

# ST. LUCIE

## Bicycle/Pedestrian Corridor Study Area of Interest Analysis

St. Lucie Transportation Planning Organization



prepared for



**St. Lucie** Transportation  
Planning  
Organization

prepared by



Kimley-Horn  
and Associates, Inc.

February 2012

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## **Table of Contents**

Executive Summary .....	1
1.0 Introduction.....	2
2.0 Existing Conditions/Data Collection .....	3
3.0 Trail Alternatives .....	5
4.0 Public Involvement .....	15
5.0 Performance Matrix .....	18
6.0 Recommendation .....	20

## **List of Exhibits**

Exhibit 1 – Area of Interest, Section 4, Corridor Study Map  
Exhibit 2 – Regional Trails Map  
Exhibit 3 – Opportunities and Constraints Map

## **List of Attachments**

Attachment A – Alternative Routes  
Attachment B – Preferred Alternative



## Executive Summary

Greenways and trails offer tremendous benefits to communities, especially in Florida. The concept embraces the interconnectedness of the needs of conservation supporters, recreation groups and economic organizations.

In its FY 2010/2011 – 2011/2012 Unified Planning Work Program (UPWP), the St. Lucie Transportation Planning Organization (TPO) established the need to review, update, and implement the St. Lucie Greenways and Trails Master Plan, build upon previous bicycle/pedestrian/greenway planning efforts, and continue the ongoing planning and coordinating efforts which support the provision of bicycle, pedestrian, and greenway facilities.



Kimley-Horn and Associates, Inc. (KHA) completed a Bicycle/Pedestrian Corridor Study in February 2010 that defined a corridor that may act as the north/south spine for the greenways network system within the St. Lucie TPO area. The completed Bicycle/Pedestrian Corridor Study identified a designated area of interest in a portion of the corridor section known as Section 4, Buchanan/Walton Road Trail. The area of interest is located between Walton Road and Midway Road and encompasses the Savannas Preserve State Park and the Savannas residential community.

It was determined that a finer level of analysis was necessary to identify the most feasible pathway through the Section 4 area of interest. The analysis details public and private ownership, constructability, regulatory and permitting requirements, funding opportunities, and estimated costs for two corridor alternatives through the area of interest. Conceptual plans and cross-sections of the proposed pathways were prepared, and public input was solicited regarding the corridor alternatives.

Following public and advisory committee input and the System Performance Framework, it is recommended that the Preferred Alternative is outside the area of interest, taking advantage of existing facilities along major roadways. This recommendation is based on a comparative assessment of costs, constructability, and public opinion. The preferred alternative connects all jurisdictions, is located in a populated area likely to attract trail users, provides a potential link to the Florida East Coast Greenway and represents an “early win” project for greenways implementation in the St. Lucie TPO area. The preferred alternative portrays a safe, constructible route that captures the most users by connecting neighborhoods, schools, places of employment and local attractions.

## 1.0 Introduction

There are many benefits of trails and greenways: they make communities more livable; improve the economy through tourism and civic improvement; preserve and restore open space; and provide opportunities for physical activity to improve fitness and mental health.

In its FY 2010/2011 – 2011/2012 Unified Planning Work Program (UPWP), the St. Lucie Transportation Planning Organization (TPO) established the need to review, update, and implement the St. Lucie Greenways and Trails Master Plan, build upon previous bicycle/pedestrian/greenway planning efforts, and continue the ongoing planning and coordinating efforts which support the provision of bicycle, pedestrian, and greenway facilities.

Kimley-Horn and Associates, Inc. (KHA) completed a Bicycle/Pedestrian Corridor Study in February 2010 that defined a corridor that may act as the north/south spine for the greenways network system within the St. Lucie TPO area. The completed Bicycle/Pedestrian Corridor Study identified a designated area of interest in a portion of the corridor section known as Section 4, Buchanan/Walton Road Trail. The area of interest is located between Walton Road and Midway Road and encompasses the Savannas Preserve State Park and the Savannas residential community (See *Exhibit 1*).



It was determined that a finer level of analysis was necessary to identify the most feasible pathway through the Section 4 area of interest. The analysis details public and private ownership, constructability, regulatory and permitting requirements, funding opportunities, and estimated costs for two corridor alternatives through the area of interest. Conceptual plans and cross-sections of the proposed pathways were prepared, and public input was solicited regarding the corridor alternatives.

The north/south corridor meets the goals and objectives of the Martin/St. Lucie 2035 Regional Long Range Transportation Plan (RLRTP) by enhancing multi-modal transportation, and increasing recreation and economic opportunities in St. Lucie. Several projects within the RLRTP are working simultaneously to create the best, most economical local and regional connections. The following two major trails directly connect with the area of interest (See *Exhibit 2*).

- The Florida East Coast Greenway is an initiative focused on providing a connection along Florida's Atlantic Coast from Georgia to the Florida Keys. The 2035 Martin/St. Lucie Bicycle, Pedestrian, Greenways, and Trails Vision Map identifies the need for an inter-related set of non-motorized improvements along

the A1A corridor and the Florida East Coast Greenway corridor to link origins and destinations in the eastern core of St. Lucie and Martin Counties.

- The Treasure Coast Loop Trail project will become a regional multi-purpose connector between Martin and St. Lucie Counties. The Trail is envisioned to be a state of the art greenway trail built to multi-use trail standards. Several sections of the trail already exist or may require only minor enhancements, such as along A1A and Green River Parkway.

The area of interest between Midway Road and Walton Road becomes a critical linkage in the implementation of these trails. The preferred route consists of taking advantage of existing public rights of way that occur along maintained drainage canals, roads, utility easements and maintained park lands. Potential issue areas consist of defining which preferred paths are publicly owned and available for use. Significant concerns historically have been expressed by Savanna Club residents and Florida Department of Environmental Protection (FDEP) Savannas Preserve State Park staff (Preserve) with regard to providing bicycle/pedestrian access through those areas. A finer layer of investigation will assist in determining the appropriate access points, available and developable rights of way, and the most cost feasible route.

## 2.0 Existing Conditions/Data Collection

Gathering pertinent planning, environmental, land use, and engineering information required for the feasibility analysis within the corridor area of interest was an important component of the study. Analysis was completed to determine existing conditions, potential connections, identified routes, and property ownership. Ground-truthing in the field was conducted to further develop the accuracy of the alignments and facility types.

As part of the initial analysis, the largest public land owner was identified within the area of interest as the Savannas Preserve State Park. Coordination with the Preserve was an important component of this analysis. As part of the Florida East Coast Greenway, the Preserve serves as an important link between the north and south county corridors. Therefore, conversations with Preserve staff were held early in the process in order to determine areas of the Park that could potentially be utilized as passive recreation with little impact on the Preserve's protection and management policies.



Excerpts from the Savannas Preserve State Park Unit Management Plan, June 6, 2003 provide a basic statement of policy and direction for the management of the Preserve.

*“Savannas Preserve State Park is bounded on the north by Midway Road, on the south by State Road 732, or Jensen Beach Boulevard and on the east by the CSX Railroad right of way. The land area contained by the park is long and relatively narrow, spanning a north-south distance of over ten miles with width varying from less than 1,000 feet to over 2.5 miles. Walton Road bisects the property just south of the midpoint and a Florida Power and Light power line corridor bisects the northern half of the park.”*

*“Savannas Preserve State Park is located in St. Lucie and Martin Counties about five miles south of the City of Ft. Pierce.... At Savannas Preserve State Park, public outdoor recreation and conservation is the designated single use of the property. There are no legislative or executive directives that constrain the use of this property.”*

*“In the management of Savannas Preserve State Park, preservation and enhancement of natural conditions is all important. Resource considerations are given priority over user considerations and development is restricted to the minimum necessary for ensuring its protection and maintenance, limited access, user safety and convenience, and appropriate interpretation. Permitted uses are primarily of a passive nature, related to the aesthetic, educational and recreational enjoyment of the preserve, although other compatible uses are permitted in limited amounts. Program emphasis is placed on interpretation of the natural and cultural attributes of the preserve.”*

**“Protected Zones**

*A protected zone is an area of high sensitivity or outstanding character from which most types of development are excluded as a protective measure. Generally, facilities requiring extensive land alteration or resulting in intensive resource use, such as parking lots, camping areas, shops or maintenance areas, are not permitted in protected zones. Facilities with minimal resource impacts, such as trails, interpretive signs, and boardwalks are generally allowed. All decisions involving the use of protected zones are made on a case-by-case basis after careful site planning and analysis....At Savannas Preserve State Park the basin marsh, depression marsh, wet prairie, flatwood/prairie lake and the scrubby flatwoods and scrub communities of the Atlantic Coastal Ridge have been designated as protected zones.”*

**“Recreation Facilities**

*Approximately 9.25 miles of shared use trails for hiking, biking and equestrian use are provided between Walton Road and Easy Street; just north of the FPL powerline corridor....Boardwalks may be necessary to provide access through wet areas. An interpretive kiosk is also recommended at the trailhead to provide trail information, educate users to other recreation opportunities at the park, and enhance an understanding of and foster an appreciation for the Savannas among trail users. The exact siting of these facilities will be coordinated with biological staff to minimize potential environmental impacts and disturbance to wildlife populations.”*

On April 21, 2011, a meeting was held with staff from the Preserve to discuss potential areas for recreational facilities. Concerns were expressed by staff regarding the preservation and management of the Preserve for the express purpose of protection of the Savannas ecological system versus as part of a transportation corridor. The health of this sensitive system is dependent on the surface hydrology and sheet flow from the east. Disruptions or blockage of the natural flow of water would create impacts to the health of the ecosystem. In addition, public access to sensitive areas may increase the spread of invasive species and inhibit fire management of the Preserve.



Alternative opportunities were discussed and field verified. Utilization of existing edges maintained as firebreaks were traversed. These areas have been altered as part of the fire management process and placement of impervious facilities such as trails would not cause detrimental impacts to the system. However, several constraints would need to be considered as part of the design including: load bearing and fire resistant material, fee based access management, equestrian usage, trail management, wetland crossings and seasonal flooding. An Opportunities and Constraints map was produced to clearly delineate these conditions and is included as *Exhibit 3*.

### 3.0 Trail Alternatives

As part of the planning process, potential alignments and facility types were identified for each alternative. Building upon information gathered during the Corridor Study report in 2010 and information obtained from site visits, field work, and existing data, alternatives were analyzed based on the following criteria:

System Connectivity: provides safe, alternative mode of transportation for all users to access activity centers (schools, employment and commercial districts, parks, and public lands).

Constructability: Ease of implementation based on the following factors: intact rights-of-way, probable cost, and design constraints.

Ownership/Agency Support: The route is on publicly owned or accessible land, has the potential support of the agency responsible for its use and can meet applicable jurisdictional regulatory requirements.

Health/Environmental Benefits: Provides conservation values and watershed protection, and connects people to natural habitats as a 'green' open space recreational corridor.



Regional Benefits: Economic and tourism potential to link into a network that extends throughout the region.

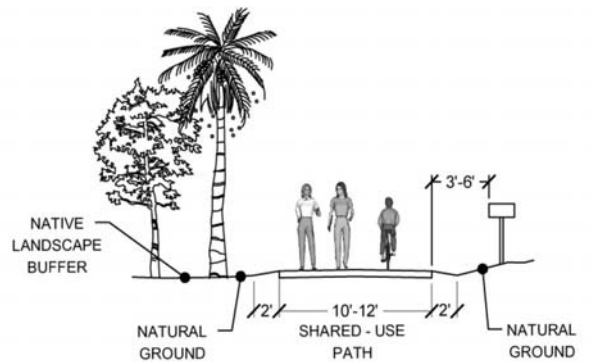
Once a conceptual plan was developed, potential alternatives were prioritized using a systems framework. This allows the TPO to have the ability to recommend which trail alternative is more readily implementable based on defined criteria. In addition, an opinion of probable cost was formulated based on proposed routes and cross sections for the two alternatives.

