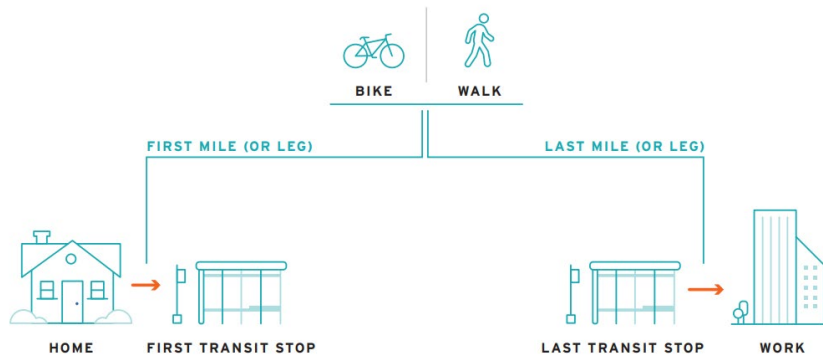


# First and Last Mile/Leg (FLM) Connectivity & Shared Mobility Services

First and last mile/leg connectivity is a crucial concept in urban transportation that addresses the challenge of getting people from the starting point to transit stop/hub and from transit stop/hub to the final destination. In Miami-Dade County, this concept plays a significant role in shaping the effectiveness and efficiency of the region's public transportation system.

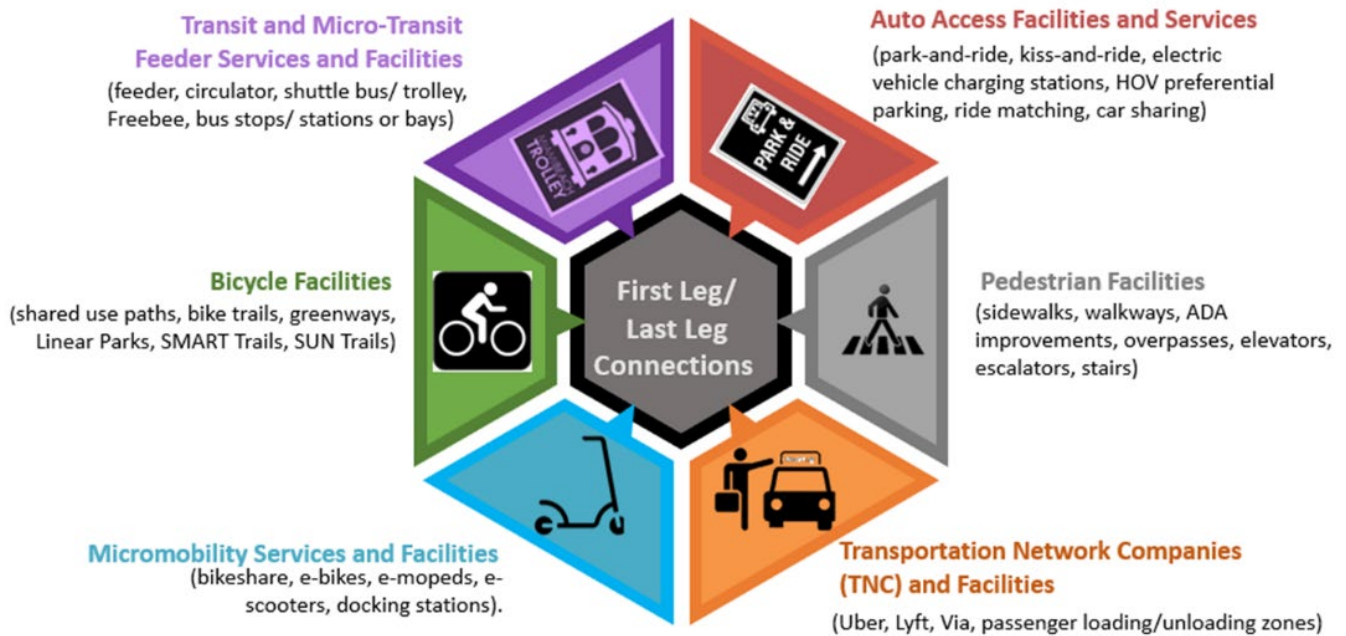


*\*Photo Source: 2045 Miami-Dade Bicycle Pedestrian Master Plan*

## First and Last Mile/Leg Connectivity

First mile/leg connectivity refers to the ease with which residents can access public transit options from their homes or trip beginning location. Last mile/leg connectivity addresses how people reach their final destination from transit stop/hub. The first and last mile/leg involves various options including:

- **Walking:** Ideally, residential areas are within a comfortable walking distance from bus stops or train stations. However, in Miami-Dade, some neighborhoods are more pedestrian-friendly than others, and there are ongoing efforts to improve walkability, particularly in areas that are less developed or more car-dependent.
- **Biking:** Bike lanes and bike-sharing programs are essential for first mile connectivity. The expansion of bike lanes and improved infrastructure can help residents who live too far to walk but are close enough to bike.
- **Ride-Sharing and Micro-Mobility:** Services like Uber, Lyft, and scooter rentals provide flexible options for the first mile/leg. The integration of these services with public transit can enhance overall connectivity.
- **Circulator/Shuttle Services:** Some areas in Miami-Dade have shuttle services that connect major transit hubs with local destinations. Expanding these services to underserved areas can improve access and convenience.
- **Safety and Comfort:** Enhancing pedestrian infrastructure around transit stations, such as sidewalks, crosswalks, lighting and bicycle amenities improves accessibility, safety and comfort to transit patrons. Investment in these areas make public transit more attractive.
- **Public Transit Integration:** It is essential to integrate Metrobus and Metrorail routes/stations with the surrounding community which allows transit users to easily access public transportation. This will reduce reliance on personal vehicles, enhances overall transit usage, and improves the efficiency of the transportation system.



