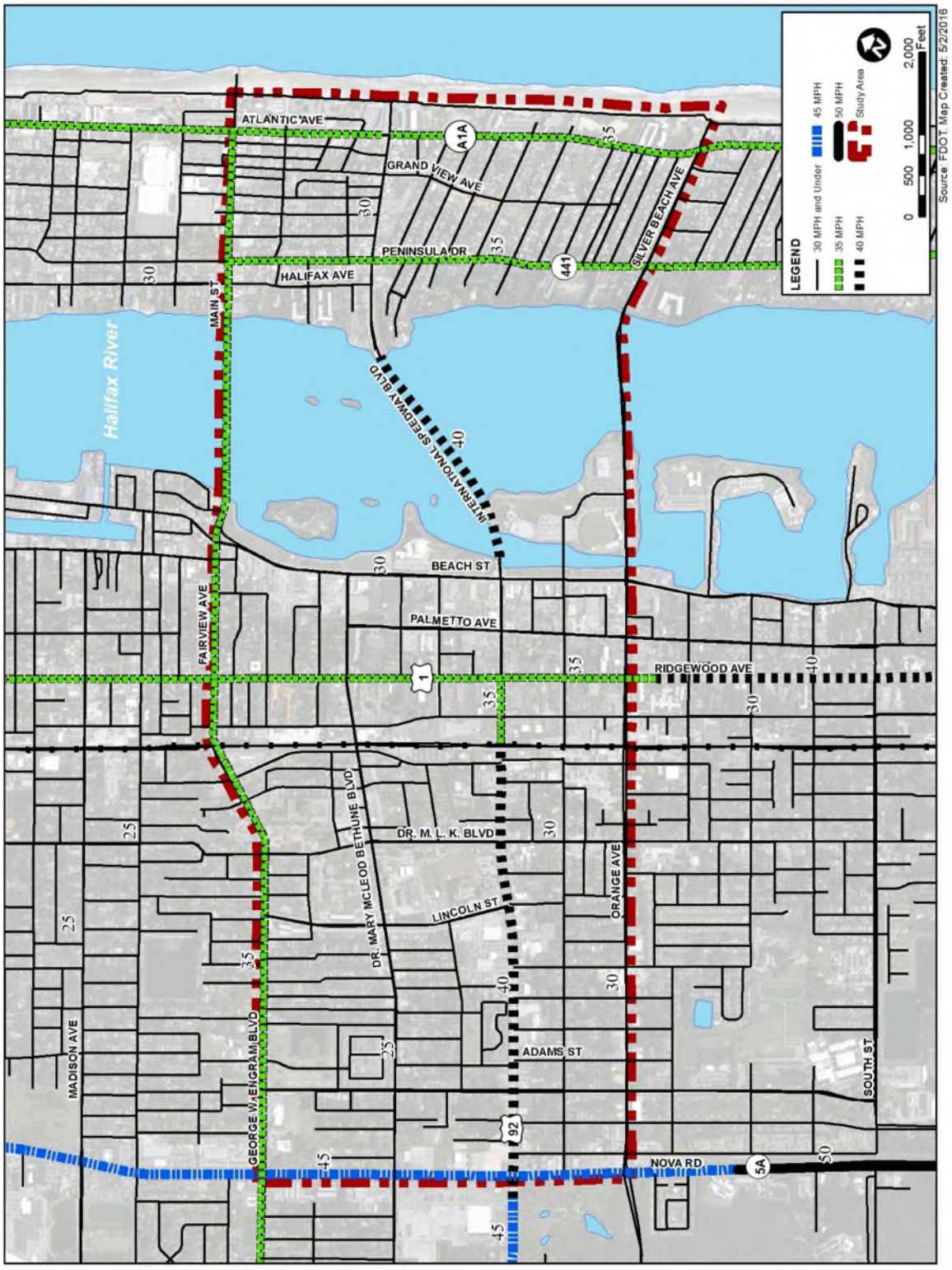


Figure 20: Speed Limits

The map depicts the roadway speed limits within the study area. The majority of the speed limits are 30, 35 or 40 mph.

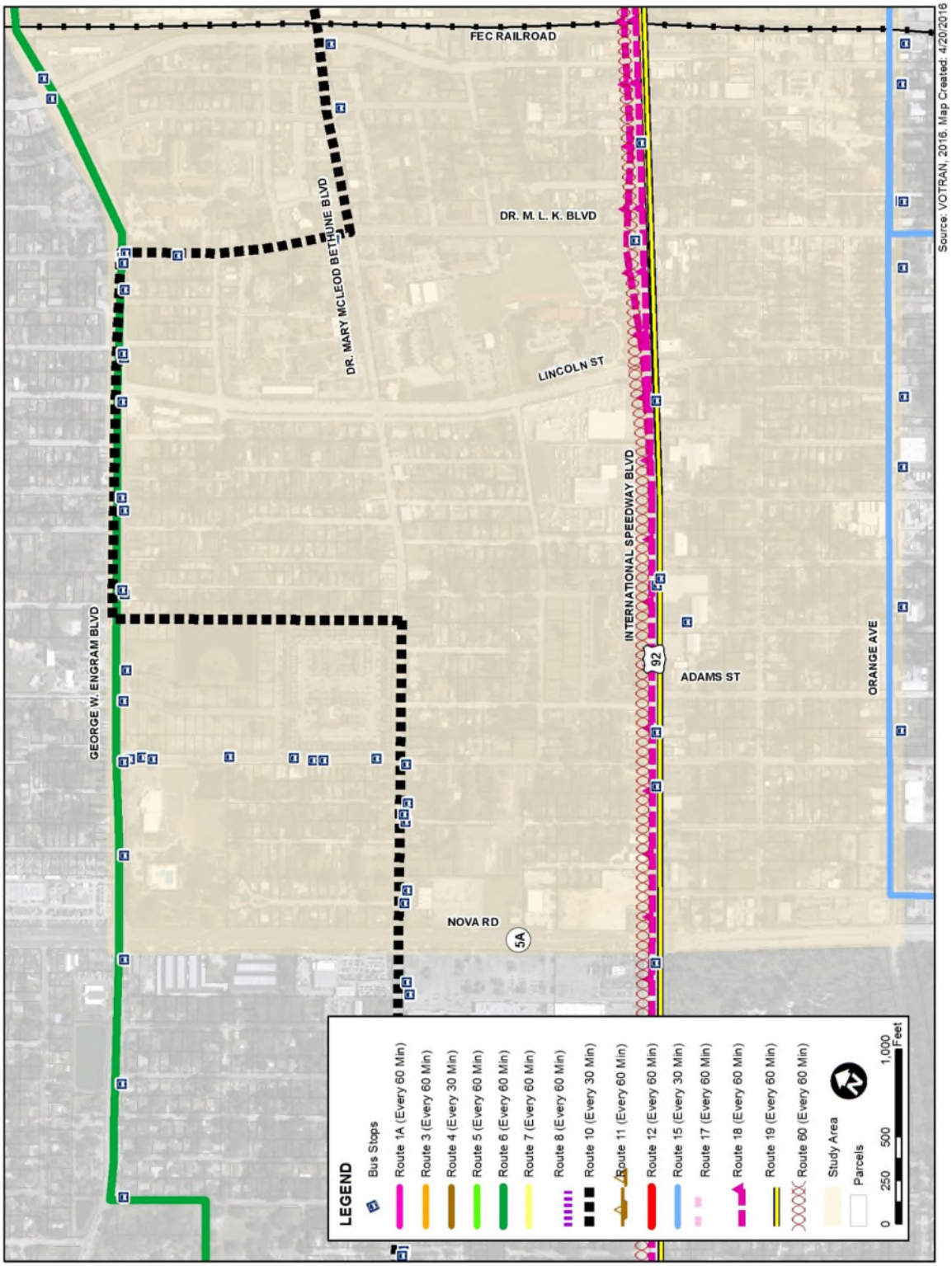


Figure 21: Existing Transit Network (SR 5A/Nova Road to FEC Railroad)

This map identifies the existing transit routes and bus stop locations from SR 5A/Nova Road to the FEC Railroad.