The alternative maps contained in **Attachment A** depict the potential alignment, facility type, and connections to existing or proposed bicycle and pedestrian facilities within the area of interest between Midway Road and Walton Road.

The alternatives were identified based upon the type of terrain and surrounding land use that best supported the route traversed. Components consist of a variety of shared-use paths identified by the location of the path including: canal, off road, park and rail-with-trail. The area of interest includes several distinct routes that will require different materials and construction based on the facility type, land use characteristics, property management requirements and connectivity. No one implementation plan will be appropriate for the entire corridor.

### Typical Sections

A series of typical sections were developed for each alternative from applicable design guidelines. A variety of typical cross-sections are required to provide the flexibility needed to respond to site conditions and design opportunities. The typical sections include park shared use paths, shared use paths adjacent to canals, and off-road shared use paths. In addition, a rail-with-trail (RWT) is presented as a shared-use path that is located on or directly adjacent to an active railroad or fixed route transit corridor.



*Shared Use Paths:* Shared use paths are preferable in areas where pedestrians and cyclists may not feel comfortable sharing parts of the roadway with moving vehicles. These types of trail facilities allow both cyclists and pedestrians safe passage apart from the roadway. These paths may also be placed where vehicle roadways cannot or do not exist. The primary function of off road shared use paths is intended to balance the overall transportation system and provide better connectivity to the mobility network.

*Rail with Trail (RWT):* A RWT is a multi-use trail along active rail lines. Key safety design factors include: Providing adequate distance between track and trail (average separation is 33 feet); Providing safe fencing, barriers or grade separation between track and trail where necessary (barriers used include vegetation, grade separation, fences,

ditches and cement walls); Designing safe rail crossings (crossings are typically at-grade, tunnels or overpasses); and Installing adequate trail-user warning signs.

### **Alternative One - Midway Road To Walton Road**

The area between Midway Road and Walton Road is a critical linkage between north county and south county. The preferred route consists of taking advantage of existing public rights of way that occur along maintained drainage canals, roadways and maintenance roads. The proposed route provides a safe off-road alternative for residential neighborhoods and school age commuters, providing greater connectivity within the community. This Alternative consists of approximately 9.1 miles of shared use trail (Refer to *Attachment A*).



*The proposed route starts at the Savannas Recreation Area park entrance north of Midway Road. An off-road path may be constructed along Midway Road to an existing canal right of way owned and maintained by St. Lucie County (County) known as Buchanan Canal.*

*The Buchanan Canal connects neighborhoods north of Midway Road to south of Easy Street. Coincidentally, this connects to two schools along the route, Weatherbee Elementary and Savanna Ridge Elementary. The trail traverses south along the Canal, entering a utility easement, and connecting Indian River Estates to Savanna Ridge Elementary School at the intersection of Kitterman Road and Lennard Road. The path connects to the newly constructed pathway along the Lennard Road extension, then turns to the east at Macquillen Road and enters the Preserve property.*

*In the management of Savannas Preserve State Park, preservation and enhancement of natural conditions is of utmost importance. Therefore, proposed trail improvements have been located on existing open fire breaks along the Preserve boundaries. These areas provide the best location for passive recreational facilities due to their existing open, maintained conditions and existing edge effects. The firebreaks typically contain maintenance tracks where paved trails may be easily placed at grade. Boardwalks may be required to cross identified wet areas. Fire management is an important component for ecosystem preservation. Therefore, trail improvements must consist of load bearing, fire resistant material that can withstand the seasonal fire management activities.*

*Macquillen Road is a private right-of-way that shares ownership with the State and private property owners. A maintenance track and road exists along Macquillen Road from Lennard Road to the edge of residential development. The road ends and becomes a maintenance track again then turns to the south along the western edge of the Preserve*

*and a County maintained canal. A canal shared use path is proposed along this leg of the route, ending at the Preserve entrance gate at the Savanna Club residential development.*

*The County owns the right-of-way and existing canal along the western boundary of the Savanna Club development. This right-of-way was purchased for a future road improvement project that is subject to a ten year moratorium. A shared use path along this existing right of way will provide benefits to the community such as providing recreational facilities, better connectivity, and a safe, alternative mode of transportation.*



*The path exits the development at Lennard Road and the Port St. Lucie High School to the south, only to enter the Preserve again just west of the Savanna Club retention area. This retention area is an important source of surface water flow to the hydrology of the Preserve and permanent structures along this boundary are prohibited (See **Exhibit 3**, Opportunities and Constraints Map).*



*The proposed trail continues to track the existing maintained fire break along the western Preserve boundary and exits at the Park entrance at Walton Road, in proximity to the Education Center. The trail continues tracking to the east along the Walton Road right of way to ultimately complete the regional connection at the Green River Trail into Martin County. It will be important to establish a safe crossing at Walton Road as part of this project. The establishment of bicycle/pedestrian facilities within the road right of way should consist of a separated bicycle and pedestrian pathway and a striped and signed road crossing.*

In arriving at a recommended trail route for Alternative One, several key criteria were considered:

**System Connectivity:** The route connects three schools and three activity centers to residential neighborhoods providing a safe, alternative mode of transportation for all users.

Constructability: The route contains intact, connected rights-of-way and maintenance easements for ease of implementation. However, the cost of implementation may be high based on design constraints including load bearing, fire resistant material.

*An Opinion of Probable Cost (OPC) was provided for Alternative One that ranged from \$1,500,000 to \$1,900,000.*

Data, collected from prior greenway and trail projects, provided planning-level unit cost estimates to assist with future budgeting and implementation activities. The unit cost data are provided as guidelines based on similar projects in Florida; more precise cost estimates are typically developed during the design and permitting phase of a trail project. Trail construction costs vary due to a variety of factors, including local conditions, trail type (use mode), material and support services that will be included.

Ownership/Agency Support: The route is on publicly owned or accessible land, has the potential support of the agency responsible for its use and can meet applicable jurisdictional regulatory requirements.

An analysis of environmental and permitting impacts of the proposed route consists mainly of corridors that have been identified within existing rights-of-way that are currently being utilized for transportation, utility, or recreational purposes. Therefore, environmental impacts from implementing greenways and trails are expected to be minimal. However, an environmental review should be conducted before the design phase for off-road trails and unimproved corridors. A field reconnaissance would be required to identify vegetative communities, wildlife, wetlands, and potential listed species or listed species habitat within the proposed project area.

Wetlands and other surface waters would fall under the jurisdiction of the South Florida Water Management District (SFWMD) and the US Army Corp of Engineers (USACE). Mitigation for impacts to wetlands would be required. Mitigation is determined based on the functional loss of quality of the habitat being impacted.

Listed species surveys and permitting must be coordinated through Florida Fish and Wildlife Conservation Commission (FWC) and US Fish and Wildlife Service (USFWS). In addition, sensitive ecological habitats will require maintenance plans in accordance with the State Park Preserve system. Authorization from the State of Florida Board of Trustees will be required for any projects occurring within the State Park property.

Trails implemented along canal rights-of-way must be designed and permitted in accordance with the County drainage and maintenance concerns. Remaining corridors are within property owned by the City of Port St. Lucie, St. Lucie County, or the Florida Department of Transportation (FDOT).

Health/Environmental Benefits: The route provides conservation values and watershed protection, and connects people to natural habitats as a ‘green’ open space recreational corridor.



Alternative One traverses open space and public preserves in a low impact design that integrates the public with natural spaces.

Regional Benefits: The route provides a regional connection with the Treasure Coast Loop Trail and the Florida East Coast Greenway. This link provides an economic benefit throughout the region.

## Alternative Two – Rail-with-Trail



Alternative Two provides an opportunity for a direct eastern link from Midway Road to Walton Road. The pathway proposes one continuous route accessible to many recreational users. The trail would parallel the existing rail line and provide greater access to the public into the beauty of the Preserve. This Alternative consists of approximately 7.4 miles of shared use path.

Every day thousands of Americans safely use and enjoy trails located along active rail lines. The number of “rails-with-trails” (RWT) is steadily increasing as communities throughout the United States work with local railroads to take advantage of the opportunities that rail corridors provide for creating valuable trails. Constructing a trail along an active railroad doubles the value a community derives from the rail corridor and provides citizens with an extra transportation choice. RWTs may provide benefits for the railroads such as corridor beautification, potential reduction of trespassing on train tracks, reduced vandalism and increased transit ridership.

### *The Impacts of Rail-Trails, U.S. Department of Interior National Park Service – Rivers and Trails Conservancy Program, 1992*

This study was conducted to examine the benefits and impacts of rail-trails and also to examine the trail users and property owners near the trails. The study was a cooperative effort of the National Park Service and Penn State University conducted in 1991. The main objectives of this study were:

1. To explore the benefits of rail-trails to the surrounding communities and measure total economic impact of trail use
2. To examine what effects rail-trails have on adjacent property values
3. To determine the type and extent of trail related problems
4. To develop a profile of rail-trail users

The Heritage Trail in Iowa, the St. Marks Trail in Florida, and the Lafayette/Moraga Trail in California were used as samples for this study. Trail users were surveyed and counted and were then sent a follow-up mail survey. Usable mail surveys were obtained from 1,705 trail users and 663 property owners. The major study findings are summarized below.

- The study trails were observed to be heavily used by the nearby residents.
- Having no motorized vehicles allowed is the most desirable trail characteristic expressed by the users of each trail.
- Use of the trails generated significant levels of economic activity.
- Landowners living along the trails expressed that living near the trails was better than living near the unused railroad lines before the trails were constructed.
- Landowners along the trails reported that their proximity to the trails had not adversely affected the value of their properties.
- Health and fitness and recreation opportunities were considered to be the most important benefits of the trails.
- Insufficient drinking water and restroom facilities were the biggest concerns that were expressed by the users.

The study concludes that rail-trails provide a wide range of benefits to users, local landowners, and trail communities. The trails were found to have a dedicated core of users who visited frequently. Although negative aspects of living adjacent to rail-trails were reported by some landowners, the rate of occurrence and seriousness of problems were relatively low and advantages of living near the trail were heavily reported.



According to the USDOT, approximately 65 RWT projects in 30 states existed in 2002. Two (2) RWT projects were documented in Florida including a section of the West Orange Trail in Winter Park and St. Marks Trail near Tallahassee. Despite fears that rails-with-trails expose users to greater danger by their proximity to active rail lines, rails-with-trails appear to be just as safe as other trails. In fact, using a rail-with-trail may well be significantly safer than

walking or cycling next to a busy main road and it may serve to keep people from walking on active rail tracks. A range of designs are available for RWTs depending on the wide variety of conditions.

The eastern boundary of the Preserve consists of scrub community adjacent to an active Florida East Coast Rail Road (FECRR) line. The Florida Natural Areas Inventory lists this community as globally and state endangered. A significant number of listed species are found within this community such as the fragrant prickly apple (*Harrisia fragrans*), four-petal pawpaw (*Asimina tetramera*), Florida scrub-jay (*Aphelocoma floridana*), gopher tortoise (*Gopherus polyphemus*) and the eastern indigo snake (*Drymarchon corais*).



