



Miami-Dade Transportation Planning Organization

General Planning Consultant Services

Work Order #GPC VI-39:
Public Easement Bicycle/Pedestrian Network Plan

Prepared for:



Prepared By:



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Executive Summary

Planning Study Objective

The objective of the Public Easement Bicycle/Pedestrian Network Plan is to study the feasibility of integrating various public easements located throughout Miami-Dade County to improve the network of interconnected bicycle lanes to enhance mobility options. Bicycle/pedestrian facilities have been planned in the County for many years, including the comprehensive 1998 North Dade Greenways Master Plan, which initiated many of the current efforts in the County.

This Executive Summary presents the planning study results that identifies public easements throughout the County for connecting the existing and planned bicycle network. Primary public easements identified include those by Florida Power and Light (FPL), South Florida Water Management District (SFWMD), and Miami-Dade County. This study included coordination with these entities as well as local municipalities throughout the County. The study established potential routes for multi-use paths that incorporated the use of these public easements in addition to easements of existing roadway facilities.

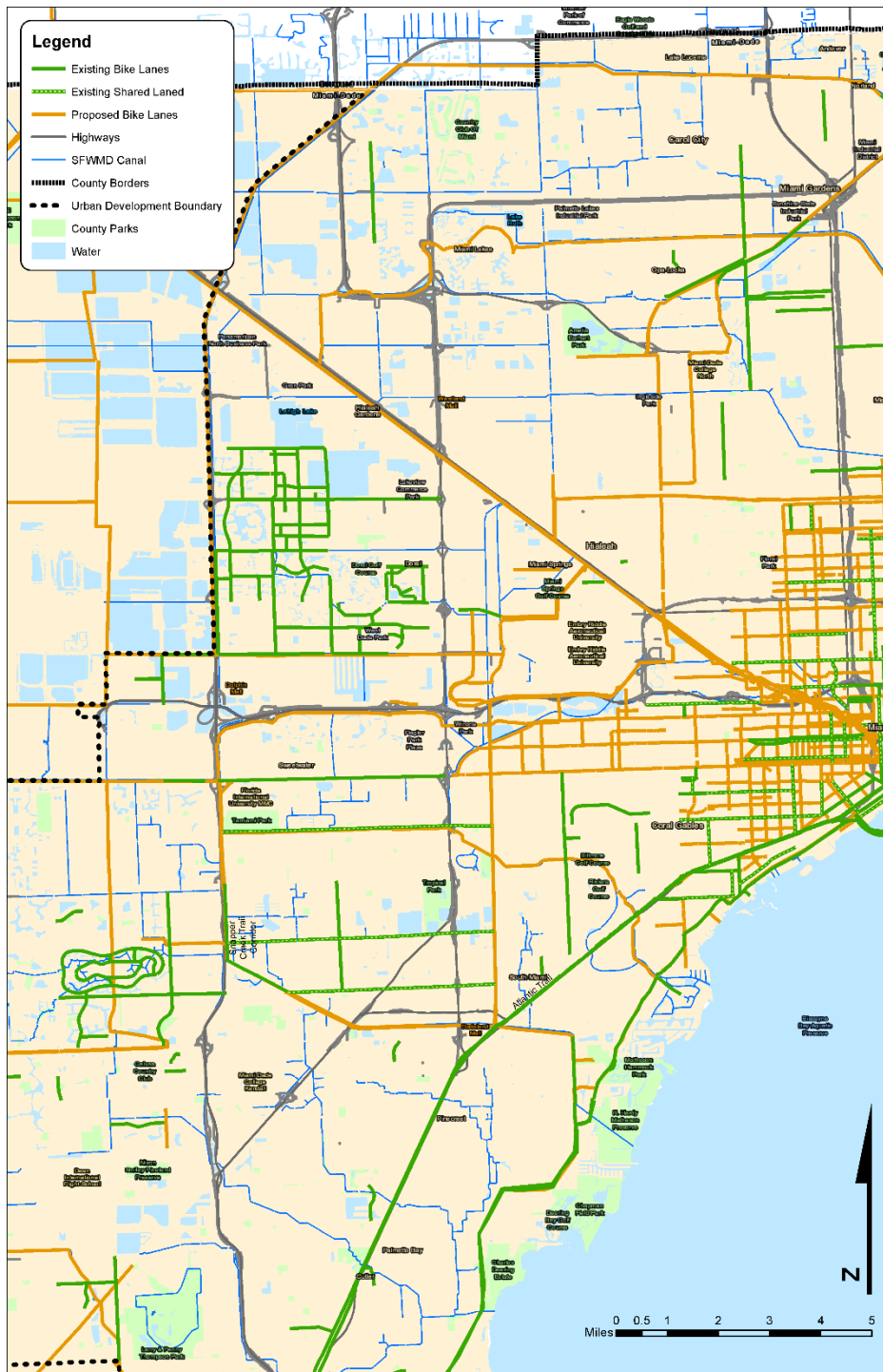
Background and Opportunities

Although the existing bicycle/pedestrian network throughout the County is underrepresented in the transportation network, various studies and efforts have occurred in recent years to provide multi-use path opportunities across the County. Examples of these efforts include the Miami Loop, Florida Shared-Use Nonmotorized (SUN) Trail, North Dade Greenways Master Plan, and recent linear parks coordinated between Miami-Dade County and Florida Power and Light.

Our Study Advisory Committee (SAC) provided important input to help guide the study to identify the trail gaps and the community needs throughout Miami-Dade County. Members of the SAC in addition to Mr. Camejo and Mr. Heinicke included:

- Oscar Camejo – Miami-Dade Transportation Planning Organization (TPO)
- Mark Heinicke – Miami-Dade County Parks, Recreation, and Open Spaces (PROS)
- Elizabeth Stacey – Florida Department of Transportation (FDOT)
- Sue Kawalerski – Everglades Bicycle Club
- Hank Sanchez-Resnick – Everglades Bicycle Club
- Armando Vila – South Florida Water Management District
- Yanek Fernandez – Miami-Dade County
- Mayra Diaz – Miami-Dade Expressway Authority (MDX)
- Rick Johnson – MDX
- Christine Small – Florida Department of Environmental Protection

The SAC discussed early in the process that the southern portion of Miami-Dade County consisted of an adequately planned system of multi-use facilities, but gaps existed in the central and northern portions of the County. These areas of the County are where the greatest employment and residential centers exist; therefore, extra attention was given for development of potential multi-use facilities within the existing public easements throughout this area. The figure below shows the existing and planned bicycle network in Miami-Dade County. Green represents the existing network and the orange represents the planned network.



The study team identified 11 potential opportunities in the County where public easements could be utilized to enhance the network of planned and existing bicycle/pedestrian facilities. Although some of these corridors utilize the existing right-of-way within roadways, most them attempt to partially or fully utilize public easements of FPL, SFWMD, or Miami-Dade County. These potential options are further explored in the report.

Part of the study was to be fully aware of the requirements of FPL or SFWMD to utilize their easements for a public multi-use path. Recent agreements between Miami-Dade County and FPL and coordination with the entities provided guidance for those requirements. One of the main study challenges was that many corridors where a public easement trail would be most valuable, the easements were encroached upon or owned by private parties. For the SFWMD easements, many residential properties extend to canals, which would make many of these easements cost prohibitive and likely to meet public opposition during the Project Development and Environment (PD&E) process. Regarding the FPL easements, most of FPL's transmission easements are located on private property, particularly in urban areas where the most need for transportation options exist. The study team considered areas where FPL owned portions of the right-of-way as part of the evaluation matrix.

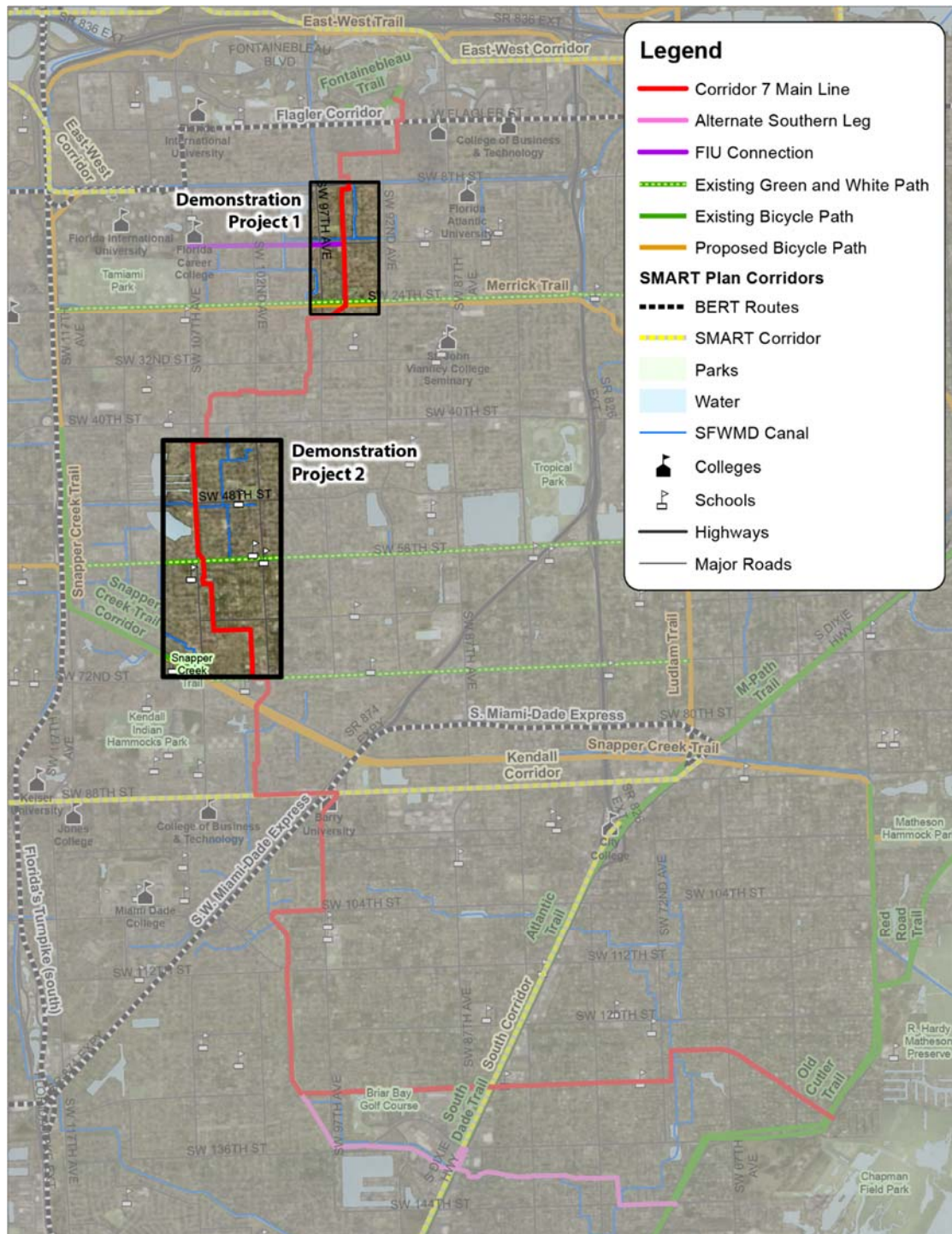
Preferred Corridor

The study team prepared an evaluation matrix for the purposes of selecting one option/corridor to move forward with as a demonstration project. Factors considered include regional importance, connectivity to centers of population/employment, access to transit, connectivity of planned bicycle/pedestrian network, etc. Evaluation results identify Option 7 as the best option for further development and more detailed analysis. Option 7 is a potential 14-mile multi-use path that connects the Fontainebleau community to The Falls and Old Cutler Trail. Option 7 also provides accessibility to major employment/population centers and includes the major hubs of Fontainebleau, Florida International University (FIU), Dadeland, and The Falls. This option provides a multimodal connection to several major transit routes and SMART Plan Corridors such as the East-West Corridor, Flagler Corridor, Kendall Corridor, and the South Dade Transitway.

Within this 14-mile potential trail, there are portions that are primarily owned by FPL, with privately owned pockets throughout. These areas where the easements are on privately owned property would likely require a PD&E study to conduct public involvement and may result in eminent domain.

Two sections of Option 7 where FPL owns the easement and property were identified for sections of the trail that could be quickly developed with agreements between Miami-Dade County and FPL. The first section is between SW 8th Street and SW 97th Avenue (just south of SW 24th Street), approximately 1.2 miles. This option also has the potential to connect to SW 16th Street, which would provide access to FIU.

The second section that is available for a fast-paced demonstration project would be the 2.4-mile section of easement between SW 41st Street and SW 70th Street. This route provides an additional north-south connection within major residential developments such as Olympia Heights, Westwood Lake, and Sunset. This route also provides connection with the planned Snapper Creek Trail to encompass a more connected trail system providing mobility options throughout the region.



Introduction

Per a 2017 census report, Miami-Dade County had a population of approximately 2.8 million making it the most populous county in Florida. Additionally, it is Florida's third-largest county in terms of land area, with 1,946 square miles. Within the county is a vast system of natural and man-made linear corridors. These corridors are preferred locations for non-motorized facilities such as multi-use paths for bicyclists and pedestrians. The most common linear corridors in South Florida are waterways, railroad corridors, highways, and utility corridors. Although challenging, and while some concerns need to be actively mitigated, coupling utility service lines or canals with trails that provide recreation and transportation opportunities for the public is often consistent with the needs of recreational planning departments.

Transmission right-of-way (ROW) **Figure 1** offers a unique opportunity to provide public spaces that can be much easier to obtain than the reclamation of urban spaces for public use. As more and more people flock to South Florida, sprawl, traffic congestion, pollution, isolated neighborhoods, and overstressed public infrastructure have occurred. Trails do not always make a top priority during municipal budgeting and planning, they are something that most people agree that there should be more of. Since urban real estate is an extremely valuable commodity in South Florida, converting these urbanized lands to trails will be a challenge, but these options would be valuable and should not be discounted. However, there is a need for increased mobility options in South Florida and utility easements offer one major solution to this problem. Transmission line ROW, for example, offers a solution and there are various examples of public walking and biking trails that follow transmission ROW.



Figure 1: Example of FPL Transmission Easement in Miami-Dade County

Property ownership and agreements can get complex, but depending on who owns the property, the cost and difficulty of obtaining permission for public use could increase exponentially. Florida Power and Light (FPL), for example, does not own the land for most their transmission lines. Other issues to navigate are liability and vandalism, but in most situations, these issues should not be a barrier to a successful trail project. Typically, partnerships with multiple entities are critical to the success of a trail project along a public easement and these partnerships can be beneficial in many ways. Not only does a municipality receive a wonderful addition to its trail system, if the municipality maintains the trail it could reduce maintenance costs for the easement owner. Similar trails have also shown to be an economic boost for the area. All parties should be open to this opportunity and the benefits that it can bring to everyone in the community.

The objective of the Public Easement Bicycle/Pedestrian Network Plan was to study the feasibility of integrating these various public easements located throughout Miami-Dade County for enhancing the network of interconnected bicycle lanes to enhance mobility options.

Prime examples of linear trails in South Florida (many of which are included in **Figure 2**) include The South Dade Greenways Network Master Plan and the North Dade Greenways Network Plan, Biscayne-Everglades Greenway, and the Turnpike Trail in Doral, the Miami-River Greenway, the Atlantic Trail, the Snake Creek Trail and the M-Path/future Underline.

The benefits of urban trails are becoming clearer as more and more of these systems come online across the United States. Per Miami-Dade County Benefits of Trails brochure¹, on average, for each mile of an urban trail developed in the County, the surrounding community can experience:

- Enhanced accessibility to schools, parks, transit stations and bus stops for approximately 5,000 people
- Reduction in direct medical costs for residents by as much as \$365,000 annually
- Reduction in motorized vehicle trips each year
- Decreased carbon monoxide emissions by 63 tons annually through fewer vehicle trips
- Saving approximately 6,000 gallons of fuel from being consumed annually per mile of trail
- \$27 million in pollution control savings from new tree canopies
- Increased property values by as much as \$45 million within twenty-five years, leading to nearly \$1 million in additional property tax revenues
- Increase retail sales of as much as \$1.3 million for area businesses
- Additional state and local retail sales tax revenue of approximately \$90,000 annually
- The creation of approximately 11 new retail jobs

Background Research and Data Gathering

The study team began the process by obtaining bicycle and pedestrian files from the local municipalities, when available. This aided in the preparation of the inventory of existing and planned trail facilities in South Florida. From this data, a comprehensive geographic information systems (GIS) map was prepared and this was used as the basis for analysis of the Miami-Dade bicycle/pedestrian network plan.

The existing bicycle/pedestrian network (**Figure 2**) is currently not significant, which creates an issue for people wishing to commute to population and employment centers, transit hubs and the Strategic

¹ United States EPA, United States Energy Information Administration, University of Indiana Eppley Institute of Parks and Public Lands, and Miami-Dade County Health Department

Miami Area Rapid Transit (SMART) Plan corridors, and public facilities such as schools, libraries, and parks via bicycles/walking. In 2015, the Washington Post created a map of every bike lane in various major American cities. Miami fared poorly in this exercise and the published map demonstrated the need for a better system across the county.

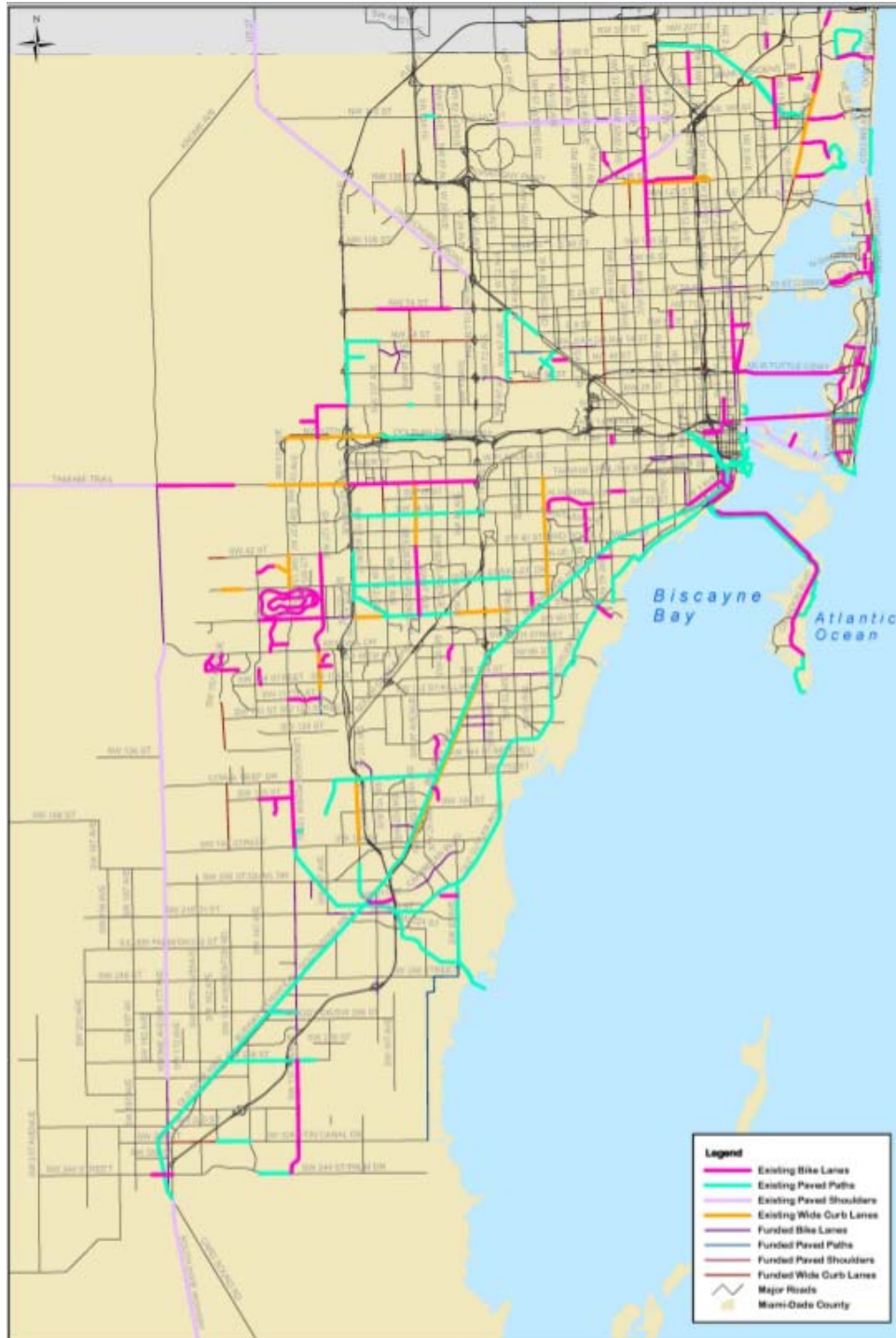


Figure 2: Existing Bicycle/Pedestrian Network (Source: Miami-Dade TPO)

The cost feasible bicycle network plan (**Figure 3**) for Miami-Dade County, however, is more extensive and much of the analysis for this study began with this plan. This Miami-Dade 2040 Bicycle/Pedestrian Plan includes various priorities based on when the system is planned to be funded for construction.



Figure 3: 2040 Bicycle/Pedestrian Cost Feasible Plan (Source: Miami-Dade TPO)

Another example of planning for the bicycle system in Miami-Dade County was the North Dade Greenways Master Plan (**Figure 4**) that was completed in 1998 by the Miami-Dade TPO.



Figure 4: North Dade Greenways Master Plan

Viewed as natural linear corridors, greenways are most commonly defined by the edges of canals and lakes, abandoned rail alignments, and utility corridors. Greenways in southern Miami-Dade County pass through thousands of acres of diverse rural and relatively undeveloped settings that are conducive to greenway development. The heavily urbanized area of north Miami-Dade, however, presents more challenges for the utilization of use of public easements. It is in these central and northern areas of the County where there is the most need for mobility and transportation options between areas of employment/residences. An example of one such difficulty in the central region is the identified East-West Trail, which would run parallel to the SR 836 facility. A 1995 multi-modal corridor study for this area identified the potential for the East-West Trail, but this study never moved forward. It is currently being studied again and it is unclear now whether bicycle lanes/accommodations will be provided.

The Office of Greenways and Trails (OGT) also has a Statewide 2018-2022 Overall Priority Trails Map. Included in this is Miami-Dade County (**Figure 5**). This trail network also provided a reference to identify the gaps necessary for travel into the area's most populated regions, which have the need for more mobility options.