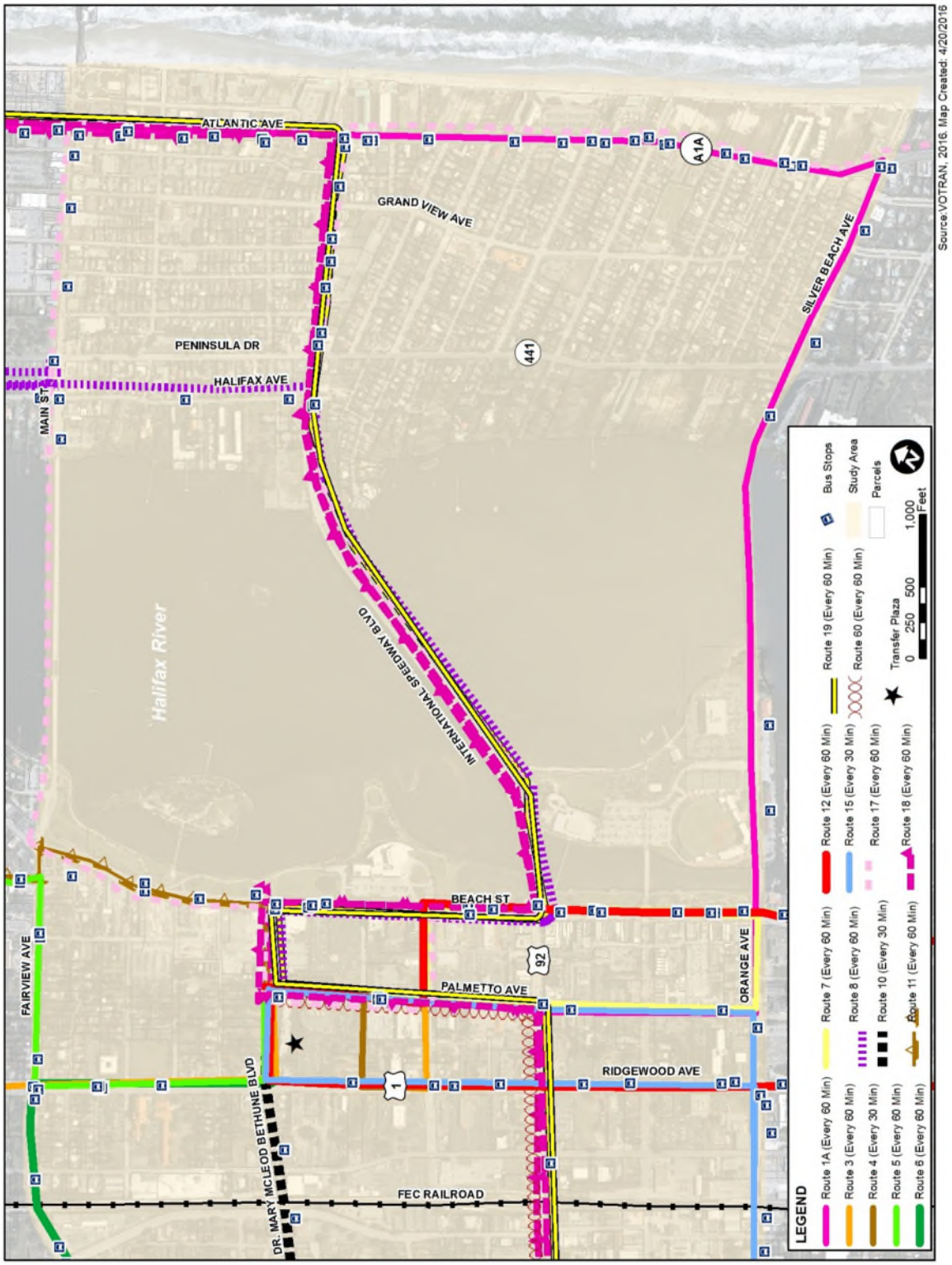


Figure 22: Existing Transit Network (FEC Railroad to SRA1A/Atlantic Avenue)

This map identifies the existing transit routes and bus stop locations from the FEC Railroad to SRA1A/Atlantic Avenue. The location of the Votran Transfer Plaza is also shown.

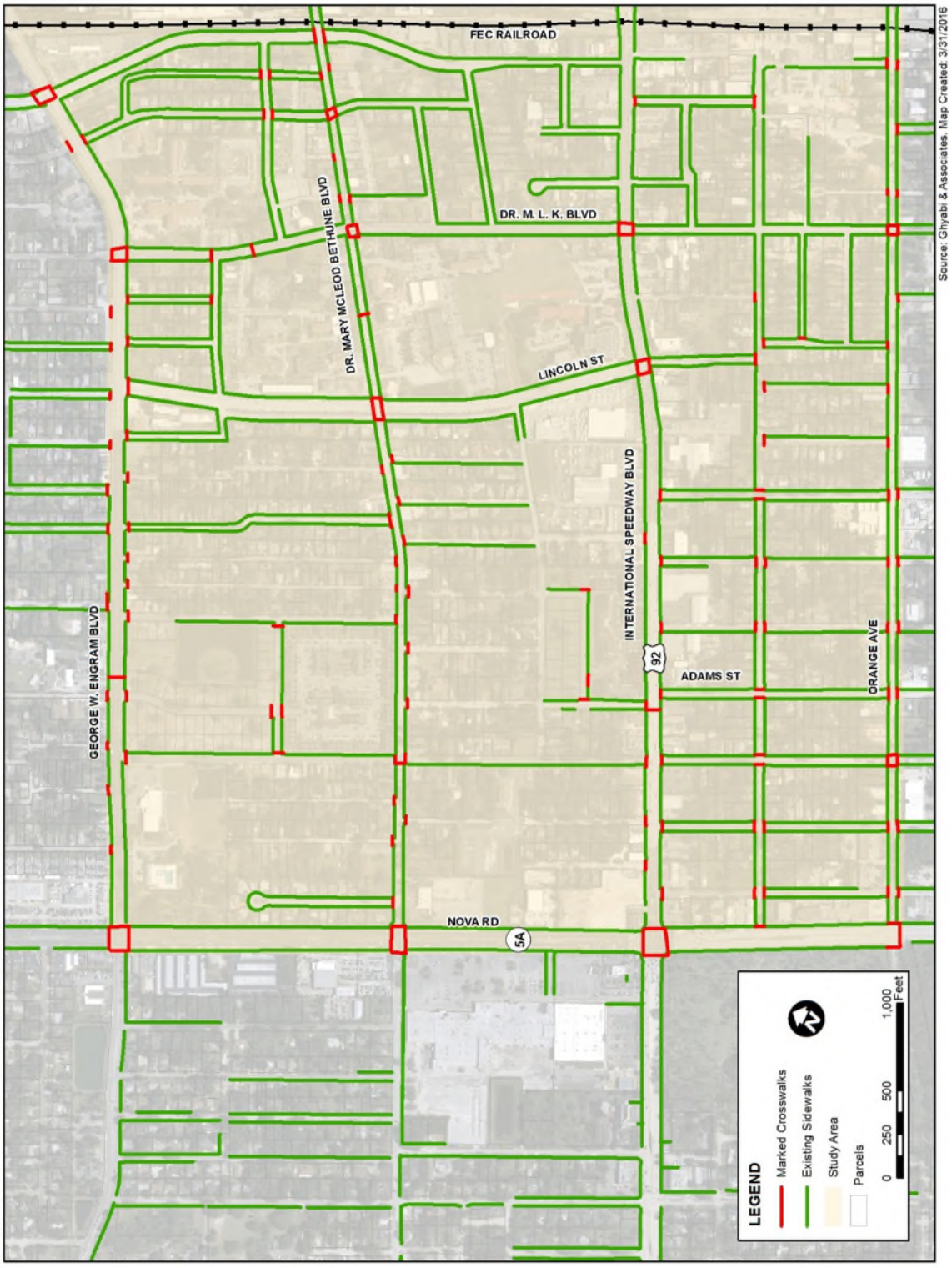


Figure 23: Existing Pedestrian Network Map (SR5A/Nova Road to FEC Railroad)

This map depicts the existing sidewalk facilities and crosswalks for the western half of the study area. Of the major roadways, all have 100% sidewalk coverage except Engram Blvd and MLK Blvd.

