2035
BICYCLE & PEDESTRIAN
MASTER PLAN

Ocala-Marion TPO

2035 Bicycle & Pedestrian Master Plan

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Project meeting

Site visit with TPO staff

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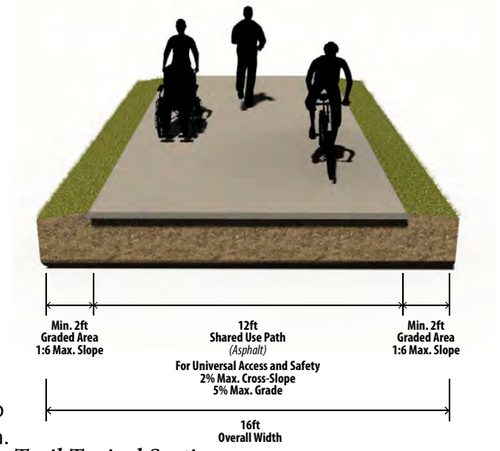
INTRODUCTION and PURPOSE

The Ocala-Marion Transportation Planning Organization (TPO) is responsible for planning and programming transportation projects throughout Marion County and its municipalities ("the TPO area"). Transportation projects include roads, transit, and bicycle and pedestrian facilities. The purpose of the Ocala-Marion TPO 2035 Bicycle and Pedestrian Master Plan (Bike Ocala-Marion) is to identify pedestrian and bicycle facility network needs in the TPO area based on analyzing existing conditions and engaging stakeholders and the public in the planning process. Specific projects and policy recommendations are included to serve as a guide to improve the safety and connectivity of walking and biking within Marion County. The ultimate goal of the Master Plan is to plan for a network of sidewalks and bicycle facilities that provide a safe and efficient alternative transportation system. The Master Plan will capitalize on Marion County's position within Florida's rapidly growing trail network by planning for a series of paved multi-use trails, also known as shared-use paths that connect to other regional trails in Florida, including the Coast-to-Coast Trail and the Heart of Florida Loop. These trails will not only provide greater connectivity and recreational opportunities, but are intended to bring economic benefits to the region as well.

VISION

The vision of the Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan is to plan for a network of pedestrian and bicycle facilities to improve walkability, expand bicycle opportunities, complete regional connections, and promote economic development within the TPO area. The recommended facilities and policies provided in this Bicycle and Pedestrian Master Plan were developed in accordance with this vision.



Trail Typical Section

REGIONAL CONNECTIONS

Part of the Bike Ocala-Marion vision is to complete regional connections to both existing and proposed trails and multi-use trails across Central Florida. Establishing regional connections will enable pedestrians and bicyclists to safely traverse Central Florida, with access to the Gulf Coast, Atlantic Ocean, recreational areas, many unique natural environments and attractions, and numerous local communities. These regional connections will also provide connections to bring people to Marion County from the surrounding area.

Coast-to-Coast Trail

The Coast-to-Coast Trail is envisioned to provide a continuous 275-mile multi-use trail traversing Central Florida from St. Petersburg to Titusville. Currently, the Coast-to-Coast Trail exists as piecemeal trail segments through various communities. The "Close the Gaps" initiative will establish a continuous network, linking many of the communities and destinations in Central Florida.

Cross Florida Greenway

The Cross Florida Greenway is a 110-mile greenway that expands across Central Florida from the Gulf Coast to the St. Johns River. The greenway offers hiking, bicycling, paddling, and equestrian trails, as well as fishing, camping, and other recreational opportunities. Each of the proposed Bike Ocala-Marion trails included in this Master Plan would add to the existing amenities of the Cross Florida Greenway, specifically by providing a paved multi-used path that is accessible by all user types. The proposed Cross Florida Greenway Trail would connect communities and attractions along the Cross Florida Greenway, while the proposed FNOR Rail Trail and the Silver Springs Bikeway would provide pedestrian and bicycle access from downtown Ocala to the Cross Florida Greenway.

Heart of Florida Loop

The Heart of Florida Loop is envisioned to be a multi-use trail through Central Florida. The Hearth of Florida Loop will connect the Withlacoochee State Trail with the Cross Florida Greenway and the Coast-to-Coast Trail. The Cross Florida Greenway Trail plays a fundamental role in completing the Heart of Florida Loop by establishing a connection between the Withlacoochee State Trail and Silver Springs State Park just east of the City of Ocala.

Withlacoochee State Trail

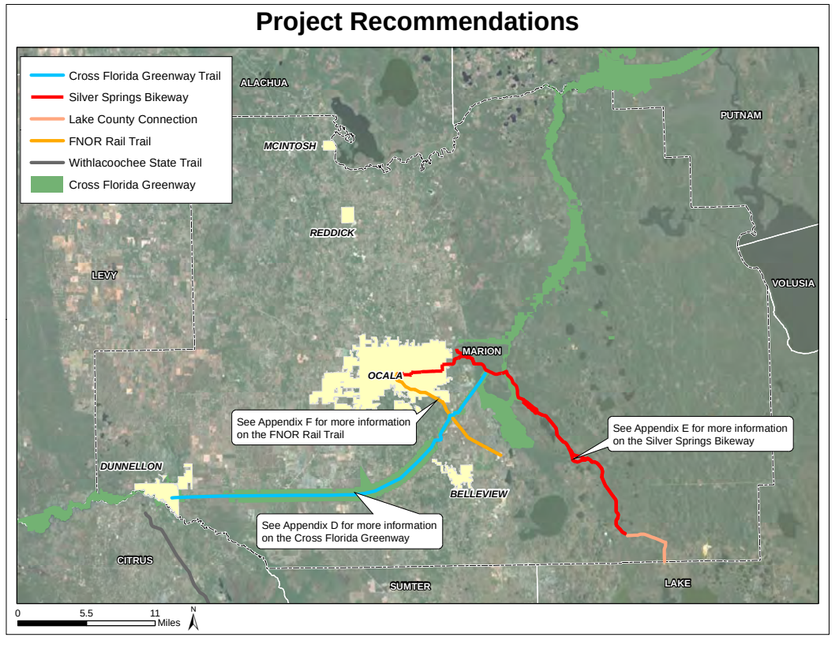
The Withlacoochee State Trail currently exists as a 46-mile rails-to-trails multi-use trail. Traversing from just south of Dunnellon in Citrus Springs to Trilby, the trail provides users with opportunities for hiking, bicycling, and horseback riding. If implemented, the proposed Cross Florida Greenway Trail would provide a regional connection from the Withlacoochee State Trail to Silver Springs State Park.

Withlacoochee Bridge Trail

The Withlacoochee Bridge Trail is an existing trail that connects the Withlacoochee Trail in Citrus County with the Cross Florida Greenway. This trail crosses the Withlacoochee River and will ultimately connect the trail system in Marion County to other important regional and statewide tails. There is a gap from the Citrus County trailhead south of Dunnellon and this trail, but this gap is currently in the engineering design phase.

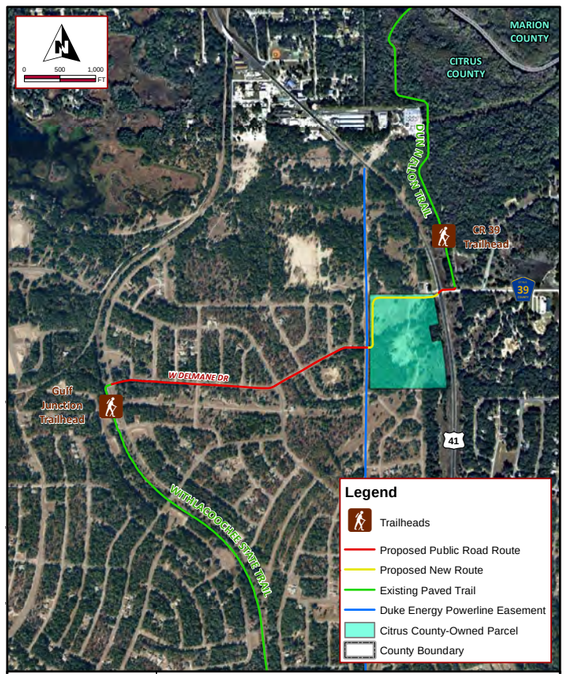
East Coast Greenway

The East Coast Greenway is a developing trail system located along the eastern seaboard between Maine and Key West. Nearly 30 percent of the route is already on traffic-free greenways, creating safe, accessible routes for people of all ages and abilities. For more information on this facility, visit: http://www.greenway.org/.



Regional Trail Connections

Alignment of East Coast Greenway

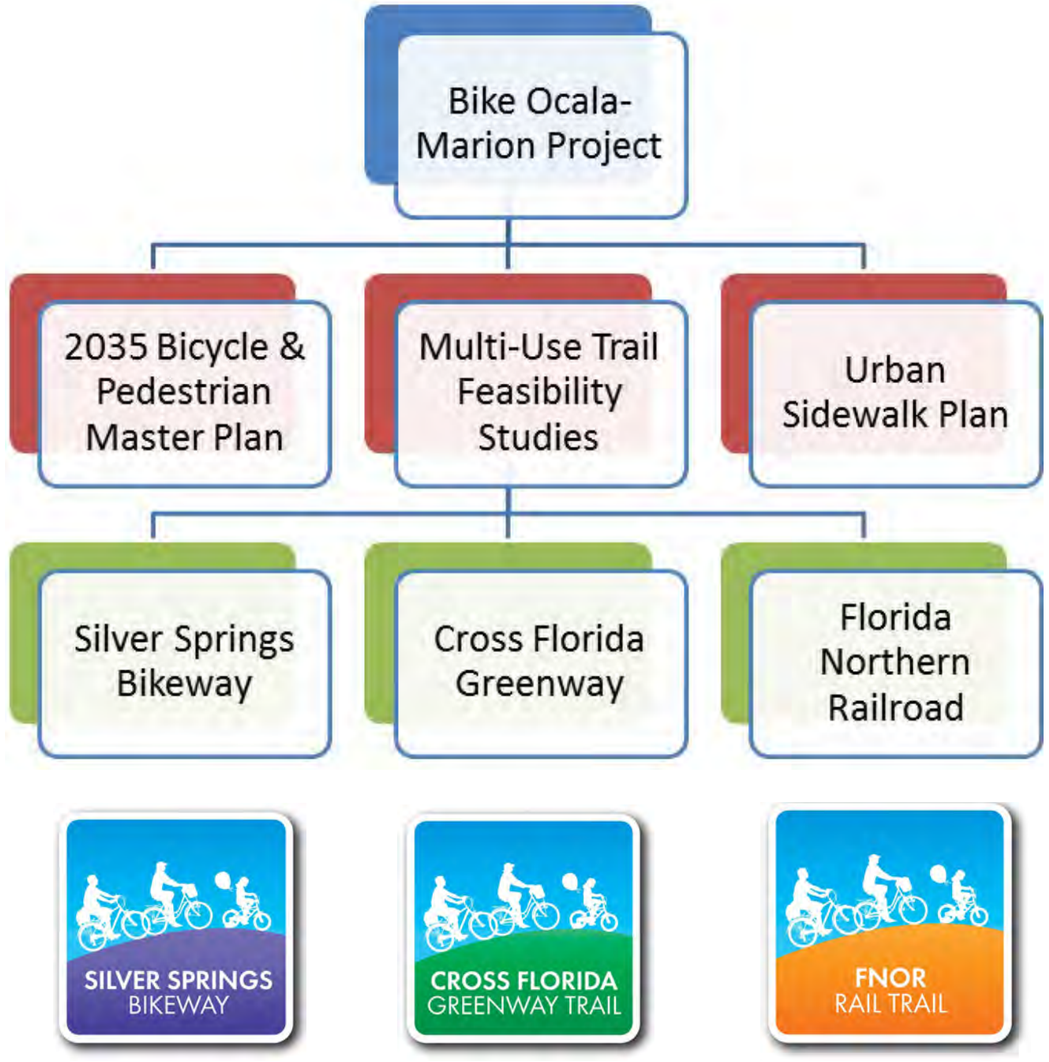


One of three proposed alignments of the Withlacoochee Trail Connection

Bikers on the Bridges Trail

COMPONENTS OF THE PROJECT

The Bike Ocala-Marion Project consists of three primary components: the 2035 Bicycle & Pedestrian Master Plan, the Multi-use trail feasibility studies, and the Urban Sidewalk Plan. The 2035 Bicycle & Pedestrian Master Plan includes sections related to the goals, objectives, and strategies; existing conditions; project recommendations, and project implementation. The Multi-use Trail Feasibility Studies include detailed analysis of the three proposed multi-use trails in Marion County: the Silver Springs Bikeway, the Cross Florida Greenway, and the FNOR Rail Trail. The Urban Sidewalk Plan includes locations and justification for recommended sidewalks throughout Marion County, these will be used to enhance pedestrian connectivity and improve walkability. A flow chart of the project and its components is provided below.



GOALS, OBJECTIVES, AND STRATEGIES

The following Goals, Objectives, and Strategies identify the purpose of developing this Master Plan. As different components of this Master Plan were developed, these were used to guide the direction of the Master Plan. This direction was used to develop policy recommendations that support the development of bicycle and pedestrian facilities in Marion County. These policy recommendations can be found on page 51 of this Master Plan.

Goal 1. Enhance walkability within the TPO area

Objective 1. Address gaps and barriers in the current pedestrian network

Strategy 1. Obtain input from the public and key stakeholders on pedestrian needs

Strategy 2. Collect and analyze data on existing pedestrian facilities, gaps, and barriers

Strategy 3. Develop recommendations to improve existing facilities, connect gaps, and eliminate barriers

Strategy 4. Identify implementation strategies for pedestrian facilities that reduce gaps and barriers

Objective 2. Provide safe corridors for students to access school facilities

Strategy 1. Obtain input from the public and key stakeholders on the needs of students walking and biking to and from schools

Strategy 2. Collect and analyze data on existing bicycle and pedestrian networks within a half-mile distance to schools

Strategy 3. Create strategies to obtain funding and support from the Safe Routes to School (SRTS) program

Strategy 4. Identify implementation strategies for pedestrian facilities that address identified needs within reasonable walking distance to schools

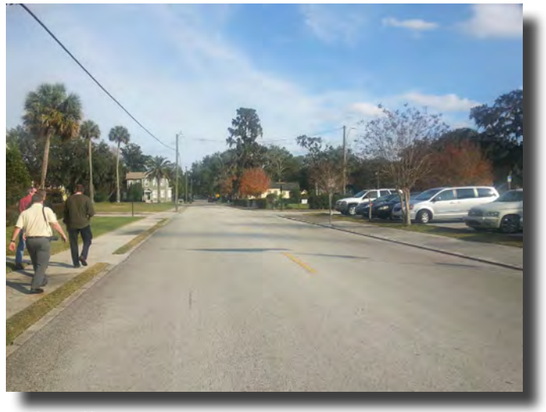
Objective 3. Provide mobility and connectivity within the TPO area

Strategy 1. Identify corridors where sufficient right-of-way (ROW) exists for potential bicycle and pedestrian facilities

Strategy 2. Identify implementation strategies for pedestrian facilities within Marion County's municipalities

Objective 4. Provide pedestrian connectivity to parks and greenways

Strategy 1. Identify corridors that provide recreational and scenic opportunities for walking and bicycling to parks and greenways



Sidewalk in Marion County

Strategy 2. Identify existing trails within parks and greenways that could be expanded upon or converted to accessible, multi-use trails

Strategy 3. Identify implementation strategies for pedestrian facilities that connect population centers to parks and greenways

Goal 2. Expand bicycling opportunities within the TPO area

Objective 1. Create a series of connected paved multi-use trails

Strategy 1. Obtain input from the public and key stakeholders on bicycling needs

Strategy 2. Collect and analyze data on existing bicycle facilities, gaps, and barriers

Strategy 3. Provide recommendations to improve existing facilities, connect gaps, and eliminate barriers

Strategy 4. Identify implementation strategies for bicycle facilities that expand the current network, as well as reduce gaps and barriers

Objective 2. Provide connectivity to existing mountain biking trails

Strategy 1. Identify, collect, and analyze data on existing mountain biking trails within the TPO area

Strategy 2. Provide recommendations to improve connectivity to existing mountain biking trails

Strategy 3. Identify implementation strategies for bicycle facilities that connect to mountain biking trails

Objective 3. Improve cycling safety on the existing transportation network within the TPO area

Strategy 1. Identify existing roadways lacking facilities for cyclists

Strategy 2. Develop recommendations for cycling facilities appropriate for individual road characteristics

Goal 3. Complete regional connections with existing and proposed trails across Central Florida

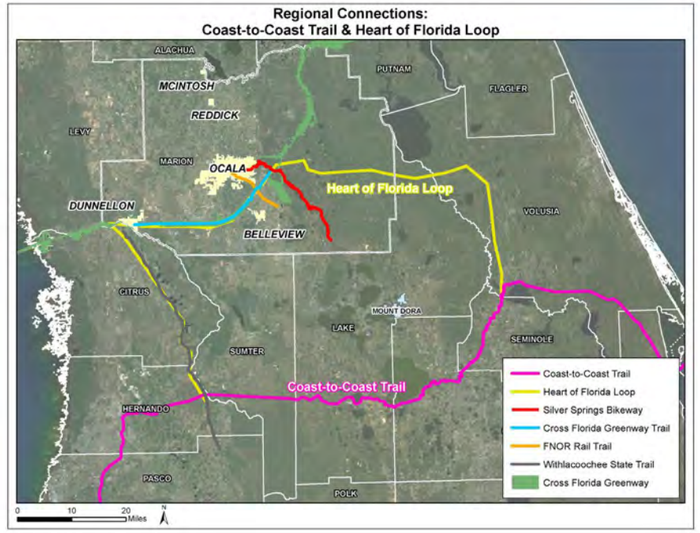
Objective 1. Develop trails that support the "Close the Gaps" Initiative

Strategy 1. Identify, collect, and analyze data on existing and proposed trails across Central Florida

Strategy 2. Identify gaps between the existing and proposed regional trails

Strategy 3. Provide recommendations to create trails that close the gaps among the trails in Central Florida

Strategy 4. Identify implementation strategies for multi-use trails that connect to regional pedestrian and bicycle networks



Regional trail connection supporting Goal 3 of this Master Plan

Goal 4. Promote economic development within the TPO area

Objective 1. Establish bicycle and pedestrian connections to commercial developments and corridors

Strategy 1. Identify strategies to leverage multi-use trails for economic development

Strategy 2. Identify implementation strategies for pedestrian and bicycle facilities that connect to and support commercial development

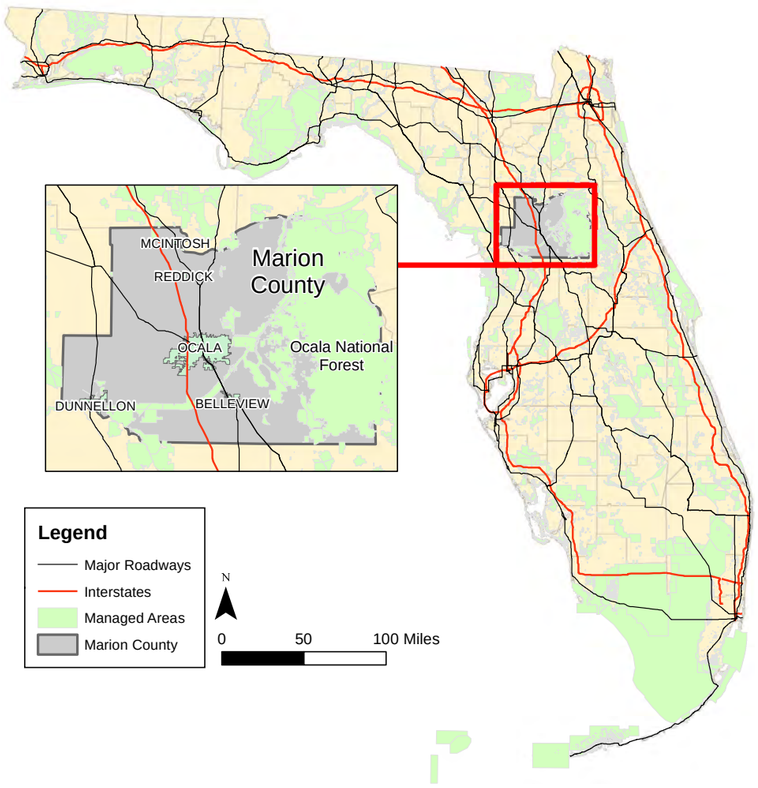
Strategy 3. Identify opportunities for public-private partnerships which foster economic opportunities in the outdoor recreation sector

EXISTING CONDITIONS

Geography

Marion County is a 1,662.61 acre county (1,584.55 acres of land and 78.06 acres of water) located in Central Florida. Marion County is surrounded by Alachua, Putnam, Volusia, Lake, Sumter, Citrus, and Levy Counties. Marion County's incorporated municipalities include the cities of Belleview, Dunnellon and Ocala, as well as the towns of McIntosh and Reddick. Marion County Parks and Recreation manages more than 2,400 acres and 49 park facilities throughout the county, while the City of Ocala Recreation and Parks maintains 34 parks and recreational facilities. In addition to the local parks, Marion County has three State Parks (Cross Florida Greenway, Silver Springs State Park, and Rainbow Springs State Park), two State Forests (Indian Lake State Forest and Ross Prairie State Forest), the Ocala National Forest, the St. Johns River Water Management District's Sunnyhill Restoration Area and Ocklawaha Prairie Restoration Area, and the Southwest Florida Water Management District's Halpata Tastanaki Preserve. In total, Marion County and its municipalities contains thousands of acres available for a wide range of outdoor recreation activities. Marion County's location within Florida is shown in **Figure 1.**

Figure 1
Marion County



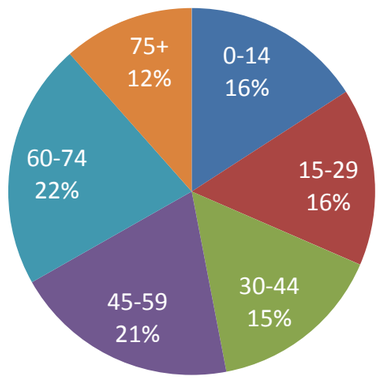
Demographics

According to US Census estimates, Marion County had a total population of 331, 303 as of April 1, 2010. The University of Florida's Bureau of Economic and Business Research (BEBR), responsible for the State of Florida's official population estimates and projections, estimates that the Marion County population grew to 337,455 as of April 1, 2014. **Table 1** contains breakdowns of these population estimates by each municipality. Additionally, **Figure 2** provides the age distribution of Marion County residents.

Table 1
Estimates of Population in Marion County: April 1, 2014 (BEBR)

BEBR Population Estimate for April 1, 2014					
AREA	2010 Decennial Census	Preliminary Estimate		2013-2014 Change	
		4/1/2013	4/1/2014	Total	Percent
Unincorporated County	267,805	270,338	272,607	2,269	0.84%
Belleview	4,492	4,562	4,629	67	1.47%
Dunnellon	1,733	1,754	1,770	16	0.91%
McIntosh	452	457	457	0	0.00%
Ocala	56,315	57,387	57,494	107	0.19%
Reddick	506	510	498	-12	-2.35%
Municipalities Subtotal	63,498	64,670	64,848	178	0.28%
Countywide	**331,303**	**335,008**	**337,455**	**2,447**	**0.73%**

Figure 2
Marion County Age Distribution in 2010



BEBR annually conducts population projections for all of Florida's counties, providing high, medium, and low projections. **Table 2** contains population projections for Marion County over five year intervals out to the year 2040. All three scenarios indicate Marion County's population continuing to grow over the next few decades. As the population continues to grow, there will an increased demand for both alternative transportation accommodations and outdoor recreation opportunities.

Table 2
Marion County Population Projections

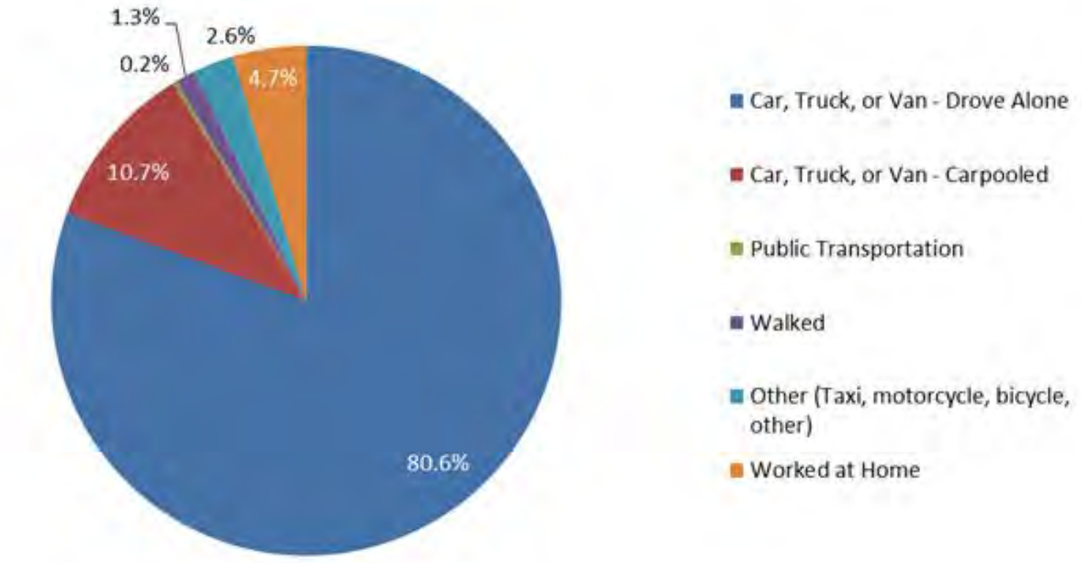
Marion County	Population Projections					
	2015	2020	2025	2030	2035	2040
Low	329,000	346,300	358,800	366,700	369,700	368,100
Medium	350,000	384,700	417,200	447,200	474,000	497,500
High	371,000	423,200	475,600	527,700	578,200	626,800

Source: Bureau of Economic and Business Research, University of Florida, 2013

Pedestrians in Downtown Ocala

The 2008-2012 American Community Survey Five-Year Estimates indicate that 80.6 percent of Marion County's working age population (those 16 years old and over) drove to work alone, 10.7 percent carpooled, 4.7 percent worked at home, 2.6 percent use "other" transportation such as a bicycle, 1.3 percent walked, and 0.2 percent used public transportation (**Figure 3**). Less than 4 percent of workers walked or biked to work, a greater emphasis on safe and convenient bicycle and pedestrian connections to places of employment has the potential to provide more options for transportation.

Figure 3
Marion County Means of Transportation to Work

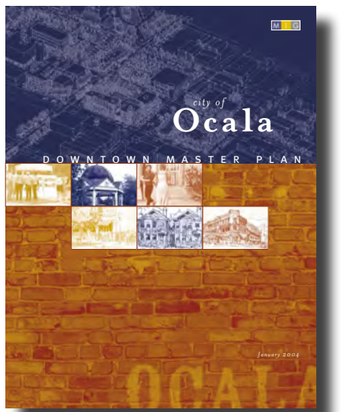


This photo shows the high number of commuters who drive to work alone in Marion County

REVIEW OF PREVIOUS PUBLIC INVOLVEMENT AND VISIONING EFFORTS

The City of Ocala, the City of Dunnellon, Marion County, and the Ocala/Marion County TPO each completed plans in recent years that incorporated extensive public involvement and visioning efforts. The purpose of this section is to provide a summary of those public involvement processes and results identified in each of these plans, highlighting issues and recommendations that specifically relate to both bicycle and pedestrian improvements throughout Marion County.

City of Ocala Downtown Master Plan, 2004



The City of Ocala involved community members in two community workshops in order to: identify Downtown Ocala's strengths, weaknesses, opportunities, and threats; develop a vision for Downtown Ocala; analyze land issues, design elements, and economic costs and feasibilities; develop strategies for redevelopment; and generate action items for the final master plan. One of the main weaknesses identified in the Downtown Master Plan is the "lackluster pedestrian environment," part of which is a result of heavy traffic, insufficient lighting and street furniture, and the absence of pedestrian connections across Silver Springs Boulevard and to neighborhoods surrounding Downtown.

2035 LRTP Public Involvement, 2010

The Ocala/Marion County TPO prepared the 2035 Long Range Transportation Plan (LRTP) for Ocala/Marion County. Extensive public involvement was accomplished with the development of the 2035 LRTP. The TPO utilized the "Strings and Ribbon" public involvement exercise which is a hands-on activity for members of the public to participate and give feedback on transportation planning projects. The "Strings and Ribbon" exercise was held with numerous groups within the community. The following list contains the groups that completed public participation sessions for the LRTP:

- Technical Advisory Committee
- Ocala/Marion County Chamber of Commerce: Leadership Ocala
- Citizen Advisory Committee
- Silver Springs Shores Homeowner's Association
- Community Traffic Safety Team
- SR 200 Coalition
- Shady Area Residents/Stakeholders
- Marion County Health Department Staff
- Florida Engineering Society – Forest Chapter
- Shady Greenway Conservation Alliance
- City of Dunnellon Staff/Residents/Elected Officials
- Marco Polo Village Homeowner's Association
- Impaired Driving Education and Victim Services
- Oak Bend Residents
- City of Belleview Staff/Residents/Elected Officials
- Neighborhood Citizens of Northwest Ocala
- Public Policy Institute
- Town of McIntosh
- Marion Oaks Civic Association

Some of the ideas expressed through the "Strings and Ribbon" exercise reflected bicycle and pedestrian needs, including sidewalks, bicycle lanes, multi-use trails, and pedestrian bridges. The most popular improvements expressed by many of the stakeholder groups included extending the Cross Florida Greenway and upgrading it to a fully functioning multi-use trail, converting the Florida Northern Rail Spur into a multi-use trail, and constructing a pedestrian bridge across SR 200, connecting Paddock Mall with the College of Central Florida. Listed below are all of the various improvements suggested by the stakeholder groups regarding bicycle and pedestrian needs within Marion County:

Cross Florida Greenway

The TPO Citizen Advisory Committee, Silver Spring Shores Homeowner's Association, Community Traffic Safety Team, SR 200 Coalition, Shady Area Residents/Stakeholders, Shady Greenway Conservation Alliance, Impaired Driving Education & Victim, Oak Bend Residents, and Marion Oaks Civic Association stakeholder groups all expressed interest in expanding the Cross Florida Greenway's current trail system. These stakeholder groups proposed connecting the current trail system to the City of Dunnellon, Marion Oaks, Florida Horse Park, the Santos Trailhead, and the Baseline Trailhead by means of recommended multi-use trails.

Florida Northern Rail Spur Multi-Use Trails

The vision for the Florida Northern Rail Spur includes creating a Rails-to-Trails or Rails-with-Trails network. Multi-use trails along the Florida Northern Railroad were proposed by the TPO Citizen Advisory Committee, Marion Oaks Civic Association, Shady Area Residents/Stakeholders, and the Shady Greenway Conservation Alliance.

Multi-Use Trails

Additional multi-use trail projects were proposed across the county including Moore's Pond, Jervey Gannt Park, and Ray Wayside Park, as well as extending to the existing Marshall Swamp Trailhead and the Hawthorne Trail System. These ideas were suggested by the TPO Technical Advisory Committee, Marion Oaks Civic Association, Shady Area Residents/Stakeholders, Marion County Health Department Staff, and the Town of McIntosh.

Bicycle Lanes

Bicycle lanes along CR 464, CR 484, CR 314, SR 200, SR 40, CR 475, US 441, SW 80th Street, and Silver Road were proposed by the Silver Springs Shores Homeowner's Association, Community Traffic Safety Team, Shady Greenway Conservation Alliance, SR 200 Coalition, and the Neighborhood Citizens of Northwest Ocala groups. Additionally, the SR 200 Coalition proposed 14 miles of bicycle lands around Lake Weir.

Downtown Ocala

Sidewalks projects to improve the connectivity and safety of pedestrians in downtown Ocala were recommended by the Community Traffic Safety Team and the Ocala/Marion County Chamber of Commerce: Leadership Ocala. Additionally, the Public Policy Institute expressed interest in a pedestrian bridge in downtown Ocala so that pedestrians would have improved access to the square.

Sidewalks

Both residential and non-residential sidewalk improvements were recommended as part of the "Strings and Ribbons" exercise. The SR 200 Coalition, Community Traffic Safety Team, Silver Spring Shores Homeowner's Association, Marco Polo Village Homeowner's Association, and the TPO Technical Advisory Committee suggested residential sidewalks within Marion Oaks, Silver Spring Shores, and the Marco Polo Village. Non-residential sidewalk improvements were suggested by these stakeholder groups as well as the Public Policy Institute, Shady Area Residents/Stakeholders, and the Marion County Health Department Staff groups along the following roadways:

- CR 464
- US 441

- CR 484
- SW 60th Avenue
- NW 70th Avenue
- SW 103rd Street

SR 200 Pedestrian Bridge at Paddock Mall & College of Central Florida

Due to the heavy pedestrian traffic between Paddock Mall and the College of Central Florida, the Shady Greenway Conservation Alliance, Neighborhood Citizens of Northwest Ocala, Impaired Driving Education & Victim, and the Marion County Health Department Staff stakeholder groups expressed the need for a pedestrian bridge crossing SR 200.

Pedestrian Bridges

The SR 200 Coalition, Community Traffic Safety Team, Impaired Driving Education & Victim, Public Policy Institute, Marion County Health Department Staff, City of Dunnellon Staff/Residents/Elected Officials, City of Belleview Staff/Residents/Elected Officials, Silver Springs Shores Homeowner's Association, Neighborhood Citizens of Northwest Ocala, and Marco Polo Village Homeowner's Association stakeholder groups recommended the following pedestrian bridges over the following roadways:

- SR 200
- CR 200A
- SR 40
- US 27
- US 41
- US 441
- SW 95th Road
- SW 27th Avenue

A summary of the most frequently identified bicycle and pedestrian projects that were that came from the Strings and Ribbon exercise are shown below.

MOST FREQUENLY SELECTED BICYCLE/PEDESTRIAN					
#	PROJECT TYPE	LOCATION	FROM/AT	TO	FREQUENCY
1	Sidewalks	Silver Springs Shores	Various Locations		6
2	Pedestrian Bridge	SR 200	CFCC/Paddock Mall		6
3	Multi-Use Trail	FNR rail line	East of Oak Road	Downtown Ocala	3
4	Sidewalks	SW 103rd St Rd	SW 49th Ave	SR 200	4
5	Multi-Use Trail	CR 484	US 41	Oak Run	3
6	Multi-Use Trail	Greenway	CR 475	Baseline Trailhead	3
7	Pedestrian Bridge	Downtown Ocala	Over SR 40 at The Square		2

Ocala 2035 Vision, 2010

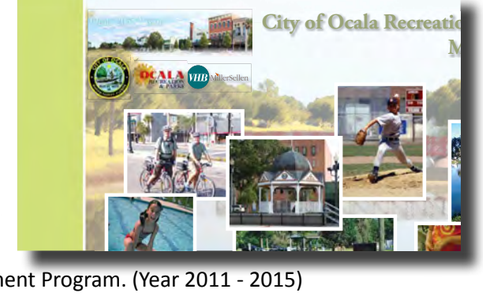
In 2010, the City of Ocala developed the Ocala 2035 Vision in which community members collaborated to establish a future form and function for the City of Ocala. Numerous public involvement strategies were utilized to receive input from as many stakeholders as possible. A Community Form & Design Visioning Leadership Group was created to ensure that key community members actively participated in the visioning process. These key community members were responsible for attending and participating in bi-monthly meetings and public workshops, encouraging other citizens to participate in the process, evaluating the feedback, and preparing the final Ocala 2035 Vision.

Additional public involvement strategies included focus groups, two city-wide kickoff workshops, and a two-day design conference. Focus groups involved the Emerging Leaders of Ocala, Lillian Bryant Center youth group, healthcare professionals, Westport High School students, and the Youth of United Way stakeholder groups. The two city-wide kickoff workshops were open to the public and utilized a dot density voting strategy to identify important issues to include in the 2035 Vision. Finally, the Design Conference allowed attendees to give input and create maps regarding future urban form, site design, and transportation network plans for the city.

These public involvement strategies identified a desire for providing better pedestrian connectivity and linking neighborhoods, parks, schools, and business across Ocala by means of a trail system (further addressed in the Recreation and Parks Master Plan). As a result of the public involvement process, two strategies were developed for the final 2035 Ocala Vision that address the community's dedication for an improved pedestrian system:

Mobility & Connectivity Strategies

- Establish a City-wide sidewalk improvement program to provide the pedestrian connectivity desired in the vision.
  - Identify areas of the City that do not have sidewalks or have disconnected sidewalk links. (Year 2011 - 2015)
  - Prioritize sidewalk program to maximize connectivity and support neighborhood sub-area plans and Parks Master Plan. (Year 2011 - 2015)
  - Acquire easements for sidewalks where they do not exist. (Year 2011 - 2015)
  - Include sidewalk improvements in the annual Capital Improvement Program. (Year 2011 - 2015)



Urban Form & Open Space Strategies

- Implement recommendations of the Recreation and Parks Master Plan to identify, acquire, and program new parks, trails, and open spaces in the City. Identify, reserve, and/or acquire right-of-way needed to create a connected parks system. (Year 2011 and ongoing)

City of Ocala Recreation & Parks Master Plan, 2010

The City of Ocala prepared the Recreation and Parks Master Plan, which incorporated public involvement strategies to generate a proposed trail and park system. Both a public visioning survey and a public input meeting were provided to obtain the community's input. The survey focused on the public's perception of the current park system, which found that top requests included more walking, bike, and nature trails. Additionally, the survey found that reasons residents do not visit parks include the parks being too busy, lacking quality facilities, and being located too far from home. The public input meeting focused on the public's interest for future park expansion, which found that the number one preference for the future included fitness, bike, and pedestrian trails. Additional input collected at the meeting included:

Connectivity

- A bikeway connection from Downtown to Silver Spring Shores is needed.
- A bikeway connection from Downtown, past 27th Avenue is needed, similar to West Orange Trail.
- 31st at SE 18th Avenue: pond with trail and parking has heavy use and is missing a SW connection.
- Access issues to parks due to lack of sidewalk connection.

Design

- Requested need for sidewalks throughout the City.

The final Recreation and Parks Master Plan proposed a Vision Plan Trail System, which includes 43.8 miles of linear trail and greenway connections throughout Ocala.

City of Dunnellon Bicycle, Pedestrian, and Blueway Facilities Master Plan

The City of Dunnellon prepared the Bicycle, Pedestrian, and Blueway Facilities Master Plan with a public involvement effort that encouraged input from the public and key stakeholders. This input was used to develop recommendations for projects and policies that will improve connectivity throughout the City and to trails, parks, and water features in the region. Here is a summary of the public involvement efforts:

- ***Project Newsletter # 1*** - Distributed throughout the City to provide a project overview, details on public involvement, and information about the public workshop.
- ***Stakeholder Interviews*** – Policy and facility recommendations for the City were informed by stakeholder interviews with representatives from:
  - Dunnellon City Council and City Manager
  - City of Dunnellon Community Development Department
  - City of Dunnellon Public Services Department
  - City of Dunnellon Police Department
  - Florida Department of Environmental Protection's Office of Greenways and Trails
  - Marion County Growth Services Department
  - Marion County Parks and Recreation Department
  - Local restaurant businesses
  - Local sports outfitter businesses
  - Local bicycle sales business

- ***City Council Workshop*** – A project update was provided to the Dunnellon City Council on April 11th, 2011 to discuss the project scope and purpose, and to answer questions about the project.
- ***Public Workshop*** – A public workshop was held at Dunnellon City Hall on May 16th, 2011 for the community to comment on, refine, and prioritize the draft recommendations.
- ***Project Newsletter # 2*** – The second project newsletter summarized the Master Plan, identifying project recommendations and action items that will implement the plan.
- ***City Council Adoption Hearing*** – Draft recommendations were refined based on public input and developed into the final Master Plan which was adopted by the City Council on February 8, 2012.

The two most significant projects in the Dunnellon Master Plan are the Withlacoochee Trail Extension that will extend the existing trail from the northern terminus at Gulf Junction Trailhead into Dunnellon and the Pennsylvania Avenue Srteetscape project.

Key Points from Previous Public Involvement and Visioning Efforts

Key points taken from previous public involvement and visioning efforts related to the development of the Ocala-Marion TPO 2035 Bicycle and Pedestrian Master Plan are provided below.

- A lack of bicycle and pedestrian connectivity throughout Marion County was identified. Specifically, a lack of connectivity exists:
  - Within Downtown Ocala and surrounding neighborhoods
  - Between parks, trails, schools, businesses, and neighborhoods in all of Marion County
- Multi-use trails were identified as a need for:
  - The Cross Florida Greenway
  - FNOR Railroad (from Downtown Ocala to Silver Springs Shores)
  - Connecting to Marshall Swamp Trailhead and other trails
- Bicycle lanes were proposed on several major roads
- Sidewalks and pedestrian improvements were recommended between both residential and non-residential uses throughout the County, specifically where heavy pedestrian traffic occurs or where sidewalks contain gaps or do not exist at all

This Master Plan addresses many of the issues identified in previous visioning, planning, and public involvement efforts throughout the City of Ocala and Marion County. The recommendations within this Master Plan were developed with consideration to those made by previous plans and further refined through the project's own data collection, public involvement and stakeholder input efforts. **Table 3** below contains a matrix of shared themes that were identified in the previously completed plans

Table 3
Public Involvement Efforts

Previous Public Involvement Efforts	Bike/Ped Connectivity	Downtown	Parks	Sidewalks	Bike Lanes	Multi-Use Trails	Cross Florida Greenway	FNOR
City of Ocala Downtown Master Plan	X	X		X	X	X		
2035 Long Range Transportation Plan	X	X	X	X	X	X	X	X
Ocala 2035 Vision	X	X	X	X	X	X		
City of Ocala Recreation & Parks Master Plan	X	X	X	X		X		
City of Dunnellon, Bicycle, Pedestrian & Blueway Facilities Master Plan	X		X			X	X	

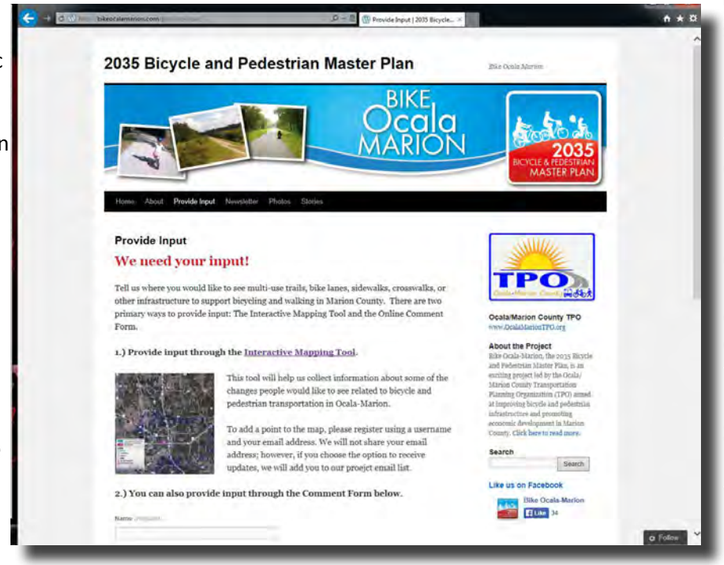
PUBLIC AND STAKEHOLDER INVOLVEMENT FOR THE 2035 BICYCLE & PEDESTRIAN MASTER PLAN

Facebook

In order to reach a broad audience, a Bike Ocala-Marion Facebook page was created specifically for the 2035 Bicycle and Pedestrian Master Plan (www.Facebook.com/BikeOcalaMarion). The purpose of this page was to engage the public by providing digital access to information related to the project and to invite ongoing feedback throughout all phases of the project. The Facebook page directed interested citizens to the project website, where they could provide direct input into the development of the Master Plan.

