

SMART Trails Master Plan

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Chapter

o Introduction

The Strategic Miami Area Rapid Transit (SMART) Plan is a comprehensive plan which advances six (6) rapid transit corridors and a network of Bus Express Rapid Transit (BERT) routes to the Project Development and Environment (PD&E) study phase to determine the costs and potential sources of funding for the projects as shown in **Figure 1-1**. The multifaceted SMART Plan implementation effort includes the following;

- PD&E studies,
- land use and visioning,
- economic mobility, and
- first/last-mile (FLM) connections.

Miami-Dade County has a planned county-wide network of paved paths and has coordinated local plans with the Florida Greenways and Trails System (FGTS). The SMART Trails Master Plan was developed to identify potential FLM connections between the SMART Plan corridors and the regional non-motorized trail system. This study also developed an evaluation process for assessing FLM non-motorized connections to existing and future SMART Plan stations. Planning level cost estimates were developed for proposed SMART Trails connections. Finally, conceptual design graphics were prepared to provide visual representation of how these recommendations can be implemented. The conceptual design graphics includes four (4) plan views and eight (8) photosimulations.



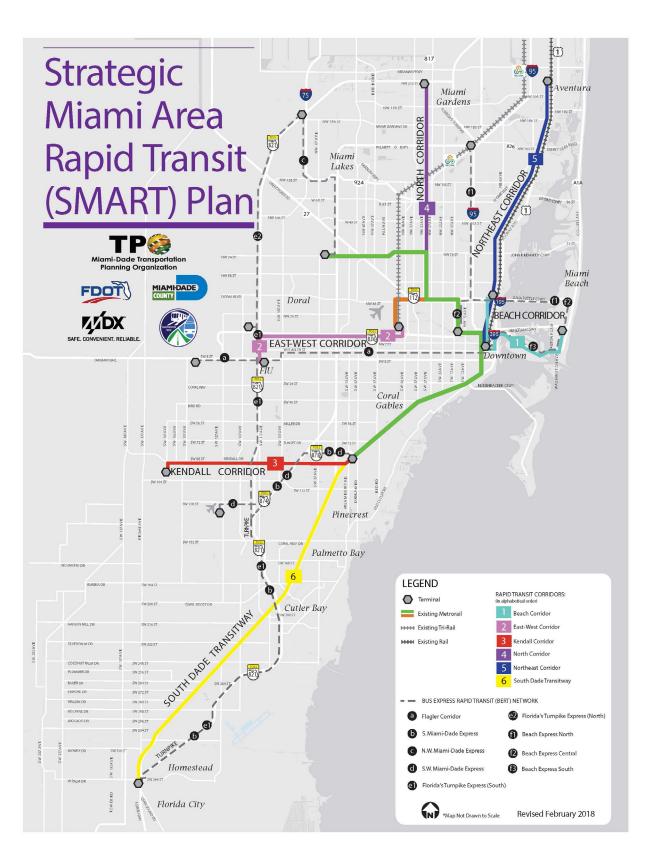


Figure 1-1. SMART Plan

A Study Advisory Committee (SAC) was established to obtain input for the study. The SAC was comprised of representatives from

- Florida Department of Transportation (FDOT) District Six Planning Office,
- Miami-Dade Department of Transportation & Public Works (DTPW) Engineering & Planning Divisions,
- Miami-Dade Park, Recreation and Open Spaces (MDPROS),
- Miami-Dade Regulatory and Economic Resources (RER),
- Florida Department of Environmental Protection Office of Greenways and Trails (OGT)
- South Florida Water Management District (SFWMD)
- Florida Power and Light (FPL)
- The Rails-to-Trails Conservancy
- Friends of the Commodore Trail
- Miami Downtown Development Authority (DDA),
- Miami-Dade Expressway Authority (MDX), and
- Miami-Dade Transportation Planning Organization (TPO).

Three (3) SAC meetings were held at key milestones to present draft results and obtain input. At these meetings, Slido, an interactive polling application was used to survey stakeholder responses. The purposes for each meeting are detailed below.

- **SAC Meeting #1** Identified opportunity areas for non-motorized access to transit and refined evaluation process for potential connections in order to prioritize recommendations.
- **SAC Meeting #2** Refined FLM evaluation criteria and reviewed the preliminary list of project locations.
- **SAC Meeting #3** Reviewed visualizations of proposed recommendations.

SAC members provided valuable feedback throughout the planning process.

Chapter

OPRIOR Planning Efforts

An important element of developing a regional nonmotorized trail system is establishing connections to transit nodes. Miami-Dade TPO focuses on smarter mobility today and tomorrow.

This chapter provides a high-level review of existing plans identifying best practices related to non-motorized FLM planning. Local studies as well as statewide plans were reviewed, and findings were used when developing the SMART Trails Plan for Miami-Dade County.



Local

The Strategic Miami Area Rapid Transit (SMART) Plan, 2018

SMART Plan Land Use Scenario and Visioning Plans, 2018

First Mile-Last Mile (FLM): Options with High Trip Generators Employers Study, 2017

Pedestrian Bridge from Miami Springs to Okeechobee Metrorail Station, 2018

Golden Glades Multimodal Transportation Facility (GGMTF) Bicycle & Pedestrian Accessibility Study, 2018

Ludlam Trail

The Underline

ThinkBike Miami, 2015

Miami-Dade Greenways, 1994/1998

Transit System Bicycle Master Plan for Miami-Dade County, 2014

Public Easement Bicycle/Pedestrian Network Plan, 2018

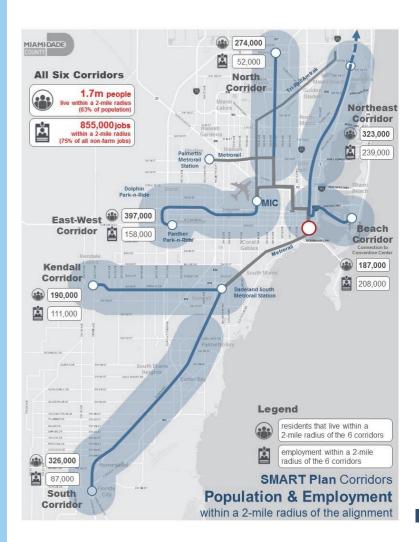
Miami-Dade Multimodal Accessibility-Based Needs Assessment, 2018

Miami-Dade 2040 Long Range Transportation Plan (LRTP), 2014

Transportation Improvement Program (TIP) FY 2017/2018-2021/2022

State

Florida Greenways and Trails System Plan (FGTS), 2013-2017 Shared-Use Non-Motorized Trail Program, 2018/2019-2022/2023 The Strategic Miami Area Rapid Transit (SMART) Plan, 2018 The Strategic Miami Area Rapid Transit (SMART) Plan is an infrastructure investment program focused on improving transportation mobility throughout Miami in order to support economic growth. As Miami is a major international freight, passenger, and cargo hub, the Miami-Dade TPO Governing Board has declared the advancement of the SMART Plan as the top priority for Miami-Dade County, supported by public and private sector partners, residents, and elected officials. The SMART Plan will expand transit options in Miami-Dade County along six (6) critical corridors, impacting an estimated 1.7 million people.



Highlights O.

- Beach Corridor: Highest tourist demand in region with major employment centers.
- East-West Corridor: Heaviest commuter travel for international, state and local businesses.
- Kendall Corridor: One of the most congested arterial roadways with the highest demand.
- North Corridor: Key regional mobility linkage for access to jobs, stadium and educational facilities.
- Northeast Corridor: High transit demand and part of a critical regional corridor stretching to Palm Beach County.
- South Corridor: Experiencing the fastest population growth in Miami-Dade County.

SMART Plan Land Use Scenario and Visioning Plans, 2018

The success of major rapid transit investments depends on development of land uses that are transit supportive. The Miami-Dade TPO is analyzing this interrelationship as a complement to the SMART Plan, through Land Use Scenario and Visioning Plans for the six (6) critical corridors. Multiple land use scenarios with varying policies and regulations are being developed for each of the corridors based on community visions and ridership demands for the proposed rapid transit investment. Visioning planning consisted of utilizing and refining results from the land use scenario efforts and considers several elements, summarized below, through engagement with the effected communities through corridor charrettes.



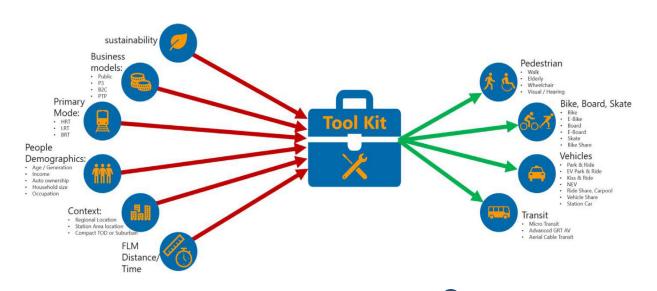
Highlights O

- Transit oriented developments
- Station area plans
- Land use policies

- Design criteria
- Economic mobility
- Accessibility

First Mile-Last Mile (FLM): Options with High Trip Generators Employers Study, 2017

The First Mile-Last Mile (FLM): Options with High Trip Generators Employers Study introduces the concepts of FLM mobility and provide practical, implementable strategies for deployment in the developed and planned corridors for the SMART Plan. The Study identified 47 Tool Kit strategies for improving FLM mobility and access to and from transit hubs and is organized by five (5) modal groups.

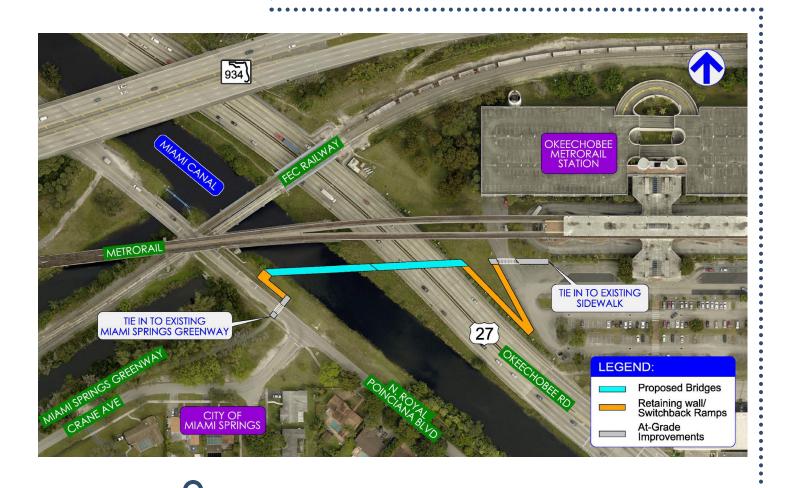


- Transit Oriented Development considers higher-density development with pedestrian priority, located within easy walking distance of a major public transit station or stop.
- Pedestrian's primary mobility mode is walking. Walking is the beginning and end of every trip by any mode
- Bike Board and Skate are the most efficient from energy input perspective understanding while walking is the primary mode. At 12-14 mph a bicycle is about 30% more efficient than walking, about four to five times as efficient as electric rail, and about 25 to 30 times as efficient as single-occupant-vehicles.

Highlights **O**

- Vehicles are the most popular mode of transportation. Understanding that walking is the primary FLM with bicycles as the most efficient from an energy perspective, vehicular options are the most common and readily implementable. Since the existing roadway infrastructure is already in place, the vehicular strategies occur with little government participation.
- Transit comprises expanding strategies that are influenced by technological advances, delivery model innovations, and entry of private carriers into what was for the last 70 years a public service.

Pedestrian Bridge from Miami Springs to Okeechobee Metrorail Station, 2018 The Pedestrian Bridge from Miami Springs to Okeechobee Metrorail Station Feasibility Memorandum was developed to provide direct safe access for pedestrians and bicyclists from the northwest area of the City of Miami Springs with the Okeechobee Metrorail Station within the City of Hialeah. The cities are separated by two major barriers; the Miami Canal and US 27/ Okeechobee Road. Three alignment options were considered and a pedestrian bridge between N Royal Poinciana Boulevard and the Miami Canal was selected as the recommended alignment.



Golden Glades
Multimodal
Transportation
Facility (GGMTF)
Bicycle & Pedestrian
Accessibility Study,
2018

The Golden Glades Multimodal Transportation Facility (GGMTF) is a terminal for SMART Plan proposed I-95 BERT route and existing Tri-Rail station. The Golden Glades Interchange (GGI) is an area that lacks system linkage and is in high demand for bicycle and pedestrian access to exist and future transit. The study area establishes that the most desirable distance to transit for walkers is a half (½) mile and for bikers two (2) miles. "High Impact" areas that would benefit the most from connectivity to transit were highlighted in the prioritization of the 11 major projects identified in the study.

MAJOR PROJECTS PROJECT PRIORITY 1/2 MILE ADIL 11 **= 1** 10 2 1 8 7 8 9 7 4 2 3 5 **Network Connection** 10 Between Projects **—** 11 Connection To Project 3 Essential Projects

Highlights C

- Project 1: Ali Baba Avenue Connector
- **Project 2:** Biscayne/Memorial Greenway Corridor
- Project 3: Central Connector and Sunshine State Kiss-&-Ride
- Project 4: SR-826/I-95 Connector
- Project 5: NW 4th Avenue Connector
- Project 6: NW 2nd Avenue Connector

- **Project 7:** Biscayne Canal Low-Level Bridge
- Project 8: NW 17th Avenue Canal Low-Level Bridge
- **Project 9:** Biscayne Gardens Connector
- Project 10: 9th & 10th Avenue Connector
- Project 11: NW 175th Street Connector

Ludlam Trail

The Ludlam Trail Corridor runs north/south along a Florida East Coast Industries (FECI) abandoned railway between 67th Avenue and 72nd Avenue, between Perimeter Road in the north and US 1 to the south. Miami-Dade County commissioners approved the \$25 million purchase of the land in September 2018 after years of planning the six-mile long corridor. Much of the corridor is planned to remain open space, with a portion of the land envisioned to be key nodes of development. The Miami-Dade County Trail Design Guidelines and Standards – Ludlam Trail Case Study provides designers with guidance when specifically developing the Ludlam Trail, and generally developing any non-motorized urban shared-use trail throughout Miami-Dade County. The case study provides observational research on how people use trails best and explores thresholds and criteria to help guide designers. The following are the best principals for designing trails.

Highlights O

- Pedestrian Needs depend on their age, height, physical ability, visual acuity, awareness of their surroundings, and reaction time. A wide variety of spatial needs are presented by pedestrians as they may jog in groups, walk with a stroller, etc.
- Cyclists/Wheeled Devices Needs demand more space for reaction times due to faster speeds and require more trail width than pedestrians.
- Americans with Disabilities Act/Universal Design must be kept in mind when designing pedestrian paths, sidewalks, ramps, and stairways in order to provide continuous passage.
- Intersections and Crossings require a high level of planning to ensure user safety. At-grade crossing
 are often the simplest and most cost effective but separated grade crossings can be necessary if other
 techniques are not available.
- Trail Security includes the safety of all trail users, in addition to access for emergency vehicles if necessary.



The Underline

The Underline is a multiphase partner project between Friends of the Underline, Miami-Dade Transit (MDT), Miami-Dade TPO, and Miami-Dade Parks, Recreation, and Open Spaces. The Underline's vision is to transform the underutilized land below Miami's Metrorail, from the Miami River to Dadeland South Station, into a 10-mile linear park, urban trail, and living art destination. Because of the already existing linear infrastructure, there is right of way available along the whole proposed route. The corridor is divided into four (4) character zones containing a total of seven (7) destinations. The Underline broke ground in November 2018 marking the beginning of construction of Phase 1, Brickell Backyard, one of the seven (7) destinations.

- The Brickell Backvard
- The Hammock Trail
- The Grove Gallery
- The Douglas-Bird Triangle
- The University Colonnade
- The South Miami Gardens
- The Dadeland Trail Connect



Highlights O······

- Position underutilized land for redevelopment to bring more complementary uses to the corridor.
- Consider the application of design guidelines and targeted rezoning to encourage complementary uses and design in new development adjacent to The Underline.
- Invest in a network of key streets and open space to set a physical framework for growth.
- Explore funding construction and operations by utilizing the real estate value generated by The Underline.
- Introduce targeted programming to key nodes along The Underline – both within the park and in adjacent spaces - to generate visitation and new development opportunity.
- Encourage greater investment around The Underline through coordinated neighborhood partnerships to improve and the corridor.

ThinkBike Miami, 2015

The ThinkBike Workshops are a multi-city effort to discuss possibilities how to increase the use of the bicycle. From January 12-15, 2015, the ThinkBike Workshop was held in Miami, bringing together experts, community members, and planners who discussed the role of cycling in the transportation network and the objectives of The Underline. The workshop began with a session open to the public where teams brainstormed designs and explored the study area by bicycle. Sessions were then held behind closed doors for partners of The Underline to sketch up designs and the workshop concluded with a closing session that was also open to the public, where recommendations were presented. Five (5) key elements that were identified as requirements for a successful bicycle highway are listed below. The ThinkBike Workshop also discussed the need to influence behavior and opinion of bicycling, to convince the community that it is a safe and efficient mode of travel.



Highlights O

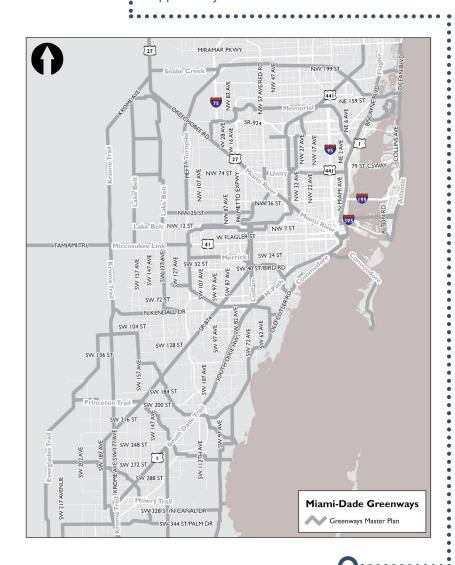
- **Safety** safe traffic environment
- Directness short, easy to ride
- Coherent without missing links

- Attractive low air pollution, well lit, nice surroundings
- **Comfortable** smooth, even pavement

Miami-Dade Greenways, 1994/1998

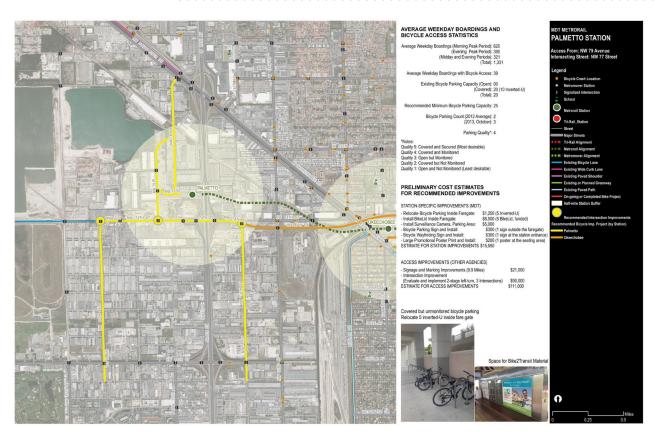
The South Dade Greenway Network (SDGN) Master Plan recommended to link Biscayne National Park and Everglades National Park, as well as a bicycle connection to mass transit at the Metrorail Dadeland South Station. In response to the chaos caused by Hurricane Andrew, the South Dade county community wanted a system of ten (10) multi-purpose trails of 194 miles that would provide scenic, recreational, and useful corridors both for residents and tourists.

The North Dade Greenways Master Plan was created as a need was identified to provide pedestrian connections to the various municipalities of Miami-Dade, eliminating reliance on motorized vehicles. A total of 24 greenways and an additional seven (7) opportunity areas were identified in the Master Plan.



Transit System
Bicycle Master
Plan for MiamiDade County, 2014

The Transit System Bicycle Master Plan for Miami-Dade County was crafted in response to the combination of increased bicycle activity and transit ridership in Miami-Dade County. Integrating the two activities provides a better connection for users, creating a larger catchment area for transit-a benefit for both users and transit agencies. The plan provides guidance to MDT, South Florida Regional Transportation Authority (SFRTA), and other agencies to improve bicycle access. Summarized below are the three categories of practices identified in the plan.