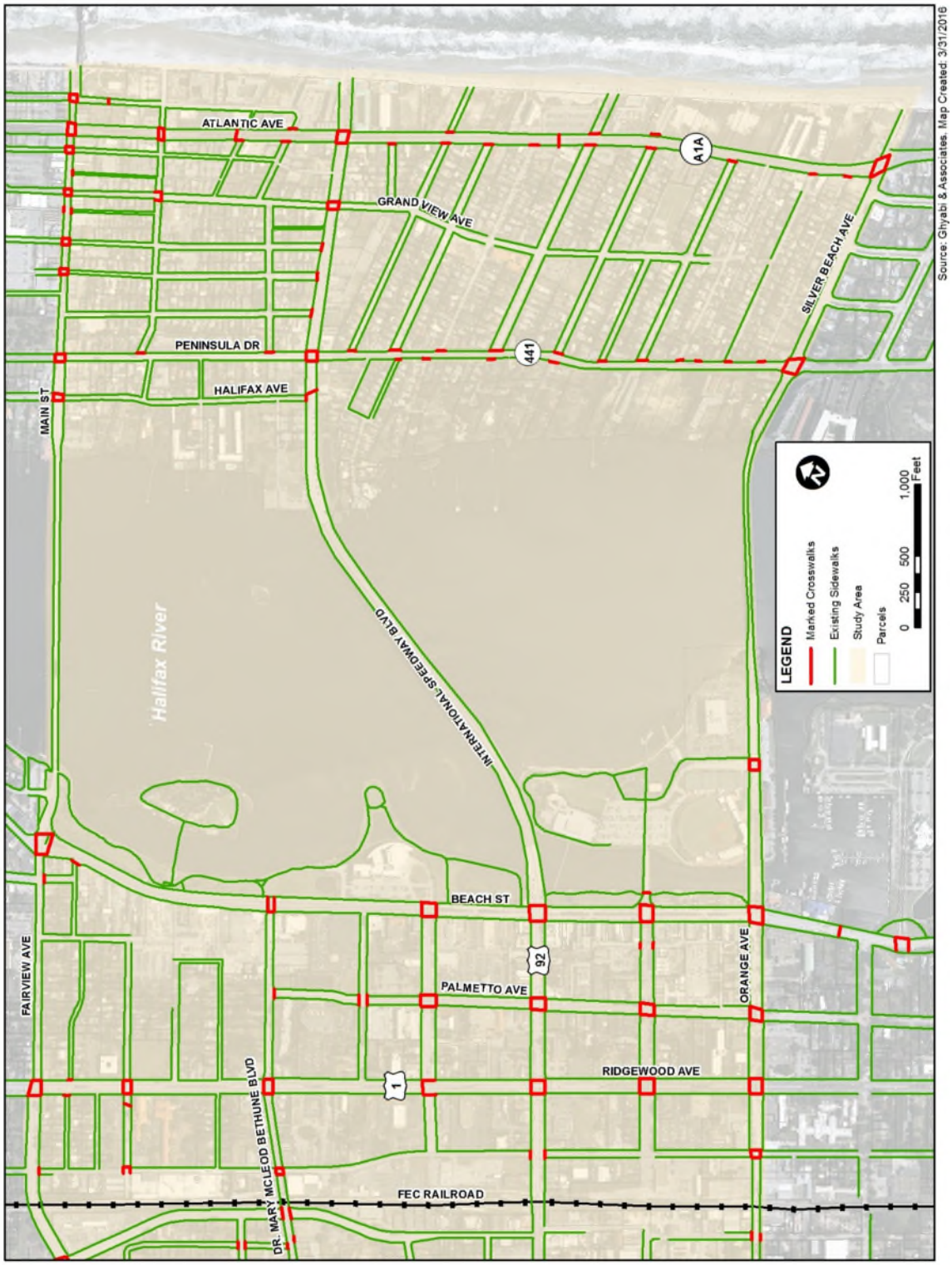


Figure 24: Existing Pedestrian Network Map (FEC Railroad to SRA1A/Atlantic Avenue)

This map depicts the existing sidewalk facilities and crosswalks for the eastern half of the study area. Sidewalk coverage is close to 100% in this section of the study area.

Figure 25: Existing Bicycle Network

This map depicts the existing bicycle network in the study area. Bike lanes are present on US 92/SR 600 ISB and US 1 with future bike lanes coming to the new Veterans Memorial Bridge. There is a multiuse path on SR 5A south of the study area and along the Halifax River as part of the River to Sea Loop Trail.

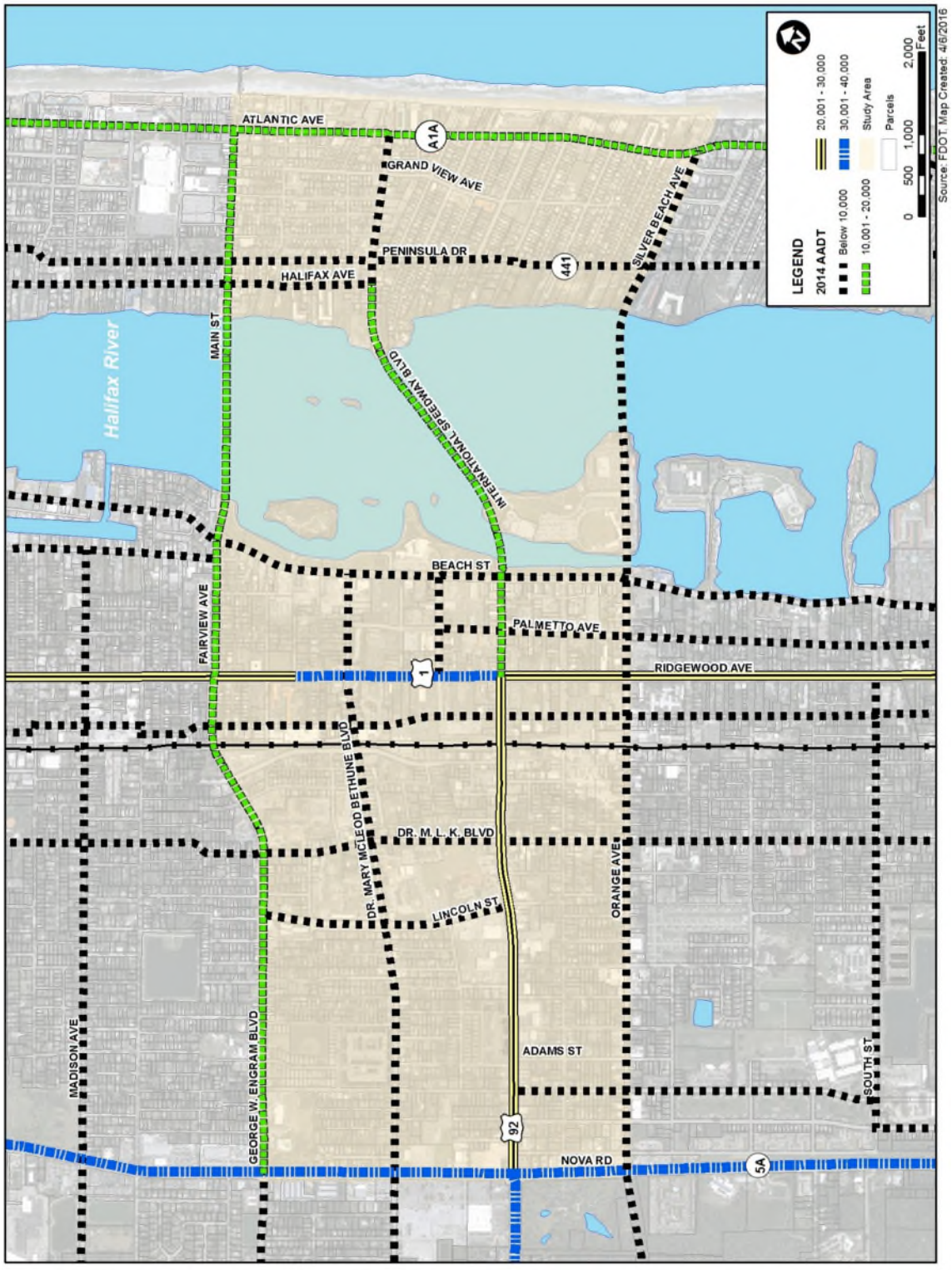


Figure 26: 2014 Annual Average Daily Traffic (AADT)

The 2014 AADT volumes, as provided by FDOT, are shown on this map. The highest measured AADT volumes are along SR 5A/Nova Road, US 92/SR 600/ISB west of the study area and on US 1/Ridgewood Ave from US 92/SR 600/ISB to 1st Ave.

Figure 27: Automobile Crashes from SR5A/Nova Road to FEC Railroad (2010-2014) Map

This map depicts the locations of automobile crashes within the western half of the study area from 2010 to 2014. The majority of the crashes occur along US 92/SR 600/ISB and SR 5A/Nova Rd