BikeOcalaMarion.com

The Bike Ocala-Marion Facebook page was designed to complement the project website: www.BikeOcalaMarion.com. The website provided the public with information about the project, including project newsletters, photographs, and interesting stories related to the project study area and history. In addition to providing information to the public, the website contained two tools to engage and gather public input throughout the planning process:



Interactive Mapping Tool

The first of these tools was the Interactive Mapping Tool which allowed the public to indicate where they would like to see multi-use trails, bike lanes, sidewalks, crosswalks, and other infrastructure to support bicycling and walking in Marion County. The Interactive Mapping Tool enabled users to pan and zoom an aerial map of Marion County and place points at specific locations, identifying the type of facility they would like to see. The Interactive Mapping Tool was used to develop recommended facility locations, and later was used to prioritize and rank the recommended projects

Online Comment Form

The second method of providing input on the website was the Online Comment Form that invited users to type and submit a description of where a bicycle and pedestrian problem area exists, potential solutions to those problems, or general commentary on the Master Plan project and recommendations.

Bike Ocala-Marion Project Newsletter #1

The first project newsletter was developed to provide an overview of the project's purpose, key steps, and ways of providing public input through the project website and Facebook page. The three corridors prioritized for multi-use trails were described in addition to how they fit into the regional Close the Gaps initiative, specifically the Heart of Florida Loop. A copy of Newsletter #1 is included as **Appendix G.** The project newsletter was distributed at stakeholder interviews, public events, local bicycle shops, and posted on the project website and Facebook page.

Santos Fat Tire Festival March 7-9, 2014

The Ocala Mountain Bike Association (OMBA) hosts a popular annual bicycle event known as the Santos Fat Tire Festival based at the Santos Trailhead and Campground. For the 2014 event, the consultant team set up a booth at the Santos Fat Tire Bike Expo, advertised as the largest collection of bicycle manufacturers and bicycle shops in Florida and the southeast. The Fat Tire Festival was an important event to promote the project to the large and active cycling community in Marion County and Central Florida. Project maps were on display and flyers were distributed to encourage attendees to visit the Bike Ocala-Marion website and Facebook page to provide input and remain engaged in the project. 415 campers and 1,852 vehicles were in attendance at the festival in addition to the 40 vendors with booths set up at the Bike Expo. Attendees were highly supportive of the Bike Ocala-Marion project, specifically the expansion of the trail network throughout Marion County.

Ocala/Marion County TPO Regional Connectivity Meeting

On February 27, 2014 the TPO hosted a Regional Connectivity Meeting for surrounding counties and cities to collaborate and discuss regional bicycle and pedestrian priorities and projects that are planned or under construction. This Regional Connectivity Meeting was an excellent opportunity to promote the Bike Ocala-Marion project as one that will establish momentum for regional trail connections with transportation and economic benefits for Marion County as well as the rest of Florida.

Bicycle Suitability Meeting

On February 27, 2014, the TPO also hosted a Bicycle Suitability Meeting for representatives of the local cycling community in Ocala and Marion County to discuss cycling problem areas and commonly used routes. The input obtained during this meeting was critical in refining the methodology used to develop the Bicycle Suitability Map.

Attendees at the Ocala/Marion County TPO Regional Connectivity Meeting

Stakeholder Interviews

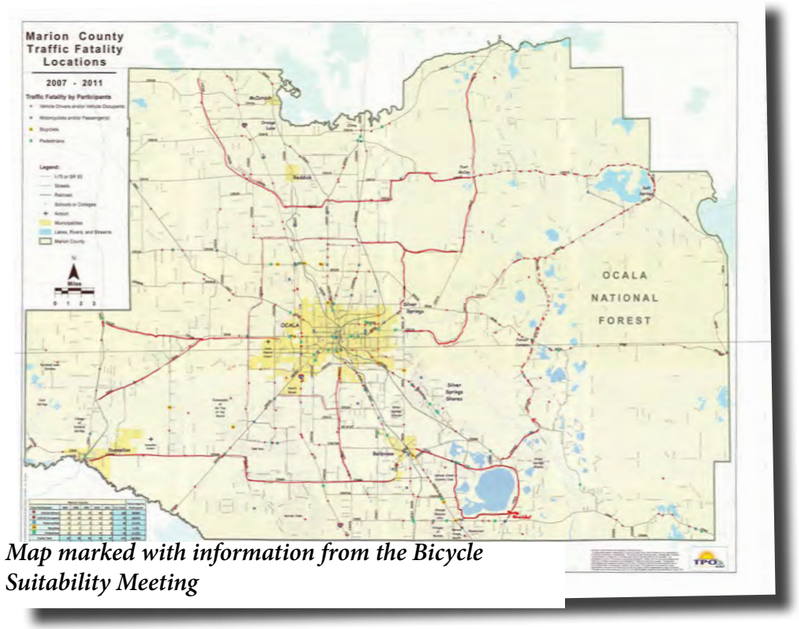
In addition to input from the general public, the consultant team met with various groups and agencies that have a shared interest or major influence in bicycle and pedestrian planning and policy in Marion County. Below is a list of stakeholders who were interviewed and provided input on the planning process:

- Florida Department of Environmental Protection Parks Department
- Bicycle shops throughout Marion County (Top Gear Bicycles, Santos Bike Shop, Ocala Bicycle Center, Brick City Bicycles, Greenway Bicycles, and Blue Run Bicycles)
- City of Ocala and Marion County Parks and Recreation Departments
- Florida Department of Transportation – District 5
- Marion County School District
- Staff from Marion County and the cities of: Ocala, Reddick, McIntosh, Belleview, Dunnellon

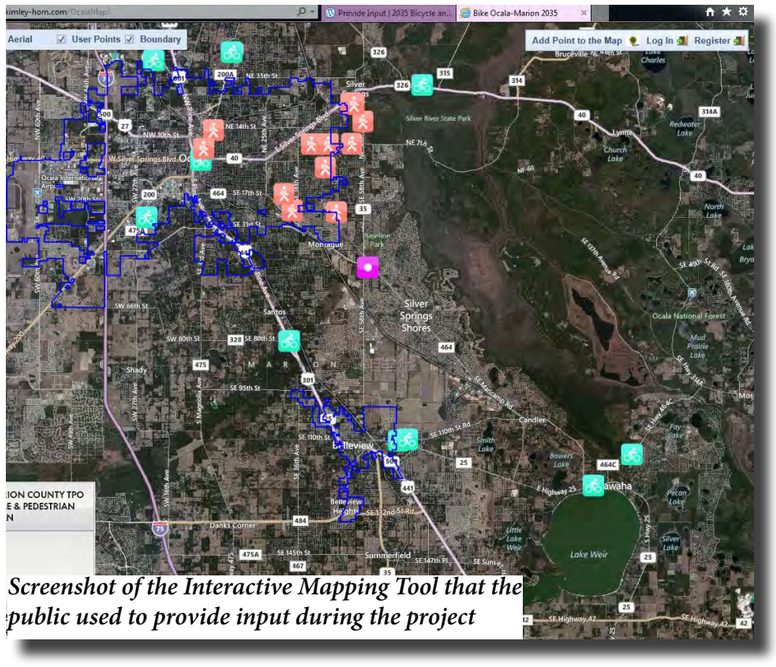
Input received during stakeholder interviews was used to develop the recommendations included in this Master Plan.

Bike Ocala-Marion Project Newsletter #2

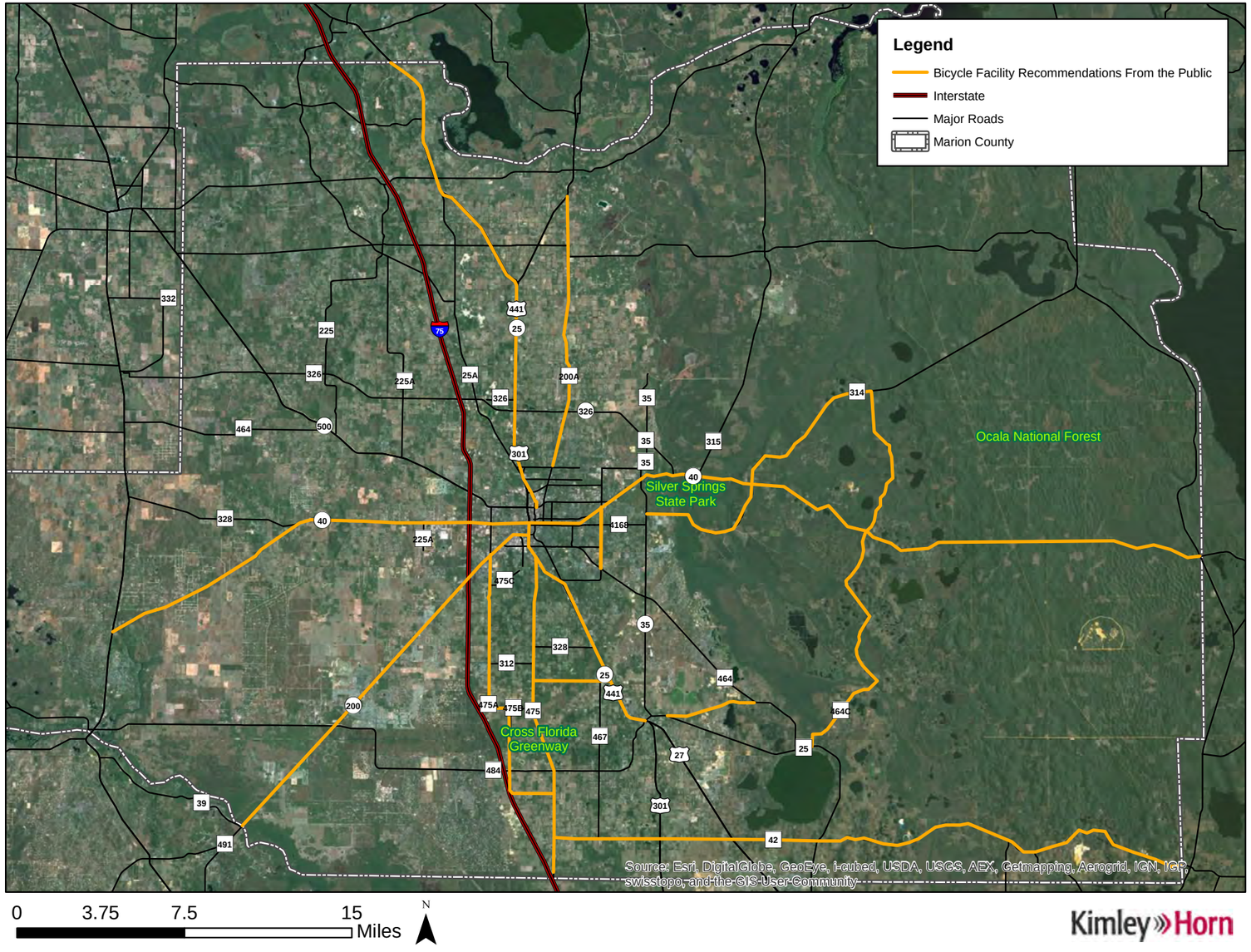
A second project newsletter was developed to distribute information on the TPO board meeting dates to adopt this Master Plan. This newsletter also included information on recommendations included in this Master Plan.. Newsletter #2 is shown in **Appendix G**.



Map marked with information from the Bicycle Suitability Meeting



Screenshot of the Interactive Mapping Tool that the public used to provide input during the project



Bicycle Facility Recommendations From the Public

Urban Sidewalk Plan Stakeholder Interviews

As part of the development of the overall Master Plan, stakeholder interviews were completed for the Urban Sidewalk Plan. These meetings were used to gather information on schools, student locations, parks, and crash data. As a result of these stakeholder interviews, seven sidewalk project recommendations were developed (identified on pages 39-46) that provide increased connectivity for students and pedestrians as well as link key destinations in Marion County. Stakeholder interviews were held with the following entities:

- City of Belleview
- City of Ocala
- Marion County
- Crossing Guards

The following are summaries of the meetings.

City of Belleview

A meeting was held with the City of Belleview to determine their priorities for sidewalk development. City, FDOT, and TPO representatives were invited to provide input. Key points taken from this effort are as follows:

- Sidewalk projects should be categorized by functional classification of the roadway and bundled with other similar projects for funding.
- An effort should be made to connect existing sidewalks/trails to the paved trail that connects to the major trailhead on 110th Street.
- Lake Lillian should serve as the City of Belleview's trailhead, if needed.
- It was noted that pedestrian facilities need to be considered around railroad crossings.
- It was recommended that a trail be developed that would link Marion County to the Villages (along US 441).
- It was noted that US 441 creates a barrier between the north and south sides of the City. There is currently a corridor study planned for the corridor.
- A Greenway connection along 110th Street was recommended.
- It was recommended that a trail connecting Belleview Middle and Belleview High School along SE 36th Ave connecting to 95th Street and the Cross Florida Trail be developed.
- It was mentioned that portions of Baseline Trail (existing) will be widened during summer 2015.
- It was recommended that a sidewalk be planned that connects the library to Belleview Elementary.
- It was suggested that utility easements could be used for the development of sidewalk facilities.

Attendees Included:

- Sandi McKamey, City Clerk/ Administration
- Susan Farnsworth, Development Services Director
- Kellie Smith, FDOT
- Joan Carter, FDOT
- Greg Slay, Ocala-Marion County TPO
- Ken Odom, Ocala-Marion County TPO
- Amber Gartner, Kimley Horn
- Ginger Hoke, Hoke Design

Lake Lilian Park in Belleview

SE 36th Avenue in Belleview

City of Ocala

A meeting was held with the City of Ocala to determine their priorities for sidewalk development. City, FDOT, and TPO representatives were invited to provide input. Key points taken from this effort are as follows:

- It was suggested that shared-use facilites be used in the residential area near Fort King Street. Options such as "sharrows" and protected bicycle lanes were suggested.
- An existing striping project on Fort King Street was delayed so that alternative options could along this corridor could be analyzed.
- It was suggested that the TPO bundle sidewalk projects for funding that the City could construct with their LAP Agreement.
- The City is in the process of determining sidewalk gaps in the Historic District and getting representatives to assist with securing easements or right-of-way.
- It was noted that there are eight CRA's at this time and some have existing sidewalk plans.
- Attendees updated the existing sidewalk locations and added new recommended sidewalks to a map. These were taken into consideration during the development of the seven sidewalk recommendations.

Attendees Included:

- Oscar Tovar, City of Ocala
- Sean Lanier, City of Ocala
- Darren Park, City of Ocala
- Gary Anson, City of Ocala
- Liz Houck, City of Ocala
- Kellie Smith, FDOT
- Joan Carter, FDOT
- Greg Slay, Ocala-Marion County TPO
- Ken Odom, Ocala-Marion County TPO
- Jon Sewell, Kimley Horn
- Ginger Hoke, Hoke Design

East Fort King Street

Pedestrians on sidewalk in Downtown Ocala

Marion County

A meeting was held with Marion County staff members to determine their priorities for sidewalk development. County, FDOT, Parks and Recreation, and TPO representatives were invited to provide input. Key points taken from this effort are as follows:

- A map of existing and proposed sidewalk facilities in Marion County was reviewed by attendees for correctness.
- A Re-digitized sidewalk shapefile for the county that contained sidewalk locations on both sides of the street was presented. It was recommended that this data replace existing centerline data used by local agencies.
- Marion County park locations were reviewed to determine bicycle/pedestrian access deficiencies and potential opportunities. This was done by using the existing county Park Master Plan maps to verify existing and planned park locations.
- A school analysis showing the 2-mile area near schools was presented.
- Potential funding sources to enhance bicycle and pedestrian safety were discussed.

Attendees Included:

- Jim Couillard, Marion County Parks and Recreation
- Joan Carter, FDOT D5
- Ken Odom, Ocala-Marion County TPO
- Wendy Patterson, Marion County
- Bart Ciambella, Marion County
- Amber Gartner, Kimley Horn
- Ginger Hoke, Hoke Design

NE 7th Street

NE 9th Street

Crossing Guards

A meeting was held with the local crossing guard representatives to determine their priorities for sidewalk development. Marion County Public Schools, city and county law enforcement, County, FDOT, and TPO representatives were invited to provide input. Key points taken from this effort are as follows:

- Potential countermeasures to reduce bicycle/pedestrian crashes should be developed.
- Additional crossing guard locations for the City of Ocala and Marion County should be identified.
- Bicycle/pedestrian access deficiencies around schools should be identified and corrected.

Attendees Included:

- Joan Carter, FDOT
- David Herlihy, Marion County Public Schools
- Brian Marcum, Marion County Public Schools
- Lt. Tara Woods, City of Ocala Police Department
- Sgt. Claude McQuaig, Marion County SO
- Cynthia K. Haile, OPD
- Heather Stine, OPD
- Wendy J. Patterson, Marion County
- Ken Odom, Ocala-Marion County TPO
- Amber Gartner, Kimley Horn
- Ginger Hoke, Hoke Design

NE 17th Avenue near Fort King Middle School

Looking north near SE 6th Street, near Ward-Highlands Elementary

ECONOMIC BENEFIT

Various studies on the economic benefits of multi-use trails were consulted during the development of the this Master Plan. The following studies provide insight into the possible economic benefits that could result from the implementation of the Bike Ocala-Marion Master Plan.

Economic Impact Analysis of Orange County Trails (2011)

The Little Econ Greenway, West Orange, and Cady Way Trails are all located in Orange County and have significantly contributed to the economy there. ***In 2010, the three trails supported 516 jobs (both part-time and full time jobs) and had an estimated economic impact of $42.6 million.*** A survey of trail users in Central Florida reveals that each visitor spends approximately $19 per visit and there is an average of 1.7 million people who use the Orange County Trails each year for recreation, health and fitness, and transportation.

Economic Impact Analysis of Seminole County Trails (2012)

Over 300 online and in-person interviews were conducted to gain information on consumer spending in relation to trails in Seminole County. The Seminole County trail system includes the Cross Seminole Trail, Seminole Wekiva Trail, and the Sanford Riverwalk. The surveys found that the average trail visitor spent $15 per trip. ***In 2011, the total estimated economic impact from the Seminole County trail system is $14 million and the support of 174 jobs.***

Home Sales Near Two Massachusetts Rails Trails (2006)

This study focuses on the increasing desire to have homes close to rail trails. The two rail trails studied were the Minuteman Bikeway and Nashua River Rail Trail. Homes near these rail trails were sold in an average time span of 29.3 days while other homes located further away from trails were sold at an average of 50.4 days. The homes near the rail trails were also sold closer to the listing price than homes not near rail trails. Through this data the assertion can be made that homes near rail trails are highly desirable.

Florida Department of Environmental Protection

The Florida Department of Environmental Protection Office of Greenways and Trails has many articles, websites, and statistics available to show the positive correlation between trails and economic growth. The following facts were provided by FDEP from a variety of sources:

- ***The 2012 Outdoor Industry Association report found that outdoor recreation created almost 330,000 jobs, $38.3 billion in consumer spending, and $2.5 billion in state and local taxes.***
- ***The University of Cincinnati conducted a study in 2011 and found that the value of homes within 1,000 feet to an access of the Little Miami Scenic Trail increased by $9,000.***
- For residents in Florida, bicycling paths are the second most desired facility.
- Hiking/walking trails are the fifth most desired facilities among Florida residents.
- Design, engineering, and construction of walking and bicycling facilities create more jobs per dollar than any other transportation infrastructure.
- Trails are the number one community amenity sought by prospective homeowners.

PROJECTED FUTURE DEMAND

Multi-use trails provide alternative transportation options and outdoor recreation opportunities to a variety of users. The Florida Department of Environmental Protection (FDEP) Division of Recreation and Parks prepared *Outdoor Recreation in Florida – 2013,* which serves as Florida's Statewide Comprehensive Outdoor Recreation Plan (SCORP). This plan documents existing supply and projects future demand for a wide range of outdoor recreation facilities in Florida. This plan also provides statistics on resident and tourist participation by activity, such as bicycle riding on paved trails. These paved trails are the same type of multi-use trails proposed throughout Marion County as part of the Bicycle and Pedestrian Master Plan. Since data in the SCORP is provided by specific activity, it is important to note that the paved trail data does not include other users like pedestrians, skaters, users in wheelchairs, etc. Actual trail use by all users is expected to be much higher than the bicycling numbers alone. However, bicycling on paved multi-use trails is very popular in Florida and cyclists are a large user group for multi-use trails. *Outdoor Recreation in Florida – 2013* states that 40 percent of residents and 13 percent of tourists rode bicycles on Florida's 1,535 miles of paved trails in 2011, accounting for 18,427,044 in total participation. Bicycle riding on paved trails is the third most popular outdoor recreation activity for Florida residents behind saltwater beach activities and wildlife viewing.

Marion County is in the Central Region of Florida (Defined by FDEP as Marion, Sumter, Lake, Orange, Seminole, Osceola, Highlands, Hardee, and Polk Counties). Based on statistical surveys, 36 percent of residents and 13 percent of tourists in the Central Region used paved trails for bicycle riding in 2011 for a total participation of 4,673,897 users. Projections for the year 2020 estimate bicycle riding on paved trails in the Central Region to increase to 5,478,123.

Each year FDEP produces an Economic Impact Assessment for the Florida State Park System which includes state park attendance numbers for greenways and trails. A selection of trail use data for the 2011-2012 and 2012-2013 fiscal years is contained in **Table 4.**

Table 4

State Multi-use Trail Users and Economic Impact

State Multi-use Trail Users and Economic Impact						
Trail Name	**Trail Distance (miles)**	**Number of Users 2011/2012**	**Users per Mile 2011/2012**	**Number of Users 2012/2013**	**Users per Mile 2012/2013**	**Economic Impact 12/13**
Palatka-Lake Butler State Trail	14.5	89,897	6,200	116,776	8,054	$ 5,147,116
Blackwater Heritage Trail	8.1	117,045	14,450	113,211	13,977	$ 4,992,556
Nature Coast State Trail	32	147,623	4,613	150,395	4,700	$ 6,779,470
Tallahassee-St. Marks Historic Railroad State Trail	20.5	260,232	12,694	154,324	7,528	$ 6,820,914
Withlacoochee State Trail	46	365,537	7,946	381,940	8,303	$ 16,698,462
Marion County Trails*	66	n/a	n/a	458,819	6,952	$ 20,000,000

*All information in this row is based on the projected future demand analysis shown on page 19

Source: FDEP, Economic Impact Assessment - Florida State Park System, October 22, 2013

Riders on the Withlacoochee Trail

Using the FDEP data on state trail use, regression analyses were performed to determine the relationship between trail length and number of users. The results of these regression analyses are depicted in **Figures 4 and 5** below.

Figure 4
Multi-use Trail Visitation 2011/2012

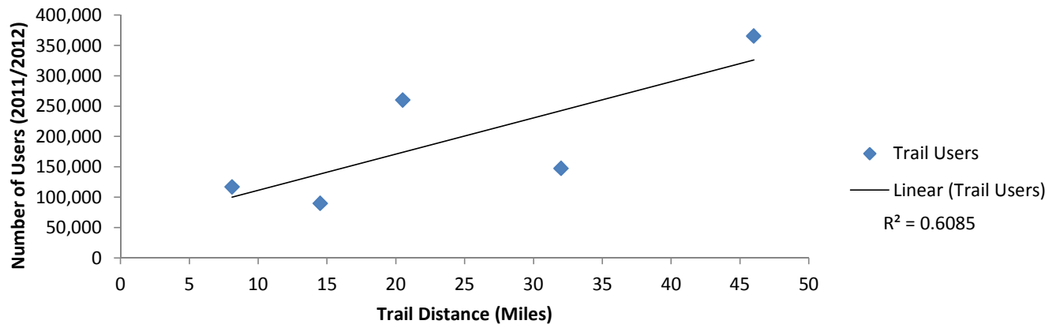


Figure 5
Multi-use Trail Visitation 2012/2013

The r-squared values of 0.61 and 0.77, for 2011/2012 and 2012/2013 state trail use respectively, indicate a correlation between trail distance and annual number of users in Florida. ***In general, trail use increases with greater trail length***. As part of the regression analyses, linear models were created with trend lines that best fit the observed trail use data for given distances. The linear equation of these trend lines estimate that the combined 66 miles of paved multi-use trail proposed for the Silver Springs Bikeway, Cross Florida Greenway Trail, and FNOR trail would likely attract between 445,030 and 458,819 annual users. Based on FDEP's economic impact analysis of state trail users and annual expenditures, it is estimated that these additional trail users would bring approximately $20 million in annual economic impact to the region.

It is also important to note that there are many multi-use trails in Florida that are not part of the state park system and will not be captured by FDEP's data collection. For example, the previously mentioned *Economic Impact Analysis of Orange County Trails* and *Economic Impact of Seminole County Trails* reports discuss trail use and economic impacts in Central Florida. These reports state Orange County's multi-use trails had 1.7 million total users (not just cyclists) in 2010 and Seminole County multi-use trails had 1.1 million total users in 2011. The Orlando urban area has a large population and welcomes millions of tourists annually, however, they are a good example of how popular a well-connected network of multi-use trails can be when utilized by a range of user types. Also, Orange County and Seminole County are both in FDEP's Central Region along with Marion County. The multi-use trails proposed for Marion County will have important regional impacts with connections to the Withlacoochee Trail and future connections to Lake County and Orange County, as part of the Heart of Florida Loop. Establishing a new network of multi-use trails in Marion County will likely see trail use numbers in Central Florida exceed FDEP's 2020 projections. In addition to the estimated demand for Marion County's proposed multi-use trails, the future connections to the Central Florida region's highly popular and continually expanding trail network should increase trail use throughout the entire region.

West Orange Trail - one of the trails analyzed in the Economic Impact Analysis of Orange County Trails

CONSTRUCTION*

The estimated cost per mile for construction of an asphalt trail ranges from $200,000 to $300,000. The FDOT Long Range Estimate for a two directional, 12 foot multi-use trail is $231,278.63 per mile of construction. In addition to these construction costs, design and permitting is generally an additional 20 percent of the construction costs (in this example, design and permitting costs would be an additional $46,255.73 per mile). The costs presented do not include right-of-way acquisition or design, permitting, and construction on and around bridges. Final costs will be determined during design of the trail system.

Construction of a crosswalk connecting to a multi-use trail

Construction of a multi-use trail

*The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

MAINTENANCE*

Multi-use trails require maintenance to sustain convenient passage for pedestrians, bicyclists and other non-motorized users. Because these facilities are typically located outside of the road right-of-way, a separate maintenance program is often needed that addresses these facilities. The following list shows the average trail maintenance tasks for multi-use trails in Florida along with how often the task should be performed:

- Litter and trash removal – weekly or bi-weekly
- Sweeping debris off path – weekly or as needed
- Mowing and edging grass surrounding trail – every 10-14 days (March – November)
- Herbicide application along trail – minimum of once per year during the summer
- Tree and shrub pruning to avoid debris falling on trail – once per year in January or February
- Trailhead maintenance – mow and sweep weekly; trash pick-up bi-weekly; restroom cleaning bi-weekly
- Site inspections to make sure all amenities are working properly – each visit to trail and trailhead for maintenance needs/work orders
- Repairs, replacements, painting of amenities at trailheads and along the trail – as needed
- Graffiti clean-up – as soon as possible
- Sign repair/replacement at trailheads and along the trail – as soon as possible
- Inspections – annually

The average cost for maintaining a multi-use trail is $2,500 per mile of trail per year. The cost of trail maintenance will depend on where the trail is constructed, as well as the time of the year.

This picture shows what happens when a trail edge is not maintained. Edging will help to extend the life of a trail and provide a more safe facility

Clearing trails of debris will help to extend the life of a trail and remove potentially hazardous objects

Cracks such as these that are left that are not repaired properly can reduce the life of a trail and present safety concerns

DESIGN GUIDELINES*

Introduction

The primary sources used in these design guidelines are the *Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways* (the Florida Greenbook), the *Manual on Uniform Traffic Control Devices (MUTCD)* and the *Plans Preparations Manual (PPM). Other sources include* the *AASHTO Guide for Planning, Design, and Operation of Pedestrian Facilities*, and the *AASHTO Guide for the Development of Bicycle Facilities.* All of these references are updated periodically. When developing or reviewing any of the design guidelines included in this Master Plan, the most current version of the document should be consulted.

All facilities included in the Design Guidelines follow the Americans with Disabilities Act (ADA) of 1990. This act ensures that the public facilities shall be designed to accommodate those with physical disabilities.

In the following sections, these design guidelines will provide information on a variety of facility types using various federal and state guidelines. It is important to note that this guide should only be used as a reference as different sites require different specifications. A thorough review should be completed to determine if all minimum requirements are being met for each respective project. A specific look at the design guidelines for multi-use trails and their compliance with ADA is provided in the Americans with Disabilities Act Multi-Use Trail Design Guidelines section.

Trail to bridge connection that uses proper design guidelines (Bridges Trail)

Example of a properly designed multi-use trail (Bridges Trail) (Note: clear zones that are greater than two feet will require additional maintenance)

*The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Signage/MUTCD

Description:
Pedestrian signs are used to alert vehicles that pedestrians may be using a facility near the road, and that unexpected entries or other crossing activities may cause conflicts. Likewise, pedestrian signs are predominantly used to limit pedestrian crossings to specific locations along the roadway.

Design Guidelines:
Pedestrian signs, when used at the location of a crossing, can be supplemented with a diagonal downward pointing arrow plaque to make the location of the crossing more visible to motorists.

The minimum height of signs, measured vertically from the bottom of the sign to the sidewalk, shall be seven feet. If there is a directional sign mounted below, it shall not project more than four inches into the sidewalk.

Approximate Cost:
Cost is approximately $300 for sign and sign structure. Additional fees may be required depending on the location of the sign.

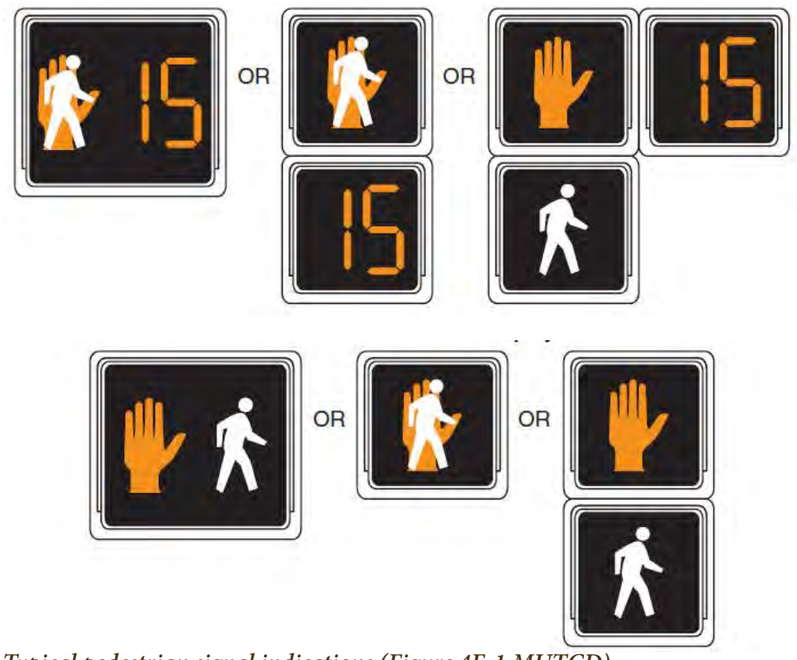
Pedestrian Alert Sign

MUTCD compliant signage on the St. Marks Trail in Tallahassee, Fl

Signals

Description:
Pedestrian signals are used to alert pedestrians when to cross an intersection by displaying person/hand symbols at traffic signals. These signals usually follow a set traffic signal cycle and alert pedestrians of the designated time that is allowed to cross the road. Additional considerations will need to be taken at intersections that allow vehicles to turn right on red. The *MUTCD* should be reviewed prior to planning, and coordination with the local transportation authority should be made prior to the installation of pedestrian signals.

Design Guidelines:
Pedestrian signals should be at a minimum of seven feet above the ground to limit conflicts with pedestrians. Many different factors play into signal design and no two situations are the same. When planning for this type of pedestrian feature all state and federal guidelines should be followed to make the most informed decision possible.



Typical pedestrian signal indications (Figure 4E-1 MUTCD)

Sidewalks

Description:
Sidewalks are critical elements of any pedestrian transportation system within a community. They allow for pedestrian movement from one place to another and should provide direct and convenient routes. Where available, sidewalks should allow for direct access to civic buildings, schools, and parks as well as transit facilities where available and commercial areas. It is important to remember that sidewalks need to promote and enhance accessibility to business, transportation facilities, and public spaces in the most direct route possible. This can be achieved using:

- Wide sidewalks
- Minimal obstacles
- Moderate grades and cross slopes
- Firm, stable, and slip resistant surfaces
- Adequate lighting
- Clearly defined pedestrian zone

By promoting and increasing accessibility, sidewalks have the potential to stimulate economic development opportunities and strategies through the encouragement of leisure shopping and providing more activity within an area. Finally, through proper design and implementation, sidewalks can increase public safety by reducing incidents such as pedestrian collisions, injuries, and fatalities in neighborhoods or along major roadways.

Design Guidelines:
It is essential that basic parameters for sidewalk design account for the needs of all potential users. In certain areas and environments it can be difficult to design a sidewalk that accounts for the wide range of abilities among an entire population. Therefore, the specific end user group that sidewalk is intended to be used by should be kept in mind when designing sidewalks. almost all cases sidewalks should be developed with young children and the elderly in mind as they are the most susceptible to be affected by sidewalk design. Therefore, sidewalks should be designed to minimize potential conflicts that could be caused interaction between vehicles and pedestrians. The minimum width that a sidewalk should be designed to be at least five feet wide.

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Example of a well-designed sidewalk in Naples, Fl

Sidewalk Width
Sidewalk width is one of the main determinants impacting the experience for pedestrians using a sidewalk. Narrow sidewalks can limit the number of users and force them to walk in close proximity to each other. In addition, narrow sidewalks can make pedestrians travel too close to adjacent buildings or fast moving traffic and can limit access for those utilizing wheelchairs. It is recommended that the pedestrian zone of any sidewalk be at a minimum 60 inches wide (five feet).

Wider sidewalks are recommended in areas where frequent or heavy pedestrian activity will occur. In these areas it might be more efficient and practical to implement a sidewalk corridor concept. Sidewalk corridors consist of a curb zone, planter/furniture zone, pedestrian zone, and frontage zone. When designing these corridors all zones should be considered.

1) **Curb Zone** – Consists of the first six inches directly adjacent to the roadway. The curb is an important part of most drainage systems and prevents automobiles from driving onto the sidewalk.

2) **Planter/Furniture Zone** – Located between the curb and actual pedestrian area. This area is typically used to accommodate utilities, pedestrian furniture, transit shelters, and landscaping features. It also serves as a buffer between pedestrians and provides an increased sense of safety. This zone should be at a minimum 60 inches wide.

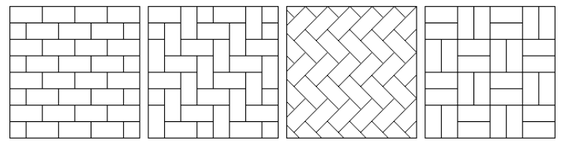
3) **Pedestrian Zone** –The paved portion of the sidewalk corridor that pedestrians travel on and commonly referred to as the sidewalk. As previously noted, the paved portion should be at a minimum 60 inches wide and never less than 36 inches wide. In an area that expects heavy pedestrian traffic this zone should be increased up to 120 inches to accommodate additional users. To allow enough space for wheelchairs to pass each other, the zone should have no protruding objects, obstructions, or obstacles.

4) **Frontage Zone** –The space between the sidewalk and the property line. This area should be 60 inches to provide for safe access to store fronts.

Example of a pedestrian friendly sidewalk that includes the four sidewalk zones highlighted above.
Source: Federal Highway Administration University Course on Bicycle and Pedestrian Transportation.

Grade
Whenever possible, grade should not exceed five percent. In some sections this may not be possible, so alternative designs should be considered. These include, providing rest areas for wheelchair users and wide sidewalk corridors. In order to assure that sidewalks drain properly, a cross slope of 1.5 to two percent is recommended. Specific consideration must be given to ensure that grade and cross slope are both constructed to the proper specifications.

Surfaces
The majority of sidewalks constructed consist of a concrete or asphalt surface. Other common materials that are used are tile, pavers, brick, or stone. Concrete and asphalt provide a high degree of firmness and stability. Under dry conditions concrete with a broom finish are sufficiently slip resistant. For areas that experience wet or icy conditions a good drainage systems that moves water off of the sidewalk, coupled with a regular maintenance program can help reduce the severity of damage. Decorative surface materials such as tile, stone, and brick improve the aesthetic quality of sidewalks by being able to be placed in decorative patterns, they also help to notify and signal to travelers that they are entering specific districts (i.e. historic) or areas of a community.



Decorative surface patterns

Changes in Level
The change in the vertical elevation of sidewalks, separate from the change in grade, can be caused by several factors. These include tree roots pushing up from beneath the sidewalk, heaving and settling from frost, brick surface buckling, and uneven transitions between streets, gutters, and curb ramps. **The table below** lists general requirements for assessments and solutions for these changes in level.

Change in Level	Solution
Up to 0.25 inches	No treatment required
0.25 to 0.5 inches	Bevel surface with maximum grade of 50%
Greater than 0.5 inches	Install ramp with maximum grade of 8.3%

Changes in Level

There are numerous other factors that apply to site-specific design of sidewalks, these can be found in the *American Association of State Highway and Transportation Officials* (*AASHTO*) and the Institute of Transportation Engineers *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*. The guidelines include passing space, vertical and horizontal clearance, changes in level, grates as well as other features that may apply in some site specific locations. One very important aspect when planning sidewalks are driveway aprons. When designing sidewalks around driveways, the location of the ramp can greatly affect the slope and grade of sections, therefore, special design considerations should be given to these areas. Driveway aprons should not extend into the clear pedestrian travel zone, where cross slopes are limited to a maximum of two percent.

Approximate Cost:
Cost varies per design and sidewalk type, but FDOT typically uses a cost of $120,400 per mile.

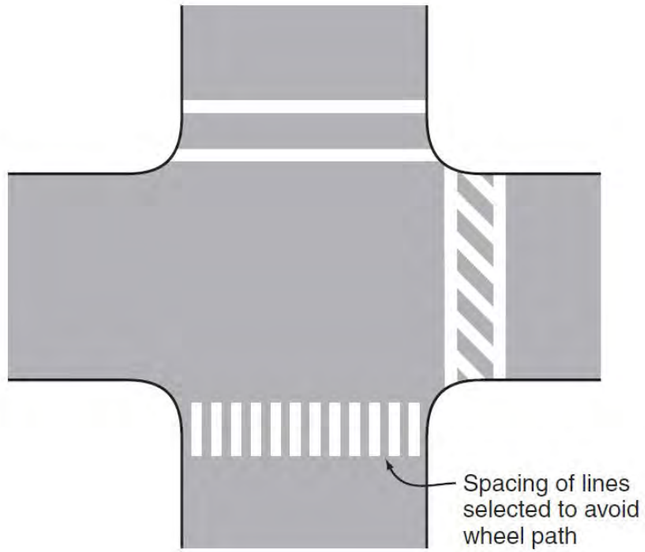
Crosswalks

Description:
Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops. In conjunction with signs and other measures, crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs. Crosswalk design can vary in nature depending on the intensity and usage of an roadway, so special considerations should be made depending on location.

Guidelines:
When crosswalk lines are used, they shall consist of solid white lines that mark the crosswalk. They shall not be less than six inches or greater than 24 inches in width (MUTCD); lines must extend the full width of the pavement and the gap between transverse lines shall not be less than six feet.

Marked crosswalks should be provided at all signalized intersections, or when:

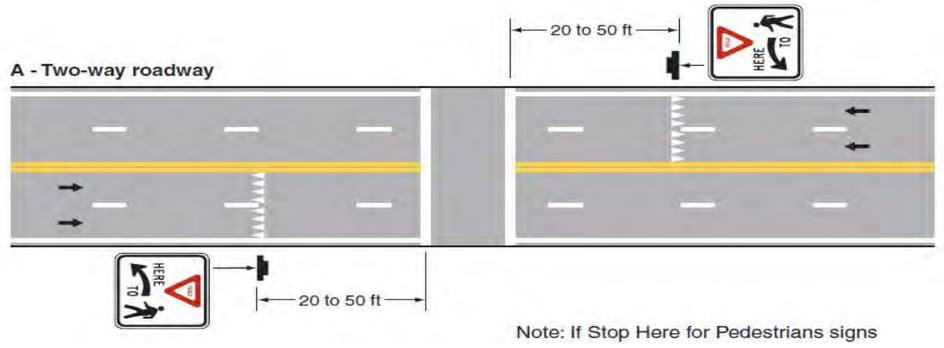
- Posted speeds are greater than 40 mph
- On a roadway with 4 or more lanes without a raised median that has an ADT of 12,000 or greater
- On a roadway with four or more lanes with a raised median that has, or is projected to have within five years an ADT of 15,000 or greater



Examples of crosswalk markings (Figure 3B-19, MUTCD)

Midblock Crossings

Description:
Midblock crossings typically occur on roads that have large distances between intersections as well as high traffic volumes, high speeds, and a large amount of pedestrian activity. Midblock crossings must be well signalized to alert motorists of the possibility of having pedestrians in the area. These crossings require the use of multiple high intensity crosswalk features to ensure the safety of pedestrians. Specific design criteria for each midblock crossing will be different, as no two areas are the same. However, at all crossings, there should be ample visibility from both directions so all design features should be considered, including landscaping. At a minimum, midblock crossings should follow general crosswalk design guidelines, but should include higher intensity features, such as raised crosswalks or signal lights, to ensure the safety of users.



Examples of yield lines at unsignalized midblock crosswalks (Figure 3B-17, MUTCD)

Possible treatments for consideration include, but are not limited to:

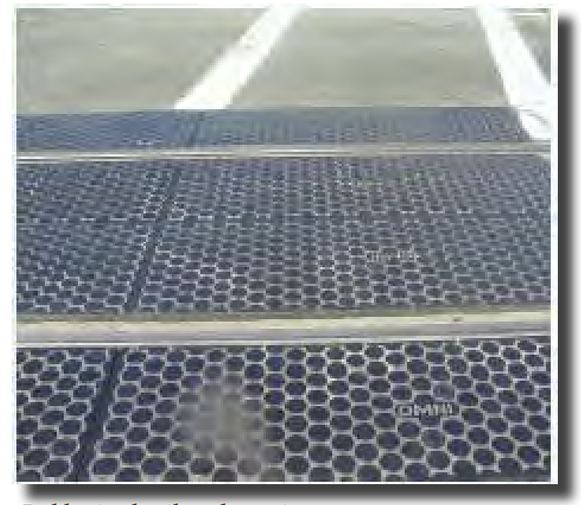
- Increased signage
- Curb extensions
- Preferred crossing signal
- Pedestrian refuge

Railroad Crossings

Description:
In areas where pedestrians or bicyclists must cross railroad tracks, special considerations must be met in order to ensure their safety. These crossings should include:

- The provision of a crossing arm that would stop vehicles, pedestrians, and bicyclists
- A rubberized material that would allow for an at-grade crossing over the tracks
- Warning signals to indicate when a train is approaching

More specific recommendations can be found in the Guidelines for Accessible Public Rights-of-Way, US Access Board.



Rubberized railroad crossing

High Emphasis Crosswalks

Description:
High emphasis crosswalks have the ability to:

- Reduce motor vehicle speeds and create visible, prominent crossing locations for pedestrians and cyclists
- Calm traffic and increases pedestrian safety at mid-block locations and intersections

Textured pavement, such as brick or stone, can also be utilized to enhance the pedestrian environment at crossings by applying the following guidelines:

- Textured pavement must provide a non-vibratory surface for pedestrians
- The use of textures pavement reduces vehicle speeds and improves intersection safety, and clearly delineates a separate space for pedestrians and bicyclists
- Additionally, signage should be added, to indicate to vehicles that pedestrians have the right of way at the intersection

High emphasis crosswalks should be implemented in areas that have high levels of both automobile and pedestrian activity, such as around schools and commercial districts.

Design Guidelines:
Use of stop bars, yield markings, and signs should be used at all crosswalks; other treatments could include flashing beacons, pedestrian signals, and curb extensions and textured pavement crossing may also be used.