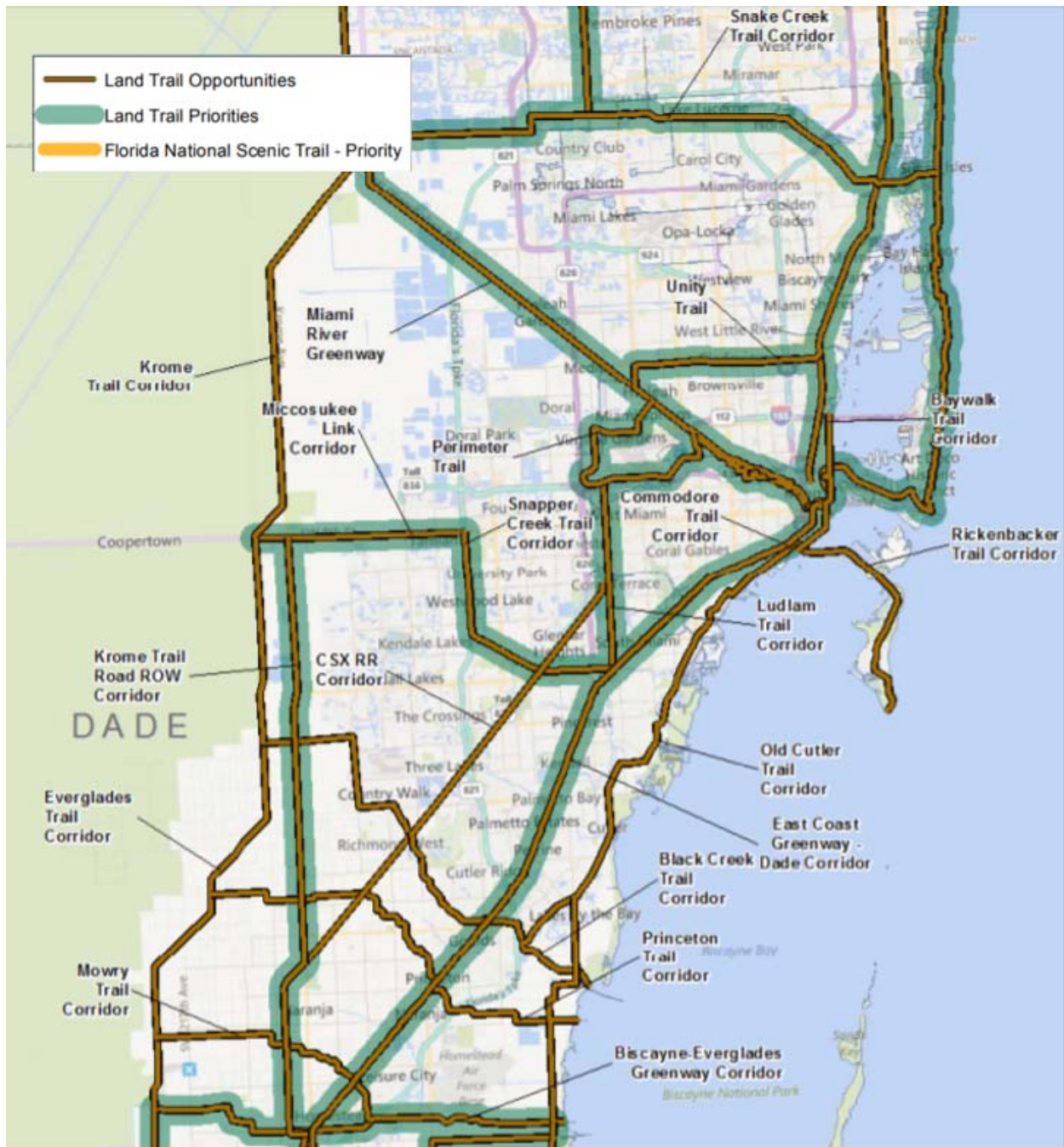


Figure 5: Office of Greenways and Trail Priority Trails Map 2018-2022

Existing Trail Design Standards

Current design standards for non-motorized facilities were also reviewed during this data gathering stage. For example, the OGT provides statewide leadership and coordination to establish, expand, and promote non-motorized trails pursuant to the Florida Greenways and Trails Act (Chapter 260, Florida Statutes). Their recently developed Trail Design Standards (**Figure 6**) include guidance on rural, suburban, and urban trails. Because of the developed nature of Miami-Dade County and the objective of the study to provide mobility to/from employment/residential centers, the urban standards may apply to many of the constrained corridors within the County. The standards include:

- Suburban Trails
 - Trail width between 10 feet and 14 feet
 - Corridors are typically associated with adjacent road ROW, utility corridors, and defunct railroad lines
- Urban Trails
 - Minimum width of eight (8) feet
 - Corridors are typically associated with linear public spaces and park facilities, which can be designed with pedestrian or bicycle as focus



Figure 6: Office of Greenways and Trail Multi-Use Trail Design Standards

The 2016 Florida Greenbook, Chapter 9 also has guidance on bicycle facilities for various on-street (**Figure 7**) and off-street facilities. The manual suggests that the minimum paved width for a two-way path is 10 feet. Wider values of 14 feet are applicable to areas with high use or a wider variety of users or that are also used by maintenance vehicles. Paths of eight (8) feet may be used for a short distance due to a physical constraint such as an environmental feature, bridge abutment, utility structure, or fence.

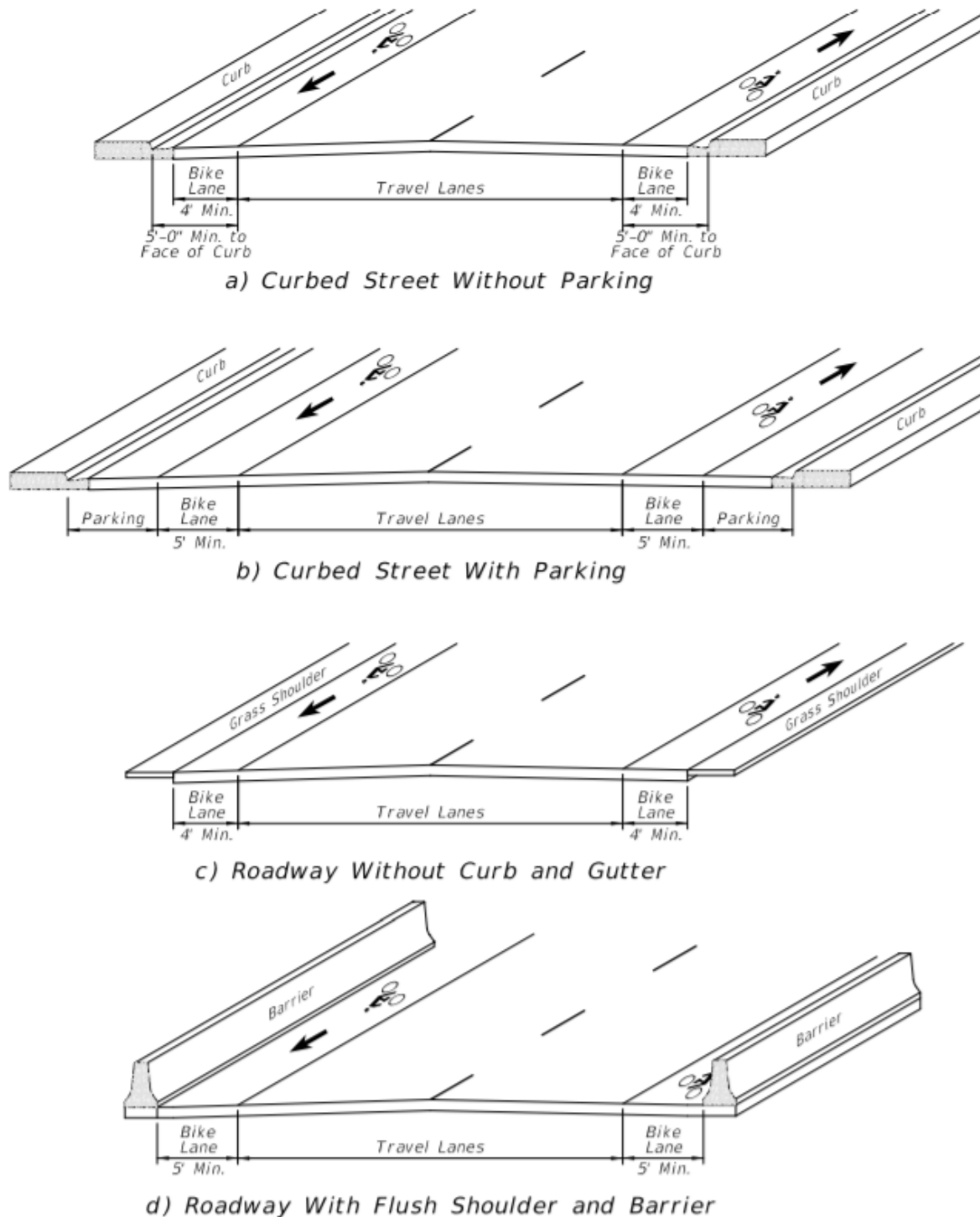


Figure 7: Florida Greenbook Minimum Widths for On-Street Bicycle Lanes

Another bicycle design reference manual is the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities. Per the manual, a bicyclist's preferred operating width is five (5) feet. For design of on road bicycle facilities (**Figure 8**) in areas with high bicycle use and without on-street parking, a bicycle lane width of 6-8 feet makes it possible for bicyclists to ride side-by-side or pass each other without leaving the lane.

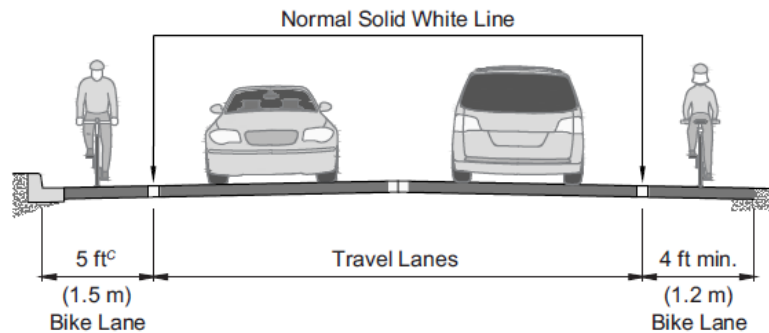


Figure 8: AASHTO Guide for the Development of Bicycle Facilities - On Road Bicycle Lanes

- Per the AASHTO manual, the appropriate paved width for a shared use path is dependent on the context, volume, and mix of users. The minimum paved width for a two-directional shared use path is 10 feet and typical widths range between 10-14 feet. The wider values are applicable to areas with high use and/or a wider variety of user groups. Eight feet may be used if horizontal alignments provide frequent, well designed passing and resting opportunities. Widths of eight (8) feet may also be used for a short distance due to physical constraints such as bridge abutments, utility structures, and fences. (**Figure 9**).

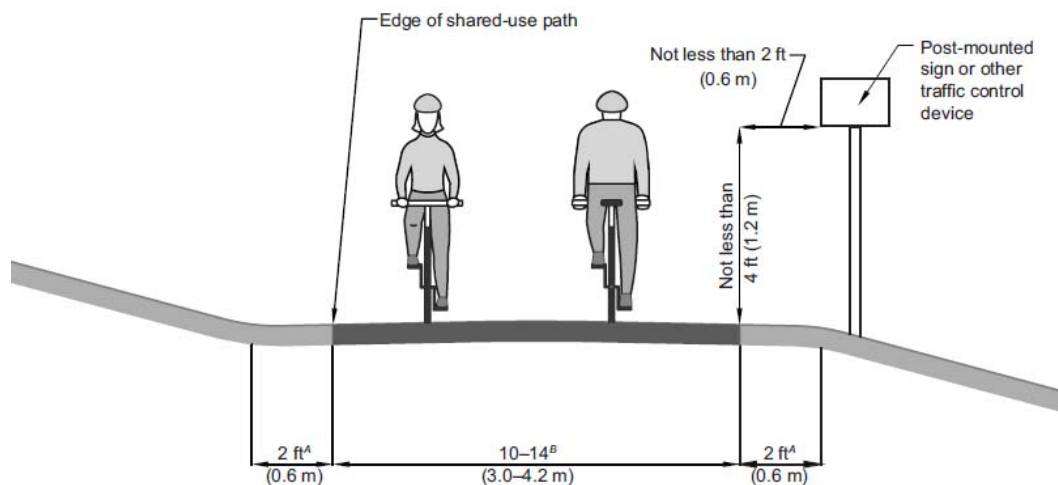


Figure 9: AASHTO Guide for the Development of Bicycle Facilities - Off Road Facilities

Purpose and Use of Public Easements

Based upon the GIS analysis and data collected from the TPO and municipalities throughout the County, the most prevalent public easements are those of the South Florida Water Management District (SFWMD), FPL, and Miami-Dade Water and Sewer.

The SFWMD operates and maintains the regional water management system known as the Central and Southern Florida Project, which was authorized by Congress more than 60 years ago to protect residents and businesses from floods and droughts. This primary system of canals and natural waterways connects to community drainage districts and hundreds of smaller neighborhood systems to effectively manage floodwaters during heavy rain.

Because of this interconnected drainage system, flood control in South Florida is a shared responsibility between the District, county and city governments, local drainage districts, homeowner's associations and residents.

The South Florida Water Management District works to protect and preserve the Everglades and Miami-Dade County's coastal system, which are vital parts of the South Florida ecosystem. Restoration projects are underway to protect the Everglades and the SFWMD is working closely with federal, state and local partners to achieve restoration goals.

Regarding the use of SFWMD land to allow for multi-use trail facilities, the SFWMD ROW criteria manual states that it is the policy of the SFWMD to allow adjacent owners, governmental entities and utilities to utilize Works and Lands of the District if the use does not adversely impact or interfere with the District's ability to utilize these lands in any manner it sees fit in furtherance of the District's missions. Chapter 40E-6.01 applies directly to the fees required should someone want to use the SFWMD property.

Some of the requirements for linear parks and greenways to consider are:

- The permit application fee for a linear park is \$1,750.
- The trail must be at least five (5) feet away from the channel.
- Government entities should work closely with area residents to obtain support for the linear park.
- The proposed park shall not interfere with the District's operations and maintenance activities
- Government entities must acknowledge responsibility associated with landscape maintenance, fallen trees that may impact the District's flood control mission, and the removal of landscaping when requested to do so.
- No permanent structures within 40 feet of top of bank.

FPL transmission easements are located throughout Miami-Dade County. Most the FPL transmission lines are along easements and FPL does not own the property. If an entity wishes to use an FPL easement, there is a ROW consent process (**Figure 10**) that needs to be followed. Although FPL has many easements throughout the County, most of the easements are on property not owned by FPL; therefore, agreements would need to be made with FPL as well as acquisition of land from private land owners if a multi-use trail is desired on private property.

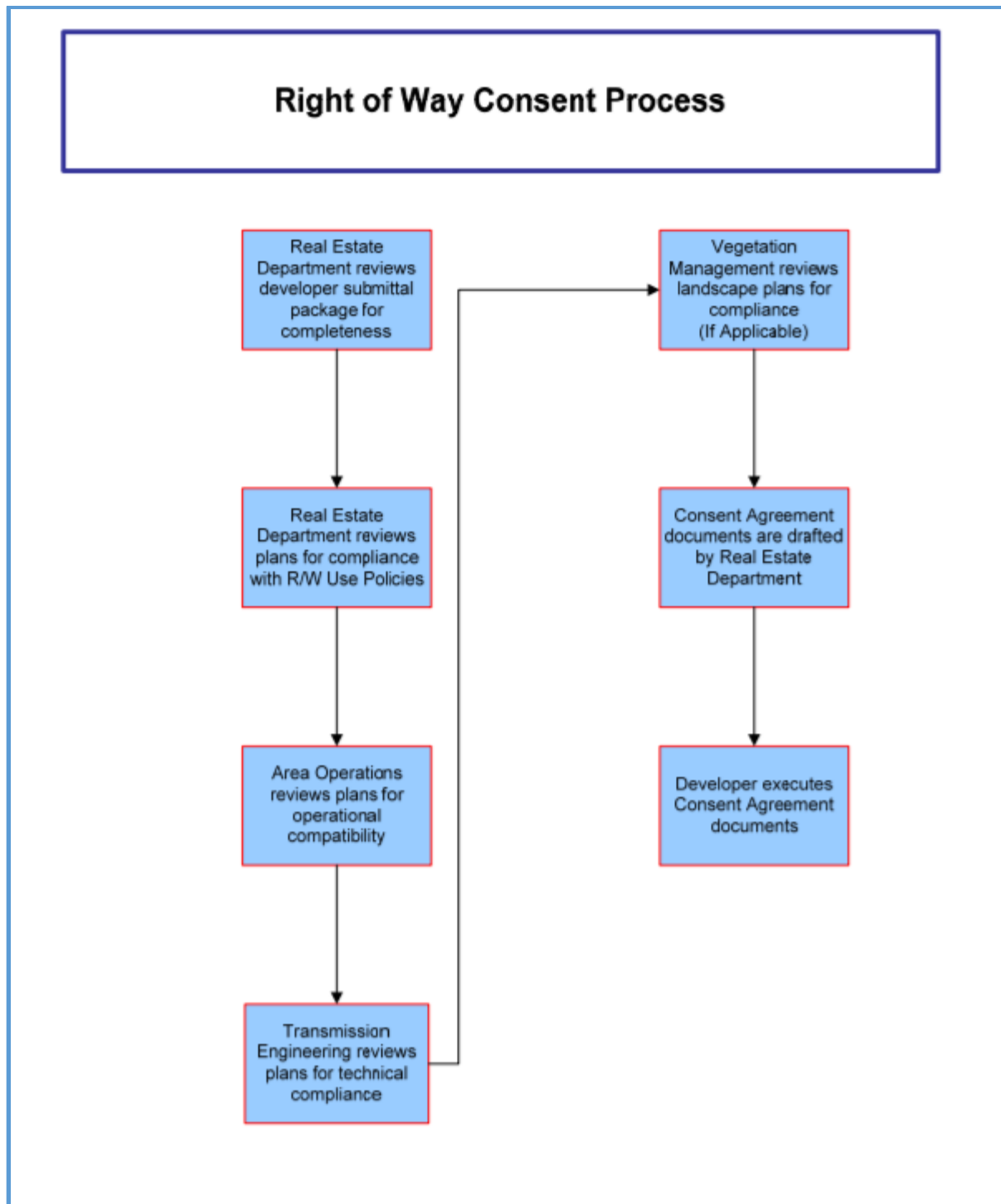


Figure 10: FPL ROW Consent Process

Funding Opportunities

Various sources exist to aid in the funding of multi-use trails. The Transportation Alternative Program funds are available from FDOT and Building Better Communities General Obligation Bond funds are the two primary sources used by PROS, but SUN Trail funding is also available and discussed below.

Florida State Statutes

From the Florida Department of Transportation's website, The Florida Shared-Use Nonmotorized (SUN) Trail Program was created pursuant to [Section 339.81, Florida Statutes](#) (F.S.) in 2015. Section [335.065, F.S.](#), bicycle and pedestrian ways along state roads and transportation facilities, authorizes FDOT to use the State Transportation Trust Fund (STTF) to develop a statewide system of nonmotorized, paved trails for bicyclists and pedestrians as a component of the Florida Greenways and Trails System (FGTS) Plan, created pursuant to [Chapter 260, F.S. Florida Greenways and Trails Act](#). (**Figure 11**)

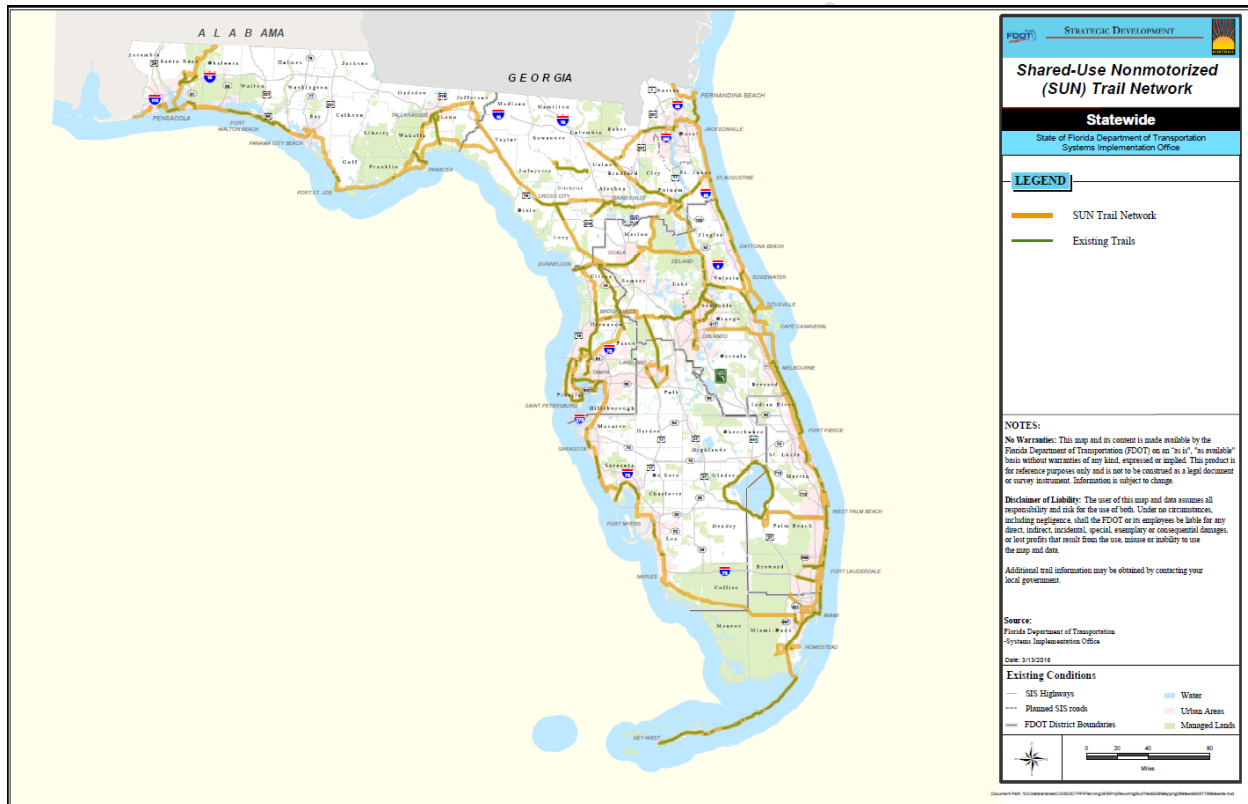


Figure 11: FDOT SUN Trail Network

Florida Statutes Chapter 335.065 1(a)²

Chapter 335.065 1(a) states that bicycle and pedestrian ways shall be given full consideration in the planning and development of transportation facilities, including the incorporation of such ways into state, regional, and local transportation plans and programs. Bicycle and pedestrian ways shall be established in conjunction with the construction, reconstruction, or other change of any state transportation facility, and special emphasis shall be given to projects in or within 1 mile of an urban area. As Miami continues to expand and develop and roads are reconstructed, it is important to take this opportunity to enhance the bicycle/pedestrian network within the County.