Scrub is sensitive to disturbance so to maintain the integrity of this community, protective measures are required to preserve the community structure. In addition, fire is required in order to maintain the sparse and low growing vegetation.



*The proposed RWT would begin in the north at the Savanna State Park entrance and travel east along the Midway Road right-of-way to the FECRR. The trail would be placed along the Preserve's eastern boundary within the maintained fire break in order to cause minimal disturbance to the scrub community. The trail's location would lie close to the FECRR due to the shared fire break and may be required to cross over in to the FECRR right-of-way when private land in holdings are encountered. Adequate distance and/or a barrier may be erected between the trail and the FECRR to control access.*

*At Walton Road, the trail would turn back to the west and join with the regional connection at Green River Trail. However, Walton Road does not maintain an adequate built up right-of-way from the FECRR to Green River Trail through the Savannas. Therefore, in order to cross the Savannas with the least amount of impact to the preserve, a pre-engineered steel truss pedestrian bridge may be utilized. Several designs are available at a variety of costs. The span is estimated to require a minimum of 1,500 lineal feet in order to safely cross the Savannas.*



In arriving at a recommended trail route for Alternative Two, several key criteria were considered:

**System Connectivity:** The route provides limited connectivity to activity centers along the over 7 mile corridor. However, it does provide connection between large publically owned natural areas and a safe, alternative mode of transportation for many types of users.

**Constructability:** The route contains intact, connected rights-of-way and maintenance easements for ease of implementation. However, the cost of implementation may be high based on design constraints including load bearing, fire resistant material and a pedestrian bridge crossing.

***An Opinion of Probable Cost (OPC) was provided for Alternative Two that ranged from \$2,900,000 to \$3,700,000.***

Data, collected from prior greenway and trail projects, provided planning-level unit cost estimates to assist with future budgeting and implementation activities. The unit cost data are provided as guidelines based on similar projects in Florida; more precise cost estimates are typically developed during the design and permitting phase of a trail project. Trail construction costs vary due to a variety of factors, including local conditions, trail type (use mode), material and support services that will be included.

**Ownership/Agency Support:** The route is partially on publicly owned or accessible land, has the potential support of the agency responsible for its use and can meet applicable jurisdictional regulatory requirements. The route lies adjacent to and within the FECRR whose cooperation



would need to be secured in order to build the proposed corridor. Access easements, maintenance agreements and liability requirements would need to be determined.



An analysis of environmental and permitting impacts of the proposed route consists mainly of corridors that have been identified within existing rights-of-way that are currently being utilized for transportation, utility, or recreational purposes. Therefore, environmental impacts from implementing greenways and trails are expected to be minimal. However, an environmental review should be conducted before the design phase

for off-road trails and unimproved corridors. A field reconnaissance would be required to identify vegetative communities, wildlife, wetlands, and potential listed species or listed species habitat within the proposed project area.

Wetlands and other surface waters would fall under the jurisdiction of the South Florida Water Management District (SFWMD) and the US Army Corp of Engineers (USACE). Mitigation for impacts to wetlands would be required. Mitigation is determined based on the functional loss of quality of the habitat being impacted.

Listed species surveys and permitting must be coordinated through Florida Fish and Wildlife Conservation Commission (FWC) and US Fish and Wildlife Service (USFWS). In addition, sensitive ecological habitats will require maintenance plans in accordance with the State Park Preserve system. Authorization from the State of Florida Board of Trustees will be required for any projects occurring within the State Park property.



Trails implemented along canal rights-of-way must be designed and permitted in accordance with the County drainage and maintenance criteria. Remaining corridors are within property owned by the City of Port St. Lucie, St. Lucie County, or the Florida Department of Transportation (FDOT).

**Health/Environmental Benefits:** The route provides conservation benefits and watershed protection, and connects people to natural habitats as a 'green' open space recreational corridor. Alternative Two traverses open space and public preserves in a low impact design that integrates the public with natural spaces.

**Regional Benefits:** The route provides a regional connection with the Treasure Coast Loop Trail and the Florida East Coast Greenway. This link provides an economic benefit throughout the region.

## **4.0 Public Involvement**

A series of stakeholder meetings and presentations were performed as part of the analysis to further refine the corridor and determine the best alternative pathways. In summary, the two alternative routes as presented did not receive support from the Savannas Preserve State Park nor from the most vocal, organized homeowners group in the area, Savanna Club. A list of meetings and general comments are presented as follows:

PUBLIC MEETING	COMMENTS
<p><i>Savannas Preserve State Park, Site Visit, September 30, 2009</i></p>	<ul style="list-style-type: none"> <li>Existing nature trail maintained as graded road</li> <li>Flow way throughout the mesic Pine Flatwoods created by sheet flow from west to east. Essential to maintain hydrology of the Savannahs</li> <li>Park service has determined that a built up/paved path would not meet the preservation intent of the Park. The District Biologist has determined that a paved trail could interfere with sheet flow which hydrates the Savannahs from west to east</li> <li>The existing nature trail is now a multi use trail for mountain bikers, nature trail hikers and equestrian uses. A paved trail would remove some of these users from the park</li> <li>Park Service is supportive of the existing trail being shown as part of the greenway system but believes that a paved multi use trail would be better placed within the Lennard Road improvements or somewhere within this corridor that connects existing neighborhoods</li> <li>A berm/maintenance road exists along the western edge of Park property. McQuillen Road is a private right-of-way with shared ownership between State, private property and St. Lucie County</li> <li>Access within park may require separate trail from park property. Access issues may require a fee for entry into park</li> </ul>
<p><i>Savannas Preserve State Park, April 21, 2011</i></p>	<ul style="list-style-type: none"> <li>Sheet flow of stormwater from the east hydrates Savannahs but 90% of water from rainwater not surface flow</li> <li>Seasonal flooding of existing, unimproved trails up to 1 foot</li> <li>Maintenance issues include stabilization, overgrowth</li> <li>Tread spread increases depth along trails and roads creating erosion, turbidity</li> <li>Impact areas include hydrologic flow paths and invasive species spread</li> <li>Annual trail use estimated at 65% hikers, 30% equestrian and 5% mountain bikes</li> <li>Fire management of natural community very significant and year round</li> <li>Options for improved trails may include existing trails or firebreaks along property boundaries</li> <li>Natural materials are not ADA compliant and may require significant maintenance. Hesitant to introduce new materials to sensitive system (such as lime rock etc.)</li> <li>Permeable concrete may be the best for fire resistant material and provide load bearing strength for the equipment</li> <li>RR corridor = rail with trail, a possibility along the eastern boundary</li> </ul>

	<ul style="list-style-type: none"> <li>• Multimodal vs. preservation , a transportation corridor is in direct conflict with the purpose of the Preserve which is protection of the natural environment</li> <li>• Signage and fencing may be required in some areas along trail</li> <li>• Protected species including two rare plants exist within the Preserve which must be protected</li> <li>• Active eagles nest north of Savanna Club development</li> <li>• The park is a component of the Florida Greenways and Trails System</li> </ul>
<i>Savanna Club Homeowners Association Board</i> <i>November 2, 2011</i>	<ul style="list-style-type: none"> <li>• Project will encourage public access to private development which may create problems with crime and vandalism</li> <li>• Project will encourage development of transportation corridor adjacent to private community</li> <li>• Project does not provide transportation or health benefit to residents, recreation is already provided as amenity within development</li> <li>• Recommend utilizing the Preserve as part of the public lands corridor</li> </ul>
<i>Savannas Preserve State Park</i> <i>November 2, 2011</i>	<ul style="list-style-type: none"> <li>• Transportation corridor is a conflicting purpose for the Preserve</li> <li>• Management of habitat for protected species and sensitive Savanna is main focus</li> <li>• State of Florida Board of Trustees will need to provide approval for all improvements proposed to occur on State lands</li> <li>• Firebreaks may not be available due to Federally listed species</li> <li>• An access fee is required for use or entrance to the Park</li> <li>• Access management is a concern as the Park closes at dark</li> <li>• Impervious surfaces impact sensitive habitat for listed species and hydrologic dependant ecosystems</li> <li>• FECRR requires access easement and fee from Park for use of railroad right of way in order to avoid private land in holdings</li> <li>• FECRR right of way is limited north of the FPL power easement and may only maintain eight feet of width between tracks and property line</li> <li>• Not enough right of way exists for a rail trail north of the FPL easement, sensitive scrub habitat would not be compatible with paved trail within Park property and State of Florida Board of Trustees approval is unlikely</li> <li>• Recommend utilizing existing facilities within public road right of ways and avoiding the use of Park lands as a transportation corridor.</li> </ul>



## 5.0 Performance Matrix

A system performance framework was developed for assessment of the feasibility of each pathway in relation to selected performance measures. The system performance framework assists in the identification of the preferred alternative. The criterion was ranked with 0 being the most favorable and 5 being the least so that the alternative with the lowest score rises to the top as a preferred alternative. See **Table 1 System Performance Framework**.

Due to the lack of support for moving forward with the Alternatives as presented, it is recommended that the Corridor through Section 4 avoid the Area of Interest. **Attachment B** provides a sketch of the existing and proposed facilities outside of the Area of Interest as the preferred alternative.

Facilities exist along major road right of ways that may provide a continuous corridor from Midway Road to Walton Road. Existing facilities include the following lengths:

- Lennard Road extension from Prima Vista Boulevard to Kitterman Road, multi-use trail separated from the roadway.
- US Highway 1 from Prima Vista Blvd to Walton Road, multi use trail separated from the roadway.
- Walton Road from US Highway 1 to Lennard Road, multi-use trail separated from the roadway.
- Bicycle/pedestrian enhancements at the intersection of Lennard Road and Walton Road.



Proposed new facilities that will complete the corridor connection (approximately 4 miles) would include:

- Off road multi use path from Savanna Recreation Area to Buchanan Canal along Midway Road right of way
- Canal shared use path within the 100 foot right of way of Buchanan Canal from Midway Road to Kitterman Road (portions within utility easements)
- Off road path from Lennard Road to Green River Trail along Walton Road.

***An Opinion of Probable Cost (OPC) was provided for Alternative B that ranged from \$400,000 to \$500,000.***

The System Performance Framework (Table 1) identified **Alternative B** as the top ranked facility. **Alternative B** is intended to be flexible enough to allow portions or segments of the trail to be implemented as opportunities are presented.