Approximate Cost:
Costs vary depending on location and features installed, but base FDOT price is $92,000.

A Rectangular Rapid Flashing Beacon on a local street with a brick paver crossing can be used to draw attention to a midblock crossing in an area that has a lot of pedestrian activity

Paved Shoulder

Description:
A paved shoulder is a five foot section of the roadway that is outside of the vehicular travel lane but that does not have special markings or signing for preferential use by bicyclists. Paved shoulders are typically found on rural roads.The rural typical section standard is five feet.

Paved shoulders can reduce conflicts between bicyclists and automobiles by allowing the cyclists to ride outside the vehicle lane. Paved shoulders also preserve the integrity of the pavement by minimizing the number or cars that run off the edge of the road.

According to the *Florida Bicycle Facilities Planning and Design Handbook* and *AASHTO*, obstructions and other impediments on existing highways should be considered for their affect on bicycling and the use of paved shoulders. Impediments not receptive to bicycles include:

- Unsafe grates
- Debris
- Rumble strips
- Narrow lanes
- Driveways
- Rough pavement
- High-speed or high-volume traffic
- High truck volume
- Curbside auto parking
- Lighting
- Railroad crossing flanges
- Bridge expansion joints
- Metal grate bridge decks
- Traffic signals that are not responsive to bicycles
- Painted hatching

Design Guidelines:
The width of paved shoulders vary by location and projected use. The minimum width should be five feet, however existing four foot shoulders may be retained.

Paved shoulder

Additional standards can be found in the *Plans Preparation Manual (PPM)* Chapter 8, FDOT, and the Florida Bicycle Facilities Planning and Design Handbook, Section 2, FDOT.

Approximate Cost:
Standard FDOT cost for widening an existing two lane arterial to a four lane arterial with five foot paved shoulders is $2,030,000 per mile.

Designated Bicycle Lanes

Description:
Designated bicycle lanes provide a means of creating a bicycle transportation system congruent with the respective vehicular network in a given area. Bicycle lanes are an on-road facility type. They provide delineated road-space specifically allotted for bicycle use adjacent to the existing roadway, between the right most outside road boundary line and the gutter pan seam. Given adequate planning and right-of-way, it is possible to provide bike lanes on every roadway in a given network.

Designated bicycle lane and signage

Bike lanes work because they establish order, in terms of location, direction, separation, and predictability, for the sharing of highways/ roadways between cyclists and motorists. Bike lanes are also an effective means of avoiding sidewalk conflicts between cyclists and pedestrians providing cyclists with a convenient place to ride separated from pedestrian traffic activities.

Design Guidelines:
Design Standards from MUTCD
• Pavement markings designate the portion of the roadway for preferential use by bicyclists. Markings inform all road users of the restricted nature of the bicycle lane.
• **Standard:** Longitudinal pavement markings shall be used to define bicycle lanes.
•**Guidance:** If used, bicycle lane word, symbol, and/or arrow markings should be placed at the beginning of a bicycle lane and at periodic intervals along the bicycle lane based upon engineering judgment.

If there is on-street parking adjacent to the bicycle lane then the lane must be at a minimum five feet wide. If there is no adjacent on-street parking then the lane should have a minimum width of four feet to the curb face. The lane should be designated by a six inch wide, white line to separate it from traffic.

Bicycle slots must be used when there are right hand turn lanes present. Under these conditions the bike lane moves in between the right hand turn lane and the through traffic lane to minimize conflict. Use of signage helps alert motorists that bicyclists may be merging with traffic.

Additional standards can be found in the *MUTCD*, as well as in the *Florida Greenbook* and *PPM*.

Approximate Cost:
Cost varies depending on design and street type, however, standard FDOT cost to add two lanes to an existing two lane arterial is $3,800,000 per mile.

Protected Bicycle Facilities (Bicycle Sidepaths and Buffered Bicycle Lanes)

Description:
Protected bicycle facilities are facilities that provide a convenient place to ride separated from vehicular traffic. These facilities incorporate elements of both on-road bike lanes and separated multi-use paths. Typically, both sidepaths and buffered bicycle lanes are separated by a painted buffer as well as flexposts; but sidepaths and are bi-directional, while buffered bicycle lanes operate only in one direction. In a recent study completed by the National Institute for Transportation and Communities entitled *Lessons from the Green Lane: Evaluating Protected Bike Lanes in the US,* they found that installation of a protected bicycle facility increased use of the facility by cyclists by up to 75 percent.


Bicycle sidepath in Austin, Texas


Buffered bicycle lane in Washington, DC

Shared Lane Markings

Description:
Shared lane markings, also referred to as sharrows, consist of a bicycle and double chevron pavement marking as seen in the image below. They are used to alert bicyclists and drivers that a lane is open to cyclists, even if no bicycle lanes or paved shoulders exist.

According to the *Plans Preparation Manual (PPM)*, shared lane markings can only be implemented if the speed limit on a road is less than 35 miles per hour.

Shared lane markings can be used instead of bike lanes on roads with adjacent on-street parking. The sharrow allows the bicyclist to occupy the lane, avoiding placing bicyclists in the "door zone." The door zone is the area where cars that are parallel parking on the streets would open their doors. This area presents a real danger to bicyclists as they often not aware when a door is about to be open. Shared lane markings do not require an increase in lane width, or right-of-way width.

Design Guidelines:
Additional standards can be found in the *Manual on Uniform Traffic Control Devices (MUTCD)* and *PPM.*

Approximate Cost:
Cost varies depending on design and street type.

Chevron pavement marking on a shared lane road

Bicycle Boxes

Description:
Bicycle boxes are used at intersections with a high volume of bicyclists. Bicyclists pass through an intersection first during the green signal phase rather than queuing behind motor vehicles. This also assists bicyclists to make left turns at signalized intersections.

This can also reduce right-turn conflicts between bicyclists and motorists at intersections by increasing bicyclist visibility to drivers and providing a space for bicyclists to wait at signalized intersections.

Motorists are alerted by the bike box at the intersection shown in the image to the right

Bicycle box facilities have not yet been adopted by the FHWA, but some jurisdictions have implemented them in areas that have a lot of bicycle traffic.

Design Guidelines:
There is not yet a standard design for bicycle boxes, but they should be implemented in a way that allows for a bicycle to easily position itself in front of stopped traffic.

Approximate Cost:
Cost varies depending on design and street type.

Bicycle box in Portland Oregon

Bicycle Boulevard

Description:
On bicycle boulevards, bicycles have priority along the street. The street itself will still provide vehicular access and travel. The use of signs will provide awareness to the fact that the road is a bicycle boulevard, and through other aesthetic choices, the look and feel of the street will be enhanced.

Design Guidelines:
Primary characteristics of a bicycle boulevard are:

- Low vehicle volumes (no more than 4,000/day)
- Low vehicle speeds (Less than 25 mph)
- Logical, direct, and continuous routes that are well marked and signed (usually run parallel to main arterials to make convenient for commuting)
- Provide convenient access to desired destinations (provide bicycle connectivity even if road does continue through)
- Minimal bicyclist delay (provide cyclists with exclusive movement through signalized intersections)
- Comfortable safe crossings for cyclists at intersections (provide facilities for midblock crossings, as well as traffic calming facilities)

Approximate Cost:
Cost varies depending on design and street type.

Pavement marking on a bicycle boulevard

A city specific bicycle boulevard sign

Bicycle Parking Facilities

Description:
Adequate, safe, and easy to use bicycle parking facilities are essential to a successful bicycle network. Good parking facilities serve as an effective tool to encourage ridership. Sufficient bicycle parking facilities will prevent cyclists from locking their bikes to objects or facilities not intended for that purpose. This practice may cause damage to the object or bicycle, or may disrupt the flow of pedestrian or vehicular traffic. Bicycle parking facilities should be developed at all public facilities and educational facilities and at commercial buildings and transit stops where feasible. Bicycle parking should also be planned in conjunction with other user amenities, such as benches, trash receptacles, recycling containers, etc.

Design Guidelines:
Parking facilities should be located near any resting or recreational areas along bicycle routes and multi-use trails. They should be provided at popular trip origination and destination places to deter theft, and minimize damage. Bicycle parking facilities should also be located where bicycles will not be damaged or cause damage to motor vehicles. Bicycle parking facilities should be located where additional racks can be readily added as needed.

Bicycle parking facilities should be designed according to their use. Long term and short term parking structures should have different attributes depending on the needs of users.

Long Term Structures:
- Are intended for extended storage of bicycles
- Should provide a high degree of security
- Should provide protection from weather
- Should not cause damage to bicycles
- Should be easy to use, with as few moving parts as possible, or with instructions for use, if necessary
- Should accommodate all types of bicycles, including tricycles and those with trailers
- Typical long term bicycle facilities are cages, lockers, or rooms in buildings

Short Term Structures:
- Are intended for short term parking
- Should not cause damage to bicycles
- Should be located in highly visible places to encourage use, and
- Should be located proximal to common destination and origination places for cyclists
- Should accommodate high security locks and those that secure the frame and both wheels
- Should accommodate all types of bicycles, including tricycles and those with trailers

Approximate Cost:
Cost varies depending on design and street type.


Post and loop bicycle racks with city branding discourage theft and vandalism

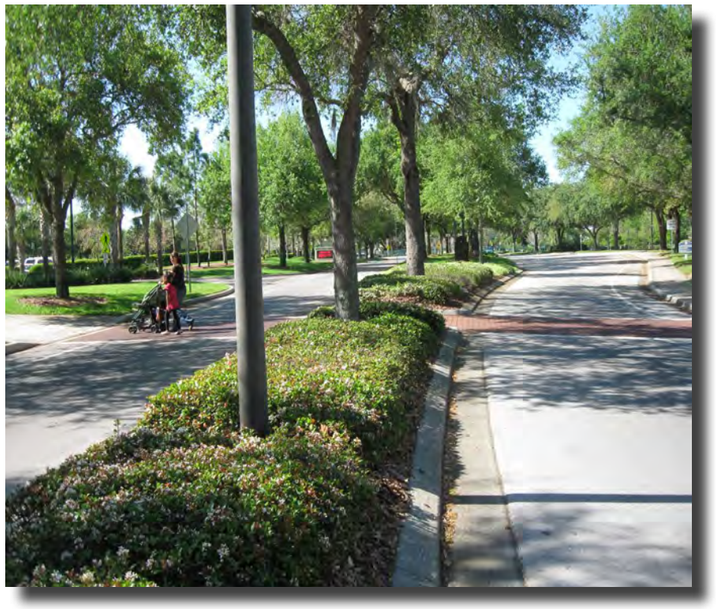

Long term bicycle storage

Median Refuges

Description:
Median refuges (pedestrian refuges) facilitate pedestrian and/or bicycle crossing of multiple lane or high volume arterials by providing a space in the center of the roadway where bicyclists and pedestrians can wait for gaps in traffic when crossing wide roadways. The use of a refuge allows a bicyclist or pedestrian to safely cross while focusing on one direction of traffic. Left turn movements are restricted and consequently reduces the number of potential conflict points between motor vehicles and bicyclists. Median refuges should be, at a minimum, six feet wide for pedestrian crossings, and ten feet for bicycle crossings.

Design Guidelines:
Ideal places for median refuges include:
- Complex or irregularly shaped intersections
- When a crossing is 60 feet or more
- Wide, four lane streets, with high speeds and traffic volumes
- Where children and elderly cross regularly
- Intersections with significant numbers of pedestrians
- Intersections with insufficient green time to cross

Approximate Cost:
Cost varies depending on design and street type.



Pedestrians crossing road with a median refuge and brick crosswalk

Wayfinding Signage

Description:
Wayfinding is the process of directing pedestrians, bicyclists and vehicles to their final destination; informing them as to their current location; and a means to convey information to the public. This information may also include distance information for vehicles, bicyclists, and pedestrians.

Wayfinding signs should only be used on a localized level in close proximity to the destination and should only be used when there is no conflict with higher priority signs.

Standardizing wayfinding signs is encouraged as this makes them easier for travelers to see and understand them.

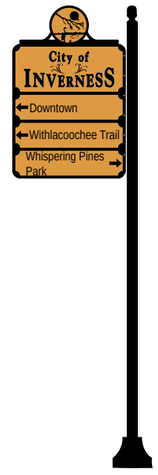
Design Guidelines:
According to the MUTCD wayfinding signs should:
- Be located away from intersections where high priority traffic control devices are present,
- Be facing away from the street and toward the sidewalk, and
- Be out of the line of sight from vehicular signs, and should not be retroflective

Unified Signage Typology
It is recommended that a family of signs be developed with unified signage typology that can be implemented throughout Marion County to safely and efficiently move bicycle and pedestrian traffic. These signs should be synchronized by facility type and location. It is recommended that the signs be related in appearance and ability to distribute information, but also contain unique features that differentiate signs from each other. For example, a different sign should be developed for use on each of the three multi-use trails that are recommended in the Master Plan. Each of these signs should contain similar information and have the same general appearance, but also each have a unique motif.

Having a unified signage typology will allow user, no matter where they are in Marion County, to be able to tell that they are on a Marion County facility, while also providing them with useful information that is unique to that facility.

Approximate Cost:
$300 for sign and structure

Proposed signage that was implemented in the City of Inverness



Proposed signage in Dunnellon

Traffic Calming

Description:
Vehicular traffic traveling at higher speeds can be intimidating to pedestrians and cyclists. The quality of a safe and enjoyable multimodal environment is greater if the vehicular traffic is perceived as non-threatening. Measures must be taken to control and calm vehicular traffic in areas with significant pedestrian and bicyclist activity. However, these treatments should not create hazardous conditions for cyclists.

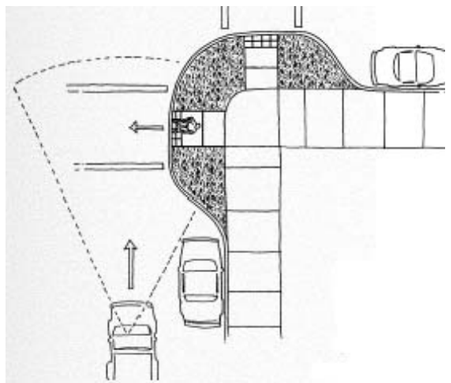
On-street parking is the best form of traffic calming. Bulb-outs are a curb extension or a traffic calming measure intended to slow the speed of traffic and increase awareness to the driver. This increases pedestrian safety at intersections and helps to reduce sight distance concerns associated with vehicles parking too close to an intersection.

Street trees, when implemented on both sides of the street, create a sense of enclosure that discourage speeding. Implementing street trees as a traffic calming mechanism also provide a more aesthetically pleasing place for pedestrians to walk by providing shade as well as a visual buffer from the road.

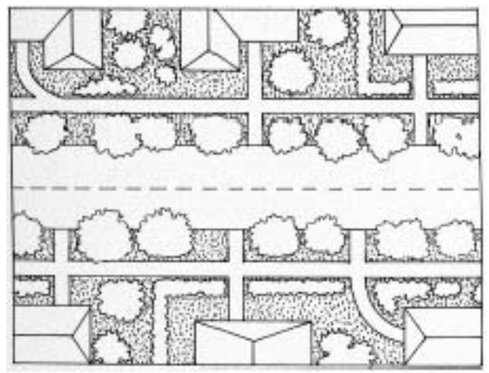
Traffic calming can consist of a number of horizontal and/or vertical roadway treatments that include, but are not limited to:

- On-street parking
- Raised intersections
- Raised crosswalks
- Speed tables
- Mini-circles
- Speed cushions

Approximate Cost:
Cost varies depending on treatment ($2,000 to $20,000)



Road section with bulb-out to enhance visibility of pedestrians



Street trees along a residential road

Arterial Safety

Where feasible, arterial roads should incorporate the design guideline elements described in this document, include the following:
- Sheltered bus stops
- Implement mid-block crossings where applicable and feasible
- Designated bicycle lanes (4 - 5 feet)
- Hatched buffer between bicycle lanes and traffic in high traffic areas, where feasible and appropriate
- Lighting at night so pedestrians can be more visible
- In commercial strip areas implement 6 - 10 foot sidewalks with landscaped buffers

Midblock Crossing on US 441 in Ocala, Fl

Buffered bike lanes can be used on high-traffic roads to improve safety

Unimproved Trails

Summary Description:
Unimproved or nature trails are typically unpaved facilities to allow for a more enjoyable natural surface. These are most commonly used for recreational purposes. Typical uses include hiking, off-road cycling and walking. Trails enhance quality of life in a community or region and enhances eco-tourism opportunities.

Design Guidelines
When designing trails four main ideas should be followed
- Safety- separate trail from vehicles, allow for minimal crossings, design for visibility
- Connectivity- connections make longer trips possible, and provide links to other bicycle/pedestrian facilities
- Context- Trail should be designed with the opportunities, constraints, and surroundings of the area in mind
- Diversity- Should be designed to provide access and facilities for all ages and abilities

Approximate Cost:
- 3 to 4-foot natural surface trails: $8,000 to $14,000 per mile
- 10-foot crushed aggregate (4-inch depth) trail: $35,000 to $50,000 per mile
- 5-foot Trail with Grade Separation from Off Highway Vehicle Road: $40,000 to $60,000 per mile

Land Bridge over I-75 on the Cross Florida Greenway

Amenities for Trailheads and Rest Areas

The following features and standards should be used for the location and installation of the rest areas. Features and amenities to be included at these locations are:

- Sheltered seating area
- Trash Receptacle
- Landscaping

Sheltered Seating Area
The sheltered seating area consists of an 8” thick concrete slab located adjacent to the trail. The dimensions of the concrete slab should be at minimum 12’x12’. A covered bench seating area should be located on the concrete slab with a minimum 2’ clear zone from the front edge of the bench to the edge of the trail.

Mini Shelter –Model # LW-G12-2P-04-B

Shelter covers a 12’x12’ area.
The eve height is a minimum of 7’6”. The beams are made primarily of laminated southern pine.
Benches shall be 3” x 10”, #1 grade CCA 0.4 pcf treated SYP. Field drilling of holes may be required. All hardware (carriage bolts) shall be included.

30-Year Shingle Roofing - Fiberglass shingles shall be 30-year warranty, class “A” fire rated, over 15# felt underlayment. Roofing nails shall be 1¼”galvanized. Drip edge shall be included for application continuously along perimeter. The shingle package may be provided by the owner or contractor.

Source: RCP Shelters, Inc.

Trash Receptacle
A trash receptacle should be placed to the right or the left of the concrete slab near the sheltered seating area. The trash receptacle should not block access between the bench and the trail.

Waste Container –Model # TF1015 Base Price: $5,000 **- includes shelter, trash receptacle, and installation**

Size: 20” x 20” x 43”
Unit Weight: 280 lbs.
Unit Capacity: 30 gallon capacity,
(24 gallon with optional liner)
Reinforcing: Steel reinforced
Material: Concrete

Landscaping
Landscaping at rest areas enhance these locations by providing shade and relief in sunny locations and compliment the trail experience. Landscaping which is indicative of the surrounding area/ecosystem should be used appropriately.

AMERICANS WITH DISABILITIES ACT MULTI-USE TRAIL DESIGN STANDARDS

All multi-use trials proposed in this Master Plan should be constructed in accordance with the following typical sections. This typical section allows for pedestrians, cyclists, and persons using mobility devices to utilize the trail. The multi-use trail, shown in **Figure 6**, would have an overall impact area of 16 feet, consisting of a 12-foot-wide asphalt trail with two foot graded and sodded areas on either side. Additionally, the multi-use trail would be constructed of asphalt, and exhibit a two percent maximum cross-slope and five percent maximum grade for universal access and safety considerations. This typical section is consistent with the Florida Department of Transportation's Plans and Preparations Manual and with federal guidelines for trail design and the Americans with Disabilities Act (ADA). The United States Department of Justice provides requirements and technical resources for use when designing ADA accessible facilities. More information is available at: http://www.ada.gov/ada_req_ta.htm.

Accessibility considerations are intended to eliminate design barriers so that every person, regardless of age or physical/mental ability, has an opportunity to enjoy and participate in the built environment. Design guidelines for accessibility are conveyed in the 2012 Florida Accessibility Code for Building Construction and various engineering design standards that provide a foundation for how the trail network should be constructed. During the implementation of this Master Plan, all facilities will be developed according to current applicable standards with the goal of providing universal accessibility.

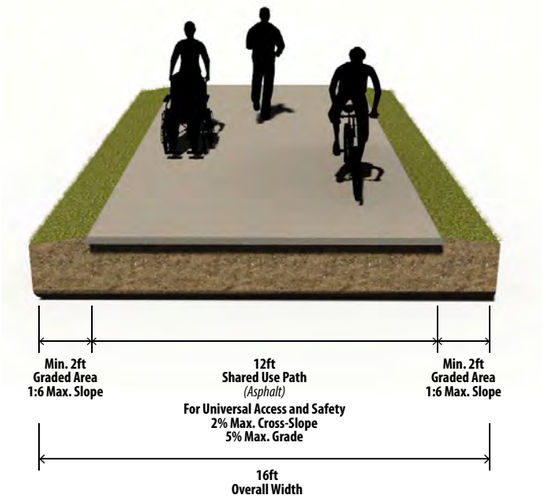
Standards for Multi-use Trails

Standards for multi-use trails can be found in Chapters 14 and 15 of the Federal Highway Administration's Best Practices Design Guide. These design standards are summarized below.

Surface Material

The surface material used for multi-use trails should be firm, stable, and slip resistant to provide all users, especially those who require mobility devices, with a safe foundation. A firm surface is described as one that does not compress when weight is applied; any surface that compresses less than 0.3 inches using a wheelchair caster is considered firm. A stable surface is described as one that is able to return to its original condition after weight is removed; any surface that remains out of place 0.5 inches or less using a wheelchair caster is considered stable. Shared-use path surface material that qualifies as firm, stable, and slip resistant includes asphalt, concrete (smooth or broom finish), soil with stabilizer, crushed rock with stabilizer, or wooden planks. However, asphalt or concrete should be the primary choice of surface material when designing shared-use paths in locations that are developed, involve fragile environments, are subject to flooding and drainage problems, or have steep terrain. Asphalt and concrete are also necessary for paths to be accessible by wheelchair users and users of other mobility devices, bicyclists, and inline skaters.

Figure 6
Multi-use Trail Typical Section



Path Width

The width of a multi-use trail ultimately determines how many and what type of users are able to utilize a path at a given time. If the path is too narrow, congestion among pedestrians, cyclists, inline skaters, and people using mobility devices impairs the traffic flow, especially when users are simultaneously moving in both directions along the pathway. In order to accommodate all types of users at any given time, the path must be a minimum of ten feet wide for a regularly used path. If the trail is proposed for heavy use, it must be a minimum of 12-feet wide. Additionally, either side of the trail must have a graded buffer of at least two feet. The recommendations in this Master Plan are proposed to be 12 feet wide to accommodate all user types. In areas where use of the trail is anticipated to be heavy, widths greater than 12 feet should be considered.

Cross Slope

The cross slope, the lateral slope of a trail, must be no steeper than two percent for asphalt or concrete, and no steeper than five percent for nonpaved surfaces. These percentages are steep enough to allow for proper drainage, yet flat enough to ensure people using mobility devices can easily travel along the pathway. These cross slopes also enable users to maintain their lateral balance.

Grade

The grade, or incline, is an important consideration when designing a multi-use trail for mobility impaired users. Steep inclines become unsafe for wheelchair users going downhill and become difficult for the elderly or wheelchair users to climb when going uphill. Thus, the grade of a multi-use trail should not exceed five percent and must be as gradual as possible. However, if steeper segments must be incorporated, then the length should be minimized, be free of obstructions, and include rest areas. The general guidance for steep segments incorporated on a shared-use path is:

- A grade of 8.3 percent must be no longer than 200 feet
- A grade of 10 percent must be no longer than 30 feet
- A grade of 12.5 percent must be no longer than 10 feet
- Total length of steep segments greater than 8.3 percent must be less than 30 percent of the total path length
- Rest intervals should be within 25 feet of the top and bottom of each steep segment

Rest Intervals and Areas

Rest intervals are required 25 feet before and after steep grade segments to ensure that any user, especially the elderly or mobility impaired, has an area to take a break after exerting extra effort. Rest areas must be, at minimum, five feet in length with a width greater than or equal to the width of the path. Rest intervals should also ideally be adjacent to the trail, rather than on the trail, so that resting users do not inhibit the traffic flow of those who continue moving along. Rest areas have the same dimensional requirements as rest intervals, but differ because they provide amenities such as benches, wheelchair space, and shelters for users needing a break. Rest areas should also be provided on both sides of the path in congested locations.

Tread Obstacles

Tread obstacles, such as tree roots and rocks, create a dangerous scenario for trail users, especially the elderly and people using mobility devices. On a paved multi-use trails, obstacles are not allowed. Unpaved trails may have obstacles smaller than two inches as long as there is a clear path of travel, 36 inches wide, around the obstacle.

Protruding Objects

Ideally, no object, such as tree limbs, should protrude horizontally into or vertically over the multi-use trail. If, however, a protruding object is unavoidable, objects must protrude no more than four inches into the travel space. For objects protruding horizontally into the path, a four-foot minimum clearance is required around the object. Objects that protrude vertically over the path must have at least an eight-foot clearance unless an underpass is incorporated, then a minimum 10-foot clearance is necessary.

Openings

For the safety of the mobility impaired, openings on the trail should be avoided. If, however, an opening such as a grate, storm drain, or utility access is unavoidable, then the width of the opening should be no wider than 0.5 inches. The opening should also be oriented so that the longer side is perpendicular to the direction of travel. These dimensions ensure that mobility devices do not get caught in the openings and that the likelihood of anyone tripping over an opening is minimized.

Level

Changes in level should be avoided in the construction of new multi-use trails; however, a change in level less than 0.25 inches is acceptable without any edge treatment. If an abrupt change in level between 0.25 to 0.5 inches is unavoidable along a paved trail, then a beveled surface with a maximum slope of 50 percent is required. Any level changes greater than 0.5 inches either require a ramp or must be removed for the safety and usability of all users.

Railings

Railings are required for the safety of trail users only in locations where an edge protection is needed such as along steep drop-offs or over bridges. The minimum height of a railing should be no shorter than 42 inches so that both pedestrians and bicyclists are protected. If a handrail is included as part of the railing, then ADA requirements for handrails need to be met.

Pedestrian Bridges

Bridges should be a minimum of 12 feet wide. If the multi-use trail is wider than 12 feet, then the bridge should be as wide as the multi-use trail. Bridges need to be flush with the path surface so that people using mobility devices can maneuver onto and off of the bridge effortlessly. Bridges also need to have a flat grade, provide railings, and be evenly aligned with the path prior to and after the bridge.

Intersections

Intersections need to be indicated so that users have ample time to prepare for oncoming traffic or a change in topography. Trails should intersect at 90 degree angles with a smooth surface connection, if possible. When two or more trails intersect, clear sight lines of the intersection should be provided at seated (wheelchair and bicycle) and standing height. When more than two trails intersect at a given location, the best option is to offset the intersections so that traffic does not bottleneck into the intersection at once. It is also recommended that signs be posted prior to intersections, which specify what user has the right-of-way, any preferred travel direction, and lengths of the additional paths. In the instance that the multi-use trail would intersect with a road, these same recommendations apply; however, a visible crosswalk is recommended for the safety of the trail users.

Parking Lot Design

The parking lots at trailheads along the proposed trails will be designed to ensure that all users are easily able to access the trail and the amenities. The design of designated parking spaces and loading areas within each parking lot must also be in accordance with accessibility requirements as presented in the 2012 Florida Accessibility Code for Building Construction.

Designated Parking Spaces

According to ADA regulations, a ratio of one to 25 is required for the number of designated parking spaces to regular spaces in each lot. Of these designated parking spaces, a ratio of one to six is required for the number of van accessible spaces. Designated parking spaces for both cars and vans must be clearly marked with appropriate signage and located closest to the trailhead entrance. Designated parking spaces for cars must have a minimum width of eight feet and at least a five-foot access isle,while designated parking spaces for vans must have a minimum width of 11-feet and at least a five-foot access isle. However, if an access isle is shared between a van and car parking space, then the minimum width for both parking spaces is eight feet with a shared access isle of eight feet. While not a requirement, it is recommended that both regular and designated parking spaces be angled between 45 and 60 degrees because of the ease of navigation the angled spaces provide to drivers. In areas of high anticipated usage, additional designated parking spaces should be considered.

Passenger Loading Zones

Passenger loading zones must have a minimum width of eight feet and minimum length of 20 feet. These loading zones enable vehicles to pull up to the entrance of a trailhead for convenient pickup of passengers.

Access to Trails

Access points along the proposed network should be accessible to all users. Trailheads should conform to ADA Accessibility Guidelines for parking and bathrooms, and amenities should be connected with a trails that meets the accessible design recommendations for multi-use trails.

Amenities

All amenities provided at each trailhead and along the trails must meet ADA requirements as detailed in the 2012 Florida Accessibility Code for Building Construction.

ADA compliant designated parking space for the St. Marks Trail in Tallahassee, Fl

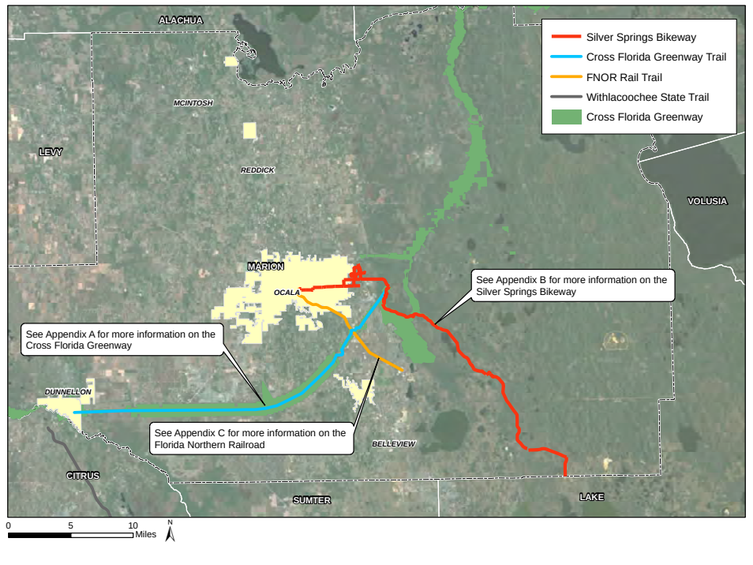
RECOMMENDATIONS

This section offers recommendations for specific projects and policies that will help the Ocala-Marion TPO achieve the vision of the 2035 Bicycle & Pedestrian Master Plan. For reference, the existing bicycle facilities are shown in **Appendix F**.

Regional Bicycle Projects

Three multi-use trail projects have been identified for the TPO area. The Silver Springs Bikeway, Cross Florida Greenway, and Florida Northern Railroad (FNOR) will connect to existing trails, parks, and recreation areas, creating a network of over 60 miles of paved multi-use trails. These trail projects will have a regional impact in that they complete several critical links in the proposed Heart of Florida Loop, connecting to the Withlacoochee Trail and also forming the first part of a trail connection towards Mt. Dora in Lake County (**Figure 7**). The addition of these new trails will capitalize on Marion County's position within Central Florida's highly popular and continually expanding trail network. More detailed plans for the Silver Springs Bikeway, Cross Florida Greenway, and FNOR multi-use trails can be found in the individual trails' Feasibility Studies that are provided in **Appendices A, B, and C**. Design Concept Plans for the Silver Springs Bikeway can be found in **Appendices D and E**. Additionally, five future connections are recommended to provide connection to Putnam County, Levy County, Sumter County, and Lake County. The conceptual Palatka/Interlachen Hawthorne Trail connector would connect from Silver Springs State Park north through the Cross Florida Greenway and into Putnam County. The SR 40 Trail was originally proposed as part of the Black Bear Scenic Byway and is being further evaluated as part of the SR 40 Corridor Study. **Figure 10** shows how the SR 40 Trail will connect into the Silver Springs State Park. This connection will also provide access to the proposed Indian Lake State Forest Trail. Currently, SR 40 from where it changes from four to two lanes to east of CR 314A is in preliminary engineering for future capacity and the section from where SR 40 changes from four lanes to two lanes to the Lake County line is in Project Development and Environmental (PD&E) in the current Five Year Work Program. The Proposed Goethe Connection follows an abandoned rail corridor northwest from Dunnellon into the Goethe State Forest in Levy County. The Withlocoochee Bay Trail connects Dunnellon to the Gulf Coast in Levy County. The Villages Connection will extend south from Lake Weir and connect to the Villages via CR 25 and US 441 in Sumter County. These corridors are shown in **Figures 8 and 9**.

Figure 7
Regional Trail Project Recommendations



Local Bicycle Projects

In addition to the recommended multi-use trails provided in the feasibility studies, stakeholder interviews helped identify other local needs within the TPO area. These recommendations include: the "Bicycle Beltway," the Lake Weir Connection, East Fort King Street, and additional bike lanes and paved shoulders. These facilities will help to connect neighborhoods in Marion County to the proposed multi-use trail system as well as provide additional recreational opportunities. As facilities are built in Marion County, the County should look to connect existing neighborhood to the regional multi-use trail facilities via on road connections or spur trails

Bicycle Beltway

The "Bicycle Beltway" is a proposed loop of designated bicycle lanes and paved shoulders on roads around the City of Ocala. Generally, the "Bicycle Beltway" will be located on the roads included in **Table 5**. General costs, as depicted by FDOT, are also shown in **Table 5**.

Lake Weir Connection

The Lake Weir Connection is a proposed project to add bike facilities to the roads around Lake Weir. Currently, no roadways located on the Lake Weir Connection have existing bike lanes or wide shoulders, except for a small section on CR 25. Roadways along this route are recommended to have paved shoulders to provide this important connection. **Figure 8** shows the currently proposed Lake Weir Connection. **Table 5** shows the roads that are included in the Lake Weir Connection. In addition to these facilities, adding paved shoulders from CR 25 to SE 132nd Place would provide access to Carney Island, a 600 acre recreation and conservation area.

Carney Island at Lake Weir

Table 5
Roadways on the Bicycle Beltway and Lake Weir Connection

Bicycle Beltway					
Northern Boundary	**From**	**To**	**Recommendation**	**Length (Miles)**	**Estimated Project Cost***
NE 97 Street Rd (Burbank Rd)	NE 58th Avenue	CR 200A (NE Jacksonville Road)	5' Paved Shoulder	3.80	$ 858,800
CR 200A (NE Jacksonville Road)	NE 97 Street Rd (Burbank Rd)	NE 100 Street	5' Paved Shoulder	0.18	$ 39,550
NE/NW 100 Street	CR 200A (NE Jacksonville Road)	CR 225A	5' Paved Shoulder	7.50	$ 1,695,000
Western Boundary	**From**	**To**	**Recommendation**	**Length (Miles)**	
CR 225A	NE 100 Street	SR 40	5' Paved Shoulder	8.00	$ 1,808,000
SW 80 Avenue	SR 40	SW 90 Street	5' Paved Shoulder	6.50	$ 1,469,000
SW 90 Avenue	SW 80 Avenue	SR 200	None - Existing Bike Lane		-
SW 95 Street Road	SR 200	SW 60 Avenue	None - Existing Bike Lane		-
SW 95 Street Road	SW 60 Avenue	SW 49 Avenue	5' Paved Shoulder	1.00	$ 226,000
SW 49 Avenue	SW 95 Street Road	Marion Oaks Course	5' Paved Shoulder	3.50	$ 791,000
Marion Oaks Course	SW 49 Avenue	CR 484	5' Paved Shoulder	0.85	$ 192,100
Southern Boundary	**From**	**To**	**Recommendation**	**Length (Miles)**	
CR 484	Marion Oaks Course	SW 16 Avenue	None - Existing Bike Lane		-
CR 484	SW 16 Avenue	SR 25 (Hames Road)	5' Paved Shoulder	7.60	$ 1,717,600
SR 25 (Hames Road)	US 441	SR 35 (Baseline Road)	5' Paved Shoulder	0.35	$ 79,100
Eastern Boundary	**From**	**To**	**Recommendation**	**Length (Miles)**	
SR 35 (Baseline Road)	SR 25 (Hames Road)	SE Maricamp Road	Designated Bike Lane	5.40	$ 1,220,400
SR 35 (Baseline Road)	SE Maricamp Road	SR 40	None - Existing Bike Lane		-
SR 35 (Baseline Road)	SR 40	NE 97 Street Rd (Burbank Rd)	Designated Bike Lane	10.50	$ 2,373,000

Lake Weir Connection					
Roadway	**From**	**To**	**Recommendation**	**Length (Miles)**	**Estimated Project Cost***
CR 25 (Ocala Road)	SR 35 (Baseline Road)	SE Sunset Harbor Road	5' Paved Shoulder	12.50	$ 2,825,000
SE Sunset Harbor Road	CR 25 (Ocala Road)	SE 100 Avenue	5' Paved Shoulder	3.75	$ 847,500
SE 100 Avenue	SE Sunset Harbor Road	CR 25 (Ocala Road)	5' Paved Shoulder	4.40	$ 994,400
SE 132 Place	SE 100 Avenue	Carney Island Park Entrance	5' Paved Shoulder	1.50	$ 339,000

*Note: Estimated project costs are presented for the addition of 5' paved shoulders only, not the cost of resurfacing the existing roadway. These estimates do not include costs associated with roadway resurfacing, such as mobilization, maintenance of traffic, silt fencing, and stabilization of the shoulder. These estimates assume that the shoulder was stabilized when the road was originally constructed.