Overall, improving first and last mile/leg connectivity in Miami-Dade County involves a multi-faceted approach that combines better infrastructure, integrated services, and community-focused planning. Addressing these needs can lead to a more efficient, accessible, and user-friendly public transit system, ultimately benefiting the entire region. The Citizens' Independent Transportation Trust (CITT) encourages all the partners to continuously explore options and improve first and last mile/leg connectivity and enhance non-motorized transportation system.

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

Pedestrian Facilities include sidewalks, walkways, ADA improvements, pedestrian overpasses, elevators/escalators, and stairs. Most major streets and local streets throughout the county have sidewalks for safe walking. MDC's adaptation of [Complete Streets Policy](#) in the year 2014 shows the county's direction and requirements on various context sensitive design elements in all street design projects to facilitate the needs of all modes of transportation. Escalators/elevators and stairs are available for passenger use in all 21 Metrorail stations and existing Metrorail station pedestrian overpasses. DTPW maintains pedestrian overpasses throughout its transit system to facilitate safe passenger connection. Listed below are some of the 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



The [Miami-Dade 2045 Bicycle/Pedestrian Plan](#)

outlines county's vision, mission, goals and direction of creating interconnected pedestrian and bicycle friendly communities throughout the county.

## 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. In addition to the 2045 Bicycle/Pedestrian Plan update mentioned above, the Miami-Dade TPO 2045 Long Range Transportation Plan presents the County's vision, direction, and improvement strategies to enhance non-motorized transportation network in the county.

Also, there are several other initiatives including Bicycle Pedestrian Program ([BPP](#)), [Bicycle Friendly Business \(BFB\) Program](#), [Bicycle Friendly Community \(BFC\) Program](#), [Bicycle Friendly University \(BFU\) Program](#) to actively promote and encourage biking. The Bicycle Pedestrian Advisory Committee (BPAC) advises the TPO Governing Board on bicycle and pedestrian-related issues, assists the TPO staff in the development of the comprehensive bicycle transportation plan. Miami-Dade Transit's Bike & Ride program allows commuters to bring their bike onto Metrorail and rack-equipped Metrobus. Also, [the county zoning code](#) has required that multi-family residential and commercial properties in the unincorporated area provide secure bike parking close to their primary entrance.

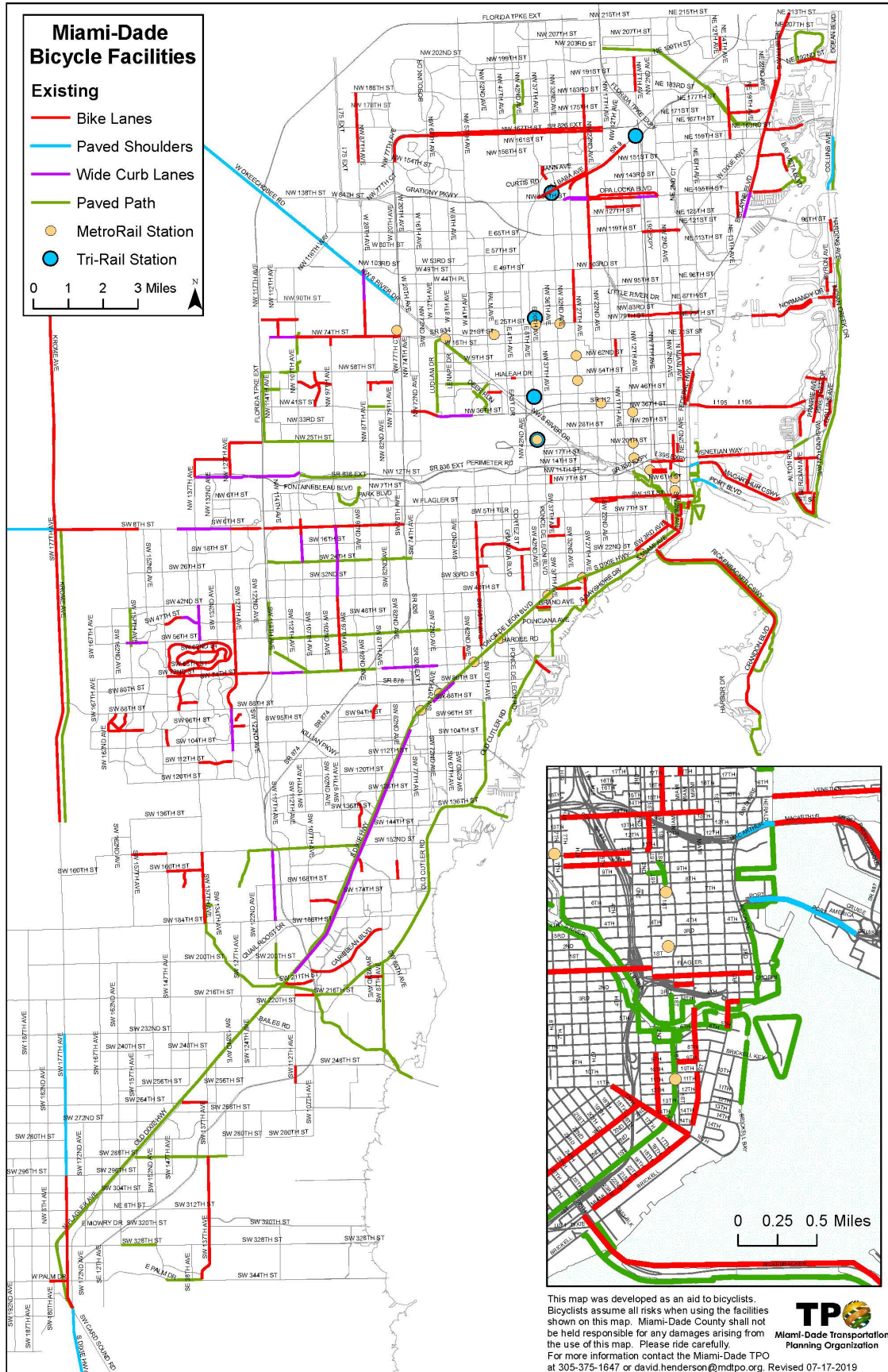
*Miami-Dade County has more than 522 miles of bicycle infrastructure ranging from protected and unprotected bike lanes, paved paths and trails, paved shoulders, and wide curb lanes, in addition to sharrows that provide ample opportunities for cycling. The breakdown in facility mileage through July 31<sup>st</sup>, 2022 is illustrated below:*

