FIRST/LAST MILE CONNECTIVITY AND SHARED MOBILITY SERVICES

First/Last Mile connection is a critical, yet often overlooked and under-resourced, component of successful transit systems. Being the most populous county and the third largest by land area in our state, we are no exception to this problem. Over the past several decades, 'walking' is the primary mode choice for public transportation commuters to complete the first and last mile(s) portion of their trip. Improving first and last mile connectivity options and development of a well-connected non-motorized transportation network system has always been one of our top priority areas to achieve the overall transportation safety, mobility, accessibility, and sustainability.

What does First/Last Mile Connection Mean?

Transportation trips can be understood as the entire journey from origin to destination – for example, to and from work, school, medical appointments, shopping, or entertainment. Individuals often use multiple types of travel to complete the journey. They may walk, drive, ride a bicycle, take a bus or train, or in many cases combine a number of modes. While bus and rail services might cover the core of these trips, people often need to complete the first and last portion by other means. They must first walk, drive, or use another method to get to and from the nearest station or stop. This is most often referred to as the "first mile/last mile" but it is also referred to as the "first leg/last leg" or "first segment/last segment" of the user's trip.

Source: LA County MTA

Miami-Dade County and all its partners have been continuously emphasizing on improving first/last mile connectivity and enhancing non-motorized transportation system by implementing various projects.

First/Last Mile Connections in Miami-Dade County

Pedestrian Facilities (sidewalks, walkways, ADA improvements, overpasses, elevators, escalators, stairs)

Bicycle Facilities (shared use paths, bike trails, greenways, Linear Parks, SMART Trails, SUN Trails)

Micromobility Services and Facilities (bikeshare, e-bikes, e-mopeds, e-scooters, docking stations)

Transit and Micro-Transit Feeder Services and Facilities (feeder, circulator, shuttle bus/ trolley, Freebee, bus stops/ stations or bays)

Auto Access Facilities and Services (park-and-ride, kiss-and-ride, electric vehicle charging stations, HOV preferential parking, ride matching, car sharing)

Transportation Network Companies (TNC) and Facilities (Uber, Lyft, Via, passenger loading/unloading zones)

Pedestrian Facilities (within half mile of a transit stop/station/terminal)

Pedestrian Facilities include sidewalks, walkways, ADA improvements, pedestrian over passes, elevators/escalators, and stairs. DTPW maintains pedestrian overpasses throughout its transit system to facilitate safe passenger connection. Listed below are some of the pedestrian overpasses. Escalators/elevators and stairs are available for passenger use in all 21 Metrorail stations and existing Metrorail station pedestrian overpasses.

- Douglas Road Metrorail Station Pedestrian Overpass
- Vizcaya Metrorail Station Pedestrian Overpass
- Hialeah Metrorail Station Overpass
- Snapper Creek Expressway and U.S.1 M-Path Overpass
- University Metrorail Station Pedestrian Overpass