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

Figure 8
Bicycle Project Recommendations

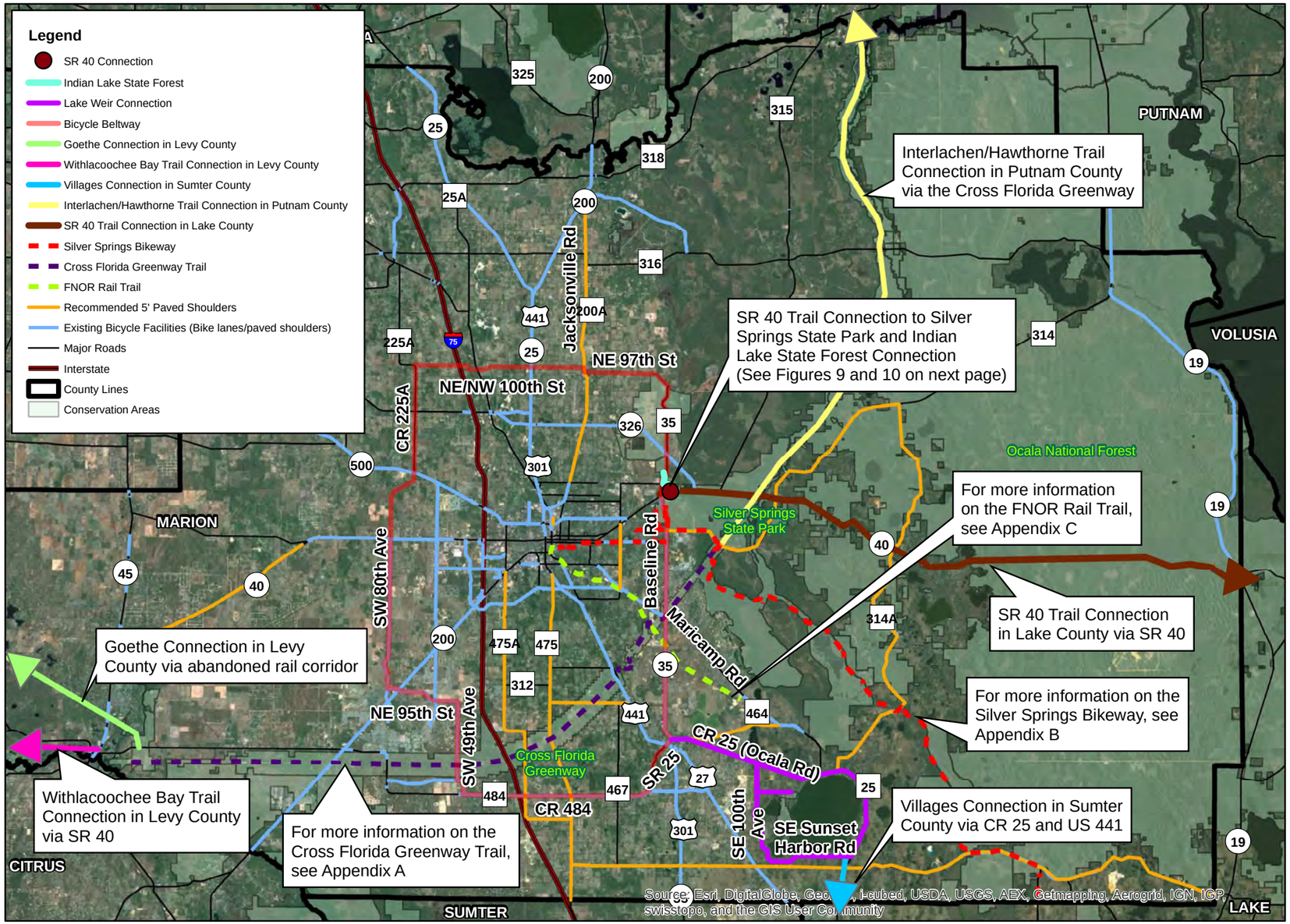


Figure 9
Inset of Bicycle Project Recommendations

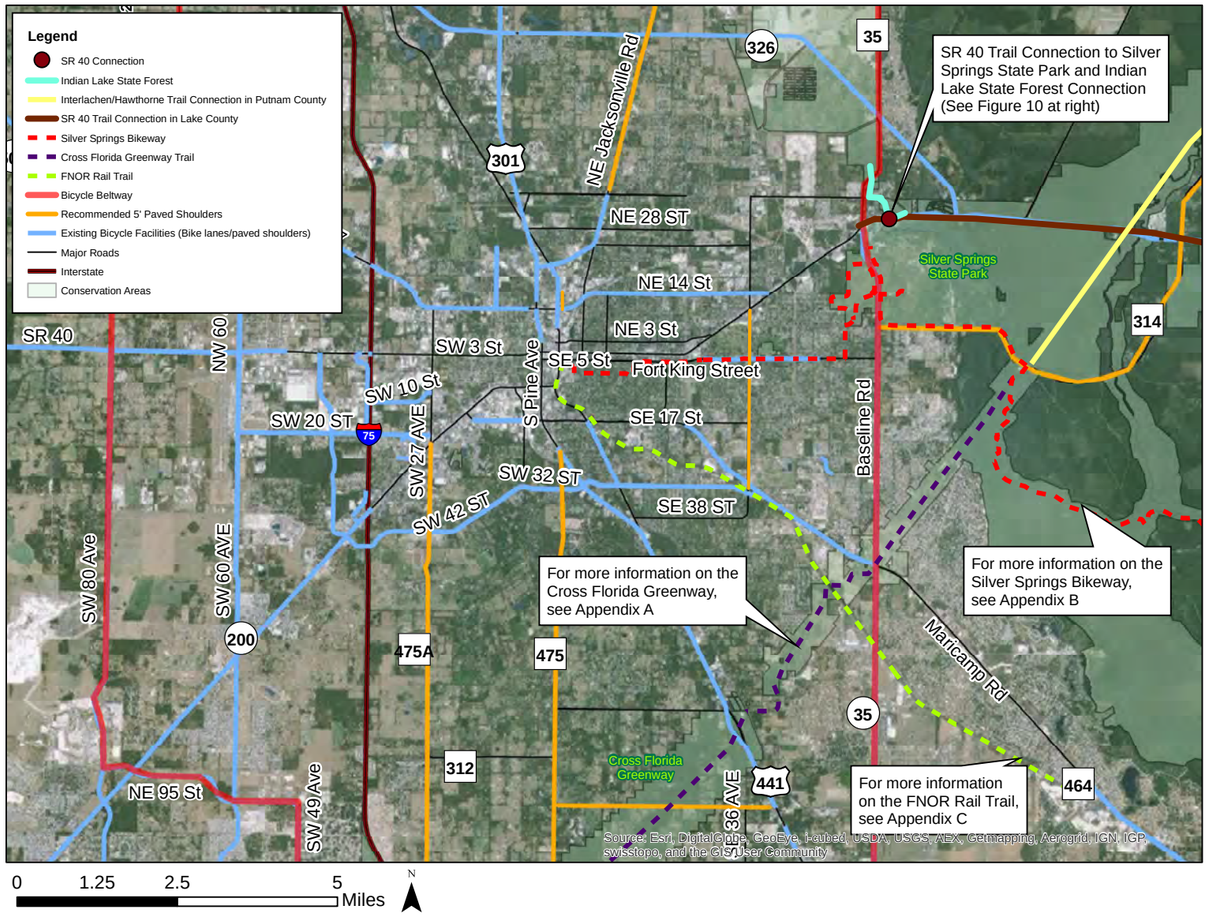
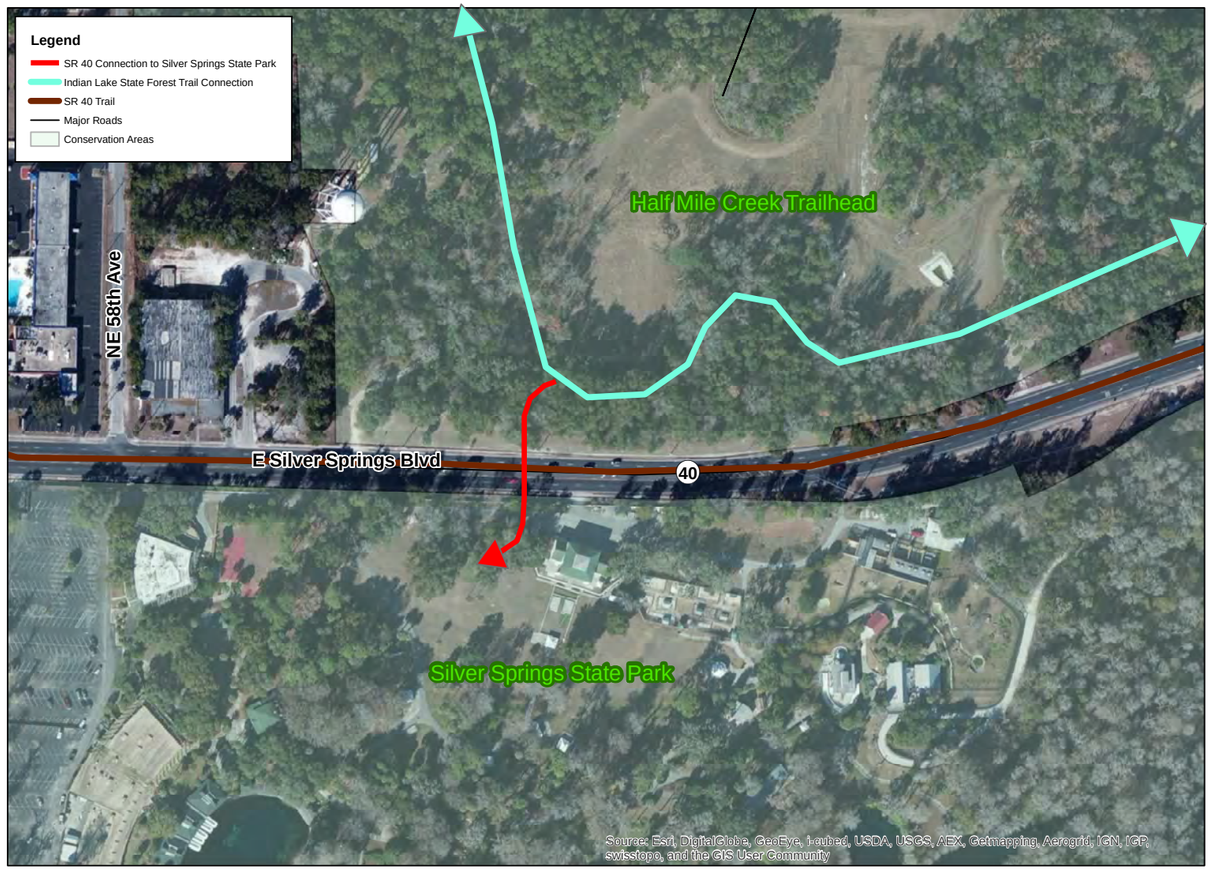


Figure 10
SR 40 Connection to Silver Springs State Park



Project descriptions and cost estimates

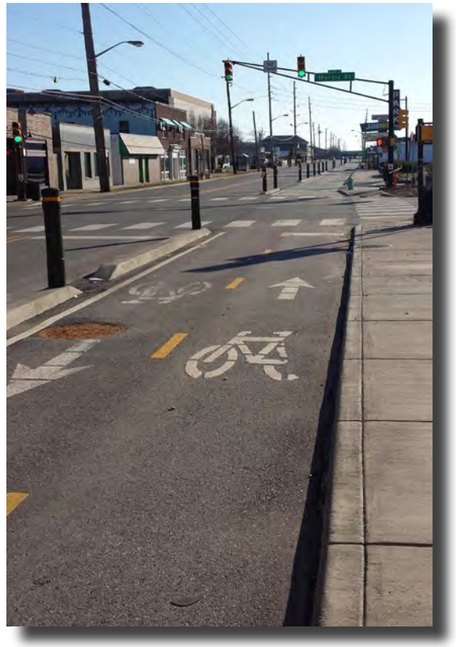
Trail	From	To	Recommendation	Length (Miles)	Estimated Cost
Goethe Connection	Downtown Dunnellon	Levy County Line	12' Shared Use Path	8.34	$ 1,928,863.77
Withlacoochee Bay Trail	Downtown Dunnellon	Levy County Line	12' Shared Use Path	4.62	$ 1,068,507.27
Villages Trail	Lake Weir	Lake County Line	12' Shared Use Path	2.5	$ 578,196.58
Interlachen/Hawthorne Trail	Silver Springs State Park	Putnam County Line	12' Shared Use Path	25.75	$ 5,955,424.72
SR 40 Trail	Baseline Road	Lake County Line	12' Shared Use Path	26.27	$ 6,075,689.61
SR 40 to Silver Springs State Park Connection	Half Mile Creek Trailhead	Silver Springs State Park	Bicycle Bridge or Underpass	0.12	$ 1,200,000.00
Indian Lake State Forest Connection	Half Mile Creek Trailhead	Indian Lake State Forest	12' Shared Use Path	1.5	$ 346,917.95

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

East Fort King Street

East Fort King Street is included in the feasibility study for the Downtown Ocala to Silver Springs Trail. The East Fort King Street project begins at the intersection of SE 16 Ave and terminates at the Silver Springs State Park. The East Fort King Street project is divided into four distinct sections. The first, from SE 16 Ave to just west of NE/SE 25 Ave will consist of restriping the road from three lanes with a center turn lane to two lanes with a center turn lane. With this restriping, a 12' buffered bicycle sidepath will be located along the southern side of the road (if roadway conditions constrain this, the sidepath can be 10' wide). The second section extends from just west of NE/SE 25 Ave to NE 28 Ave. Along this section, a separated 12' path will be located in the county owned parcel to the south of East Fort King Street. The third section is located between NE 28 Ave and NE 52 Ct. Along this section, an existing eight foot wide sidewalk currently exists between NE 28 Ave and NE 45 Ter. It is recommended that this sidewalk be extended to NE 52 Ct from its current terminus at NE 45 Ter. The fourth section, located on NE 52 Ct between East Fort King Street and the Silver Springs Conservation Area trailhead, is recommended to have sharrow lane markings due to its low traffic volume. If future conditions necessitate it and it is feasible, a separated multi-use trail could be located along NE 52 Ct in the right-of-way on the east side of the road. The trail will then cross into the Silver Springs Conservation Area and connect to Silver Springs State Park along Baseline Road. To provide additional connections, sharrow lane markings can also be added on East Fort King Street from NE 52 Ct to Baseline Rd. To see the proposed alignment of this project, and for more information on East Fort King Street and the Downtown Ocala to Silver Springs Trail, please see **Appendices B, D, and E.**

Existing section of East Fort King Street



Sidepath in Indianapolis, Indiana

Other Bicycle Recommendations

As roads in Marion County become eligible to be resurfaced or repaved, it is recommended that either designated bicycle lanes or paved shoulders be included in the project (paved shoulders are recommended to be four-feet wide in an urban section with curb and gutter, five-feet wide in rural sections, and six-feet wide in all locations where feasible). Though these facilities should be located on all roadways, it is the recommendation of this Master Plan that the facilities included in **Table 6** be the priority as funding becomes available. These projects all came as recommendations from the public and were selected based on their connectivity and feasibility. Listed recommendations are also shown in **Figures 8 and 9**.

Table 6
Other Bicycle Recommendations

Roadway	From	To	Recommendation	Length (Miles)	Estimated Project Cost*
CR 200A (NE Jacksonville Road)	NE 35 Street	CR 200	5' Paved Shoulder	12.5	$ 2,825,000
SR 40	CR 328	US 41	5' Paved Shoulder	9.6	$ 2,169,600
CR 42	CR 475	County Line	5' Paved Shoulder	29.0	$ 6,554,000
SE 110 Street Road	CR 25	SE Maricamp Road	5' Paved Shoulder	4.0	$ 904,000
CR 464C	CR 25	CR 314A	5' Paved Shoulder	4.6	$ 1,039,600
CR 475A (SW 27 Ave)	SR 200	CR 475 (S Magnolia Ave)	5' Paved Shoulder	13.0	$ 2,938,000
CR 475 (S Magnolia Ave)	US 27 (S Pine Ave)	South County Line	5' Paved Shoulder	14.0	$ 3,164,000
CR 314	SR 35 (Baseline Rd)	CR 214A	5' Paved Shoulder	14.0	$ 3,164,000
CR 314A	CR 314	CR 464C	5' Paved Shoulder	15.0	$ 3,390,000
SE 36 Ave	SR 40	Maricamp Road	5' Paved Shoulder	2.7	$ 610,200
SE 95 Street	CR 475 (S Magnolia Ave)	US 441	5' Paved Shoulder	3.3	$ 745,800
NE Osceola Ave	Bonnie Heath Blvd	NE 14 Street	5' Paved Shoulder	0.3	$ 67,800

*Note: Estimated project costs are presented for the addition of 5' paved shoulders only, not the cost of resurfacing the existing roadway. These estimates do not include costs associated with roadway resurfacing, such as mobilization, maintenance of traffic, silt fencing, and stabilization of the shoulder. These estimates assume that the shoulder was stabilized when the road was originally constructed.

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

Roadway near CR 314 (Sharpes Ferry Road) Bridge

Area for proposed trail along the elevated section of SR 40

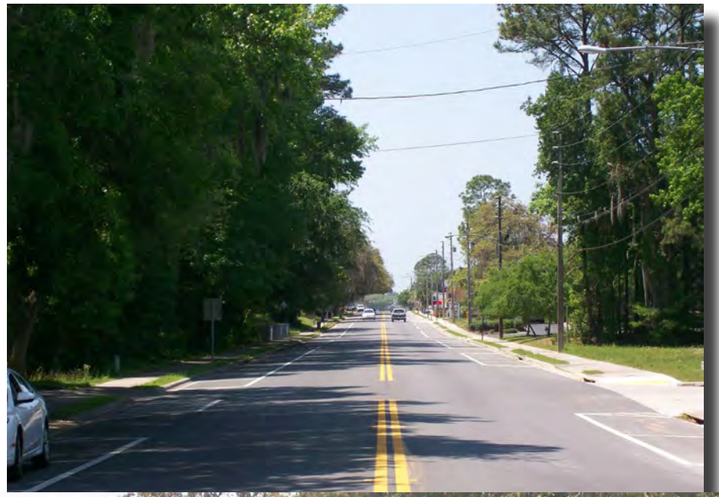
East Pennsylvania Avenue Streetscape

Pennsylvania Avenue (CR 484 in Dunnellon) is a vital link connecting US 41 and the Dunnellon Historic District to Blue Run of Dunnellon Park and the future Blue Run Park Trail spur to the Withlacoochee State Trail. Pennsylvania Avenue is also one of the primary commercial corridors in Dunnellon. To better connect bicyclists and pedestrians from the proposed Blue Run Park Spur Trail to downtown Dunnellon, a streetscape project for Pennsylvania Avenue could be implemented to include a multiuse trail along the corridor as included in the Dunnellon Bicycle, Pedestrian, and Blueways Master Plan.

The conceptual streetscape includes a multi-use trail along the southern side of the corridor and is designed to manage access with minimal impact to businesses located on the corridor. The trunk line on the northern side of the corridor remains with modifications to lateral lines and inlets on the southern side of the corridor. The existing curb on the northern side remain. “D” curb is used adjacent to bulb outs. The existing sidewalk on the northern side remains with a 2-foot grass verge. A boardwalk or pedestrian connection will be necessary on the eastern side of the bridge where the shoulder narrows between the bridge and Blue Run of Dunnellon Park.

The implementation of the streetscape can be divided into two phases. The first phase of the project would include survey, engineering design, and permitting. The second phase would include bidding, construction, and construction phase services This project will require coordination with Marion County because Pennsylvania Avenue is a County-maintained roadway (CR-484).

A boardwalk or pedestrian connection will be needed on the eastern side of the bridge to connect to Blue Run of Dunnellon Park



Existing Pennsylvania Avenue Typical Section

Pedestrian Projects

The Urban Sidewalk Plan developed for this project highlights seven key projects for implementation to improve pedestrian connectivity within Marion County These recommendations are based on transit access, school access, park access, access to existing facilities, field observations, stakeholder interviews, safety data, and connectivity to economic hubs. Initial review of a sidewalk network should include further review of the seven projects listed below. For reference, the existing sidewalk facilities in Marion County are shown in **Appendix F**. Additionally, a complete list of sidewalk gaps is provided in **Tables 7A - 7G**. All costs provided are estimates from FDOT's Generic Costs per Mile web application. Specific projects costs may vary.

Project 1

Recommended sidewalk: NE 12th Avenue, on the west side of the road

Recommended project beginning and end: NE 14th Street to Silver Springs Boulevard

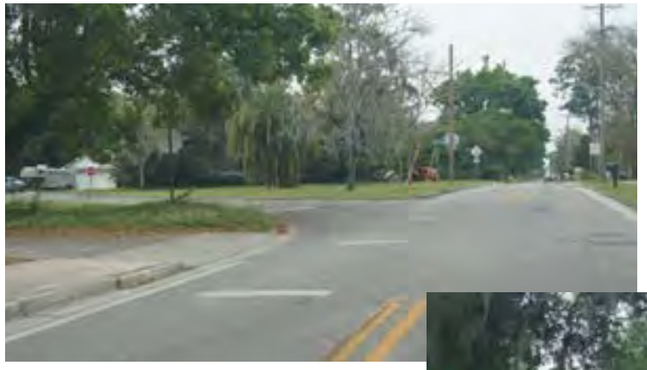
Potential phasing: Connect either the northern or southern side of the section that exists from NE 7th Street to NE 4th Street

Potential connectivity: Connects to Wyomina Park and Wyomina Park Elementary School

Potential benefit: May increase the number of walkers to Wyomina Park Elementary School

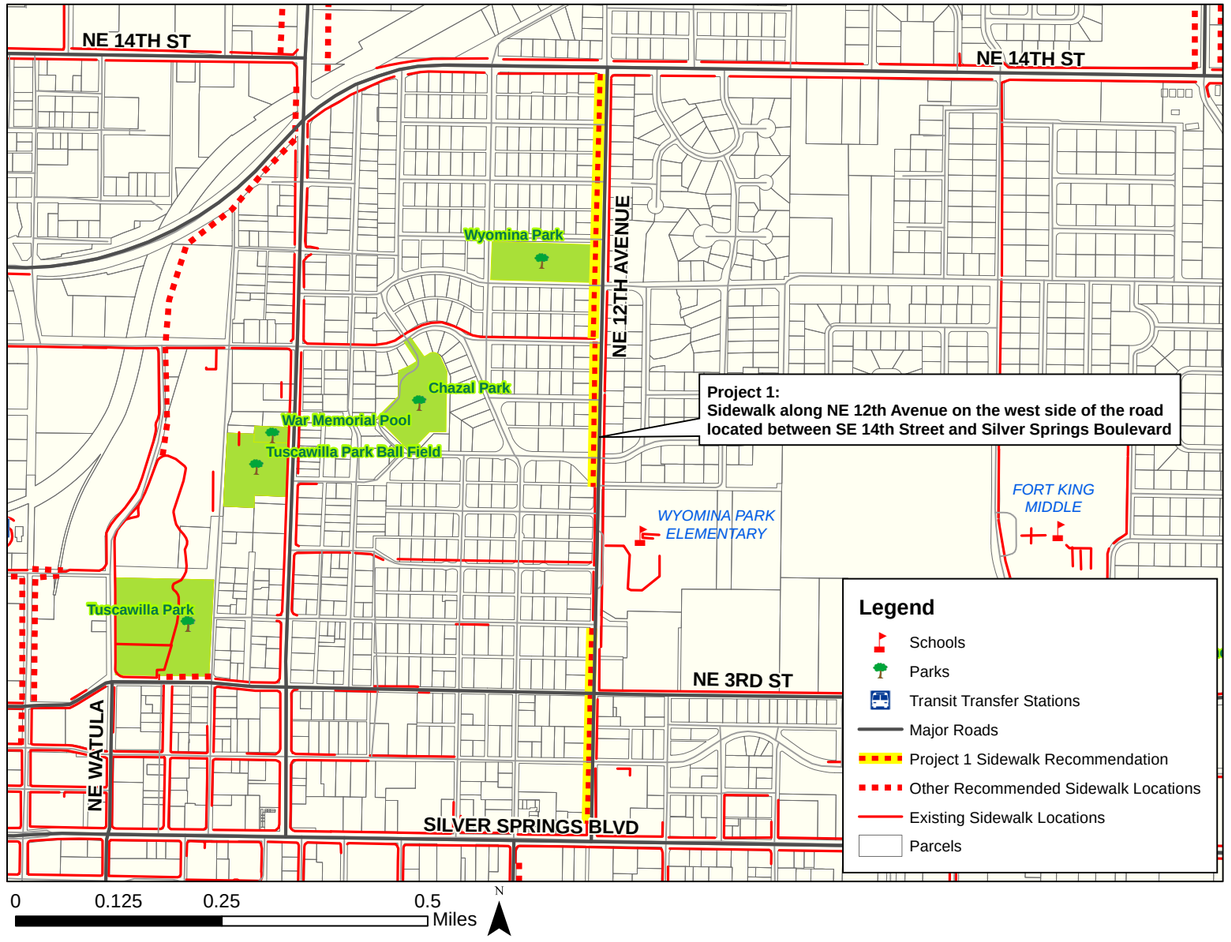
Safety considerations: Provides a collector sidewalk for students crossing with the crossing guard

Length and Estimated Cost: 0.76 miles, $83,483.94



Looking north near NE 7th St.

Looking north near NE 9th St.



Project 1 Route

Project 2

Recommended sidewalk: NE 17th Avenue, on the west side of the road

Recommended project beginning and end: NE 14th Street to NE 3rd Street

Potential phasing: Complete the northern end first to the existing crossing guard location near Fort King Middle School

Potential connectivity: Increased connectivity at the crossing guard location and provide increased transit access

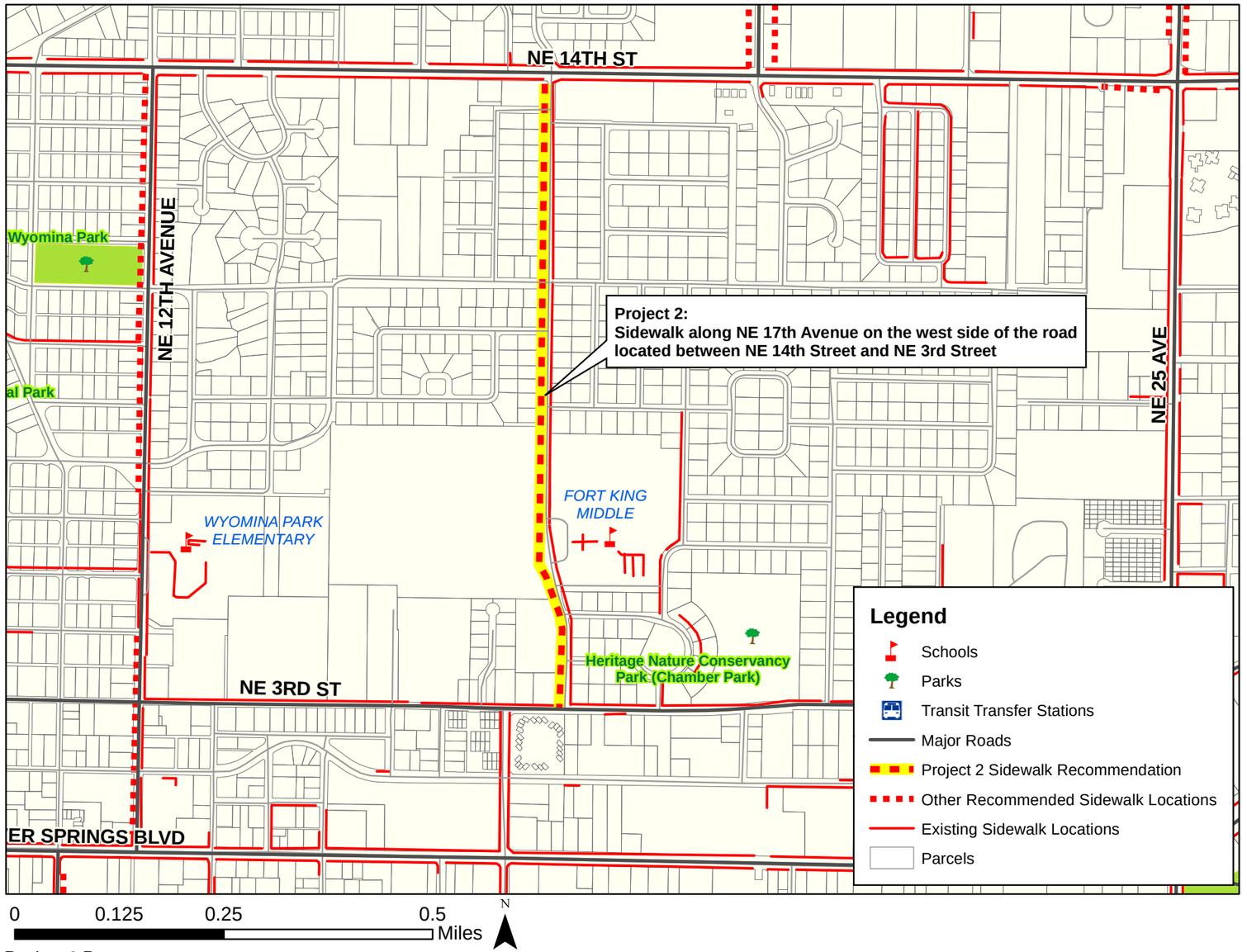
Potential benefit: Potentially increase the number of students walking to Fort King Middle and Wyomina Park

Safety considerations: Improves school access, crossing guard access, and transit access

Length and Estimated Cost: 0.74 miles, $81,999.50

Looking north near the school

Looking north near NE 17th Ave



Project 2 Route

Project 3

Recommended sidewalk: SE 32 Avenue, on the west side of the road

Recommended project beginning and end: SE Fort King Street to SE 13 Street

Project Alternative: If the right-of-way on SE 32 Avenue is insufficient for sidewalk construction, SE 30 Avenue could be developed as an alternative

Potential phasing: none

Potential connectivity: Connects to Ward Highland Elementary collector sidewalk

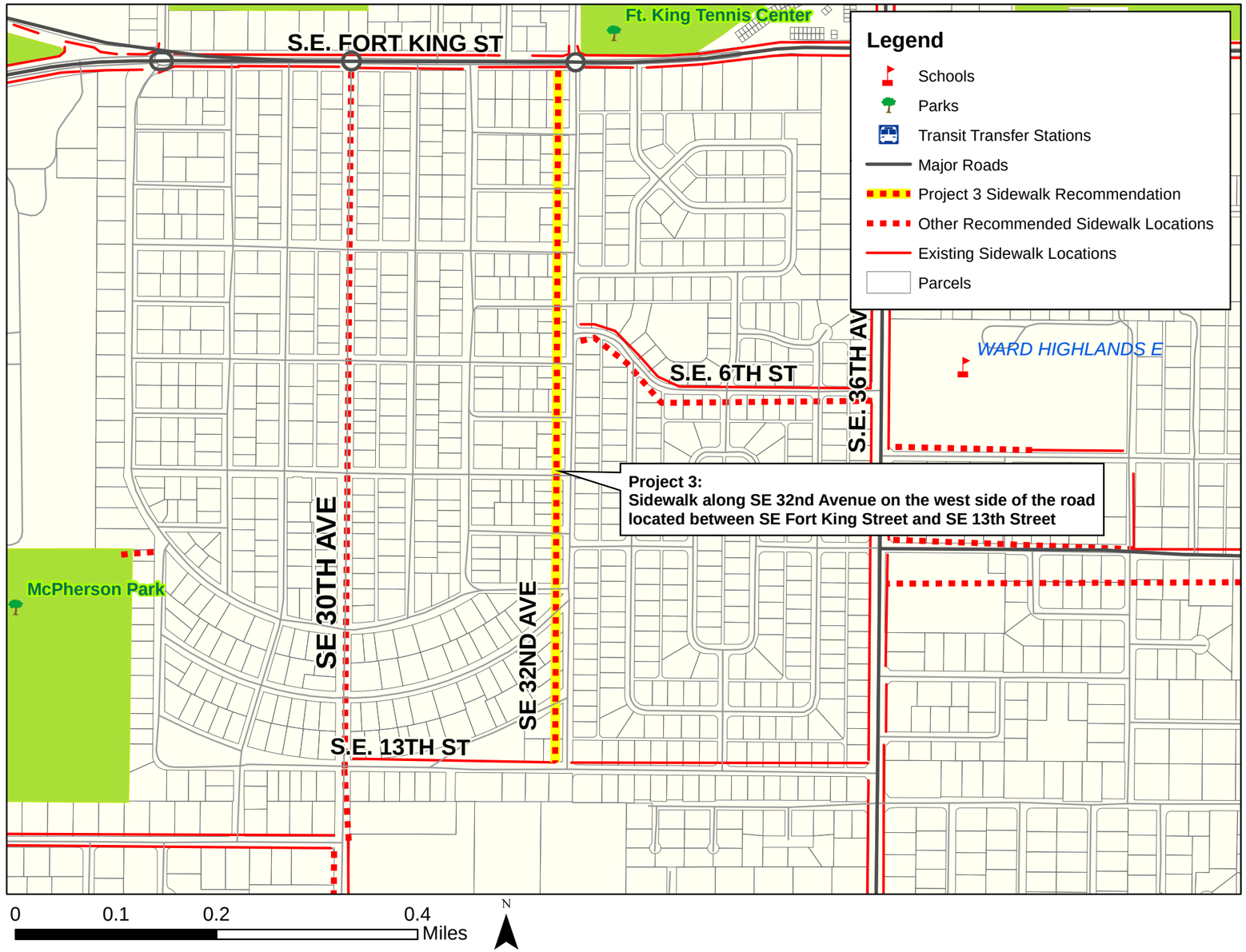
Potential economic benefit: Potentially increase students walking to school, potentially link to the proposed trail along SE Fort King Street

Safety considerations: Increases safety for students walking and provides access to the future/planned trail

Length and Estimated Cost: 0.69 miles, $76,396.27

Looking north near SE 6th St.

Looking north at S.E. Fort King St



Project 3 Route

Project 4

Recommended sidewalk: YMCA/Hillcrest School and Jervey-Gantt Park sidewalk gap infill:

4a. SE 24th Street, on the north side from SE 36th Avenue to SE Maricamp Road with short connection along the east side of SE 32nd Avenue to the existing sidewalk along the east side of the road; also between SE 32nd Avenue and SE Maricamp Road on SE 24th Street

4b. SE 17th Street/SE 30th Street/SE 32nd Avenue, as depicted on map

4c. SE 30th Avenue, on the east side from SE 32nd Avenue to the existing sidewalk to the south

Potential phasing: Should further review trails or wide sidewalks connecting the park to the transit station to the YMCA. Additional sidewalks would complete the network (as shown to the right)

Potential connectivity: Connects to Hillcrest Public School (6th-12th), the YMCA Family Center, Jervey Gantt Park, and transit

Potential benefit: Increased economic opportunity with extensive connectivity to schools, parks, transit and the YMCA

Safety considerations: Will increase safety – may need street lighting and will require coordination among several agencies

Length and Estimated Cost: 0.95 miles, $104,579.68

Looking west at Jervey-Gantt Park

Looking north near the intersection of SE Maricamp Rd.

Project 4 Route

Project 5

Recommended sidewalk: SW 1st Avenue, on the east side from Ft. King Street to SE Pine Avenue

Potential phasing: Additional review is needed to determine available right-of-way, but sidewalks are recommended along both sides of the road where there are currently none

Potential connectivity: Osceola Middle and Eight St. Elementary schools are within a half mile of this connection as well as the hospital; additionally, a proposed trail alignment is located near this sidewalk along SE 3 Street

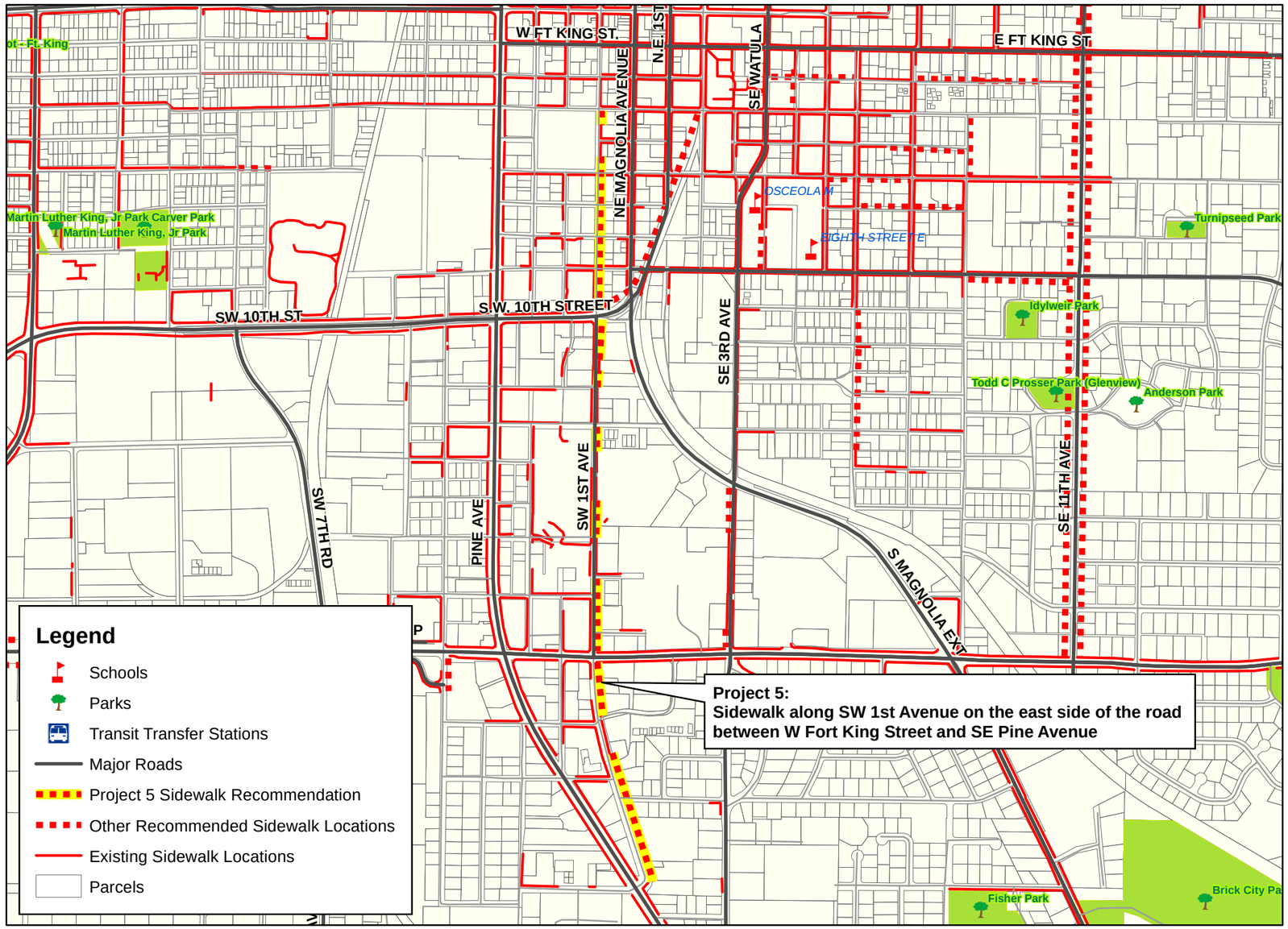
Potential benefit: More students and residents may use this sidewalk to get to school and access transit

Safety considerations: People traveling along this route will have a continuous sidewalk and will not need to cross the street to use the sidewalk on the west side, there were a few bicycle and pedestrian crashes along this route

Length and Estimated Cost: 0.86 miles, $94,836.76

Looking north at SW 1th St.

Looking north at SW 2nd St.



Project 5 Route

Project 6

Recommended sidewalk: NE 28th Street, on the north side of the road

Recommended project beginning and end: NE 12th Court to NE 19th Avenue

Potential phasing: This could be the first phase of a sidewalk that extends to Vanguard High and ends at Pine Avenue

Potential connectivity: this segment connects to Oakcrest Elementary and transit with the potential to connect to Vanguard High

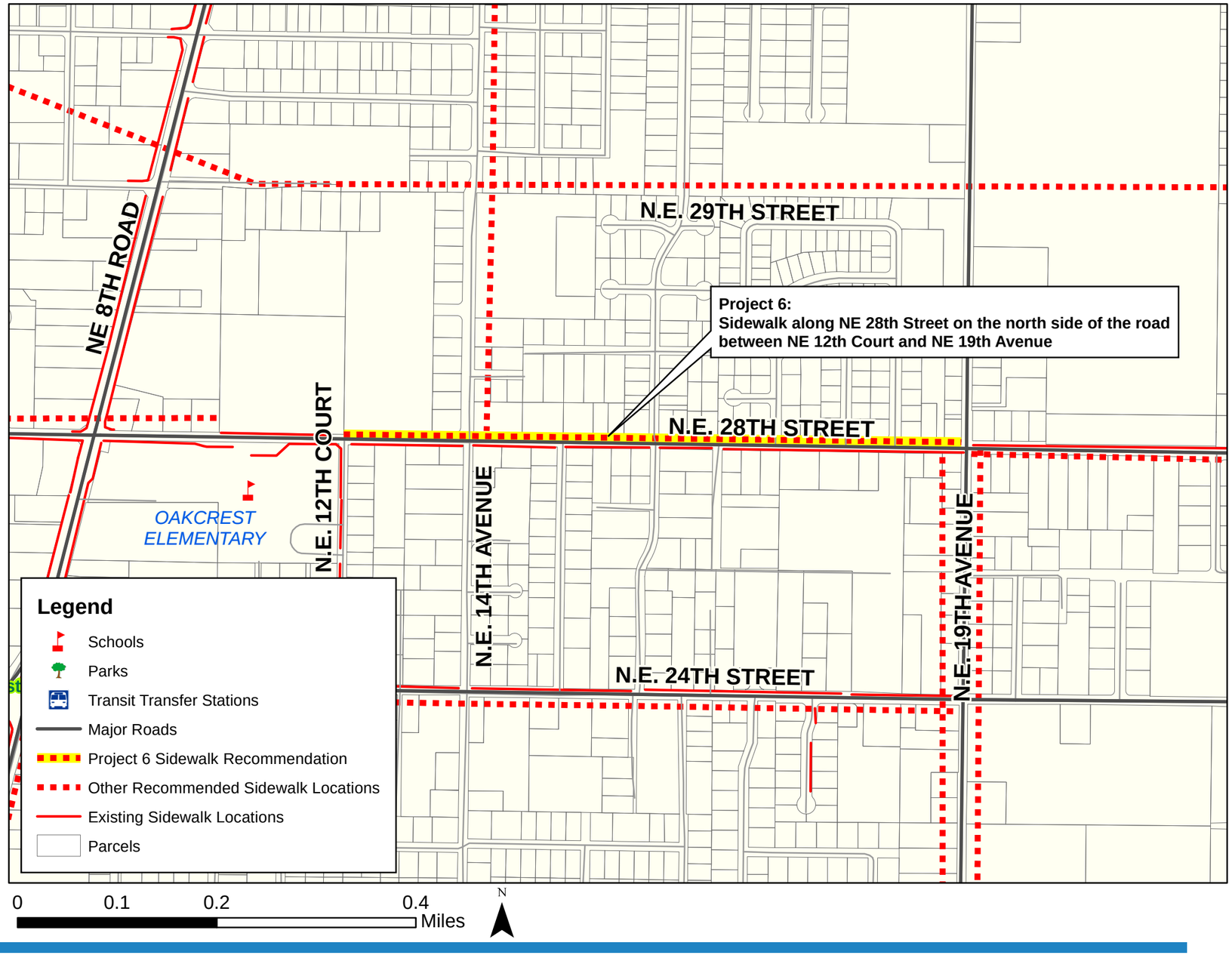
Potential benefit: More students may walk to school

Safety considerations: This segment terminates at a crossing guard location at NE 12 Court and access to transit would be improved.

Length and Estimated Cost: 0.61 miles, $67,238.76

Looking east at NE 12th Ct.

Looking east at NE 9th Ave.



Project 6 Route

Project 7

Recommended sidewalk: Belleview sidewalk connection to the Cross Florida Trail and schools.

Recommended project beginning and end:

7a. SE 95 Street, on north side from the Cross Florida Trail to SE 36 Avenue and continue to US 441 (further review is needed to determine side of the road east of SE 36 Avenue). Right-of-way along this segment varies between 55 feet and 75 feet. The corridor will need to be further evaluated to determine the feasibility of constructing a sidewalk in the proposed location.

7b. SE 36 Avenue, on the west side of the road from SE 95 Street to SE 110 Street (partial sidewalk exists along Belleview Middle and Belleview High schools)

7c. SE 110 Street, on the north or south side (further study needed) from US 301 to Lilian Lake Park

Potential phasing: Could be phased and start in Belleview; a more complete network should be reviewed

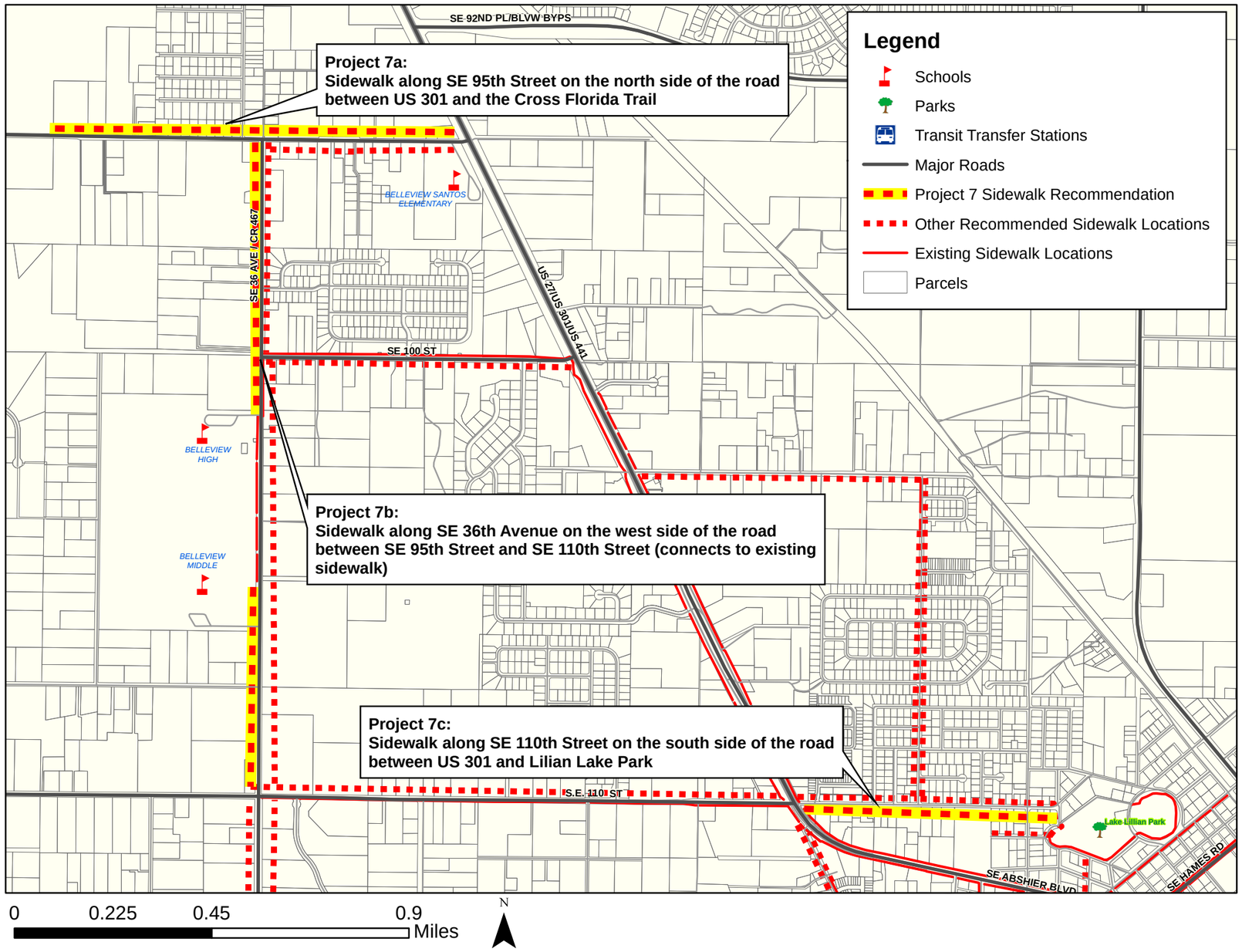
Potential connectivity: City of Belleview parks and City Hall, Santos Trailhead, Belleview Elementary, Belleview Middle and Belleview High schools

Potential economic benefit: Potential trailhead in City of Belleview

Safety considerations: Will help the crossing at US 441 and SE 110 Street There is a crosswalk on the north side of the intersection.

Length and Estimated Cost: 2.53 miles, $279,095.20

Lake Lillian Park



Project 7 Route

In addition to the seven priority sidewalk projects identified on the previous pages, eight other recommendations were identified as lower priority pedestrian projects. After the implementation of the seven priority projects, the cost and feasibility of these eight projects should be determined. These additional projects are described below:

- Enhance crosswalk at the intersection of Bonnie Heath Boulevard and NE 8th Avenue
- Increase pedestrian connectivity between the bus terminal and Wyomina Park near the intersection of NE 5th Street and NE Osceola Avenue
- Add sidewalk from SR 40 to Baseline Road on NE 24th Street and connect into the conservation area
- Add sidewalk along NE 7th Street where facilities are not recommended as part of the Silver Springs Bikeway
- Upgrade the sidewalk along SE 45th Terrace for ADA compatibility
- Connect pedestrian trail to Baseline Park
- Add sidewalk on SE 24th Street between SE 36 Avenue and SE Maricamp Road
- Make sidewalk continuous on SE 17th Street

In addition to these specific recommendations, **Tables 7A-7G** contain existing sidewalk gaps in Marion County. When implementing these sidewalk gaps, prioritization should be given to facilities that connect schools, transit stops, existing sidewalk facilities, and economic generators. These sidewalk gaps are grouped by functional classification by municipality.