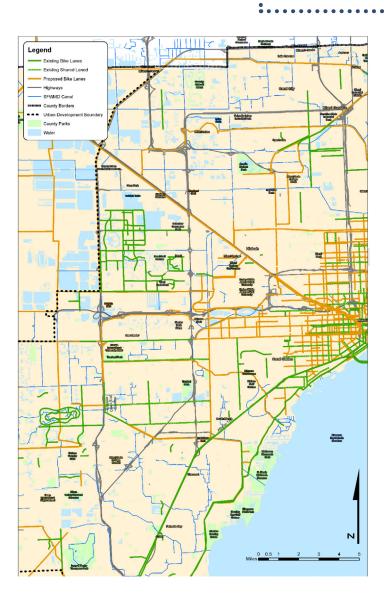


Highlights O

- Bike-and-Park refers to practices related to bicycle parking facilities including types of parking, capacity, availability, and signage.
- Bike on Transit is related to bicycle parking on transit, and includes policies related to permissible
 types of bikes, and restrictions by time-of-day or service type.
- Access to Stations is influenced by efforts to improve bicycle connections to transit facilities.

Public Easement Bicycle/Pedestrian Network Plan, 2018

The Public Easement Bicycle/Pedestrian Network Plan identified public easements by Florida Power and Light (FPL), SFWMD, and Miami-Dade County throughout Miami-Dade County with capability of connecting the existing and planned bicycle network. Potential routes for multi-use paths were established and 11 potential opportunities where public easements could be used to enhance the network of bicycle and pedestrian facilities were identified. The plan evaluated each potential corridor against nine (9) criteria to identify the best public easement corridor, and the criteria are listed below.



Highlights O·····



- Closes Gaps in the Trail Network
- **Enhances Safety**
- Region Importance
- Constructability
- Connectivity Centers of Population/ **Employment**
- Potential for Public Support
- Accessibility to/from Adjacent Roadways
- Access to Transit
- Use of Public Easement

Miami-Dade Multimodal Accessibility-Based Needs Assessment, 2018 The Miami-Dade Multimodal Accessibility-Based Needs Assessment is a complimentary tool supporting the Long Range Transportation Plan (LRTP) which has historically been informed by the Southeast Regional Planning Model (SERPM). SERPM lacks the ability to simulate non-motorized trips, so the Multimodal Accessibility-Based Needs Assessment developed performance measures for the planning process of multimodal corridors. The assessment provided untraditional accessibility measurements, as traditional measurements focus on network link performance and not the ability of users to connect to that link. Summarized below are the Accessibility Diagnostic definitions utilized in this assessment.

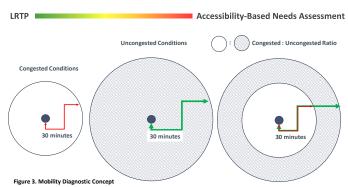


Figure 4 depicts a map of the mobility ratio in Miami-Dade County, clearly highlighting the areas with the greatest impact of congestion. An interesting conclusion that can be drawn from this map is the fact that congestion in the Dolphin Expressway corridor and the I-95 corridor and in downtown Miami do not have a great impact on accessibility. In fact, the highest

mobility ratios are in the Dolphin corridor west of the Miami International Airport, The reason for this is that congestion is outweighed by other factors like network connectivity and land use. It can be said that, in areas with a high degree of accessibility resulting from those other factors, congestion is simply not as important or as impactful. In other words, if destinations are nearby and they are well connected via infrastructure, the effect of congestion is not as great because geographical proximity of destinations, combined with effective connectivity make travel speed almost irrelevant. By way of example, traveling to a destination by automobile that is only two miles away would take ten minutes in severely congested conditions, traveling at an average velocity of twelve miles per hour. That destination is accessible in spite of the

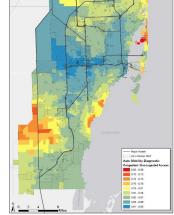


Figure 4. Mobility Diagnostic Ratio Ma

congestion because it is effectively only ten minutes away. A different scenario in which a destination is thirty miles away would take almost an hour traveling at an average velocity of



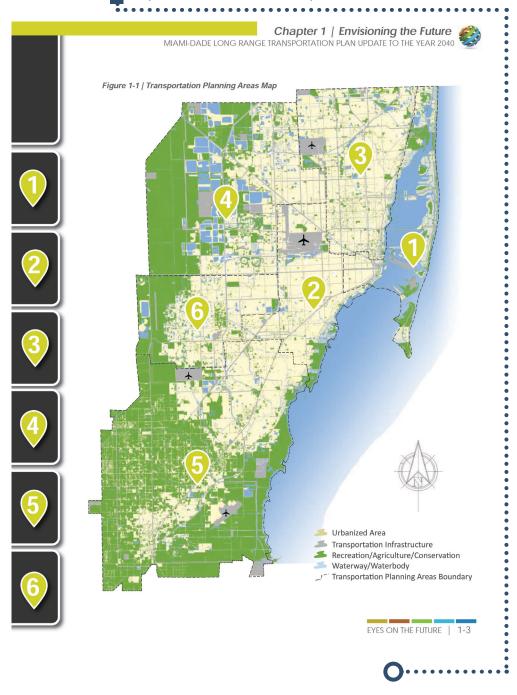
Highlights O·····

- Mobility Diagnostic assesses the impact of congestion on personal automobile and bus accessibility, measured through a ratio of accessibility scores in congested conditions to uncongested conditions.
- Connectivity Diagnostic
 evaluates the impact of connectivity
 as a ratio of accessibility scores
 of the actual network to the
 accessibility scores of synthetic
 assumptions of free zone to zone
 travel.
- Other Diagnostics such as land use balance diagnostic is a potential tool to determine the extent to which existing land use policy impacts accessibility.

Miami-Dade 2040 Long Range Transportation Plan (LRTP), 2014 The Miami-Dade 2040 Long Range Transportation Plan (LRTP) includes in depth consideration of multimodal improvement opportunities. A major emphasis of the LRTP is projects that improve the operation of the existing transportation system as opposed to building new elements. Deep consideration was given to non-motorized modes of transportation, including sidewalk, bicycle and pedestrian trail improvements. A total of \$100 million dollars (year of expenditure) was set-aside for bicycle and pedestrian projects. The Miami-Dade 2040 Bicycle/Pedestrian Plan serves as the non-motorized element of the 2040 LRTP.

Miami-Dade 2040 LRTP:

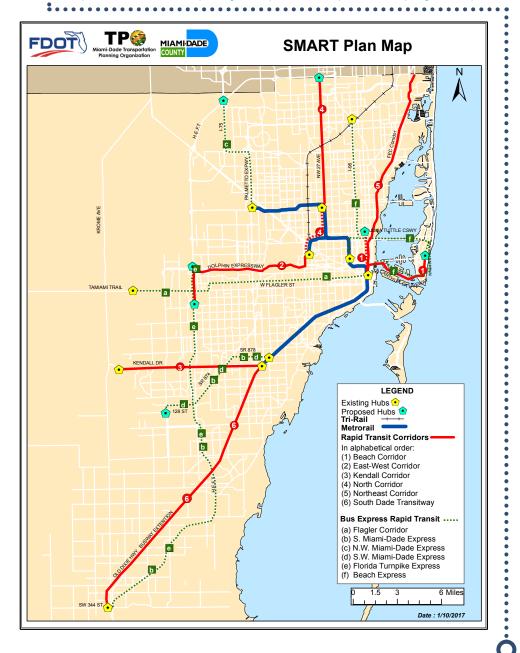
http://www.miamidade2040Irtp.com/index.htm



Transportation Improvement Program (TIP) FY 2018/2019 -2022/2023 The Transportation Improvement Program (TIP) specifies transportation improvements for the next five (5) years, prioritizing these projects with federal, state, and local funding. The program contains various categories of improvements, including non-motorized projects. As the TIP is the capital improvements element of the LRTP, the projects and priorities are consistent between the two documents. A section within the TIP supports the advancement and implementation of the SMART Plan. It is important to integrate TIP projects within a half mile to the SMART corridors that can improve transit. A list of projects within the ½ mile boundaries has already been identified and can be found from the weblink below.

Transportation Improvement Program:

http://www.miamidadetpo.org/transportation-improvement-program.asp



Florida Greenways and Trails System Plan (FGTS), 2013-2017

The Florida Greenways and Trails System (FGTS) Plan is the first update to the original plan established in 1998 and aims to outline the new vision of the system. Although the FGTS has been recognized nationally, the plan builds upon this accomplishment and provides a new foundation from which to advance the FGTS. The goals presented in the FGTS Plan are summarized below.

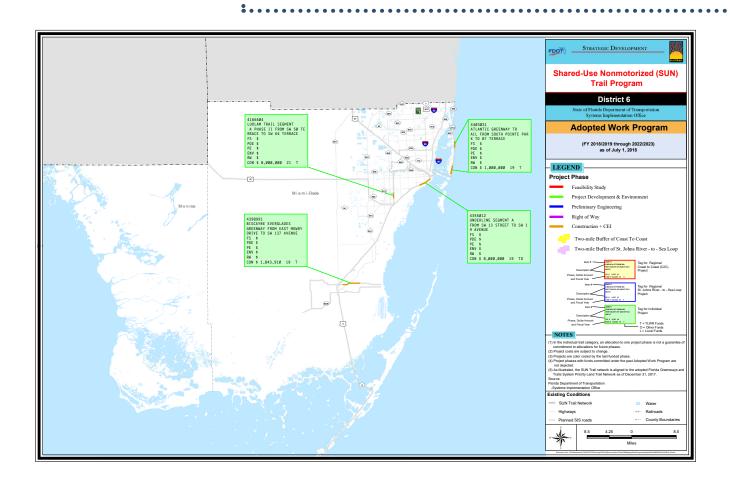
Highlights O.

- Identify and prioritize trails and greenways to facilitate completion of the FGTS
- Direct resources to connect the gaps in the FGTS
- Promote and communicate information about greenways and trails to advance the FGTS
- Link and support complementary programs, planning and partnership efforts to coordinate the FGTS



Shared-Use Non-Motorized Trail Program, 2018/2019-2022/2023

The Florida Shared-Use Non-Motorized (SUN) Trail Network is a Florida Statute declaring the need to keep pedestrian and bicyclist facility development as a priority. The SUN Trail Program directs FDOT to provide transportation projects to develop a statewide system of paved non-motorized trails as a component of the FGTS, which is planned by the Florida Department of Environmental Protection (FDEP).



Highlights O······

- Ludlam Trail Segment A Phase II from SW 50th Terrace to SW 64 Terrace
- Underline Segment A from SW 13th Street to SW 19th Avenue
- Biscayne Everglades Greenway from East Mowry Drive to SW 137th Avenue
- Atlantic Greenway Trail from South Pointe Park to 87th Terrace

Chapter

6 Framework

Information related to existing infrastructure and continuous planning efforts was utilized to establish the framework of the SMART Trails Master Plan. The compilation of existing and planned multimodal facilities led to the identification of areas of opportunity for proposed connections of trail and transit corridors. The following illustrate key non-motorized and transit initiatives within Miami-Dade County.

- Figure 3-1. SMART Plan/Premium Transit Network
- **Figure 3-2.** Existing & Planned Bicycle/Pedestrian Facilities
- Figure 3-3. Miami-Dade Greenways
- Figure 3-4. Existing & Planned Trail Projects
- **Figure 3-5.** Potential Trail Corridors/Public Easements



The SMART Plan focuses on improving transportation mobility throughout Miami-Dade County by expanding transit options along six (6) critical corridors. In addition to the SMART Plan Corridors, Metrorail and Tri-Rail corridors were targeted as the FLM connections we have identified.

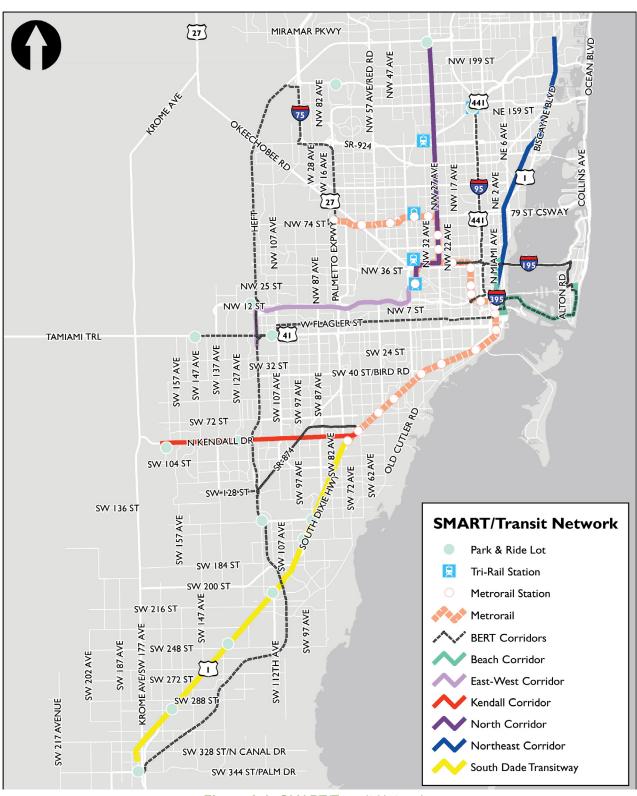


Figure 3-1. SMART/Transit Network

Existing & Planned Bicycle/Pedestrian Facilities

The network of existing and planned bicycle and pedestrian facilities in Miami-Dade County, although extensive, contains significant gaps. Areas isolated from the overall network were examined for the potential to create or improve connections.

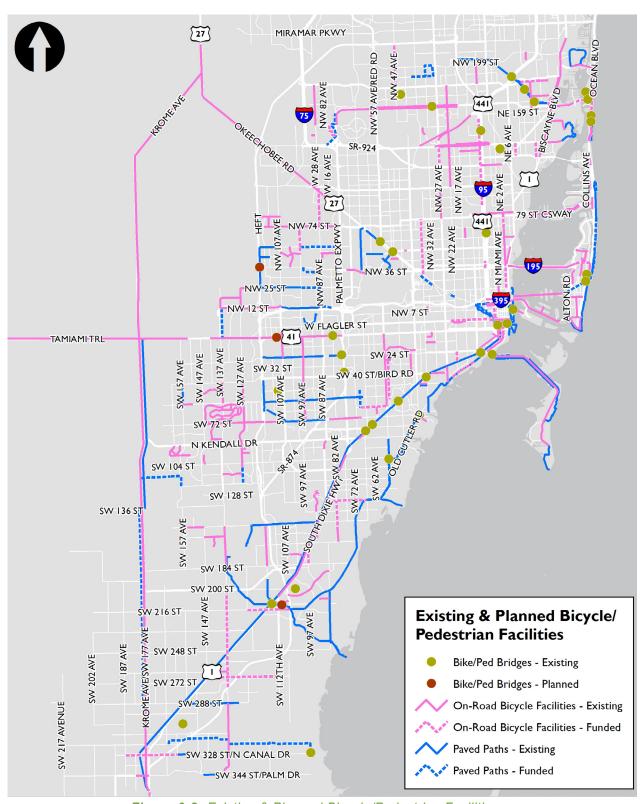


Figure 3-2. Existing & Planned Bicycle/Pedestrian Facilities

Miami-Dade Greenways

The Miami-Dade Greenway Master Plan was developed in two phases. The South Dade Greenway Network Master Plan, created in 1994, proposed a system of ten (10) multi-purpose trails of 194 miles. The North Dade Greenways Master Plan, created in 1998, identified 24 greenways and an additional 7 opportunity areas to provide pedestrian connections to various municipalities. As many of the greenways proposed in the two Master Plans exist today or are in the planning stages, the Master Plans were compiled to the portray the greenway network in Miami-Dade County.

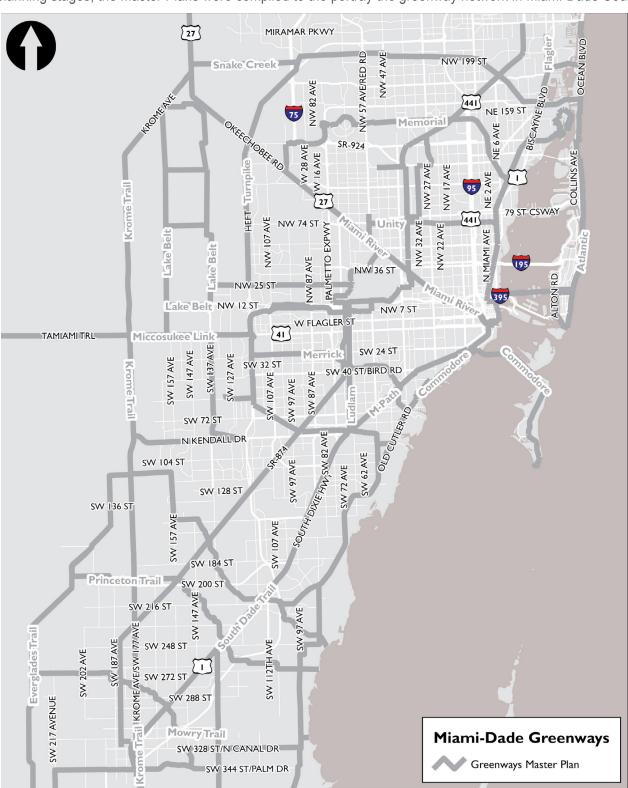


Figure 3-3. Miami-Dade Greenways

Existing & Planned Trail Projects

FGTS was first established in 1998 and continues to be expanded upon by the Office of Greenways and Trails (OGT) in the Division of Recreation and Parks at the Florida Department of Environmental Protection (DEP). The network of existing and planned trails from the FGTS in combination with the greenways planned in the North and South Dade Greenways master plans are shown below.

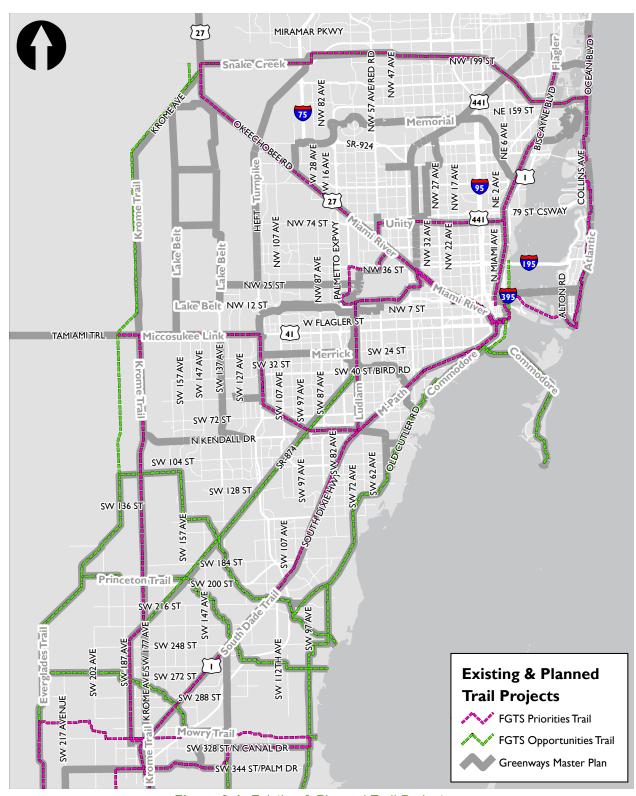


Figure 3-4. Existing & Planned Trail Projects

Public easements have been identified as excellent possible trail corridors as they provide efficient space for trail development. The FPL lines and numerous canals that exist in Miami-Dade County include easements that were noted as opportunity areas for proposed FLM connections. The following illustrates the combination of greenways and trails as well as public easements, providing the foundation of the SMART Trails Master Plan.