Type		Miles
<b>Dedicated Facilities</b>		
<b>Bike Lanes</b>		
	Unprotected	196.57
	Buffered	6.39
	Protected	4.81
<b>Total Bike Lanes</b>		<b>207.77</b>
<b>Paved Paths and Trails</b>		
	Paved Paths	54.43
	Trails	123.80
<b>Total Paved Paths and Trails</b>		<b>178.23</b>
<b>Total Miles of Dedicated Facilities</b>		<b>386.00</b>
<b>Paved Shoulders</b>		<b>53.27</b>
<b>Wide Curb Lanes</b>		<b>28.11</b>
<b>Total Miles of all Bike Facilities</b>		<b>467.38</b>
<b>Sharrows*</b>		<b>54.67</b>
<i>*-Sharrows are not considered as bicycle facilities</i>		
<b>Total All Mileage</b>		<b>522.05</b>

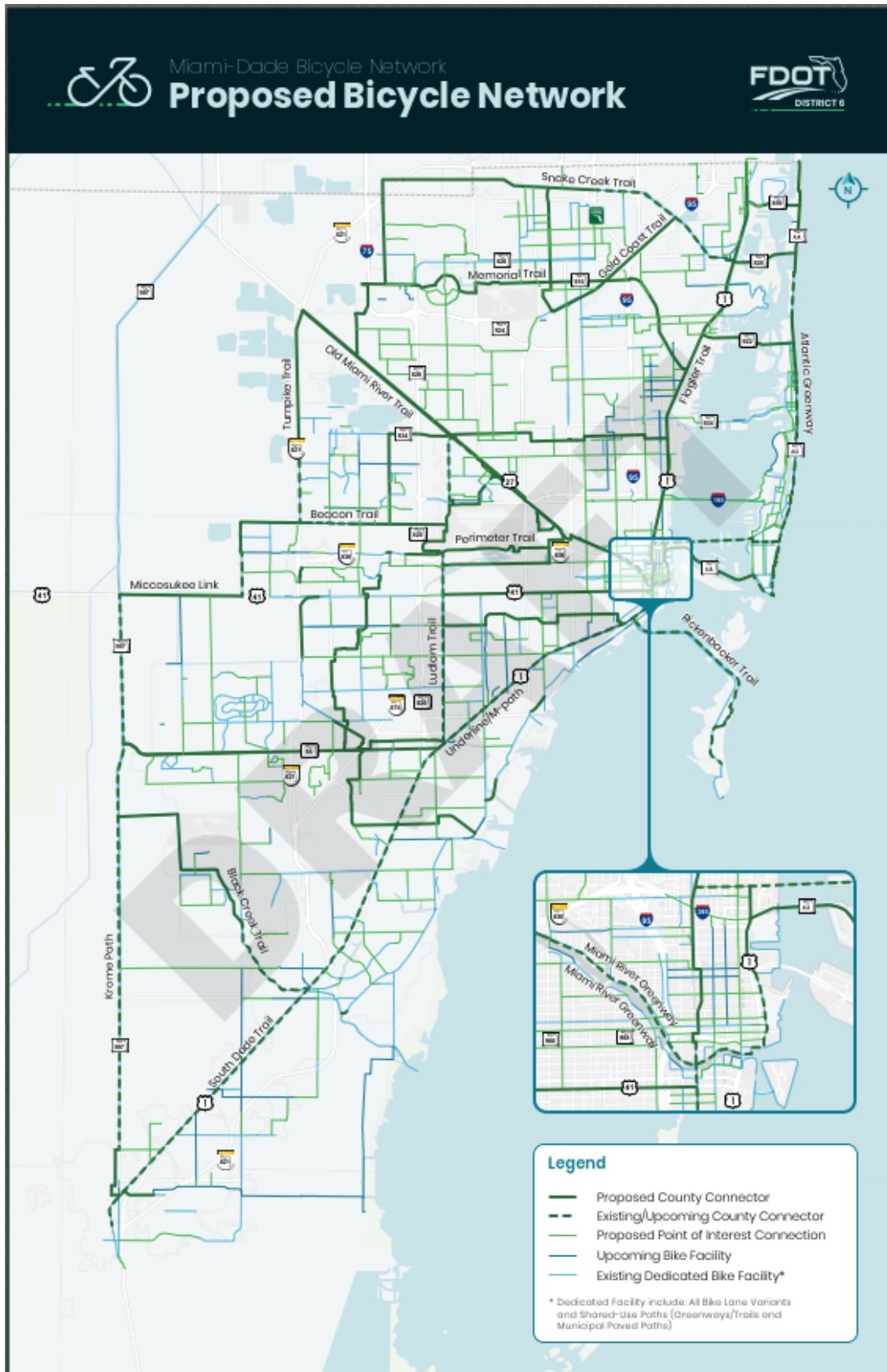
Source: [Miami-Dade TPO \(miamidadetpo.org\)](http://miamidadetpo.org)

The maps below show the existing (Map 1), planned bike facilities (Map 2), and Mountain biking trails (Map 3) in the County as we continue to transform our County as a pedestrian and bicycle friendly community.