Florida Statutes Chapter 339.81³

Chapter 339.81 of the Florida Statutes particularly relate to the objective of this study and the issue in Miami-Dade County. Per the statute, increasing demands continue to be placed on the state's

² Florida Statutes Chapter 335.065 1(a), The Florida Senate, 2018

³ Florida Statutes Chapter 339.81, The Florida Senate, 2015

transportation system by a growing economy, continued population growth, and increasing tourism. The Legislature also finds that significant challenges to providing additional capacity to the conventional transportation system exist and will require enhanced accommodation of alternative travel modes to meet the needs of residents and visitors. The Legislature further finds that improving bicyclist and pedestrian safety for both residents and visitors remains a high priority. Therefore, the Legislature declares that the development of a nonmotorized trail network will increase mobility and recreational alternatives for Florida's residents and visitors, enhance economic prosperity, enrich quality of life, enhance safety, and reflect responsible environmental stewardship. To that end, it is the intent of the Legislature that the Department make use of its expertise in efficiently providing transportation projects to develop the Florida Shared-Use Nonmotorized Trail Network, consisting of a statewide network of nonmotorized trails which allows nonmotorized vehicles and pedestrians to access a variety of origins and destinations with limited exposure to motorized vehicles.

[The Greenways and Trails Act, Chapter 260 of the Florida Statutes⁴](#)

The Greenways and Trails Act states that it is the intent of the Legislature that designated greenways and trails be located on public lands and waterways and, subject to the written agreement of the private landowner, on private lands. Designated greenways and trails located on public lands or waterways or on private lands may or may not provide public access, as agreed by the Department or the landowner, respectively.

There are several sections of the Florida Shared-Use Nonmotorized (SUN) Trail Network in South Florida. With legislative approval and funding behind this network, it is wise to include these as part of the Miami-Dade County bicycle/pedestrian network. In **Figure 12**, the green is existing and the red are planned trails for the SUN Trail Network. As can be seen from the map, there are various SUN Trail corridors in Miami-Dade County such as along Okeechobee Road, the Miami Beach Walk, and US 1, etc.

⁴ The Greenways and Trails Act, Chapter 260, The 2013 Florida Statutes



Data Analysis / Problem Identification
Inventory of Easement Corridors

Inventory of Easement Corridors

Based off the various bicycle plans, both existing and planned,

- 3,353 acres are owned by FPL
- 2,778 acres are owned by Miami-Dade County
- 977 acres are owned by SFWMD
- 22,699 acres are owned by private entities

- Although there are several areas of wider sidewalks such as the green and white paths on SW 24th Street, SW 56th Street, and SW 72nd Street, these were not included in this initial bicycle/multi-path network.

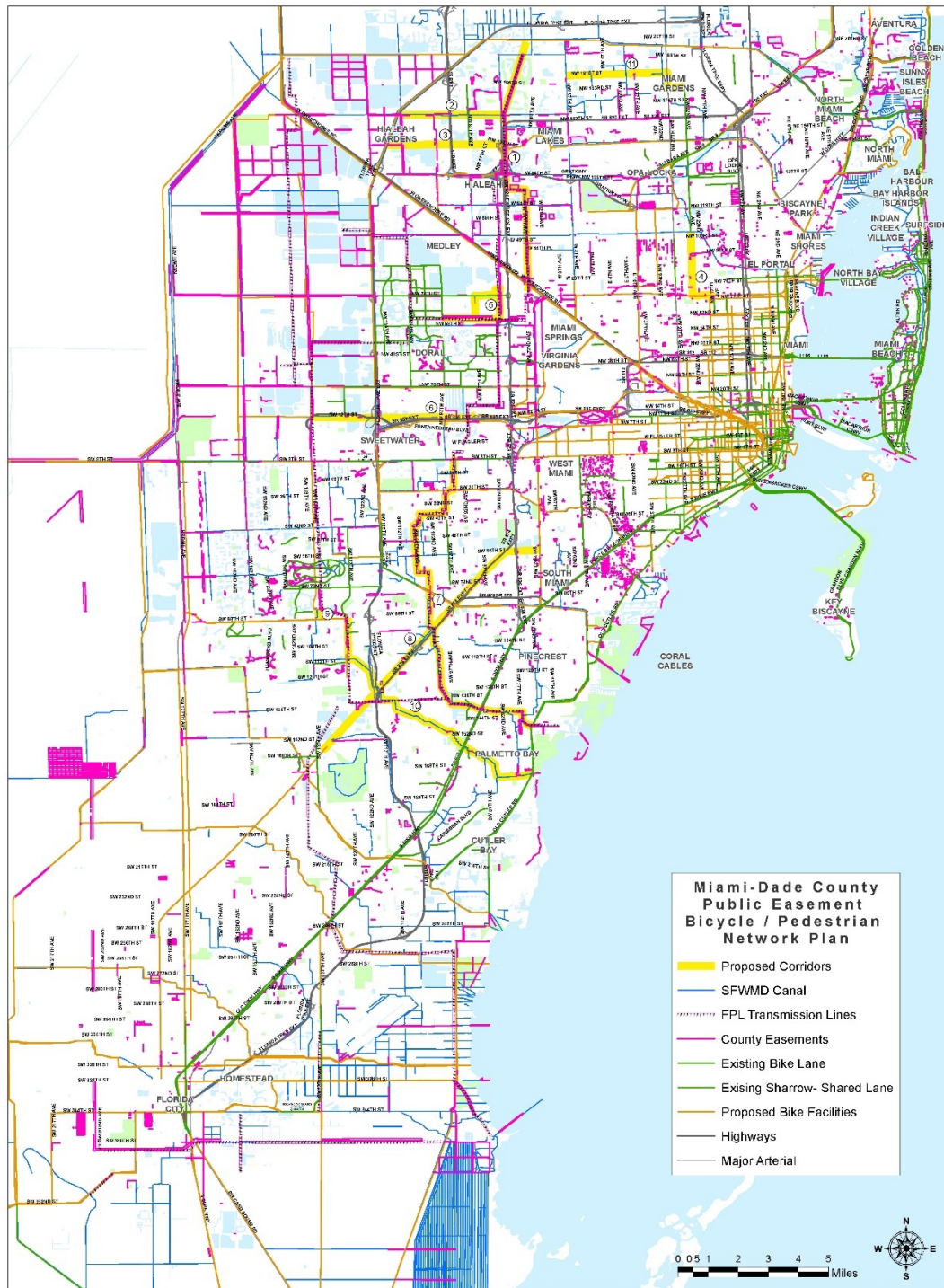


Figure 13: Public Easements Within Corridor and Proposed Multi-Use Trail Corridors

The study team identified corridors within Miami-Dade County with consideration of:

- Visible gaps in the planned bicycle/pedestrian transportation network from the various municipalities within Miami-Dade County, along with Miami-Dade County
- Available public easements within the County
- The connection of employment/residential centers

- Adequate ROW to accommodate a designated bicycle lane or multi-use path

Eleven potential corridors were identified for the purposes of this study. The 11 potential corridors are highlighted in yellow in **Figure 13**.

Option 1

Connection of the planned Snake Creek Trail to the planned Miami River Trail (Approximately 11 miles)

Option 1 (**Figure 14**) would serve as a connection between the Snake Creek Trail north of Miami Lakes, near the Broward County line, and the Miami River Trail in Hialeah. This route, approximately 11 miles in length, was evaluated in two parts – the northern section, referred to as 1A, would terminate at Miami Lakes Drive/NW 154th Street.

1A runs from the planned Snake Creek Trail to the north and would need to cross the canal at NW 202nd Avenue. The easement continues through the Country Club of Miami Golf Course, which is publicly owned land. Another canal crossing would be needed north of NW 169th Street. South of the canal the easement follows west of the Palmetto Expressway/SR 826 and could potentially use the new planned underpass at NW 160th Street by Miami Lakes.

Although Option 1 contains an FPL transmission easement, which goes south toward Okeechobee Road, most of the land south of Miami Lakes (1B) is private, except for various pockets of FPL owned or publicly owned parcels. Establishing a trail in this area would be challenging, given the fractured nature of the easements in this area.

Although the FPL easement is not viable in the southern section of Option 1, every opportunity should be taken to utilize the existing transportation network to provide for dedicated bicycle connectivity to connect with the planned SUN Trail system that would run parallel to Okeechobee Highway.

Evaluation Criteria:

- Closes gaps in the network – Ultimately provides a necessary 11-mile north-south connection across the County
- Enhances safety – An off-system path would provide safety benefits; however, as Option 1 approaches Okeechobee Road, the area becomes very industrial and may have safety issues
- Regional Importance – provides a necessary north-south connection
- Constructability – The northern portion of Option 1 (1A) is much more viable than the portion south of Miami Lakes due to development and private ownership
- Connectivity to Centers of Population/Employment – Provides connections to Miami Lakes, and Hialeah
- Potential for Public Support – Option 1A travels through the Country Club of Miami and may encounter resistance
- Accessibility to/from Adjacent Roadways – Provides access to various east-west corridors in the central and northern portions of the County
- Access to Transit – Provides access to various existing and planned transit routes
- Use of Public Easement – Public easement would likely only be able to be used in Option 1A



Figure 14: Option 1 Overview – FPL Easement

Option 2

Connection of Turnpike Trail to the northern portion of option 1, 1a (Approximately 3-4 miles)

Option 2 would utilize a SFWMD canal to connect to an existing multiuse path along the north side of the canal at NW 87th Avenue. The existing trail runs from NW 87th Avenue until NW 77th Court. Option 2 could connect with Option 1 by utilizing the same planned underpass at NW 160th Street in Miami Lakes. This trail would rely on the construction of NW 170th Street between I-75 and the HEFT. This unbuilt roadway is a funded project and is anticipated to be built as a part of the infrastructure needed to support the upcoming American Dream Mall and Graham Properties proposals to develop the parcels immediately north of Option 2.

The land surrounding Option 2 is currently vacant, much of it serving as agricultural land, including grazing fields for livestock. The significant investments into this corner of the county, however, is anticipated to transform the area. Warehouses constructed south of NW 170th Street and entertainment, residential, and commercial uses to the north would make this a higher demand corridor than the current land use suggests.

Evaluation Criteria:

- Closes gaps in the network – Provides important future connection to American Dream
- Enhances safety – Dedicated bicycle lanes along existing transportation corridor provide safety
- Regional Importance – Connection to future development
- Constructability – Existing transportation easement along with SFWMD canal provide opportunity for constructability
- Connectivity to Centers of Population/Employment – Connectivity for future centers
- Potential for Public Support – Likely to gain high public support
- Accessibility to/from Adjacent Roadways – Provides some connectivity
- Access to Transit – Access to Miami-Dade County bus network
- Use of Public Easement – Good use of SFWMD easement



Figure 15: Option 2 Overview (Use of SFWMD Canal)

Option 3

Connection of Turnpike Trail the northern portion of Option 1, 1a (Approximately 3 -4 miles)

Option 3 runs parallel to Option 2 – where Option 2 runs along NW 170th Street, Option 3 runs along NW 154th Street. The alignment takes advantage of an existing bridge constructed over I-75 to connect the undeveloped western side of the highway to Miami Lakes. Warehouses are anticipated to be built on the western side, along with already under development housing projects in the land that falls under the City of Hialeah's jurisdiction. This trail can feed into the planned Miami Lakes system along NW 154th Street, and could connect to Option 1a.

Evaluation Criteria:

- Closes gaps in the network - Provides important future connection to American Dream
- Enhances safety – Dedicated bicycle lanes along existing transportation corridor provide safety
- Regional Importance – Connection to future development
- Constructability – High constructability if planned
- Connectivity to Centers of Population/Employment – Connectivity for future development
- Potential for Public Support – Potential for public support would likely be high
- Accessibility to/from Adjacent Roadways – Average accessibility to nearby network
- Access to Transit – Miami-Dade County bus network is accessible along the corridor
- Use of Public Easement – Use of future transportation easement only

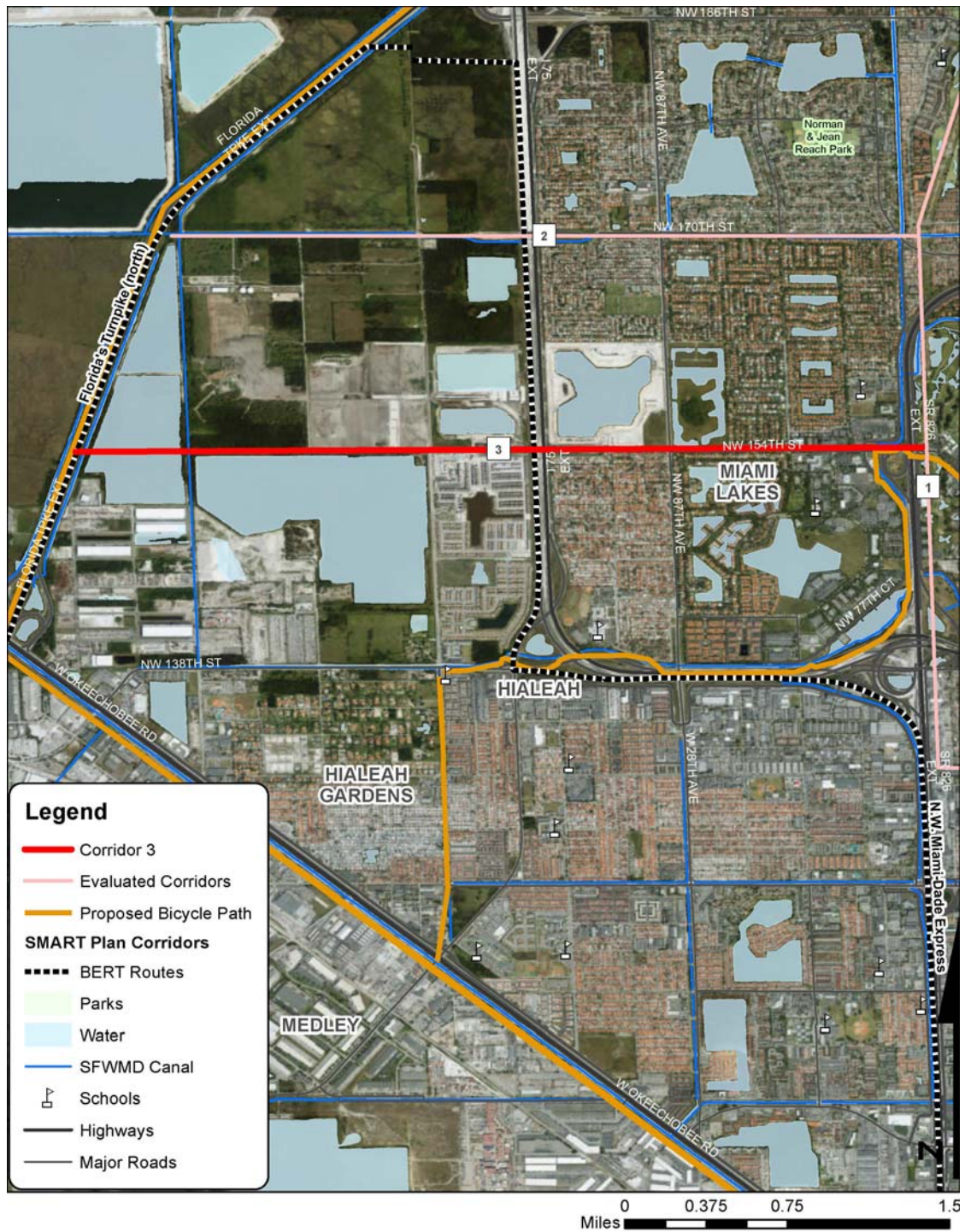


Figure 16: Option 3 Overview - Use of Planned Transportation Easement

Option 4

Connection on NW 22nd Avenue connecting gap to downtown Miami (Approximately 2 miles)

Option 4 utilizes an existing Miami-Dade County transportation easement along NW 22nd Avenue to connect the existing bicycle facilities along NW 22nd Avenue. This proposed alignment could bridge a gap between the bicycle networks in north and central Miami-Dade County.

This option does not utilize transmission easements or canal easements; however, it was identified as an alternative based on the study team's mapping analysis of existing and planned facilities and the gaps necessary to connect established bicycle lane networks in the City of Miami. A gap exists in the bicycle network between NW 107th Street to NW 71st Street.

Due to traffic volumes and roadway configuration, NW 22nd Avenue would be a more appropriate bicycle facility than the parallel NW 27th Avenue to the west. During the SAC meeting, the group discussed the potential of modifying the median in this section of NW 22nd Avenue to be able to provide designated bicycle facilities along the corridor. The County expressed interest in this approach and efforts should be made to make this connection in the future.

Evaluation Criteria:

- Closes gaps in the network – Closes a necessary gap in system along NW 22nd Avenue
- Enhances safety – If dedicated bike lanes are provided, safety will be increased
- Regional Importance – Connects regionally important area of employment and residence
- Constructability – Options exist to construct dedicated bike lanes (e.g. modify medians)
- Connectivity to Centers of Population/Employment – high connectivity
- Potential for Public Support – Likely high potential for public support
- Accessibility to/from Adjacent Roadways – Provides accessibility to network of dedicated bicycle lanes in Miami and transit system throughout corridor
- Access to Transit – Provides access to Miami-Dade bus routes throughout corridor
- Use of Public Easement – Public easement would consist of maximizing space of existing transportation easement



Figure 17: Option 5 Overview - Existing Transportation Easement for Connection of Gap in Network

Option 5

Connection from NW 97th Avenue to NW 79th Avenue and the Metrorail Palmetto Station (Approximately 3 miles)

Option 5 is an FPL easement between NW 97th Avenue north of NW 58th Street and NW 74th Street at the Palmetto Metrorail terminal. This option runs along easements in Doral and Medley. The facility would serve the Miami-Dade Regional Soccer park, and travels adjacent to a County landfill between NW 97th Avenue and NW 87th Avenue. This corridor could help bridge a gap between residential communities on the northwest end of Doral to the Metrorail station, thereby establishing a multimodal link that would improve mobility to stretches of the county from the Health District to Downtown to Dadeland.

Opportunities would exist to connect this facility to Doral's trails master plan, and additional links could be made to Doral's Transit-Oriented Development downtown hub immediately to the south of the corridor.

Evaluation Criteria:

- Closes gaps in the network – Close gap between Doral's planned bicycle network and the Metrorail
- Enhances safety – Dedicated bike lanes would provide additional safety for bicyclists
- Regional Importance – Connection between planned bicycle network and Metrorail is significant
- Constructability – Viable with use of partial FPL easement and existing transportation easement
- Connectivity to Centers of Population/Employment – With connection to Metrorail access is available throughout County
- Potential for Public Support – Potential for support would be high
- Accessibility to/from Adjacent Roadways – Provides access to Doral planned bicycle network
- Access to Transit – Metrorail access
- Use of Public Easement – combination of FPL and existing transportation easement



Figure 18: Option 5 Overview – Connection to Metrorail

Option 6

Connection along the SR 836 corridor from Florida's Turnpike Lake Belt Trail to the Kitty Roedel Trail (Approximately 5 miles)

The existing property along this corridor is owned by the state, CSX, and MDX. The East-West corridor has been studied for many years and efforts have been made to provide dedicated bicycle facilities, but to date, there are no good options. One of the primary difficulties in this corridor is the presence of large interchanges along with rail lines. These obstacles make it tough to provide connectivity throughout the entire corridor, although opportunities exist to provide linear parks within certain areas of this corridor. MDX dedicated the Kitty Roedel Trail in 2007. The trail is a two-mile bike path from NW 87th Avenue to NW 107th Avenue alongside the SR 836. Similar opportunities exist in this corridor on the south side of SR 836, although connectivity within this entire area will likely require the use of the existing transportation system. Construction recently broke ground for the FPL Linear Park at NW 137th Avenue (**Figure 19**).