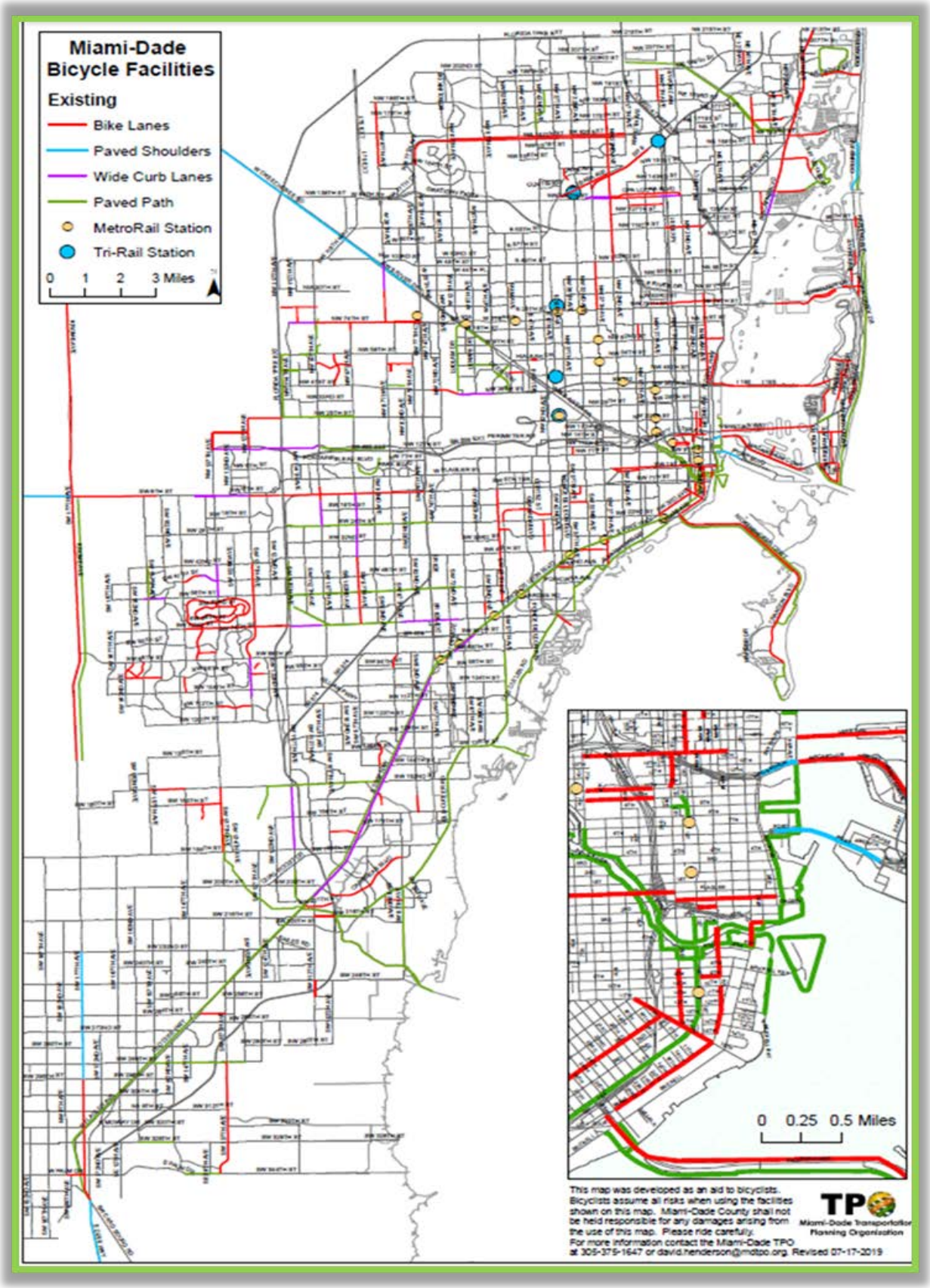

University Metrorail Station Pedestrian Overpass

Bicycle Facilities (within three miles of a transit stop/station/terminal)

Bicycle facilities include shared use paths, greenways, trails (SUN, SMART, other), linear parks (underline), bicycle parking, bicycle repair, and stair tire channels.

Miami-Dade County Transportation Planning Organization (TPO) 2045 Long Range Transportation Plan and 2045 Bicycle/Pedestrian Plan update presents the County's vision, direction, and improvement strategies to enhance non-motorized transportation network in the county. The maps and sections below show the existing (Map 1) and planned bike facilities such as the SMART Trails Connections and Greenways (Map 2) and the SUN Trail Network (Map 3) which continue and transform our County as a pedestrian and bicycle friendly community.