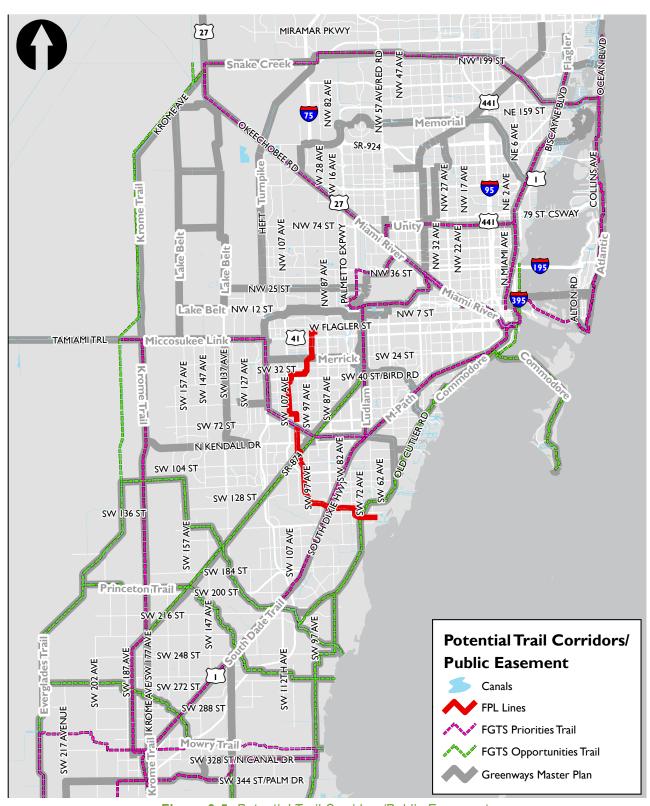


Figure 3-5. Potential Trail Corridors/Public Easement



Chapter 4

First and Last Mile Evaluation Process

A FLM evaluation process has been developed to prioritize potential projects to connect the SMART Plan corridors and the trails network. Each recommendation will be evaluated based on the five (5) criteria listed in **Table 4-1**. Shown in **Table 4-2** are the measurable characteristic related to each criterion. The evaluation accounts for benefits and challenges present at each proposed project location using measurements that relate to the quality and operation of a potential project at a given site. Although the evaluation process was developed in the context of the SMART Trails Master Plan, it can be used to evaluate any project that aims to connect nonmotorized facilities to transit.

The application of evaluation criteria to the proposed SMART Trail connectors is documented in **Appendix A**.

Table 4-1. Evaluation Criteria

Criteria		Definition	
	Connectivity	Providing access to population areas and useful destinations.	
	Gap Analysis	Filling in strategic gaps in the non-motorized network.	
(X)	Constructability	The concept can be incorporated into the existing facility without significant impacts and right-of-way is generally available.	
	Low-Stress	Utilize low volume and low speed roads.	
	Stakeholder Input	Considers stakeholder agency and public feedback in favor of or not in favor of an improvement.	

 Table 4-2. Evaluation Criteria Weights

Criteria	Ranges	Weight
	Does not connect to an area of significant population density.	0
Connectivity	Connects to an area of medium population density.	0.5
	Connects to an area of high population density.	1
	Connection is not identified in the non-motorized network plan(s).	0
Gap Analysis	Extends an important non-motorized facility.	0.5
	Fills in an important gap of the non-motorized network plan(s).	1
	Corridor is unavailable, and acquisition of right-of-way is a significant issue.	0
Constructability	Corridor is availability but with significant construction challenges	0.5
	Corridor is available and can be expanded upon. Acquisition of right-of-way is not a significant issue.	1
	Utilizes corridor with high speeds and heavy volume.	0
Low-Stress	Provides a separated facility on a corridor with high speeds and heavy volume	0.5
	Utilizes corridor with traffic-calming measures in place.	1
	No or little stakeholder support and interest.	0
Stakeholder Input	Mixed support and interest	0.5
	Significant stakeholder support and interest.	1

Chapter 5

Recommendations and Implementation Strategies

SNAPSHOT

- 20 proposed SMART Trail connections to **population areas** and **useful destinations**
- 14 miles of new active transportation facilities
- 6 shared-use path **bridges**
- \$62 million in SMART Trails **investment**

Based on the preceding review of existing and planned transit corridors, trail projects, and bicycle and pedestrian facilities in Miami-Dade County, potential locations with opportunities to create or enhance connections to SMART Plan facilities were identified. The proposed recommendations have been prioritized based on the FLM evaluation criteria. Projects with the highest score are ranked number one and so forth. A detailed table of the prioritization process, showing each proposed connection and criteria contributing to the score, is contained in **Appendix A**.

Planning-level cost estimates have been prepared for each proposed connection. Cost estimates are based on the FDOT Long Range Estimating (LRE) System, the FDOT Golden Glades Multimodal Transportation Facility (GGMTF) Bicycle Pedestrian Accessibility Study, previous estimates used in similar projects within Miami-Dade County and manual calculations. The cost of right of way was based on the 2018 market value found in the Miami-Dade Property Appraiser website. Estimated costs for each project are for planning purposes only and do not take into consideration specific construction, maintenance, implementation costs or aesthetics. Detailed planning level cost estimates are contained in **Appendix B**.

Detailed recommendations of FLM connections between the SMART Plan corridors and the regional non-motorized trail system along with prioritized rankings and planning-level cost estimates are summarized in the following sections. There are some conceptual design graphics which provides visual representation of how these projects can be implemented.

UrbanFootprint, a data-driven mapping software used for urban planning, was utilized to create "Walk Access to Transit Stop" maps. Maps displaying minutes of walk time to access the nearest transit stop at the census block level for each potential project location are presented in this chapter. Darker coloring represents longer walk time to transit. The transit stops include Miami-Dade Metrobus, Metrorail and Metromover, as well as Tri-Rail stations.

Table 5-1 displays the SMART trails connections summarized by premium transit corridor.

Table 5-1. SMART Trails Connections

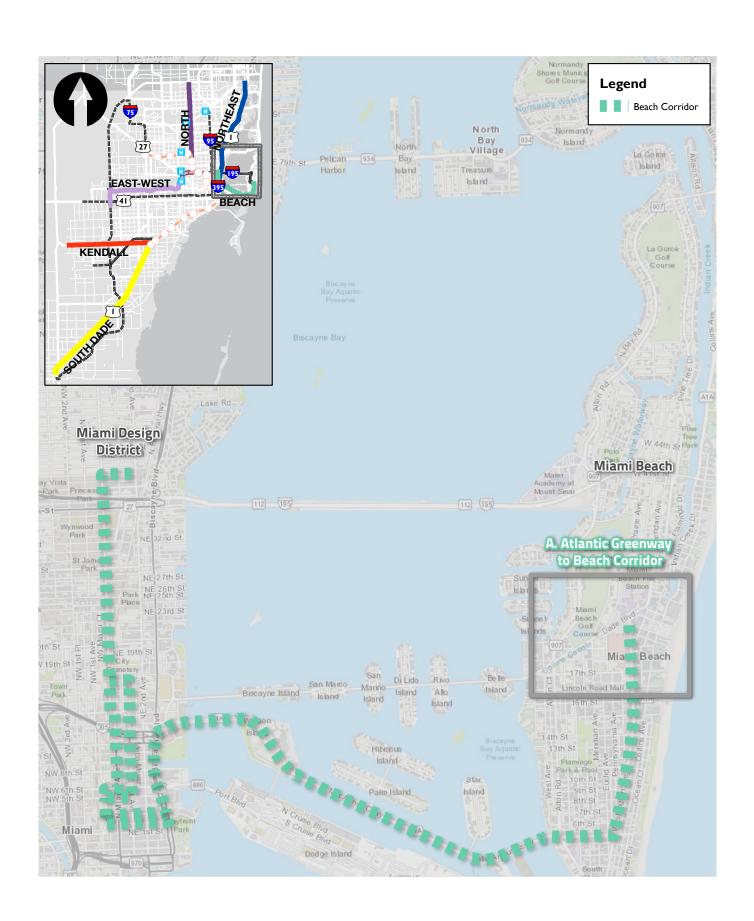
SMART PLAN/ TRANSIT CORRIDOR	PROJECT NAME		
Beach Corridor	A. Atlantic Greenway to Beach Corridor		
	B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route A		
Vandall Carriday	B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route B		
Kendall Corridor	C. Snapper Creek Trail to Kendall Corridor		
	D. Krome Trail to Kendall Corridor		
	E. Miami River Greenway to Metrorail — Route A		
	E. Miami River Greenway to Metrorail — Route B		
Makeensil	F. Miami River Greenway to Palmetto Metrorail		
Metrorail	G. SW 38th Avenue to Douglas Metrorail/Underline		
	H. Rickenbacker Cswy to Underline/Vizcaya Metrorail — Route A		
	H. Rickenbacker Cswy to Underline/Vizcaya Metrorail — Route B		
	I. Ludlam Trail to East-West Corridor		
	J. Kitty Roedel to East-West Corridor		
East-West Corridor	K. Central West Basin Linear Park to Dolphin Park & Ride		
	L. Turnpike Trail to Dolphin P&R — Route A		
	L. Turnpike Trail to Dolphin P&R — Route B		
	M. Lehman Link to Northeast Corridor		
Northeast Corridor	N. Baywalk Path to Northeast Corridor		
	O. Snake Creek Trail to Northeast Corridor		
North Corridor	P. Snake Creek Trail to North Corridor - Route A		
North Corridor	P. Snake Creek Trail to North Corridor - Route B		
South Dade	Q. Briar Bay Linear Park to South Dade Transitway		
Transitway/South	R. Roberta Hunter Park Trail to South Dade Transitway		
Corridor	S. Princeton Trail to South Dade Transitway/South Dade Trail		
Tri-Rail	T. Gold Coast Trail to Golden Glades Tri-Rail Station		

	PROJEC	T COST	
RANK	WITHOUT ROW	WITH ROW	CONCEPT INCLUDED?
2	\$2,152,000		✓
14	\$1,633,000		
3	\$588,000		✓
14	\$672,000	\$1,257,075	✓
23	\$584,000		
7	\$1,519,000	\$6,747,194	
3	\$344,000		
7	\$6,967,000		
20	\$423,206		
7	\$825,000		
1	\$722,000		
14	\$800,000		✓
24			
3	\$3,747,089		✓
14	\$352,000		
20	\$192,000	\$5,535,820	
7	\$6,895,000	\$16,440,521	✓
7			
3	\$208,738		✓
7	\$1,799,000		✓
22	\$16,286,862		✓
14	\$856,000		✓
14	\$200,000		✓
24			
7	\$14,411,000		
Total Cost	\$62,176,895	\$84,153,236	

Trail Connections to SMART Plan Beach Corridor



Atlantic Greenway to Beach Corridor





Atlantic Greenway to Beach Corridor

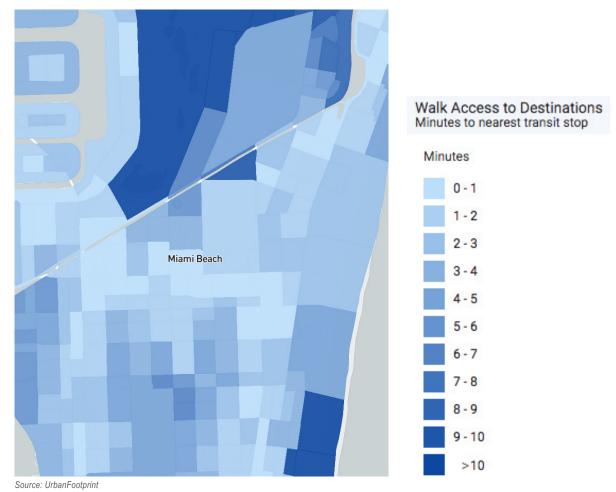


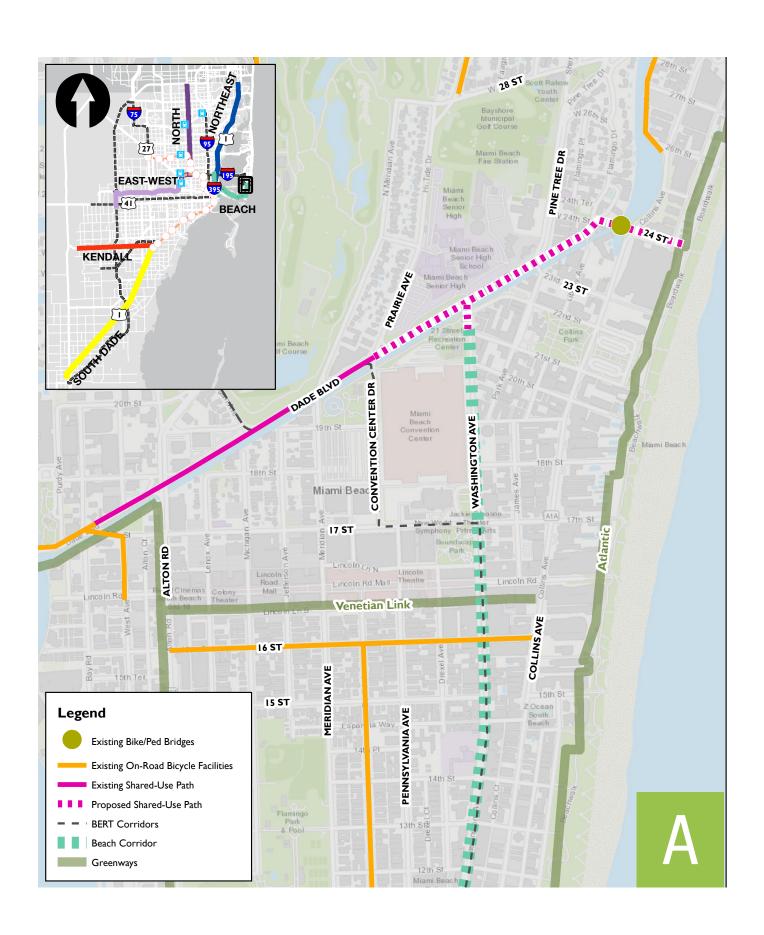
Project Cost

Total Length

0.78 miles

- Proposed Project
 - Extend shared-use path along
 - Dade Boulevard from Convention Center Drive to 24th Street
 - 24th Street from Dade Boulevard to Miami Beach Boardwalk
 - Washington Avenue from Dade Boulevard to 21st Street (across the bridge) to provide access to future Beach Corridor station at Miami Beach Convention Center
 - Connect to the existing shared-use path on Dade Boulevard from Bay Road to Convention Center Drive
- Useful Destinations
 - Access to Miami Beach Convention Center and Miami Beach Boardwalk





A

Atlantic Greenway to Beach Corridor

Existing

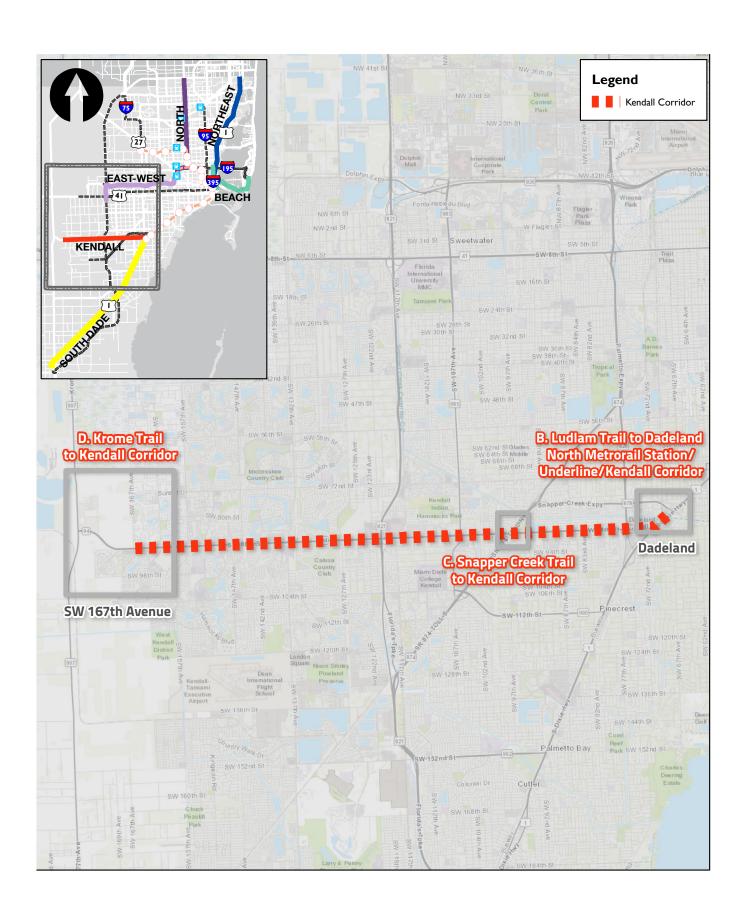


Concept



Trail Connections to Kendall Corridor

- B Ludlam Trail to Dadeland North Metrorail Station/ Underline/Kendall Corridor
 - C Snapper Creek Trail to Kendall Corridor
- D Krome Trail to Kendall Corridor



B

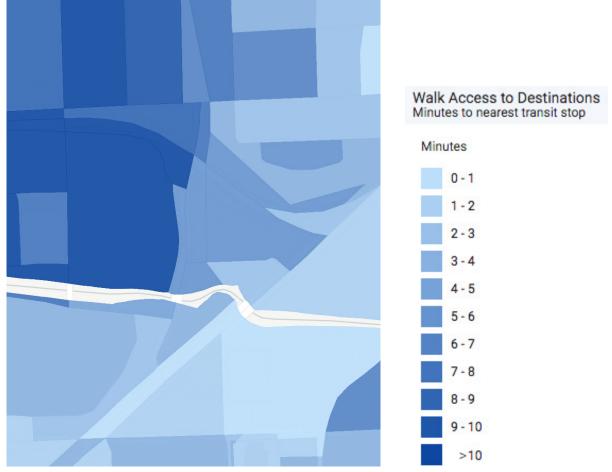
Ludlam Trail to Dadeland North Metrorail Station/ Underline/Kendall Corridor

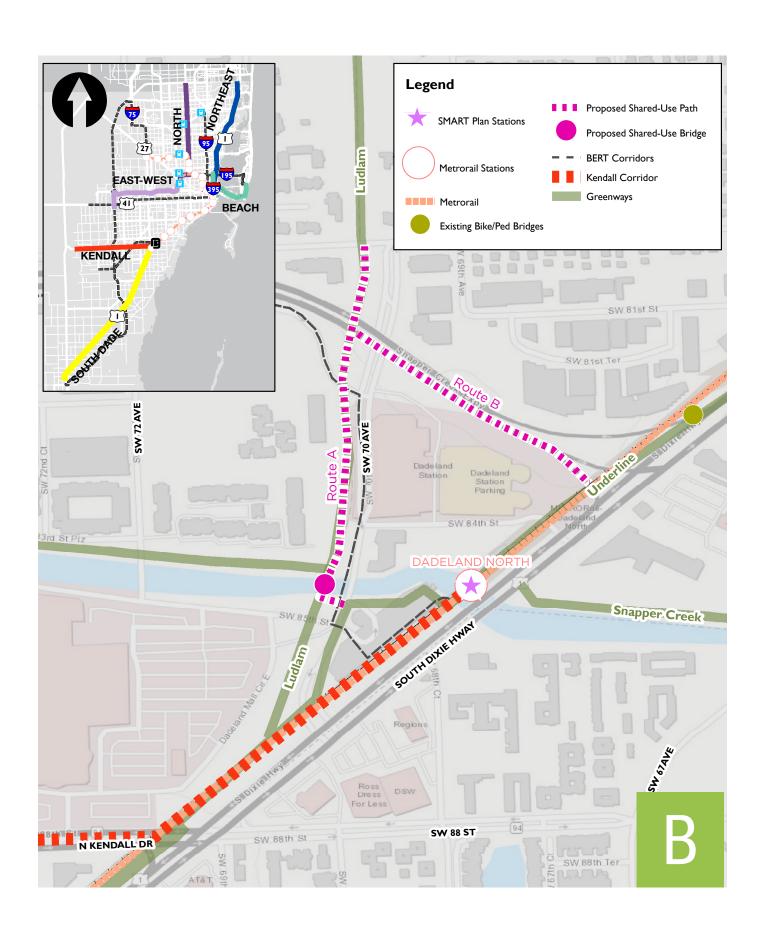


- Proposed Project
 - Route A
 - Proposed shared-use bridge west of SW 70th Avenue
 - Proposed shared-use path west of SW 70th Avenue

Route	Total Length	Project Cost
Α	0.35 miles	\$1,633,000
В	0.22 miles	\$588,000

- Route B
 - Proposed shared-use path south of Snapper Creek Expressway
 - **Appendix C** includes a plan view graphic at 1-inch equals 100 feet scale for a shared-use path alignment for Route B
- Useful Destination
 - Access to Dadeland Mall