Figure 19: FPL Linear Park at NW 137th Avenue

Evaluation Criteria:

- Closes gaps in the network – There is a need to connect the population centers of the west with employment centers in east and vice versa
- Enhances safety – A dedicated bike lane crossing interchanges and rail corridors would provide additional safety for bicyclists
- Regional Importance – The East-West connection provides a major regional importance
- Constructability – Constructability is low due rail crossings and major interchanges within corridor

- Connectivity to Centers of Population/Employment – A bicycle connection would provide connectivity to various centers of employment and residences
- Potential for Public Support – A bicycle connection in this corridor would likely be well received
- Accessibility to/from Adjacent Roadways – This corridor provides access to major north-south facilities and connects to an east-west system
- Access to Transit – The East-West premium transit PD&E study is currently under way
- Use of Public Easement – MDX and CSX easements are available within corridor

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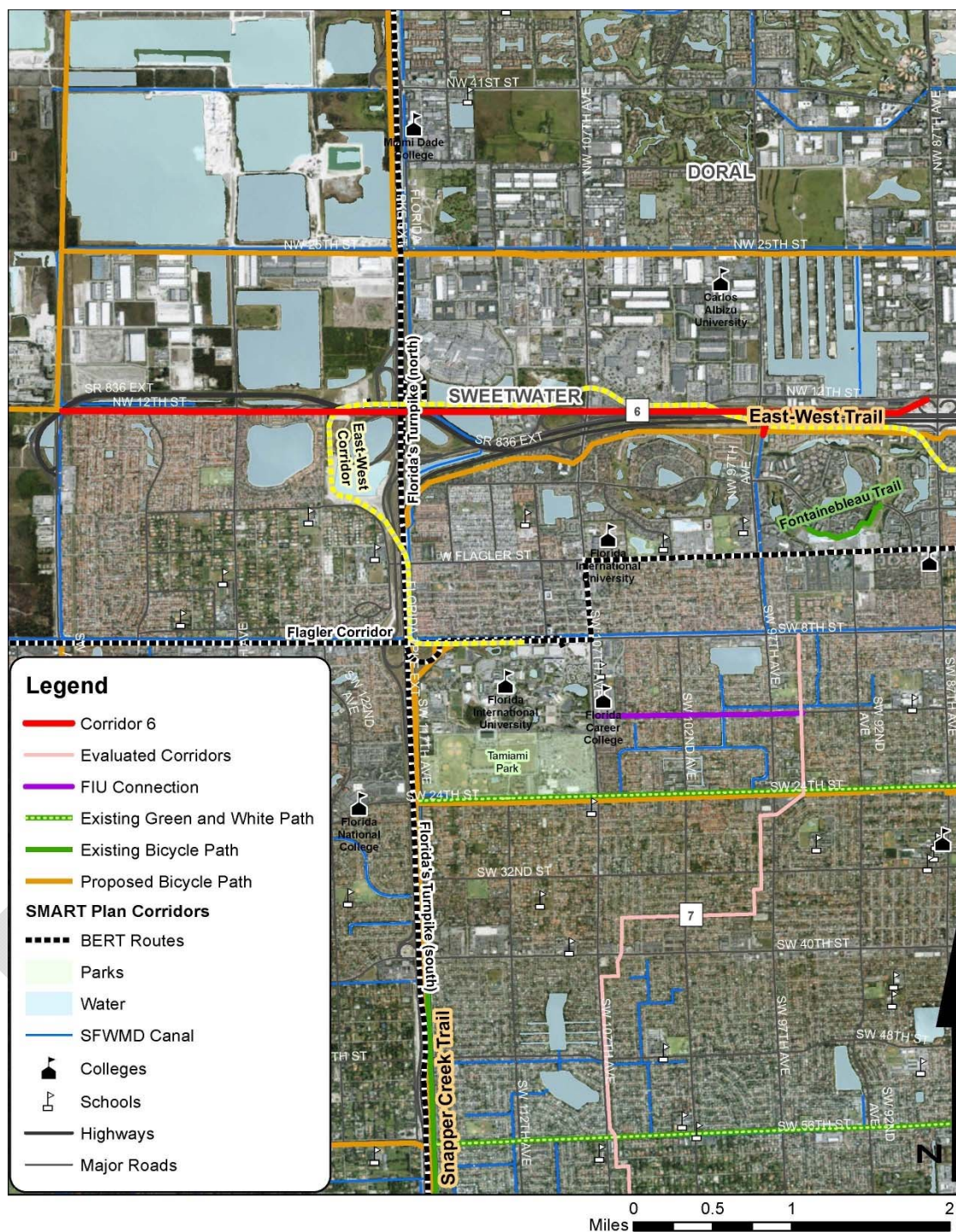


Figure 20: Option 6 - East-West Corridor Alignment - CSX and MDX Easement

Option 7

North-South route connecting the potential East-West Trail in the SR 836 corridor to US 1 trail and the Old Cutler Trail (Approximately 14 miles)

Option 7 utilizes an FPL easement and a SFWMD easement to travel north-south through a large stretch of central Miami-Dade County. Although there are portions of the easement that are owned by private land owners, large portions are owned by FPL and would be ideal candidates for a multi-use path agreement with FPL. Option 7 was the preferred Option in this study and is explained in more detail later in the report.

Evaluation Criteria:

- Closes gaps in the network – This trail would provide another opportunity for north-south and east-west connectivity
- Enhances safety – A dedicated off-system multi-use path would provide safety benefits
- Regional Importance – The trail would connect a large portion of the region
- Constructability – Much of the easement is owned by FPL and is constructible
- Connectivity to Centers of Population/Employment - There are various areas of residences and businesses within the corridor
- Potential for Public Support – May be challenging in areas where land is private, but overall support should be high
- Accessibility to/from Adjacent Roadways – Provides access to various roadways within the corridor
- Access to Transit – Major transit routes exist throughout the corridor
- Use of Public Easement – Use of FPL and SFWMD easements primarily

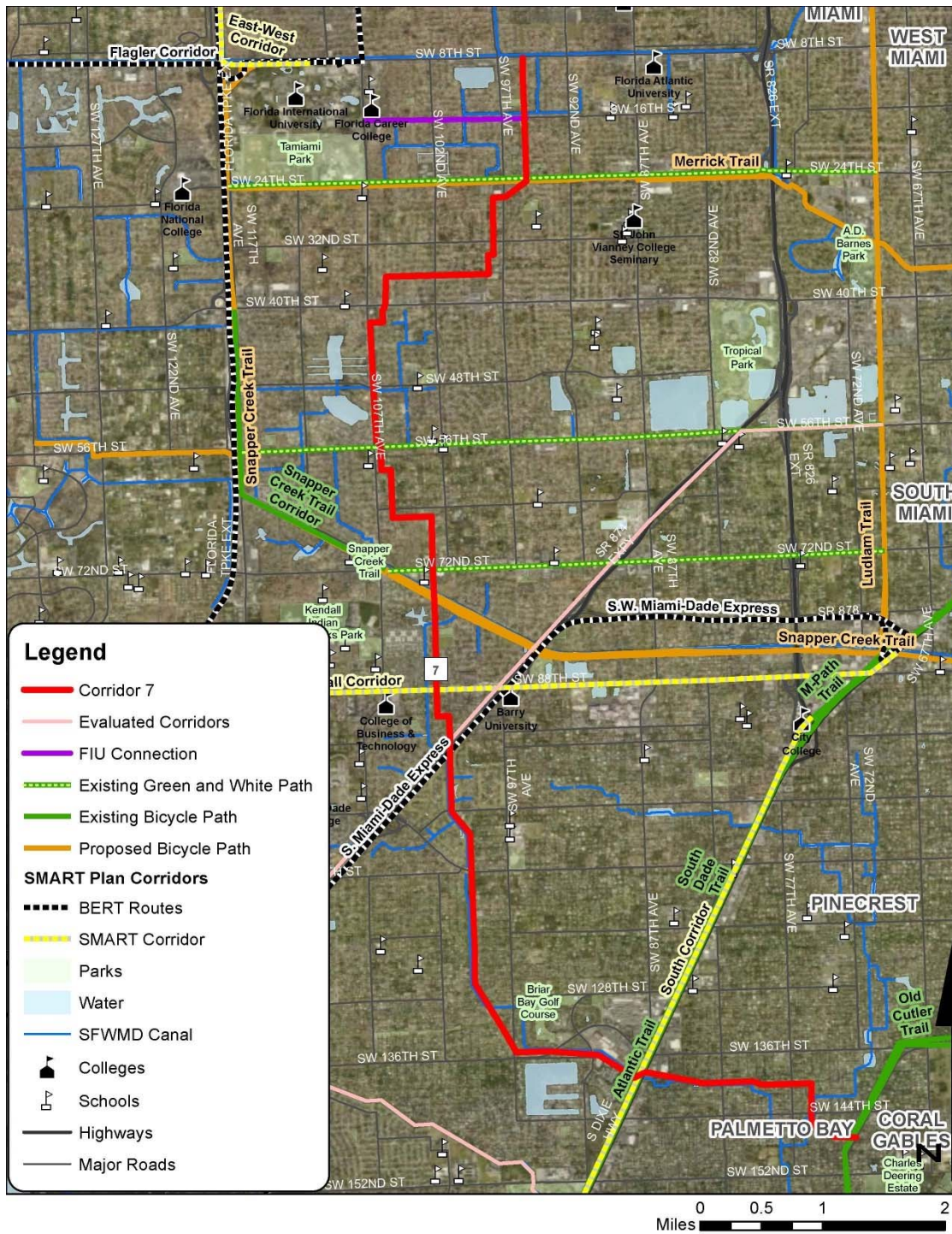


Figure 21: Option 7 - North-South Corridor Using FPL Easement

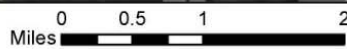
Option 8

Extension of proposed trail along CSX from south to Miller Road and the Ludlum Trail / Merrick Trail (Approximately 12 miles)

Option 8 would be an ideal candidate for a multi-use path north-south and east-west across Miami-Dade County, but unfortunately CSX requires 50 feet of clear ROW from the centerline of the rail on either side of the rail. This policy makes it extremely difficult to work with and to place a multi-use path alongside the rail corridor. There are portions of the corridor that would likely allow for small portions of a trail, but most of the available land does not satisfy the minimum 50-foot ROW required per CSX policy.

Evaluation Criteria:

- Closes gaps in the network – This route would provide additional north-south and east-west connectivity
- Enhances safety – A dedicated multi-use path would provide a safe environment
- Regional Importance – Good connectivity in southern Miami-Dade County
- Constructability – Viability is low due to CSX clearance requirements
- Connectivity to Centers of Population/Employment – Average connectivity to centers
- Potential for Public Support – Public support would likely be high
- Accessibility to/from Adjacent Roadways – There would be some connectivity to east-west and north-south corridors
- Access to Transit – This corridor would provide access to the bus network within Miami-Dade County
- Use of Public Easement – The corridor would use the CSX corridor, but the necessary ROW is not available in most portions for the necessary 50-foot clearance from the CSX rail line



Option 9 utilizes the easement of a SFWMD canal to connect the planned extension of the West Kendall Trail. The trail provides a benefit by allowing the user who is accessing the trail from the west to save approximately 1.5 miles from the commute by using this shortcut. There is approximately 20 feet available along the edge of the canal for the development of the multi-use path.

Evaluation Criteria:

- Closes gaps in the network – Trail provides a short-cut for planned trail
- Enhances safety – Off system multi-use path would provide safe environment
- Regional Importance – minimal regional importance
- Constructability – high constructability with available ROW
- Connectivity to Centers of Population/Employment – The overall trail provides connection to residences
- Potential for Public Support – Trail would likely gain support for nearby residents
- Accessibility to/from Adjacent Roadways – Accessibility to the Kendall corridor and west
- Access to Transit – Access to transit along the Kendall corridor
- Use of Public Easement – Complete use of SFWMD easement

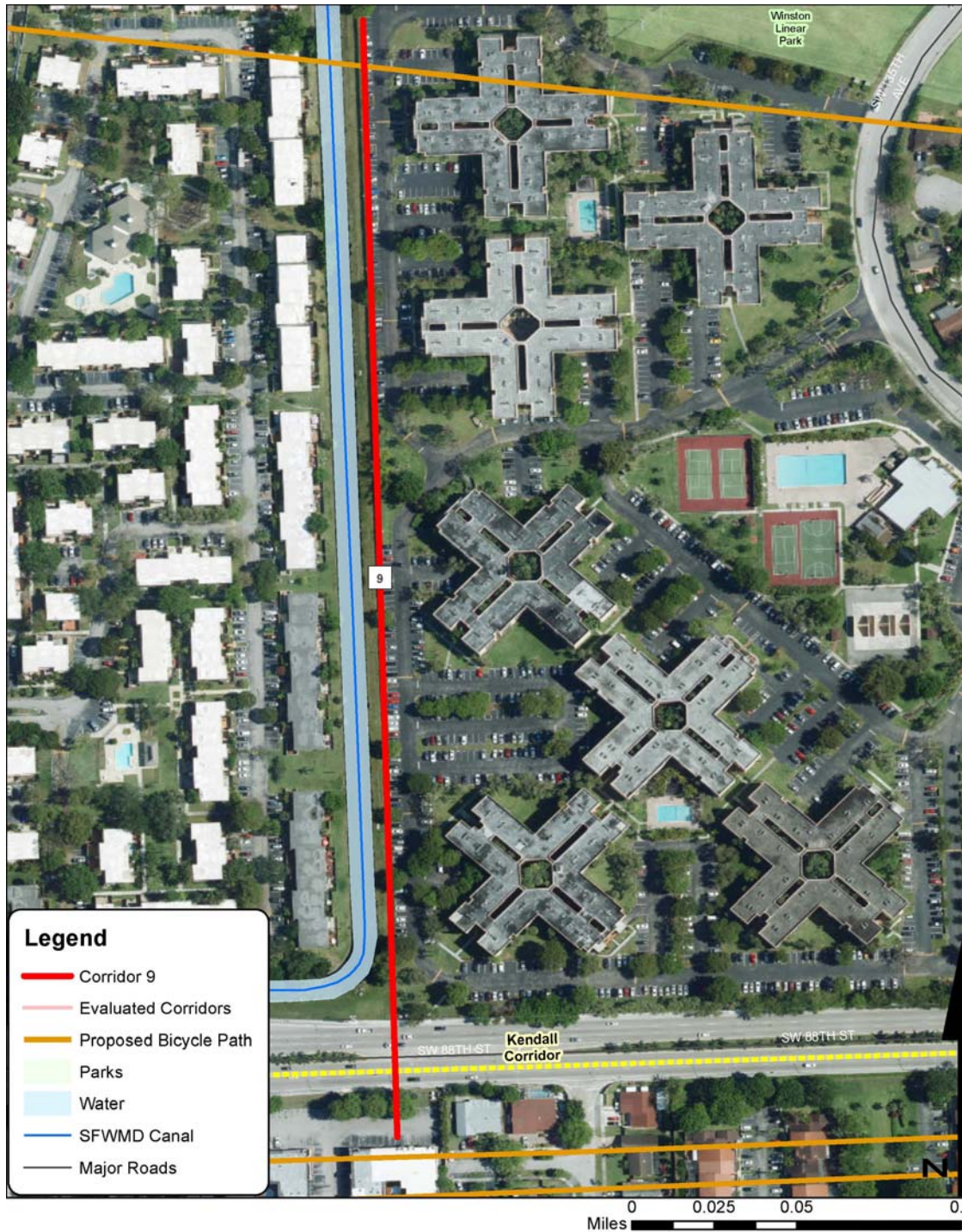


Figure 23: Option 9 Overview - SFWMD Canal for Connection of Trails Near Kendall Corridor

Option 10

Connect West Kendall Trail to Option 7 or US 1 trail (Figure 24)

Option 10 uses a combination of FPL transmission easement along with the SFWMD canal easement to connect east-west from SW 127th Avenue and SW 88th Street to the Old Cutler trail near Old Cutler Road and SW 174th Street. The trail would utilize the FPL transmission easement that from SW 88th Street until the SFWMD canal north of SW 112th Street and then follow the SFWMD ROW until SW 120th Street. At this point, the best option would be to utilize or enhance facilities along SW 120th Street and SW 117th Avenue to reconnect with the canal easement on the east side of SDR 874 (Florida's Turnpike). From there, the easement would follow the SFWMD canal to the Palmetto Golf Course. To avoid bisecting the golf course, the trail would likely need to use local roads (SW 152nd Street) to cross US 1 and reconnect with the SFWMD to travel further east. As the canal goes east, the houses encroach upon the shores of the canal and local roads would likely be used to provide connectivity to the Old Cutler Trail.

Evaluation Criteria:

- Closes gaps in the network – Although the potential trail would close gaps, there are existing and planned options in the area
- Enhances safety – A multi-use path would enhance bicycle safety
- Regional Importance – The trail would not have major regional significance
- Constructability – It is highly viable with using existing network or bridges to cross the Turnpike and US 1.
- Connectivity to Centers of Population/Employment – This area of the County is not heavily populated and there are no major employment centers
- Potential for Public Support – Mixed public support likely
- Accessibility to/from Adjacent Roadways – accessibility to various transportation corridors including US 1
- Access to Transit – Access to the South Dade premium transit corridor
- Use of Public Easement – Some property to the east of the corridor is private, but most the corridor is FPL and SFWMD easements



Figure 24: Option 10 - North-South and East-West South of Pinecrest

Option 11

Designated bicycle lanes along NW 191st Street to NW 22nd Avenue (Approximately 3 miles)

This east-west connection (**Figure 25**) would utilize the existing transportation easement to connect western parts of Miami-Dade County with the eastern portion of the county and the downtown employment center. This route would use NW 52nd Avenue to connect NW 183rd Avenue further west. Traveling east along NW 191st Street, there are opportunities to provide wider sidewalks or dedicated bicycle lanes and to connect with the Miami Gardens Trail which runs parallel to NW 24th Street and eventually to NW 22nd Avenue system. Options 4 & 11 (utilizing existing transportation systems) would enhance 5 miles of roadway to provide connectivity from the entire portion of northwest Miami-Dade County to Downtown Miami. This connection would likely also connect to the upcoming American Dream development.



Evaluation Criteria:

- Closes gaps in the network – Provides further connectivity to north-western portion of the County
- Enhances safety – A dedicated bicycle lane along this corridor would increase safety
- Regional Importance – This connection would further extend connectivity with downtown Miami
- Constructability – Much of the corridor has ROW to expand sidewalks or add designated bicycle lanes, but not along the entire corridor
- Connectivity to Centers of Population/Employment – More connectivity between the northwest and downtown areas of the County
- Potential for Public Support – Would likely have high public support
- Accessibility to/from Adjacent Roadways – High access to transportation network

- Access to Transit – Access to NW 27th Avenue corridor
- Use of Public Easement – Existing transportation easement



Figure 25: Option 11 - East-West Existing Transportation Easement Connection

Criteria for Potential Trail Options

Nine criteria were evaluated for each potential corridor to select one as a potential demonstration project. The various criteria are intended to establish the best public easement corridor that utilizes public easements while enhancing mobility within the County.

Closes Gaps in the Trail Network

How well does this alternative close gaps in the existing and planned trail network? Alternatives that create one or more connections receive a higher score than those that do not. If there are areas in the existing or planned bicycle network that could be greatly enhanced by an alternative, it should be given a higher priority.

Enhances Safety

Safety is looked at from two different perspectives.

1. Some of the routes involve using the public easement of the existing roadway. This may be in the form of a sharrow (this is scored the lowest with regards to safety for this exercise, bike lane, wide sidewalks, or multi-use paths (scored the highest)
2. The other safety factor would be from the perspective of physical safety of the trail users not related to direct interactions with vehicles. Corridors that traversed sparsely populated industrial areas are scored lower since there may not be appropriate lighting or public interaction in these areas and hence, more difficult to provide safety.

Regional Importance

Regional importance looked at the connection of various areas of regional importance. Trails that interconnect jurisdictions or connect the gap to allow for regional connections and mobility would score higher.

Constructability

Some of the available public easements are through areas that may not be owned by a public utility. FPL, for example, does not own most the property where their easements exist. An alternative scored lower if it would on easements that cross private properties, although, eminent domain is an option if a multi-use facility serves for public use.

Connectivity Centers of Population/Employment

Mobility is a major study objective. The potential of connecting the existing/planned bicycle network to access areas of employment/residential density is critical to mobility throughout the County. Currently, there is a good connected system in the southern portion of the County, but these are more suitable for recreational purposes due to the

Potential for Public Support

This can be difficult to gauge, as public involvement is not a part of this study. However, the corridors are ranked based on how well it was thought these trails may be accepted by the surrounding neighborhoods and property/business owners. Many times, if trails are directly adjacent to the back yards of private residences, these can be met with opposition.

Accessibility to/from Adjacent Roadways

Access to the roadways and transportation system adds to the mobility of a trail. Trail options with more accessibility to roadways with sidewalks and bicycle lanes are rated higher. This is especially important in areas of higher density, which allows more options to access the trail and allows more options for connectivity of a trail system.

Access to Transit

As the highways in Miami become more congested, more people will opt for public transit. The SMART Plan (**Figure 26**) is a Countywide effort to provide a better transit system and more mobility across the area. Trail corridors that connected to the existing public transit network as well as the SMART Plan were given higher consideration as this allows for greater connectivity throughout the County through various options.

Use of Public Easement

As the primary objective of the study is to investigate the use of public easements to enhance the bicycle network, use of public easements is given a high priority. Various routes are identified as being valuable network connections, but do not use available public easements as intended in the spirit of the study, which was to use public easements such as FPL, SFWMD, or County owned lands. Several of the options, however, utilized the public easement of an existing roadway to connect important missing links.

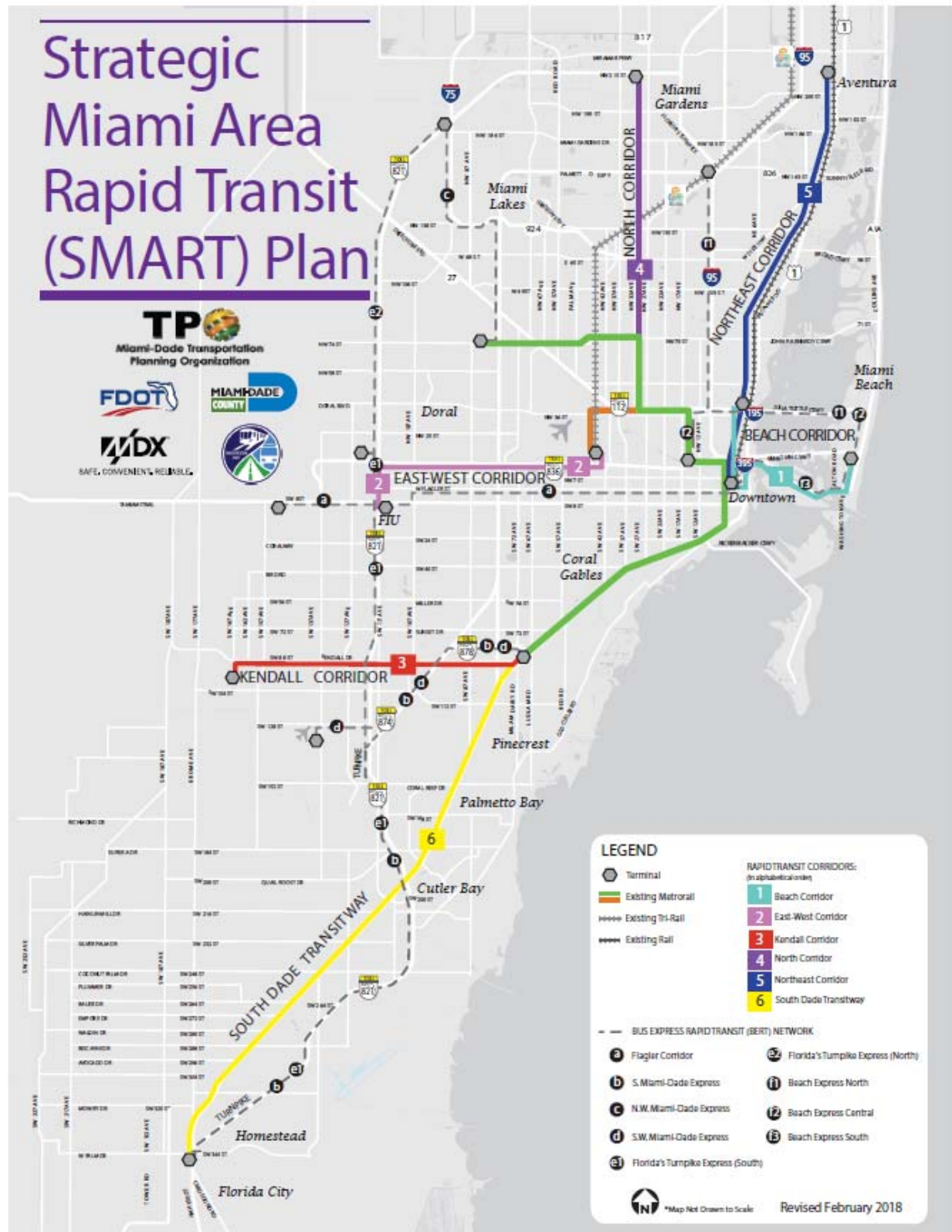


Figure 26: Miami-Dade County SMART Plan

Ranking of Corridors / Matrix

In the matrix below, each option is ranked against itself to determine the colors from red (scored poorly) through green (scored well). White is in the middle compared to other scores in each option. One is the lowest score available while 10 is the highest available score. As can be seen from the matrix, Option 7 scored the best in this scenario; although, all options have merit and should remain in the conversation in a continued attempt to provide a connected network of bicycle accommodations across Miami-Dade County (**Figure 27**).