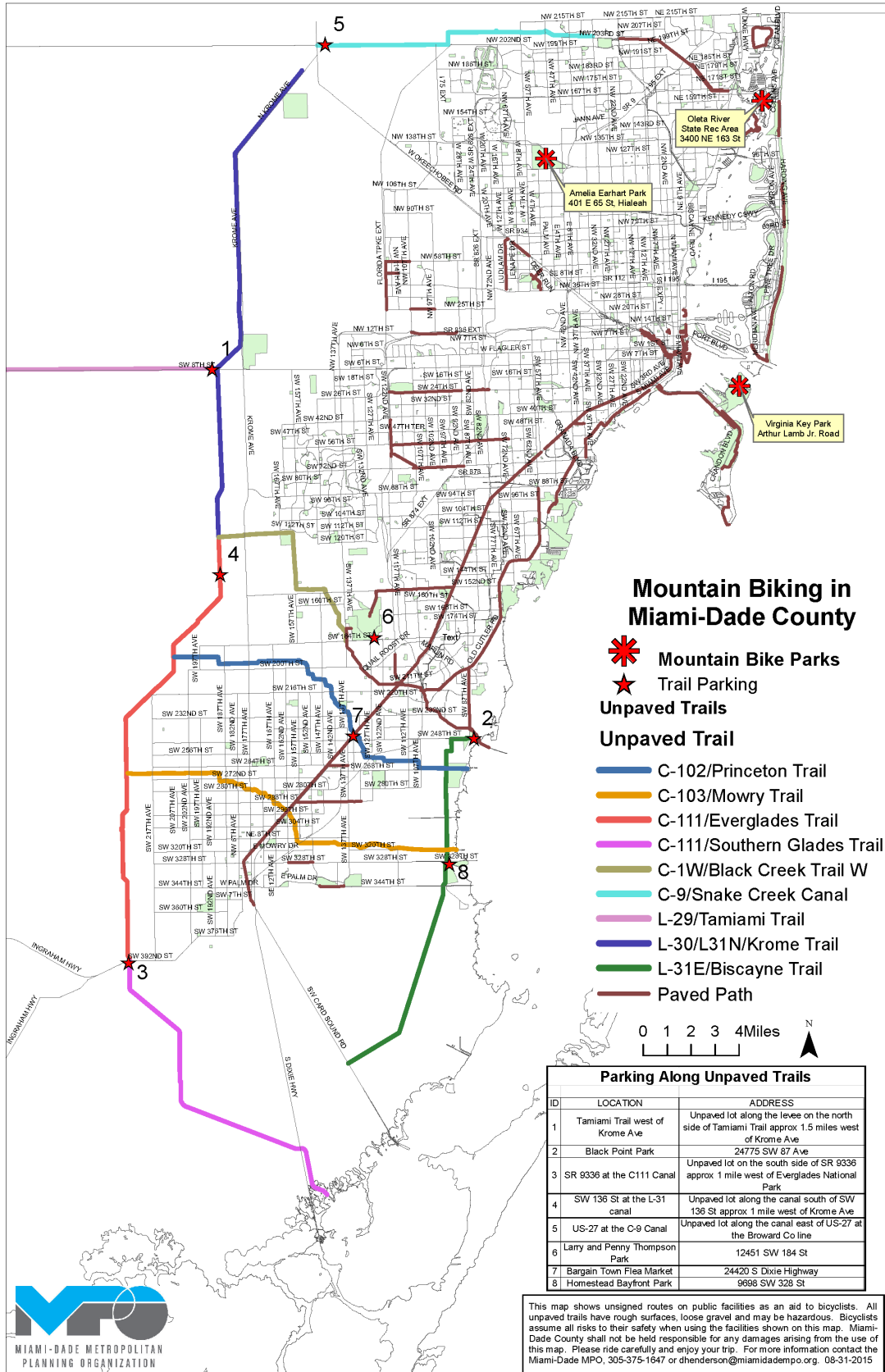




**Map 1 - Miami-Dade Existing Bicycle Facilities**



**Map 2 - Miami-Dade Proposed Bicycle Facilities**



Map 3 - Miami-Dade Mountain Biking Trails and Parks

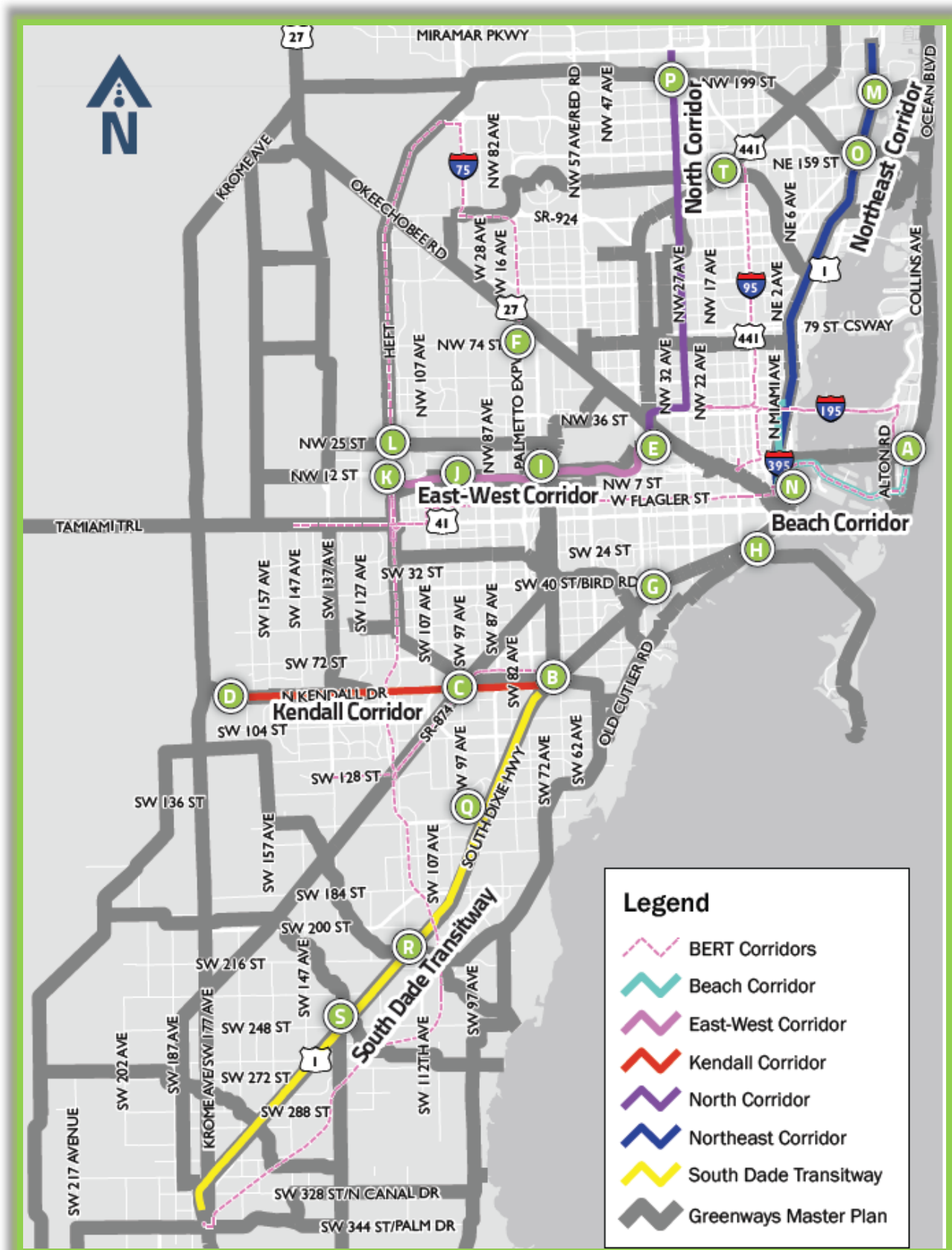


A **SMART Trails Connections** Master Plan was developed as part of the SMART Plan implementation effort to identify potential first and last mile/leg connections between the SMART Plan corridors and the regional non-motorized trail system within the