**TABLE 1 – SYSTEM PERFORMANCE FRAMEWORK**

<i><b>Most Favorable – 0 Least Favorable – 5</b></i>	<i><b>Alternative One</b></i>	<i><b>Alternative Two</b></i>	<i><b>Alternative B</b></i>
Connectivity: Increases the use of non-motorized travel to destinations within one-half mile of the proposed corridor. Access to Schools: 0-1 points Access to Employment and Retail: 0-1 points Access to Parks & Recreation: 0-1 points Access to Transit: 0-1 points Access to Residential Neighborhoods: 0-1 points	1	4	0
Constructible: Project may be ready to be advanced to design and construction. Project is feasible and ready for implementation: 0-1 points Project requires further study but has the potential to be advanced: 2-3 points Project presents significant constraints to construction: 4-5 points	1	4	1
Costs: Project can be implemented within the unit costs provided based on identified opportunities and constraints. Less than \$200k / mile: 1-2 points \$200k - \$500k / mile: 3-4 points Greater than \$500k / mile: 5 points	2	4	1
Ownership/Agency Support: Project is under property ownership and management supported by the organization(s) responsible for implementation. Project has full agency support: 0-1 points Project has potential to receive agency support: 2-3 points Project is not likely to receive support: 4-5 points	2	4	1
Health/Environmental Benefits: Project will provide health and environmental quality of life benefits to residents and visitors. Provides conservation and watershed protection: 0-1 points Provides “green” open space recreational corridor: 0-1 points Connects people to Conservation Lands: 0-1 points Increases Public Health / Fitness: 0-1 points	0	1	0
Regional Benefits: Project will provide regional benefits to the residents, visitors, and businesses of St. Lucie County. Provides an essential link in creating a continuous greenway system within the study area: 0-1 points Provides an essential link in the proposed network; without this link, the system could not be completed: 0-1 points Increases Tourism visits from outside of the County: 0-1 points Potential to attract/retain businesses: 0-1 points Improves Traffic Safety: 0-1 points	0	1	0
<b>TOTAL</b>	<b>6</b>	<b>18</b>	<b>3</b>

## 6.0 Recommendation

“Active Outdoor Recreation” contributes \$730 billion annually to the US economy, supports 6.5 million jobs and generates \$88 billion in annual state and national tax revenue. Active recreation is defined as bicycling, trail activities, paddling, snow sports, camping, fishing, hunting, and wildlife viewing.” (The Active Outdoor Recreation Economy by the Outdoor Industry Foundation, 2006)

There are many ways that trails and greenways affect the local and national economies, including: Tourism, Urban redevelopment, Property value, Health care savings, Jobs and investment, and General consumer spending. An example includes the West Orange, Little Econ, and Cady Way trails in Orange County which supported 516 jobs and an estimated economic impact of \$42.6 million in 2010 (East Central Florida Regional Planning Council, 2011).

The corridor meets the goals and objectives of the Martin/St. Lucie 2035 Regional Long Range Transportation Plan (RLRTP) by enhancing multi-modal transportation, and increasing recreation and economic opportunities in St. Lucie. The corridor may be defined as a linear open space corridor with facilities for non-motorized travel, including walking, bicycling, running, and other uses. When implemented, the corridor may increase and enhance multi-modal transportation, tourism, education, recreation, economic development, health, physical fitness, and environmental conservation throughout the area. The Preferred Alternative will provide opportunities for seniors to be more physically active, for children to walk or bike to school, for people to commute to work without their cars, and to connect local communities together. All of these benefits will enhance the quality of life for the residents and visitors of St. Lucie.

Presentations were made to the Citizens Advisory Committee and Technical Advisory Committee on November 15, 2011, as well as the Bicycle Pedestrian Advisory Committee on November 17, 2011.

It was the recommendation of the Advisory Committees to accept the Bicycle/Pedestrian Corridor Study Area of Interest Analysis **Alternative B** as the preferred alternative and to avoid actively promoting a route through the area of interest until, and if, the Lennard Road improvements move forward.

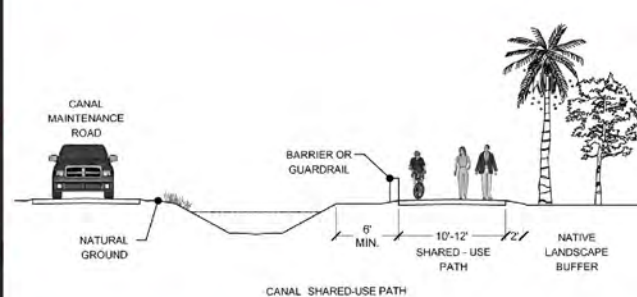

*Therefore, the preferred alternative is a route outside the area of interest, taking advantage of existing facilities along major roadways. This recommendation is based on a comparative assessment of costs, constructability, and public support. The preferred alternative connects all jurisdictions, is located in a populated area likely to attract trail users, provides a potential link to the Florida East Coast Greenway and represents a potential “early win” project for greenways implementation in St. Lucie County. The preferred alternative presents a safe, constructible route that captures the most users by connecting neighborhoods, schools, places of employment and local attractions.*

# **EXHIBIT 1**

## **Area of Interest, Section 4, Corridor Study Map**



# Saint Lucie Bicycle / Pedestrian Corridor Study - Section 4 Buchanan / Walton Road Trail

Description	Focus Area
<p>Bicycle Corridor section #4 provides a safe off road route (Safe Route To School) for residential neighborhoods between Midway Road and Walton Road. The route follows existing County Buchanan Canal right of way which connects to alternative corridors including Lennard Road R/W and Savannah State Preserve land.</p> <p>Issue Areas: <b>A</b> Safe crossing at major intersections including Midway Road and Easy Street  <b>B</b> Existing R/W access along the Preferred Route within the Area of Interest.</p>	 <p>CANAL MAINTENANCE ROAD</p> <p>NATURAL GROUND</p> <p>BARRIER OR GUARDRAIL</p> <p>6' MIN.</p> <p>10'-12' SHARED - USE PATH</p> <p>NATIVE LANDSCAPE BUFFER</p> <p>CANAL SHARED-USE PATH</p>
Destinations and Land Uses:	
<ul style="list-style-type: none"> <li>Weatherbee Elementary School</li> <li>Buchanan Trail</li> <li>Savanna State Preserve</li> <li>Florida East Coast Greenway</li> <li>Savanna Ridge Elementary School</li> <li>Port St. Lucie High School</li> </ul>	
Length:	Target User Groups:
<ul style="list-style-type: none"> <li>Preferred path approximately 8 miles (Midway Road to Walton Road)</li> </ul>	

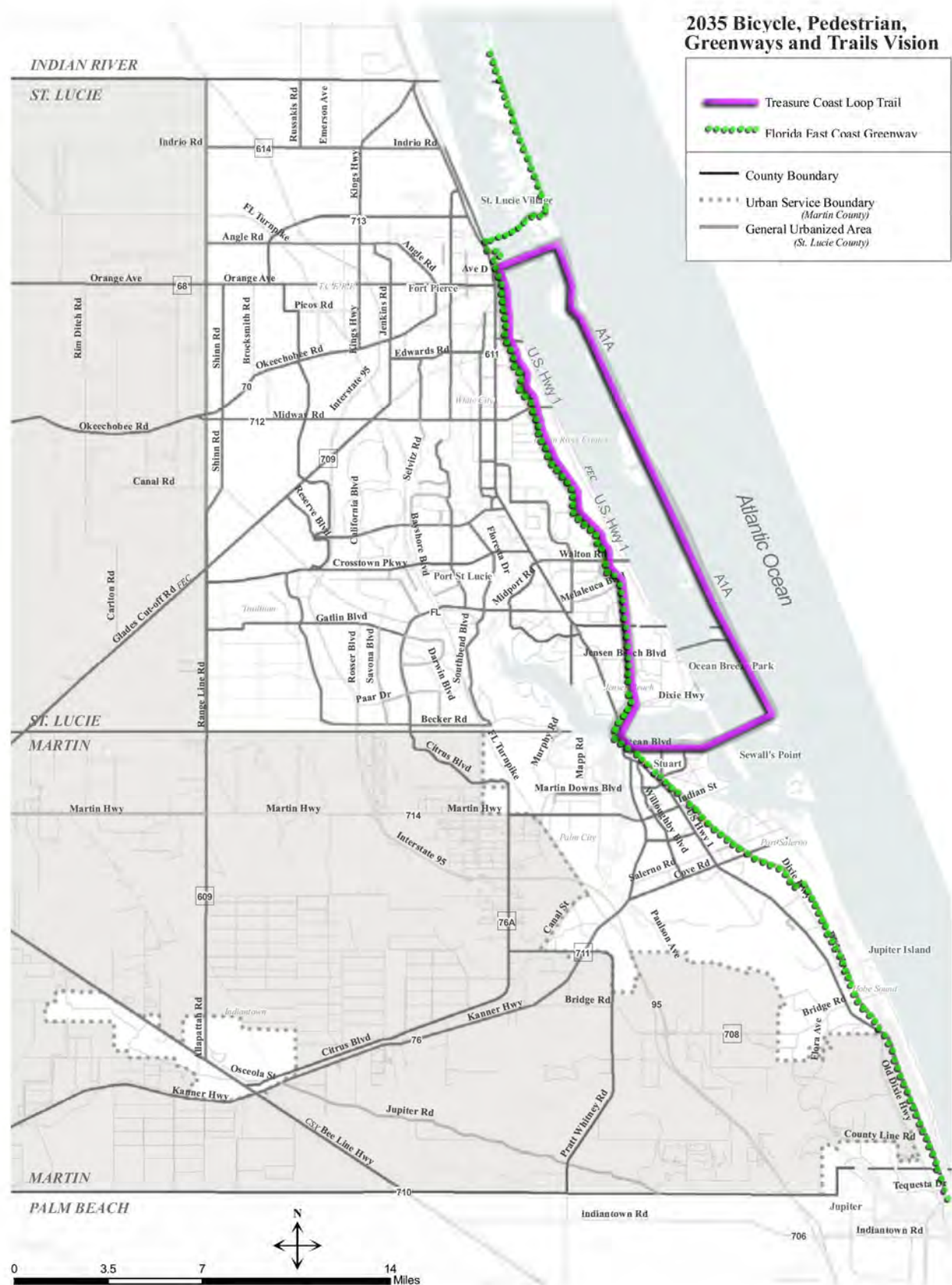




## **EXHIBIT 2**

### **Regional Trails Map**

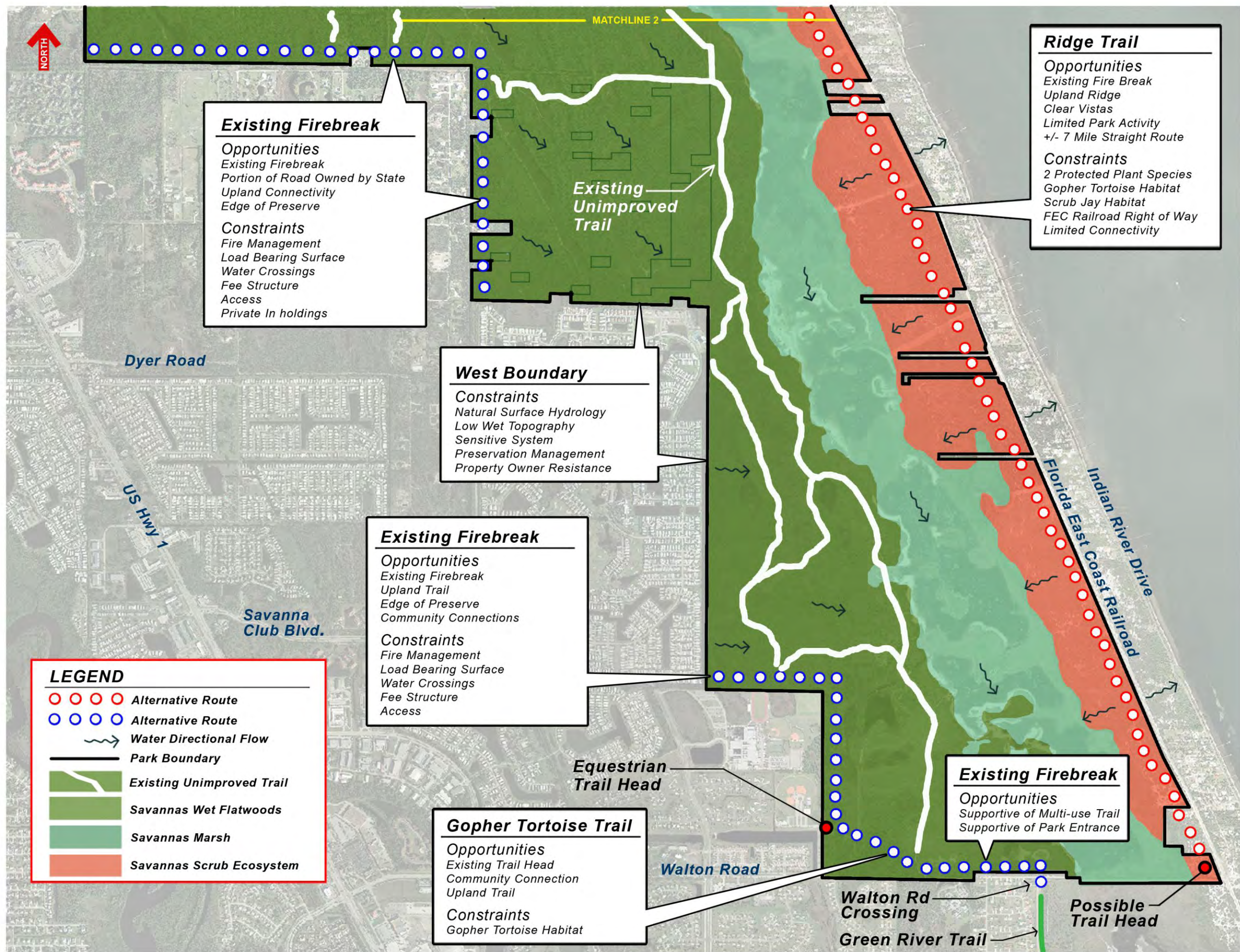
**Martin MPO/ St. Lucie TPO**  
**2035 Regional Long Range Transportation Plan**  
 February 2011