Map 1 - Miami-Dade Existing Bicycle Facilities

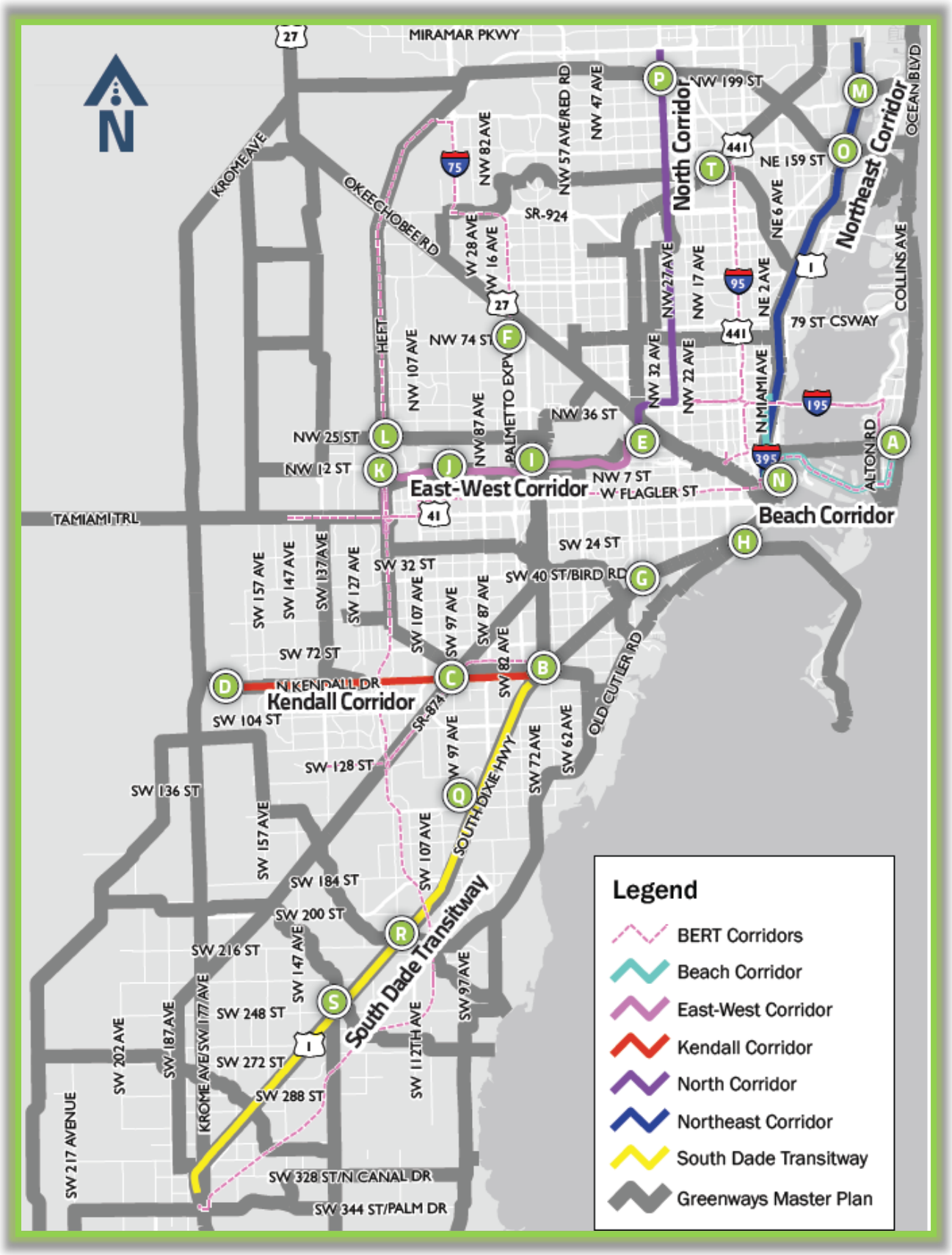


A **SMART Trails Connections** Master Plan was developed as part of the SMART Plan implementation effort to identify potential first/last mile connections between the SMART Plan corridors and the regional non-motorized trail system within the County. SMART Trails and their connectivity to SMART Plan Corridors include:

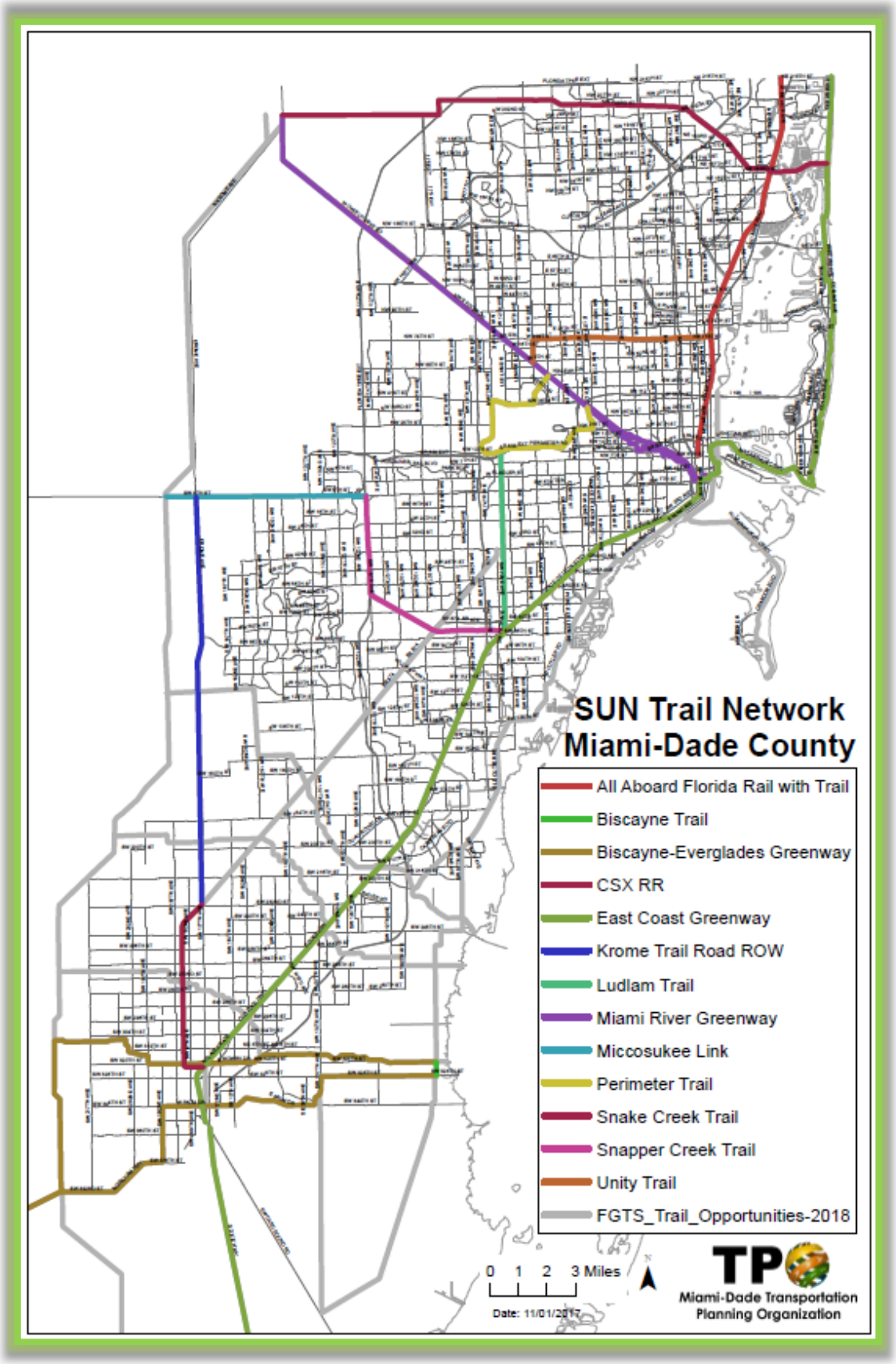
SMART PLAN/ TRANSIT CORRIDOR	SMART TRAILS CONNECTIONS
Beach Corridor	**A.** Atlantic Greenway to Beach Corridor
Kendall Corridor	**B.** Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route A
	B. Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route B
	C. Snapper Creek Trail to Kendall Corridor
	D. Krome Trail to Kendall Corridor
Metrorail	**E.** Miami River Greenway to Metrorail — Route A
	E. Miami River Greenway to Metrorail — Route B
	F. Miami River Greenway to Palmetto 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
East-West Corridor	**I.** Ludlam Trail to East-West Corridor
	J. Kitty Roedel to 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
Northeast Corridor	**M.** Lehman Link to 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
	P. Snake Creek Trail to North Corridor - Route B
South Dade Transitway/ South Corridor	**Q.** Briar Bay Linear Park to South Dade Transitway
	R. Roberta Hunter Park Trail to South Dade Transitway
	S. Princeton Trail to South Dade Transitway/South Dade Trail
Tri-Rail	**T.** Gold Coast Trail to Golden Glades Tri-Rail Station

Map 2 identifies the Miami-Dade County SMART Trails Connections Network and Greenways Master Plan and connectivity to the six SMART Plan rapid transit corridors.