County. SMART Trails and their connectivity to SMART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

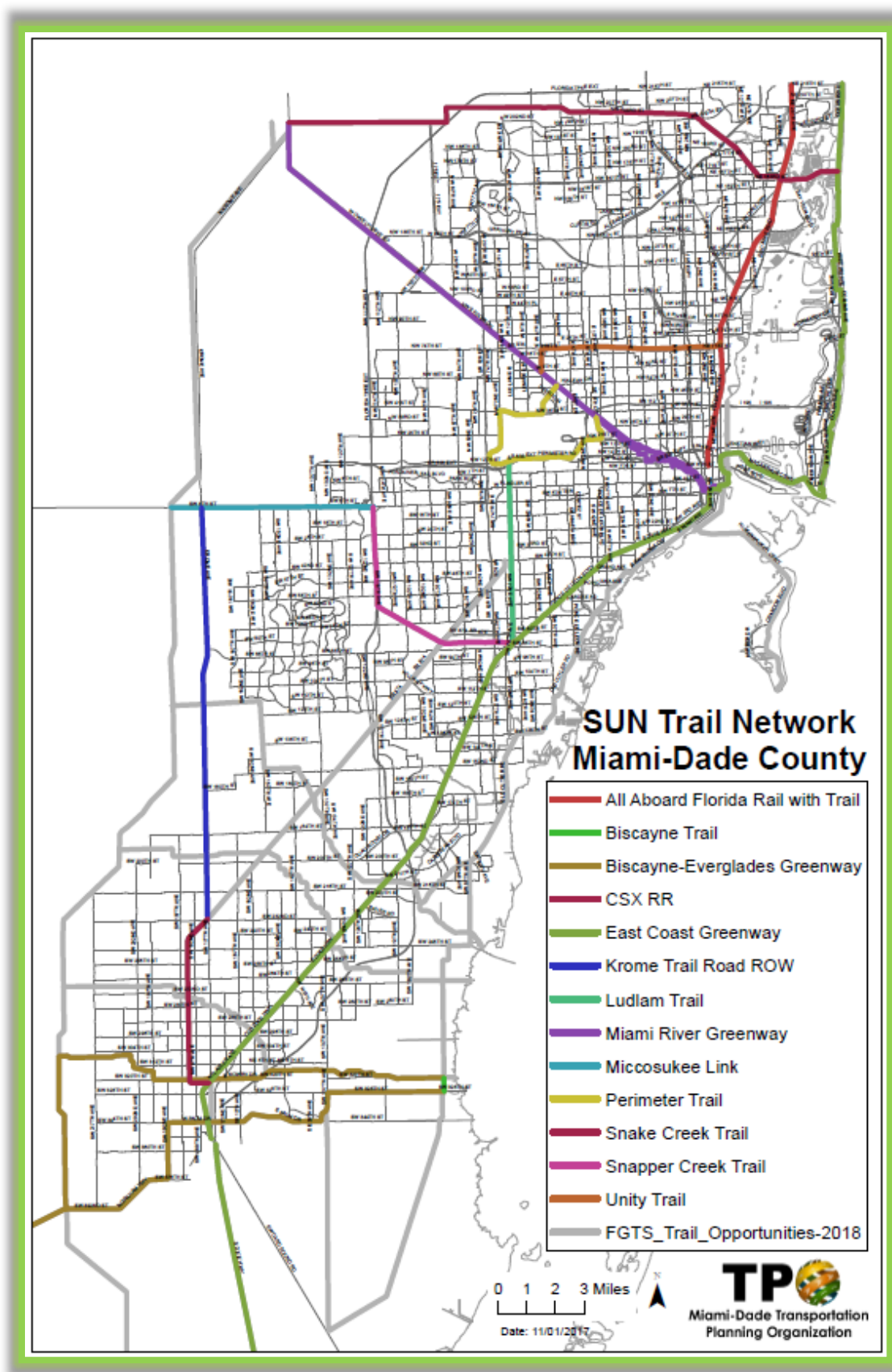
SMART PLAN/ TRANSIT CORRIDOR	SMART TRAILS CONNECTIONS
<b>Beach Corridor</b>	<b>A.</b> Atlantic Greenway to Beach Corridor
<b>Kendall Corridor</b>	<b>B.</b> Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall Corridor — Route A
	<b>B.</b> Ludlam Trail to Dadeland North Metrorail Station/Underline/Kendall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