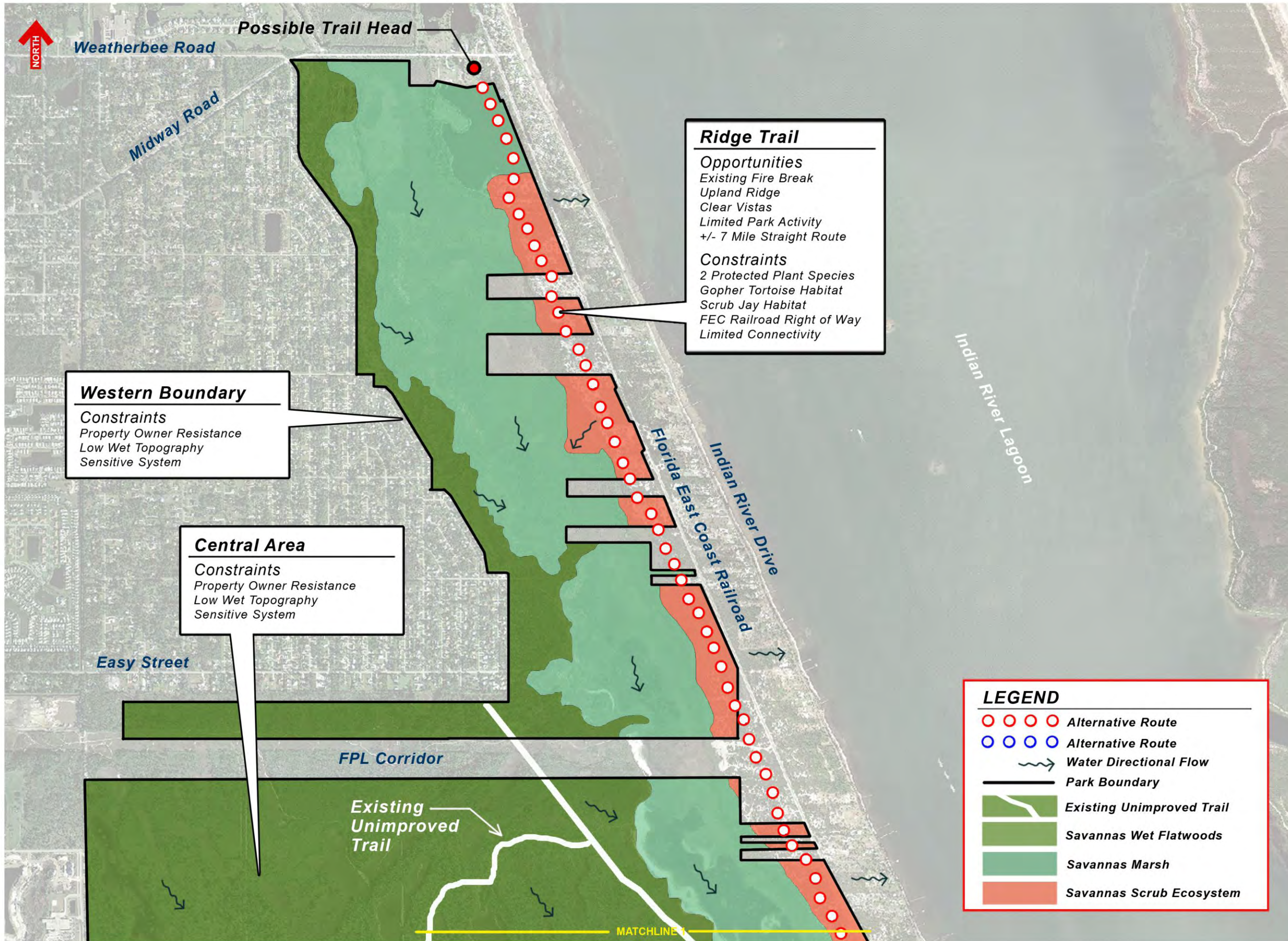
# **EXHIBIT 3**

## **Opportunities and Constraints Map**







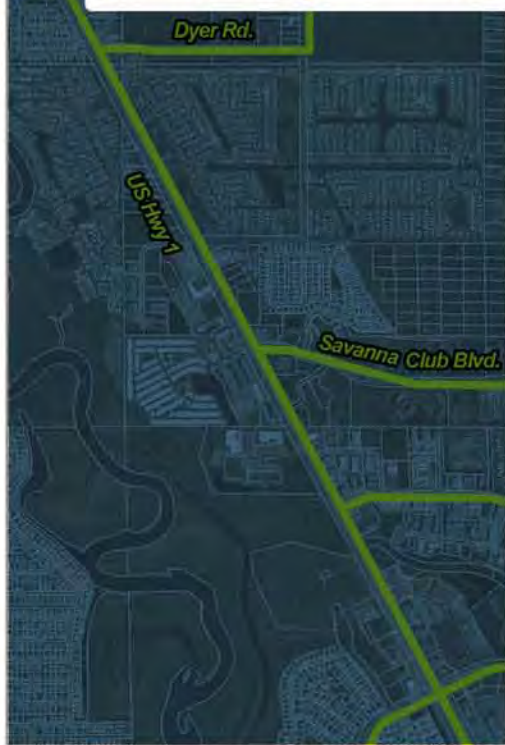
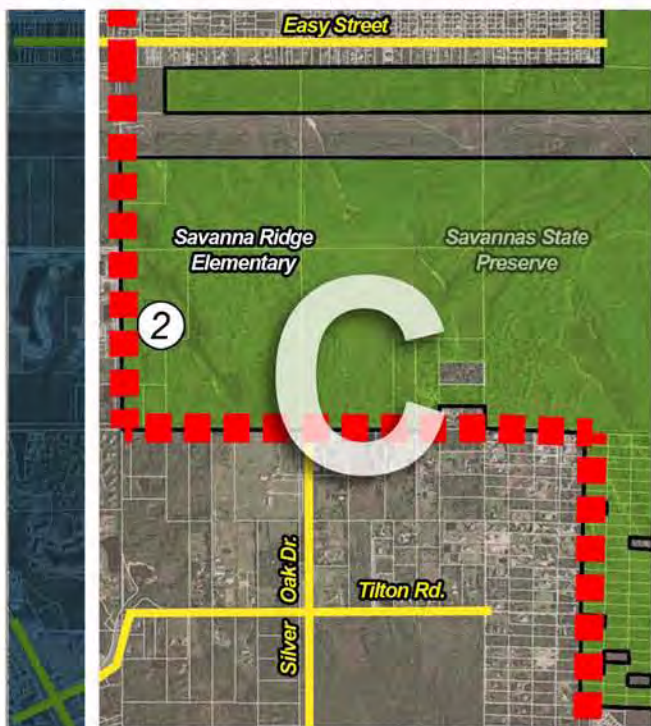
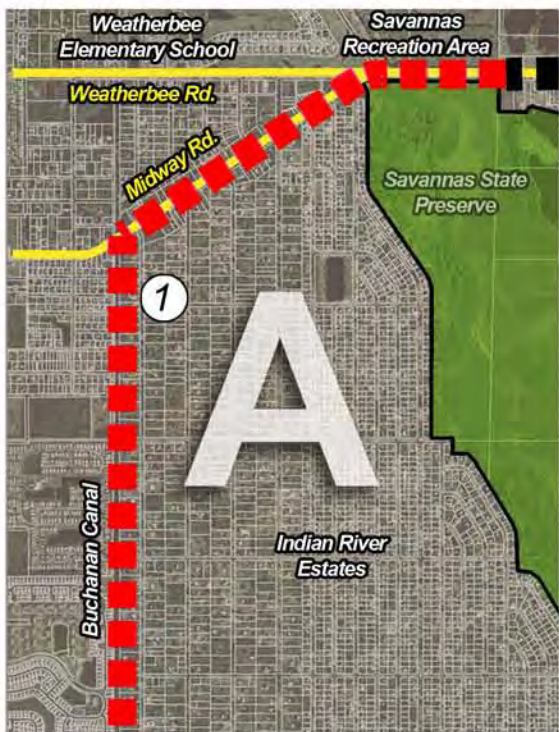