Map 2 – Miami-Dade County SMART Trails Connections Network and Greenways Master Plan



Map 3 - Miami Dade County SUN Trail Network



In addition to the SMART and SUN Trails, there are several Bicycle and Pedestrian Paths/Trails/Greenways initiatives throughout the County. Also, the County's adaptation of Complete Streets approach and focus on context sensitive solutions further emphasizes the need for making existing roadways safer not only to vehicular traffic but all roadway users (both transportation and non-transportation users).

Citizens' Independent Transportation Trust (CITT) continues to promote and fund the projects that improves first/last mile connectivity and non-motorized elements of our transit connectivity system and urges all the stakeholders to prioritize related projects in its capital program and budget. The CITT is prepared to support Surtax funding for the following projects and transportation services:

A. Bicycle and Pedestrian Paths/Trails/Greenways[1, 2, 3, 4]

1. Brownsville/Model City Bicycle Boulevard Plan
2. Black Creek Trail
3. Commodore Trail
4. Flagler Trail
5. Miami Baywalk/Biscayne Line
6. Miami Loop
7. Okeechobee Metrorail Station Bike/Ped Connectivity to Miami Springs/Medley
8. Old Cutler Trail
9. Overtown Greenway
10. Rickenbacker Trail
11. SMART Trails
12. Safe Routes to Schools
13. South Dade Trail
14. SUN Trail Network
15. Sunset Drive/Road Protected Bicycle Path
16. Underline/M-Path
17. Other paths/trails/greenway connectors approved by the CITT and Board of County Commissioners on a case-by-case basis.

B. Bicycle Facilities & Services[1, 2, 4]

1. Bike Commuter Stations (secured/covered parking, repair facilities, lockers, showers, etc.)
2. Bike/Scooter-share programs
3. Protected bicycle parking at transit facilities

C. On-Demand Service [1, 2, 4]

1. Ride-sharing service (for at least two passengers)
2. Variable route circulators/trolleys/shuttles (for at least two passengers)

NOTES:

1. Projects are listed in alphabetical order, and not in any order of priority or preference.
2. Projects/service must primarily serve as a connection to a major transit facility (i.e., Metrorail, Tri-Rail, SMART Plan corridor, park-and-ride, or other premium transit station), or as a direct commuter connection to major employment centers or schools and shall exclude projects that serve a primarily recreational purpose.
3. Bicycle and Pedestrian Paths/Trails/Greenways should be separated and/or otherwise protected from vehicular traffic to the maximum extent possible.
4. Surtax funding may only be utilized for land acquisition and soft/hard costs associated with the construction of the project/service, as well as associated safety and mobility infrastructure elements, such as lighting, signage, striping, intersection improvements, protective barriers, and bike/pedestrian bridges. Surtax proceeds may not be used towards non-essential ancillary enhancements, such as landscaping, aesthetic treatments, street furniture, and recreational equipment, which must be funded through other available sources.

In addition to the traditional non-motorized travel modes discussed above, technological advancements in the last decade and growing business interest of private companies (or Transportation Network Companies) towards Mobility-as-a-Service (MaaS) has provided commuters with additional mobility modes such as Uber, Lyft, car sharing, e-scooters, bikeshare, etc.

Micromobility Services and Facilities (at and to/from a transit stop/station/terminal)

Micromobility Services and Facilities include Bikeshare, e-bikes, e-scooters, e-mopeds and docking stations. DPTW implemented RideOn automated bike share program that provided approximately 2000 e-bikes via docks at several Metrorail stations and Metrobus terminals throughout the County. Municipalities including City of Miami Beach, City of Miami partnered with Citibike and City of Aventura partnered with Aventura BCycle to implement successful bikeshare programs in the County that contributes to the first/last mile connections.