Map 4 identifies the Miami-Dade County SMART Trails Connections Network and Greenways Master Plan and connectivity to the six SMART Plan rapid transit corridors.





Map 4 – Miami-Dade County SMART Trails Connections Network and Greenways Master Plan



Map 5 - 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).

The CITT continues to promote the projects that improve first and last mile/leg 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.

A. Bicycle and Pedestrian Paths/Trails/Greenways<sup>1, 2, 3</sup>

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<sup>1, 2, 4</sup>

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<sup>1, 2, 4</sup>

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.

**First and Last Mile Bicycle-Pedestrian improvements in Miami-Dade County Municipalities:** The Office of CITT through its Strategic Planning Consultant is currently conducting an assessment of existing and proposed non-motorized infrastructure, particularly those that enhance first- and last-mile connections to existing and planned transit systems and multimodal facilities across different municipalities in Miami-Dade County. The analysis focuses on how municipalities can assist in establishing connections with and/or extending the integrated network of greenways, trails, and paths intended to offer a safe and clean mobility alternative and first and last mile connections to the existing transit system and the SMART program. The findings of this analysis will help inform strategies to advance County's multimodal transportation vision, aligning municipal efforts with county-wide objectives for cleaner, safer, and more efficient mobility solutions.



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, Bal Harbour Village partnered with Citibike and City of Aventura partnered with Aventura BCycle to implement successful bikeshare programs in the County that contributes to the first and last mile/leg connections.



The 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. Miami Parking Authority introduced e-mopeds in the City of Miami.

Use of bicycles, e-bikes, e-scooters, e-mopeds was banned during COVID-19 pandemic and resumed later.

### 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 include 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 (31 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 or the Metrobus system. In 2019, the municipal transit system carried over 14 million passengers whereas the ridership declined in FY 2021 to its lowest of 5.4 million passengers during the COVID-19 pandemic due to service suspensions and reductions. However, post pandemic, the ridership trend is increasing with service restorations and new services transporting over 10.8 million passengers in FY 2023. 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)