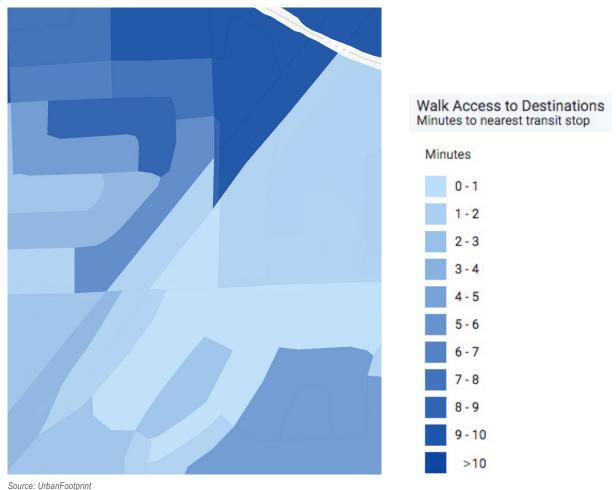
Snapper Creek Trail to Kendall Corridor

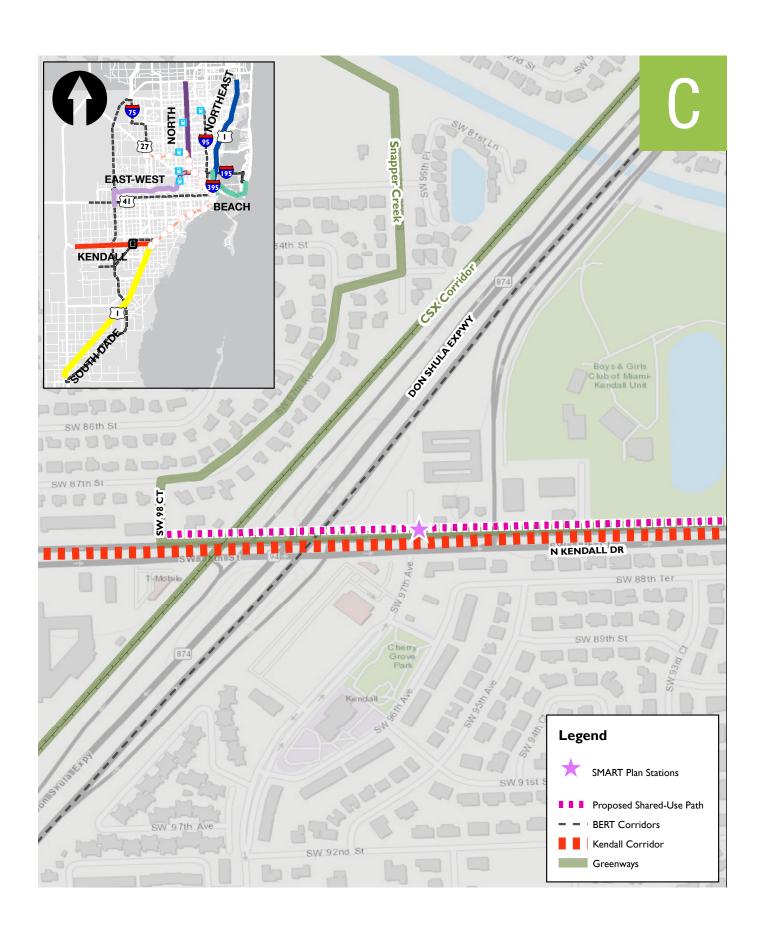


- **Proposed Project**
 - A shared-use path on the north side of SW 88th Street/Kendall Drive from SW 98th Court to SW 94th Avenue as shown in the Snapper Creek Trail Segment "A" Planning Study
 - Modifications needed under the Don Shula Expressway at Kendall Drive

Total Length	Project Cost
0.43 miles	\$672,000 (without ROW) \$1,257,075 (with ROW)

- **Useful Destinations**
 - Access to Boys and Girls Club of Miami, Inc., SW Langer/Kendall Unit and K-Land Park

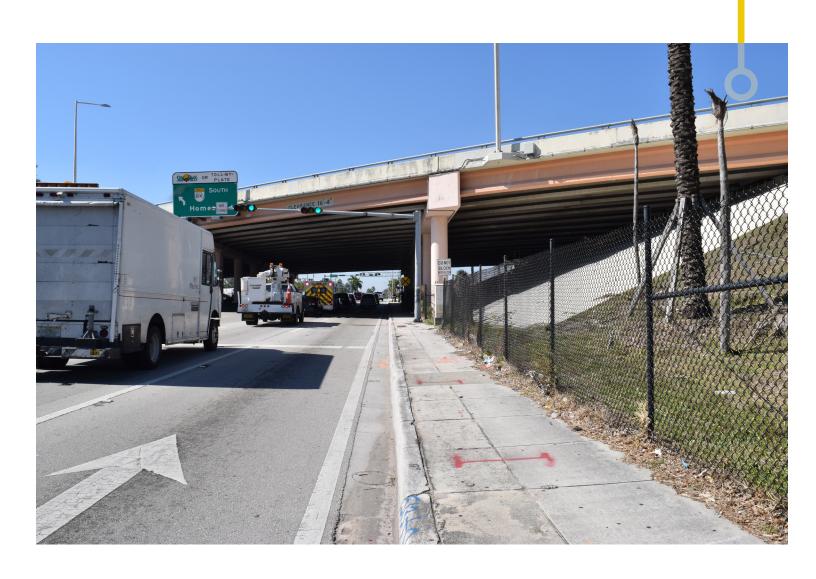




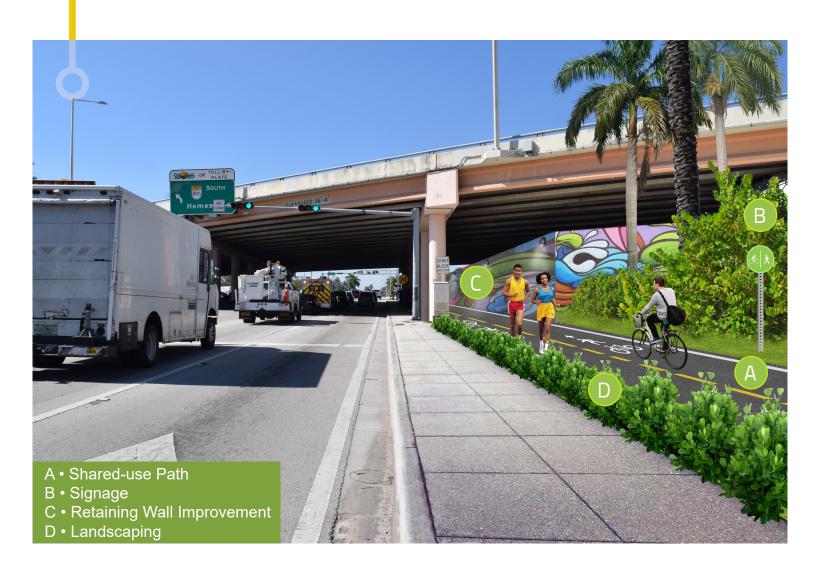
C

Snapper Creek Trail to Kendall Corridor

Existing



Concept



Krome Trail to Kendall Corridor



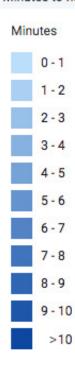
- Proposed Project
 - A shared-use path on the south side of SW 88th Street/Kendall Drive from SR 997/Krome Avenue to SW 162nd Avenue
- Useful Destinations
 - Access to West Kendall Baptist Hospital and proposed SR 836/Dolphin Expressway SW Extension – Kendall Parkway Path

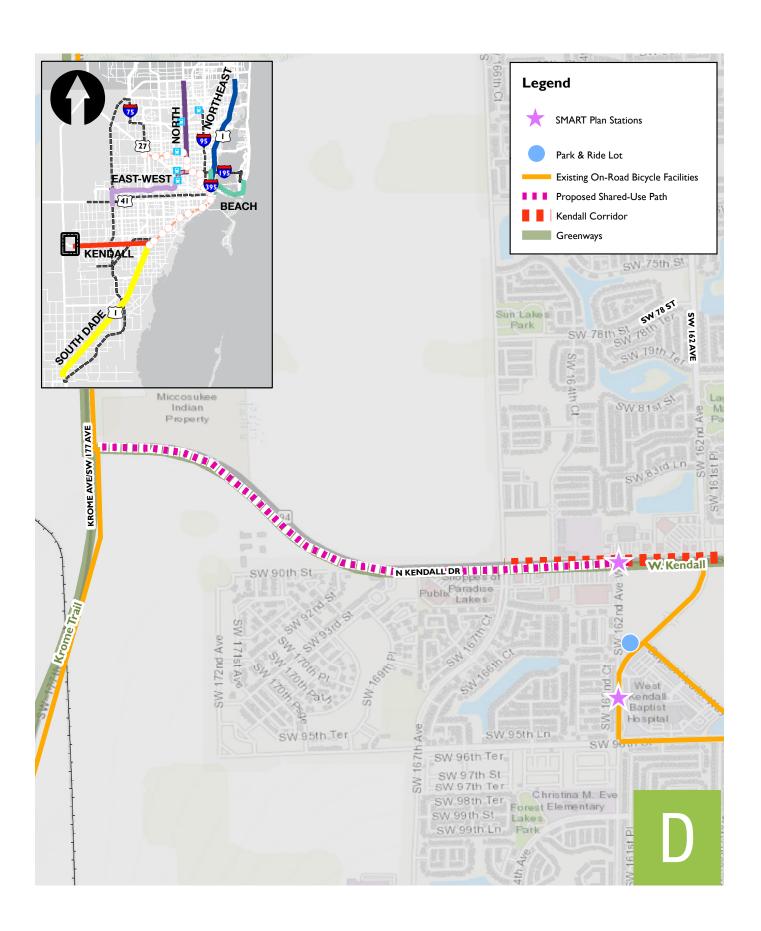
Total Length	Project Cost
1.46 miles	\$584, 000



Source: UrbanFootprint

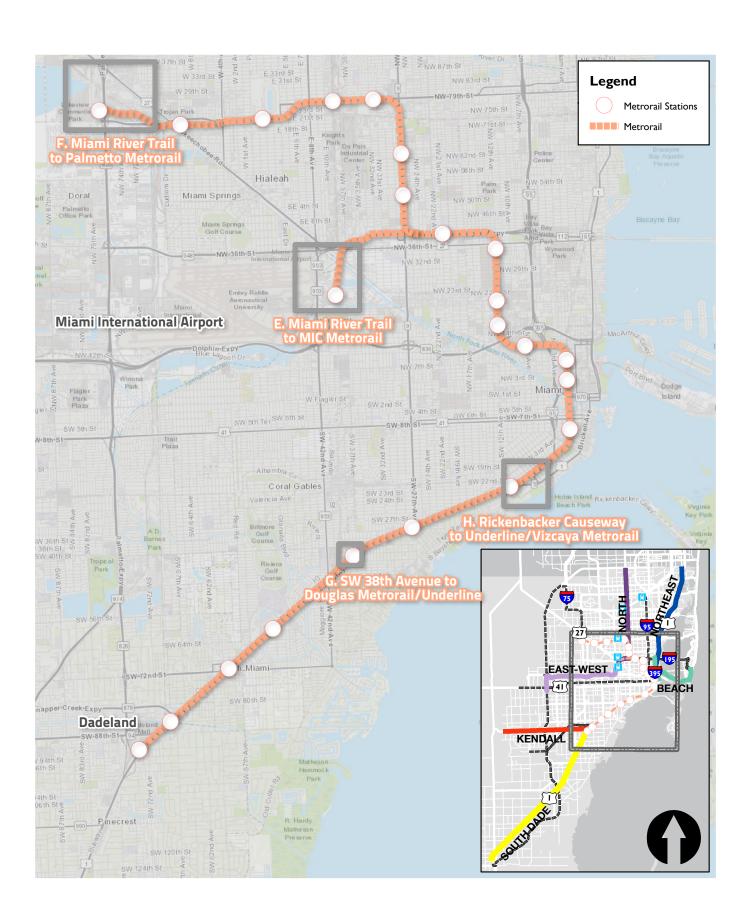
Walk Access to Destinations Minutes to nearest transit stop





Trail Connections to Metrorail Stations

- E Miami River Greenway to Metrorail
- F Miami River Greenway to Palmetto Metrorail
- G SW 38th Avenue to Douglas Metrorail/Underline
- H Rickenbacker Causeway to Underline/Vizcaya Metrorail



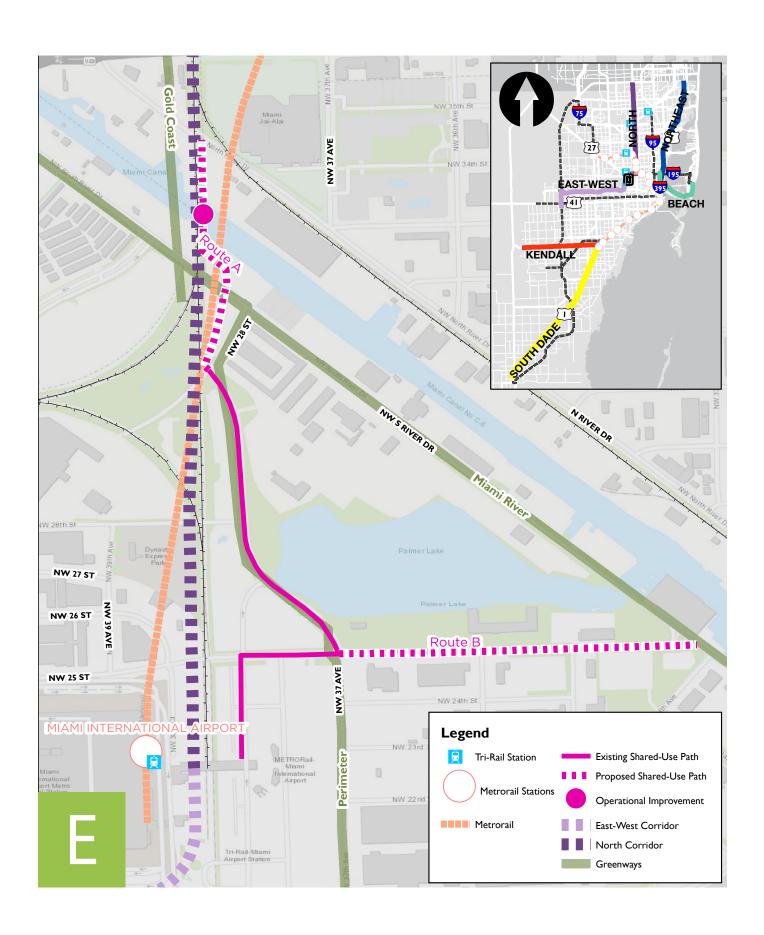
Miami River Greenway to Metrorail



- Connections to MIC
 - Route A
 - Extend shared-use path along
 - NW 28th Street from NW 37th Avenue to NW S River Drive
 - NW S River Drive from west of the railway to NW 28th Street

Route	Total Length	Project Cost
Α	0.34 miles	\$1,519,000 (without ROW) \$6,747,194 (with ROW)
В	0.36 miles	\$344,000

- West of the railway over the Miami Canal No C-6 connecting NW South River Drive and NW North River Drive
- Proposed shared-use bridge west of the railway
- Route B
 - A shared-use path on the north side of NW 25th Street from NW 37 Avenue to NW S River Drive
- Useful Destination
 - Access to Miami International Airport (MIA)
- Connections to Culmer Station
 - A shared-use path on the north side of NW 11th Street from NW 12th Avenue to Culmer Station.
 - Useful Destination
 - Culmer Metrorail Station
- Connections to Government Center Station
 - A shared-use path on the north side of NW 2nd Street from NW North River Drive to NW 2nd Avenue
 - Active transportation improvements should be considered at the intersection of NW 2nd Street at NW 3rd Court/NW 3rd Avenue including leading pedestrian interval (LPI) and shared-use path curb ramps
 - Useful Destinations
 - Lummus Park
 - Miami-Dade Government Center



F

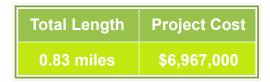
Miami River Greenway to Palmetto Metrorail

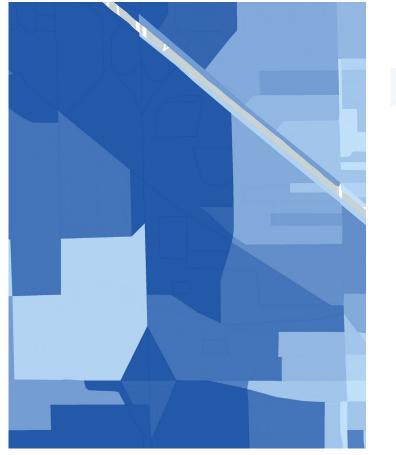


- Proposed Project
 - A shared-use path along
 - NW 74th Avenue from railway to NW South River Drive
 - Railway from Palmetto Station to NW 74th Avenue
 - A shared-use path bridge at railway and NW 74th Avenue
- Useful Destination

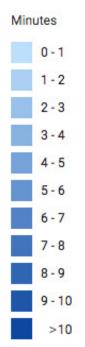
Source: UrbanFootprint

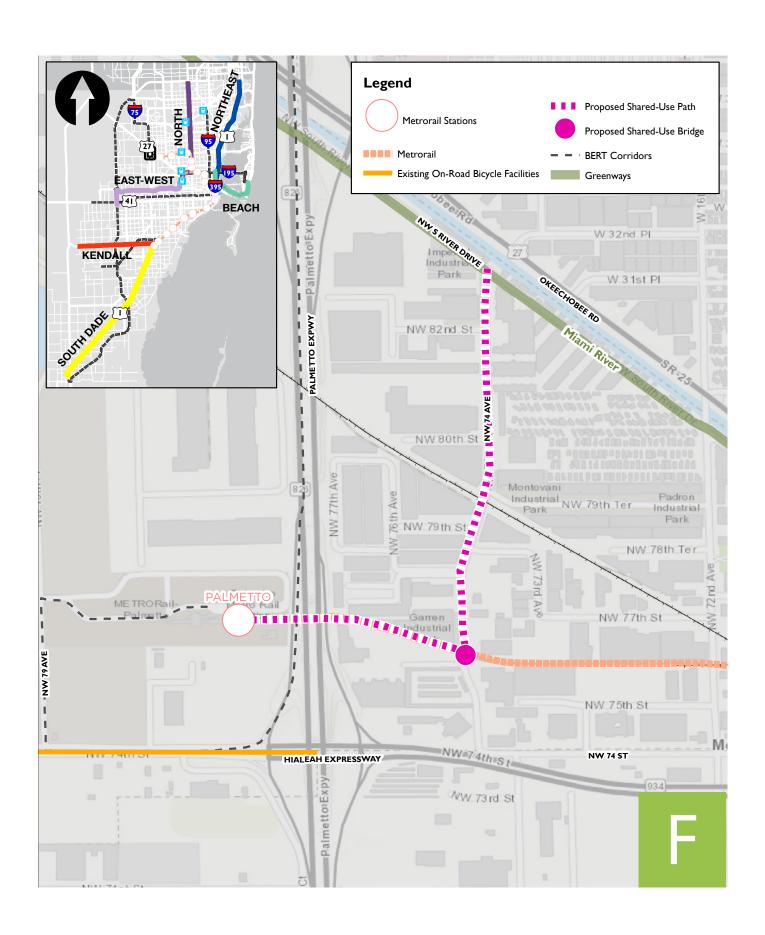
Access to Warehouse District





Walk Access to Destinations Minutes to nearest transit stop





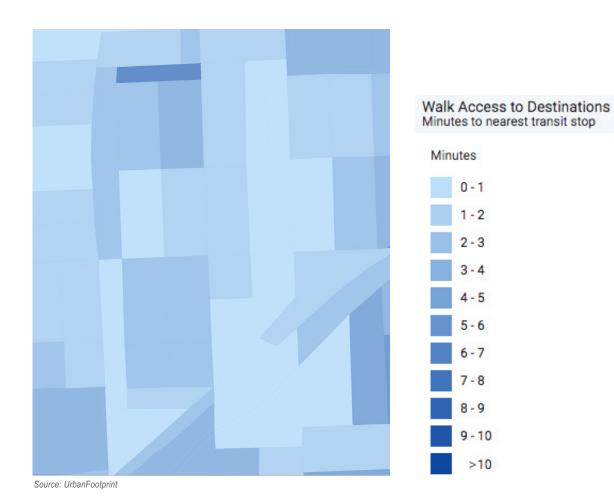


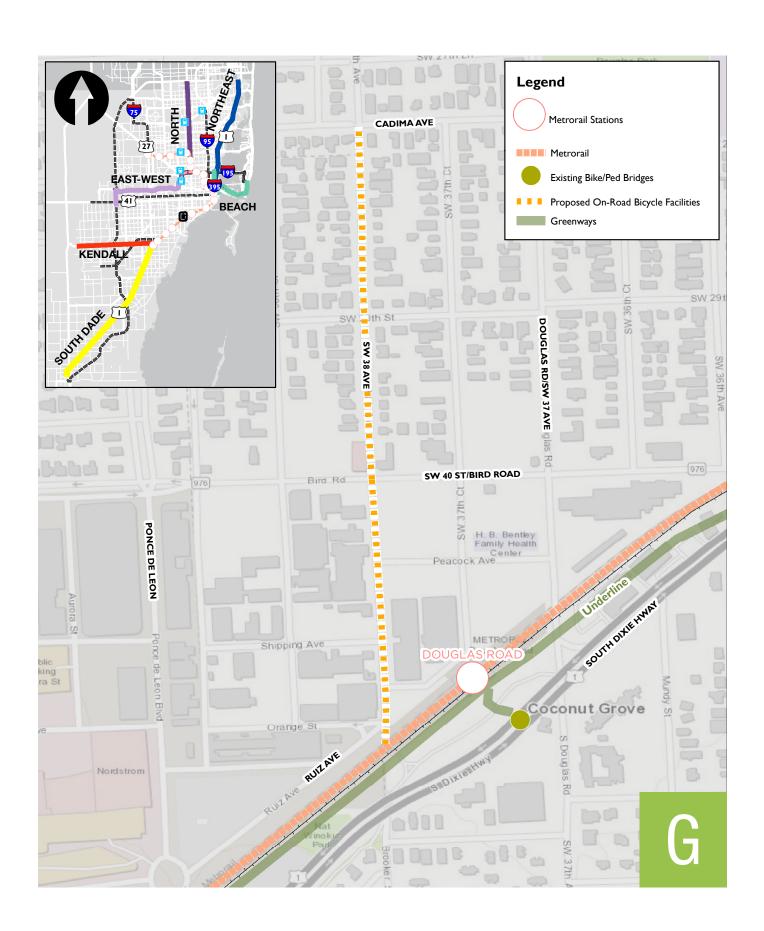
SW 38th Avenue to Douglas Metrorail/Underline