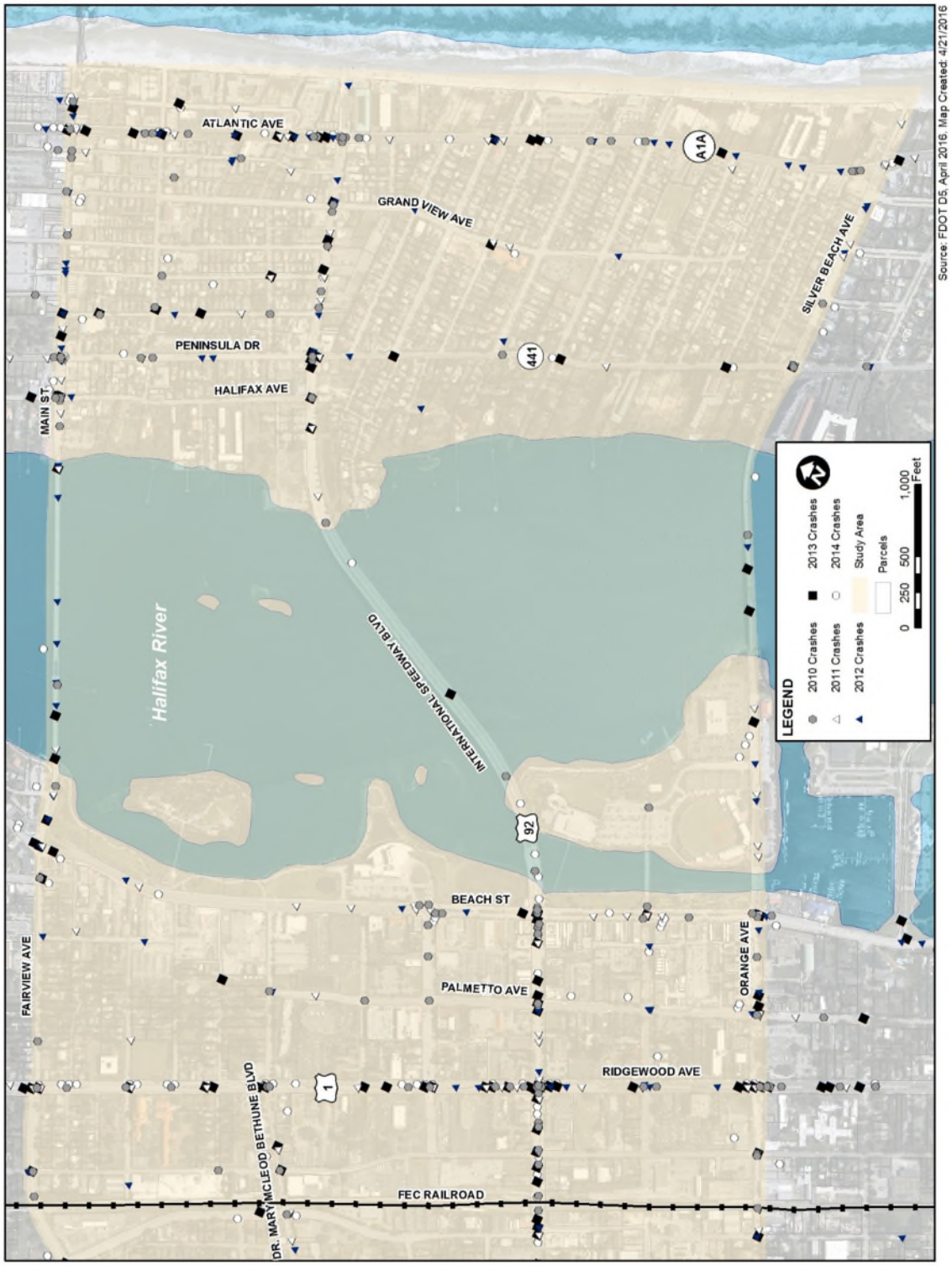


Figure 28: Automobile Crashes from FEC Railroad to SRA1A/Atlantic Avenue (2010-2014) Map

This map depicts the location of automobile crashes within the eastern half of the study area from 2010 to 2014. The majority of crashes occur along US1/Ridgewood Avenue, US92/ISB and SRA1A/Atlantic Avenue. Overall, crashes involving a fatality account for 1.42% of all crashes in this five year period.

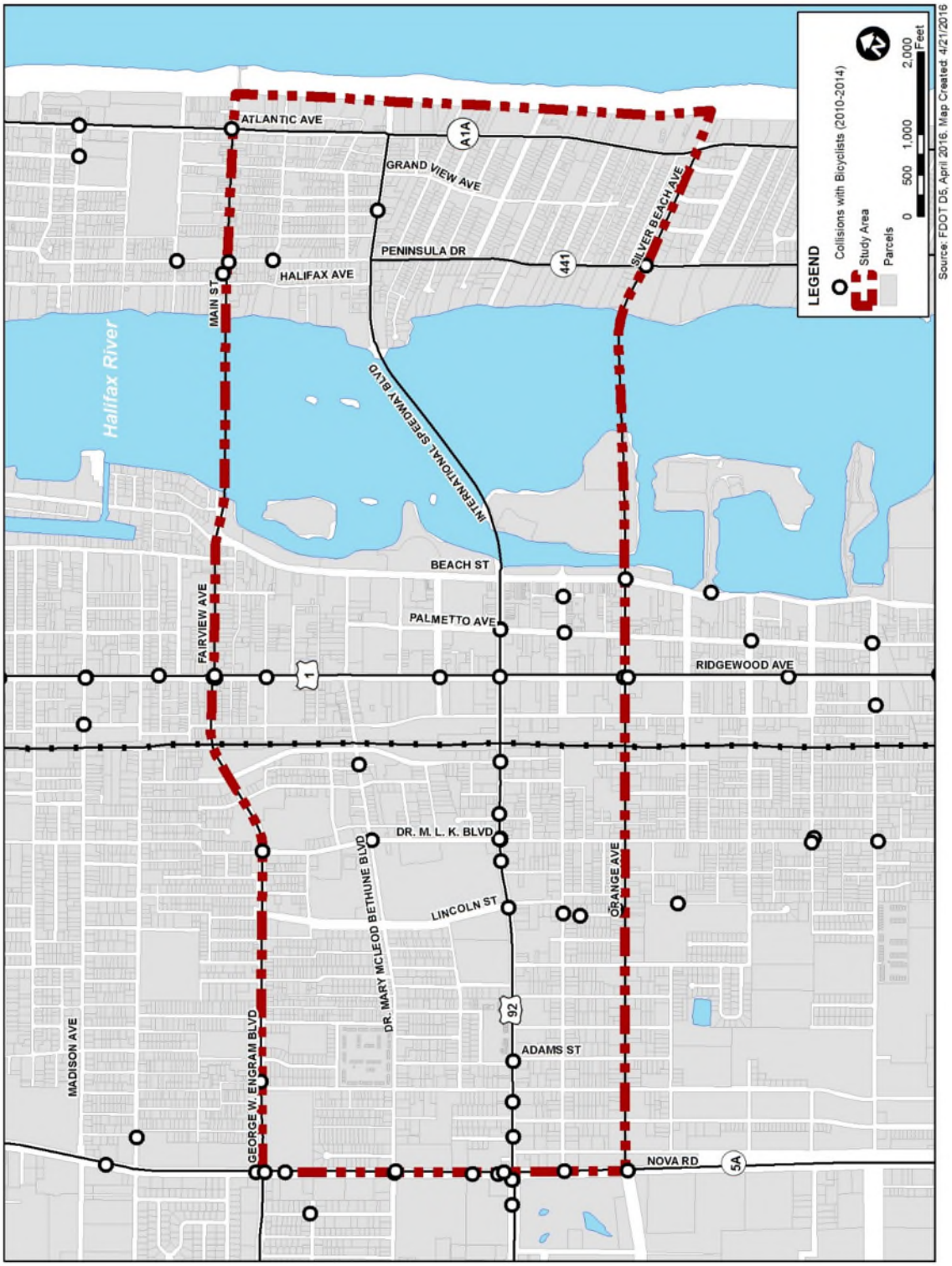


Figure 29: Bicycle Crashes (2010-2014)

This map depicts the locations of all collisions with bicyclist from 2010-2014. The majority of bicycle crashes occur on US 92/SR 600/ISB, SR 5A/Nova Rd and US 1/Ridgewood Ave. Overall, 2.14% of bicycle crashes involve a fatality.

Figure 30: Pedestrian Crashes (2010-2014)

This map depicts the locations of all collisions with pedestrians from 2010-2014. The majority of pedestrian crashes occur on US 92/SR 600/ISB, SR A1A/Atlantic Ave and US 1/Ridgewood Ave. Overall, 10.92% of pedestrian crashes involve a fatality.