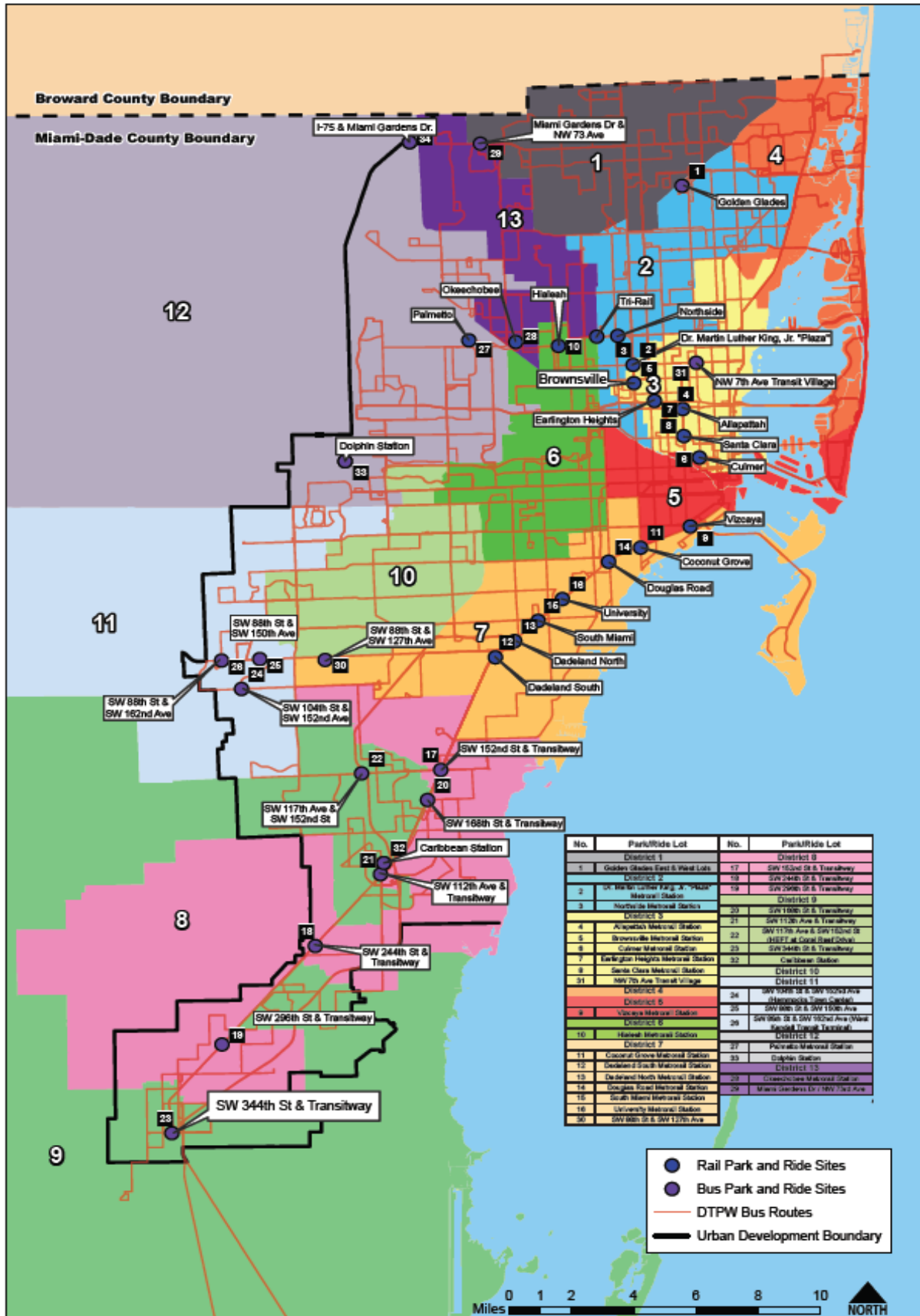


Dolphin Station Park-and-Ride

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 benefited (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 34 existing park-and-ride locations including Transit Oriented Developments (TODs) with over

13,300 available parking spaces and is planning to develop more transit hub locations. Map 6 below identifies locations of the Miami-Dade County existing park-and-ride facilities.

Map 6 - Park-and-Ride Facilities in Miami-Dade County



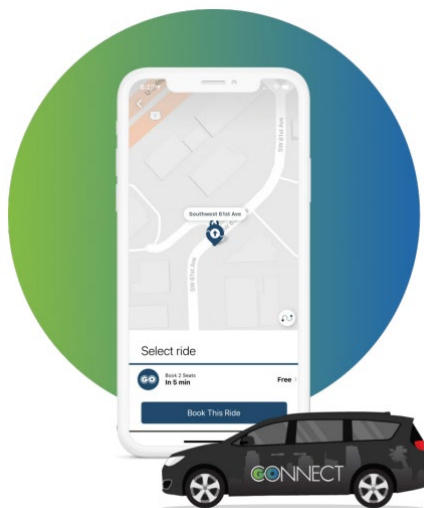


## Transportation Network Company (TNC) and Facilities (at and to/from a transit stop/station/terminal)

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 and last mile/leg 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 (DTPW) conducted a pilot program with Uber in summer 2019 to explore first and last mile/leg connection to payment integration through the 'contactless open payment effort'.



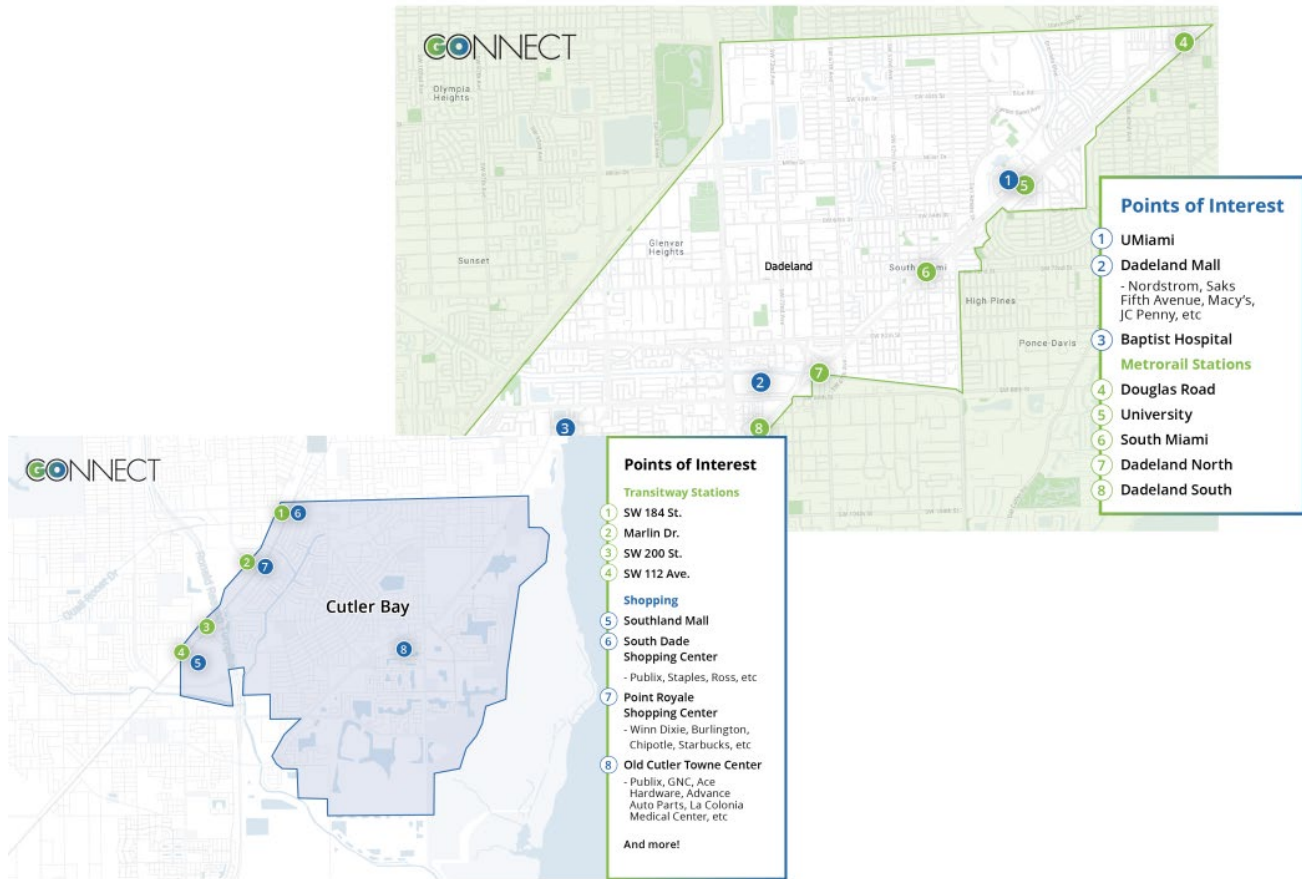
Recently, due to COVID-19, DTPW executed the "Go Nightly" program with Lyft and Uber to provide alternate transportation service between the hours of midnight and 5 am for trips along Miami-Dade Transit bus routes 3, 11, 27, 38, 77, 112, 119, and 246. The program is meant to provide guaranteed rides during late night hours and ensure that the transit riders using the metrobus for "essential purposes" can still use Miami-Dade transit safely. 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.