- Proposed Project
 - An on-road bicycle facility on SW 38th Avenue from Ruiz Avenue/Shipping Avenue to SW 26th Street/Cadima Avenue
- Useful Destination
 - Access to Southeast Gables communities

Total Length	Project Cost
0.49 miles	\$423,206







Rickenbacker Causeway to Underline/Vizcaya Metrorail



Proposed Project

Route A

 Shared-use path along the south side of the Rickenbacker Causeway to connect to Old Brickell Avenue

Route	Total Length	Project Cost
Α	0.25 miles	\$825, 000
В	0.37 miles	\$722,000

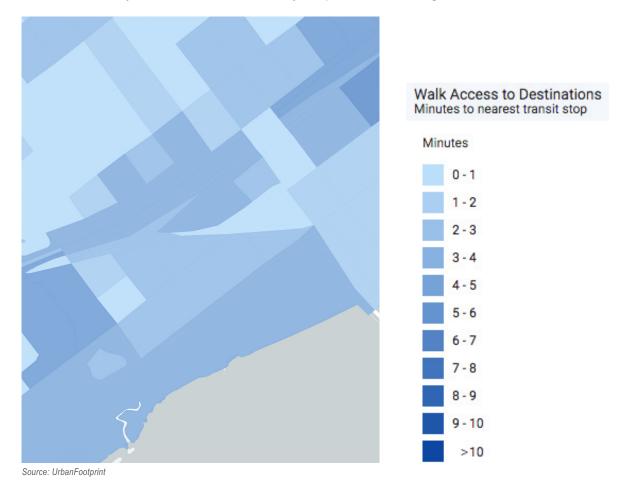
 Operational improvements on the southwest corner of S Dixie Highway/Rickenbacker Causeway to modify the existing channelization island to shared-use path standards, straighten the crossings, and add safety features

Route B

- Shared-use path along the north side of SE/SW 26th Road to connect to the Underline at SW 1st Avenue
- Operational improvements along the path to upgrade crossings to shared-use path standards, straighten the crossings, and add safety features

Useful Destinations

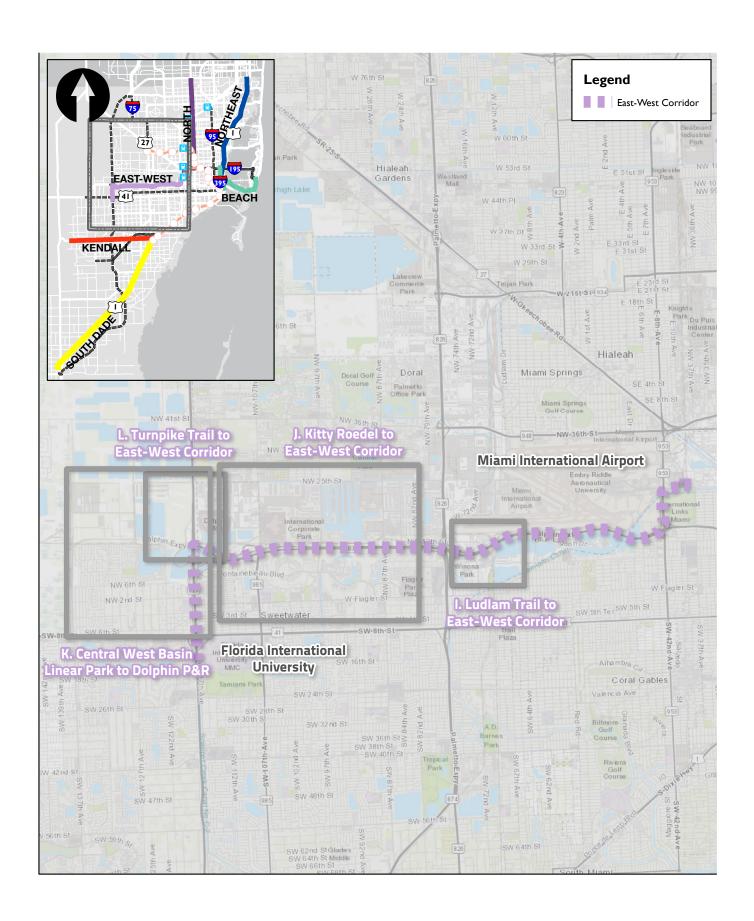
Access to Vizcaya Museum & Gardens, Mercy Hospital, Alice Wainwright Park, and Rickenbacker Causeway Park





Trail Connections to SMART Plan East-West Corridor

- Ludlam Trail to East-West Corridor
- Kitty Roedel to East-West Corridor
- Central West Basin Linear
 Park to Dolphin P&R
- L Turnpike Trail to Dolphin P&R

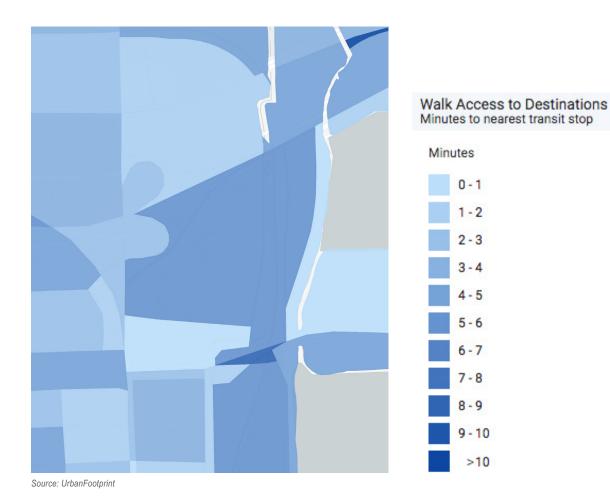


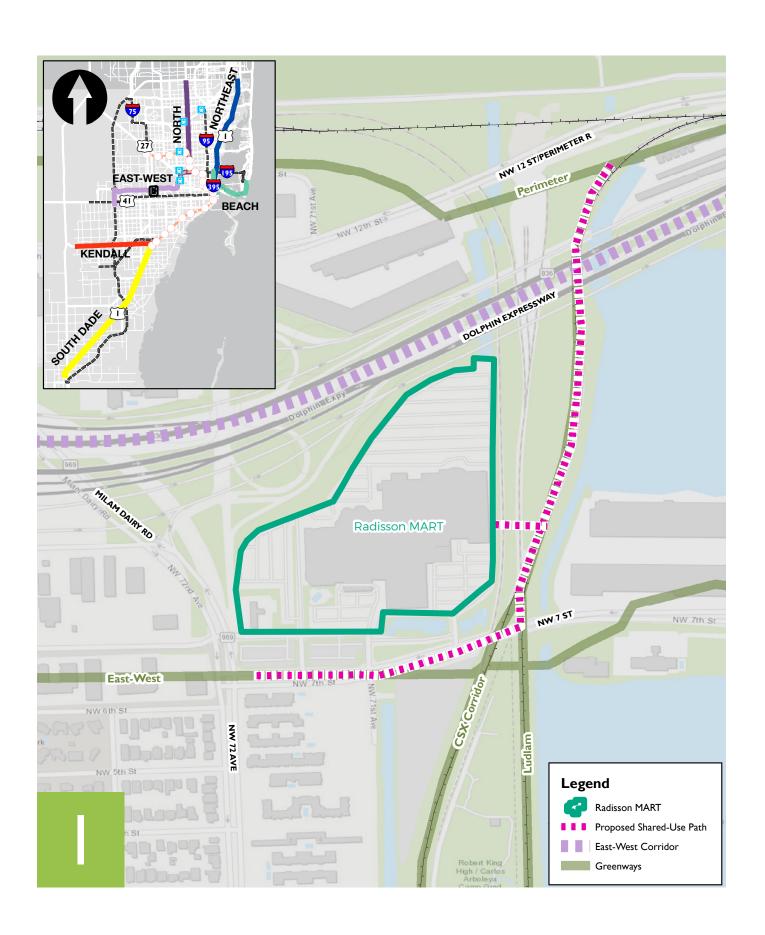
Ludlam Trail to East-West Corridor



- Proposed Project
 - A shared-use path extending Ludlam Trail from NW 7th Street to SR 836/Dolphin Expressway
 - Proposed shared-use path extending from Ludlam Trail to Radisson MART
- Useful Destination
 - Access to Perimeter Road

Total Length	Project Cost
0.75 miles	\$800,000





Ludlam Trail to East-West Corridor





Kitty Roedel to East-West Corridor

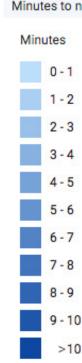


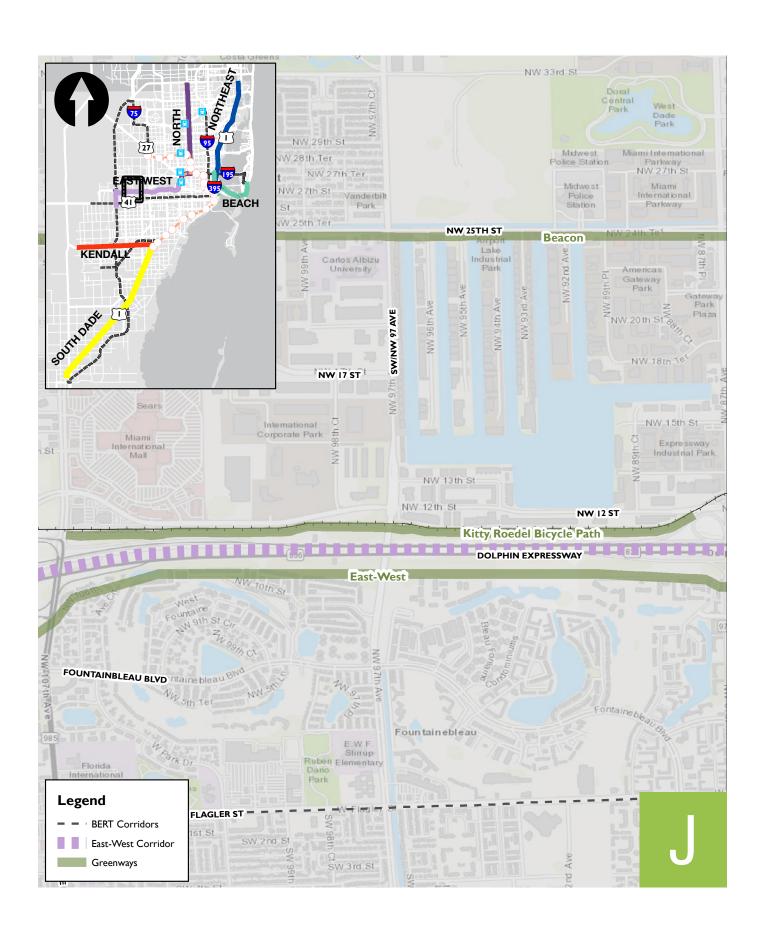
- Proposed Project
 - O Policy recommendation to connect the Kitty Roedel Bicycle Path Trail to a future SMART plan station(s) between NW 87th Avenue and NW 107th Avenue



Source: UrbanFootprint

Walk Access to Destinations Minutes to nearest transit stop







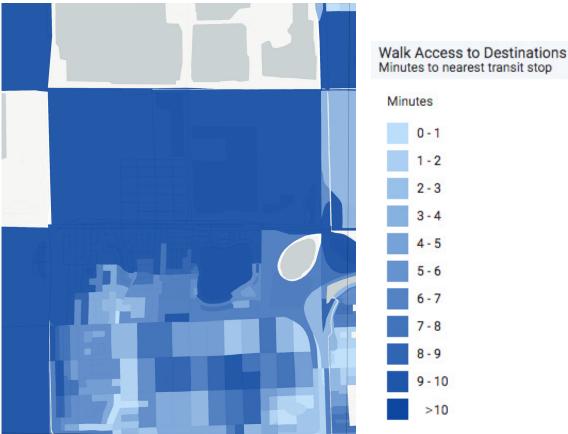
Central West Basin Linear Park to Dolphin P&R (3)

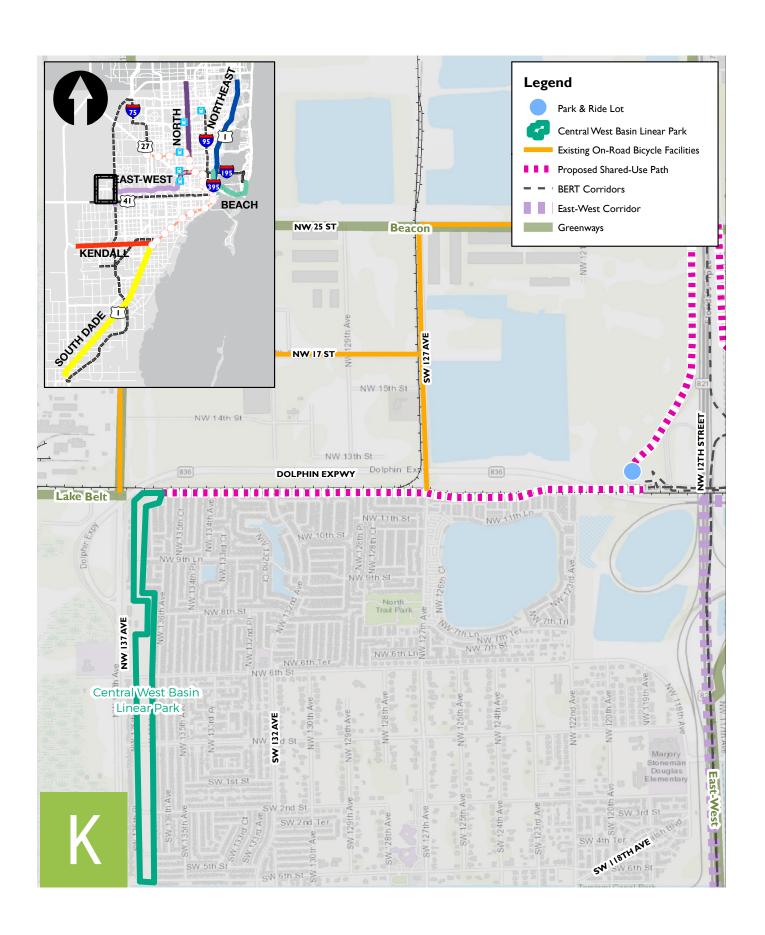
- Proposed Project
 - A shared-use path on the north side of NW 12th Street from Central West Basin Linear Park to Dolphin Park & Ride station
 - Miami-Dade County Parks, Recreation and Open Spaces is working on the Central West Basin Linear Park

Total Length	Project Cost
1.61 miles	\$3,747,089



- Useful Destinations
 - Access to residential areas and proposed SR 836/Dolphin Expressway SW Extension Kendall Parkway Path
- Appendix C includes a plan view graphic at 1-inch equals 100 feet scale for a shared-use path alignment
- Note that portions of project L are also shown in the map







Central West Basin Linear Park to Dolphin P&R

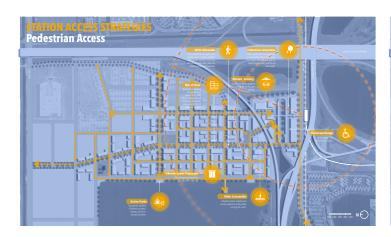




Turnpike Trail to Dolphin P&R



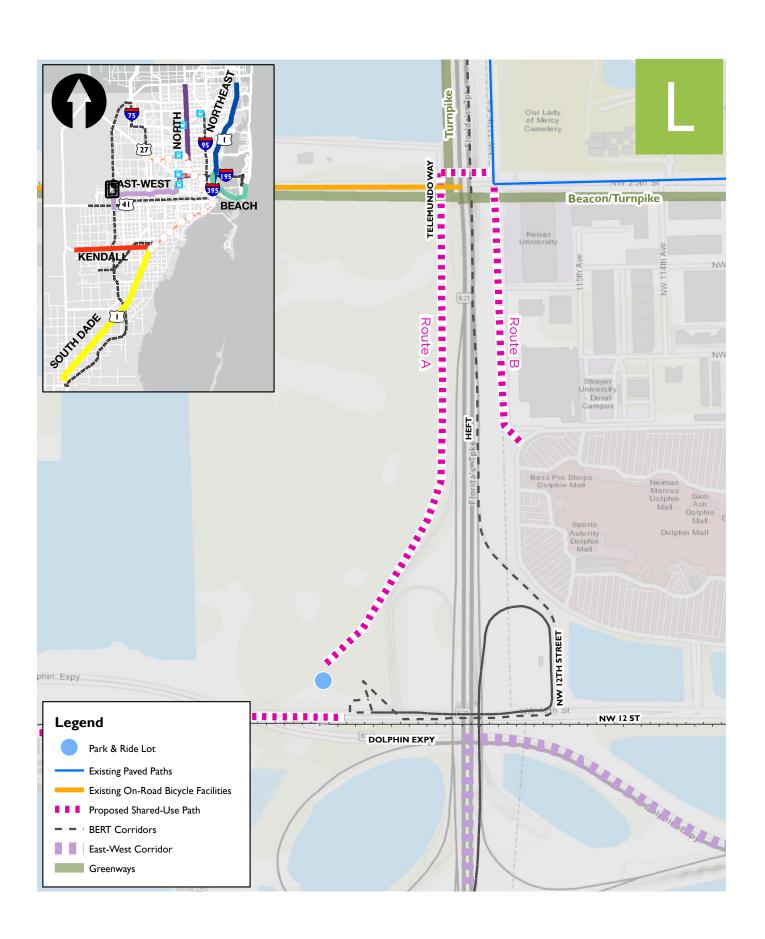






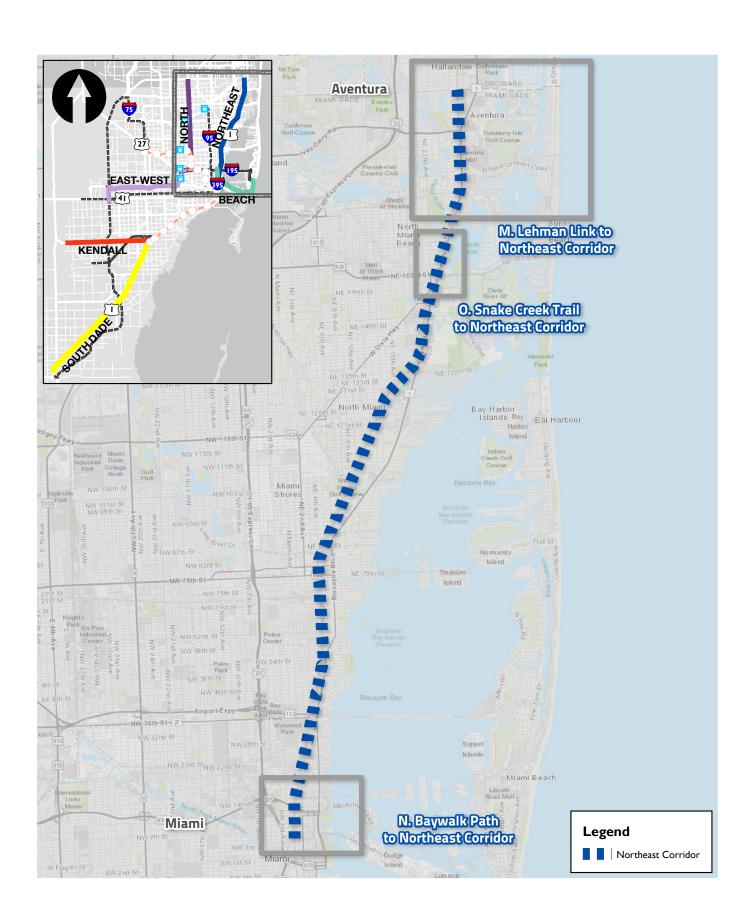
- Proposed Project
 - Route A
 - A shared-use path on the westside of HEFT from Dolphin P&R lot to the Turnpike Trail
 - A shared use path on the north side of the canal from Telemundo Way to NW 117th Avenue connecting to the existing Turnpike Trail
 - Building from the First and Last Mile Access Strategies identified at the Dolphin Park and Ride Station for pedestrian and bicycle access
 - Route B
 - A shared-use path on NW 117th Avenue from Dolphin Mall to NW 25th Street
 - The corridor is generally not available due to the ownership; Beacon Tradeport Phase II and Beacon Tradeport, and Dolphin Mall
- Useful Destination
 - Access to Dolphin Mall
- Note that portions of Project K are also shown in the map