Measure	Corridor											
	1	1a	2	3	4	5	6	7	8	9	10	11
Closes Gaps in the Network	10	10	6	8	10	6	10	10	10	8	6	8
Enhances Safety	6	8	7	6	6	6	6	8	8	10	10	6
Regional Importance	10	8	6	8	10	7	10	8	10	6	6	8
Constructability	4	6	6	10	6	6	2	6	4	10	8	7
Connectivity to Centers of Pop/Emp	8	6	4	4	9	6	10	9	8	6	6	9
Potential for Public Support	4	8	9	8	8	8	8	8	8	10	4	8
Accessibility to/from Adjacent Roadways	8	8	9	10	10	8	4	8	6	8	9	8
Access to Transit	8	8	6	7	10	10	6	10	6	4	8	8
Use of Public Easement	6	8	6	4	2	7	8	9	8	10	10	8
Scores (1 = least warranted, 10 = most warranted)	64	70	59	65	71	64	64	76	68	72	67	70

Figure 27: Comparative Matrix

Recommendations

Option 7 enhances the existing and planned system of bicycle/pedestrian facilities in the area by connecting existing/planned bicycle corridors, major attractors/hubs, and connects to major transit and transportation systems across the central portion of Miami-Dade County. Although Option 7 provides a major alternative transportation route, it does have its challenges. There are large portions of the trail that are owned by FPL and even SFWMD, but there are several portions of the trail that would create donation or eminent domain for connection of the entire 14 miles. In addition to several properties being privately owned, canal crossings and crossing US 1 would be necessary.

To advance the trail and start the momentum, there are portions of the trail that only require working with FPL to obtain an agreement for a multi-use trail to be collocated within the FPL transmission easement. An example of this type of agreement is the recently completed 1.5-mile FPL Linear Park located from SW 6th Street to NW 12th Street at 136th Court (Figure 28). In this agreement, FPL retains ownership of the land and via the agreement, Miami-Dade Parks, Recreation and Open Spaces (PROS) may develop and maintain a linear park and trail on the property. For reference, the agreement is attached in **Appendix XX**.



Figure 28: Rendering of FPL Linear Park recently under construction in west Miami-Dade County

Starting from the north, near the Fontainebleau community, a multi-use trail currently exists on the east side of the development between NW 87th Avenue and NW 97th Avenue (**Figure 29**). The trail would continue south adjacent to the eastern boundary of Texas Roadhouse, where a mid-block crossing of W Flagler Street would be necessary.

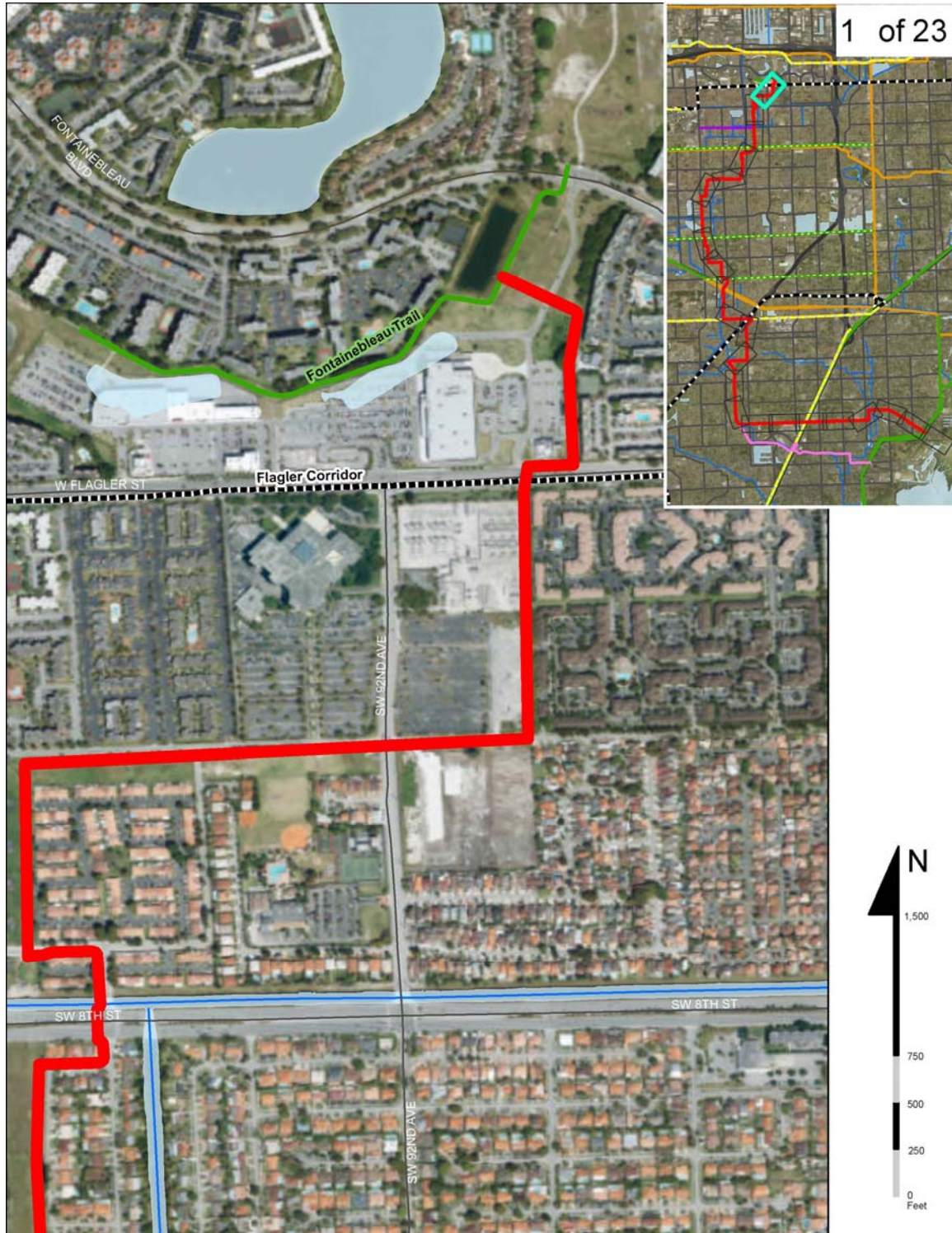


Figure 29: First Section of Option 8 – Near Fontainebleau

From this location, the trail would continue south along the eastern edge of the FPL power station or an east-west portion of the trail could be built along the northern boundary of the FPL property and continue south along the western edge of the FPL power station, adjacent to SW 92nd Avenue.

Between SW 4th Street, and SW 8th Street, the FPL easement is owned by various private individuals/companies. Eminent domain/donations would be needed to use this land for the use of a multi-use facility. Another option for trail connectivity in this area would be to use the local neighborhood streets/sidewalks and sharrows to get trail users across SW 8th street using the traffic signal at SW 8th Street and SW 94th Avenue (**Figure 30**)



Figure 30: Trail south of SW 8th Street - 1st Section for Demonstration Project

South of SW 8th Street is the first section of the potential multi-use trail where FPL owns most the public easement south until SW 97th Avenue (just south of SW 24th Street). Connectivity of the trail in this portion would require a mid-block crossing at SW 12th Street, SW 15th Street, and a small bridge over the canal just south of SW 15th Street (**Figure 31**).

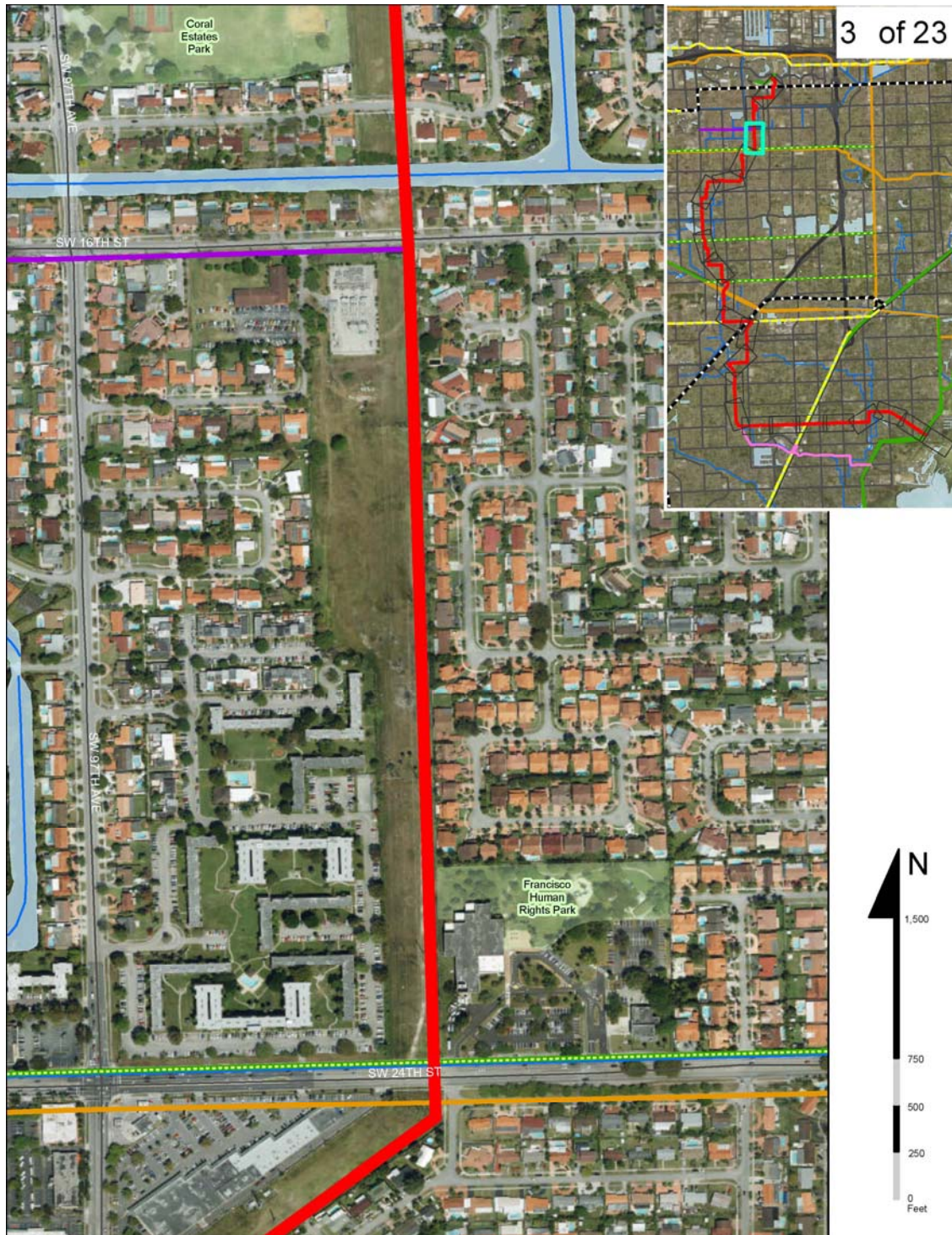


Figure 31: Connecting with SW 97th Avenue (just south of SW 24th Street) on the south (end of 1st Demonstration Area)

South of the canal, the property belongs to FPL until SW 97th Avenue, which is just beyond SW 24th Street (Coral Way). SW 24th Street is the first location within this Option 7 area that contains a green and white path, which is a wide sidewalk traveling east-west within the County. This section of the Option 7, from SW 8th Street to SW 97th Avenue (just south of SW 24th Street) (**Figure 32**), is owned by FPL and would only require an agreement with FPL (no private home owners or businesses would need to be involved) to construct the trail and is a total distance of 1.2 miles. This would provide an immediate north-south connection in an area that is densely populated. This option would additionally facilitate the future connections to Fontainebleau to the north, Florida International University to the west, and Coral Way to the south.

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Figure 32: Continuing Along FPL Easement

Adjacent to the west of SW 97th Avenue (just south of SW 24th Street), the stretch of the FPL easement that runs west and south is owned by two separate private owners; coordination and potentially eminent domain would need occur with these two property owners for the multi-use trail to continue.

South of SW 28th Street, the easement once again falls within ownership of FPL and Miami-Dade County Parks and Recreation until SW 34th Street. South of SW 34th Street, the property becomes private. Additionally, Trinity Baptist Church owns the property between SW 35th Street and SW 36th Street.

South of SW 36th Street (**Figure 33**), the FPL transmission easement is owned by FPL except for the Courts of Birdwood Condominiums immediately south of SW 36th Street and Miros Nursery west of SW 102nd Avenue. The transmission easement traverses west across SW 103rd Avenue, where the property is owned by FPL, but the property immediately west of SW 104th Avenue is a private owner. The corridor then travels west and south where it is owned by FPL until reaching a plaza north of SW 40th Street, which is a private owner. The trail would need to traverse this private development and would need a mid-block crossing at SW 40th Street. South of SW 40th Street, the easement once again is owned by Trinity Presbyterian Church.

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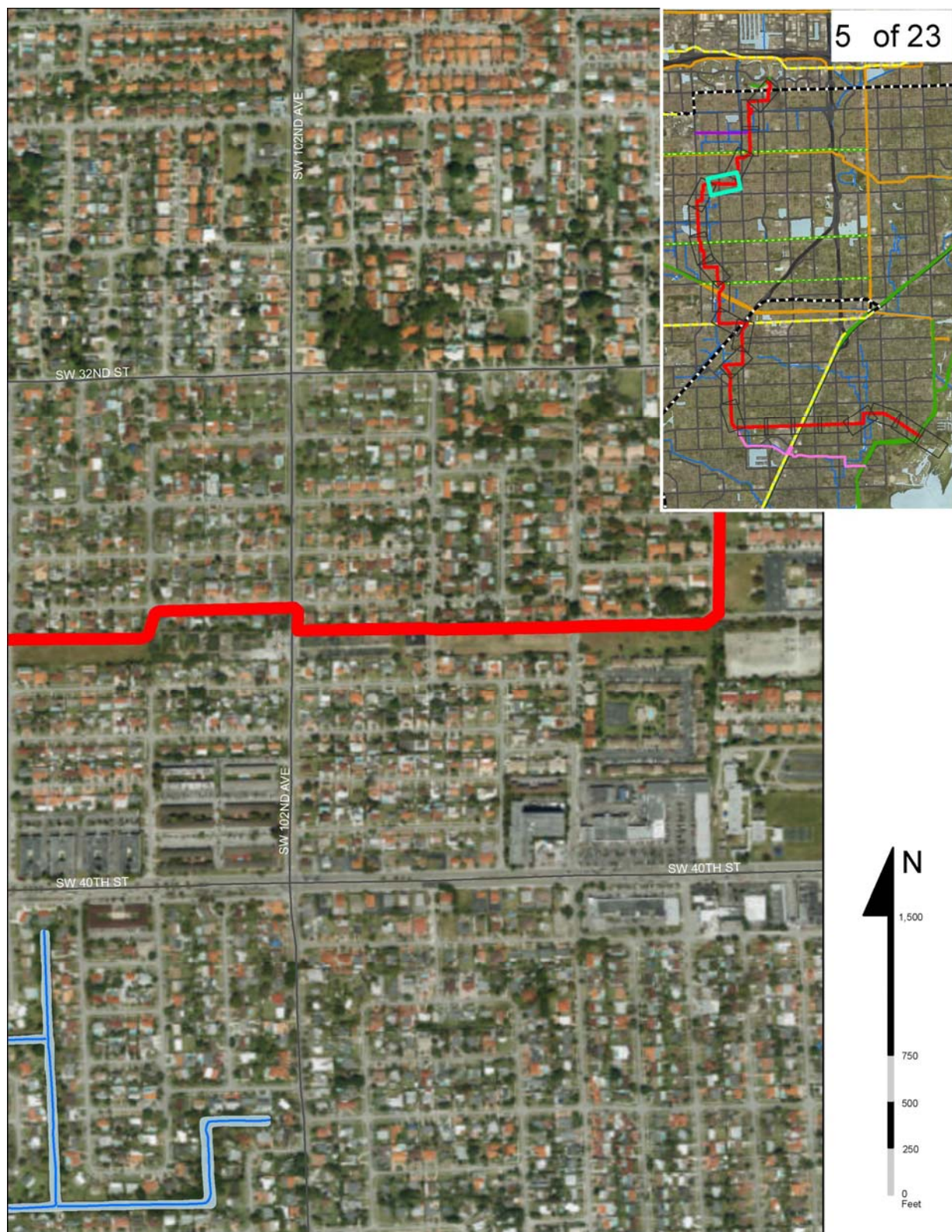


Figure 33: East-West North of SW 40th Street

The second section of easement that would provide an opportunity for quick demonstration project would be the easement south of SW 41st Street (**Figure 34**). The trail once again becomes FPL owned property as it travels south, directly east of SW 107th Avenue until SW 70th Street. Through this section, the trail would need crossings at SW 48th Street, SW 52nd Street, SW 56th Street, SW 58th Street, SW 60th Street, SW 62nd Street, SW 64th Street, SW 66th Street, and SW 68th Street. South of SW 70th Street, the property becomes private and would also need to cross SW 72nd Avenue, which is a four-lane divided facility. This is approximately a 2.4-mile section of the FPL easement and could provide multiple opportunities to connect with the planned Snapper Creek Trail.

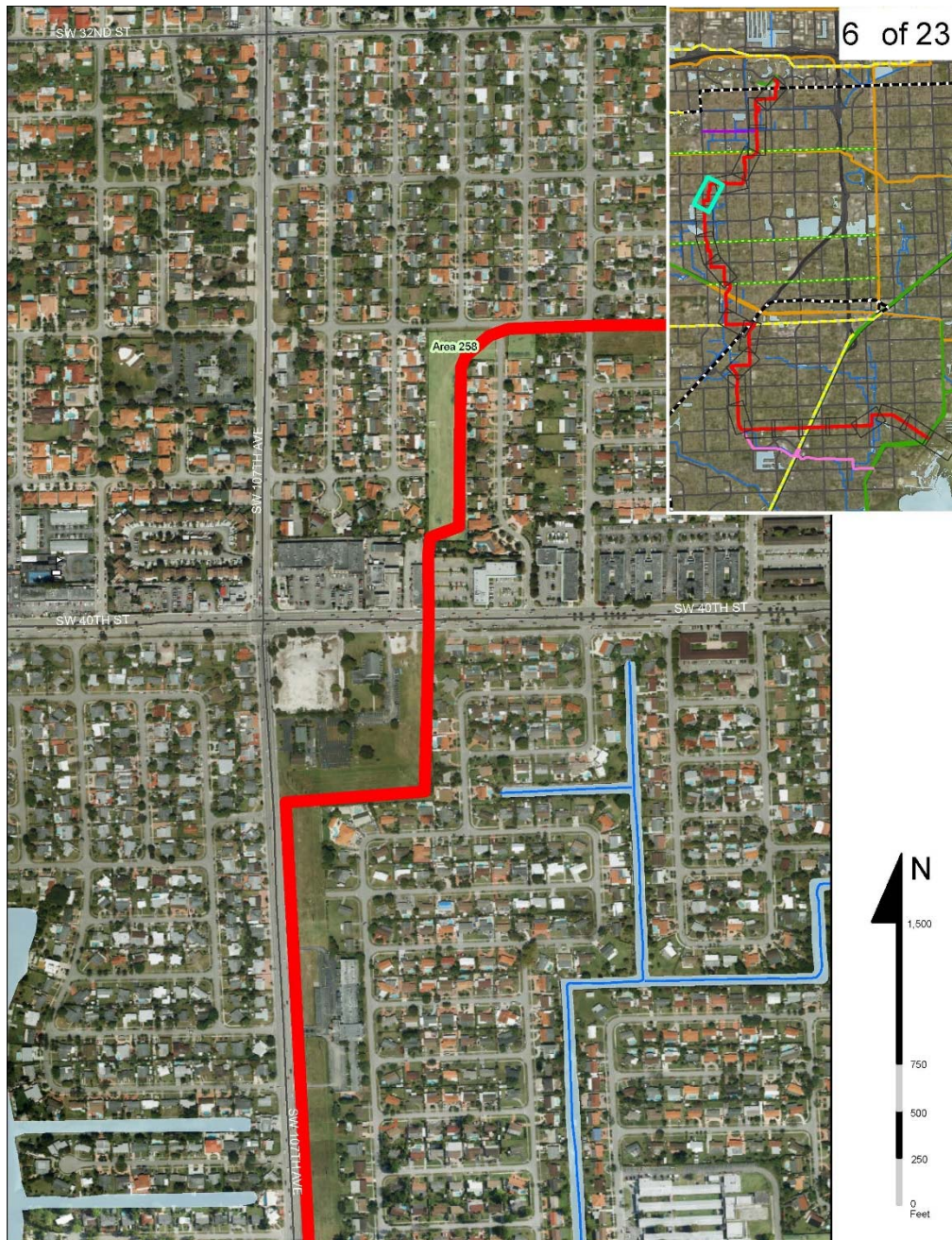


Figure 34: Traveling North-South - South of SW 40th Street - Start of Second Demonstration Project Area at 41st Street

Another option for this area of Option 7, north of Snapper Creek, would be to connect with the planned Snapper Creek Trail, which is approximately one mile to the west of the FPL easement. Bicycle lanes are planned along SW 48th Street/ SW 47th Terrace between SW 117th Avenue and SW 87th Avenue. Since this is a 30-mph facility, an interim option could be to include sharrows along this facility as well. The advantage of this option is that the planned Snapper creek trail would continue to the Dadeland Mall area and connect with the Ludlam Trail which is a north/south 6.2-mile multi-use facility through the heart of Miami-Dade County within the former East Coast railway ROW. The Ludlam Trail will provide a safe dedicated and direct route for cyclists and pedestrians to schools, parks, work, and shopping. The trail can connect more than 34,000 people within a half-mile, walkable service area to five greenways, five schools, four parks and two transit hubs (**Figure 35** through **Figure 37**).