# **ATTACHMENT A**

## **Alternative Routes**





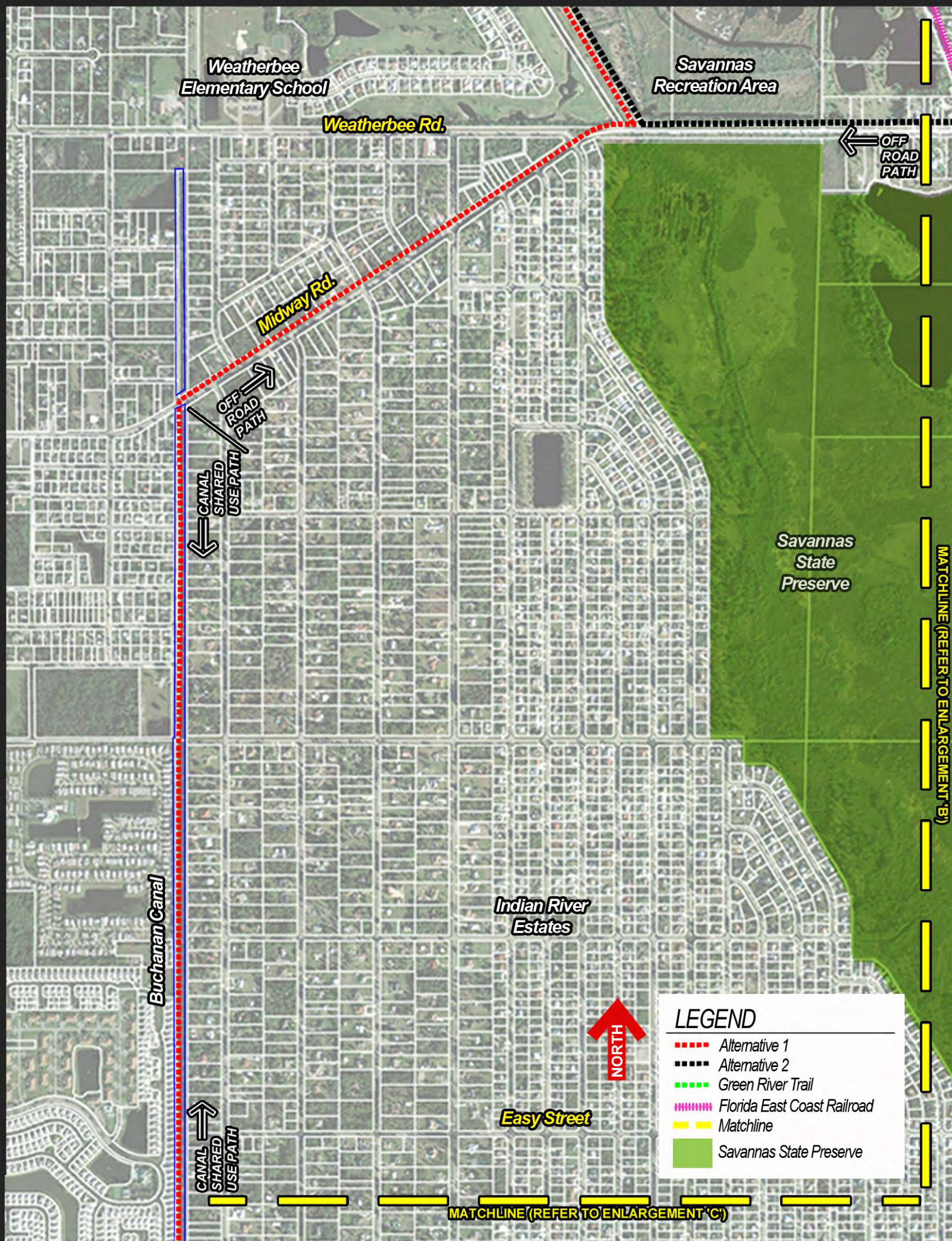
## LEGEND

- Alternative 1
- Alternative 2
- Green River Trail
- Florida East Coast Railroad
- Enlargement Sheets
- Savannas State Preserve

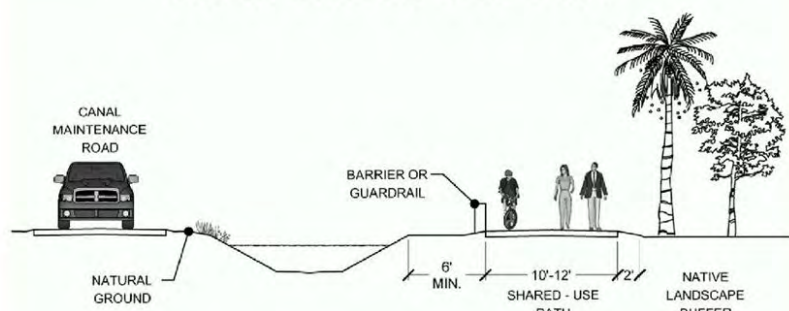
## Bicycle / Pedestrian Area of Interest Study

September 2011

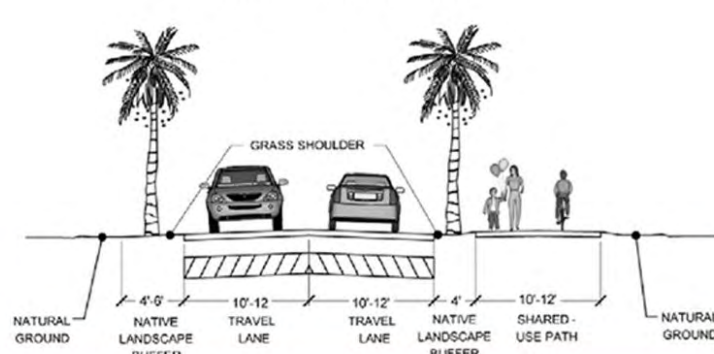




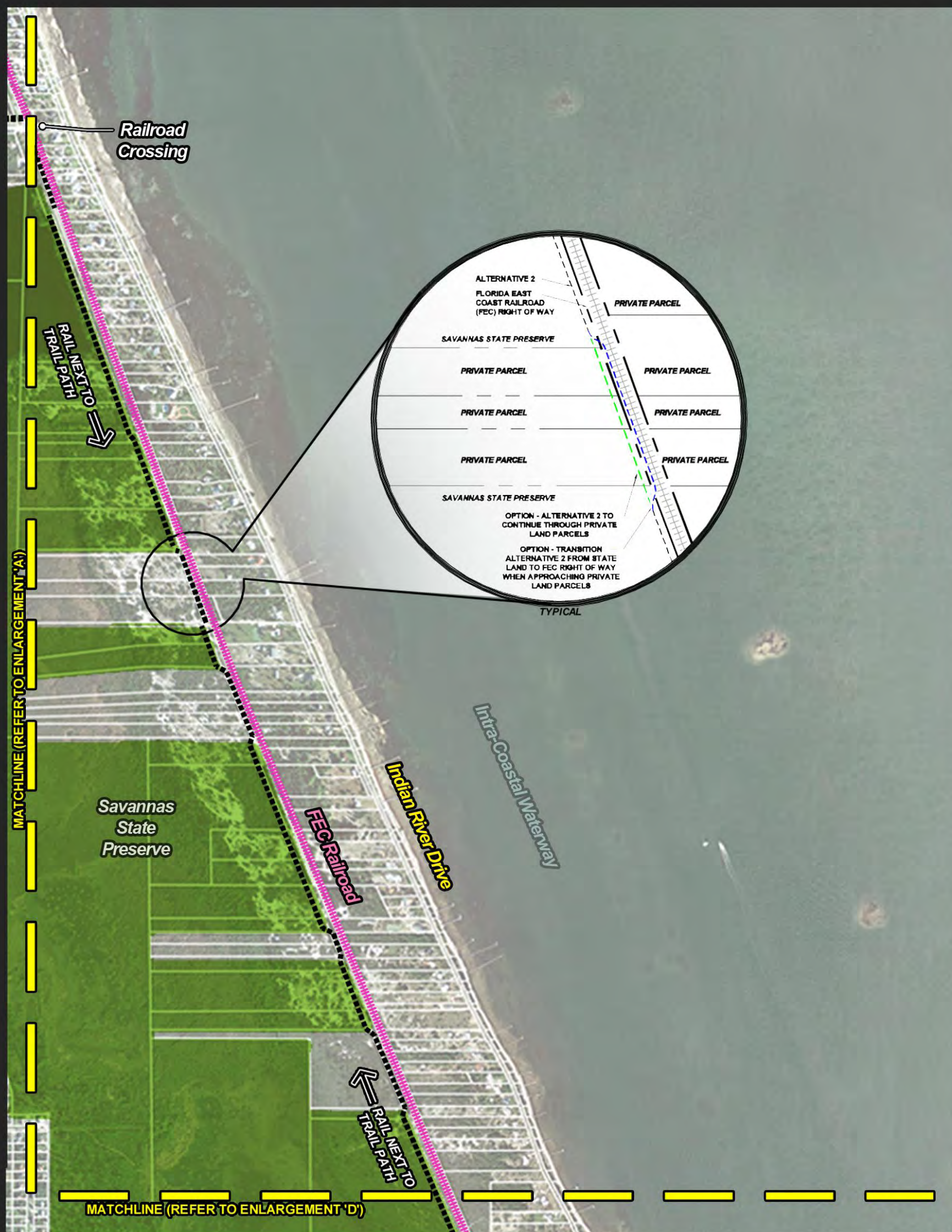
Canal Shared Use Path



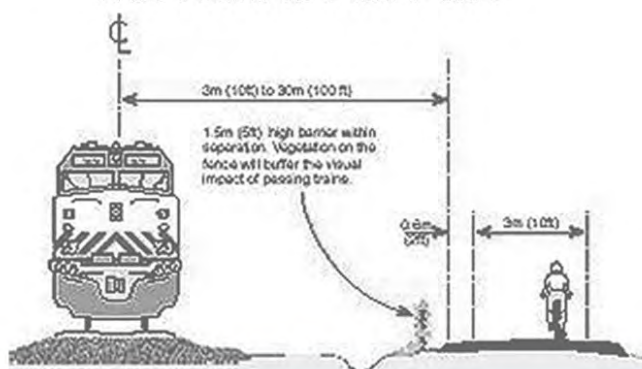
Off Road Path







### Trail Next to Rail Path



### LEGEND

- Alternative 1
- Alternative 2
- Green River Trail
- Florida East Coast Railroad
- Matchline
- Savannas State Preserve