Route	Total Length	Project Cost
Α	0.88 miles	\$352,000
В	0.48 miles	\$5,535,820 (with ROW) \$192,000 (without ROW)



Trail Connections to SMART Plan Northeast Corridor

- M Lehman Link to Northeast Corridor
- Northeast Corridor
- O Snake Creek Trail to Northeast Corridor



Lehman Link to Northeast Corridor

Total Length

0.65 miles



Project Cost

\$6,895,000 (without ROW)

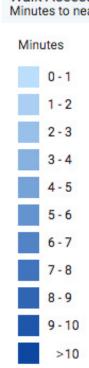
\$16,440,521 (with ROW)

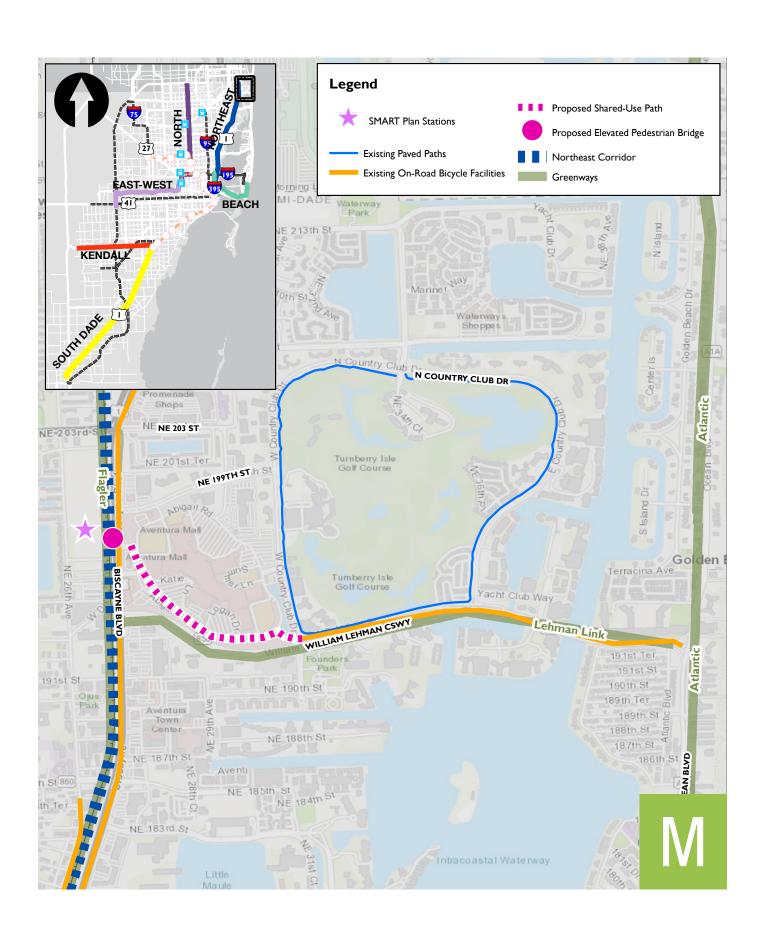
- Proposed Project
 - A shared-use path along
 - West side of Jacob Lane from Abigail Road to W Country Club Drive
 - West side of Abigail Road from US 1 to Jacob Lane (using the greenscape)
 - The greenscape area is owned by Aventura Mall Centure Lessor % Turnberry Associates
 - An elevated pedestrian bridge from Aventura Mall to future SMART plan station
- Useful Destinations
 - Access to Aventura Mall and beaches



Source: UrbanFootprint

Walk Access to Destinations Minutes to nearest transit stop





Lehman Link to Northeast Corridor

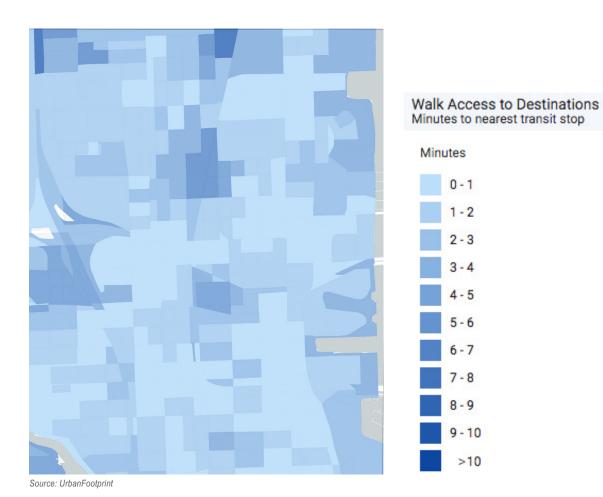


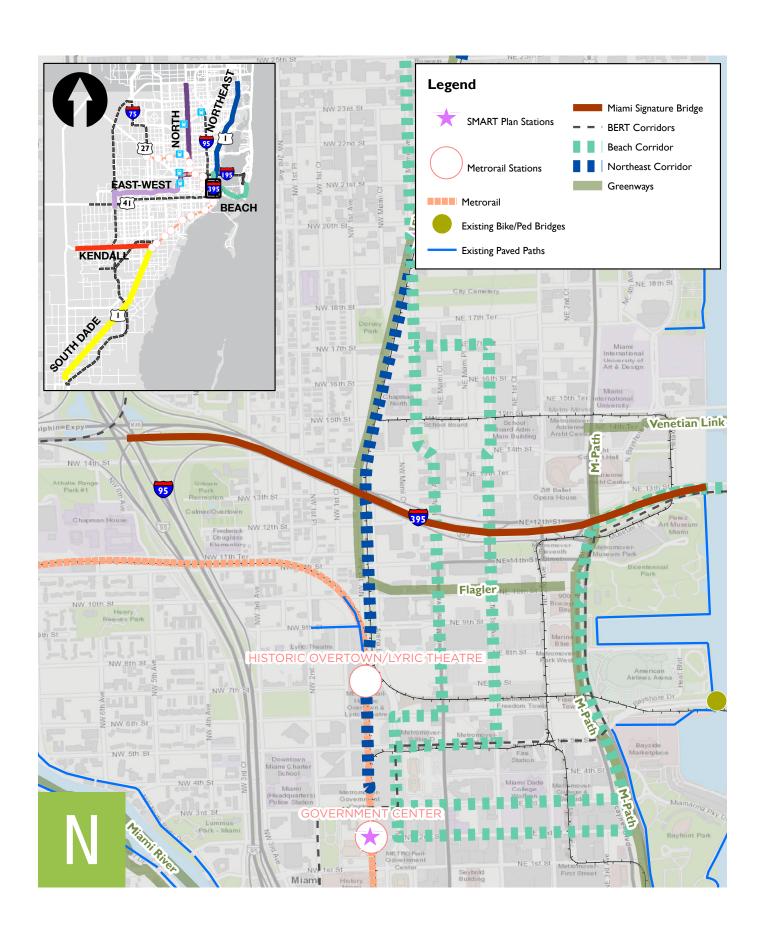


Baywalk Path to Northeast Corridor



- Proposed Project
 - O Policy recommendation to connect to the Future Miami Signature Bridge
 - Connection to the proposed Heritage Trail under I-395

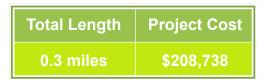


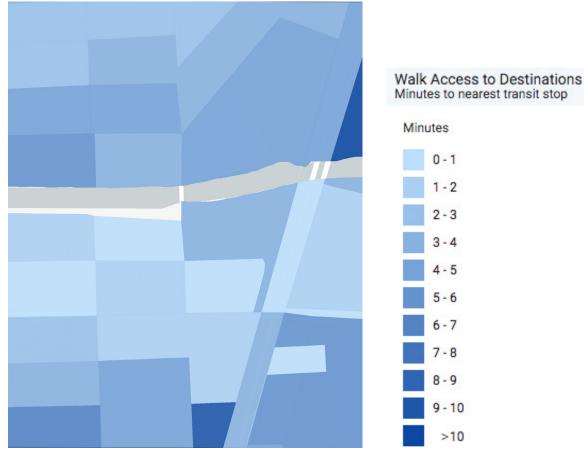


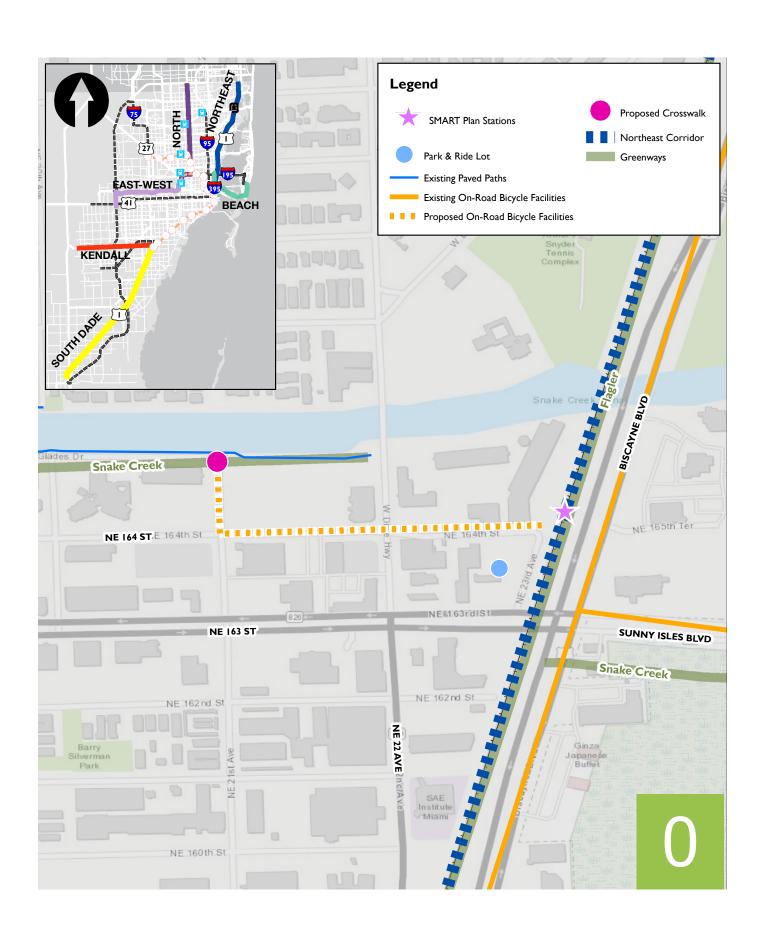
Snake Creek Trail to Northeast Corridor



- Proposed Project
 - On-road bicycle facilities along
 - NW 164th Street from NE 21st Avenue to NE 23rd Avenue
 - NE 21st Avenue from NE 164th Street to NE 165th Street
 - Proposed crosswalk at NE 20th Avenue and Snake Creek Trail
- Useful Destination
 - Access to Oleta River State Park







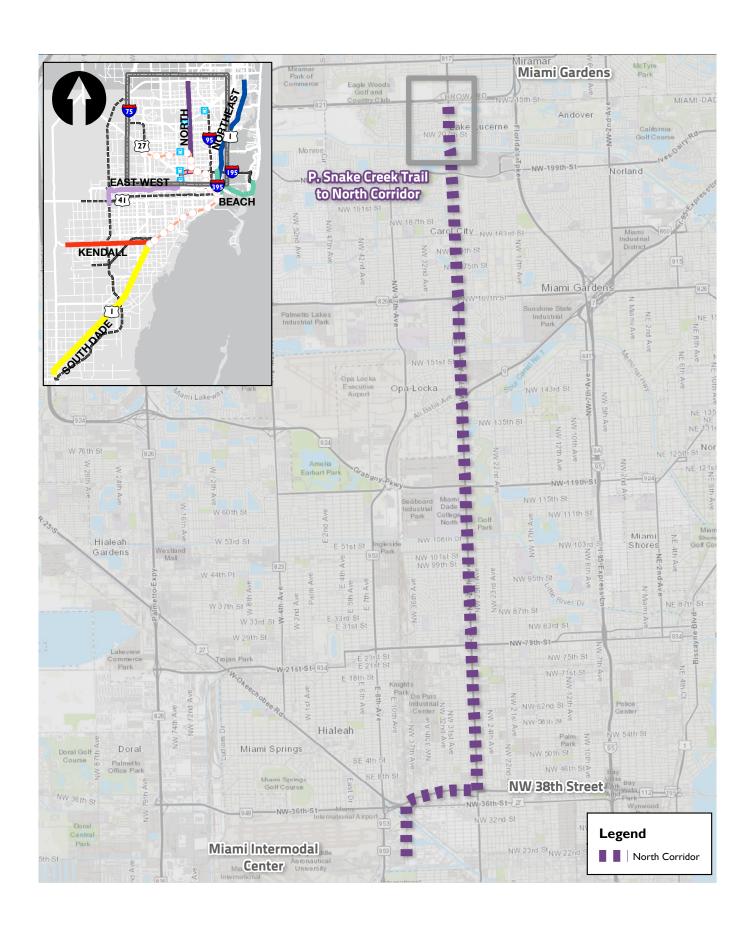
Snake Creek Trail to Northeast Corridor





Trail Connections to SMART Plan North Corridor

P Snake Creek Trail to North Corridor



P

Snake Creek Trail to North Corridor



Total Length

1.04 miles

0.61 miles

Route



Project Cost

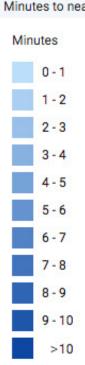
\$1,799,000

\$16,286,862

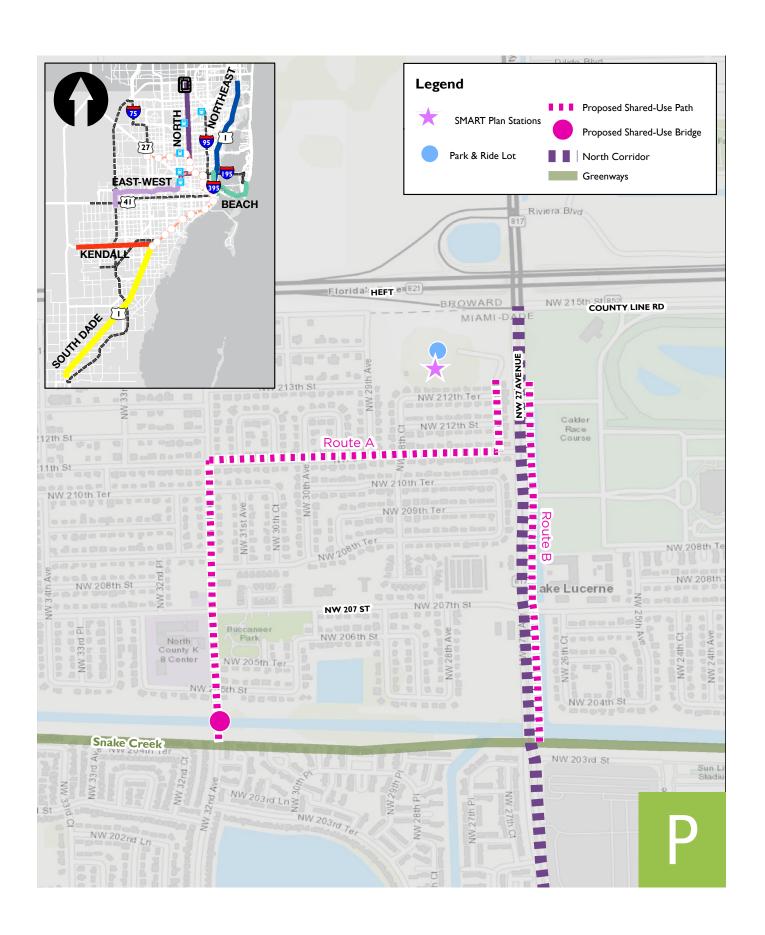
- Proposed Project
 - Route A
 - A shared-use path along
 - NW 32nd Avenue from C-9 to NW 211th Street
 - NW 211th Street from NW 32nd Avenue to NW 27th Court
 - NW 27th Court to NW 211th Street to NW 212th Terrace
- A shared-use path bridge along NW 32nd Avenue and Snake Creek Canal
 - Route B
 - A shared-use path on NW 27th Avenue from Snake Creek Canal to NW 212th Terrace
- Useful Destination
 - Potential access to Hard Rock Stadium