City of Miami implemented a pilot program with the micromobility providers- Lime, Bird, Bolt, Jump, Lyft, Spin, Wheels, Baus, and HelBiz to evaluate the effectiveness of e-scooters as part of an overall transportation and mobility. The City permitted 3,957 scooters in the program with a $5,000 up-front licensing fee and a charge of $1 per day per scooter. The City also issued a $25 ticket for improperly parked scooters. Currently the City is working towards executing a contract with the e-scooter vendors. Miami Parking Authority introduced e-mopeds in the City of Miami.

Currently use of bicycles, e-bikes, e-scooters, e-mopeds were banned to prevent the spread of COVID-19. OCITT is conducting a study to understand the existing TNC and mobility mode options in Miami-Dade County and its influence on transit ridership through first and last mile service.

Transit and Micro-transit Feeder Service and Facilities (at and to/from a transit stop/ station/terminal)

Transit and Micro-transit Feeder Service and Facilities includes Feeder buses, circulator, Municipal Trolley/Shuttle bus, on-demand transit and micro transit (Freebee), Bus stops/stations or bays. These modes majorly supports first and last mile/leg connectivity. Majority of the municipalities (28 of 34 municipalities) in Miami-Dade County provide fare-free Trolley/Circulator and/or on-demand Freebee service that connects to the County Metrorail stations and Metrobus system. In 2019, the municipal transit system carried over 14 million passengers. CITT provides funding to the municipalities to support transit service through People's Transportation Plan half-penny

sales Surtax. Detailed information (transit vehicle, service, ridership, PTP funds, connectivity with County transit system etc.) can be found in the Municipal Program section of this Plan.

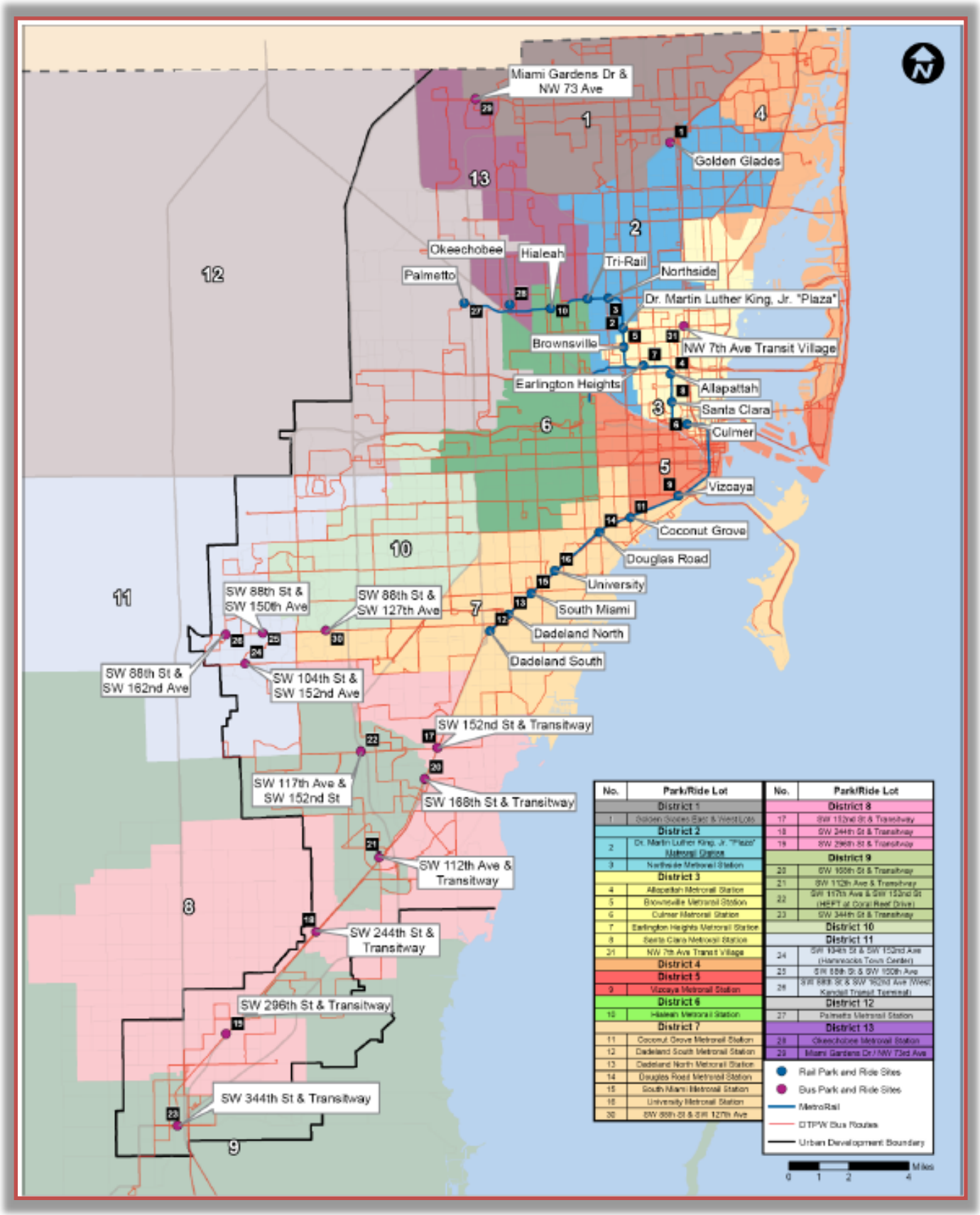
Municipal Trolleys/Circulators and Freebee Vehicles