Figure 35: Option 7 along SW 107th Ave (SW 48th Street goes to Snapper Creek Trail)

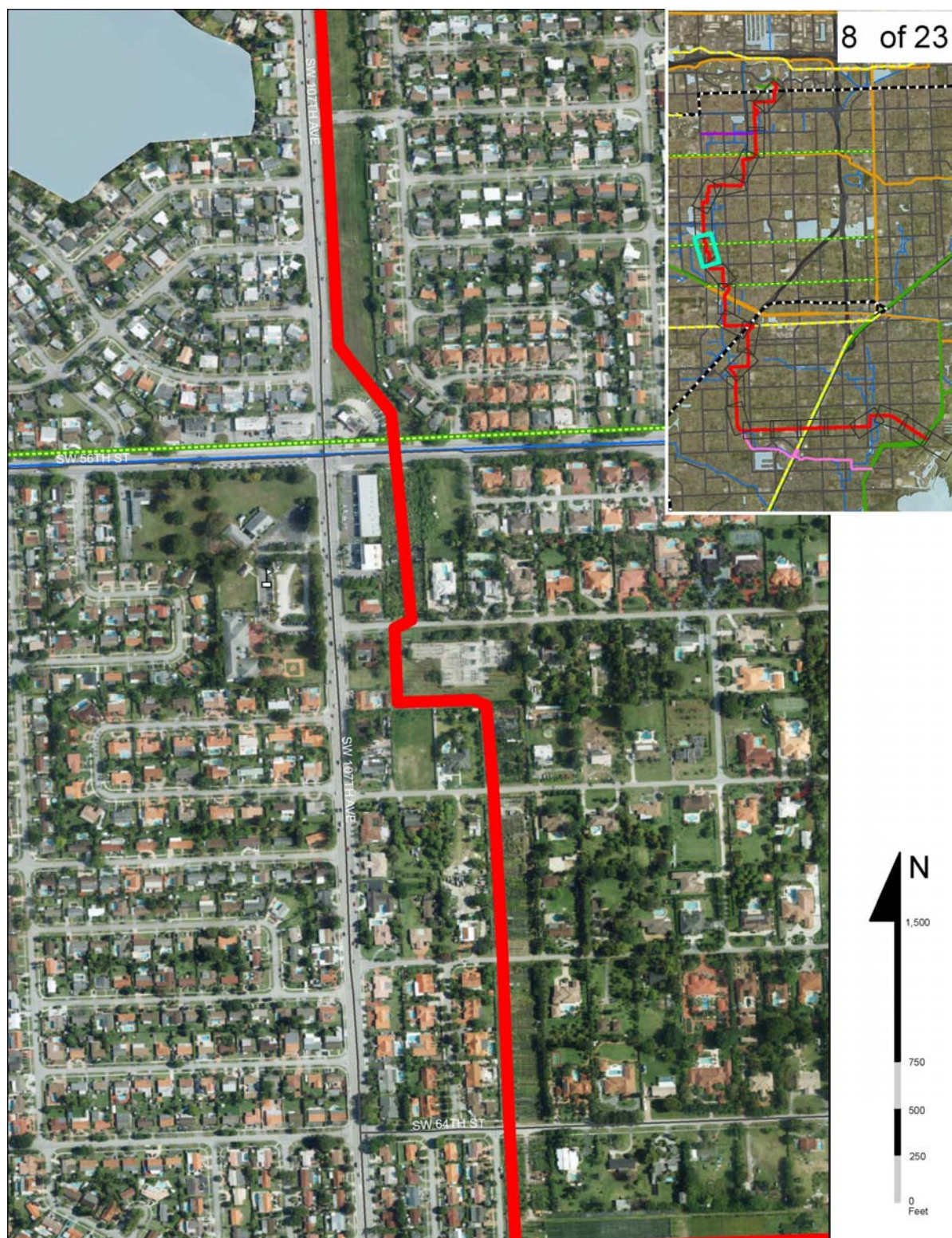


Figure 36: Option 7 along SW 107th Avenue crossing green and white path on SW 56th Street

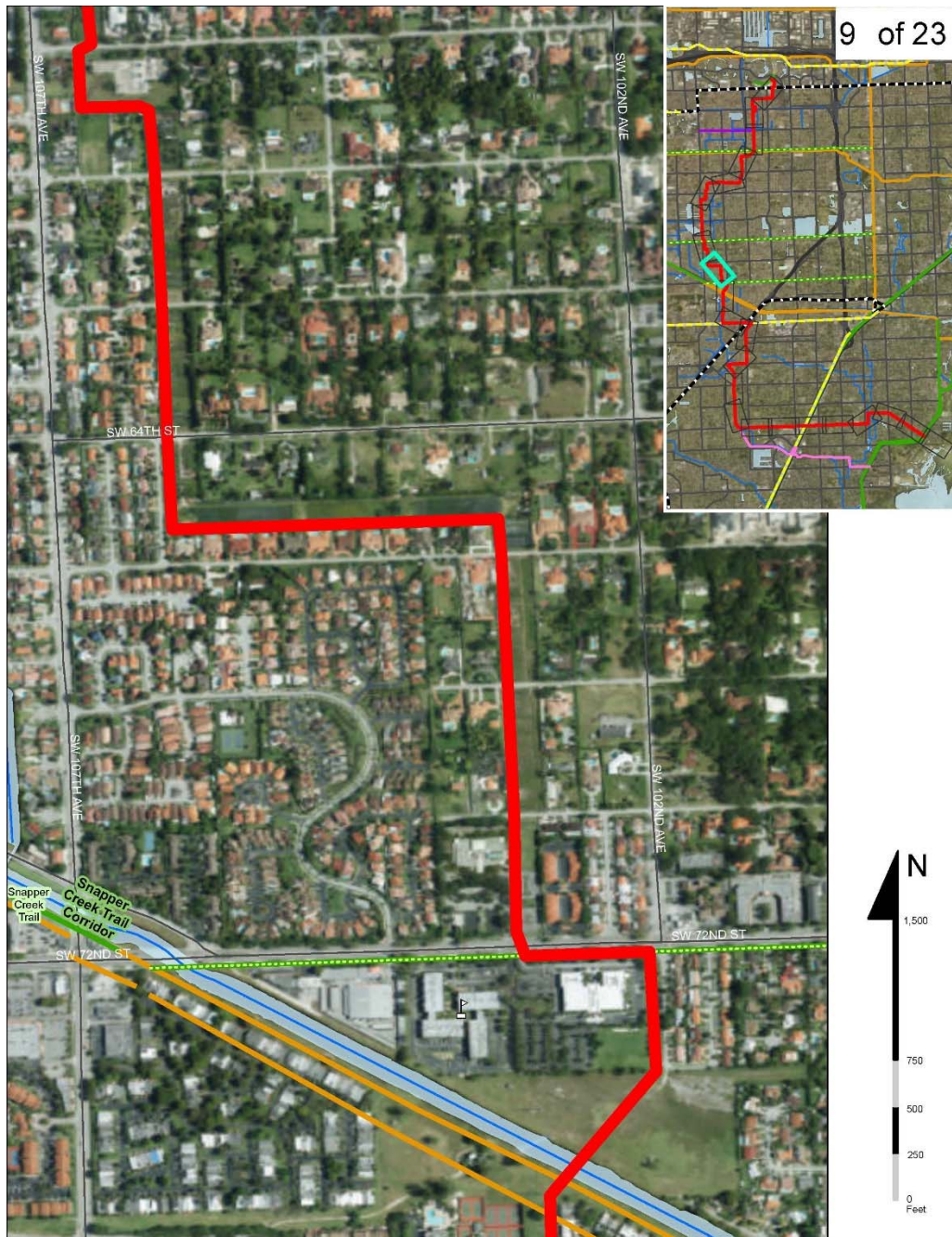


Figure 37: Option 7 south along SW 107th Avenue meeting green and white path on SW 72nd Street and Snapper Creek Trail

South of Snapper Creek (**Figure 38**), most the property along the FPL easement is owned by private owners. Therefore, the issue for this stretch of FPL easement between Snapper Creek and The Don Shula Expressway becomes the expense and potential public opposition to eminent domain of the private properties and the bigger challenge, which would be a suitable crossing of the Don Shula Expressway. A bridge would be necessary to cross the CSX rail corridor as well as the Don Shula Expressway. Although this could be accomplished, a more viable solution may be to travel along an improved SW 88th Street (Kendall Drive), **Figure 39**, across the Don Shula Expressway and then south along SW 97th Avenue, west along SW 104th Street to reconnect with the FPL easement just south of SW 104th Street and Killian Greens Golf Club (**Figure 40**).

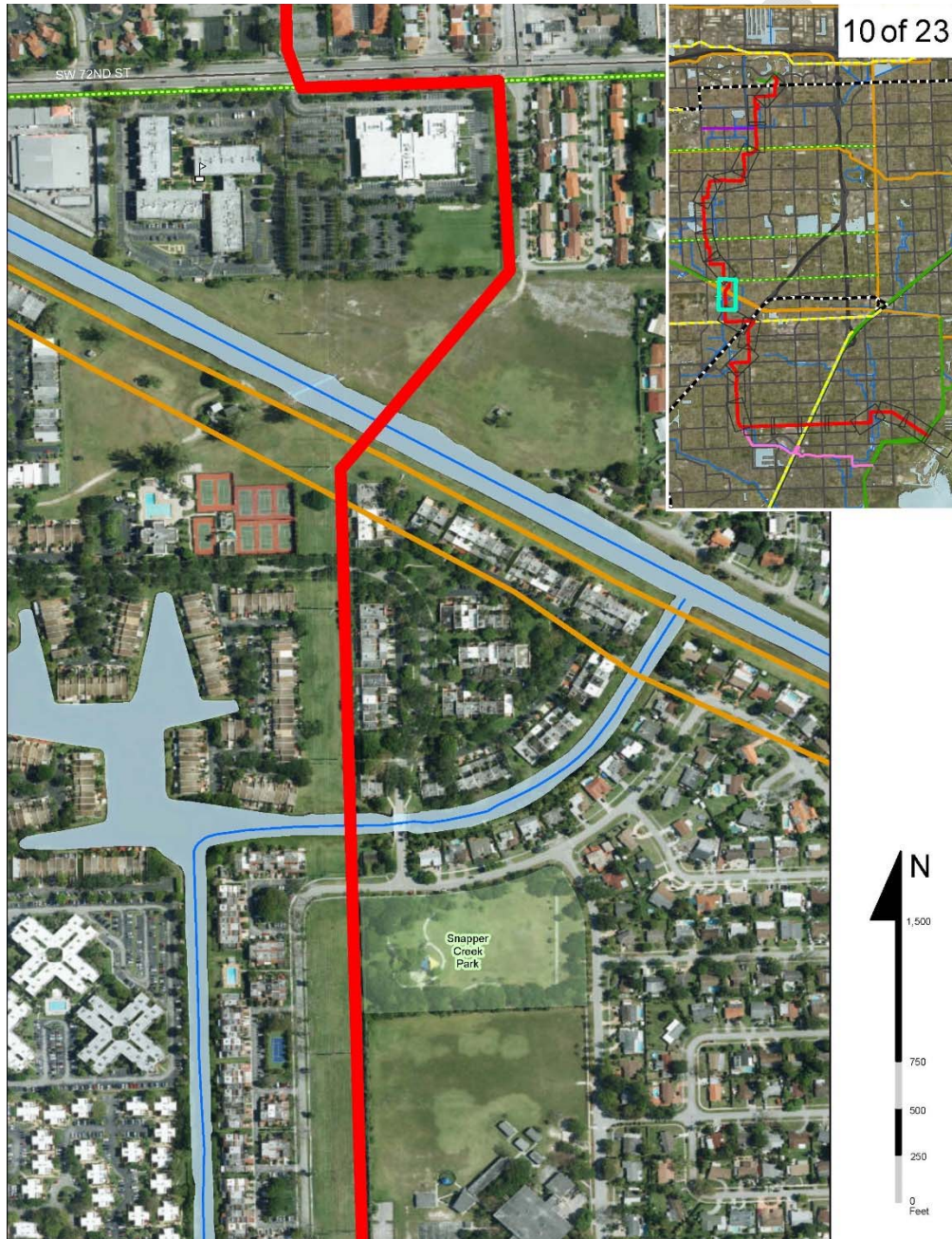


Figure 38: Option 7 south of Snapper Creek

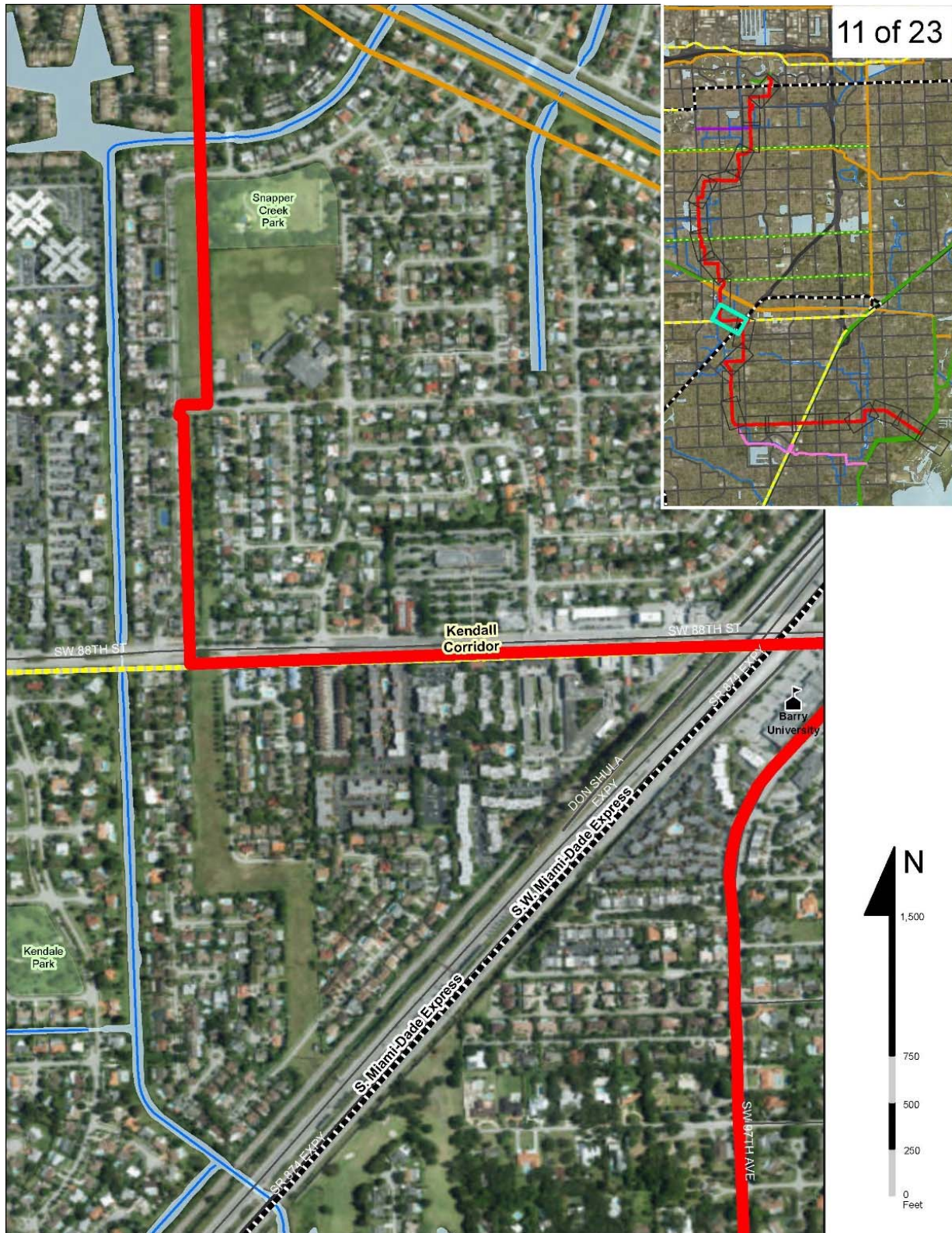


Figure 39: Option 7 along SW 88th Street to cross Don Shula Expressway

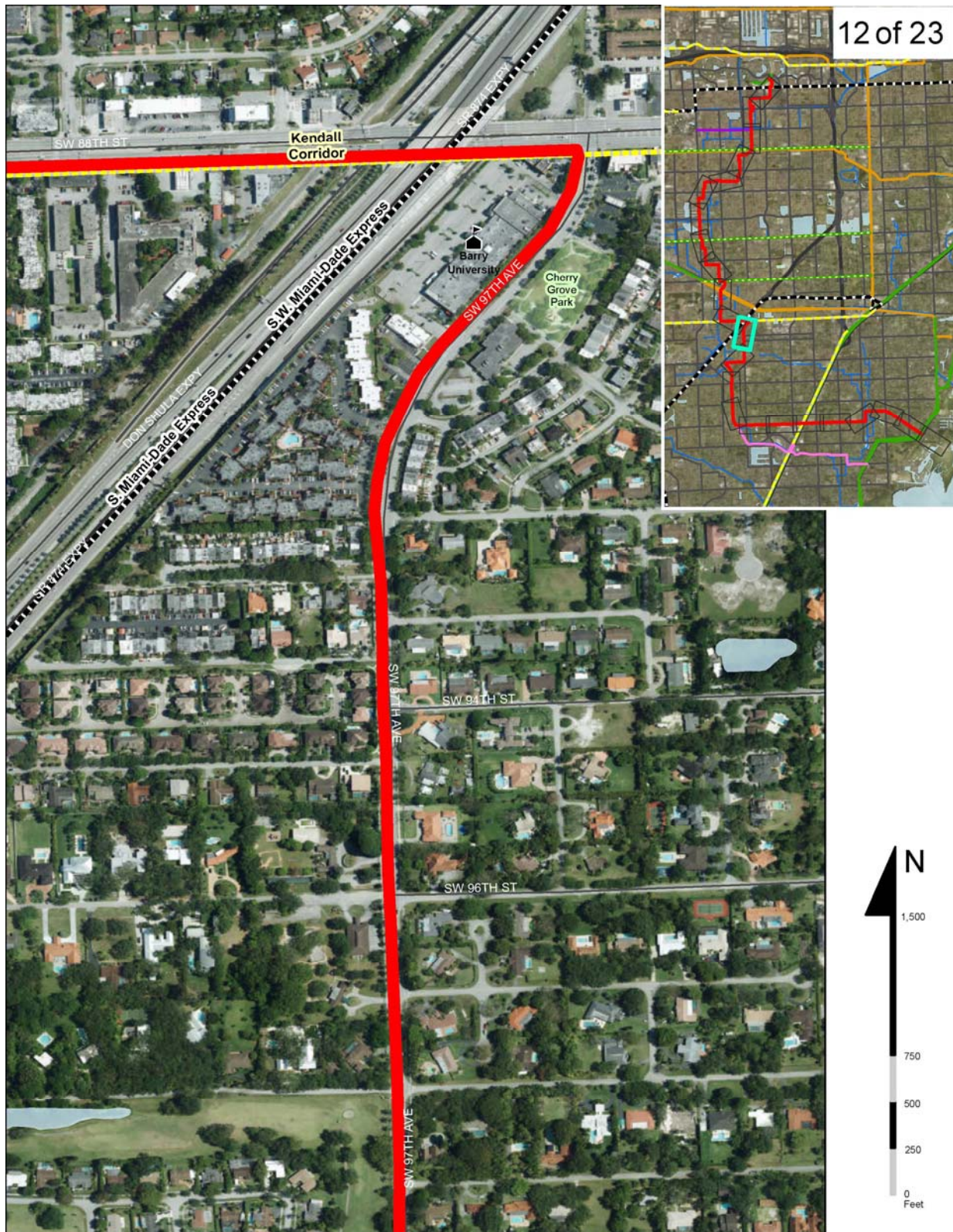


Figure 40: Option 7 along SW 97th Avenue (Not in FPL/SFWMD easement)

From SW 104th Street (**Figure 41**) south the SW 128th Street, the FPL easement follows an SFWMD canal. The FPL easement in this area is about 50 percent owned by FPL and 50 percent owned by others. The fact that the easement follows the SFWMD canal makes the trail more viable, but eminent domain would need to occur in various locations.