Walk Access to Destinations Minutes to nearest transit stop



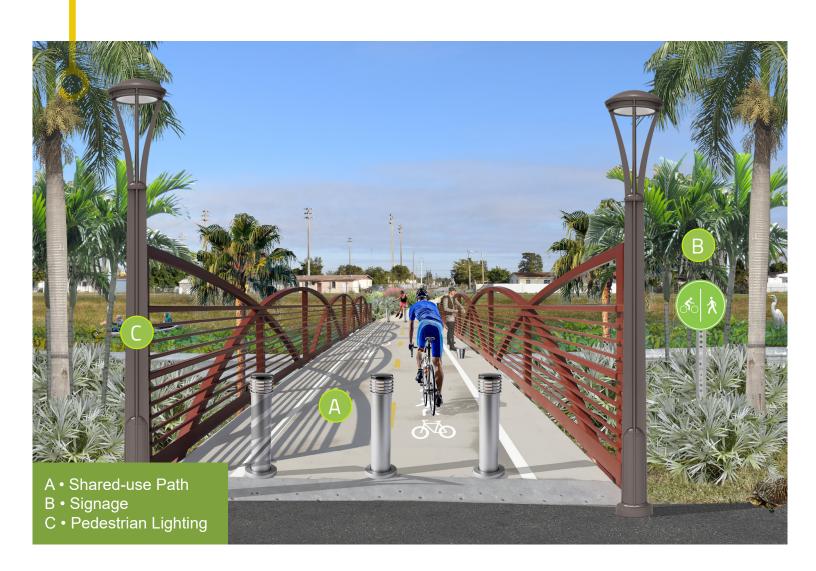
Source: UrbanFootprint





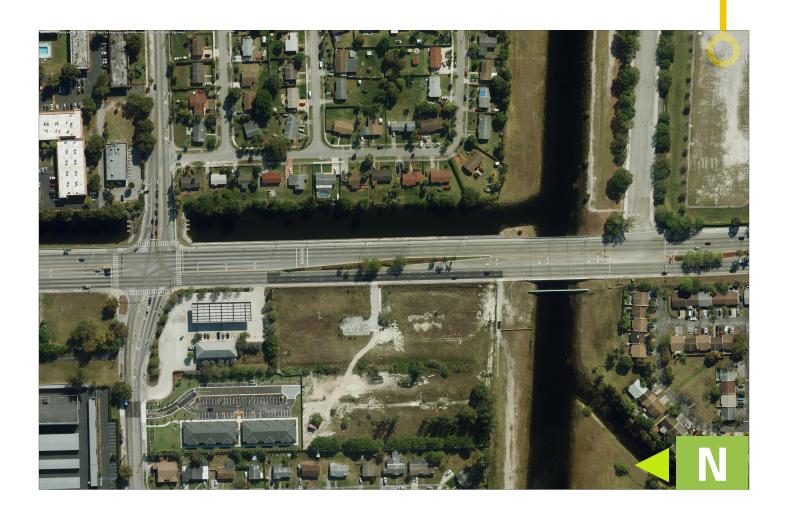
Snake Creek Trail to North Corridor







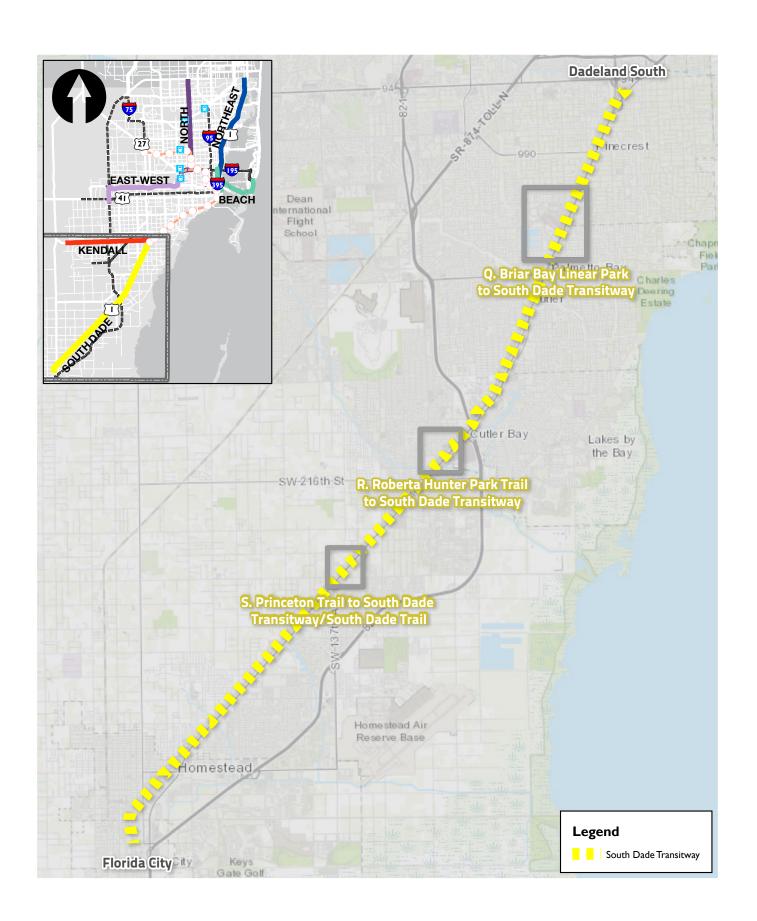
Snake Creek Trail to North Corridor





Trail Connections South Dade Transitway/SMART Plan South Corridor

- Briar Bay Linear Park to South Dade Transitway
- Roberta Hunter Park Trail to South Dade Transitway
- S Princeton Trail to South Dade Trail





Briar Bay Linear Park to **South Dade Transitway**

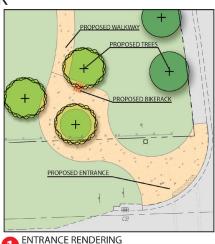


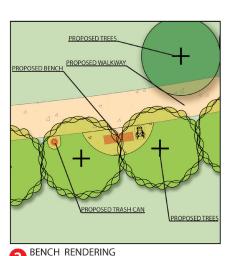
- **Proposed Project**
 - O A shared-use path along FPL easement from SW 107th Avenue to South Dade Transitway
- **Useful Destinations**
 - Access to Briar Bay Linear Park and The Falls Shopping Center

Total Length	Project Cost
2.14 miles	\$856,000

BRIAR BAY PARK LINEAR PARK

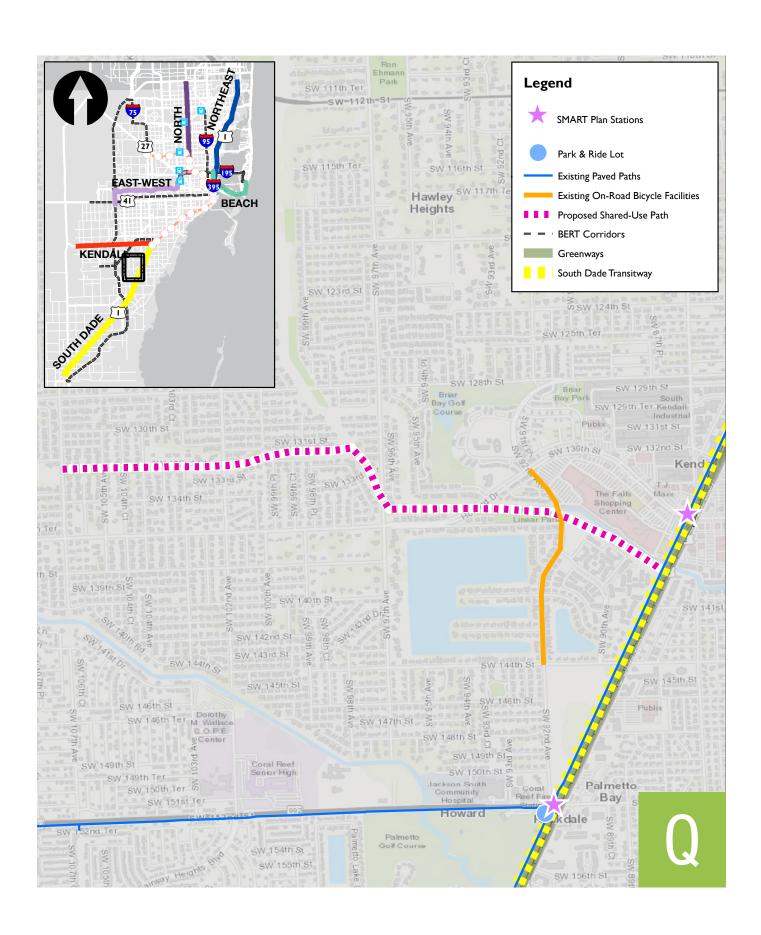






SITE PLAN RENDERING

PROPOSED ENTRANC



Q

Briar Bay Linear Park to South Dade Transitway



Concept



R

Roberta Hunter Park Trail to South Dade Transitway

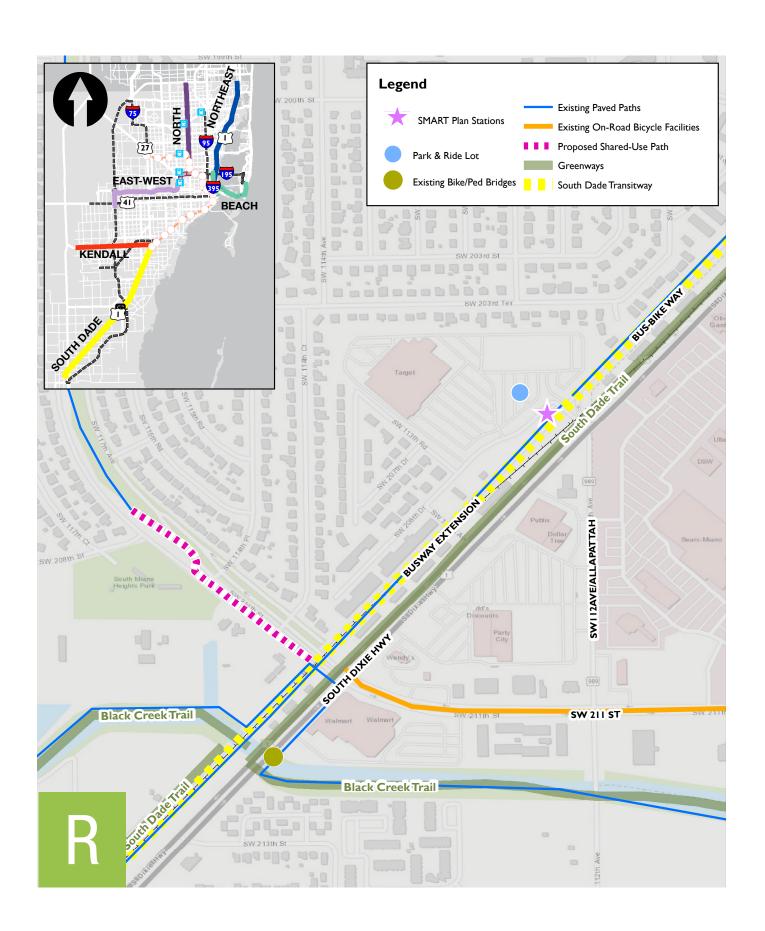


- Proposed Project
 - A shared-use path extending from Roberta Hunter Park Trail to South Dade Trail

Total Length	Project Cost
0.25 miles	\$200,000

- Useful Destinations
 - Access to Southland Mall, Roberta Hunter Park, and South Miami Heights Park





R

Roberta Hunter Park Trail to South Dade Transitway

Existing



Concept

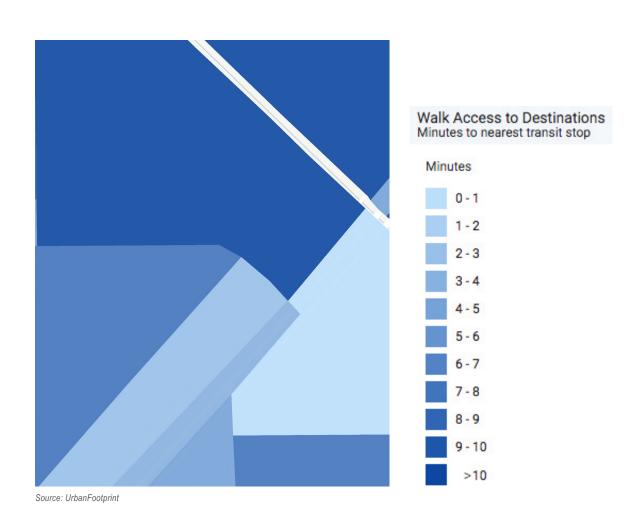


S

Princeton Trail to South Dade Transitway/South Dade Trail



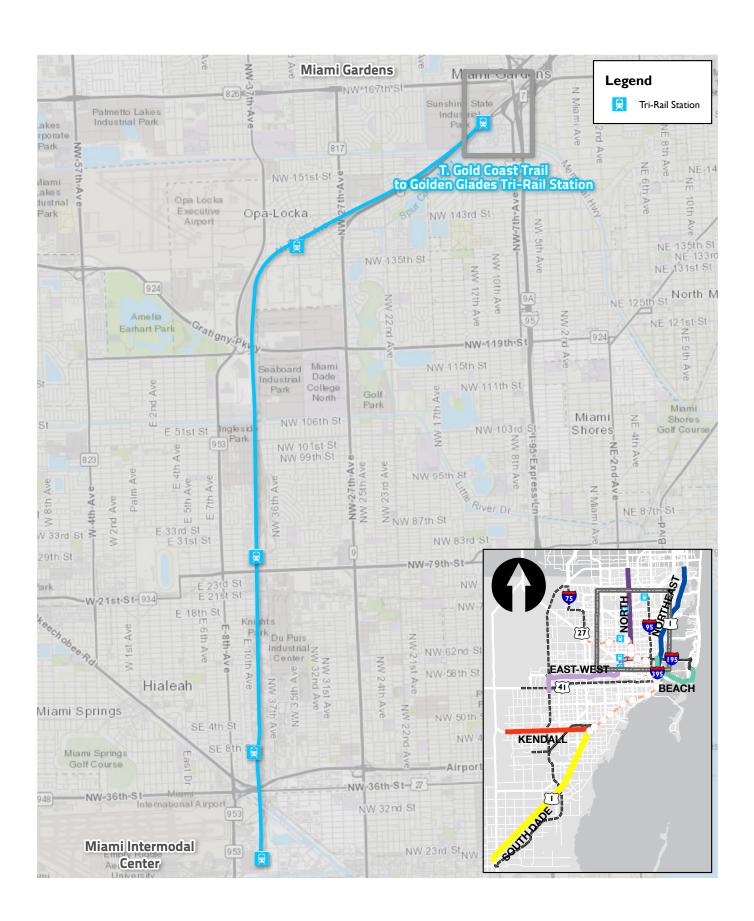
- Proposed Project
 - Direct Connection
- Useful Destination
 - Access to Redland Market Village





Trail Connections Tri-Rail Stations



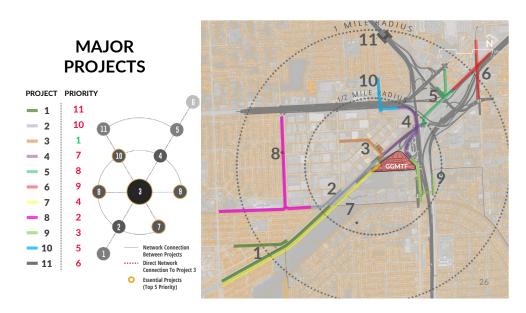


Gold Coast Trail to Golden Glades Tri-Rail Station

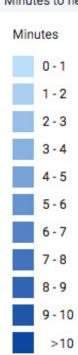


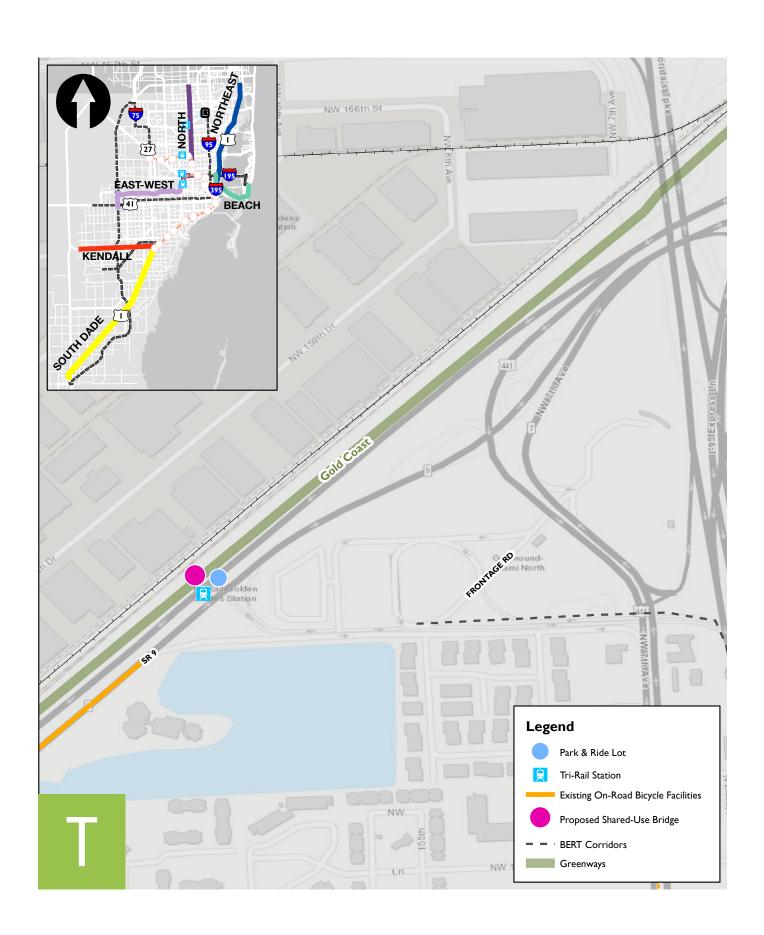
- **Proposed Project**
 - A shared-use bridge connecting Gold Coast Trail and Golden Glades Park-and-Ride Lot
- **Useful Destinations**
 - Building from the Golden Glades Multimodal Transportation Facility (GGMTF) Bicycle & Pedestrian Accessibility Study Useful Destination

Project Cost \$14,411,000



Walk Access to Destinations Minutes to nearest transit stop





Appendix A

Prioritization Process

PROJECT NAME	CONNECTIVITY	GAP ANALYSIS	
A. Atlantic Greenway to Beach Corridor	1	1	
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor - Route A	0.5	1	
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor - Route B	0.5	1	
C. Snapper Creek Trail to Kendall Corridor	0.5	1	
D. Krome Trail to Kendall Corridor	0	0.5	
E. Miami River Greenway to Metrorail - Route A	0.5	1	
E. Miami River Greenway to Metrorail - Route B	0.5	0.5	
F. Miami River Greenway to Palmetto Metrorail	0	1	
G. SW 38th Avenue to Douglas Metrorail/Underline	0.5	0	
H. Rickenbacker Cswy to Underline/Vizcaya Metrorail - Route A	1	1	
H. Rickenbacker Cswy to Underline/Vizcaya Metrorail - Route B	1	1	
Ludlam Trail to East-West Corridor	0.5	0.5	
J. Kitty Roedel to East-West Corridor	0.5	0.5	
K. Central West Basin Linear Park to Dolphin P&R	0.5	1	
L. Turnpike Trail to Dolphin P&R - Route A	0.5	1	
L. Turnpike Trail to Dolphin P&R - Route B	0.5	1	
M. Lehman Link to Northeast Corridor	1	1	
N. Baywalk Path to Northeast Corridor	1	1	
0. Snake Creek Trail to Northeast Corridor	0.5	1	
P. Snake Creek Trail to North Corridor - Route A	0.5	1	
P. Snake Creek Trail to North Corridor -Route B	0.5	1	
Q. Briar Bay Linear Park to South Dade Transitway	0.5	0.5	
R. Roberta Hunter Park Trail to South Dade Transitway	0.5	1	
S. Princeton Trail to South Dade Transitway/South Dade Trail	0	0	
T. Gold Coast Trail to Golden Glades Tri-Rail Station	0.5	1	

Listed in Order by Evaluation Process

CONSTRUCTABIL	ITY LOW-STRESS STREET	STAKEHOLDER INPUT	TOTAL SCORE	PROJECT RANK
1	0.5	1	4.5	2
0	0.5	1	3	14
1	0.5	1	4	3
0.5	0	1	3	14
1	0	0	1.5	23
0	1	1	3.5	7
1	1	1	4	3
0.5	1	1	3.5	7
1	0	1	2.5	20
0.5	0	1	3.5	7
1	1	1	5	1
0	1	1	3	14
0	0	0	1	24
1	0.5	1	4	3
1	0.5	0	3	14
0	1	0	2.5	20
0	0.5	1	3.5	7
0.5	0	1	3.5	7
0.5	1	1	4	3
1	1	0	3.5	7
0	0.5	0	2	22
1	1	0	3	14
1	0.5	0	3	14
1	0	0	1	24
0.5	0.5	1	3.5	7

PROJECT NAME	CONNECTIVITY	GAP ANALYSIS	
		GAP AIVALISIS	
H. Rickenbacker Cswy to Underline/Vizcaya Metrorail - Route B	1	1	
A. Atlantic Greenway to Beach Corridor	1	1	
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor - Route B	0.5	1	
E. Miami River Greenway to Metrorail - Route B	0.5	0.5	
K. Central West Basin Linear Park to Dolphin P&R	0.5	1	
0. Snake Creek Trail to Northeast Corridor	0.5	1	
E. Miami River Greenway to Metrorail - Route A	0.5	1	
F. Miami River Greenway to Palmetto Metrorail	0	1	
H. Rickenbacker Cswy to Underline/Vizcaya Metrorail - Route A	1	1	
M. Lehman Link to Northeast Corridor	1	1	
N. Baywalk Path to Northeast Corridor	1	1	
P. Snake Creek Trail to North Corridor - Route A	0.5	1	
T. Gold Coast Trail to Golden Glades Tri-Rail Station	0.5	1	
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor - Route A	0.5	1	
C. Snapper Creek Trail to Kendall Corridor	0.5	1	
Ludlam Trail to East-West Corridor	0.5	0.5	
L. Turnpike Trail to Dolphin P&R - Route A	0.5	1	
Q. Briar Bay Linear Park to South Dade Transitway	0.5	0.5	
R. Roberta Hunter Park Trail to South Dade Transitway	0.5	1	
G. SW 38th Avenue to Douglas Metrorail/Underline	0.5	0	
L. Turnpike Trail to Dolphin P&R - Route B	0.5	1	
P. Snake Creek Trail to North Corridor - Route B	0.5	1	
D. Krome Trail to Kendall Corridor	0	0.5	
J. Kitty Roedel to East-West Corridor	0.5	0.5	
S. Princeton Trail to South Dade Transitway/South Dade Trail	0	0	

Listed in Order by Project Rank

CONSTRUCTABILITY	LOW-STRESS STREET	STAKEHOLDER INPUT	TOTAL SCORE	PROJECT RANK
1	1	1	5	1
1	0.5	1	4.5	2
1	0.5	1	4	3
1	1	1	4	3
1	0.5	1	4	3
0.5	1	1	4	3
0	1	1	3.5	7
0.5	1	1	3.5	7
0.5	0	1	3.5	7
0	0.5	1	3.5	7
0.5	0	1	3.5	7
1	1	0	3.5	7
0.5	0.5	1	3.5	7
0	0.5	1	3	14
0.5	0	1	3	14
0	1	1	3	14
1	0.5	0	3	14
1	1	0	3	14
1	0.5	0	3	14
1	0	1	2.5	20
0	1	0	2.5	20
0	0.5	0	2	22
1	0	0	1.5	23
0	0	0	1	24
1	0	0	1	24

Appendix

OPlanning Level Cost Estimates



PROJECT NAME	LENGTH	PROJECT COMPONENTS	TOTAL COST
		Shared-use path	\$312,000
A. Atlantic Greenway to Beach Corridor	0.78	Sheet piling, barrier/railing and earthwork	\$1,840,000
		Total	\$2,152,000
		Shared-use path	\$250,000
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route A	0.35	Shared-use bridge	\$1,383,000
Clation/Original/Norigin Comaci Notice/		Total	\$1,633,000
		Shared-use path	\$88,000
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route B	0.22	Modifications within expressway right-of-way (ROW)	\$500,000
		Total	\$588,000
		Shared-use path	\$172,000
	0.43	Modifications under Don Shula Expressway	\$500,000
C. Snapper Creek Trail to Kendall Corridor		Right-of-way	\$585,075
		Total without ROW	\$672,000
		Total with ROW	\$1,257,075
		Shared-use path	\$584,000
D. Krome Trail to Kendall Corridor	1.46	- -	
		Total	\$584,000
		Shared-use path	\$136,000
		Shared-use bridge	\$1,383,000
E. Miami River Greenway to Metrorail — Route A	0.34	Right-of-way	\$5,228,194
		Total without ROW	\$1,519,000
		Total with ROW	\$6,747,194
	0.36	Shared-use path	\$144,000
■ Miami River Greenway to Metrorail — Route B		Drainage modification	\$200,000
		Total	\$344,000

Disclaimer:

Planning level cost estimates included in this Appendix were based on the FDOT Long Range Estimating System (LRES), the FDOT GGMTF Bicycle Pedestrian Accessibility Study, previous estimates used in similar projects within Miami-Dade County and manual calculations. The cost of right of way was based on the 2018 market value found from the Miami-Dade Property Appraiser website. Estimated costs for each project are for planning purposes only and do not take into consideration, additional planning, design, specific construction, maintenance costs, or aesthetics.