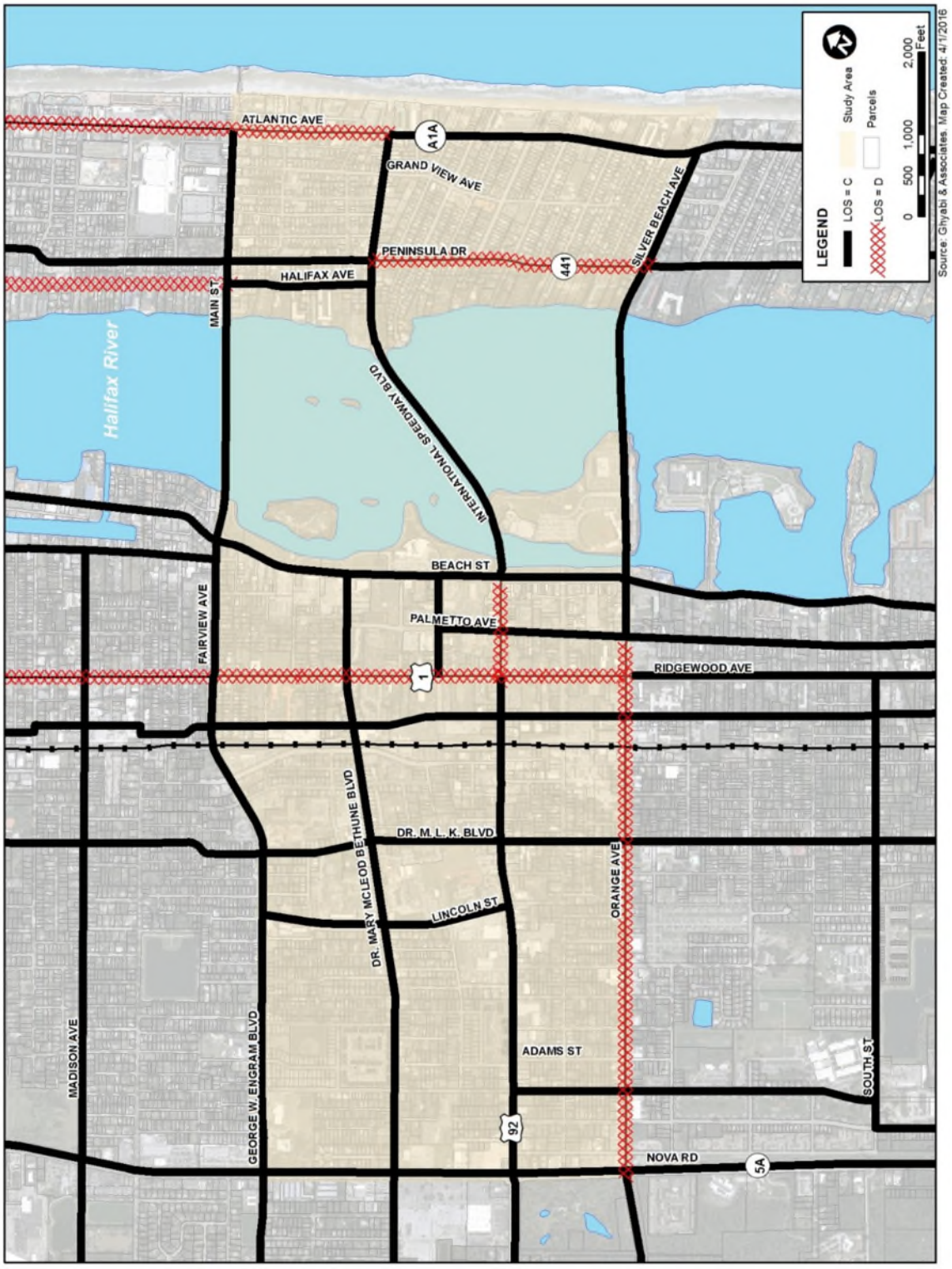


Figure 31: 2014 Automobile Level of Service (LOS)

This map depicts the level of service for roads, which is based on factors such as roadway classification, number of lanes, speed limit and the AADT. The majority of the roads in the study area are at LOS C, which is indicative of stable traffic flow.

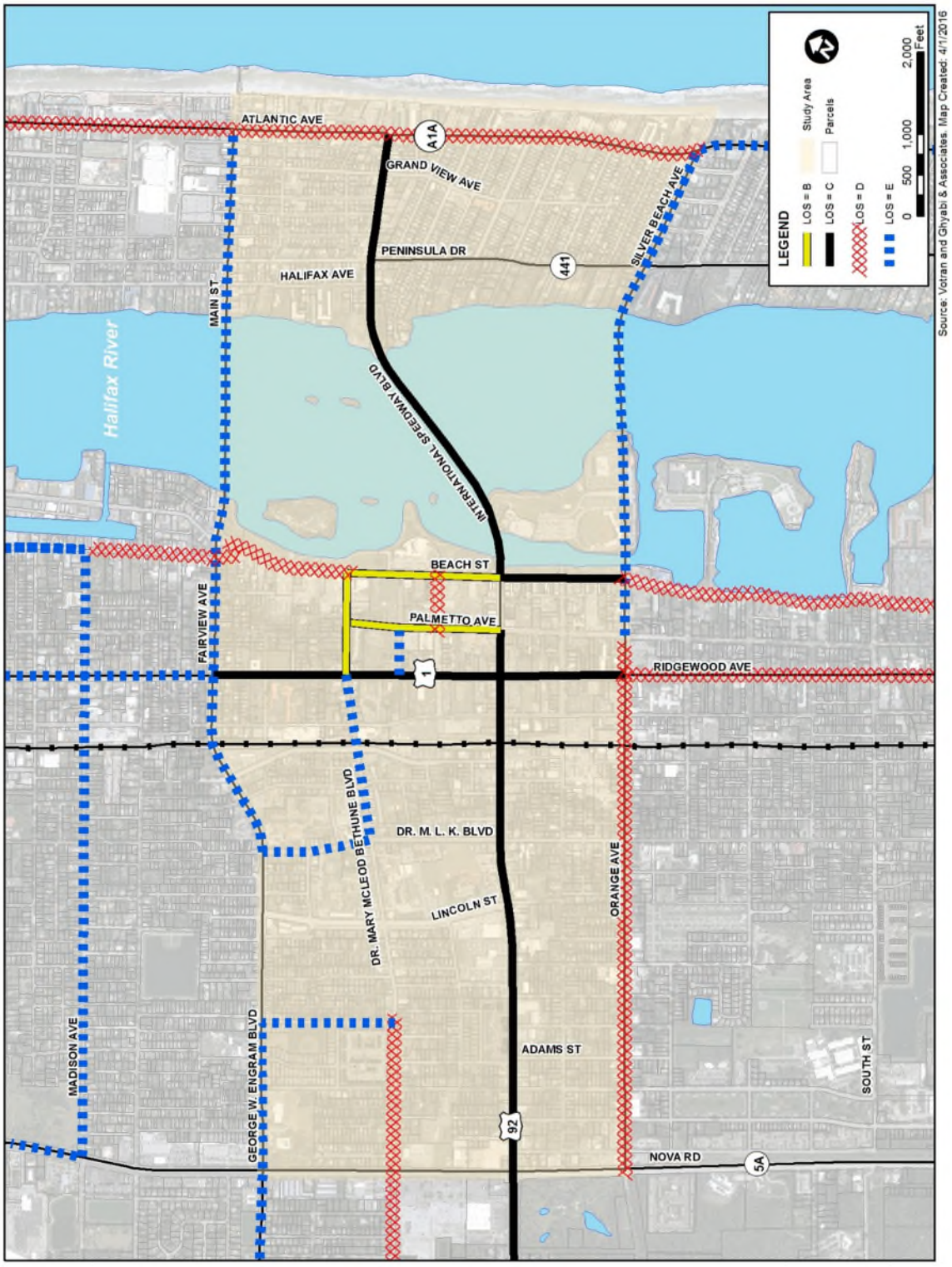


Figure 32: 2016 Transit Level of Service (LOS)

This map depicts the LOS for existing transit routes, which is based on sidewalk coverage and transit headways.

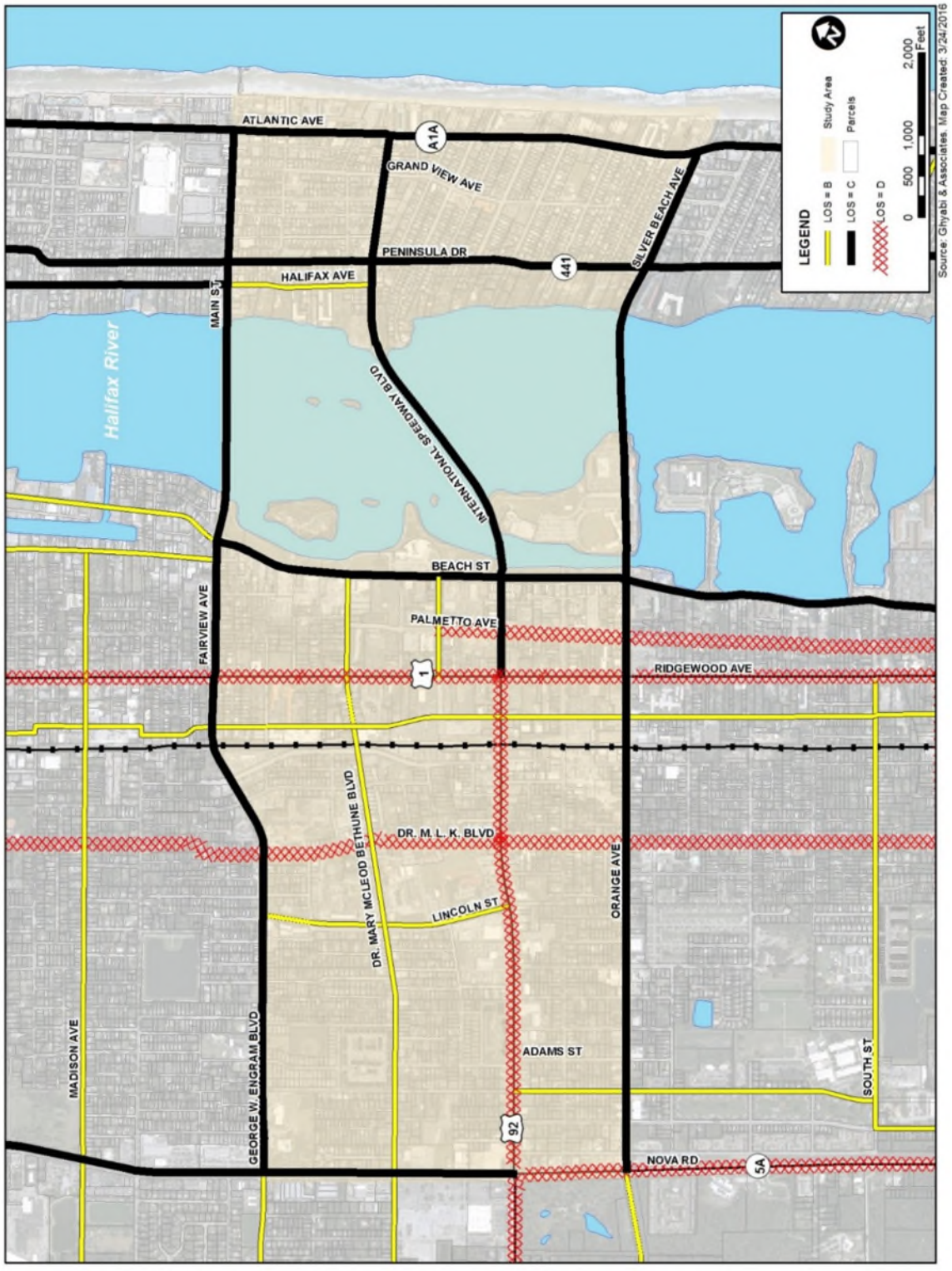


Figure 33: 2014 Pedestrian Level of Service (LOS)

This map depicts the pedestrian LOS for existing sidewalk facilities. Factors used to assess pedestrian LOS include sidewalk coverage and AADT. The western portion of the study area is primarily LOS B or LOS D. The beach side is primarily LOS C.