Auto Access Facilities and Services (at and to/from a transit stop/station/terminal)


Dolphin Station Park-and-Ride

Auto access facilities and services include park-and-ride, kiss-and-ride, electric vehicle charging stations, High Occupancy Vehicle (HOV) preferential parking, ride matching, car sharing. Strategic development of park-and-ride, kiss-and-ride, and multimodal Metrorail parking facilities encourages travelers to take transit trips. I-95 Express Bus routes, Metrorail, Enhanced Express Bus Service routes are a few existing examples of transit routes that are greatly befitted (in terms of ridership) due to the availability of conveniently connected park-and-ride, kiss-and-ride, and metro parking facilities. DTPW currently has over 33 existing park-and-ride locations including Transit Oriented Developments (TODs) with over 13,000 available parking spaces and is planning to develop more transit hub locations. Map 4 below identifies locations of the Miami-Dade County existing park-and-ride facilities.

Map 4 - Park-and-Ride Facilities in Miami-Dade County



Transportation Network Company (TNC) and Facilities (at and to/from a transit stop/ station/terminal)

TNCs include Uber, Lyft, Via, passenger loading/ unloading zones. In densely populated cities like Miami, ride-hail apps like Uber and Lyft provide excellent opportunities to address first/last mile connectivity challenges. Miami-Dade County Board of County Commission (BCC) passed an Ordinance in May 2016 legalizing operation of TNCs in the County. The Department of Transportation and Public Works (DPTW) conducted a pilot program with Uber in summer 2019 to explore first/last mile connection to payment integration through the 'contactless open payment effort'. Recently, due to COVID-19, DTPW executed the "Go Nightly" program with Lyft and Uber to provide alternate transportation service between the hours of midnight and 5 am for trips along Miami-Dade Transit bus routes 3, 11, 27, 38, 77, 112, 119, 246, and 500. The program is meant to provide guaranteed rides during late night hours and ensure that the transit riders using the metrobus for "essential purposes" can still use Miami-Dade transit safely. Riders receive 100% subsidy up to $45 per trip; trips are limited to two trips per night per user, to/from destinations within ¼ mile buffer from the select route alignment. DTPW is considering exploring further partnerships with TNC's beyond Go Nightly.

Mobility-as-a-service (MaaS)

Mobility-as-a-Service (MaaS) is the integration of the various forms of transportation and services into a single mobility service accessible on demand. DPTW also partnered with a MaaS provider Velocia, a rewards platform that works in partnership with transit providers and mobility providers. Velocia integrates all the above-mentioned transportation modes. Velocia encourages travelers to ride transit, walk, bike, and use shared rides by rewarding velos that can be redeemed for discount on the participating TNCs, Carpool, Brightline trains and micromobility service options.