DTPW's project "Go Connect" demonstrates another example of how the County is using real-time on-demand transit services to provide shared, near door-to-door rides connecting with major transit stations and selected destinations. Launched in October 2020, the Go Connect program is a ride sharing app-based service that provides first/last mile connections within specific zones. The first zone was the Dadeland/South Miami area. Currently the program serves four areas: Dadeland/South Miami, the Town of Cutler Bay, Civic Center (Health District), and West Kendall. Fares for each trip will be a flat \$2.25, the same cost as a one-way Metrobus or Metrorail ride.

Through "Go Connect", riders can book, track, and pay their ride using a smartphone application (or call center option is also available). Rides are available from 6:30 a.m. to 7 p.m. Monday through Friday in Dadeland/South Miami. The GO Connect ridership has grown significantly in recent months; more than 30% of pickup/drop-off locations are at transit stations. The Cutler Bay zone has been the most successful service area. The service in this zone is provided at no cost to passengers due to an FDOT grant that is matched by the Town of Cutler Bay.





Miami-Dade Go Connect Program Service Area Map

## 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 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 (points) that can be redeemed for discounts on the participating TNCs, Carpool, Brightline trains and micromobility service options.

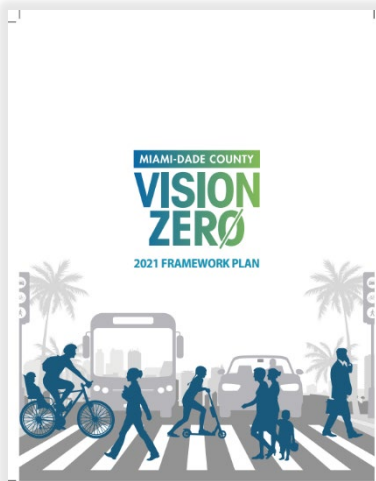
**VELOCIA**

Velocia encourages travelers to ride transit, walk, bike, and use shared rides by rewarding velos (points) that can be redeemed for discounts on the participating TNCs, Carpool, Brightline trains and micromobility service options.

Velocia has also developed a segment on its rewards platform for the CITT Ambassador Program. The CITT ambassadors are volunteer transit riders who regularly share their experiences and observations of using transit services in exchange for rewards. They receive velos that can be redeemed for rewards when they complete surveys, share CITT messaging on their social media platforms, and participate in customer focus groups to help the CITT, DTPW, and municipalities learn how well a new and existing transit service is performing.

## Vision Zero

In Miami-Dade County, road crashes over the past decade resulted in an average of 4 fatalities per week and 17 severe injuries per week costing a total amount of \$22 billion dollars (emergency services, medical services, household productivity lost, insurance administration, workplace costs, legal costs, congestions impact and property damage). Over the past 10 years, the number of fatal crashes has increased by 38% and crashes involving people walking and biking increased by 20% nationwide. Fatal crashes involving pedestrians and bicyclists in Miami-Dade County is 37% even though they account for only 10% of all the trips. The number of crashes resulting in fatal injuries is twice than the US average of 21%. Vision Zero is a world-wide movement establishing a program dedicated to eliminating deaths and serious injuries from the transportation network through a system-wide approach. This program includes identifying high crash locations and possible countermeasures to avoid future crashes, propose systematic approach to enhance safety. In May 2021 (National Bike Month), Miami-Dade County launched its “Vision Zero” program with the goal to end all bicycling road deaths by 2030.



DTPW is prioritizing the implementation of the Vision Zero Plan in Miami-Dade County. DTPW have identified high crash pedestrian and bicycle locations to implement site specific safety countermeasures and is finalizing the Vision Zero Implementation Plan report that further identified the County High-Injury (HI) Network (segments and intersections), layout a systematic approach to implement safety countermeasures and policies considering prioritizing interdepartmental coordination, accountability, create awareness and educating the public, and making safety improvements at the HI network. The Vision Zero projects also include first and last mile/leg connections to SMART plan projects enhancing pedestrian and bicycle facilities and also retrofit existing bicycle facilities with protection elements to further promote safety and multimodal choices. the DTPW received \$16.2 million Implementation Grant under the Safe Streets and Roads for All (SSA4) grant administered by the U.S.

Department of Transportation.

## First and Last Mile/Leg and House Bill 385 Restrictions

CITT encourages all local partners to refer to HB 385 as they develop new first and last mile/leg projects for compliance. House Bill 385 placed additional restrictions on the use of transportation Surtax funds effective October 1, 2022.

The Bill restricts the County's utilization of Surtax funds for construction of bicycle and pedestrian facilities as standalone projects, on-demand services such as Freebee, GoConnect, and micro transit etc. However, if a bicycle/pedestrian path is part of a larger transit capital project/program implementation, the bill does not restrict eligibility for Surtax funding.

Municipalities have greater flexibility in the use of Surtax funds for the implementation, operations, and maintenance of the first and last mile/leg options compared to the County. As an example, the County is not eligible to use surtax dollars to provide on-demand services, such as GoConnect or Freebee. However, municipalities may use surtax dollars to provide trolley/circulator, on-demand services provided that on-demand service as part of the municipality's transit system. In similar terms, municipalities may use surtax funds to construct bicycle and pedestrian facilities.