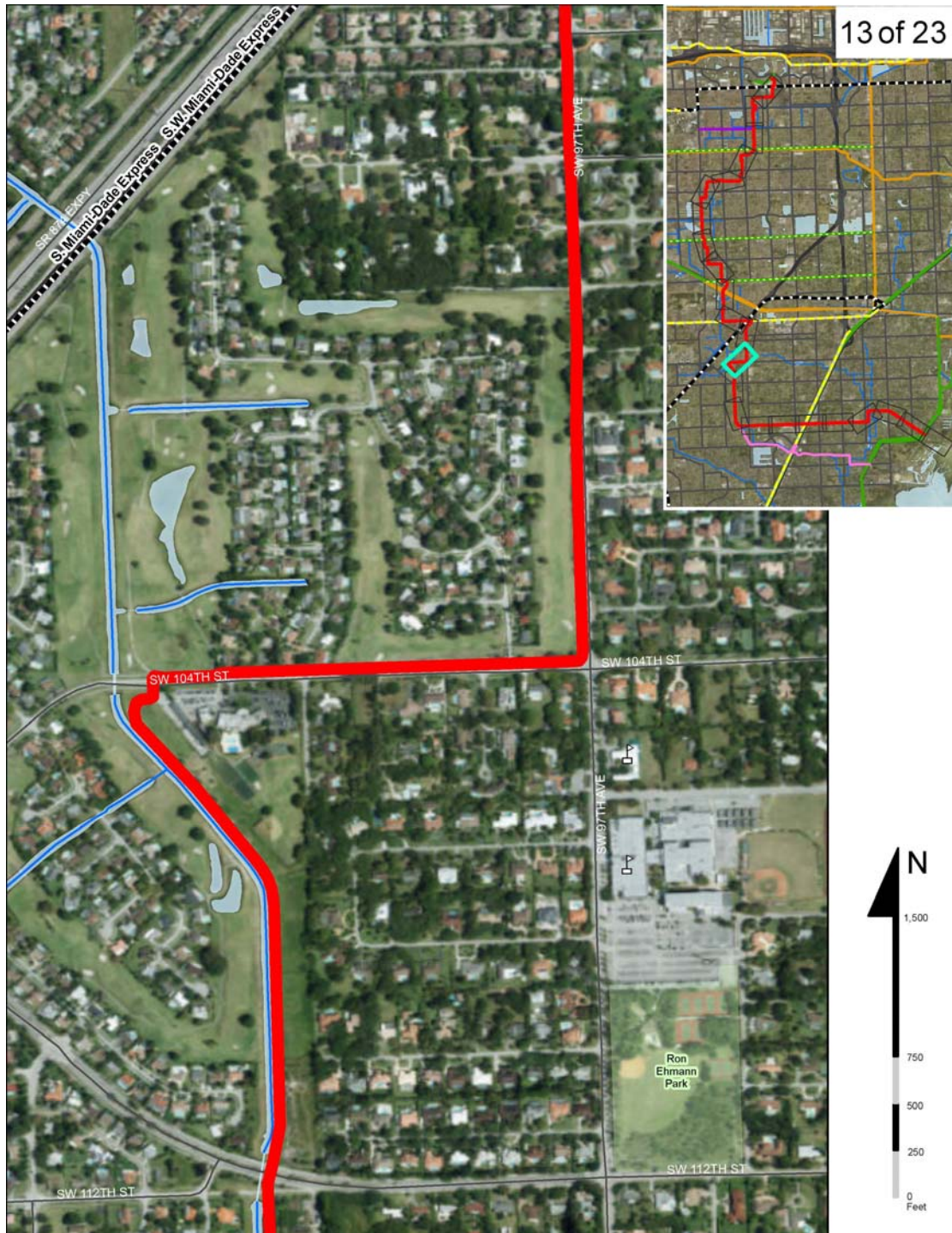


Figure 41: Connection from transportation system back to SFWMD easement

South of SW 128th Street (**Figure 42**), the FPL easement is mostly owned by FPL, but a minor bridge for the crossing of the SFWMD canal a major bridge for the crossing of US 1 and the S Miami-Dade Busway would be necessary. This bridge would likely be in the magnitude of \$3M. This makes sidewalk improvements and bicycle lane additions along SW 128th Street a more attractive option for the continuity and viability of the bicycle connection. SW 128th Street in this location is a 30-mph facility with existing sidewalks. Enhancements can be made on this facility as it goes east to SW 71st Street, north on SW 71st Street until, SW 124th Street and then east to connect with the Old Cutler Trail (**Figure 43** through **Figure 49**).

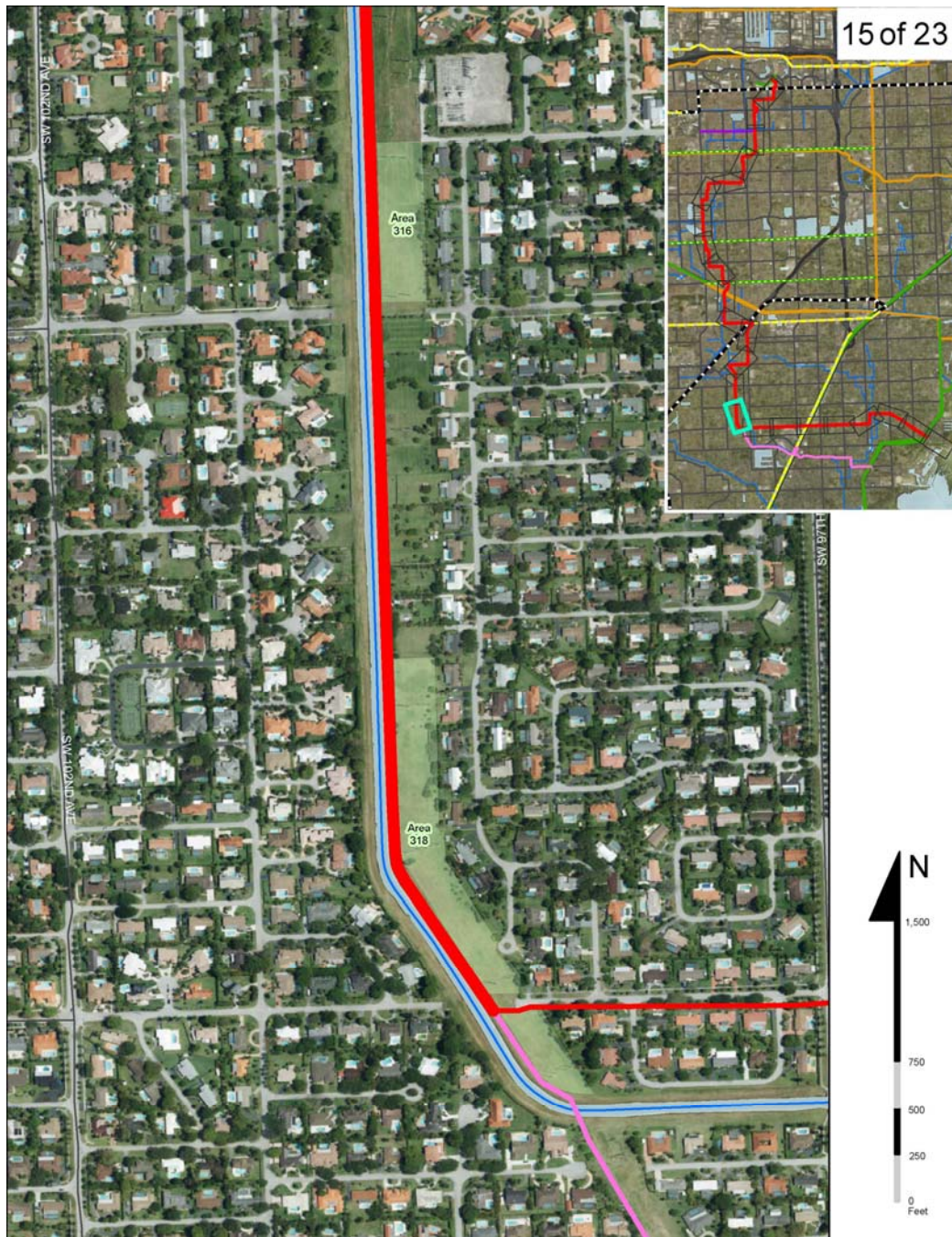


Figure 42: Option 7 to follow SW 128th Street to avoid Bridge over US 1

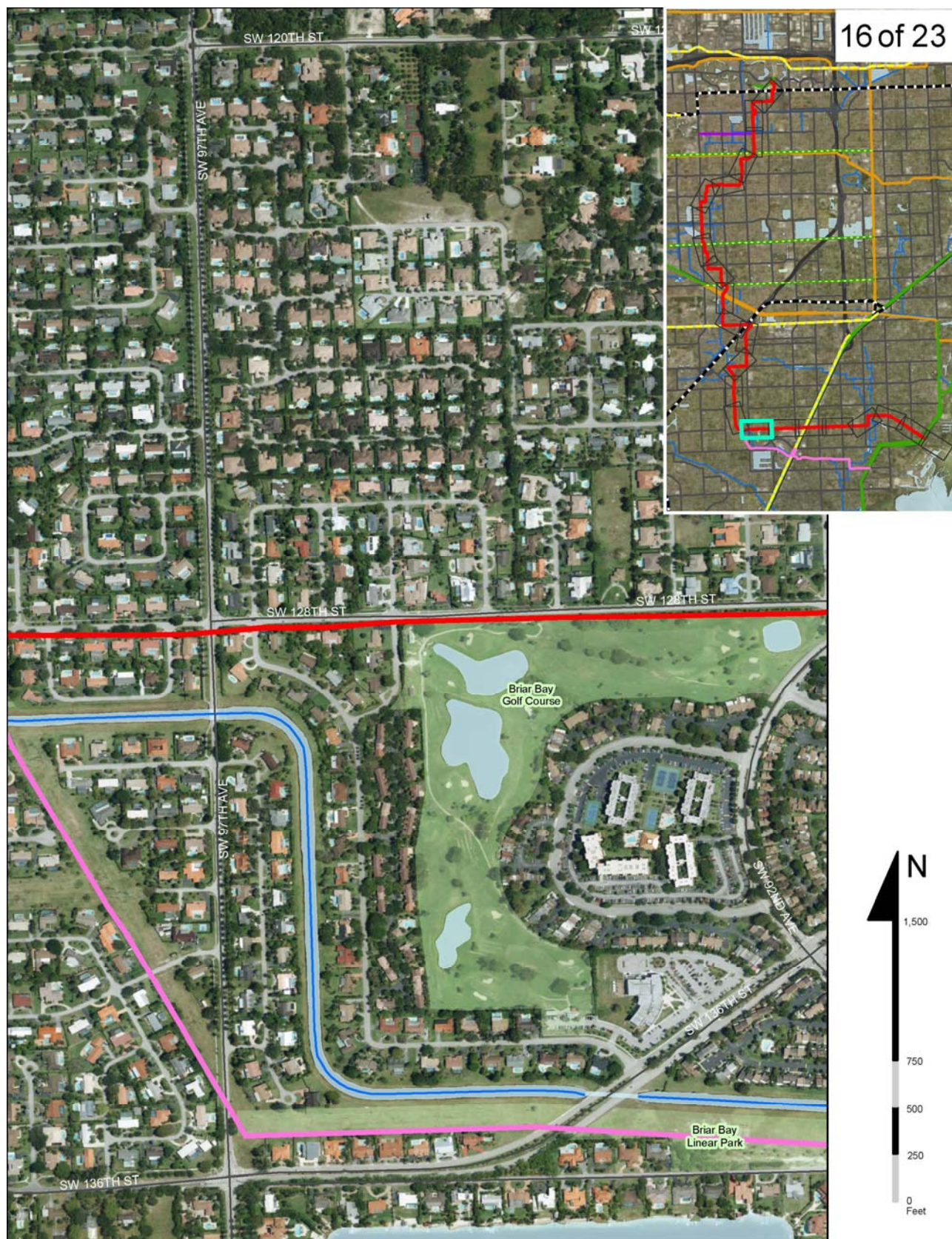


Figure 43: Option 7 traveling east along SW 128th Street

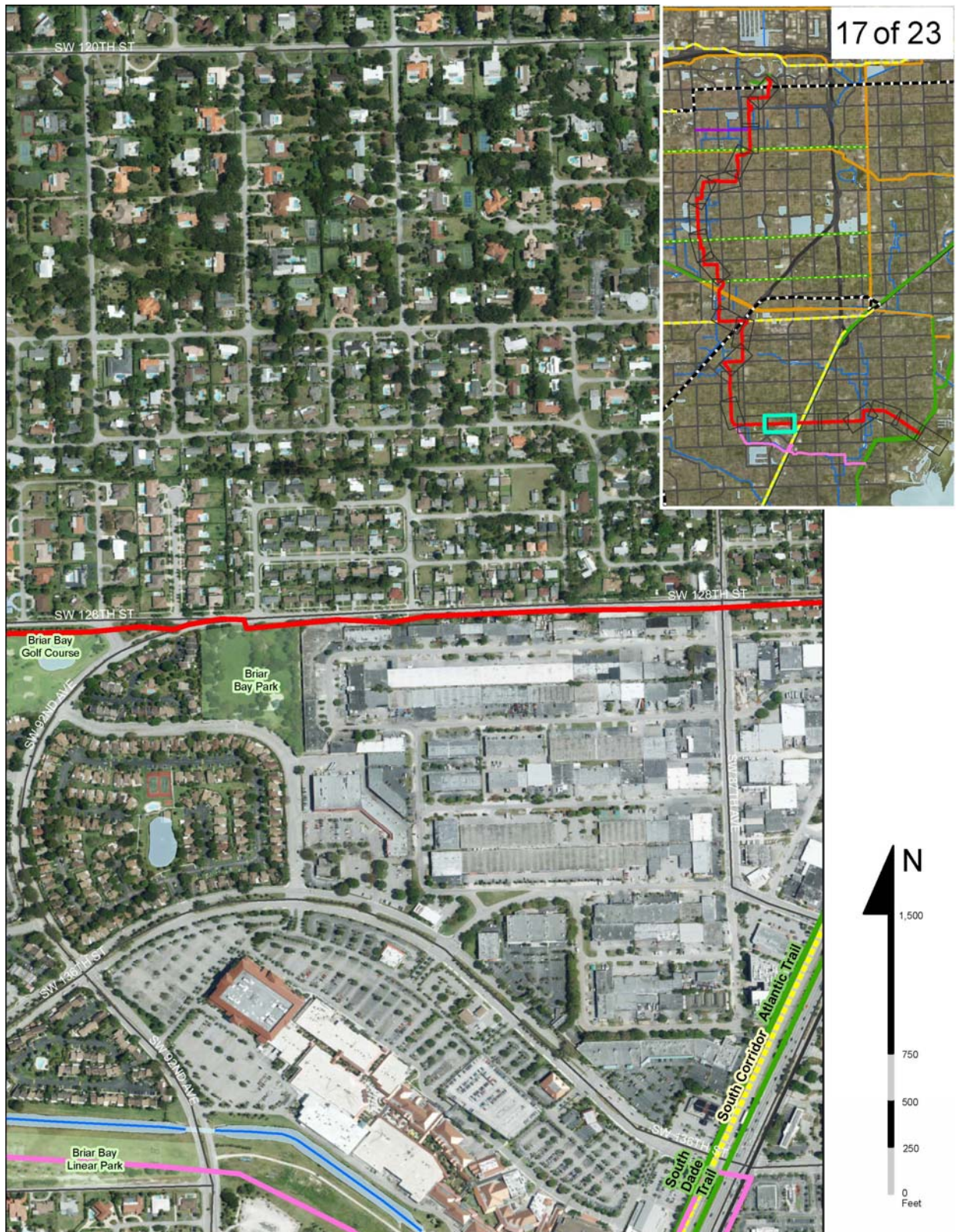


Figure 44: Option 7 traveling east along SW 128th Street



Figure 45: Option 7 traveling east along SW 128th Street

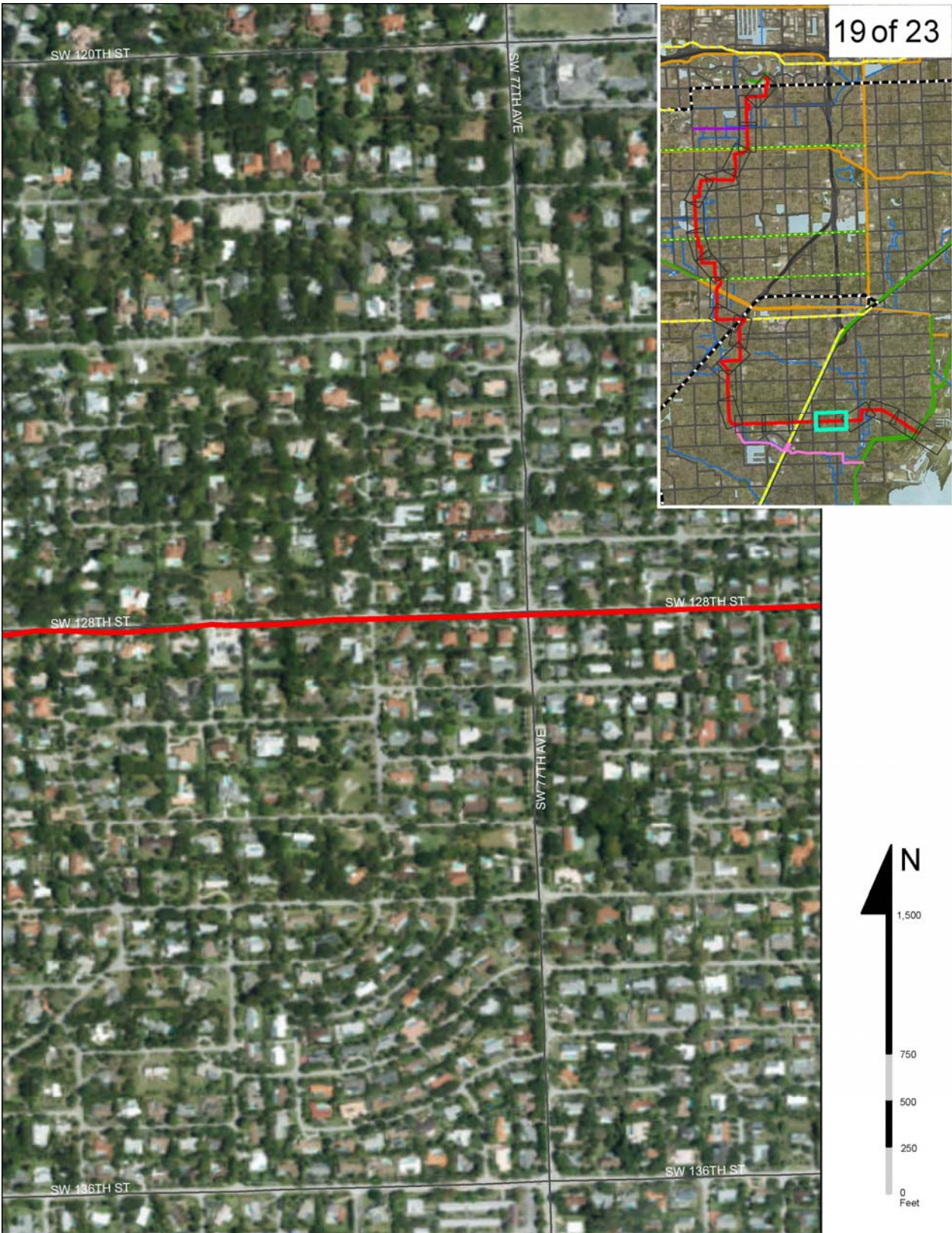


Figure 46: Option 7 traveling east along SW 128th Street

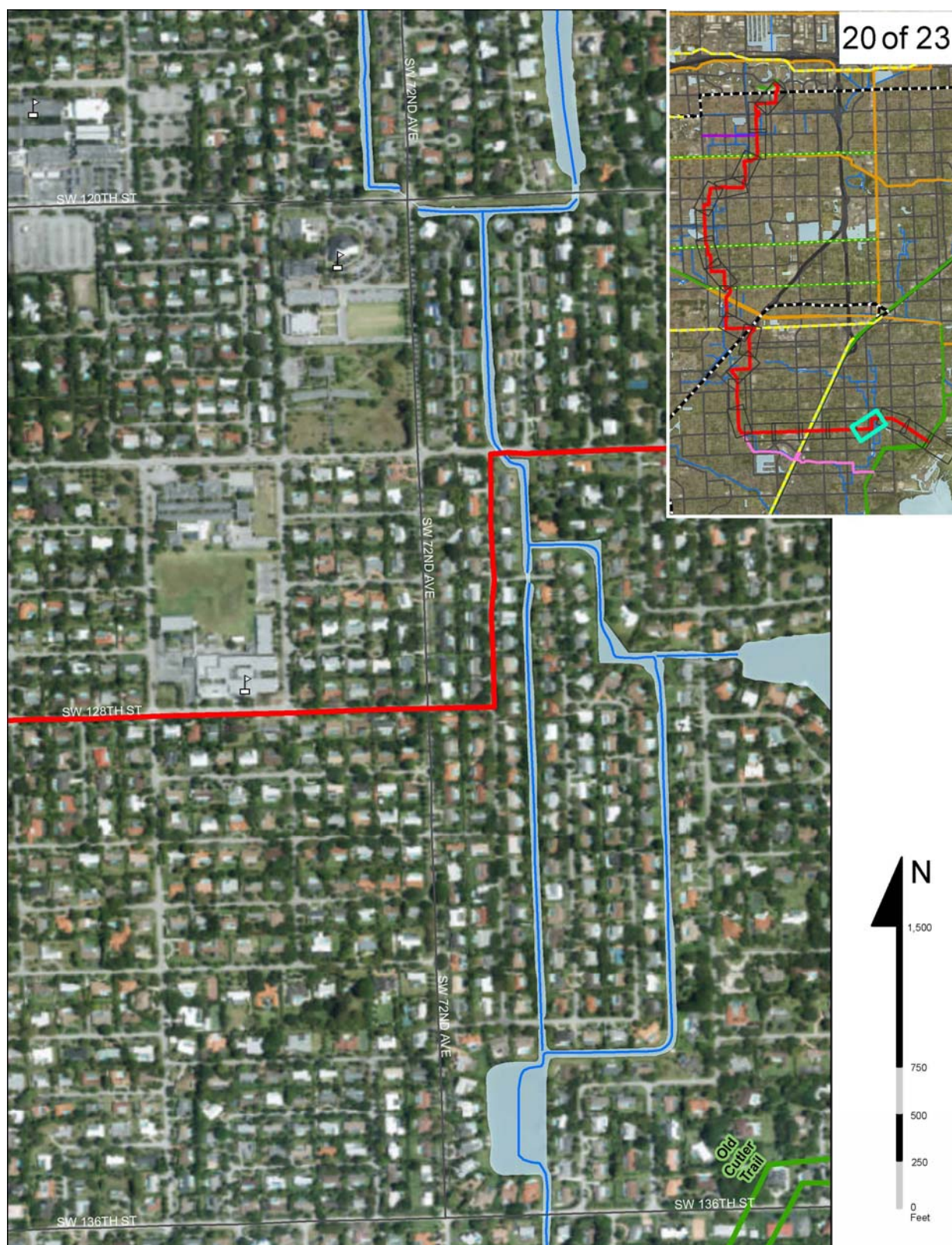


Figure 47: Option 7 traveling along SW 128th Street, SW 71st Avenue, and SW 124th Street