## Bicycle / Pedestrian Area of Interest Study - Sheet Enlargement B

September 2011



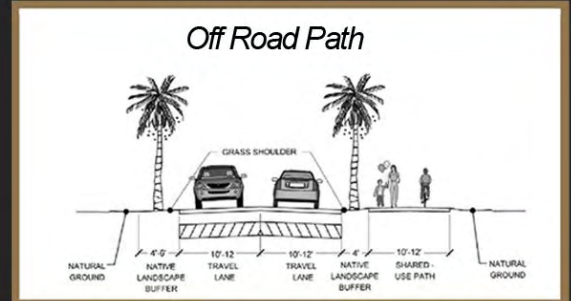
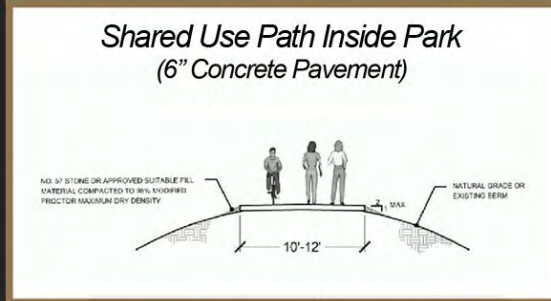
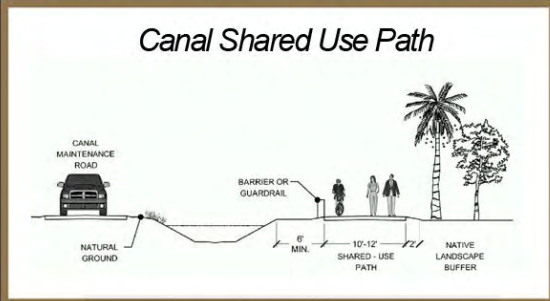
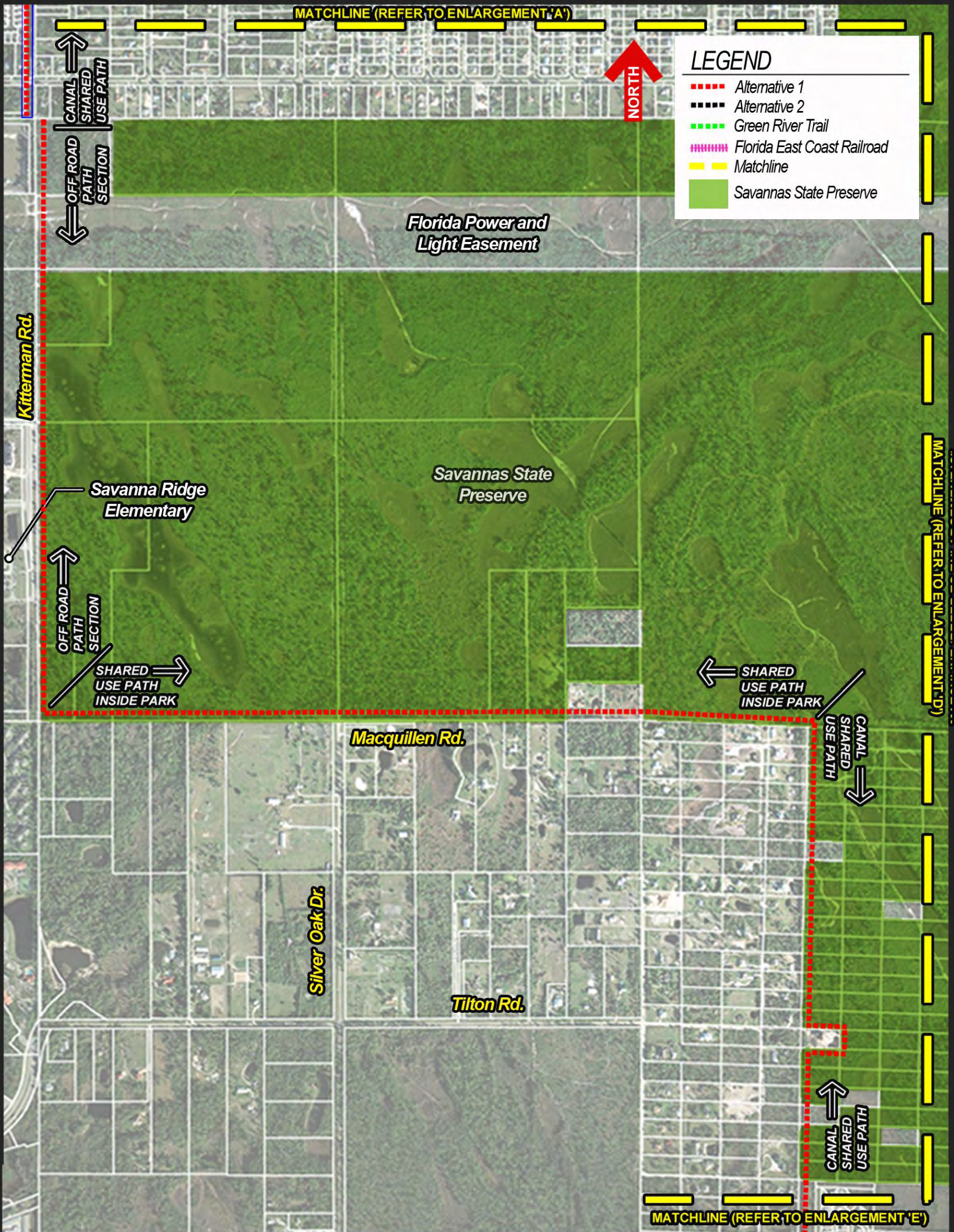
Kimley-Horn  
and Associates, Inc.



St. Lucie

Transportation  
Planning  
Organization

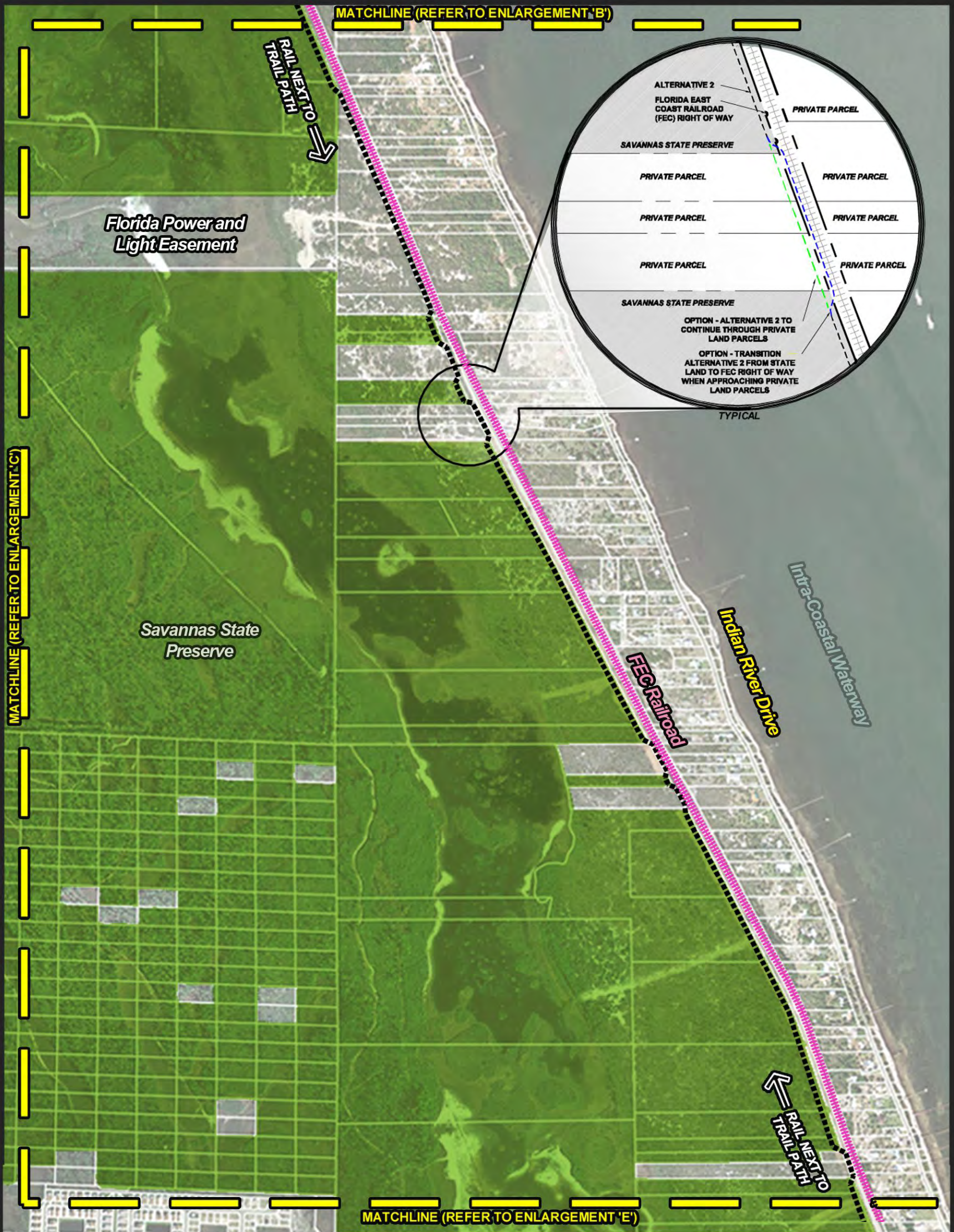




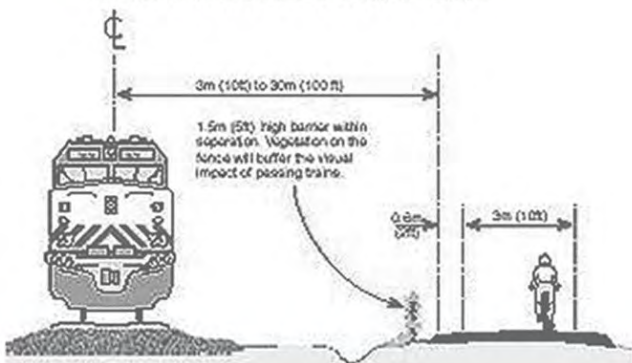
# Bicycle / Pedestrian Area of Interest Study - Sheet Enlargement C

September 2011





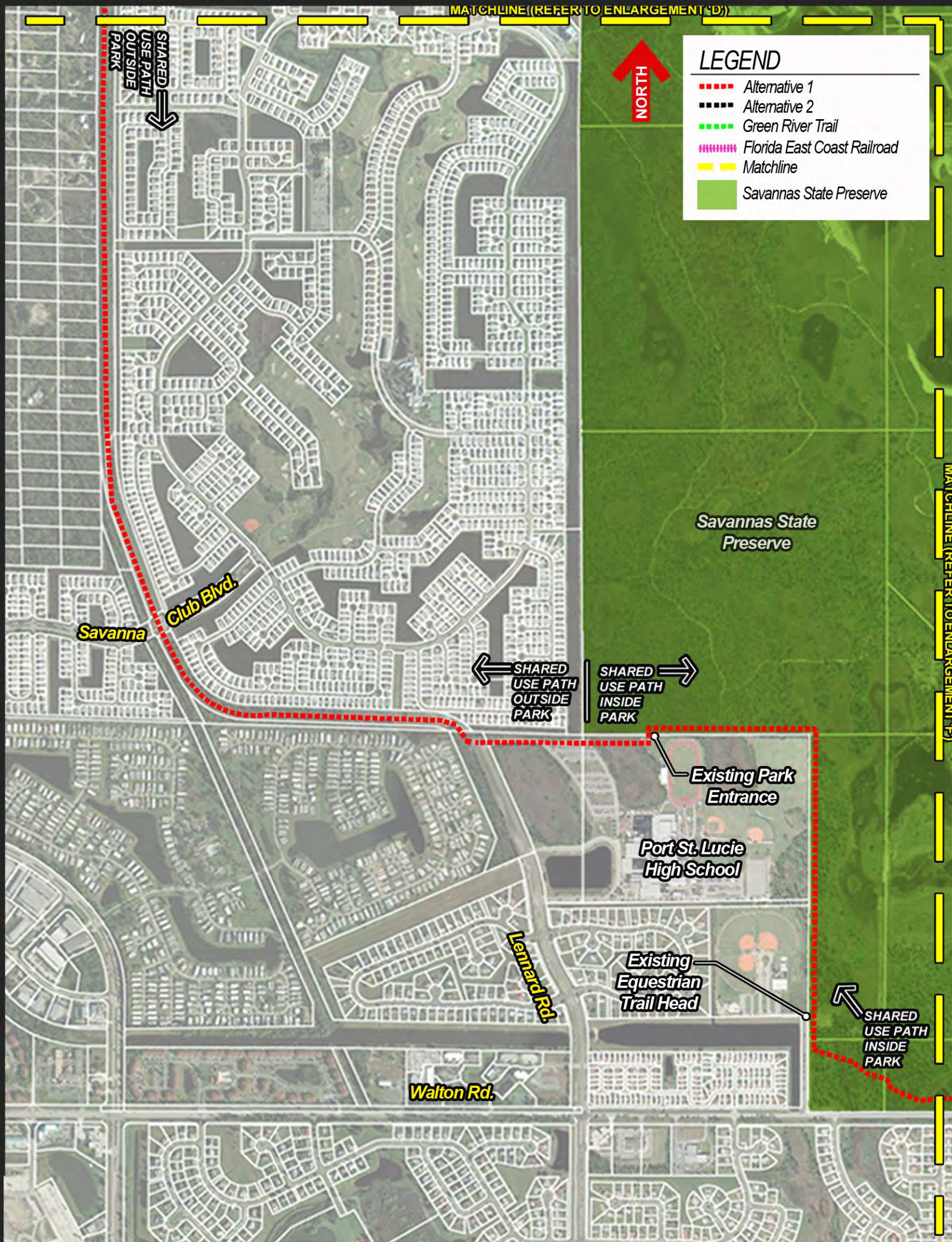
Trail Next to Rail Path



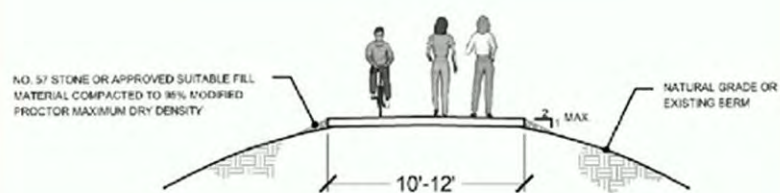
LEGEND

- Alternative 1
- Alternative 2
- Green River Trail
- Florida East Coast Railroad
- Matchline
- Savannas State Preserve