Sidewalk in downtown Ocala

Table 7A
Sidewalk Recommendations in the City of Ocala

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
NE 10th Street	NE 8th Avenue	NE 9th Street	E	Urban Principal Arterial	1,654	0.31	$ 34,581.13
US-27 (S Pine Avenue)	SE 38th Street	SE 52nd Street	E	Urban Principal Arterial	5,838	1.11	$ 122,058.42
NE 14th Street	NE 24th Avenue	NE 25th Avenue	S	Urban Principal Arterial	390	0.07	$ 8,153.95
US-27 (S Pine Avenue)	SE 3rd Avenue	SE 30th Street	W	Urban Principal Arterial	1,965	0.37	$ 41,083.38
SW College Road	SW 20th Street	SW 17th Street	S	Urban Principal Arterial	3,123	0.59	$ 65,294.35
US-27 (S Pine Avenue)	SE 3rd Avenue	SE 30th Street	E	Urban Principal Arterial	1,742	0.33	$ 36,420.99
US-301	W Anthony Road	NW 28th Street	E	Urban Principal Arterial	1,190	0.23	$ 24,880.01
NE 35th Street	NE 25th Avenue	NE 49th Court	S	Urban Minor Collector/Urban Major Collector	1,121	0.21	$ 23,437.39
SE 17th Street	SE 25th Avenue	SE 29th Terrace	N	Urban Minor Collector	1,226	0.23	$ 25,632.69
SW 38th Street	SW 60th Avenue	SW 51st Terrace	N	Urban Minor Collector	3,983	0.75	$ 83,274.87
SE 11th Avenue	SE 5th Street	SE 17th Street	E	Urban Minor Collector	3,896	0.74	$ 81,455.91
SE 18th Avenue	SE 18th Street	SE 21st Lane	W	Urban Minor Collector	697	0.13	$ 14,572.58
SE 3rd Avenue	S Magnolia Avenue	SE 17th Street	W	Urban Minor Collector	1,317	0.25	$ 27,535.27
SE 1st Avenue	SW 1st Avenue	SW 6th Street	W	Urban Minor Collector	1,039	0.20	$ 21,722.97
N Magnolia Avenue	NW 28th Street	NW 20th Street	E	Urban Minor Collector	3,102	0.59	$ 64,855.29
SW 32nd Avenue	SW College Road	SW 31st Road	W	Urban Minor Collector	593	0.11	$ 12,398.19
SW 32nd Avenue	SW 33rd Road	SW 34th Avenue	W	Urban Minor Collector	473	0.09	$ 9,889.28
SW 1st Avenue	SW 15th Place	SW 17th Street	E	Urban Minor Collector	598	0.11	$ 12,502.73
SE 22nd Avenue	SE 12th Street	SE 17th Street	E	Urban Minor Collector	1,891	0.36	$ 39,536.22
SE 24th Street	SE 32nd Avenue	SE 36th Avenue	S	Urban Minor Collector	1,776	0.34	$ 37,131.85
SE 3rd Avenue	SE 6th Street	SE 8th Street	E	Urban Minor Collector	373	0.07	$ 7,798.53
SE 17th Street	SE 29th Terrace	SE 30th Avenue	N	Urban Minor Collector	454	0.09	$ 9,492.04
SW 43rd Court	SW 40th Street	North of SW 44th Street	E	Urban Minor Collector	782	0.15	$ 16,349.72
SW 32nd Avenue	SW 34th Circle	SW 34th Circle	E	Urban Minor Collector	324	0.06	$ 6,774.05
NE 19th Avenue	NE 28th Street	NE 14th Street	W	Urban Minor Collector	5,233	0.99	$ 109,409.33
SE 17th Street	SE 30th Avenue	West of SE 36th Avenue	S	Urban Minor Collector	794	0.15	$ 16,600.61
SE 11th Avenue	Silver Springs Boulevard	E Fort King Street	W	Urban Minor Collector	247	0.05	$ 5,164.17
NE 19th Avenue	NE 28th Street	NE 14th Street	E	Urban Minor Collector	5,264	1.00	$ 110,057.47
SE Maricamp Road	SE 36th Avenue	SE 39th Avenue	N	Urban Minor Collector	1,673	0.32	$ 34,978.37
SE 22nd Avenue	E Fort King Street	SE 12th Street	E	Urban Minor Collector	2,996	0.57	$ 62,639.09
SE 24th Street	SE Maricamp Road	SE 32nd Avenue	S	Urban Minor Collector	247	0.05	$ 5,164.17
NE 8th Avenue	NE Jacksonville Road	NE 14th Street	W	Urban Minor Collector	3,788	0.72	$ 79,197.89
SE 11th Avenue	SE 5th Street	SE 17th Street	W	Urban Minor Collector	3,904	0.74	$ 81,623.17
SE 18th Avenue	SE 21st Lane	SE 27th Street	W	Urban Minor Collector	940	0.18	$ 19,653.12
SW 1st Avenue	SW 10th Street	SW 11th Street	E	Urban Minor Collector	562	0.11	$ 11,750.06
SW 13th Street	SW 33rd Avenue	SW 12th Street	N	Urban Minor Collector	2,000	0.38	$ 41,815.15
NE 28th Street	US-301	East of NE Jacksonville Road	N	Urban Minor Collector	6,519	1.23	$ 136,296.47
SE 18th Avenue	SE 17th Street	South of SE 18th Street	E	Urban Minor Collector	807	0.15	$ 16,872.41
SW 38th Street	SW 51st Terrace	SW 48th Avenue	N	Urban Minor Collector	1,694	0.32	$ 35,417.43
SW 43rd Court	North of SW 32nd Place	SW 40th Street	E	Urban Minor Collector	3,369	0.64	$ 70,437.62
NE 8th Avenue	NE 24th Street	NE 14th Street	E	Urban Minor Collector	3,836	0.73	$ 80,201.45
NE 8th Avenue	NE 14th Street	NE 10th Street	W	Urban Minor Collector	329	0.06	$ 6,878.59
Dirt Road	SW 43rd Court	SW College Road	N	Urban Minor Collector	1,005	0.19	$ 21,012.11
SE 11th Avenue	E Fort King Street	SE 5th Street	W	Urban Minor Collector	1,000	0.19	$ 20,907.57
SE 19th Avenue	SE 24th Road	SE 31st Street	E	Urban Minor Collector	474	0.09	$ 9,910.19
SW 1st Avenue	SE 14th Place	SW 15th Street	E	Urban Minor Collector	309	0.06	$ 6,460.44
NW 27th Avenue	South of NW 17th Street	NW Old Blitchton Road	E	Urban Minor Collector	479	0.09	$ 10,014.73
SE 24th Street	SE Maricamp Road	SE 32nd Avenue	N	Urban Minor Collector	525	0.10	$ 10,976.48
SE Maricamp Road	SE 36th Avenue	SE 31st Street	S	Urban Minor Collector	1,413	0.27	$ 29,542.40
SE 22nd Avenue	E Fort King Street	SE 12th Street	W	Urban Minor Collector	3,013	0.57	$ 62,994.52
SW 13th Street	SW 12th Street	SW 27th Avenue	N	Urban Minor Collector	394	0.07	$ 8,237.58
SE 11th Avenue	Silver Springs Boulevard	SE 5th Street	E	Urban Minor Collector	1,448	0.27	$ 30,274.17
SE 38th Street	SE Lake Weir Avenue	SE 19th Avenue	N	Urban Minor Collector	1,324	0.25	$ 27,681.63
SE 22nd Avenue	SE 12th Street	SE 17th Street	W	Urban Minor Collector	1,909	0.36	$ 39,912.56
SE 17th Street	SE 25th Avenue	SE 29th Terrace	S	Urban Minor Collector	1,267	0.24	$ 26,489.90
SE 38th Street	SE 19th Avenue	SE 31st Street	N	Urban Minor Collector	9,472	1.79	$ 198,036.54
NE 3rd Street	NE Tuscawilla Avenue	NE Sanchez Avenue	N	Urban Minor Collector	341	0.06	$ 7,129.48
SW 1st Avenue	SW 12th Street	SE 14th Place	E	Urban Minor Collector	204	0.04	$ 4,265.15
SE 17th Street	SE 30th Avenue	SE 36th Avenue	N	Urban Minor Collector	2,358	0.45	$ 49,300.06
SE 19th Avenue	SE 28th Street	SE 31st Street	W	Urban Minor Collector	1,441	0.27	$ 30,127.81
SE 24th Street	SE 32nd Avenue	SE 36th Avenue	N	Urban Minor Collector	2,049	0.39	$ 42,839.62

Table 7B
Sidewalk Recommendations in the City of Ocala

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
SE Maricamp Road	SE 39th Avenue	SE 38th Street	N	Urban Minor Arterial	4,018	0.76	$ 84,006.63
SW 1st Avenue	US-27 (S Pine Avenue)	SW 29th Street Road	E	Urban Minor Arterial	1,043	0.20	$ 21,806.60
NE 36th Avenue	NE 21st Street	NE 17th Place	W	Urban Minor Arterial	1,269	0.24	$ 26,531.71
SW 17th Street	SW 15th Avenue	SW 12th Avenue	S	Urban Minor Arterial	691	0.13	$ 14,447.13
SW 17th Street	SW College Road	SW 19th Avenue Road	S	Urban Minor Arterial	1,198	0.23	$ 25,047.27
NE 36th Avenue	NE 17th Place	NE 14th Street	E	Urban Minor Arterial	1,180	0.22	$ 24,670.94
SW 17th Street	SW 19th Avenue Road	SW 15th Avenue	S	Urban Minor Arterial	1,656	0.31	$ 34,622.94
SW 17th Street	SW 18th Avenue	SW 12th Avenue	N	Urban Minor Arterial	2,155	0.41	$ 45,055.82
NE 35th Street	US-301	NE Jacksonville Road	N	Urban Major Collector	6,976	1.32	$ 145,851.24
SW 20th Street	SW 37th Avenue	SW 34th Court	N	Urban Major Collector	1,505	0.29	$ 31,465.90
SE Lake Weir Avenue	SE 31st Street	SE 38th Street	E	Urban Major Collector	2,861	0.54	$ 59,816.57
NW 16th Avenue	NW 16th Road	NW 31st Street	E	Urban Major Collector	545	0.10	$ 11,394.63
W Anthony Road	NW 34th Place	US-301	E	Urban Major Collector	1,063	0.20	$ 22,224.75
NE 25th Avenue	NE 24th Street	NE 23rd Street	W	Urban Major Collector	634	0.12	$ 13,255.40
W Anthony Road	NW 44th Street	NW 35th Street	W	Urban Major Collector	3,050	0.58	$ 63,768.10
NW Martin Luther King Jr Avenue	NW 31st Street	NW 22nd Street	W	Urban Major Collector	2,525	0.48	$ 52,791.62
NE 25th Avenue	NE 35th Street	NE 24th Street	W	Urban Major Collector	4,501	0.85	$ 94,104.99
SW 20th Street	SW 60th Avenue	SW 57th Avenue	N	Urban Major Collector	1,591	0.30	$ 33,263.95
NW Gainesville Road	NW 37th Street	South of NW 35th Street	W	Urban Major Collector	2,088	0.40	$ 43,655.01
SW 20th Street	SW 60th Avenue	SW 57th Avenue	S	Urban Major Collector	1,600	0.30	$ 33,452.12
NE 25th Avenue	NE 23rd Street	NE 14th Street	W	Urban Major Collector	2,466	0.47	$ 51,558.08
NE 7th Street	NE 43rd Court	NE 58th Avenue	S	Urban Major Collector	6,974	1.32	$ 145,809.42
NE 35th Street	US-301	W Anthony Road	S	Urban Major Collector	277	0.05	$ 5,791.40
SW 20th Street	I-75	SW 31st Avenue	S	Urban Major Collector	2,776	0.53	$ 58,039.43
SW 19th Avenue Road	SW 17th Street	West of SW 21st Avenue	W	Urban Major Collector	2,157	0.41	$ 45,097.64
NE 25th Avenue	NE 24th Street	NE 14th Street	E	Urban Major Collector	3,898	0.74	$ 81,497.72
NE 7th Street	NE 36th Avenue	NE 43rd Court	S	Urban Major Collector	3,285	0.62	$ 68,681.38
NE 7th Street	NE 36th Avenue	NE 43rd Court	N	Urban Major Collector	3,358	0.64	$ 70,207.63
NW 16th Avenue	NW Gainesville Road	NW 31st Street	E	Urban Major Collector	2,545	0.48	$ 53,209.78
NW 35th Street	NW Gainesville Road	US-301	S	Urban Major Collector	805	0.15	$ 16,830.60
NW Martin Luther King Jr Avenue	NW 31st Street	NW 22nd Street	E	Urban Major Collector	2,071	0.39	$ 43,299.59
NE 35th Street	W Anthony Road	NE Jacksonville Road	S	Urban Major Collector	6,041	1.14	$ 126,302.65
NE 35th Street	NE Jacksonville Road	NE 25th Avenue	S	Urban Major Collector	6,376	1.21	$ 133,306.69
NE 25th Avenue	NE 35th Street	NE 24th Street	E	Urban Major Collector	4,415	0.84	$ 92,306.94
NE 24th Street	NE Jacksonville Road	NE 19th Avenue	S	Urban Major Arterial	4,474	0.85	$ 93,540.49
NE 12th Avenue	NE 4th Street	Silver Springs Boulevard	W	Urban Local	1,253	0.24	$ 26,197.19
NE 12th Avenue	NE 9th Street	NE 6th Place	W	Urban Local	929	0.18	$ 19,423.14
NE 12th Avenue	NE 14th Street	NE 9th Street	W	Urban Local	1,695	0.32	$ 35,438.34
NW 16th Avenue	NW Gainesville Road	NW 16th Road	E	None/Urban Major Collector	1,739	0.33	$ 36,358.27
SW 5th Street	SW 1st Avenue	Pine Avenue	N	Local Urban	1,394	0.26	$ 29,145.16

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

Table 7C
Sidewalk Recommendations in the City of Ocala

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
NE 28th Street	NE 19th Avenue	NE 25th Avenue	S	Local, No Functional Class	3,100	0.59	$ 64,813.48
SE 5th Street	SE 16th Avenue	SE 18th Avenue	S	Local, No Functional Class	928	0.18	$ 19,402.23
SW 38th Avenue	East of SW 38th Court	SW College Road	E	Local, No Functional Class	177	0.03	$ 3,700.64
SE 2nd Street	SE Watula Avenue	SE Sanchez Avenue	N	Local, No Functional Class	682	0.13	$ 14,258.97
SE 18th Street	SE 30th Avenue	SE 32nd Avenue	N	Local, No Functional Class	496	0.09	$ 10,370.16
SE 9th Avenue	SE 3rd Street	SE 5th Street	E	Local, No Functional Class	474	0.09	$ 9,910.19
SE 4th Street	SE Sanchez Avenue	SE 9th Avenue	S	Local, No Functional Class	637	0.12	$ 13,318.12
SE 24th Street	SE 3rd Avenue	SE 5th Circle	N	Local, No Functional Class	888	0.17	$ 18,565.93
NW 14th Street	NW 20th Court	NW Martin Luther King Jr Avenue	N	Local, No Functional Class	2,122	0.40	$ 44,365.87
SE 30th Avenue	SE 18th Street	SE Maricamp Road	E	Local, No Functional Class	708	0.13	$ 14,802.56
SE 19th Avenue	E Fort King Street	SE 18th Avenue	E	Local, No Functional Class	1,418	0.27	$ 29,646.94
SE 18th Avenue	SE 5th Street	SE 17th Street	W	Local, No Functional Class	3,764	0.71	$ 78,696.11
NE 30th Avenue	NE 21st Street	NE 14th Street	W	Local, No Functional Class	2,236	0.42	$ 46,749.34
NE 46th Avenue	NE 21st Street	SR-40	W	Local, No Functional Class	491	0.09	$ 10,265.62
NW 2nd Avenue	South of NW 35th Street	NW 28th Street	E	Local, No Functional Class	1,865	0.35	$ 38,992.63
SE 7th Street	SE 36th Avenue	SE 38th Avenue	N	Local, No Functional Class	752	0.14	$ 15,722.50
NE 5th Street	NE Osceola Avenue	NE Watula Avenue	S	Local, No Functional Class	176	0.03	$ 3,679.73
NW 1st Street	NW 3rd Avenue	NW 1st Avenue	S	Local, No Functional Class	498	0.09	$ 10,411.97
SW 5th Street	SW 10th Avenue	SW 9th Avenue	N	Local, No Functional Class	270	0.05	$ 5,645.04
NW 7th Street	MLK	NW 6th Terrace	B	Local, No Functional Class	2,640	0.50	$ 55,196.00
SW 3rd Street	SW 1st Avenue	Pine Avenue	B	Local, No Functional Class	1,390	0.26	$ 29,061.53
SE 8th Street	SE 36th Avenue	SE 39th Avenue	N	Local, No Functional Class	1,289	0.24	$ 26,949.86
NW 1st Avenue	NW 21st Place	NW 20th Street	E	Local, No Functional Class	421	0.08	$ 8,802.09
NW 1st Avenue	NW 2nd Street	SR 40	W	Local, No Functional Class	215	0.04	$ 4,495.13
SE 30th Avenue	SE 18th Street	SE Maricamp Road	W	Local, No Functional Class	840	0.16	$ 17,562.36
SW 1st Avenue	SW 4th Street	SW 10th Street	E	Local, No Functional Class	1,266	0.24	$ 26,468.99
SE 38th Street	SE 46th Court	SE 54th Avenue	N	Local, No Functional Class	3,304	0.63	$ 69,078.62
SE 8th Street	SE 36th Avenue	SE 58th Avenue	S	Local, No Functional Class	1,061	0.20	$ 22,182.94
SE 6th Street	SE 32nd Avenue	SE 36th Avenue	S	Local, No Functional Class	1,698	0.32	$ 35,501.06
NE 28th Street	NE 12th Court	NE 19th Avenue	N	Local, No Functional Class	3,275	0.62	$ 68,472.30
SE 30th Avenue	SE 14th Street	SE 17th Street	E	Local, No Functional Class	677	0.13	$ 14,154.43
SE 32nd Avenue	E Fort King Street	SE 13th Street	W	Local, No Functional Class	3,636	0.69	$ 76,019.94
SE 22nd Avenue	SE 34th Street	SE 38th Street	E	Local, No Functional Class	1,338	0.25	$ 27,974.33
SW 1st Avenue	Fort King Street	SW 5th Street	B	Local, No Functional Class	118	0.02	$ 2,467.09
SE 6th Street	SE Sanchez Avenue	SE 9th Avenue	N	Local, No Functional Class	857	0.16	$ 17,917.79
SE 5th Street	SE Tuscawilla Avenue	SE Wenona Avenue	S	Local, No Functional Class	686	0.13	$ 14,342.60
NE 21st Street	NE 40th Terrace	NE 46th Avenue	N	Local, No Functional Class	2,415	0.46	$ 50,491.79
SE 8th Street	SE 9th Avenue	SE 11th Avenue	S	Local, No Functional Class	837	0.16	$ 17,499.64
SW 38th Avenue	East of SW 38th Court	SW College Road	W	Local, No Functional Class	237	0.04	$ 4,955.10
NE Osceola Avenue	NE 3rd Street	NE 2nd Street	W	Local, No Functional Class	221	0.04	$ 4,620.57
SE 8th Street	SE 46th Court	SE 58th Avenue	N	Local, No Functional Class	5,322	1.01	$ 111,270.11
NE 5th Street	NE Osceola Avenue	NE Watula Avenue	N	Local, No Functional Class	197	0.04	$ 4,118.79
SE 17th Street	SE 36th Avenue	SE 47th Avenue	N	Local, No Functional Class	5,214	0.99	$ 109,012.09
SE 19th Avenue	SE 31 Street	SE 38th Street	W	Local, No Functional Class	2,564	0.49	$ 53,607.02
SE Sanchez Avenue	SE 9th Street	SE 13th Street	E	Local, No Functional Class	1,175	0.22	$ 24,566.40
SW 1st Avenue	SW 18th Street	US-27 (S Pine Avenue)	E	Local, No Functional Class	1,113	0.21	$ 23,270.13
NW 2nd Street	NW 2nd Avenue	NW 1st Avenue	S	Local, No Functional Class	229	0.04	$ 4,787.83
NE Osceola Avenue	NE 5th Street	NE 3rd Street	E	Local, No Functional Class	791	0.15	$ 16,537.89
NE Osceola Avenue	NE 5th Street	NE 3rd Street	W	Local, No Functional Class	790	0.15	$ 16,516.98
NW 30th Avenue	South of NW 7th Place	Silver Springs Boulevard	W	Local, No Functional Class	1,119	0.21	$ 23,395.58
SW 46th Avenue	W Silver Springs Boulevard	SW 10th Street	W	Local, No Functional Class	2,700	0.51	$ 56,450.45
NW 4th Street	NW 23rd Avenue	NW 21st Avenue	S	Local, No Functional Class	599	0.11	$ 12,523.64
SW 5th Avenue	SW 17th Street	SW 17th Place	E	Local, No Functional Class	271	0.05	$ 5,665.95
NE 21st Street	NE 30th Avenue	NE 38th Terrace	N	Local, No Functional Class	3,590	0.68	$ 75,058.19
SW 1st Avenue	SW 17th Street	SW 18th Street	E	Local, No Functional Class	458	0.09	$ 9,575.67
NW 14th Street	NW 24th Avenue	NW 20th Court	S	Local, No Functional Class	1,552	0.29	$ 32,448.55
NE 14th Avenue	NE 35th Street	NE 28th Street	E	Local, No Functional Class	2,615	0.50	$ 54,673.31
SW 44th Avenue	SW 13th Street	SW 20th Street	W	Local, No Functional Class	1,697	0.32	$ 35,480.15
SE 2nd Street	SE Wenona Avenue	SE 10th Avenue	N	Local, No Functional Class	1,011	0.19	$ 21,137.56
NE Osceola Avenue	NE 5th Street	NE 3rd Street	W	Local, No Functional Class	137	0.03	$ 2,864.34
SE 30th Avenue	SE 17th Street	SE 18th Street	E	Local, No Functional Class	518	0.10	$ 10,830.12
SW 1st Avenue	SW 29th Street Road	SE 29th Street	E	Local, No Functional Class	276	0.05	$ 5,770.49
SE Alvarez Avenue	E Fort King Street	SE 3rd Street	W	Local, No Functional Class	318	0.06	$ 6,648.61
SE 30th Avenue	SE 14th Street	SE 17th Street	W	Local, No Functional Class	1,032	0.20	$ 21,576.62
SW 32nd Avenue	SW 33rd Avenue	SW College Road	N	Local, No Functional Class	1,096	0.21	$ 22,914.70
SE 17th Street	SE 36th Avenue	SE 47th Avenue	S	Local, No Functional Class	5,218	0.99	$ 109,095.72

Table 7D
Sidewalk Recommendations in the City of Belleview

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
US-441	US-301	Del Webb Boulevard	E	Urban Principal Arterial	1,843	0.35	$ 38,532.66
US-441	US-301	Del Webb Boulevard	W	Urban Principal Arterial	1,857	0.35	$ 38,825.36
SE 110th Street	SE 36th Avenue	US-441	N	Urban Minor Collector	6,394	1.21	$ 133,683.03
SE 36th Avenue	SE 95th Street	SE 100th Street	E	Urban Minor Collector	2,528	0.48	$ 52,854.35
SE 36th Avenue	SE 95th Street	SE 103rd Lane	W	Urban Minor Collector	3,285	0.62	$ 68,681.38
SE 102nd Place	US-441	SE 52nd Court	S	Urban Minor Collector	3,375	0.64	$ 70,563.06
SE 95th Street	SE 36th Avenue	SE 38th Court	S	Urban Minor Collector	1,028	0.19	$ 21,492.99
CR-484	SE 36th Avenue	SE 35th Avenue Road	N	Urban Major Collector/Urban Principal Arterial	1,520	0.29	$ 31,779.51
SE 110th Street Road	SE Baseline Road	West of SE 83rd Terrace	N	Urban Major Collector/Urban Minor Collector	9,546	1.81	$ 199,583.70
CR-484	SE Brown Road	US-27 (SE Ashbier Boulevard)	W	Urban Major Collector	1,749	0.33	$ 36,567.35
CR-484	US-27 (SE Ashbier Boulevard)	CR-484 / SE 132nd Street Road	E	Urban Major Collector	1,179	0.22	$ 24,650.03
SE 110th Street / CR-25	SE Baseline Road	CR-25A	S	Urban Major Collector	6,615	1.25	$ 138,303.60
SE 55th Avenue Road	US-27 (SE Ashbier Boulevard)	SE 132nd Street Road	W	None/Urban Minor Collector	1,314	0.25	$ 27,472.55
SE 55th Avenue Road	US-27 (SE Ashbier Boulevard)	SE 132nd Street Road	E	None/Urban Minor Collector	1,309	0.25	$ 27,368.01
SE Robinson Road	US-27 (SE Ashbier Boulevard)	SE Oak Road	E	Local, No Functional Class	165	0.03	$ 3,449.75
SE 52nd Court	SE 103rd Lane	SE 110th Street	W	Local, No Functional Class	3,201	0.61	$ 66,925.14
SE 57th Avenue	SE 116th Street	SE 119th Place	E	Local, No Functional Class	1,666	0.32	$ 34,832.02
SE 57th Avenue	SE 110th Place	US-27 (SE Ashbier Boulevard)	W	Local, No Functional Class	442	0.08	$ 9,241.15
SE 52nd Court	SE 102nd Place	SE 110th Street	E	Local, No Functional Class	3,845	0.73	$ 80,389.62
SE Brown Road	SE Hames Road	CR-484	W	Local, No Functional Class	609	0.12	$ 12,732.71
SE 100th Street	SE 52nd Court	SE 56th Avenue	N	Local, No Functional Class	1,608	0.30	$ 33,619.38
SE 110th Place	SE 54th Avenue	SE 56th Avenue	N	Local, No Functional Class	691	0.13	$ 14,447.13
SE 110th Street	US-27 (SE Ashbier Boulevard)	SE 56th Avenue	S	Local, No Functional Class	2,989	0.57	$ 62,492.74
SE 100th Street	SE 36th Avenue	US-441	S	Local, No Functional Class	3,681	0.70	$ 76,960.78
SE 100th Street	US-27 (SE Ashbier Boulevard)	SE 52nd Court	N	Local, No Functional Class	1,439	0.27	$ 30,086.00

Table 7E
Sidewalk Recommendations in the City of Dunnellon

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
E Pennsylvania Avenue	Palmetto Way	SW 196th Terrace	N	Rural Minor Arterial	304	0.06	$ 6,355.90
E Pennsylvania Avenue	Palmetto Way	SW 196th Terrace	S	Rural Minor Arterial	269	0.05	$ 5,624.14
Park Avenue	Orlando Street	CR-40	S	Local, No Functional Class	182	0.03	$ 3,805.18
Orlando Street	Powell Road	W McKinney Avenue	E	Local, No Functional Class	339	0.06	$ 7,087.67
Park Avenue	Orlando Street	CR-40	N	Local, No Functional Class	96	0.02	$ 2,007.13

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

Table 7F
Sidewalk Recommendations in Unincorporated Areas

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
SE 73rd Street	SE 41st Court	Juniper Loop	S	Local, No Functional Class	1,661	0.31	$ 34,727.48
SE 38th Street	SE 54th Avenue	SE 58th Avenue	N	Local, No Functional Class	1,878	0.36	$ 39,264.42
SE 47th Avenue	SE 38th Street	SE Maricamp Road	W	Local, No Functional Class	639	0.12	$ 13,359.94
SE 44th Street	SE 48th Street	SE 44th Avenue Road	S	Local, No Functional Class	3,713	0.70	$ 77,629.82
Banyan Road	SE 58th Avenue	Almond Road	S	Local, No Functional Class	2,281	0.43	$ 47,690.18
NE 52nd Court	NE 7th Street	SE 8th Street	E	Local, No Functional Class	5,159	0.98	$ 107,862.17
NE 52nd Court	NE 7th Street	SE 8th Street	W	Local, No Functional Class	5,125	0.97	$ 107,151.32
NE 49th Street	NE Jacksonville Road	CSX RR East of NE 36th Avenue Road	S	Local, No Functional Class	1,096	0.21	$ 22,914.70
NE 49th Street	NE Jacksonville Road	CSX RR East of NE 36th Avenue Road	N	Local, No Functional Class	1,081	0.20	$ 22,601.09
SE 95th Street	SE 35th Court	SE 36th Avenue	N	Local, No Functional Class	201	0.04	$ 4,202.42
SE 129th Place	CR-484	SE 55th Avenue Road	N	Local, No Functional Class	3,835	0.73	$ 80,180.55
SE 165th Mulberry Lane	CR-42 (SE Highway 42)	Roundabout	W	Local, No Functional Class	337	0.06	$ 7,045.85
SE 84th Terrace	SE 147th Place	CR-42 (SE Highway 42)	W	Local, No Functional Class	9,250	1.75	$ 193,395.06
SE 84th Terrace	SE 147th Place	CR-42 (SE Highway 42)	E	Local, No Functional Class	9,233	1.75	$ 193,039.63
CR-25A	US-441	CR-25	N	Local, No Functional Class	4,214	0.80	$ 88,104.52
SE 47th Avenue	CR-484	SE 142nd Place	E	Local, No Functional Class	4,049	0.77	$ 84,654.77
SE 47th Avenue	SE 142nd Place	SE 149th Place	E	Local, No Functional Class	3,818	0.72	$ 79,825.12
SE 115th Street	SE 36th Avenue	SE 40th Avenue	S	Local, No Functional Class	1,750	0.33	$ 36,588.25
NE 60th Court	NE 35th Street	Silver Springs Boulevard	W	Local, No Functional Class	2,013	0.38	$ 42,086.95
NE 60th Court	NE 35th Street	Silver Springs Boulevard	E	Local, No Functional Class	2,047	0.39	$ 42,797.80
CR-25A	US-441	CR-25	E	Local, No Functional Class	4,360	0.83	$ 91,157.02
SE 47th Avenue	CR-484	SE 145th Street	W	Local, No Functional Class	5,324	1.01	$ 111,311.92
E Fort King Street	NE 48th Avenue	NE 58th Avenue	N	Urban Major Collector	4,753	0.90	$ 99,373.70
E Fort King Street	SE 48th Court	SE 48th Avenue	S	Urban Major Collector	4,742	0.90	$ 99,143.72
NE 35th Street	NE 25th Avenue	NE 36th Avenue Road	N	Urban Major Collector	5,086	0.96	$ 106,335.92
NE 35th Street	NE Jacksonville Road	NE 25th Avenue	N	Urban Major Collector	6,343	1.20	$ 132,616.74
NW 35th Street	NW Gainesville Road	US-301	N	Urban Major Collector	844	0.16	$ 17,645.99
NE 7th Street	NE 52nd Court	NE 58th Avenue	N	Urban Major Collector	2,333	0.44	$ 48,777.37
W Anthony Road	NW 44th Street	NW 35th Street	E	Urban Major Collector	3,175	0.60	$ 66,381.55
NW 35th Street	NW 16th Avenue	NW Gainesville Road	N	Urban Major Collector	427	0.08	$ 8,927.53
CR-25	SE 110th Street Road	East of SE 80th Court	N	Urban Major Collector	6,457	1.22	$ 135,000.20
CR-25	CR-25A	SE 108th Terrace Road	S	Urban Major Collector/Urban Minor Collector	1,737	0.33	$ 36,316.46
SE Maricamp Road	SE 31st Street	SE 44th Avenue Road	S	Urban Minor Arterial	3,947	0.75	$ 82,522.19
SE Maricamp Road	SE 47th Avenue	SE 58th Avenue	N	Urban Minor Arterial	6,097	1.15	$ 127,473.48
NE Jacksonville Road	NE 53rd Street	NE 35th Street	W	Urban Minor Arterial	6,921	1.31	$ 144,701.32
NE Jacksonville Road	NE 49th Street	NE35th Street	E	Urban Minor Arterial	5,182	0.98	$ 108,343.05
SE Maricamp Road	SE 58th Avenue	SE 55th Place	W	Urban Minor Arterial	4,959	0.94	$ 103,680.66
SE Maricamp Road	SE 55th Place	Midway Road	E	Urban Minor Arterial	5,959	1.13	$ 124,588.23
SE Maricamp Road	SE 58th Avenue	SE 67th Avenue	W	Urban Minor Arterial	4,829	0.91	$ 100,962.67
SE Maricamp Road	Pine Road	Midway Road	W	Urban Minor Arterial	4,687	0.89	$ 97,993.80
SE Maricamp Road	Midway Road	Cedar Trace	W	Urban Minor Arterial	484	0.09	$ 10,119.27
SE Maricamp Road	Bahia Avenue	Oak Road	W	Urban Minor Arterial	1,271	0.24	$ 26,573.53
SE Maricamp Road	Bahia Road	Oak Road	E	Urban Minor Arterial	1,101	0.21	$ 23,019.24
SE Maricamp Road	SE 42nd Street	SE 58th Avenue	W	Urban Minor Arterial	4,451	0.84	$ 93,059.61
CR-42 (SE Highway 42)	SE 165th Mulberry Lane	US-441	S	Urban Minor Arterial	9,176	1.74	$ 191,847.90
SE Maricamp Road	SE 44th Avenue Road	SE 47th Avenue	N	Urban Minor Arterial	629	0.12	$ 13,150.86
SE Maricamp Road	SE 44th Avenue Road	SE 42nd Street	S	Urban Minor Arterial	2,269	0.43	$ 47,439.29
CR-42 (SE Highway 42)	SE 80th Avenue	SE 84th Terrace	N	Urban Minor Arterial	2,326	0.44	$ 48,631.02
CR-42 (SE Highway 42)	SE 84th Terrace	US-441	N	Urban Minor Arterial	7,609	1.44	$ 159,085.73

Table 7G
Sidewalk Recommendations in Unincorporated Areas

Roadway	From	To	Side of Road	Functional Classification	Length (feet)	Length (mi)	Estimated Cost per Mile*
SE 79th Street	SE 41st Court	Juniper Road	S	Urban Minor Collector	1,547	0.29	$ 32,344.02
SW 40th Street	SW 48th Avenue	SW 43rd Court	N	Urban Minor Collector	1,823	0.35	$ 38,114.51
SE 38th Street	SE 38th Street / SE 36th Street	SE 37th Court	S	Urban Minor Collector	621	0.12	$ 12,983.60
SE 44th Avenue Road	SE 48th Place Road	SE Maricamp Road	W	Urban Minor Collector	3,933	0.74	$ 82,229.49
NE 25th Avenue	NE 49th Street	NE 35th Street	E	Urban Minor Collector	5,235	0.99	$ 109,451.15
NE 25th Avenue	NE 49th Street	NE 35th Street	W	Urban Minor Collector	5,226	0.99	$ 109,262.98
SE 95th Street	SE 93rd Place	US-441	N	Urban Minor Collector	2,280	0.43	$ 47,669.27
SE 95th Street	SE 38th Court	US-441	S	Urban Minor Collector	1,188	0.23	$ 24,838.20
NW 44th Avenue	NW 73rd Place	South of NW 63rd Street	W	Urban Minor Collector	4,825	0.91	$ 100,879.04
NW 44th Avenue	South of W Highway 326	South of NW 63rd Street	E	Urban Minor Collector	5,577	1.06	$ 116,601.54
SE Sunset Harbor Road	SE 95th Avenue	SE 155th Street	E	Urban Minor Collector	7,301	1.38	$ 152,646.20
SE Sunset Harbor Road	SE 95th Avenue	SE 99th Avenue	S	Urban Minor Collector	2,177	0.41	$ 45,515.79
SE Sunset Harbor Road	SE 155th Street	CR-42 (SE Highway 42)	W	Urban Minor Collector	6,056	1.15	$ 126,616.27
CR-42 (SE Highway 42)	US-441	SE 104th Terrace	S	Urban Minor Collector	2,313	0.44	$ 48,359.22
SE Sunset Harbor Road	SE 103rd Terrace	SE 105th Avenue	E	Urban Minor Collector	2,933	0.56	$ 61,321.91
SE Sunset Harbor Road	US-441	SE 95th Avenue	S	Urban Minor Collector	2,923	0.55	$ 61,112.84
SE 147th Place	SE 84th Terrace	US-441	S	Urban Minor Collector	1,703	0.32	$ 35,605.60
SE 110th Street Road	West of SE 83rd Terrace	SE 90th Court	S	Urban Minor Collector	4,721	0.89	$ 98,704.66
SE 110th Street Road	West of SE 83rd Terrace	Oak Road	N	Urban Minor Collector	3,398	0.64	$ 71,043.94
SE 36th Avenue	CR-484	SE Highway 42	W	Urban Minor Collector	1,576	0.30	$ 32,950.34
SE 36th Avenue	CR-484	SE Highway 42	E	Urban Minor Collector	1,578	0.30	$ 32,992.15
SE 36th Avenue	SE 110th Street	CR-484	E	Urban Minor Collector	1,315	0.25	$ 27,493.46
SE 36th Avenue	SE 110th Street	CR-484	W	Urban Minor Collector	1,310	0.25	$ 27,388.92
SE 36th Avenue	SE 100th Street	SE 110th Street	E	Urban Minor Collector	5,139	0.97	$ 107,444.02
SE 36th Avenue	SE 103rd Lane	SE 110th Street	W	Urban Minor Collector	2,404	0.46	$ 50,261.81
CR-42 (SE Highway 42)	US-441	SE 105th Avenue	N	Urban Minor Collector	2,374	0.45	$ 49,634.58
SE Sunset Harbor Road	US-441	SE 95th Avenue	N	Urban Minor Collector	3,272	0.62	$ 68,409.58
SE 147th Place	SE 84th Terrace	US-441	N	Urban Minor Collector	1,686	0.32	$ 35,250.17
SE 110th Street Road	CR-25	West of SE 83rd Terrace	S	Urban Minor Collector	5,927	1.12	$ 123,919.19
NE 35th Street	NE 48th Terrace	NE 59th Terrace	S	Urban Minor Collector/Urban Local	5,135	0.97	$ 107,360.39
NE 35th Street	NE 36th Avenue Road	NE 59th Terrace	N	Urban Minor Collector/Urban Local	1,153	0.22	$ 24,106.43
US-27 (S Pine Avenue)	West of SE 10th Avenue	SE 10th Avenue	E	Urban Principal Arterial	203	0.04	$ 4,244.24
US-441	SE Sunset Harbor Road	SE 173rd Street	E	Urban Principal Arterial	1,659	0.31	$ 34,685.67
US-441	SE Sunset Harbor Road	SE 173rd Street	W	Urban Principal Arterial	1,696	0.32	$ 35,459.25
US-441	Del Webb Boulevard	SE Sunset Harbor Road	E	Urban Principal Arterial	4,149	0.79	$ 86,745.52
US-441	Del Webb Boulevard	SE 147th Place	W	Urban Principal Arterial	3,923	0.74	$ 82,020.41
CR-484	SE 25th Avenue	SE 47th Avenue	S	Urban Principal Arterial	1,040	0.20	$ 21,743.88
CR-484	SE 30th Court	SE 36th Avenue	N	Urban Principal Arterial	2,516	0.48	$ 52,603.46
SE 132nd Street Road	SE 55th Avenue Road	US-301	N	Urban Principal Arterial	699	0.13	$ 14,614.39
CR-484	SE 47th Avenue	SE 132nd Street Road	S	Urban Principal Arterial	2,134	0.40	$ 44,616.76
SE 95th Street	East of SE 25th Avenue	SE 35th Court	N	Urban/Rural Minor Collector	2,087	0.40	$ 43,634.11

Disclaimer: This information is generic in nature (including segment length and estimated cost). It is for reference purposes only, and is not intended to predict or support future estimates. The consultant claims no responsibility for unintended use of this information.

VISION SUMMARY, GOALS, OBJECTIVES, GUIDING PRINCIPLES, and POLICY RECOMMENDATIONS

Building on the Goals, Objectives, and Strategies that were developed on Page 6, and based on the stakeholder and community input , the following policy recommendations were developed.

Vision Summary

To plan for a network of pedestrian and bicycle facilities to improve walkability, expand bicycle opportunities, complete regional connections, and promote economic development within the area. This vision summary provides the basis for the goals and objectives, guiding principles, and policy recommendations included in this Master Plan.

Guiding Principles

To identify pedestrian and bicycle facility network needs based on existing conditions and stakeholder involvement, improve safety and connectivity, provide an alternative transportation system, and connect to the regional trail network.

Goals and Objectives Summary

Goal 1. Enhance walkability within the TPO area

- ***Objective 1. Address gaps and barriers in the current pedestrian network***
- ***Objective 2. Provide safe corridors for students to access school facilities***
- ***Objective 3. Provide mobility and connectivity within the TPO area***
- ***Objective 4. Provide pedestrian connectivity to parks and greenways***

Goal 2. Expand bicycling opportunities within the TPO area

- ***Objective 1. Create a series of connected paved multi-use trails***
- ***Objective 2. Provide connectivity to existing mountain biking trails***
- ***Objective 3. Improve cycling safety on the existing transportation network within the TPO area***

Goal 3. Complete regional connections with existing and proposed trails across Central Florida

- ***Objective 1. Develop trails that support the "Close the Gaps" Initiative***

Goal 4. Promote economic development within the TPO area

- ***Objective 1. Establish bicycle and pedestrian connections to commercial developments and corridors***

Policy Recommendations

Ocala/Marion TPO Policies

- Where right-of-way and existing railroad policy permits along active railroads, consider rails-with-trails projects as parallel facilities
- Pursue inactive or abandoned rail corridors as future potential trail projects
- Receive notifications from the Rails-to-Trails Conservancy on pending rail abandonments
- Actively pursue Transportation Alternatives funds, established by MAP-21, for eligible projects that address identified bicycle and pedestrian needs
- Pursue easements for conservation or trail construction where gaps in property ownership or land management exist along corridors prioritized for bicycle and pedestrian facilities
- Establish a contingency fund for rail corridor and property acquisitions needed for prioritized bicycle and pedestrian projects
- Incorporate all projects identified in this Master Plan into the TPO Long Range Transportation Plan and unfunded prioritized project list so they can be placed in the five-year Transportation Improvement Program (TIP) as funding becomes available
- Coordinate with regional transportation and government organizations through partnerships such as the Central Florida MPO Alliance to ensure appropriate collaboration and communication occurs for regional projects
- Pursue alternative funding sources, such as public-private partnerships and grants, in order to implement bicycle and pedestrian safety and mobility recommendations
- Apply for League of American Bicyclists "Bicycle Friendly Community" designation after evaluating Marion County through the Community Scorecard
- Encourage local businesses to apply for League of American Bicyclists "Bicycle Friendly Business" recognition
- Establish a Bicycle & Pedestrian Advisory Committee or working group at the TPO that meets quarterly or as needed
- Adopt a formal policy or resolution to consider bicycle and pedestrian projects as part of other transportation improvement projects and be recognized in the land development code
- Update this plan every five years. The previous update (2015 Update) to this plan was successful in developing many improvements in Marion County. Therefore, the plan should be regularly updated to provide additional recommendations in the future.

Local Government Pedestrian & Sidewalk Policies

Listed below are the specific policies that Marion County and municipalities could implement to promote safe mobility and connectivity for pedestrians:

- Construct sidewalks during any road resurfacing or reconstruction project in urban areas, along arterials and collectors
  - Where feasible, provide up to 25-foot wide sidewalks on active retail corridors and town centers, 10-foot wide sidewalks in urban areas, and 5-foot wide sidewalks in residential and suburban areas
  - Where applicable, provide shading and street furniture along sidewalks to enhance the pedestrian environment
  - Prioritize enhancing pedestrian access to transit stops by making the transit network a guideline for improving pedestrian routes with special consideration being given to persons with disabilities and the elderly

Bicycle Infrastructure

- Construct designated bicycle lanes or paved shoulders during any road resurfacing or reconstruction project where available right-of-way exists
- Where right-of-way exists, provide a 5-foot wide paved, and marked designated bicycle lanes or shoulder. If a 5-foot wide lane is not feasible, provide a 4-foot wide bicycle lane or shoulder
- Where right-of-way exists along corridors spanning multiple miles, provide a 12-foot wide paved multi-use trail
  - If a 12-foot wide trail is not feasible due to right-of-way or other constraints, provide a 10-foot wide paved multi-use trail
- Provide shared lane markings on urban streets (such as Downtown Ocala, but not necessary in residential neighborhoods) with speed limits of no more than 30 miles per hour
- Make sure bicycle facilities are free from moving and parking vehicular interference
- Where feasible, install buffered bicycle lanes on arterials in Marion County
- Provide regular sweeping and maintenance to bicycle lanes to keep them clear of debris
- Promote the availability of bicycle racks on all SunTran buses in Marion County

Street Network

- Promote an integrated street network that improves multimodal mobility, ultimately making walking and biking more attractive modes of transportation, by:
  - Dispersing traffic throughout the entire street network, not concentrating traffic on a few major roads
  - Reducing the number of streets with dead-ends
  - Providing an increased number of intersections that offer more direct routes, more route choices, and shorter distances between destinations.