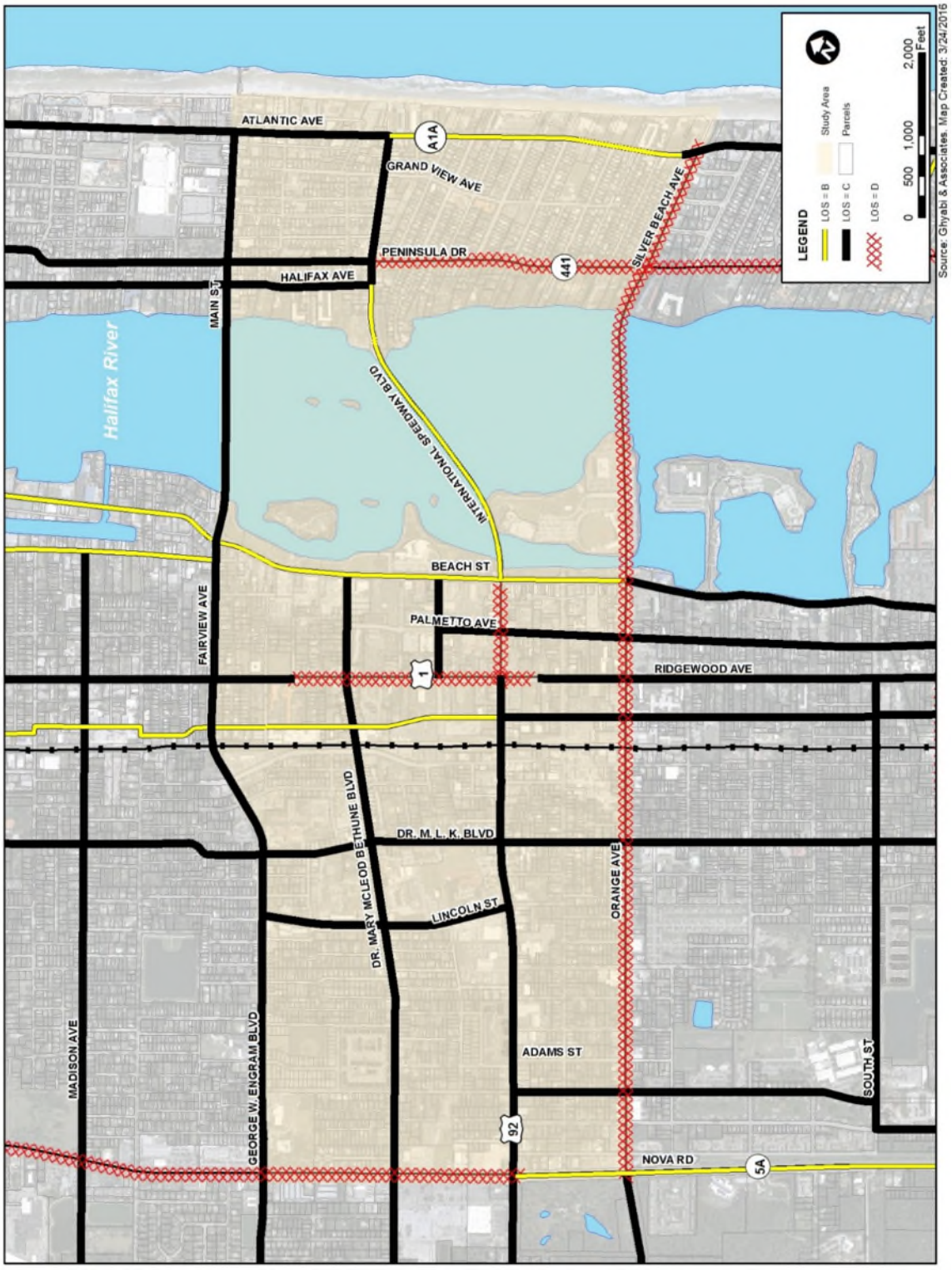


Figure 34: 2014 Bicycle Level of Service (LOS)

This map depicts the bicycle LOS for the existing bike network. Bicycle LOS is assessed using the paved shoulder/bicycle lane coverage and the AADT.

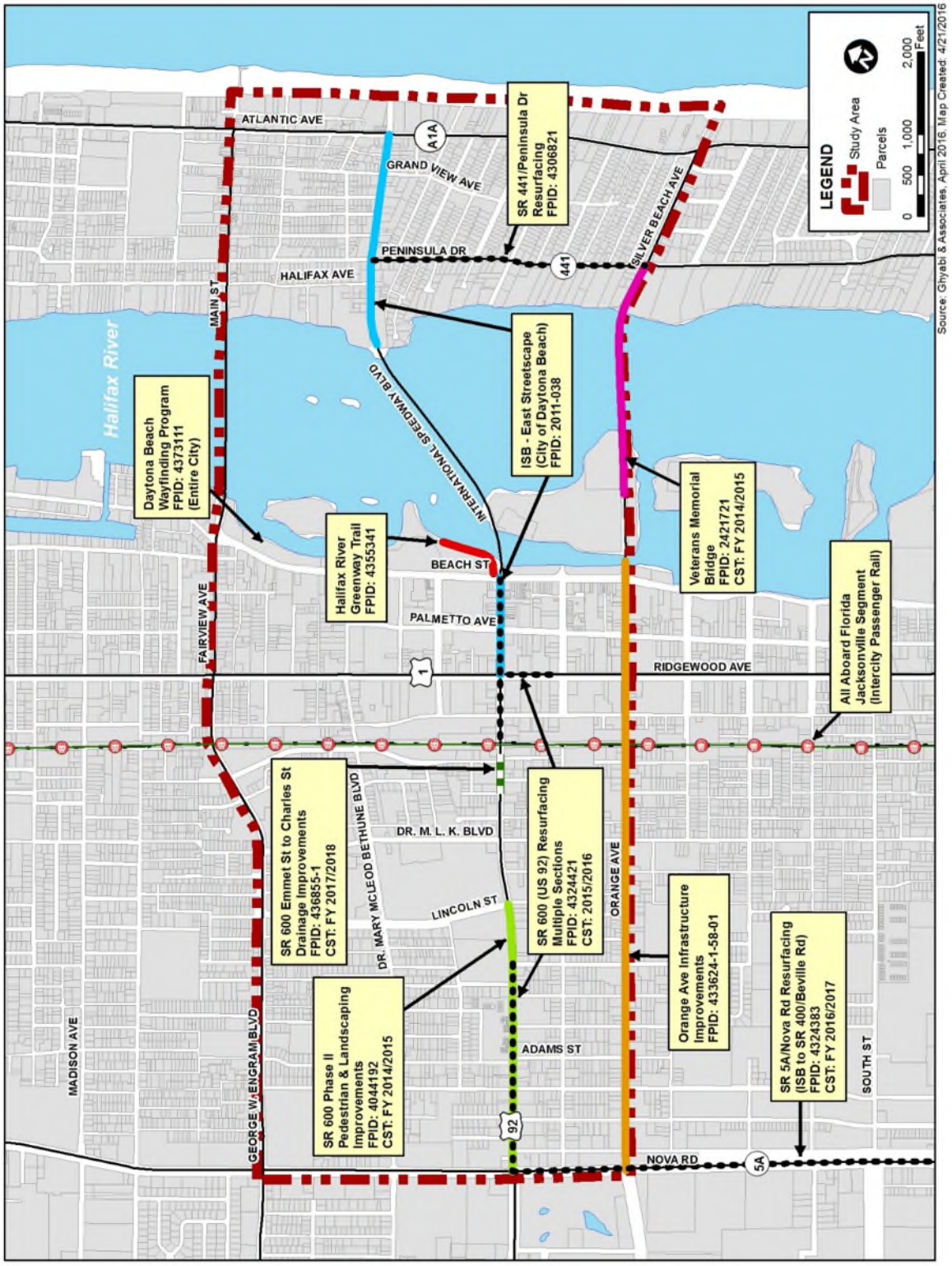


Figure 35: Under Construction & Planned Transportation System Projects

This map depicts the identified roadway improvement projects within the study area. These projects include resurfacings, streetscape improvements, drainage improvements and signage improvements.