NOTES
Additional work related to building the shared-use path by the canal
The shared-use bridge has an approximate span of 120 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet from the FDOT GGMTF Bicycle Pedestrian Accessibility Study.
Includes partial embankment demolition and construction of new wall.
Includes partial embankment demolition and construction of new wall.
The shared-use bridge has an approximate span of 290 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet from the FDOT GGMTF Bicycle Pedestrian Accessibility Study. There are two private parcels where the bridge is planned to be constructed. It might be that these two parcels will be acquired as part of the greenway project.
The shared-use bridge has an approximate span of 120 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet from the FDOT GGMTF Bicycle Pedestrian Accessibility Study.

PROJECT NAME	LENGTH	PROJECT COMPONEN	ITS	TOTAL COST	
		Shared-use path	'	\$332,000	
F. Miami River Greenway to Palmetto Metrorail	0.83	Shared-use bridge		\$6,635,000	
			Total	\$6,967,000	-
G. SW 38th Avenue to Douglas Metrorail/	0.49	On-road bicycle facility		\$423,206	
Underline	0.49		Total	\$423,206	
		Shared-use path		\$150,000	
 H. Rickenbacker Cswy to Underline/Vizcaya Metrorail — Route A 	0.25	Drainage modification		\$675,000	
			Total	\$825,000	
		Shared-use path		\$222,000	
 H. Rickenbacker Cswy to Underline/Vizcaya Metrorail — Route B 	0.37	Drainage modification		\$500,000	_
Motorali Rodio B			Total	\$722,000	_
	0.75	Shared-use path		\$300,000	
Ludlam Trail to East-West Corridor		Miscellaneous improvemen rail-with-trail and signalizat		\$500,000	
			Total	\$800,000	_
J. Kitty Roedel to East-West Corridor		Policy recommendation			
K. Central West Basin Linear Park to Dolphin	4.04			\$3,747,089	
Park & Ride	1.61		Total	\$3,747,089	-
		Shared-use path		\$352,000	
L. Turnpike Trail to Dolphin P&R — Route A	0.88		Total	\$352,000	
		Shared-use path		\$192,000	
I. Turnnika Trail to Dolphin DAD — Doute D	0.48	Right-of-way		\$5,343,820	_
L. Turnpike Trail to Dolphin P&R — Route B		Total without I	ROW	\$192,000	_
		Total with I	ROW	\$5,535,820	

Disclaimer:

Planning level cost estimates included in this Appendix were based on the FDOT Long Range Estimating System (LRES), the FDOT GGMTF Bicycle Pedestrian Accessibility Study, previous estimates used in similar projects within Miami-Dade County and manual calculations. The cost of right of way was based on the 2018 market value found from the Miami-Dade Property Appraiser website. Estimated costs for each project are for planning purposes only and do not take into consideration, additional planning, design, specific construction, maintenance costs, or aesthetics.

NOTES

The shared-use bridge has an approximate span of 120 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet from the FDOT GGMTF Bicycle Pedestrian Accessibility Study.

Referencing FDOT's cost per mile model.

Includes curb modifications to expand width of shared-use path, channelization island modifications, and gate improvements.

Includes sidewalk widening, operational improvements at intersections, drainage modifications, and path realignment/straightening.

No ROW cost included because public access to parcel FEC1 LT1 LLC was assumed. Remainder of corridor owned by FDOT and Miami-Dade Expressway Authority. Connection to Radisson Mart would involve private right-of-way that may become accessible if the property redevelops.

Referencing the 2019 Transportation Alternatives Application for FY 2024/25 for SMART Trail along NW 12 Street

Assumed the need to acquire all of Parcel 1 (Folio: 25-3031-029-0019) and a portion (720' x 12') of Parcel 2 (Folio: 25-3031-023-0010). The market value for parcel 1 seems unusual so the proportional market value for parcel 2 was used instead.

PROJECT NAME	LENGTH	PROJECT COMPONENTS	TOTAL COST
		Shared-use path	\$260,000
		Elevated Pedestrian Bridge	\$6,635,000
M. Lehman Link to Northeast Corridor	0.65	Right-of-way	\$9,545,521
		Total without ROW	\$6,895,000
		Total with ROW	\$16,440,521
N. Baywalk Path to Northeast Corridor		Policy recommendation	
		On-road bicycle facilities	\$183,505
0. Snake Creek Trail to Northeast Corridor	0.3	Crosswalk	\$25,233
		Total	\$208,738
	1.04	On-road bicycle facilities/ low-stress network	\$416,000
P. Snake Creek Trail to North Corridor — Route A		Shared-use bridge	\$1,383,000
		Total	\$1,799,000
P. Snake Creek Trail to North Corridor — Route B	0.61	Shared-use bridge/culvert linear park	\$16,286,862
		Total	\$16,286,862
Q. Briar Bay Linear Park to South Dade	2.14	Shared-use path	\$856,000
Transitway	2.14	Total	\$856,000
R. Roberta Hunter Park Trail to South Dade	0.25	Shared-use path	\$200,000
Transitway	0.25	Total	\$200,000
S. Princeton Trail to South Dade Transitway/ South Dade Trail		Policy recommendation	
T. Gold Coast Trail to Golden Glades Tri-Rail		Shared-use bridge	\$14,411,000
Station		Total	\$14,411,000

Disclaimer:

Planning level cost estimates included in this Appendix were based on the FDOT Long Range Estimating System (LRES), the FDOT GGMTF Bicycle Pedestrian Accessibility Study, previous estimates used in similar projects within Miami-Dade County and manual calculations. The cost of right of way was based on the 2018 market value found from the Miami-Dade Property Appraiser website. Estimated costs for each project are for planning purposes only and do not take into consideration, additional planning, design, specific construction, maintenance costs, or aesthetics.

NOTES

The shared-use bridge has an approximate span of 70 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet from the FDOT GGMTF Bicycle Pedestrian Accessibility Study. The right-of-way assumption includes acquiring an area 3,515 long and 12' wide.

Referencing FDOT's cost per mile model. The crosswalk was based on FDOT "Mid-Block Crossing" cost model without the components related to the traffic signal. Includes cost of adding curb drainage, and traffic flow modifications along NE 165th Street.

The shared-use bridge has an approximate span of 170 feet. Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet in the FDOT GGMTF Bicycle Pedestrian Accessibility Study. This cost was also verified with the cost estimate for a similar bridge in the City of Sunny Isles Beach.

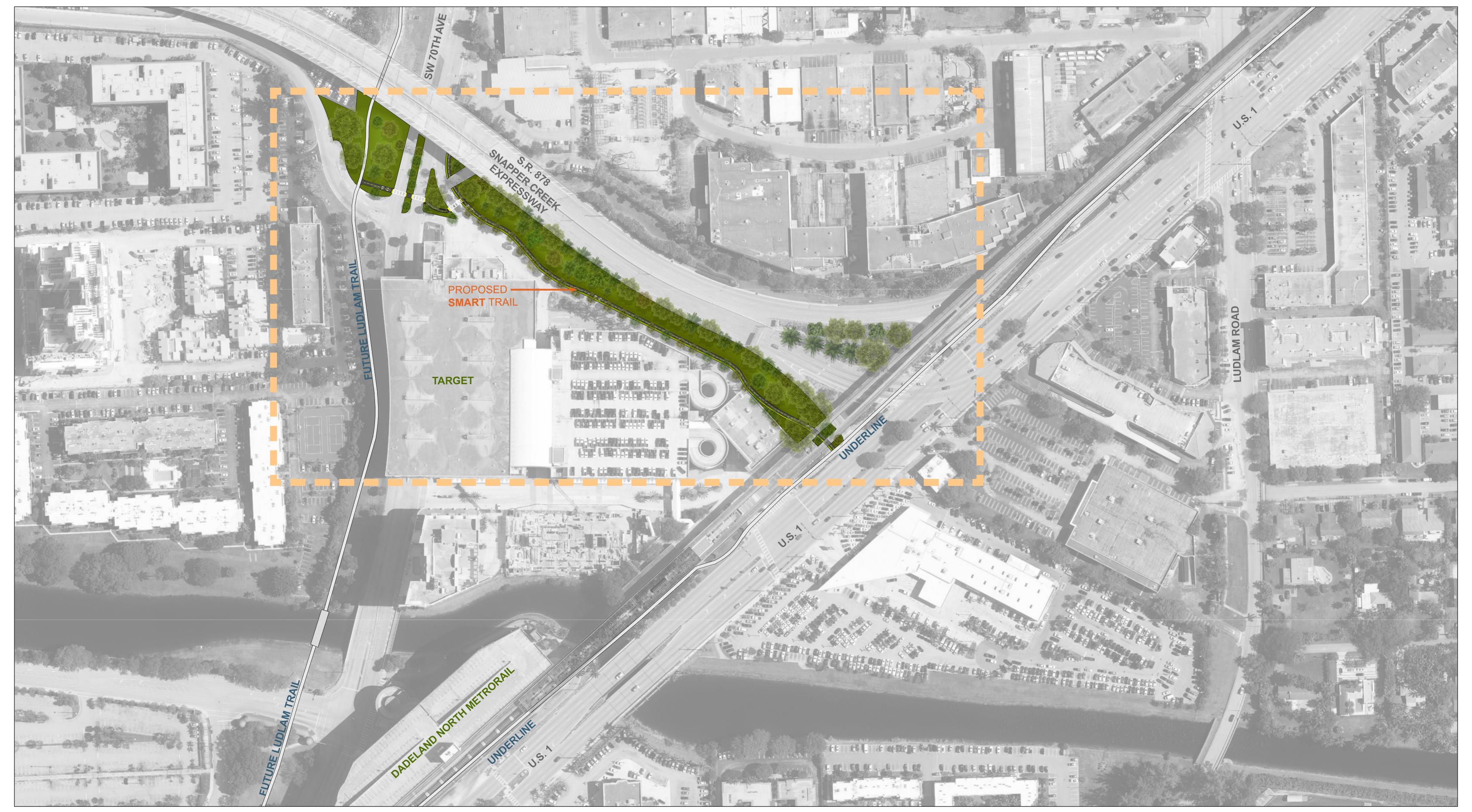
The cost of the shared-use bridge/culvert linear park was calculated based on the cost per mile estimate calculated for a shared-use path bridge in the FDOT GGMTF Bicycle Pedestrian Accessibility Study. This cost was adjusted with the sheet piling, barrier/railing and earthwork calculated for the shared-use path bridge by the canal (Project A) to account for landscaping areas.

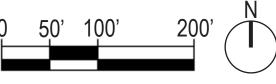
Please note the cost was based on the cost estimate calculated for a similar bridge of 300 feet in the FDOT GGMTF Bicycle Pedestrian Accessibility Study.

Appendix

6 Conceptual Plans

B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor







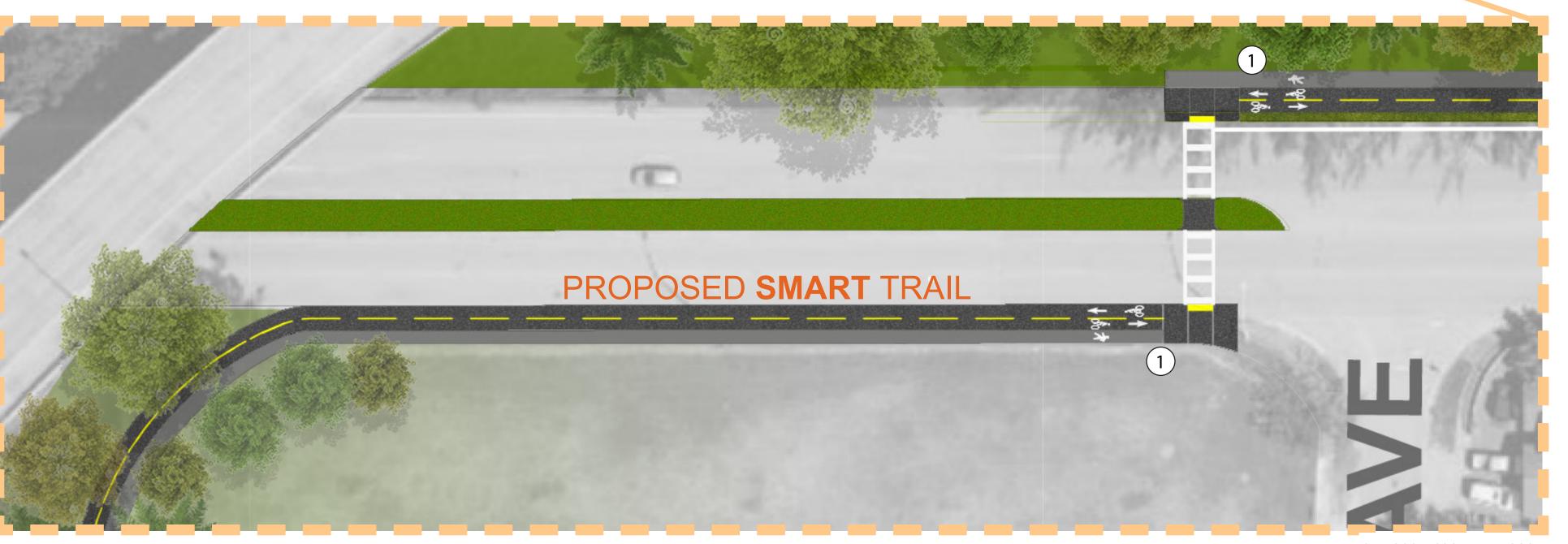
B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor





K. Central West Basin Linear Park to Dolphin Park and Ride



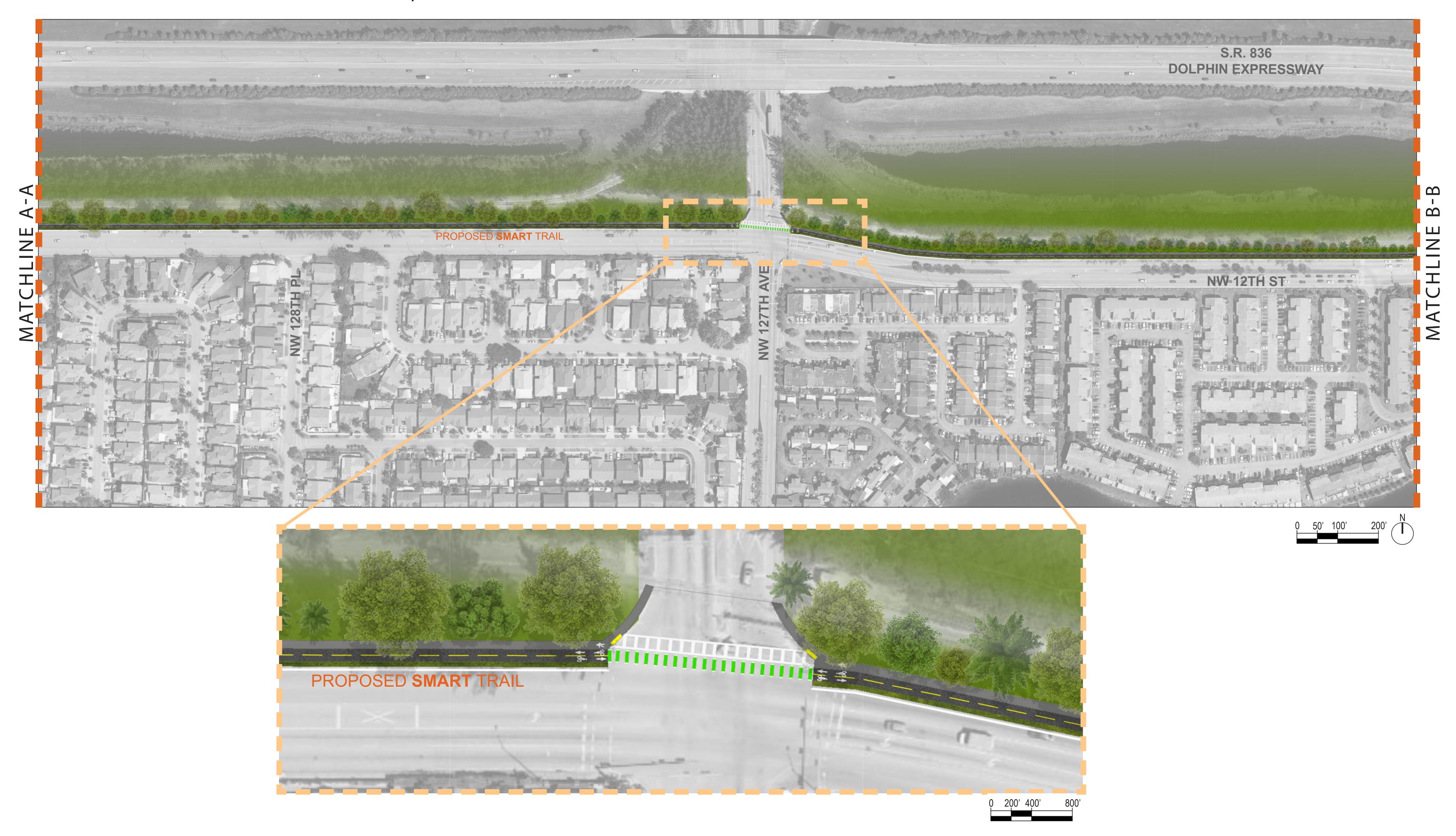




Rectangular Rapid Flashing Beacons Image Credit: FDOT



K. Central West Basin Linear Park to Dolphin Park and Ride



K. Central West Basin Linear Park to Dolphin Park and Ride