IMPLEMENTATION PLAN

The process for implementing the projects recommended in this Master Plan will generally occur according to the following steps:

1. **Planning**

   This Master Plan, along with supplemental documents, serves as the primary planning tool establishing the desired location of bicycle and pedestrian projects within the TPO area.

2. **National Environmental Policy Act (NEPA), Project Development and Environment (PD&E), State Permitting** (or other compliance as required)

   To ensure compliance with applicable regulations, further studies may be required to document the impacts of planned projects.

3. **Design and Engineering**

   Design and engineering of the project will produce detailed technical specifications that will guide the subsequent construction of planned projects

4. **Construction**

   Construction will occur on a schedule based on available and projected funding sources, project prioritization, and consistency with other ongoing projects.

5. **Maintenance**

   Once construction is complete, various maintenance activities will be required dependent upon construction materials and facility usage. Maintenance of bicycle and pedestrian facilities will be conducted as needed to protect the initial investment and ensure safe continued use of the facilities.

The following components of the Implementation Plan will be further developed and included in the feasibility studies for each of the recommended Multi-use trails:

Opinions of Probable Cost – Opinions of probable costs will be included using FDOT Cost per Mile Estimate Models and contingency percentages to include design and permitting costs based on recently completed similar projects.

Project Phasing Schedule – Project phasing schedule will be developed showing the expected timeframe of project completion based on estimated costs, funding sources, and schedule of other projects in the corridors.

Funding Strategies – Various funding strategies will be identified to assist in the implementation of bicycle and pedestrian projects in accordance with the preferred project phasing schedule.

Bicycle Friendly Community

A goal for Ocala-Marion County should be to become a Bicycle Friendly Community. Gaining a designation of Bicycle Friendly Community is an accomplishment many communities strive to achieve. There are several designations of Bicycle Friendly Community which are based off the efforts and achievements of the community or business applicant. Bronze is the lowest designation, then silver, gold, and platinum, which is the highest ranking. Being designated as a Bicycle Friendly Community means not only taking the initiative to make your community more appealing and safe for bicyclists, but also creating an environmentally sustainable community that appreciates the health and well-being of their citizens. Becoming a bicycle friendly community can also help with a community's economic development. When a community is safe for bicyclists and offers cyclist amenities, tourists and businesses tend to be attracted to those areas, as well as new residents. Implementing this master plan will be a great start for Ocala-Marion County to achieve Bicycle Friendly Community designation. After implementation of the master plan, it is encouraged that the five elements, or 5 E's, of a bicycle friendly community be considered to continuously strengthen the area for bicycling. Communities can implement different incentives, opportunities, and facilities to satisfy the 5 E's.

Bicycle Friendly Community sign

The 5 E's

The essential elements that make up the foundation for a bicycle friendly community are called the 5 E's:

- *Engineering*
- *Education*
- *Encouragement*
- *Enforcement*
- *Evaluation and Planning*

Engineering

The physical make up of a community dictates if people will ride a bicycle for transportation and recreation. Bicycling networks allow people to make connections between desired destinations with the protection of designated lanes, trails, streets, and facilities. Engineering also includes having parking for bicycles throughout the community.

Education

A community that provides it citizens with opportunities to educate themselves on bicycling builds a great place for people to ride. Education through tips posted on a community website, or an educational table set up at a local event all contribute to people's confidence while riding. Additionally, educating law enforcement officers on proper bicycling enforcement techniques will help make cycling and pedestrian activity more safe.

Encouragement

As a community it is important to encourage bicyclists by providing them with the opportunities and incentives they need to utilize their bikes. Providing things such as wayfinding signage, and celebrating bike days such as National Bike to Work Day can encourage community members to bike more.

Enforcement

It is very important for law enforcement officers to be aware of the laws and regulations in place to ensure the safety of all vehicles. One suggestion to help the relationship between bicyclists and law enforcement is to have police officers patrol in bicycles to help them better understand cyclists' issues.

Evaluation and Planning

The Ocala/Marion County Bicycle and Pedestrian Master Plan greatly satisfies this component for a bicycle friendly community. A master plan is the foundation for a great cycling community. Keeping the community engaged after the master plan is created is important to the success of the plan.

Responsible Parties

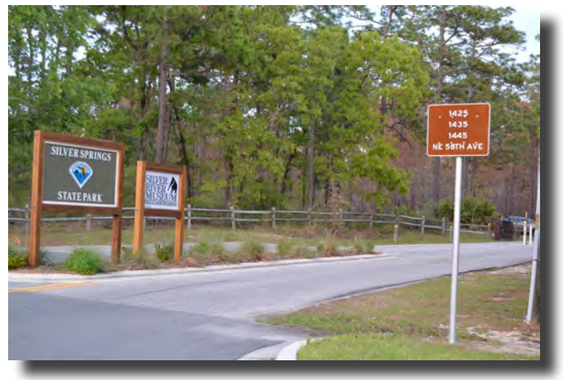
In order to implement the master plan and take actions towards become a bicycle friendly community, many different entities and persons will need to be involved. The Ocala-Marion County Transportation Planning Organization (TPO) will be a continuous player in making Ocala-Marion County a safe, welcoming place for bicyclists. The TPO is responsible for the planning of future bicycle and pedestrian facilities which is an important component to becoming a bicycle friendly community as well as sustaining a designation. The Florida Department of Transportation, local governments, and the TPO will continuously work together for funding and implementation of projects.

The Ocala/Marion County Chamber and Economic Partnership (CEP) is a unified effort to build strong economic development in Ocala-Marion County. The CEP will play a critical role in encouraging businesses to become bicycle friendly businesses. Also, once the community becomes a bicycle friendly community, this can be used by the CEP to attract other businesses to the area.

The Ocala Police Department and Marion County Sheriff's Office can be responsible parties for the enforcement component of the designation. An important aspect of being a bicycle friendly community is ensuring that bicyclists and motorists know and abide by the law, and that the law is enforced properly. The police can attend community and citizens meetings to better understand the problems cyclists face and address them. A partnership between law enforcement and bicyclists is a critical component to being a successful bicycle community.

SunTran is the public transportation system in Ocala/Marion County. It is important to promote intermodal travel between public transport and bicycles. Having the buses provide amenities such as bike racks, and making connections to rail and transit parking can be important to the community's potential as a bicycle friendly community.

Local bicycle businesses can also play an important role in achieving a designation of bicycle friendly community. By having knowledgeable persons who work in the bicycle industry educate other citizens about safety and measures that should be taken when riding, can satisfy the education element. Bicycle shops can also hold presentations for businesses, schools, and more to teach the skills people need to be confident riders. The following bicycle shops were included in the master planning process and could be potential participants in helping to achieve a bicycle friendly community designation:



- *Top Gear Bicycles, Inc.*
- *Santos Bike Shop*
- *Ocala Bicycle Center*
- *Brick City Bicycles*
- *Greenway Bicycles*
- *Blue Run Bicycles, Inc.*

Businesses throughout the community can begin to take strides to provide their employees with the proper facilities to ride their bikes to work. It will be important to assess the appropriate number of bicycle parking spaces need for employees as well as long-term bicycle storage.

Bicycle Friendly Business

Having Ocala/Marion County become a bicycle friendly community will be a great incentive for the local businesses in the area to become certified as bicycle friendly businesses. A precedent can be set for all business owners to make their business accommodating for bicyclists since the community encourages it as a way of transportation and recreation. Becoming a bicycle friendly business will also give employees more incentive to ride their bikes to work by knowing that facilities, such as showers and lockers, are available. The four components of a bicycle friendly business are: encouragement, education, engineering, and evaluation.

Bike Ocala-Marion Bicycle Suitability Map

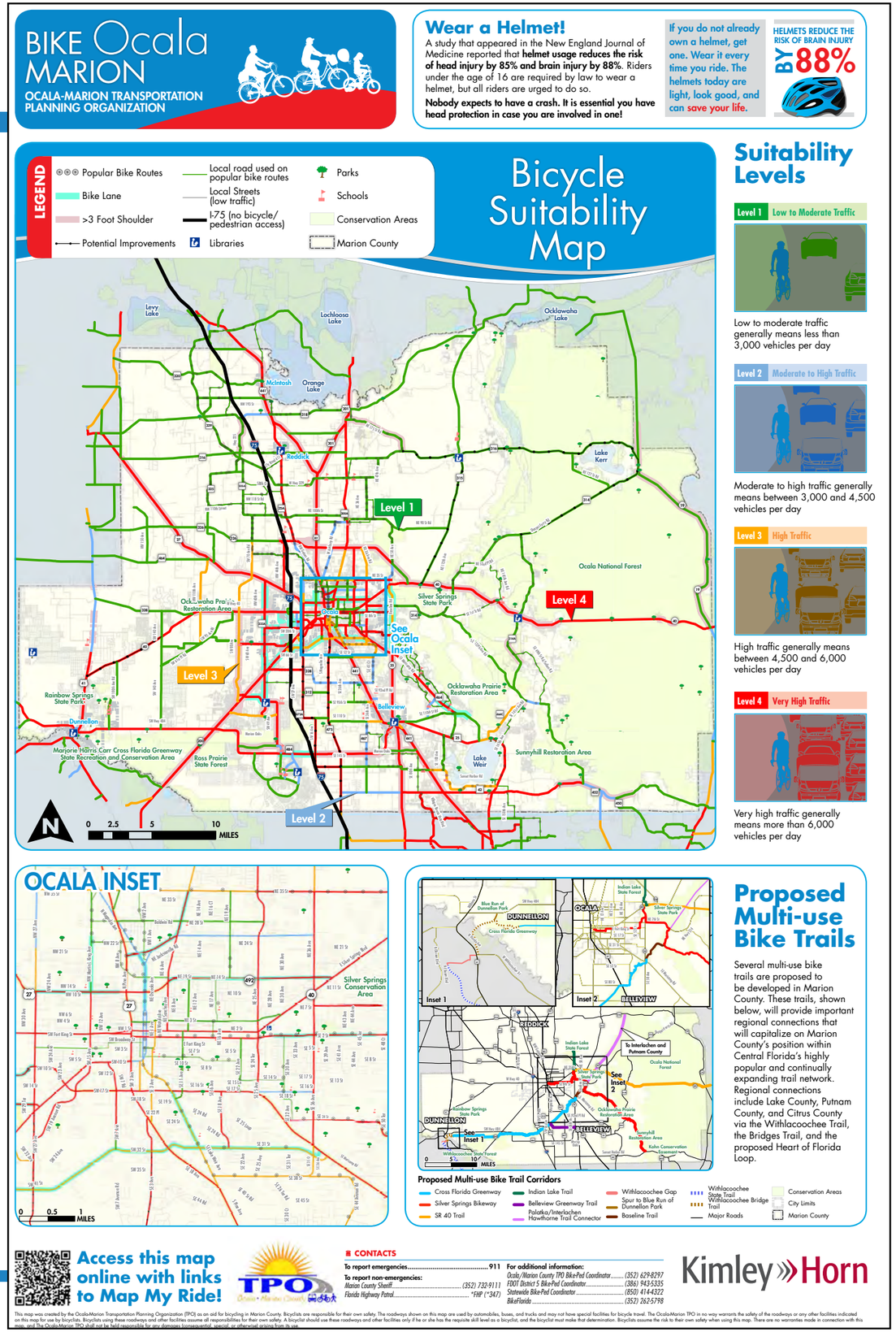
Based on the data gathered for the development of the 2035 Bicycle and Pedestrian Master Plan, a bicycle suitability map was created. This map illustrates the general suitability of roads for bicycling based on traffic and existing bicycle facilities, and shows existing group rides in the county. The bicycle suitability map was developed both as a printable static map and as an interactive online map. The static map includes a Quick Response (QR) code link to the online version. The online version integrates with Map My Ride so that users can easily download the routes via the Map My Ride app on their mobile devices. The online version of the map can be found at: http://bikeocalamarion.com/bicycle-suitability-map/

Print versions of the map should be made available at local bicycle shop, the Ocala/Marion County Visitors and Convention Bureau, trailheads, and recreation and community facilities in the area. Links to the online map should be provided on the TPO, Ocala/Marion County Visitors and Convention Bureau, and area partner websites.

CONCLUSION

The Ocala-Marion TPO 2035 Bicycle and Pedestrian Master Plan reflects the culmination of significant public input and agency coordination. The project represents an opportunity for the TPO to provide alternate forms of transportation, with recreational opportunities, based on public needs and desires. The proposed recommendations create a network of multi-use trails throughout Marion County that connect to the regional trail system that reflect input from the public, local and state agencies, data collection, and analysis. This Master Plan is the first phase in developing a significant network of trails that will provide new transportation opportunities, enhance quality of life in Marion County, and economic development to the region.

Additional bicycle parking is needed in Downtown Ocala



BIKE Ocala MARION

2035 BICYCLE & PEDESTRIAN MASTER PLAN

Appendix A

Draft Feasibility Study:

Cross Florida Greenway

CROSS FLORIDA GREENWAY TRAIL

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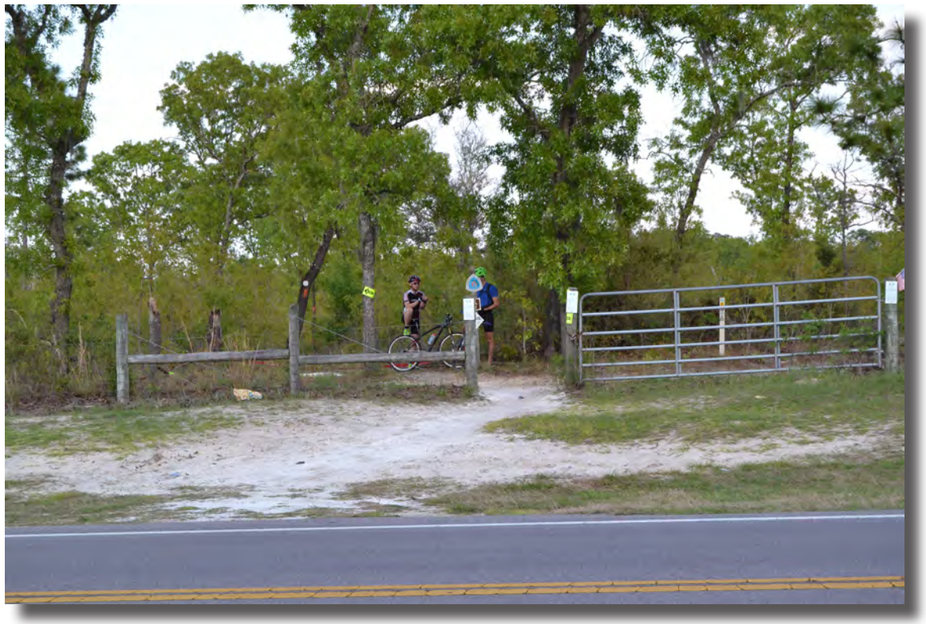
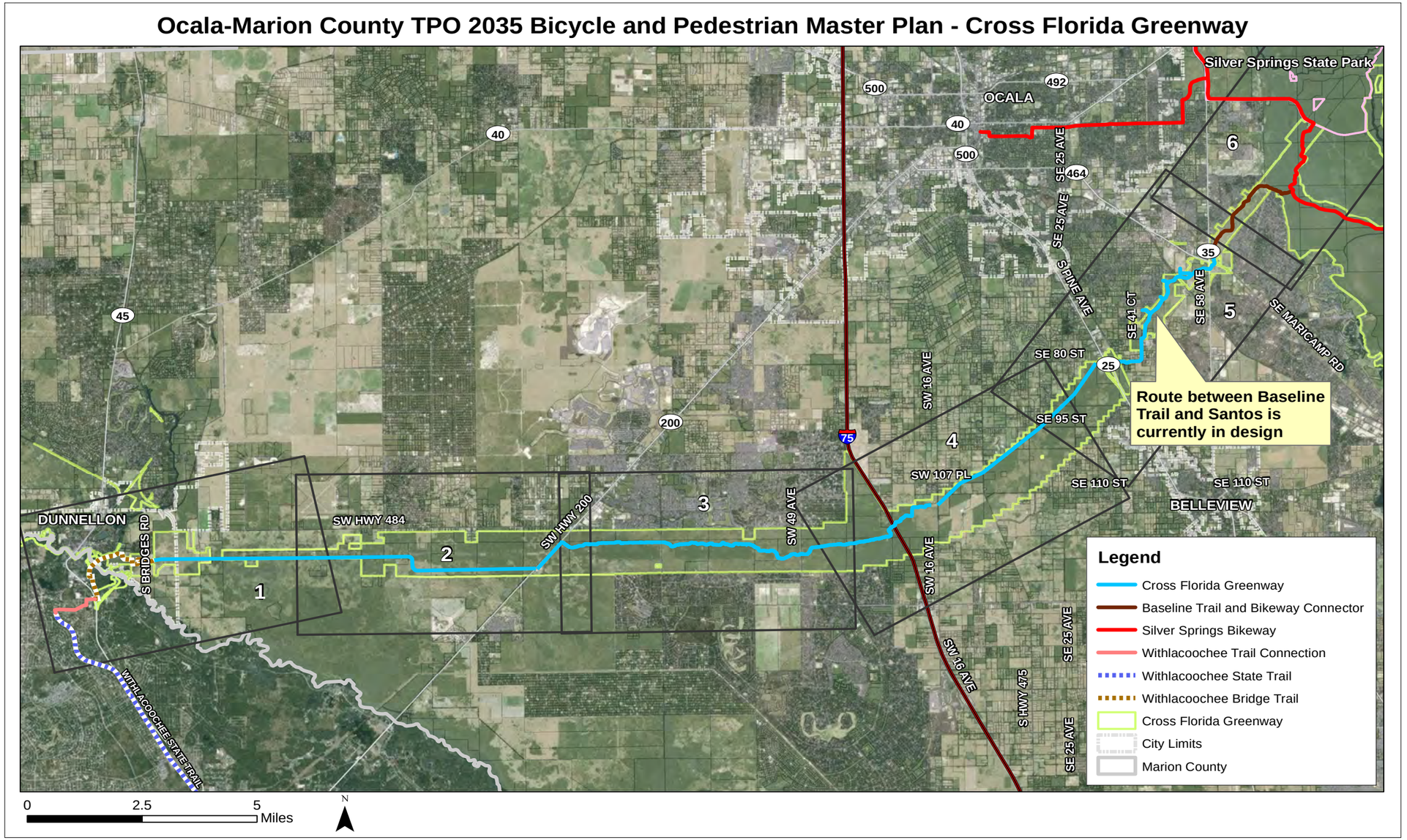


Cross Florida Greenway Multi-use Trail Overview

The Withlacoochee Trail is a 46-mile paved rail trail extending throughout Citrus, Hernando, and Pasco Counties. The trail's current northern terminus is the Gulf Junction Trailhead in Citrus County, just south of Dunnellon and the Withlacoochee River. The City of Dunnellon's Bicycle, Pedestrian, and Blueway Facilities Master Plan previously identified a phased approach to extend the Withlacoochee Trail into the City of Dunnellon and the Cross Florida Greenway. This trail extension would connect to the Dunnellon Little League Sports Complex on South Bridges Road.

The Ocala-Marion 2035 Bicycle & Pedestrian Master Plan aims to build upon these previous planning efforts, continuing from the Dunnellon extension and constructing a paved multi-use trail throughout the entire Cross Florida Greenway, from the Withlacoochee Trail to Silver Springs State Park. This feasibility study describes a conceptual alignment of the Cross Florida Greenway Multi-use Trail and identifies constraints to be addressed for individual segments.

The Cross Florida Greenway Multi-use Trail is recommended to be constructed in three phases. The first phase, known as the Santos Gap Trail, is located between Santos and SW 49th Street (Segment 5, Page 8). The second phase, known as the Pruitt Gap Trail, is located between SR 200 and the Bridges Trail near Dunnellon (Segments 1 and 2, Pages 3 and 4) and the third phase, known as the Land Bridge Gap Trail is located between SR 200 and SW 49th Avenue (Segments 3, 4 and 5, Pages 5, 6, and 7) The first phase is tentatively funded for design-build. The second and third phases are tentatively funded for design in the current fiscal year and are awaiting final approval from the governor's office.



Segment 1

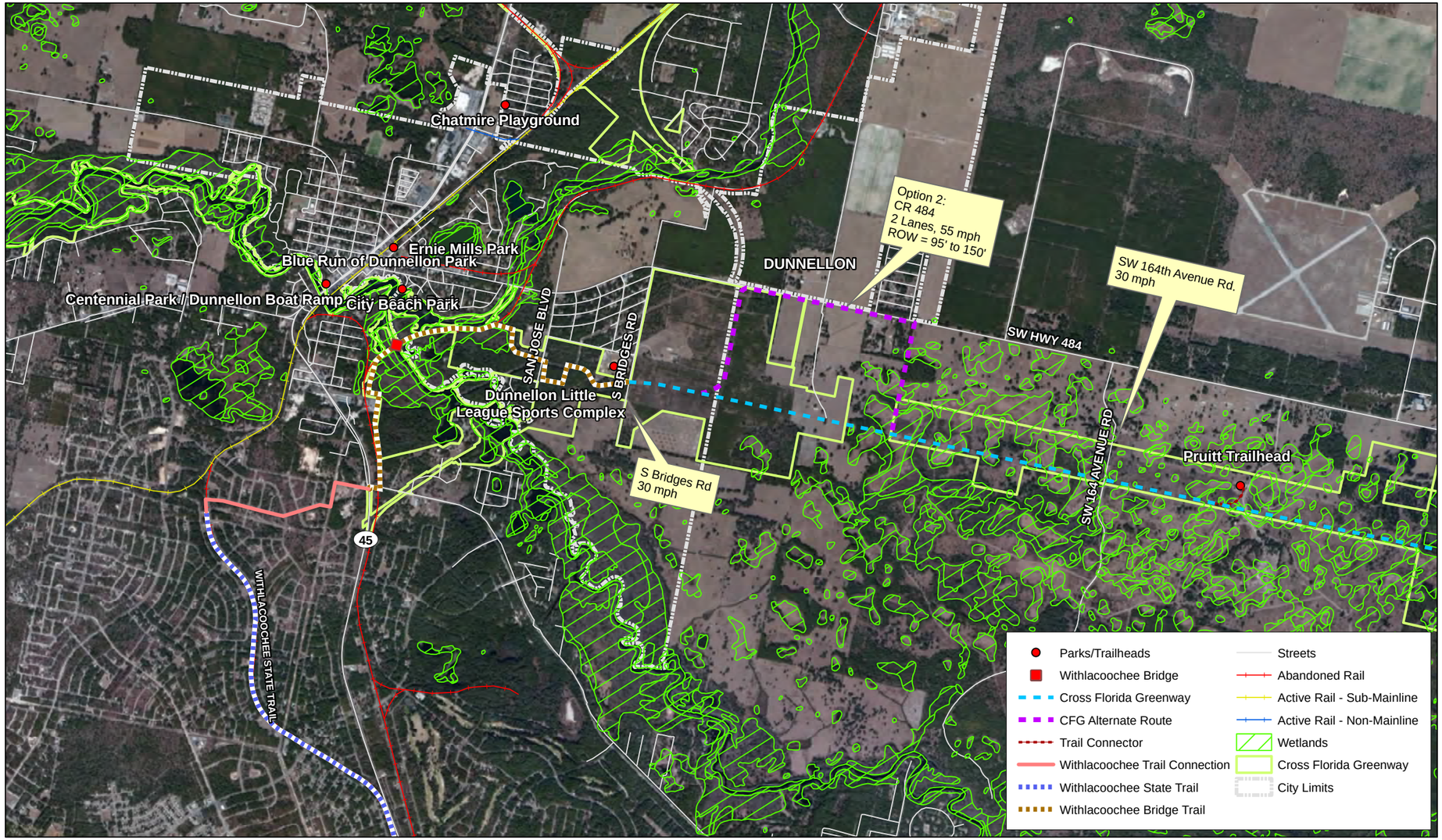
The Cross Florida Greenway Multi-use Trail will begin at Dunnellon's planned trailhead for the Withlacoochee Trail extension, just south of the Dunnellon Little League Sports Complex and Little League Baseball fields at South Bridges Road. While the Greenway is generally continuous, there are a few gaps in property or conflicts with other transportation routes. Segment 1 contains one of the gaps in Greenway property that consists of two private parcels. To address this conflict there are currently two options:

Option 1:
Route the Cross Florida Greenway Trail east through the private parcels. This would require negotiations with the property owner and possible land transfers or easement acquisitions.

Option 2:
The second option is to construct the multi-use trail along the south side of CR 484 for roughly 0.75 miles in the right of way, which ranges from 95 feet to 150 feet. CR 484 is a 2-lane roadway with a speed limit of 55 mph. After traveling along CR 484 for 0.75 miles, the trail would then turn south to reconnect with the Cross Florida Greenway. This option would still require the use of private property to make the connection from CR 484 to the Greenway, but only one parcel would be affected.

Once back in the Greenway, regardless of which option is taken, the trail will cross SW 164th Avenue Road, a local unpaved road that intersects the Greenway.

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Cross Florida Greenway



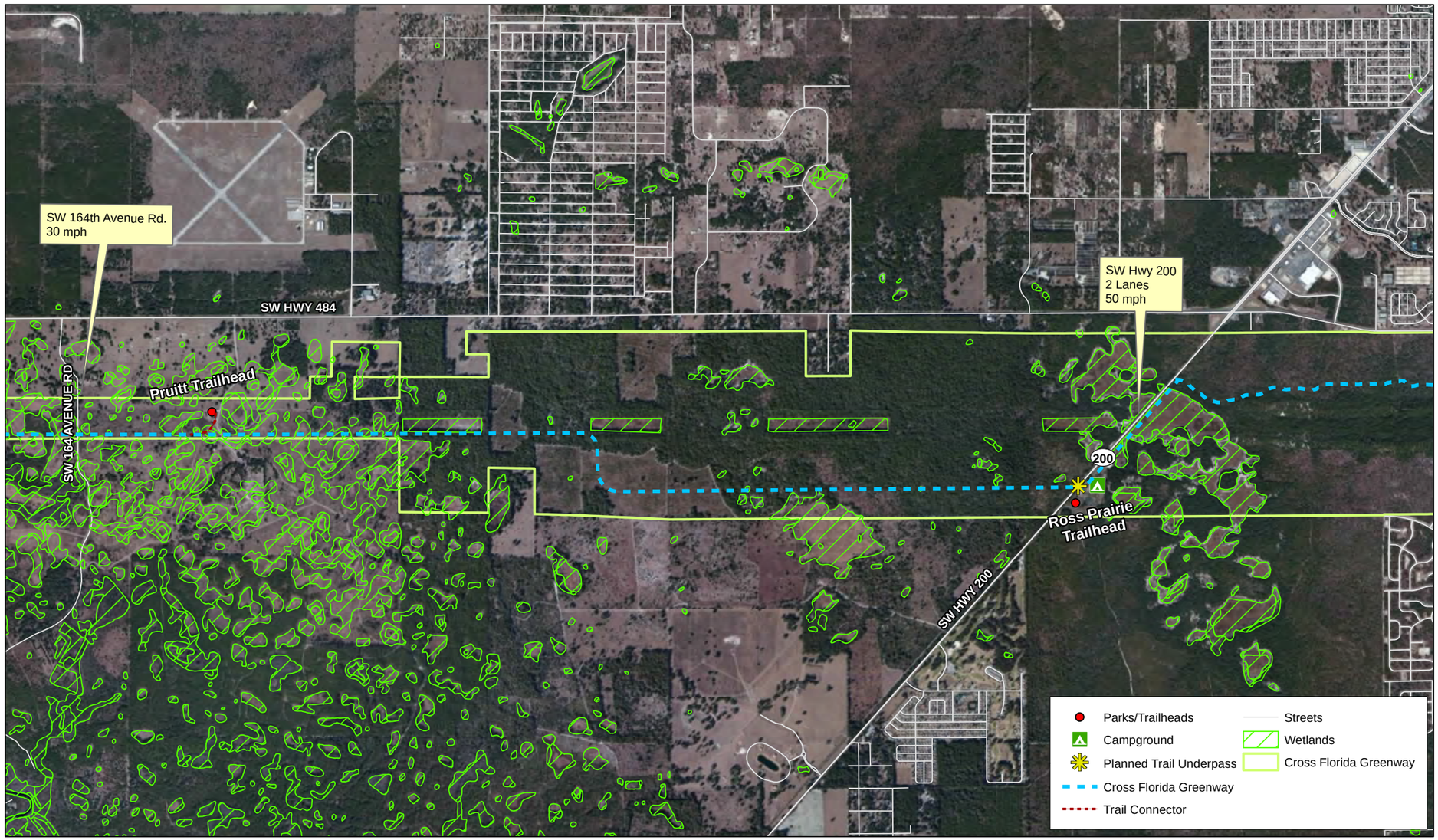
Map 1 of 6

Segment 2

Segment 2 continues the trail east through the Cross Florida Greenway after crossing SW 164th Avenue Road. The trail will travel within the Greenway with consideration given to existing unpaved trail systems in order to avoid user conflicts. For segment 2, the trail will cross SR 200, which is currently a 2-lane state road with a 50 mph speed limit. The Florida Department of Transportation (FDOT) 2008-2013 Five Year Work Program contains funds programmed for additional lanes and reconstruction of SR 200 from CR 484 to Citrus County (Item # 238651-1). For a trail crossing a road with a high speed limit such as this (especially once widened) crosswalk markings and signage should be implemented to designate this point as a bicycle and pedestrian crossing. Traffic control devices such as a High-Intensity Activated Crosswalk (HAWK) beacon could also be used to increase visibility of cyclists or pedestrians.

Pruitt Trailhead

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Cross Florida Greenway



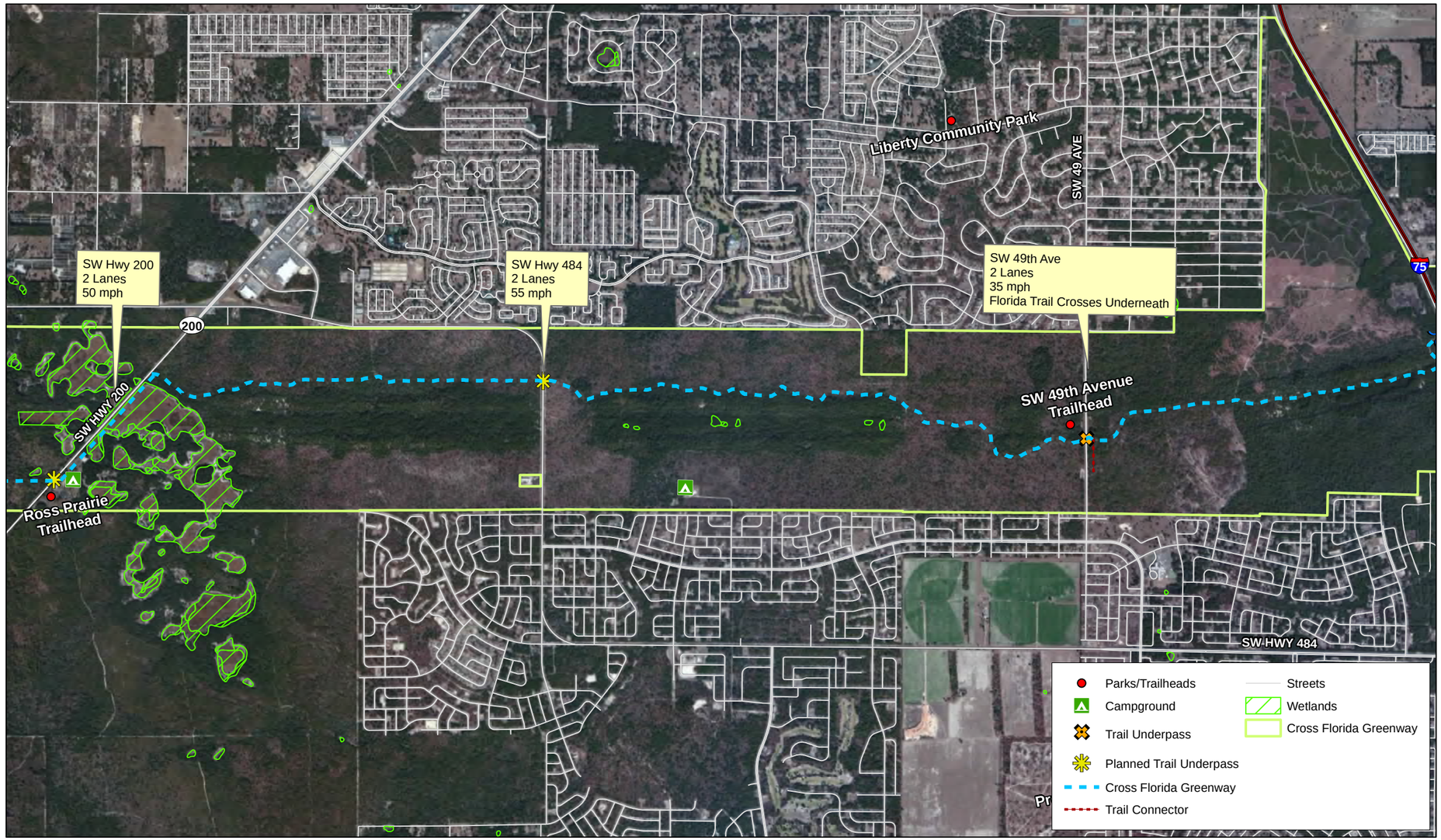
Map 2 of 6

Segment 3

After crossing SR 200 the trail will travel north along SR 200 until it connects with the existing limestone trail that is part of the Florida National Scenic Trail. The trail will continue along this path crossing CR 484 and SW 49 Avenue. CR 484 is a 2-lane roadway with a 55 mph speed limit that currently intersects the Greenway through this segment. However, the FDOT 2008-2013 Five Year Work Program has funding programmed for an underpass crossing at CR 484 as a part of a project containing several other Greenway crossings (Item # 410170-1). While taking care to avoid user conflicts with equestrians and hikers using the other types of trails in the Greenway, infrastructure improvements such as this underpass should be taken advantage of for the multi-use trail as well. Likewise, existing improvements such as the underpass at SW 49th Avenue should be incorporated into the Cross Florida Greenway Multi-use Trail in order to provide safe crossings for all types of trail users.

Cross Florida Greenway

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Cross Florida Greenway



Map 3 of 6

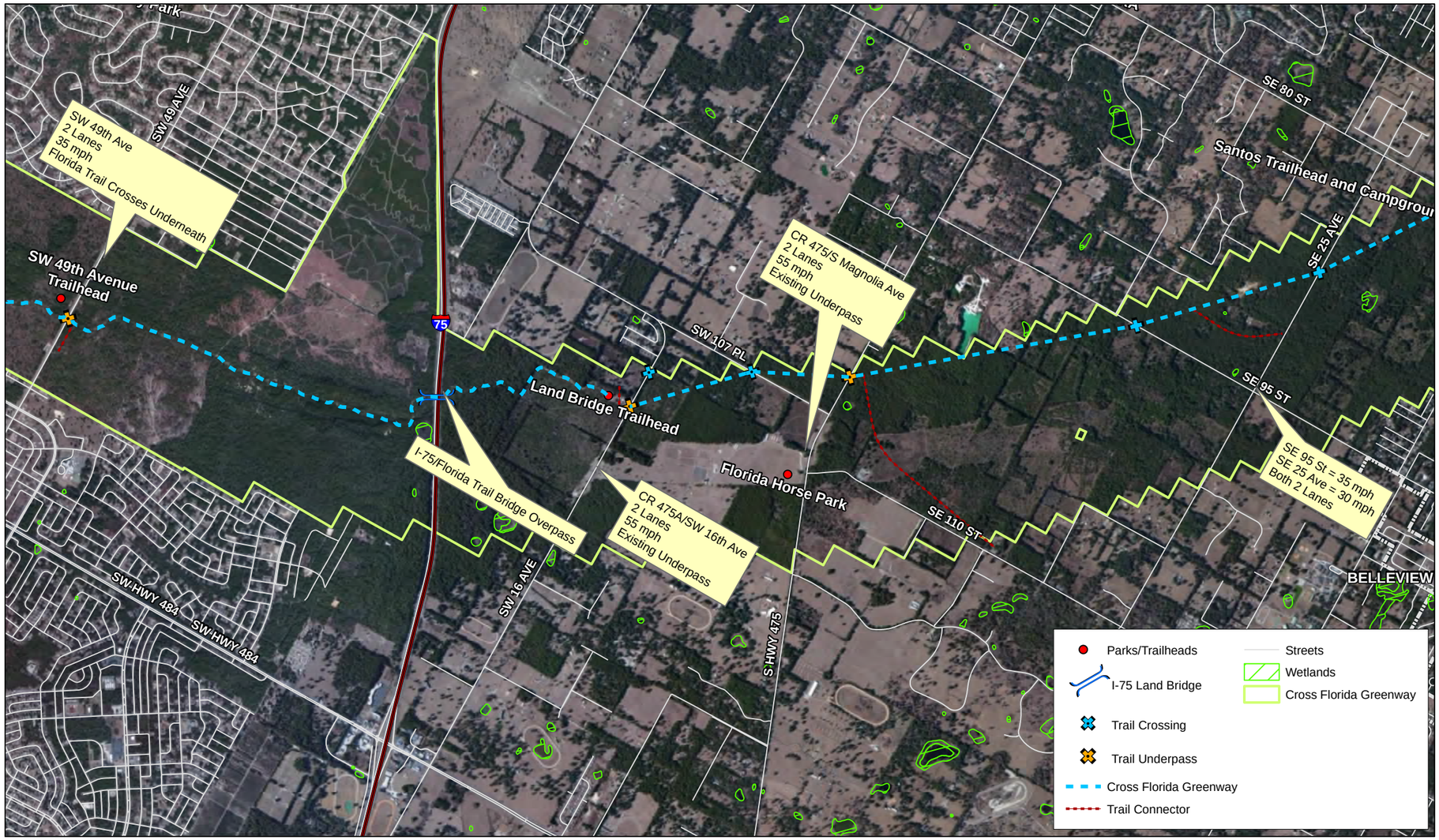
Segment 4

Segment 4 continues the trail from the SW 49th Avenue Trailhead and underpass east towards I-75. The Land Bridge overpass, completed in 2000, extends across I-75 to provide a safe crossing for hikers, equestrians, cyclists, and wildlife. The Cross Florida Greenway Multi-use Trail final alignment should accommodate this existing overpass in future design and engineering phases.

CR 475A/SW 16th Avenue, CR 475/S Magnolia Avenue, and SE 95th Street all intersect the Greenway to the east of I-75. There are now completed underpasses at each of these roads for crossing throughout the Greenway. It is recommended to take advantage of these improvements when finalizing the design of the trail as to ensure the safety of trail users crossing roadways that intersect the Greenway.

I-75 Bridge

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Cross Florida Greenway



Map 4 of 6

Segment 5

Segment 5 presents the Cross Florida Greenway Multi-use Trail with several conflicts. US 441 intersects the Greenway east of the Santos Trailhead and Campground. This 4-lane roadway has a speed limit of 55 mph and is divided by a median that has structural remains of the bridge that would have carried US 441 over the proposed Cross Florida Barge Canal. Based on FDOT's 2012 Average Annual Daily Traffic counts, this segment of US 441 carried between 26,500 and 28,000 vehicles.

Option 1:
One option for continuing the trail across US 441 is to implement signage and pavement markings on both sides of the median to visually designate this point as a trail crossing. This route would generally follow the Florida National Scenic Trail where hikers currently cross the roadway.

Option 2:
As a second option, CR 328/SE 80th Street is the nearest intersection and could be reconstructed with dedicated bicycle lanes or have a multi-use trail within the 100 foot right of way This route would take trail users east from the Santos Trailhead, crossing US 441 at the signalized intersections, to the CSX railroad. CR 328/SE 80th Street is considered a scenic road, therefore, this option may be more difficult to implement.

Immediately to the east of US 441, Greenway property resumes for approximately 0.25 miles before being intersected by an active CSX railway. Both options would require signage improvements at the existing rail crossing of SE 80th Street and the CSX line to designate this point as a bicycle crossing.

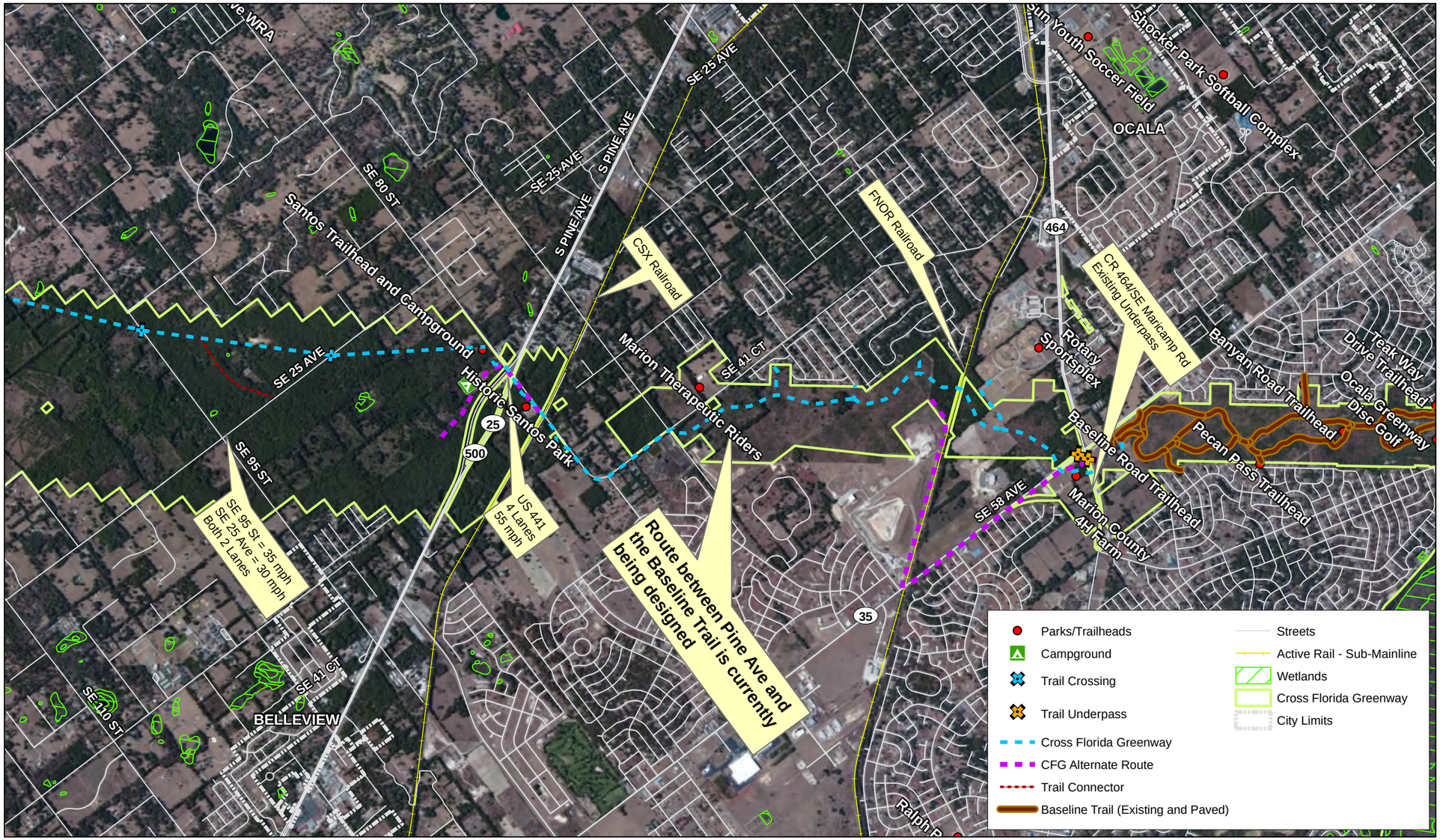
After crossing US 441 and the CSX railway, the Greenway land is interrupted by a group of privately owned parcels. However, SE 80 Street turns into SE 41 Court and provides a direct 0.72 mile connection between the separated Greenway lands. The speed limit on this two-lane roads ranges from 40 mph to 35 mph and the available right of way ranges from 60 feet to 88 feet. Based on these conditions, either the addition of bicycle lanes or continuation of the multi-use trail should be considered along SE 80 Street and SE 41 Court.