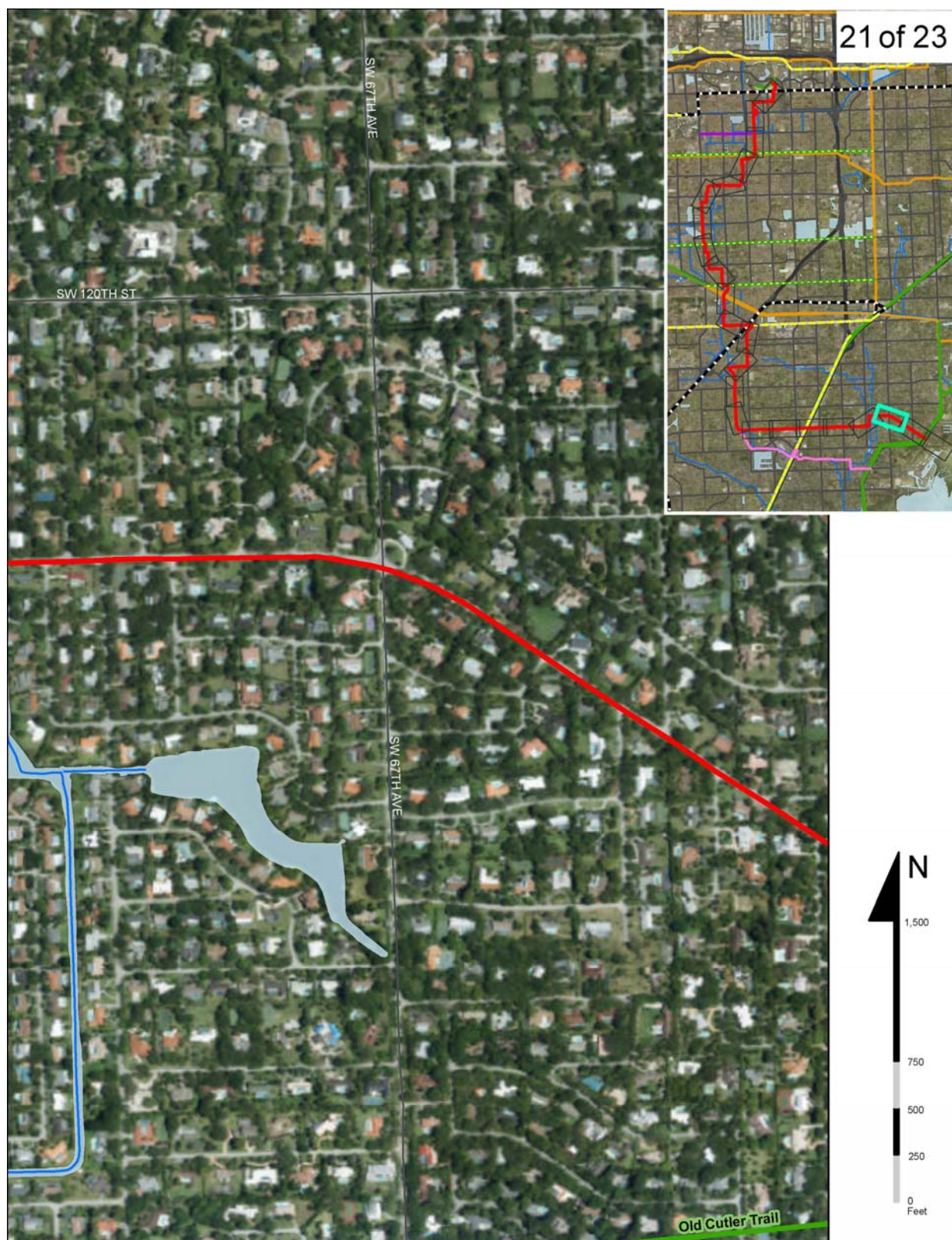


Figure 48: Option 7 traveling east along SW 124th Street toward Old Cutler Trail

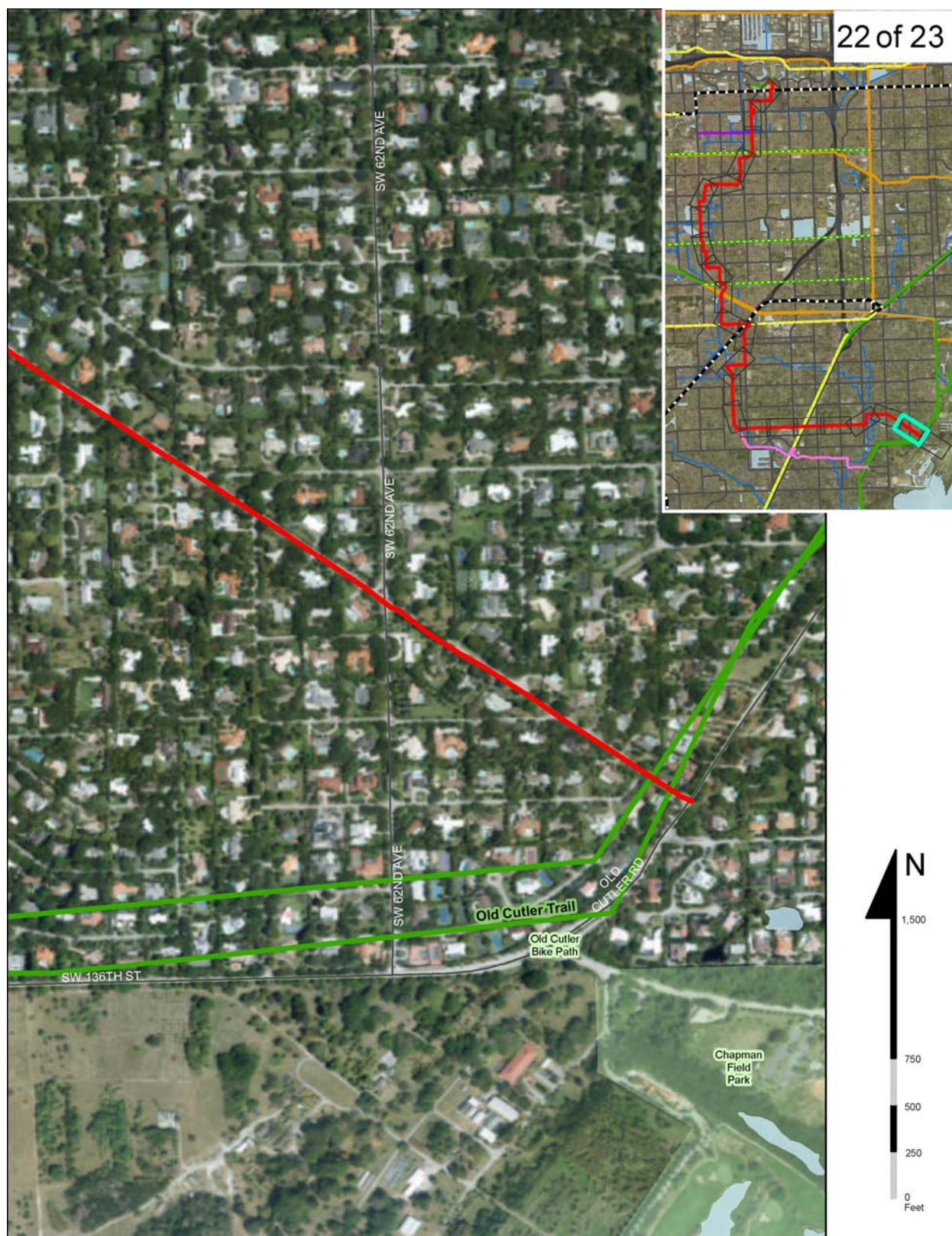


Figure 49: Option 7 meeting Old Cutler Trail

Implementation Plan

As discussed in the previous section, the 14-mile multi-use path would be a great opportunity for north-south and east-west connectivity in a large portion of Central Miami-Dade County. The trail would provide access to major residential and employment centers in the area, including Fontainebleau, FIU, Dadeland, and The Falls.

Although the entire trail (**Figure 50**) would be a great enhancement for the community, there are portions of the easements that are private land and a PD&E study would be required if eminent domain is necessary. Additionally, to stay fully within the FPL/SFWMD easements, there are areas where large bridges would be required to cross the Don Shula Expressway and the US-1 and the S Miami-Dade Busway. Costs of these bridges crossing major transportation facilities would likely be in the range of \$3M - \$5M. This cost is taken from similar bridges in the area, for example the pedestrian bridge near the University of Miami that crosses US 1. To avoid these costs and to still provide connectivity, better options would likely be to use the planned Snapper Creek Trail east-west portion of the trail and to use the existing green and white paths on SW 24th Street (Coral Way), SW 56th Street (Miller Drive), SW 72nd Street (Sunset Drive). The green and white paths are essentially large sidewalks provided on these County managed roadways and they provide east-west connection in this area.



Figure 50: Option 7 Overview

There are two primary sections of this trail that can be brought forward quickly as demonstration projects and these locations can be seen in **Figure 51**.

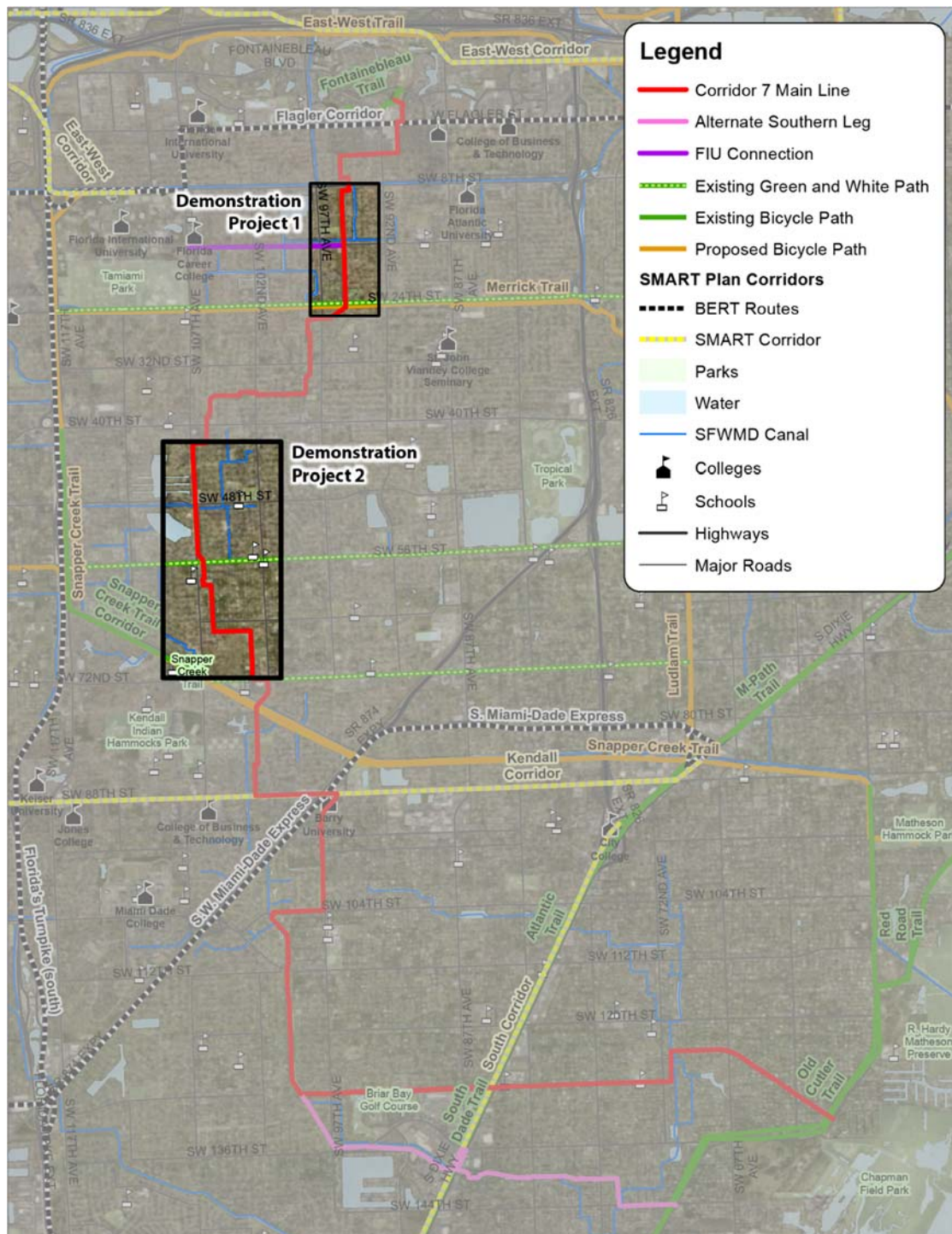


Figure 51: Demonstration Project Locations

The FPL easement from SW 8th Street to SW 97th Avenue (just south of SW 24th Street) This 1.2-mile section (**Figure 52**) of the public easement is entirely owned by FPL. Miami-Dade County can work with them in a similar fashion to the recently completed Linear Park Trail to prepare design plans and enter an agreement between FPL and Miami-Dade County. A general example of the trail typical section can be seen in **Figure 53**. A rendering of the first portion of trail can be seen in **Figure 57**.

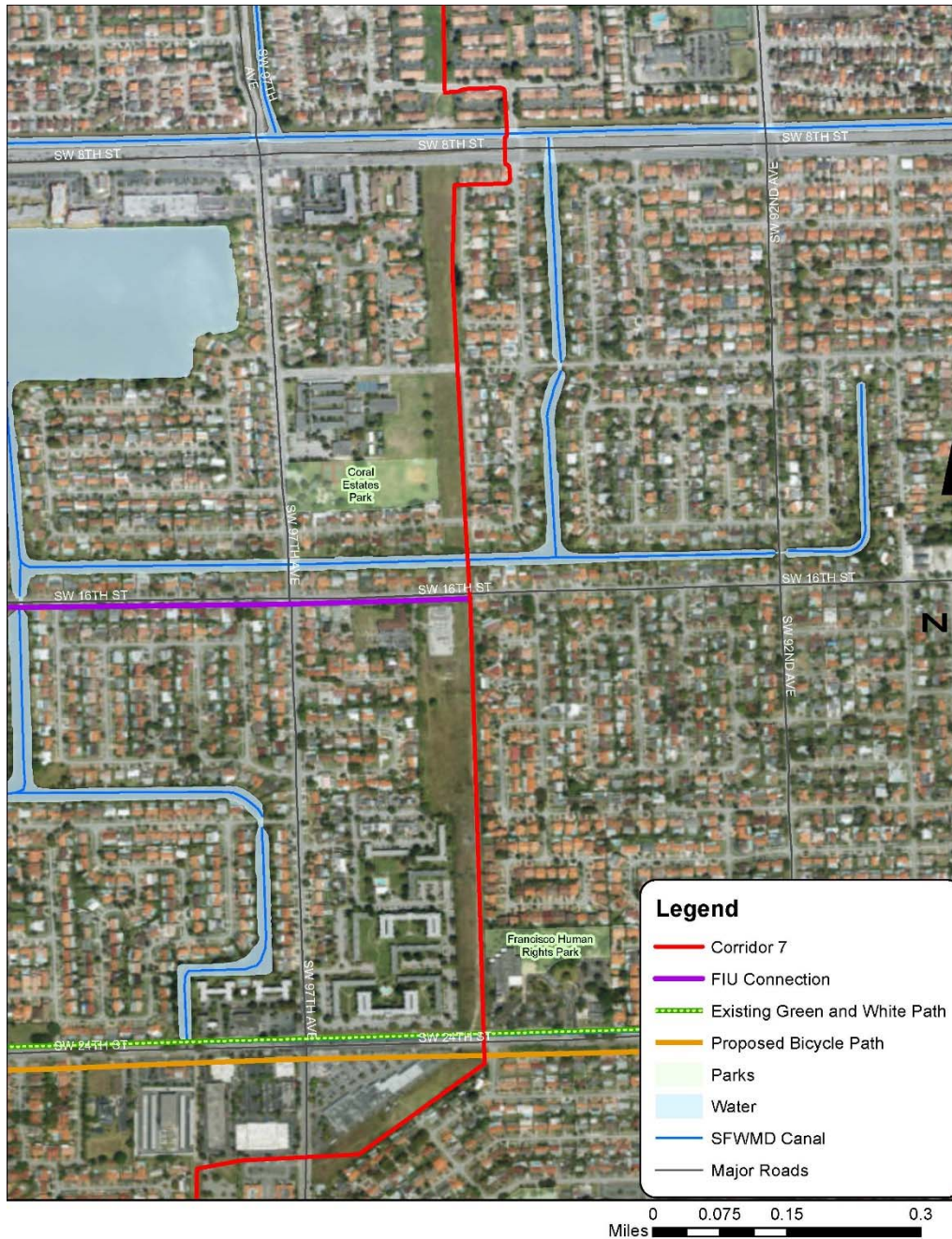


Figure 52: Option 7 Recommended Demonstration Corridor - SW 8th Street to SW 97th Avenue (just south of SW 24th Street)

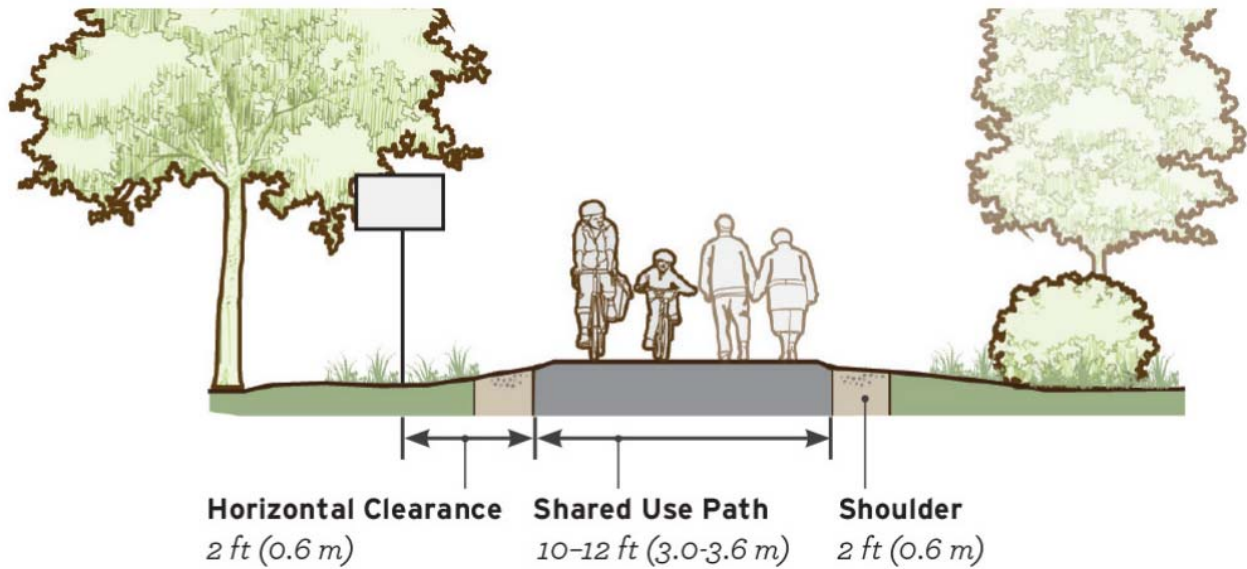


Figure 54: Example of Multi-Use Path (source: Rural Design Guide)

This trail would also require a crossing of the canal just north of SW 16th Street (**Figure 54**). An example of this type of bridge was taken from the Miami-Dade County Trail Design Guidelines and Standards report (**Figure 55**). An approximate cost for a concrete bridge of this nature would be \$500,000. This is based off of similar costs for a small concrete slab 12-foot bridge.



Figure 53: Location for Pedestrian Bridge North of 16th Street



Figure 55: Example of Type of Bridge to be used to cross canal north of SW 16th Street (Source: Miami-Dade County Trail Design Guidelines and Standards)

Mid-block crossings would be required at one location for this section: SW 24th Street (Coral Way) (**Figure 56**).



Figure 56: Mid-Block Crossing Location on SW 24th Street (looking north)

Per FDOT Long Range Estimating (LRE) system, the cost for mid-block crossings with traffic signals is \$120,000. Crossings would also be required at SW 12th Street, SW 16th Street, and SW 15th Street, but these crossings would only be pedestrian signs and striping on road due to the low-volume nature of these streets. Also, from FDOT, the per-mile cost for a 12-foot multi-use trail is approximately \$300,000/mile. A rendering of the crosswalk can be seen in **Figure 57 and 58**. The trail takes advantage of the space between the transmission poles and the smaller power poles on the east side of the property. The proposed trail would also serve the Coral Park Elementary School and the Coral Estates Park.

Between the bridge, mid-block crossings, and the 1.2-mile length, **this trail would cost approximately \$980,000 (see table below).**

Demonstration Project 1 Cost Estimate

FPL Easement from SW 8th Street to SW 97th Avenue (Just south of SW 24th Street)

Description	Cost Each	Number	Cost/Mile	No. of Miles	Totals
Mid-block Crossings	\$ 120,000	1			\$ 120,000
Bridge	\$ 500,000	1			\$ 500,000
12-Foot Multi-Use Trail			\$ 300,000	1.2	\$ 360,000
Total Estimated Cost					\$ 980,000



Figure 57: Rendering of Multi-Use Trail south of SW 8th Street to SW 16th Street



Figure 58: South of SW 16th Street to SW 97th Avenue (just south of SW 24th Street)

FPL Easement from SW 41st Street to SW 70th Street

This section of the trail would be a similar approach to the section between SW 8th Street and SW 97th Avenue (just south of SW 24th Street) (**Figure 59**). Although this 2.4-mile transmission easement is entirely owned by FPL per the property appraiser, but there is one spot south of SW 56th Street (**Figure 60**) where there is a nursery and a closed fence. FPL owns this property, but it is licensed to the nursery. Further coordination between the nursery and FPL would be necessary during design for the appropriate placement of the trail (**Figure 61**).

The approximate cost to construct this 2.4-mile section of the trail would be **\$840,000**.



Figure 59: Option 7 Recommended Corridor for Demonstration Project - SW 41st Street to SW 70th Street



Figure 60: Photo from SW 56th Street Looking South

For this option, several striped crossings will be needed, but only one signaled mid-block crossing (**Figure 61**) at SW 56th Street (Miller Drive) would be required.



Figure 61: Location for Mid-Block Crossing at SW 56th Street

Demonstration Project 2 Cost EstimateFPL Easement from SW 41st Street to SW 70th Street

Description	Cost Each	Number	Cost/Mile	No. of Miles	Totals
Mid-block Crossings	\$ 120,000	1			\$ 120,000
12-Foot Multi-Use Trail			\$ 300,000	2.4	\$ 720,000
Total Estimated Cost					\$840,000

DRAFT

Summary

In summary, the study identified various public easements throughout Miami-Dade County for their potential use in connecting the countywide bicycle network for the use of an alternative source of mobility. Although various FPL and SFWMD easements exist throughout the County, many of these easements are encroached upon or owned by private entities. The study team identified 11 potential corridors for the use of selecting one corridor for a potential multi-use trail/dedicated bicycle lane facility. Option 7, which covers a 14-mile stretch in the center of the County was identified as the most viable potential corridor to utilize the public easement. The easement within the corridor is primarily an FPL easement. FPL owns a large portion of the easement; however, there are various pockets of private ownership throughout. Because of this, two sections of the overall 14-mile corridor were selected as demonstration projects.

Demonstration Project Costs			
Demonstration Project	From	To	Cost
1	SW 8 th Street	SW 97 th Avenue (just south of SW 24 th Street)	\$980,000
2	SW 41 st Street	SW 70 th Street	\$840,000

For the demonstration projects to move forward, coordination would need to occur between Miami-Dade County and FPL to enter an agreement use of the easements for a multi-use trail available to the public.