4 ISSUES/CONSTRAINTS IDENTIFICATION

As presented in this report, extensive data collection efforts have been assembled and analyzed to identify preliminary issues and constraints within the study area. This information included issues and constraints based on community, transportation and environmental characteristics obtained through review of previous studies, field reviews, coordination with agencies, previous public workshops/meetings, and other publicly available data sources such as agency GIS resources and the FDOT databases. Some of the issues/constraints identified are listed below:

- On a high speed arterial, such as US 92/SR 600/ISB, the lack of a physical barrier separating designated bike lane infrastructure from the automobile travel lane can be perceived by bicyclists as dangerous and intimidating. During the field review, it was observed that bicyclists used the sidewalks, despite the presence of designated bike lanes along US 92/SR 600/ISB, between SR 5A/Nova Road and Seagrave Street.
- Within the study area, there are limited bike parking facilities within the US 92/SR 600/ISB corridor.
- Due to right-of-way constraints, shade trees, which provide a respite from extreme weather conditions, are not present along sidewalks on major arterials. These roads include US 92/SR 600/ISB, SR 5A/Nova Road, George Engram Boulevard, US 1/Ridgewood Avenue and SR A1A/Atlantic Avenue.
- Pedestrians and cyclists utilizing existing facilities within the study area must navigate a significant number of business access drives.
- The majority of crosswalks/driveways in the study area are unmarked. During field review, it was noted that the majority of vehicles do not come to a complete stop before making right turns at crosswalks and driveways. This practice may lead to right hook collisions with pedestrians and bicyclists.
- There are no pedestrian median refuges at signalized intersections along the US 92/SR 600/ISB study corridor, between SR 5A/Nova Road and SR A1A/Atlantic Avenue.
- Sidewalks along US 92/SR 600/ISB are connected to many private sector land uses. However, several parcels are underutilized or vacant.
- Many bus stops within the study area lack amenities, such as benches, shelters, bus route maps, trash cans and platforms for riders.
- Many buildings have entrances that directly connect to sidewalks along US 92/SR 600/ISB. This is a characteristic of a traditional walkable environment.
- Many local streets within the study area exceed City of Daytona Beach engineering standards for design and construction. Although two-lane roads, Magnolia Avenue, Bay Street and Palmetto Avenue are all between 80 feet to 100 feet in right-of-way width. Under the City of Daytona Beach engineering standards, a 100-foot right-of-way is sufficient for a five-lane roadway section.

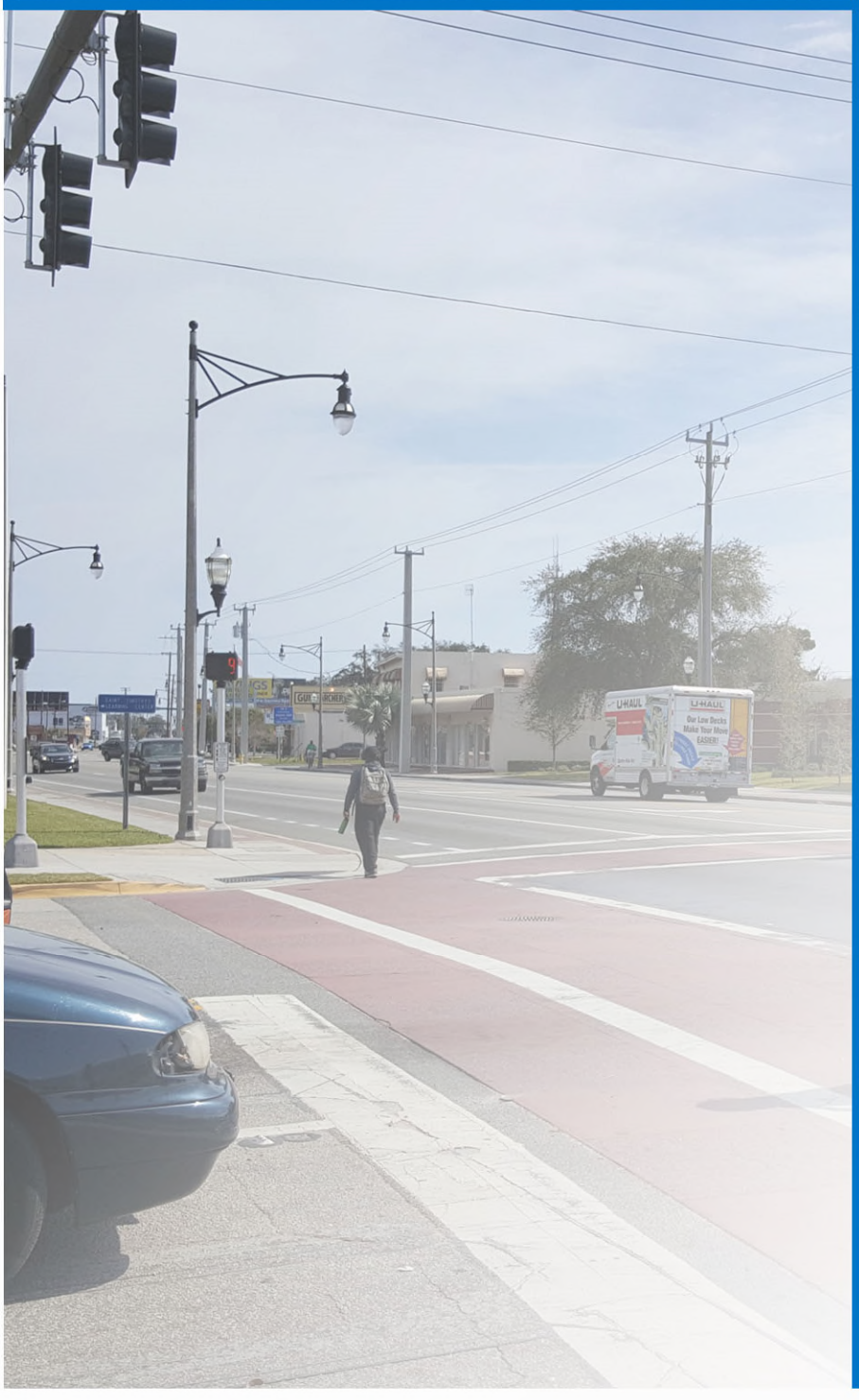
- Despite the presence of bus service, Votran 2015 boarding and alighting data suggest a large number of BCU students don't use the service on a regular basis.
- The study area's street grid, which dates back to the late 19th century, was designed for a traditional, highly walkable human-scale environment.
- The existing bicycle network is limited and disconnected within the study area, despite the width of streets exceeding City of Daytona Beach engineering standards. There are gaps in the bicycle network, specifically connecting US 92/SR 600/ISB and US 1/Ridgewood Avenue in the downtown area of Daytona Beach.
- Transit boarding and alighting data indicates ridership is higher on north/south routes as opposed to east/west routes.

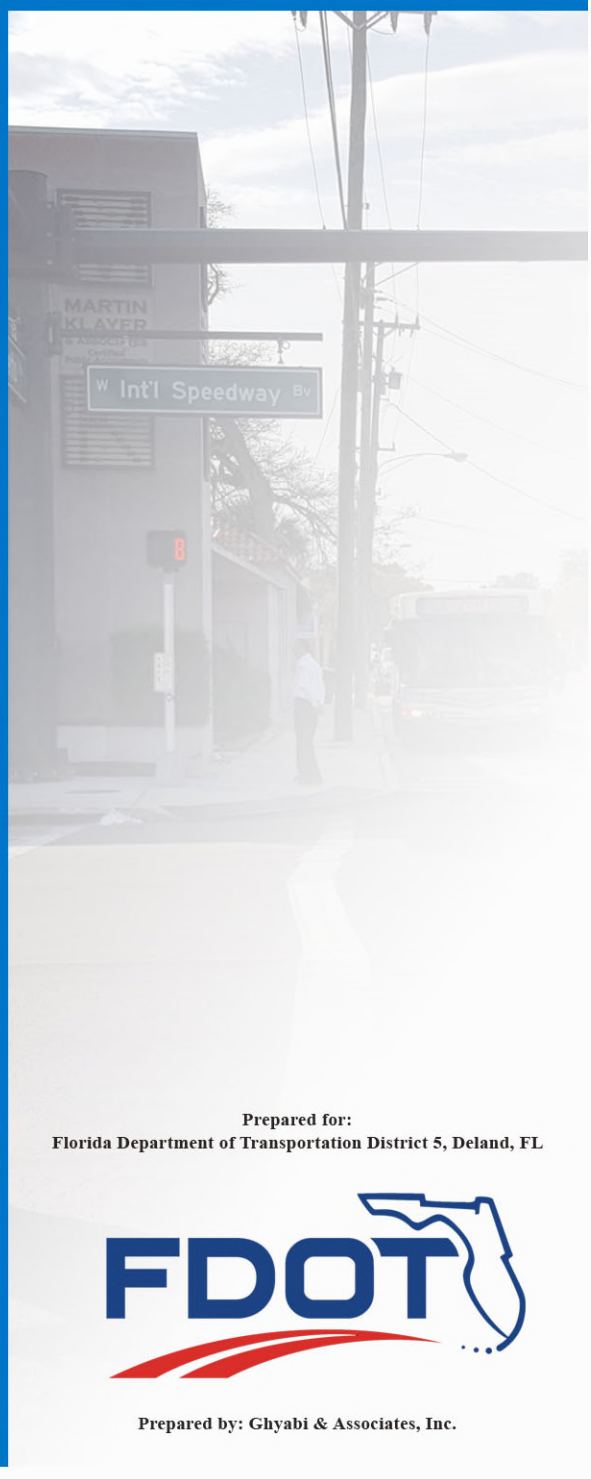
5 NEXT STEPS

This document has presented a brief summary of the existing conditions and data collection efforts conducted to date.