Upon reentering the Greenway, the trail will continue northwest until approaching the FNOR railroad. The nearest official railroad crossing is approximately 1 mile south, past the Marion County Baseline Landfill, at SE 58th Avenue. If an additional rail crossing is not feasible within the Greenway, the trail could travel south, parallel to the FNOR rail, within Marion County owned property until reaching SE 58th Avenue. SE 58th Avenue then proceeds north as a two-lane road, with a speed limit of 55 mph and approximately 100 feet of available right of way. Greenway property connects to SE 58th Avenue approximately 0.75 miles north of the rail crossing. Based on the available right of way, a multi-use trail could be constructed along SE 58th until entering the Greenway parcel that contains the Marion County 4H Farm. From this parcel the trail can take utilize the existing underpass at CR 464/SE Maricamp Road, taking the trail towards the portion of the Greenway that runs from Baseline Road Trailhead to Marshall Swamp Trailhead.

Between the Santos Trailhead and Campground and the Baseline Road Trailhead, a project is currently in design to construct a paved trail in this segment. This route should be capitalized upon when designing the Cross Florida Greenway connection.

Historic canal support in the Cross Florida Greenway

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Cross Florida Greenway

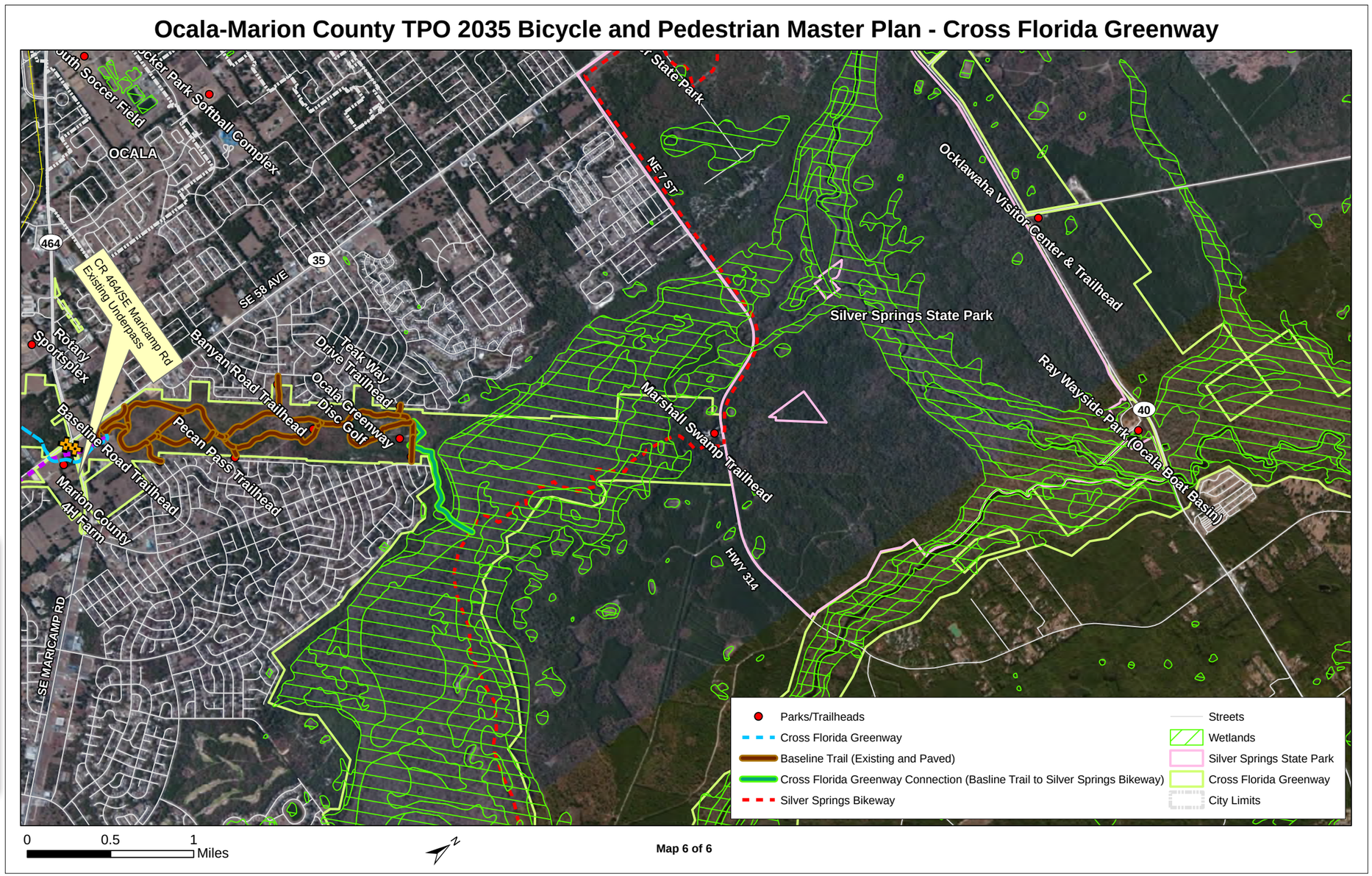


Map 5 of 6

Segment 6

The final segment of the Cross Florida Greenway Multi-use Trail will extend from the Baseline Road Trailhead to Marshall Swamp Trailhead, south of Silver Springs State Park. For this segment, there currently exists a paved trail network with connections to the Teak Way Drive and SE 64th Avenue Road Trailheads. These trails could be incorporated as part of the trail, leaving approximately 2 miles to the Marshall Swamp Trailhead where the Cross Florida Greenway Multi-use Trail would terminate. This area of the Greenway is Marshall Swamp where there is currently a hiking trail with several boardwalks over the low-lying areas of the swamp. To complete the trail through Marshall Swamp, the existing boardwalks could either be extended or a new system established to reduce conflicts with other users.

Baseline Trail



Cost Estimates for Bicycle Facility Recommendations

Planning-level cost estimates for this project were developed using the Florida Department of Transportation (FDOT) Long Range Estimation System for bicycle lane and multi-use trail treatments that are used for reference purposes only. Bicycle facility recommendations were developed with consideration to existing conditions such as: right of way (ROW), speed limit, number of lanes, and property ownership. Recommended facility treatments are subject to change based on new information. Also, cost estimates will be continually be refined in subsequent design and engineering phases of the project. The included costs do no include design or permitting, which is generally 20 percent of the construction costs. Additionally, right-of-way costs and costs related to bridge constraints are not included in these cost estimates.

Table 1: Cross Florida Greenway Multi-use Trail Cost Estimate							
	ROW	**Length**	**Unit Cost**	**Total Cost**	**Treatment**	**Owner**	**Comment**
		Miles					
Marjorie Harris Carr Cross Florida Greenway	State Land	22.71	$ 231,278.63	$ 5,252,337.69	Multi-use Trail[1]	State of Florida	
SE 80 Street and SE 41 Court	60' to 88'	0.72	$ 425,741.65	$ 306,533.99	Bike Lanes [2]	FDOT	Mill and Resurface 2 Lane Urban Road w/ 4' Bike Lanes
Marjorie Harris Carr Cross Florida Greenway	State Land	6.72	$ 231,278.63	$ 1,554,192.39	Multi-use Trail[1]	State of Florida	
TOTAL		**30.15**		**$ 7,113,064.07**			

1. *Source: FDOT Long Range Estimation System Project: SHRUSE-O-01-BB*
2. *Source: FDOT Long Range Estimation System. Project: RSU2LN-U-12-BB*

The Consultant has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Consultant at this time and represent only the Consultant's judgment as a design professional familiar with the construction industry. The Consultant cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs.

Appendix A-1:
Element Occurrences

FNAI Element Occurrences: Cross Florida Greenway

This series of maps of the Cross Florida Greenway Trail was prepared using Element Occurrence data for Marion County obtained from the Florida Natural Areas Inventory. This data contains points "locating the occurrences of endangered or rare plants and animals, high quality natural communities and other occurrences of natural resource interest in the Florida Natural Areas Inventory (FNAI) database. An "Element" is any exemplary or rare component of the natural environment, such as a species, plant community, bird rookery, spring, sinkhole, cave or other ecological feature. An "Element Occurrence" (EO) represents the locational record of an element and is a single extant habitat which sustains or otherwise contributes to the survival of a population or a distinct, self-sustaining example of a particular natural community."

For the conceptual Cross Florida Greenway Trail, element occurrences within the boundaries of the Cross Florida Greenway are symbolized with red place markers. In addition, tables are provided with selected attributes describing each element. The selected attributes are as follows:

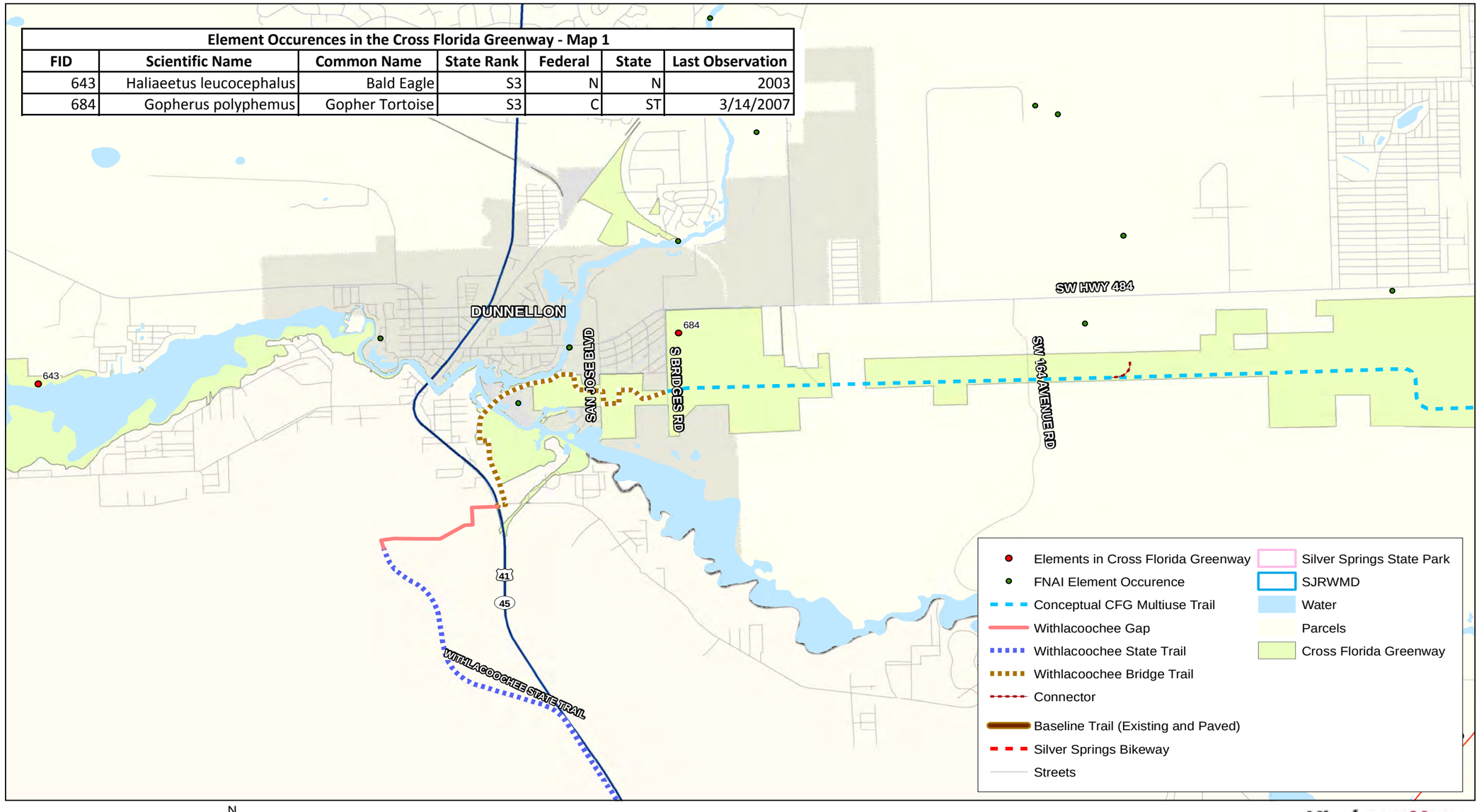
- **FID:** A unique identifier number for each element occurrence. Each element occurrence is labeled with an FID number on the maps that corresponds with information in the tables
- **Scientific Name:** The scientific name of the element
- **Common Name:** The common name of each element
- **State Rank:** A rank which best describes the relative rarity or endangerment of the species or community statewide
- **Federal:** Federal legal status for Florida populations; U.S. Endangered Species Act Classification
    - C = Candidate species for which federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
    - LE = Endangered: species in danger of extinction throughout all or a significant portion of its range.
    - LE, LT = Species currently listed endangered in a portion of its range but only listed as threatened in other areas
    - LE, PDL = Species currently listed endangered but has been proposed for delisting.
    - LE, PT = Species currently listed endangered but has been proposed for listing as threatened.
    - LE, XN = Species currently listed endangered but tracked population is a non-essential experimental population.
    - LT = Threatened: species likely to become Endangered within the foreseeable future throughout all or a significant portion of its range.
    - SAT = Treated as threatened due to similarity of appearance to a species which is federally listed such that enforcement personnel have difficulty in attempting to differentiate between the listed and unlisted species.
    - SC = Not currently listed, but considered a species of concern to USFWS.
- **State:** State protection status, official endangerment status or level of legal protection
    - FE = Listed as Endangered Species at the Federal level by the U. S. Fish and Wildlife Service
    - FT = Listed as Threatened Species at the Federal level by the U. S. Fish and Wildlife Service
    - F(XN) = Federal listed as an experimental population in Florida

- FT(S/A) = Federal Threatened due to similarity of appearance
- ST = State population listed as Threatened by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future. (ST* for Ursus americanus floridanus (Florida black bear) indicates that this status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. ST* for Neovison vison pop.1 (Southern mink, South Florida population) indicates that this status applies to the Everglades population only.)
- SSC = Listed as Species of Special Concern by the FFWCC. Defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species. (SSC* indicates that a species has SSC status only in selected portions of its range in Florida. SSC* for Pandion haliaetus (Osprey) indicates that this status applies in Monroe county only.)
- N = Not currently listed, nor currently being considered for listing.
- Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or see: http://www.doacs.state.fl.us/pi/.
- LE = Endangered: species of plants native to Florida that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue; includes all species determined to be endangered or threatened pursuant to the U.S. Endangered Species Act.
- LT = Threatened: species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in number as to cause them to be Endangered.
- N = Not currently listed, nor currently being considered for listing.

- **Last Observation:** The date that the species or natural community occurrence was last observed to be extant at the site. This is not necessarily the date the site was last visited.

Cross Florida Greenway - Element Occurences

Element Occurences in the Cross Florida Greenway - Map 1						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
643	Haliaeetus leucocephalus	Bald Eagle	S3	N	N	2003
684	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	3/14/2007



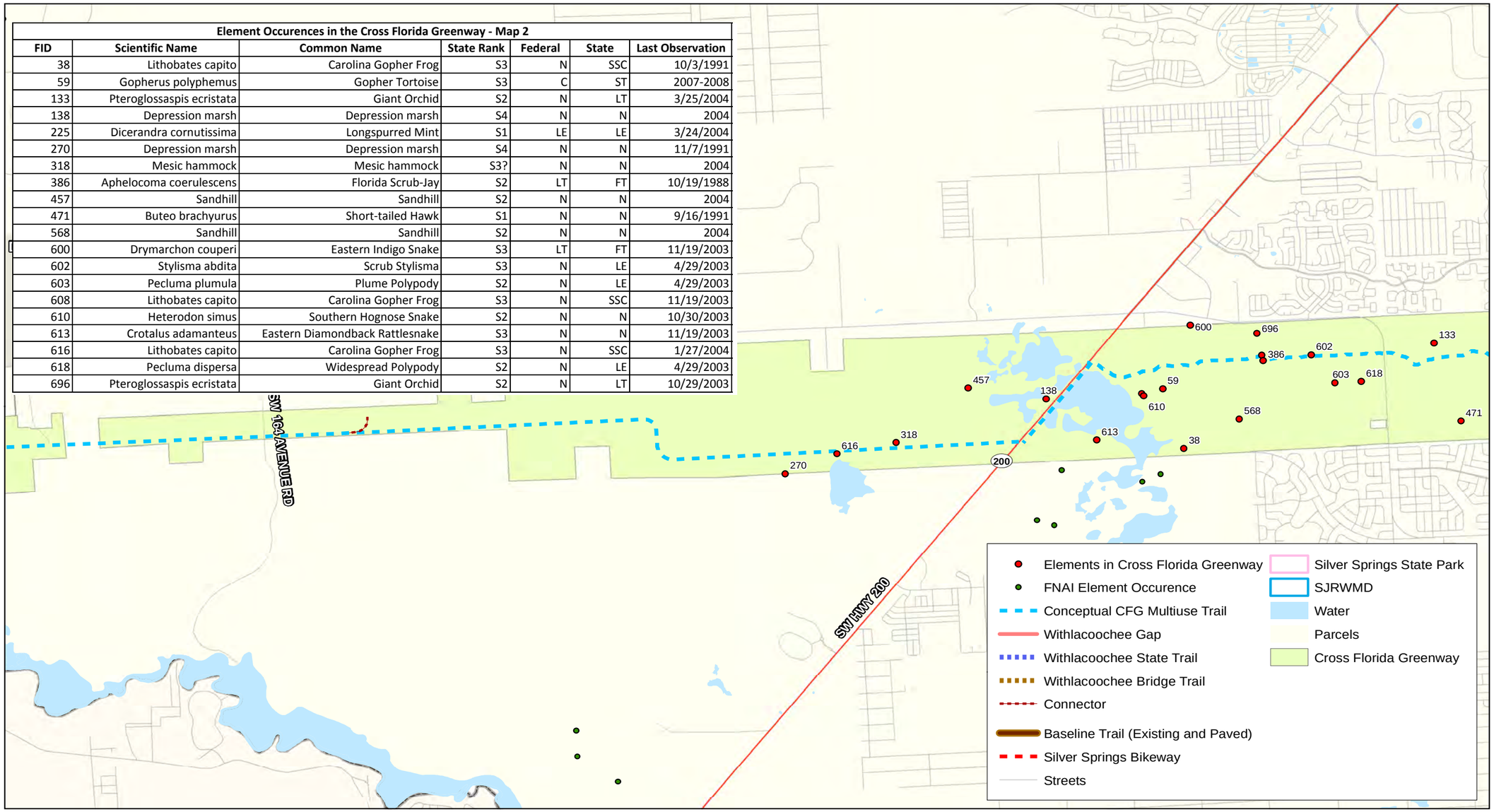
Map 1 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Cross Florida Greenway - Element Occurences

Element Occurences in the Cross Florida Greenway - Map 2

FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
38	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	10/3/1991
59	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	2007-2008
133	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	3/25/2004
138	Depression marsh	Depression marsh	S4	N	N	2004
225	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	3/24/2004
270	Depression marsh	Depression marsh	S4	N	N	11/7/1991
318	Mesic hammock	Mesic hammock	S3?	N	N	2004
386	Aphelocoma coerulescens	Florida Scrub-Jay	S2	LT	FT	10/19/1988
457	Sandhill	Sandhill	S2	N	N	2004
471	Buteo brachyurus	Short-tailed Hawk	S1	N	N	9/16/1991
568	Sandhill	Sandhill	S2	N	N	2004
600	Drymarchon couperi	Eastern Indigo Snake	S3	LT	FT	11/19/2003
602	Stylisma abdita	Scrub Stylisma	S3	N	LE	4/29/2003
603	Pecluma plumula	Plume Polypody	S2	N	LE	4/29/2003
608	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	11/19/2003
610	Heterodon simus	Southern Hognose Snake	S2	N	N	10/30/2003
613	Crotalus adamanteus	Eastern Diamondback Rattlesnake	S3	N	N	11/19/2003
616	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	1/27/2004
618	Pecluma dispersa	Widespread Polypody	S2	N	LE	4/29/2003
696	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	10/29/2003



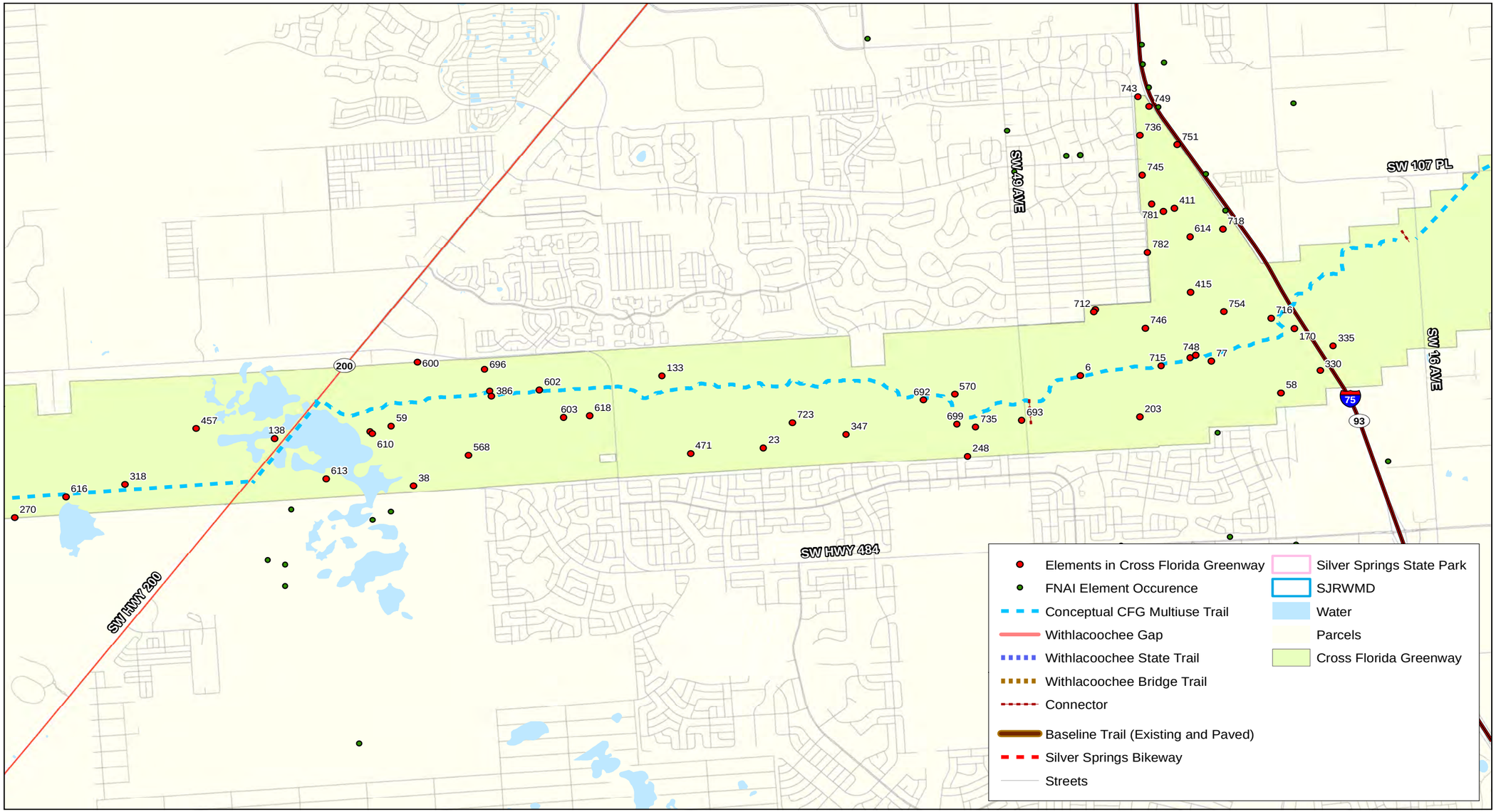
Map 2 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Element Occurences in the Cross Florida Greenway - Map 3						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
6	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	5/24/2002
23	Sandhill	Sandhill	S2	N	N	2004
38	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	10/3/1991
58	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
59	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	2007-2008
77	Scrub	Scrub	S2	N	N	2004
133	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	3/25/2004
138	Depression marsh	Depression marsh	S4	N	N	2004
144	Sandhill	Sandhill	S2	N	N	2004
170	Depression marsh	Depression marsh	S4	N	N	2004
203	Sandhill	Sandhill	S2	N	N	2004
225	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	3/24/2004
248	Pituophis melanoleucus mugitus	Florida Pine Snake	S3	N	SSC	3/19/1975
270	Depression marsh	Depression marsh	S4	N	N	11/7/1991
318	Mesic hammock	Mesic hammock	S3?	N	N	2004
330	Mustela frenata peninsulae	Florida Long-tailed Weasel	S3	N	N	3/3/1967
335	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	5/24/2002
347	Agrimonia incisa	Incised Groove-bur	S2	N	LE	9/4/1975
386	Aphelocoma coerulescens	Florida Scrub-Jay	S2	LT	FT	10/19/1988
394	Sandhill	Sandhill	S2	N	N	2004
411	Scrub	Scrub	S2	N	N	2004
415	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
457	Sandhill	Sandhill	S2	N	N	2004
471	Buteo brachyurus	Short-tailed Hawk	S1	N	N	9/16/1991
568	Sandhill	Sandhill	S2	N	N	2004
570	Sandhill	Sandhill	S2	N	N	2004
600	Drymarchon couperi	Eastern Indigo Snake	S3	LT	FT	11/19/2003
602	Stylisma abdita	Scrub Stylisma	S3	N	LE	4/29/2003
603	Pecluma plumula	Plume Polypody	S2	N	LE	4/29/2003
608	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	11/19/2003
610	Heterodon simus	Southern Hognose Snake	S2	N	N	10/30/2003

Element Occurences in the Cross Florida Greenway - Map 3 (continued)						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
613	Crotalus adamanteus	Eastern Diamondback Rattlesnake	S3	N	N	11/19/2003
614	Aphelocoma coerulescens	Florida Scrub-Jay	S2	LT	FT	9/26/2007
616	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	1/27/2004
618	Pecluma dispersa	Widespread Polypody	S2	N	LE	4/29/2003
692	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	2/27/2007
693	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	3/24/2004
695	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	9/3/2003
696	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	10/29/2003
699	Selonodon floridensis	Florida Cebrionid Beetle	S2S3	N	N	6/17/1975
712	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	10/10/1988
715	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
716	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	12/5/2007
718	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
723	Phyllophaga elongata	Elongate June Beetle	S3	N	N	6/28/1975
735	Selonodon mandibularis	Large-Jawed Cebrionid Beetle	S2S3	N	N	6/17/1975
736	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
740	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
743	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
745	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
746	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	2/26/2007
748	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
749	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
751	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/27/2005
754	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	11/5/1991
781	Centrosema arenicola	Sand Butterfly Pea	S2	N	LE	9/26/2007
782	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	9/26/2007

Cross Florida Greenway - Element Occurences



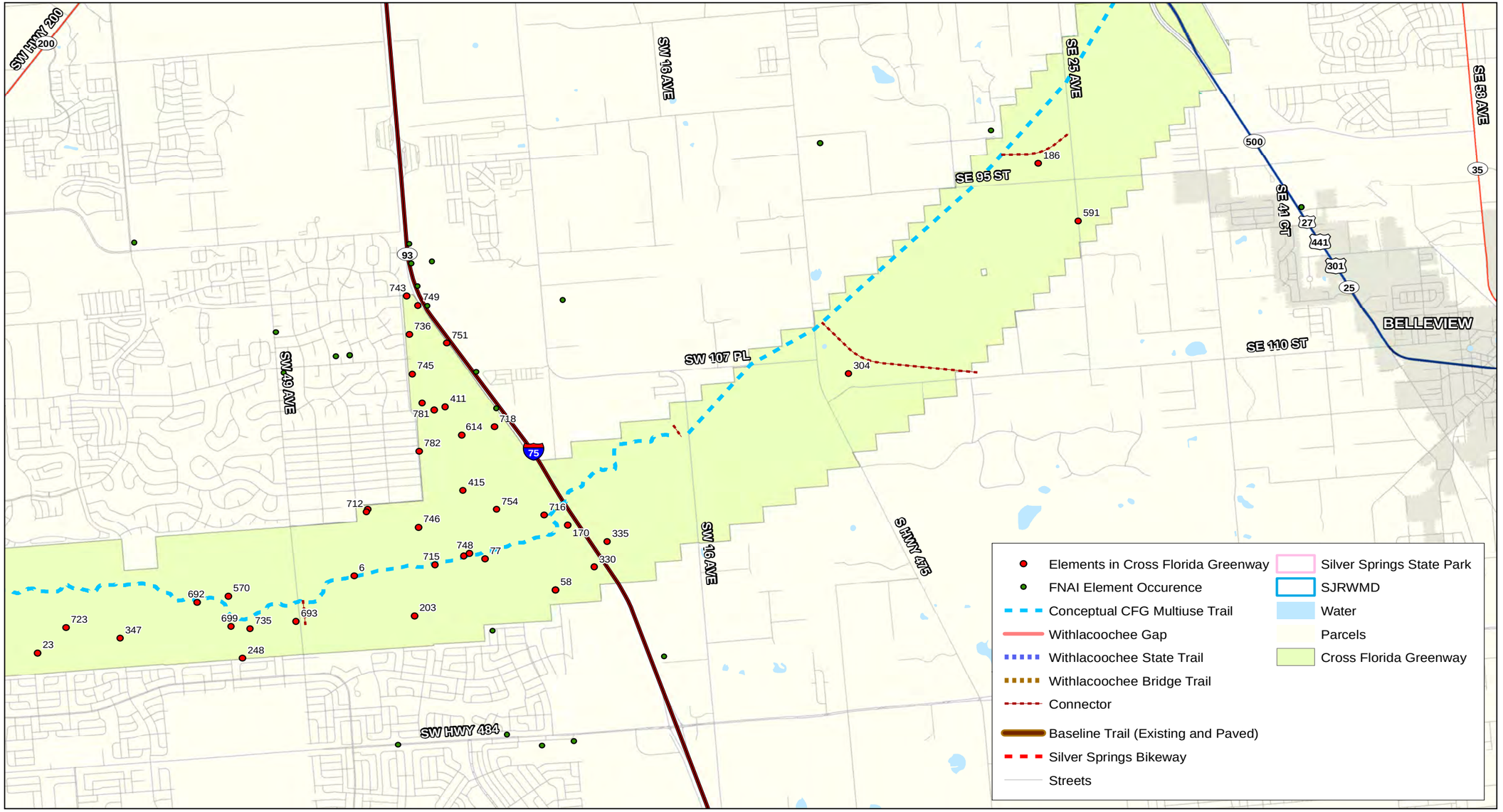
Map 3 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Element Occurences in the Cross Florida Greenway - Map 4						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
6	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	5/24/2002
23	Sandhill	Sandhill	S2	N	N	2004
58	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
77	Scrub	Scrub	S2	N	N	2004
144	Sandhill	Sandhill	S2	N	N	2004
170	Depression marsh	Depression marsh	S4	N	N	2004
186	Sandhill	Sandhill	S2	N	N	2004
203	Sandhill	Sandhill	S2	N	N	2004
248	Pituophis melanoleucus mugitus	Florida Pine Snake	S3	N	SSC	3/19/1975
304	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	2/18/2008
330	Mustela frenata peninsulae	Florida Long-tailed Weasel	S3	N	N	3/3/1967
335	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	5/24/2002
347	Agrimonia incisa	Incised Groove-bur	S2	N	LE	9/4/1975
394	Sandhill	Sandhill	S2	N	N	2004
411	Scrub	Scrub	S2	N	N	2004
415	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
471	Buteo brachyurus	Short-tailed Hawk	S1	N	N	9/16/1991
570	Sandhill	Sandhill	S2	N	N	2004
591	Matelea floridana	Florida Spiny-pod	S2	N	LE	4/10/2007
614	Aphelocoma coerulescens	Florida Scrub-Jay	S2	LT	FT	9/26/2007
692	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	2/27/2007
693	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	3/24/2004
695	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	9/3/2003

Element Occurences in the Cross Florida Greenway - Map 4						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
699	Selonodon floridensis	Florida Cebrionid Beetle	S2S3	N	N	6/17/1975
712	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	10/10/1988
715	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
716	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	12/5/2007
718	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
723	Phyllophaga elongata	Elongate June Beetle	S3	N	N	6/28/1975
735	Selonodon mandibularis	Large-Jawed Cebrionid Beetle	S2S3	N	N	6/17/1975
736	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
740	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
743	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
745	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
746	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	2/26/2007
748	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/3/2003
749	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/26/2007
751	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	9/27/2005
754	Dicerandra cornutissima	Longspurred Mint	S1	LE	LE	11/5/1991
781	Centrosema arenicola	Sand Butterfly Pea	S2	N	LE	9/26/2007
782	Pteroglossaspis ecristata	Giant Orchid	S2	N	LT	9/26/2007

Cross Florida Greenway - Element Occurences

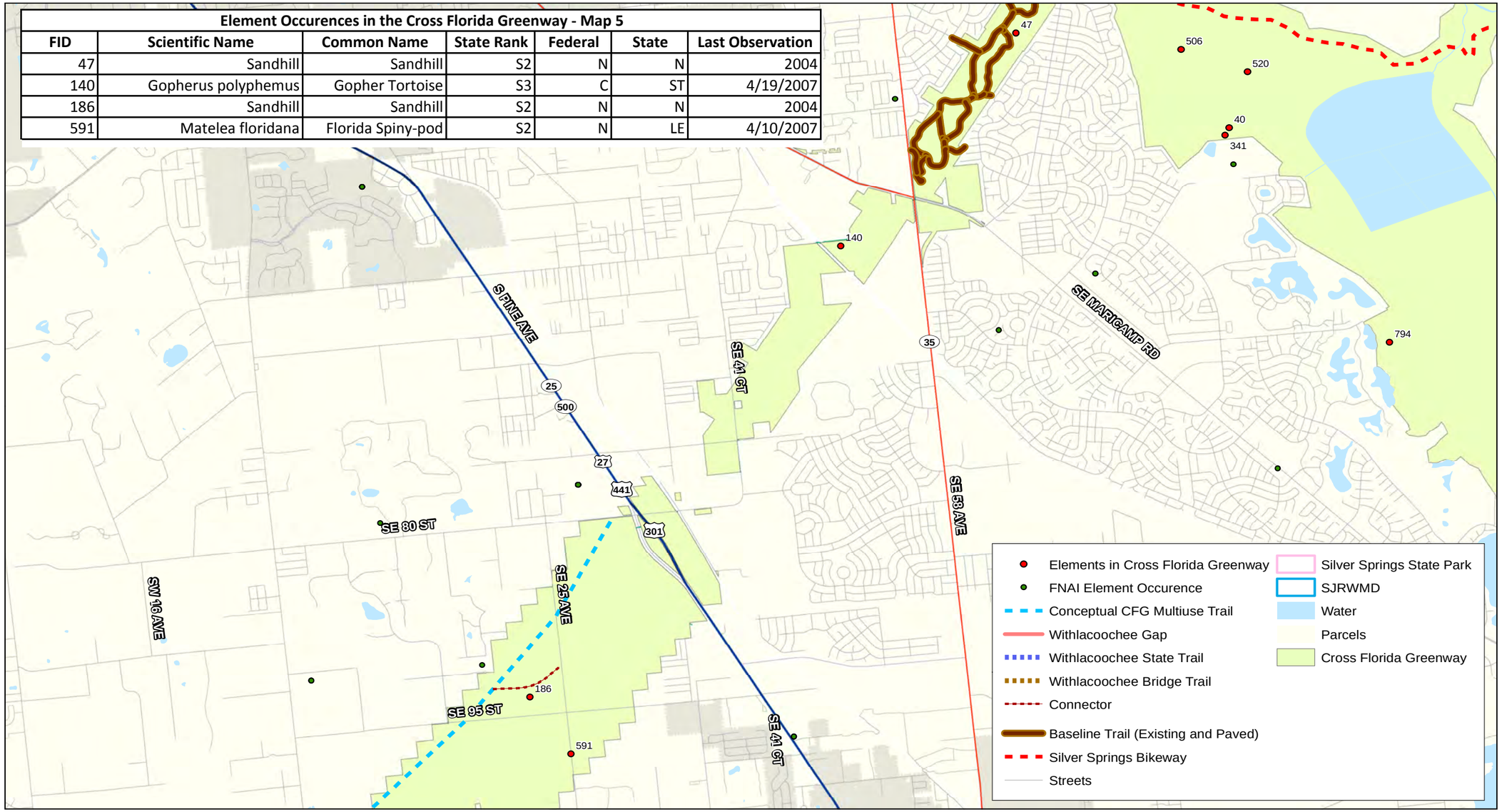


Map 4 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Cross Florida Greenway - Element Occurences

Element Occurences in the Cross Florida Greenway - Map 5						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
47	Sandhill	Sandhill	S2	N	N	2004
140	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	4/19/2007
186	Sandhill	Sandhill	S2	N	N	2004
591	Matelea floridana	Florida Spiny-pod	S2	N	LE	4/10/2007

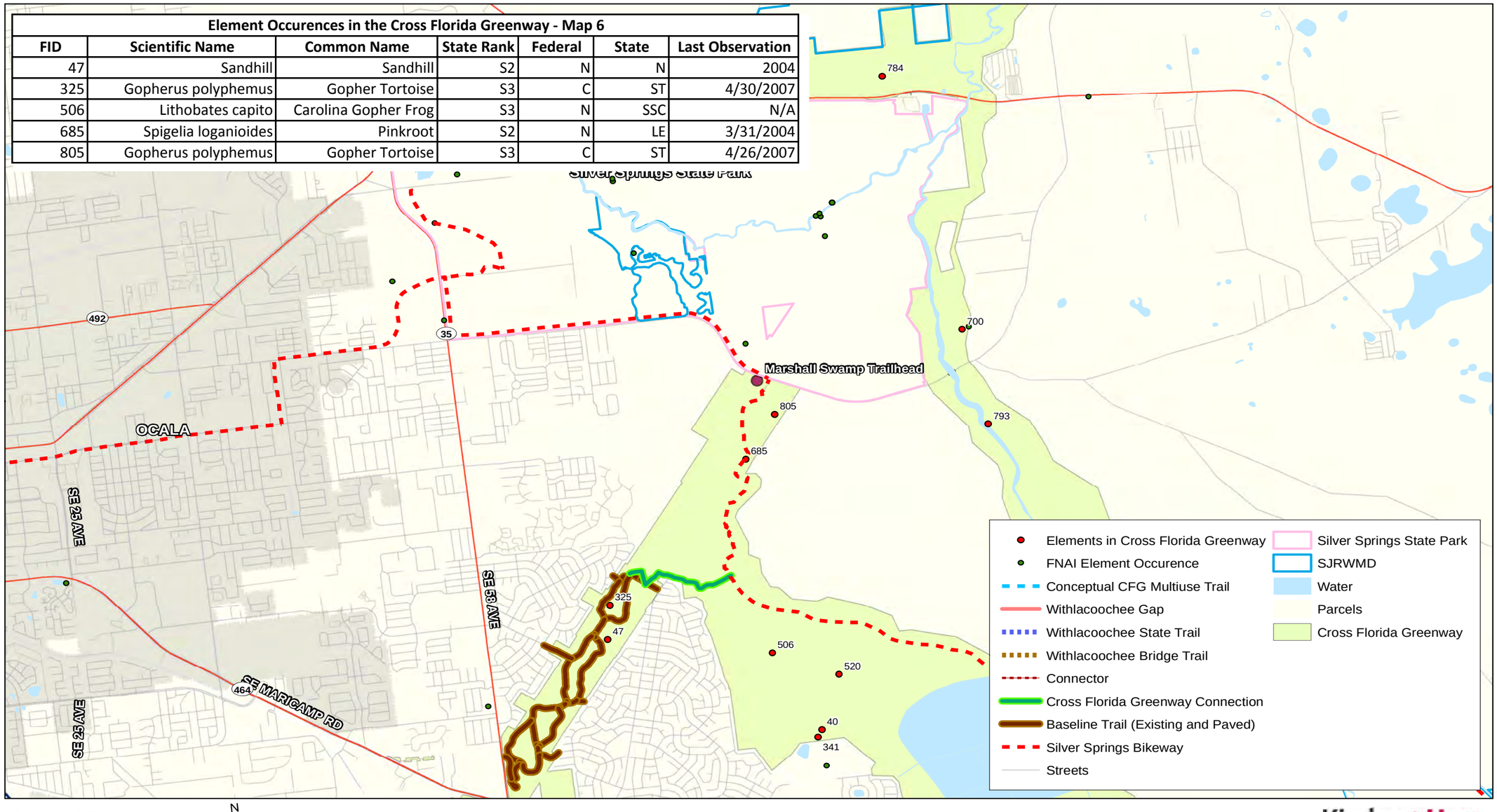


Map 5 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Cross Florida Greenway - Element Occurences

Element Occurences in the Cross Florida Greenway - Map 6						
FID	Scientific Name	Common Name	State Rank	Federal	State	Last Observation
47	Sandhill	Sandhill	S2	N	N	2004
325	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	4/30/2007
506	Lithobates capito	Carolina Gopher Frog	S3	N	SSC	N/A
685	Spigelia loganioides	Pinkroot	S2	N	LE	3/31/2004
805	Gopherus polyphemus	Gopher Tortoise	S3	C	ST	4/26/2007

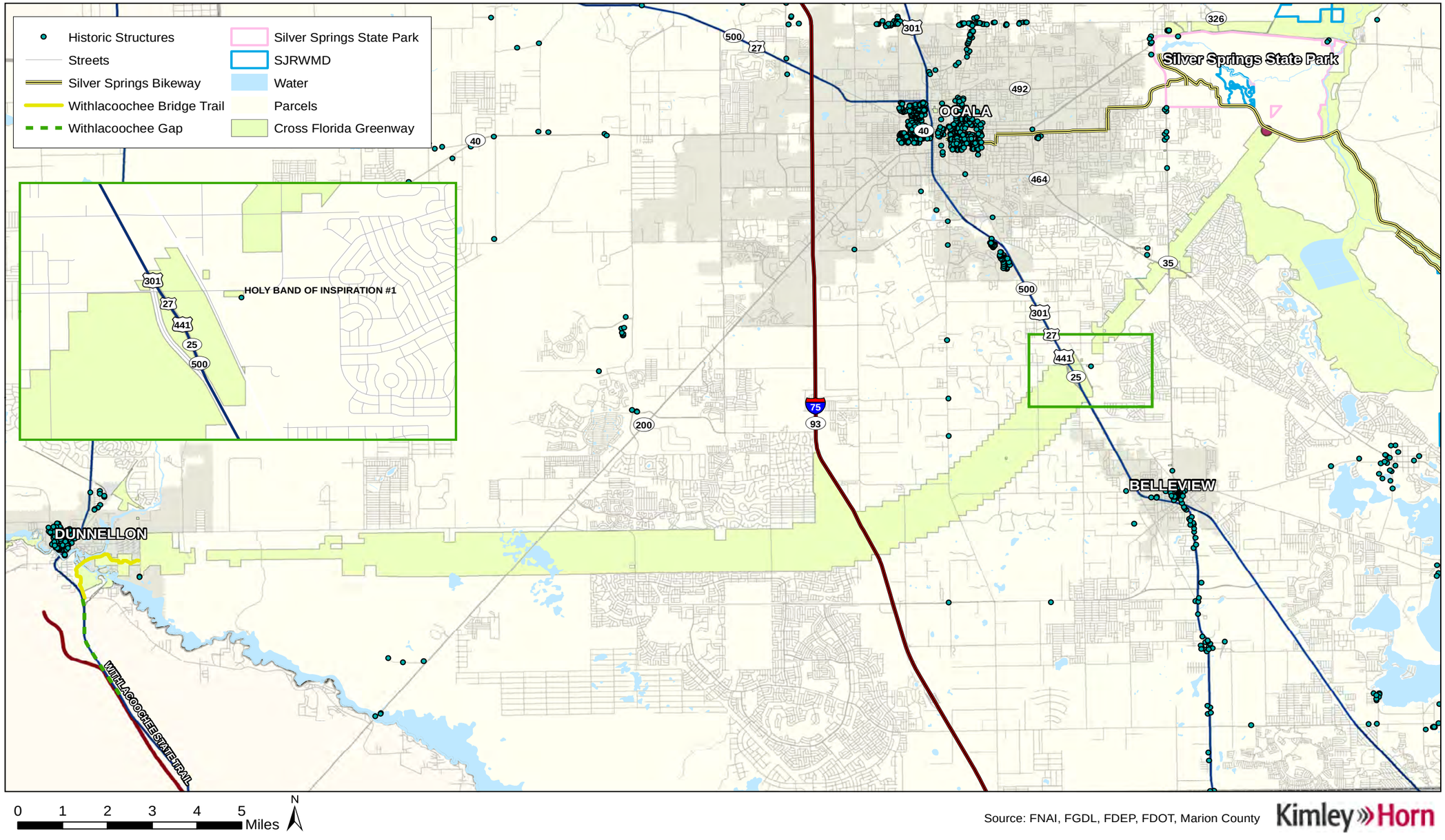


Map 6 of 6

Source: FNAI, FGDL, FDEP, FDOT, Marion County

Appendix A-2:
Historic and Cultural Resources

Cross Florida Greenway - Historic Resources



BIKE Ocala MARION

2035 BICYCLE & PEDESTRIAN MASTER PLAN

Appendix B

Draft Feasibility Study:

Silver Springs Bikeway

SILVER SPRINGS BIKEWAY

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Appendix B-1 - Element Occurrences
Appendix B-1 - Historic and Cultural Resources
Appendix B-3 - Duke Energy Policy on Multi-use Trails

Silver Springs Bikeway Overview

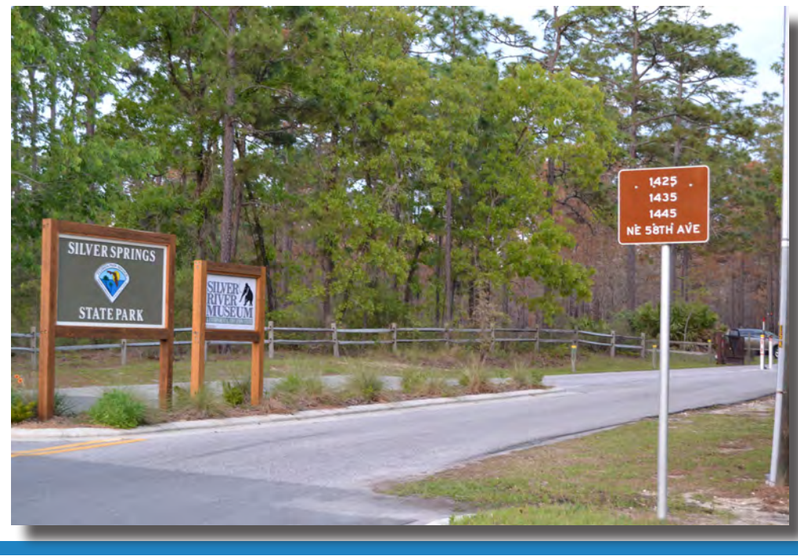
The Silver Springs Bikeway (Bikeway) is a planned system of bicycle facilities throughout Marion County that will provide both alternative transportation and outdoor recreation opportunities for residents and visitors of all ages and abilities. The goal of the Bikeway is to connect downtown Ocala with Silver Springs State Park which will connect to the Cross Florida Greenway and the levee system in St. Johns River Water Management District land and Lake County. The Bikeway is also intended to connect to SR 40 trails that will ultimately connect Marion County to Volusia County and the Atlantic Coast of Florida. Additionally, the Bikeway will also be complimented by having access to maritime boat rentals at CR 42. This provides a unique experience to transition from walking/cycling to boating cruising. The Bikeway will consist of a variety of facilities including shared lane markings (sharrows), dedicated bicycle lanes, bicycle pathways, and paved multi-use trails. The purpose of this feasibility study is to document the existing conditions along the Bikeway, identify constraints or limitations, and make appropriate recommendations for bicycle facility treatments for each segment.