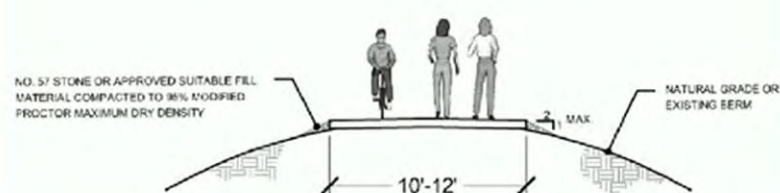




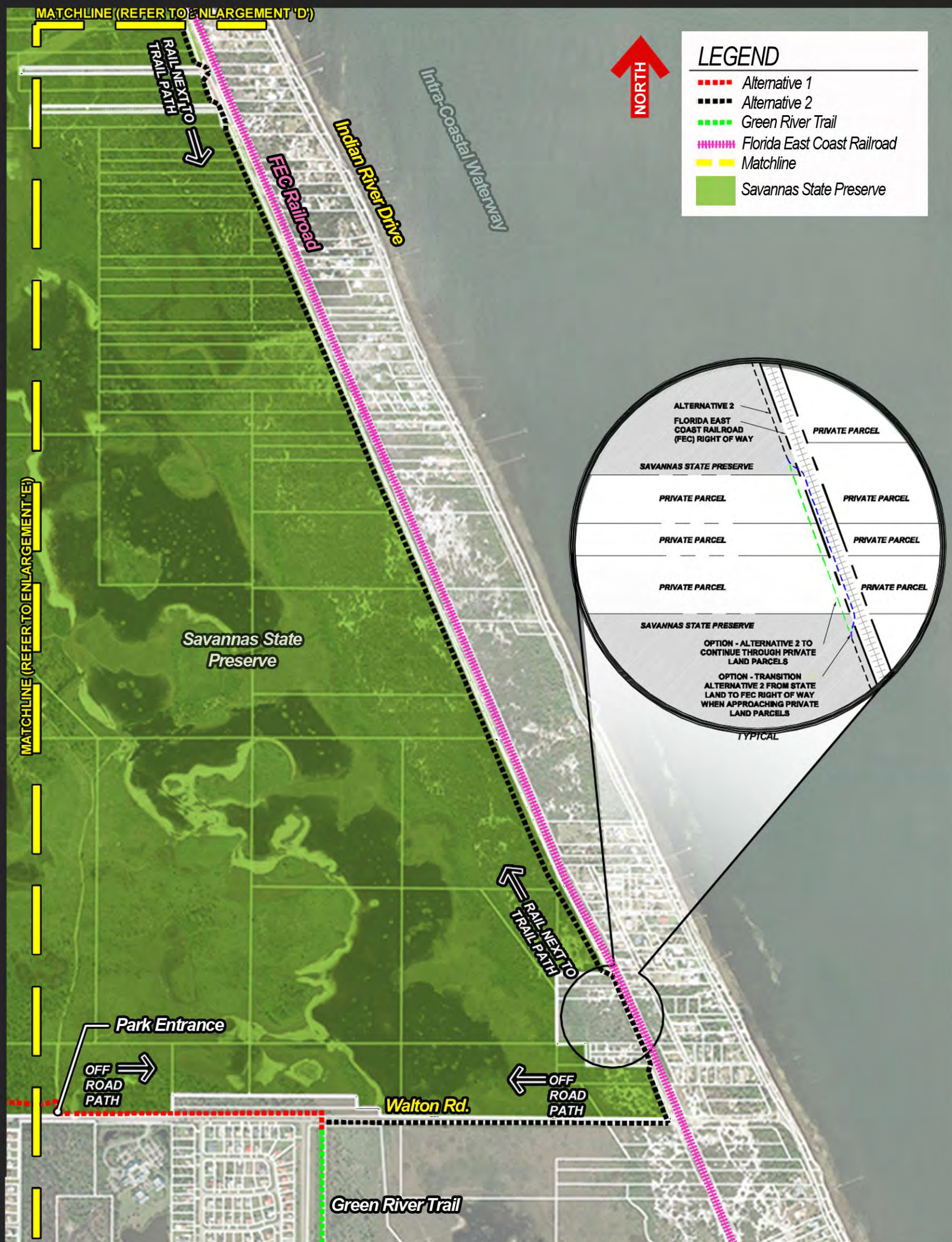
Shared Use Path Outside Park



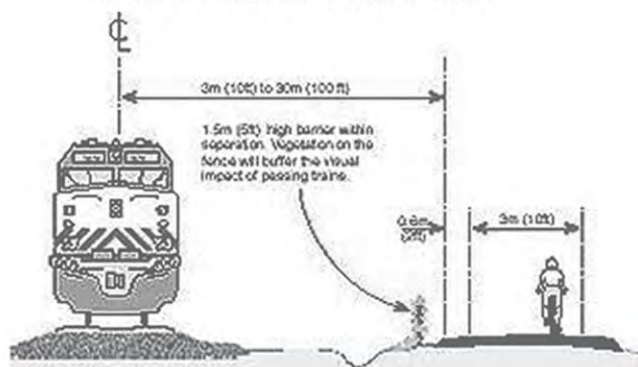
Shared Use Path Inside Park  
(6" Concrete Pavement)



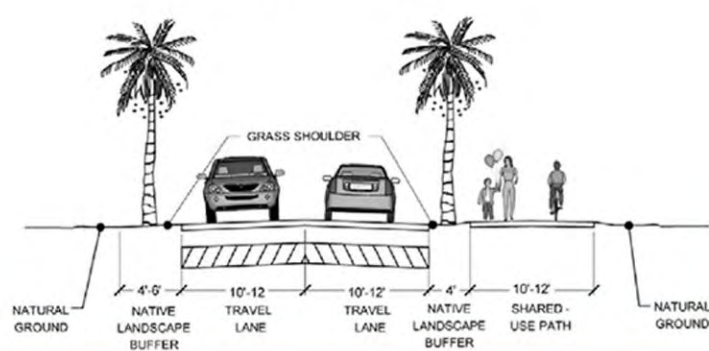




Trail Next to Rail Path



Off Road Path





# **ATTACHMENT B**

## **Preferred Alternative**



## Bicycle / Pedestrian Area of Interest Study

November 2011



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and Associates, Inc.



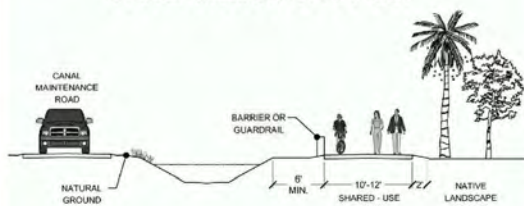
**St. Lucie**

Transportation  
Planning  
Organization

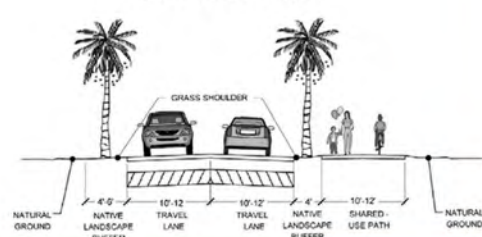




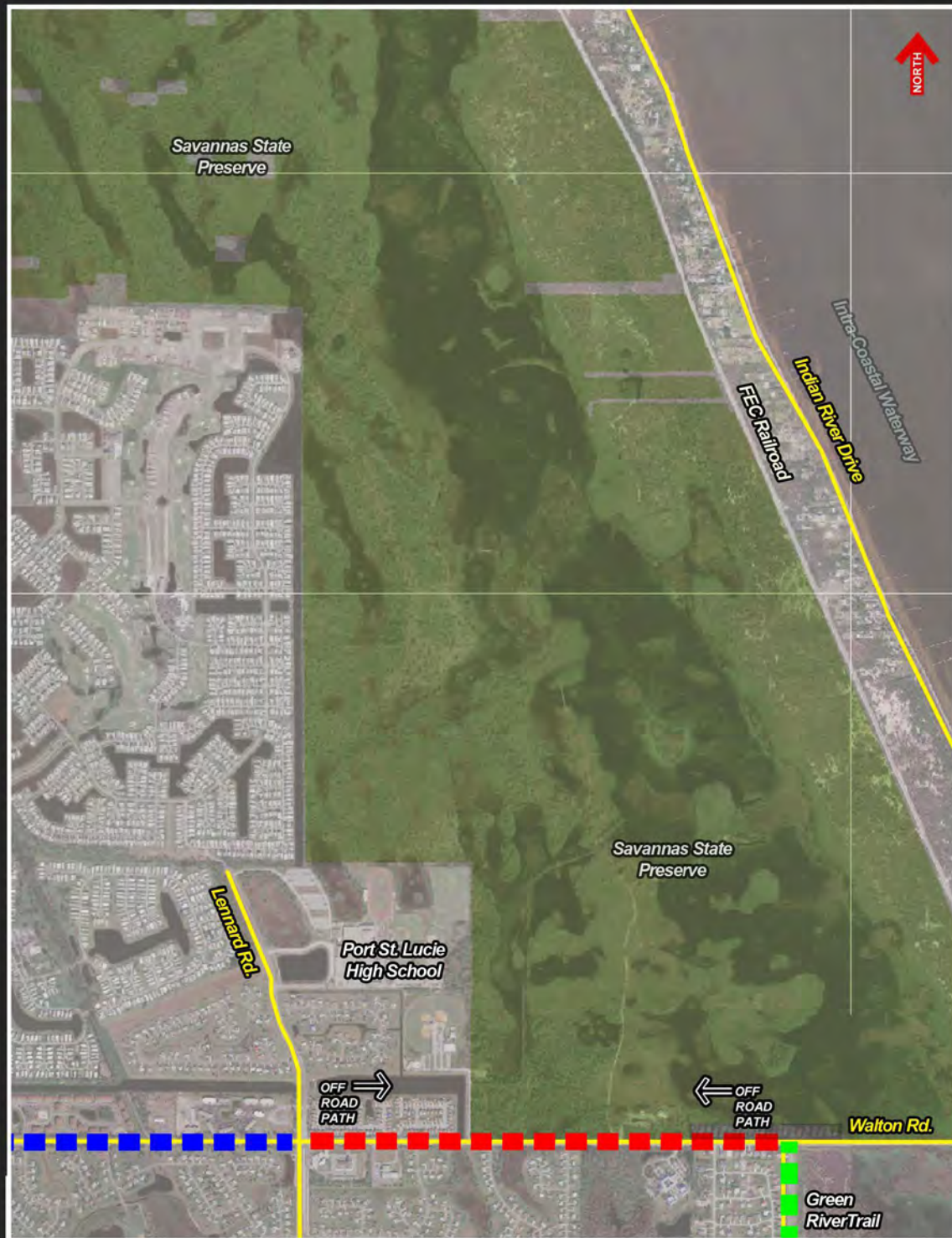
Canal Shared Use Path



Off Road Path







### LEGEND

- Proposed
- Existing
- Green River Trail
- Major Roads
- Savannas State Preserve

### Off Road Path