The next step is to identify, prioritize and advance critical improvements needed for multimodal connectivity and improved accessibility in the study area. Project identification will be accomplished using methodology similar to that for pedestrian roadway safety audits but will emphasize improved transit accessibility and pedestrian and bicycling connectivity in the study area. The project identification will focus on improvements that can better connect origins and destinations within the corridor and are ADA compliant. This phase of the study will be utilized to draft a Field Evaluation Report that will also include a preliminary list of pedestrian connectivity projects to improve accessibility between the origins and destinations within the study area.

US 92





Prepared for:
Florida Department of Transportation District 5, Deland, FL

FDOT

Prepared by: Ghyabi & Associates, Inc.

Appendix A

Volusia County ADA Transition Plan Recommendations

Street Name	Description	Barrier	Recommended Correction	Priority	Priority Code	Estimated Pedestrian Traffic
Main St (Bowman Ave - Halifax Ave)	Curb Ramps, Cross Slope	No ex. curb ramps at Halifax Ave signalized intersection; Insufficient cross slopes at business driveways	Install curb ramps at intersection approaches (8 EA); correct cross slope of sidewalk at driveway entrances (2 sections)	HIGH	1A	HIGH
Main St (Halifax Ave – Peninsula Dr)	Curb Ramps, Cross Slope	No ex. curb ramps at Peninsula Dr signalized intersection; Insufficient cross slopes at business driveways	Install curb ramps at all four intersection approaches; correct cross slope of sidewalk at driveway entrances	HIGH	1A	HIGH
Fairview Ave (Bowman Ave - Ridgewood Ave)	Detection Pads, Curb Ramps	No detection pads at Ballough Rd, Beach St, Daytona St; lack of curb ramp at Ballough Rd north and south sidewalk approaches (west side); improper curb ramp in northwestern quadrant of Beach St	Install detection pads at intersection crosswalks (16 EA); construct new curb ramps at Ballough Rd and Beach St	HIGH	1A	HIGH
George W Engram Blvd (Ridgewood Ave – Ellsworth St)	Detection Pads, Curb Ramps, Obstructions, Surface Barrier	Lack of curb ramps at Segrave St, Charles St, Walnut St, Martin Luther King Blvd, Pleasant St, Model St, Ellsworth St; no detection pads at Segrave St, FEC Railroad crossing, Charles St, Walnut St, Martin Luther King Blvd, Pleasant St, Model St, Ellsworth St; light pole in south-eastern approach to Segrave St obstructs landing pad area; electrical pole obstructs sidewalk access just east of Ellsworth St; uneven transition at eastern sidewalk approach to Pleasant St (north side)	Construct curb ramps at intersection crosswalks (21 EA); install detection pads at intersection crosswalks (36); relocate light and electrical pole obstructing access (2 EA)' construct proper landing pad at Segrave St; reconstruct sidewalk approach at Pleasant St for smooth transition	HIGH	1B	HIGH
George W Engram Blvd (Jefferson St – Nova Rd)	Detection Pads, Curb Ramps, Obstruction	No detection pads at Jefferson St, Garden St & Cameron St, Lane St, Fulton St, Rose Ave, school driveways & crosswalk, Laura St, McGee St, Keech St, Caroline St, Walker Ave, school driveway (across from Walker Ave), Toyota dealership driveways; improper curb ramp at Fulton St western approach (north side); no existing curb ramp at school crosswalk (south side); electrical pole obstructs sidewalk at school driveway entrance, western approach	Install detection pads at intersection crosswalks (42 EA); reconstruct curb ramp at Fulton St to proper ramp width (1 EA); construct curb ramp at school crosswalks (1 EA); relocate electrical pole for complete sidewalk access at approach to Cypress St school driveway	HIGH	1B	HIGH

Volusia County ADA Transition Plan Recommendations (cont'd)

Street Name	Description	Barrier	Recommended Correction	Priority	Priority Code	Estimated Pedestrian Traffic
Orange Ave (Ridgewood Ave – City Island Pkwy)	Detection Pads, Curb Ramp, Obstructions	No detection pads at Palmetto Ave, Beach St, City Island Pkwy; No existing curb ramp at Beach St, southwest quadrant; Traffic signal pole obstructs landing area in northeast quadrant of the Beach St intersection; Palm tree obstructs sidewalk near fire station; Improper curb ramps at City Island Pkwy	Install detection pads at intersection crosswalks (16); Relocate obstructions (2); Reconstruct curb ramps at eastern sidewalk approaches to City Island Pkwy (2)	HIGH	1B	HIGH
Orange Ave (Division St – Seagrave St)	Detection Pads, Obstructions, Curb Ramp, Sidewalk Gap	Electric poles (9) obstruct sidewalk path; No detection pads at Maple St, Marion St, Seagrave St; No existing curb ramp in northwest quadrant of the Marion St intersection; No existing curb ramps at Seagrave St (4); No existing sidewalk across railroad	Relocate electrical poles obstructing sidewalk access along the segment (9); Install detection pads at intersection crosswalks (9); Construct curb ramps with detection pads at Marion St and Seagrave St intersections (5); Construct sidewalk to fill gap, approximately 180 ft total, additional cost may apply due to impacts to FEC railroad	HIGH	1B	MEDIUM
Orange Ave (Martin Luther King Blvd – Division St)	Cross Slope, Curb Ramp, Detection Pads, Obstructions, Trip Hazards	Existing cross slope at residential driveway, approximately 65 ft west of Division St is too steep; Improper curb ramp at Division St; Electrical poles (3) obstruct sidewalk path; Damaged sidewalk and uneven transitions at north side sidewalk approaches at Division St; No detection pads present at Division St	Reconstruct sidewalk at residential driveway to proper cross slope; Reconstruct curb ramp (1) at Division St to include proper flares and slope; Relocate electrical poles for access along sidewalk; Reconstruct north side sidewalk approaches (2) to Division St to eliminate trip hazards and uneven transitions; Install detection pads at Division St (4)	MEDIUM	2A	MEDIUM
Orange Ave (Adams St – Lockhart St)	Detection Pads, Obstructions, Landing Pads	Electric poles (8) obstruct sidewalk path; No detection pads present at Reva St, Franklin St, Lockhart St; Trip hazard, uneven sidewalk in southeast quadrant of Reva St & overgrown foliage in northeast quadrant; Insufficient landing pads at Lockhart St, northwest and southeast quadrants	Relocate electric poles to allow full access along sidewalks; Install detection pads at intersection crosswalks (12 total); Grind out trip hazard at Reva St sidewalk approach; Construct proper landing pads (2) at Lockhart St	MEDIUM	2B	HIGH

Volusia County ADA Transition Plan Recommendations (cont'd)

Street Name	Description	Barrier	Recommended Correction	Priority	Priority Code	Estimated Pedestrian Traffic
Silver Beach Ave (Peninsula Dr – Atlantic Ave)	Detection Pads, Landing Pad, Obstructions	No detection pads at Peninsula Dr, Gamble Pl, Thompson Pl, Ruger Pl; Improper landing pad at Gamble Pl eastern sidewalk approach; Traffic signal pole obstructs sidewalk path in south-western quadrant of Atlantic Ave; Pedestrian signal pole obstructs sidewalk path in north-eastern quadrant of Atlantic Ave	Install detection pads at intersection crosswalks (14); Construct new landing pad at Gamble Pl to appropriate size; Consider relocating pedestrian and traffic pole to clear sidewalk path	MEDIUM	2B	HIGH
Orange Ave (Nova Rd – Jean St)	Curb Ramp, Detection Pads, Obstructions, Info Barrier	Electric pole obstructs sidewalk path at Nova Rd intersection; No intersection detection at Nova Rd, Jean St ;No existing curb ramp at Jean St; Improper curb ramp and pavement markings at Jean St on eastern approaches; Street light pole obstructs sidewalk path in southeast quadrant, electric pole obstructs path in northwest quadrant of Jean St	Install detection pads at intersection crosswalks (7 total); Construct curb ramp at Jean St; Reconstruct curb ramps (2) for eastern sidewalk approaches, reconfigure pavement markings to accommodate the proper crosswalk location (in reference to curb ramps); Relocate street light	MEDIUM	2B	MEDIUM
Orange Ave (Jean St – Adams St)	Curb Ramp, Detection Pads, Landing Pads, Obstructions	Electric poles (6) obstruct sidewalk path on north side; No detection pads at Caroline St, Keech St, Adams St ;Insufficient landing pads and improper curb ramp at Caroline St	Relocate electric poles to allow full use of the sidewalk path (6 total); Install detection pads at intersection crosswalks (12 total); Construct landing pads at Caroline St (2 total); Reconstruct curb ramp (1) at Caroline St	MEDIUM	2B	MEDIUM