The Bikeway will begin at the planned Linear Park in Downtown Ocala and connect to Silver Springs State Park via the local road network. From the park, the Bikeway will run through part of the Marjorie Harris Carr Cross Florida Greenway, along the Ocklawaha River, past the Moss Bluff Lock and Dam, and down the St. Johns River Water Management District's canal and Levee Trail. The Bikeway will terminate at the Sunnyhill Restoration Area Visitors Center just north of County Road 42.

As bicycle facilities and trail projects develop throughout the region, an opportunity exists to continue the Silver Springs Bikeway to Lake County via County Road 42 and SE Highway 452. Through collaboration with regional partners in Lake County, the Bikeway can eventually be extended to Mt. Dora, completing a crucial component in the Heart of Florida Loop.

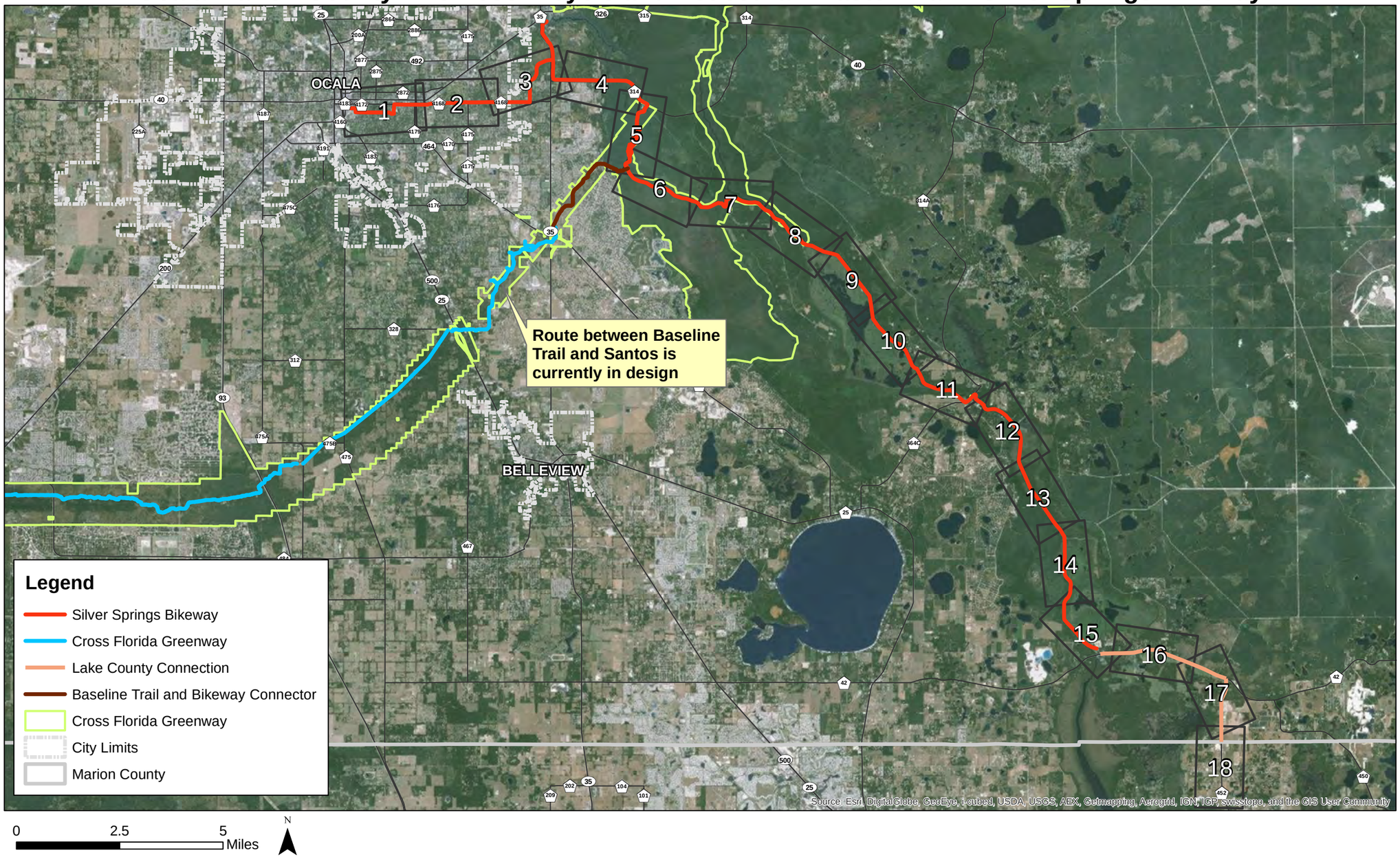
Ft. King Street in Current Historic District

Silver Springs State Park



Ocklawaha River/Levee Portion of Trail

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



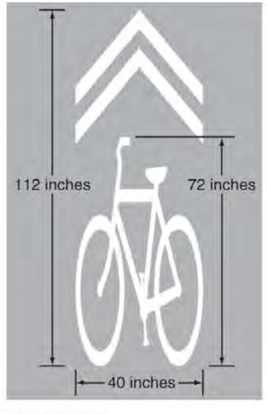
Segment 1

This segment of the Bikeway begins at the corner of SE 3rd Street and SE Osceola Avenue; the southern end of the planned Linear Park. From the Linear Park, the Bikeway will travel east along 3rd Street and turn south onto SE Tuscawilla Avenue, turn east onto SE 5th Street, turn north onto SE 16th Avenue, turn east on E Fort King Street, and continue east through NE/SE 25th Avenue. Segment 1 concludes at the intersection of E Fort King Street and NE/SE 25th Avenue. This segment of the Bikeway will pass through the Ocala Historic District, a Local and National Register Historic District designated in 1984.

From the segment beginning to East Fort King Street, the Bikeway will consist of shared lane markings (sharrows) and signage. Cyclists should be able to safely share the roadway due to the relatively slow speed limit of 30 mph along these two-lane roads. In accordance with FHWA's Manual on Uniform Traffic Control Devices (MUTCD) Section 9C.07, these shared lane markings will be placed immediately after intersections and every 250 feet. As the Silver Springs Bikeway travels in directions, shared lane markings and signage will be placed on both sides of the roadway when this treatment is implemented.

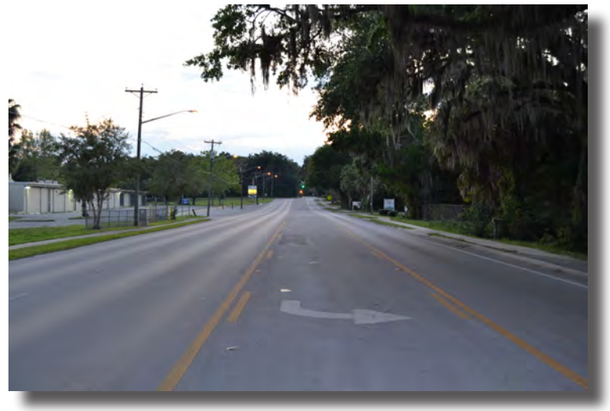
For the portion of the Bikeway on E Fort King Street between SE 16th Avenue and NE/SE 25th Avenue the road consists of four lanes (2 eastbound, 1 westbound, and 1 central turn lane). The recommended bicycle facility improvement along this portion is the construction of dedicated 12' foot buffered on road multi-use trail (bicycle pathway) as part of a lane reconfiguration and streetscaping project to more appropriately match the historic and scenic nature of this part of Ocala and the characteristics of East Fort King Street to the east of NE 25th Avenue (this bicycle pathway can also be designed at 10' if there are right-of-way constraints). More information on bicycle pathways is provided in the Design Guidelines section of the Master Plan. Just west of NE/SE 25th Ave the Bikeway will convert to a separated 12' multi-use trail, this will continue to NE 28 Ave.

Shared Lane Marking from the MUTCD (Figure 9C-9)

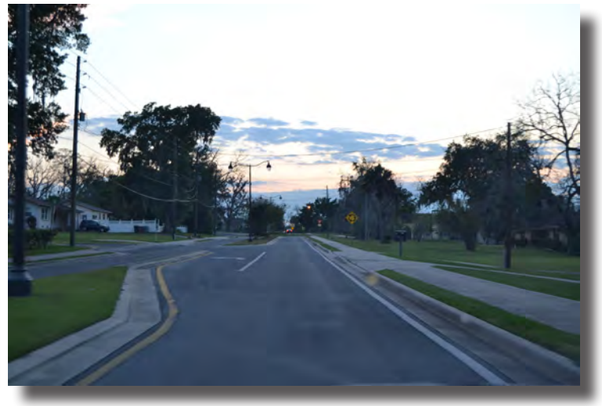


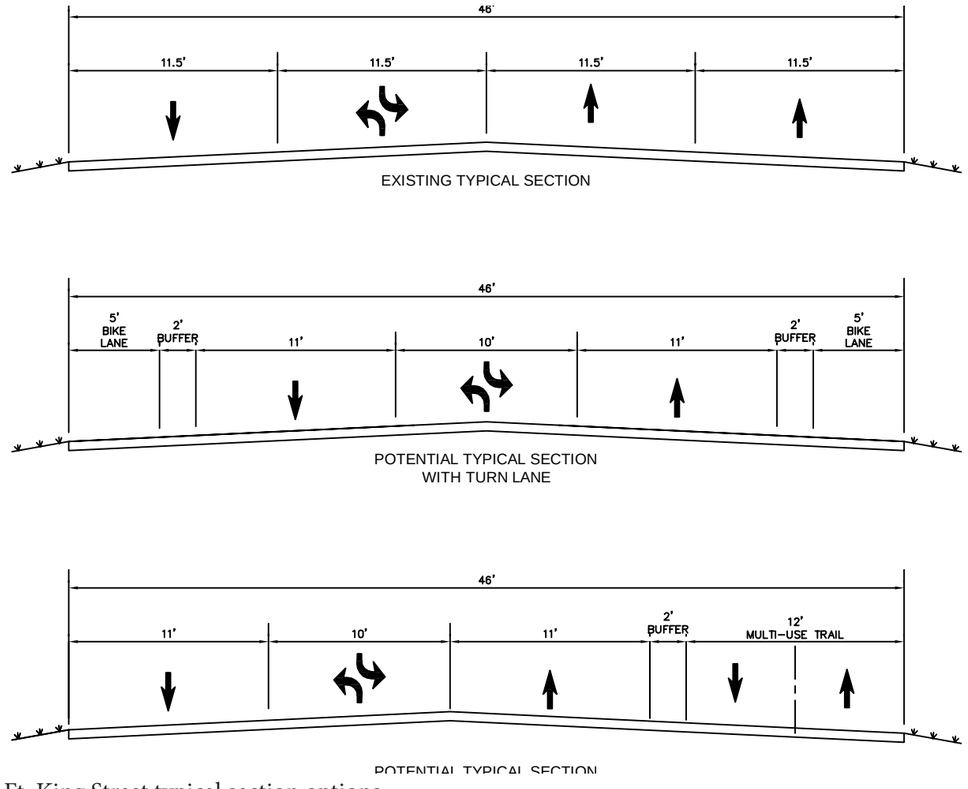
Bicycles May Use Full Lane Sign from the MUTCD (Figure 9B-2, R4-11)

4-Lane Segment of Fort King (Streetscape Location) Between SE 16th Ave. and SE 25th Ave.



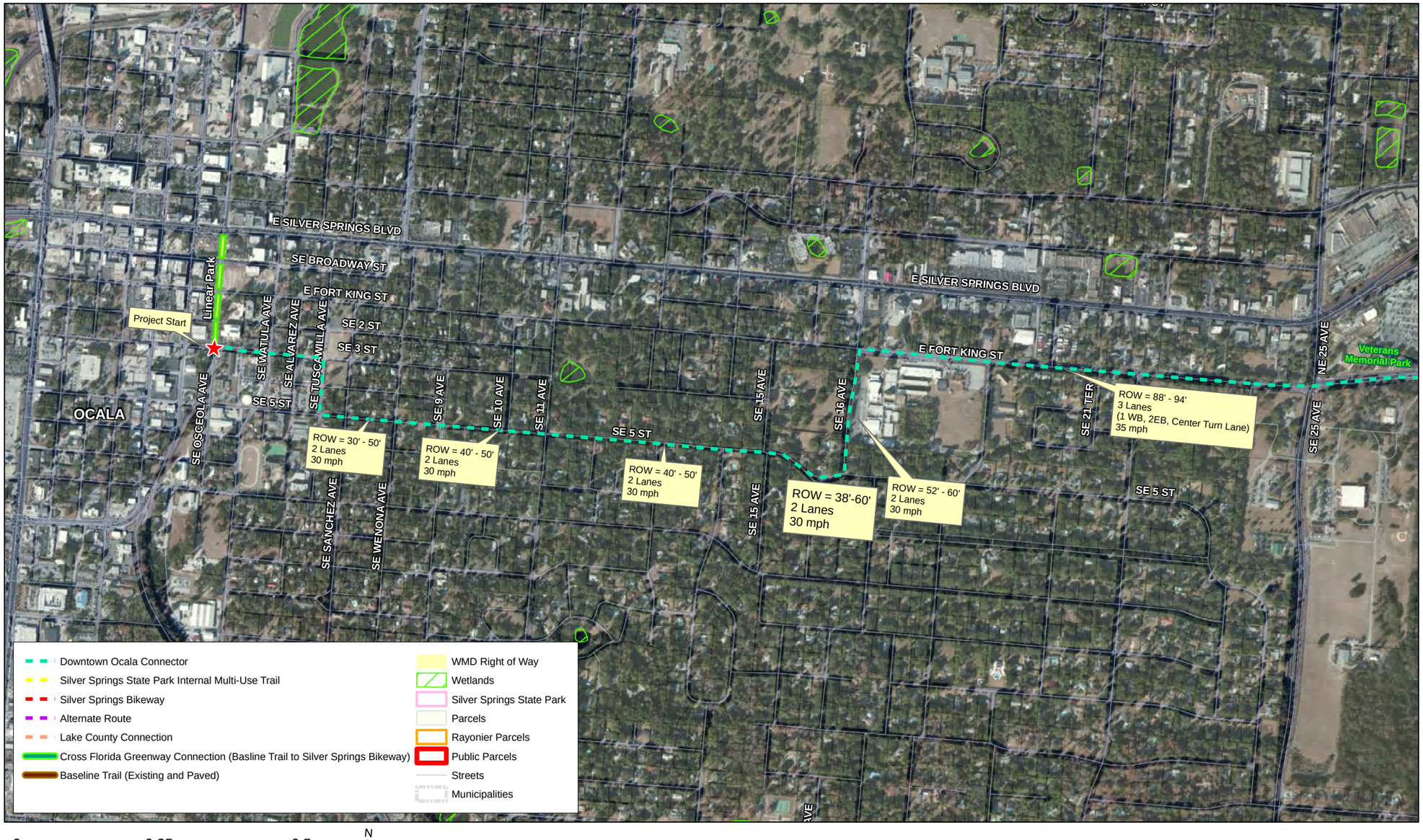
Existing 2-Lane Segment of Fort King Street with Landscaped Medians East of SE 25th Ave.





Ft. King Street typical section options

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



Map 1 of 18

Segment 2

This segment of the Bikeway extends east along East Fort King Street from just west of NE/SE 25th Avenue to the Duke Energy Powerline easement, turns north up the easement, and ends at the intersection with NE 7th Street. This property is owned by Duke Energy. On East Fort King Street between NE/SE 25th Avenue and NE 28 Avenue there are two west bound lanes, one east bound lane, and center turn lanes in select areas of the landscaped median. Between NE 28th Avenue and the powerline easement the East Fort King Street has one lane in each direction and center turn lanes in select areas of the landscaped median. East Fort King Street currently has roundabouts at NE 28 Avenue, SE 30 Avenue, and NE 32 Avenue. In this segment, the Bikeway will pass the Fort King National Historic Landmark and several historic homes, all beneath a mature live oak canopy.

Between just west of NE/SE 25th Avenue and NE 28th Avenue it is recommended that a separated 12' multi-use trail be constructed in the existing county property. Between NE 28 Avenue and NE 44th Avenue, use of the existing wide sidewalk is recommended.

Between NE 43 Avenue and NE 44 Avenue, the Bikeway will turn north as a segment of multi-use trail that extends through the power line easement from Fort King Street to NE 7th Street. Current right-of-way in the powerline easement is between 180'-200'. This distance is adequate for locating a trail with appropriate separation from the existing structures in the easement. Per Duke Energy Right of Way Requirements for Shared-Use Paths/Trails policy, the trail must not exceed 12 feet in width and the easement must be separated by at least 25' from any Duke Energy facility. The complete policy is provided in Appendix B-3.

As an alternative, this segment may continue along East Fort King Street. This will be discussed in more detail with segment 3.

Fort King National Historic Landmark

Duke Energy Power Line Easement

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway

Map 2 of 18

Segment 3

Segment 3 has two options. The first continues the Bikeway on NE 7th Street at the power line easement and continues east along NE 7th Street towards Silver Springs State Park. As part of a potential resurfacing project, it is recommended that bicycle lanes be added to both sides of NE 7th Street. Dedicated bicycle lanes are recommended due to the 45 mph speed limit and available right of way ranging from 55 feet up to 103 feet. This proposed alignment will include 11' vehicle lanes, one foot buffers, and at least four foot bicycle lanes. This alignment is recommended along NE 7th Street between the powerline easement and Baseline Road.

The second option is for buffered bike lanes to be added along Fort King Street from the powerline easement to NE 52nd Court. Using this route, the Bikeway will connect to the Silver Springs Conservation Area using NE 52 Court. On NE 52nd Court, sharrow markings should be used. This is the preferred option.

The Bikeway will enter the Silver Springs Conservation Area at the intersection of NE 52nd Court and NE 7th Street, a large parcel managed by Marion County Park & Recreation. Throughout this Conservation Area, the Bikeway will be a multi-use trail, winding through sandhill and scrub ecosystems towards Silver Spring State Park's western entrance along NE 58th Avenue (Baseline Road). There are existing unpaved hiking trails throughout the Silver Springs Conservation Area, therefore the proposed Bikeway should be located as to minimize user conflicts and to avoid impacts to the existing trails. The perimeter trail in the Silver Springs Conservation Area is depicted for conceptual purposes only. The final alignment will be determined by the Marion County Park and Recreation Department.

After crossing Baseline Road, the Bikeway will be a multi-use trail inside the Silver Springs State Park boundaries. This part of the Bikeway will have a connection to the Silver Springs State Park Recreation Area and will travel to the park's campgrounds as well.

A mid-block crosswalk should be considered at NE 58th Avenue to designate this point as a crossing for cyclists and pedestrians. NE 58th Avenue is a 4-lane divided roadway with a 55 mph speed limit that carried 12,800 Average Annual Daily Traffic (AADT) in 2012. After crossing the roadway, the Bikeway will route users inside the park's boundary along NE 7th Street.

NE 7th Street

Silver Springs Conservation Area (Entrance/Signage)

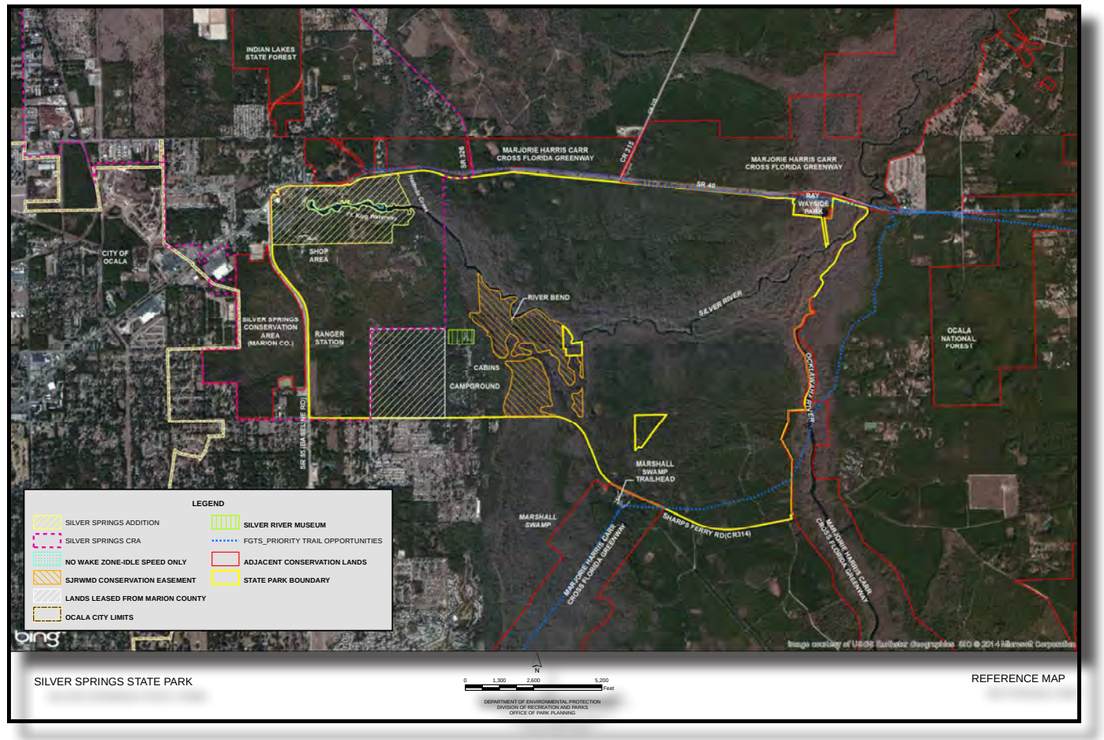
Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway

Map 3 of 18

Segment 4

Segment 4 will continue the Bikeway inside of Silver Springs State Park's boundary along NE 7th Street (Sharpes Ferry Road/CR 314), until it arrives at the Marshall Swamp Trailhead. As part of the development of the Silver Springs Bikeway, the project team coordinated with the Florida Department of Environmental Protection (FDEP) to ensure that recommendations in this plan are consistent with the most current Management Plan for Silver Springs State Park. As stated in the Management Plan, "The geographical location of the Silver Springs addition provides the opportunity for the park to serve as a hub for single and multi-use trails. There is also the potential to establish a portion of the Florida National Scenic Trail (FNST) within the park. This would represent a reroute of the "unofficial connector" that follows CR 314 and connects the FNST portion within the Cross Florida Greenway (CFG) to the portion within the Ocala National Forest. Establishing a new FNST route within the park would eliminate the need for trail users to hike along a road shoulder and avoid areas of the National Forest that are frequently flooded. DRP (Division of Parks and Recreation) will work with the US Forest Service and the Florida Trail Association on the potential to accommodate a portion of the FNST within the park."

Map of the Silver Springs State Park from the Draft Management Plan



Marshall Swamp Trailhead

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway

Map 4 of 18

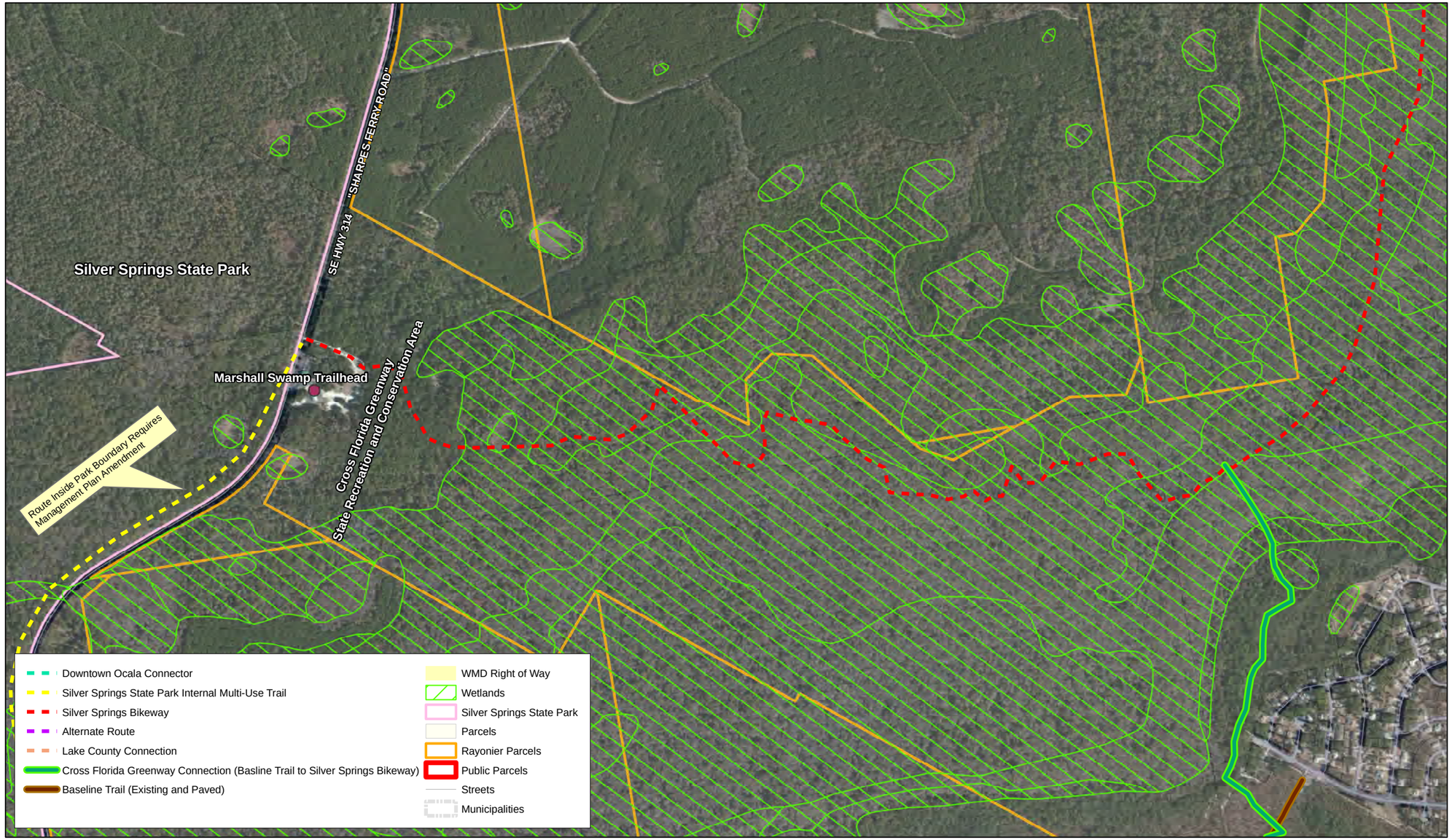
Segments 5, 6, and 7

When the Bikeway reaches the Marshall Swamp Trailhead, it will cross from the north side of NE 7th Street/Sharpes Ferry Road into the Cross Florida Greenway State Recreation and Conservation Area. A mid-block crosswalk should be considered at this location to designate this point as a crossing for cyclists and pedestrians. Once in the conservation area, the Bikeway intersects with the northern terminus of the Cross Florida Greenway. The Bikeway continues through the Cross Florida Greenway State Recreation and Conservation Area until it reached property owned by the St. Johns River Water Management District (depicted in Segment 8). Along this section the trail should follow the existing fence line on the east side of the property, to the maximum extent possible. The amount of right-of-way along the fence line needs to be verified by survey. Survey of the land was beyond the scope of this Master Plan.

Marshall Swamp Trailhead

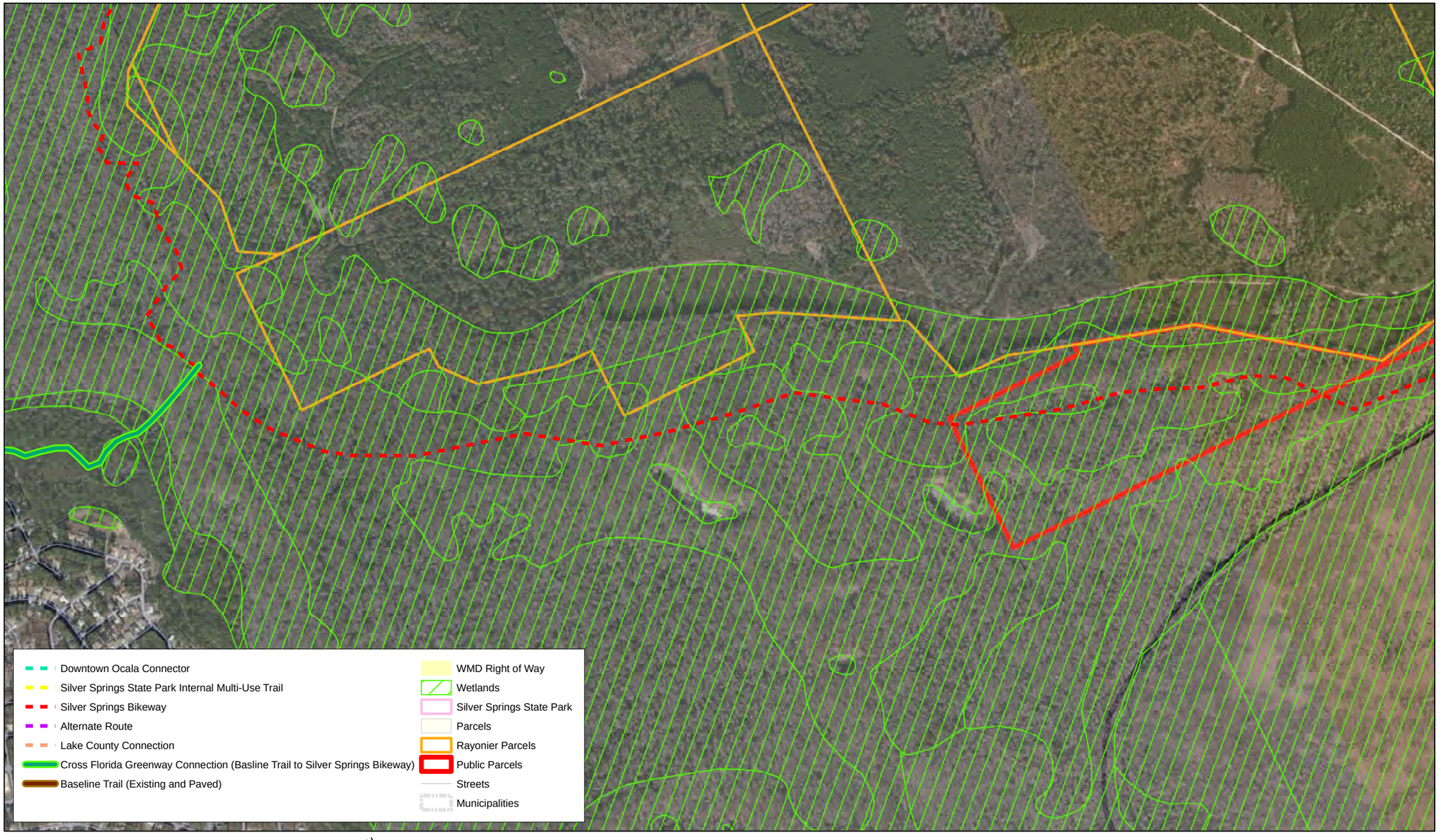
Informational Kiosk at the Marshall Swamp Trailhead

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



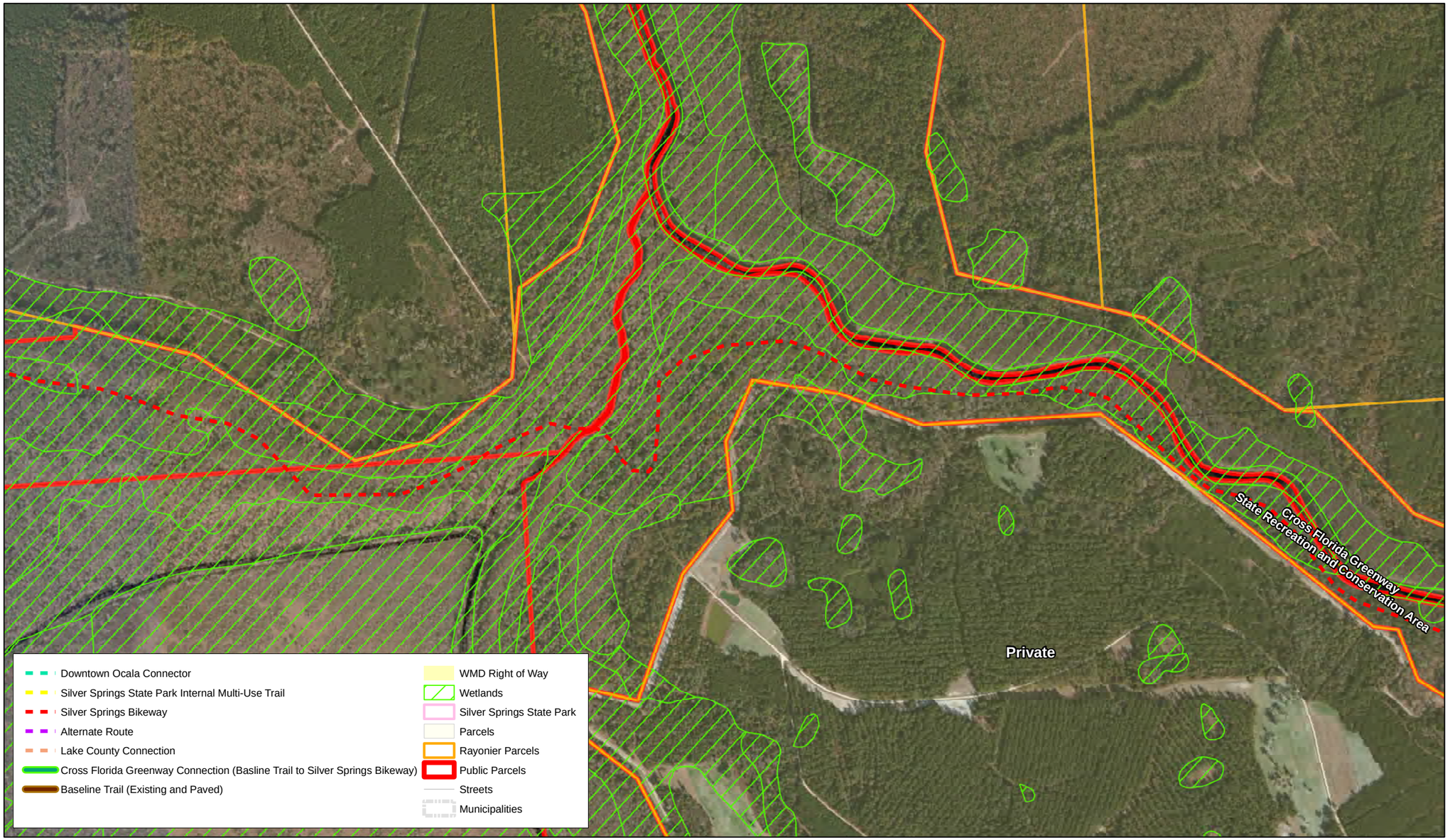
Map 5 of 18

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



Map 6 of 18

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



Map 7 of 18

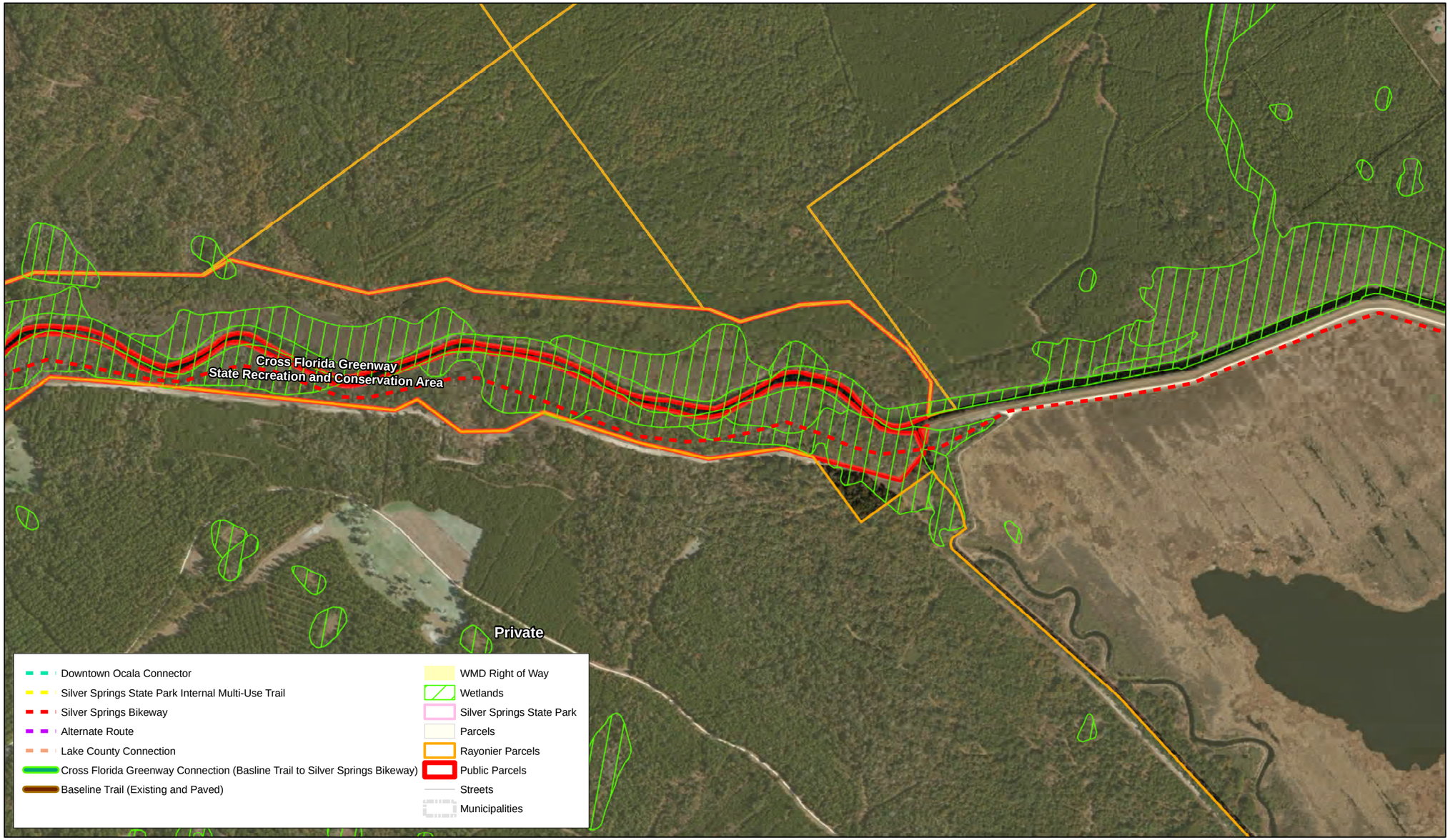
Segments 8, 9, and 10

Once the Bikeway moves into the St. Johns River Water Management District land, it will follow Old Celery Farm Road within the property. The access requirements of the St. John River Water Management District will determine the exact location of the trail, either on the existing road or adjacent to it. Near the end of Segment 10, a gap in land ownership presents options for the route of the Bikeway. These will be discussed with Segment 11.

Bridge located inside Park Forest land on private property

Land along the Silver Springs Bikeway

Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway



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Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway

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Ocala-Marion County TPO 2035 Bicycle and Pedestrian Master Plan - Silver Springs Bikeway

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