



**City of Miami**

**Miami Comprehensive Neighborhood Plan**

**TRANSPORTATION ELEMENT**

**Data Inventory and Analysis**

**February 2017**



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## Appendix

Appendix TR-1: Existing and Future Transportation Map Series

# City of Miami | Miami Comprehensive Neighborhood Plan TRANSPORTATION ELEMENT



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## **TRANSPORTATION ELEMENT DATA INVENTORY AND ANALYSIS**

The City of Miami's transportation network consists of local city roads, roads maintained by Miami-Dade County, and state roads maintained by the Florida Department of Transportation (FDOT). Many of these roads are served by a regional transit system provided by Miami-Dade Department of Transportation and Public Works (DTPW) and by the City of Miami's Trolley system. Most of these roads feature sidewalks and other pedestrian facilities, while only some roads feature bicycle facilities.

Local governments that have all or part of their jurisdiction included within the urbanized area of a Metropolitan Planning Organization (MPO) are required to prepare and adopt a Comprehensive Plan with a Transportation Element consistent with the provisions of Section 163.3177 of the Florida Statutes. The purpose of the Transportation Element is to plan for a multimodal transportation system that places emphasis on transportation mode choice within the City of Miami, particularly non-automobile. The objective of the Transportation Element Data Inventory and Analysis is to describe and analyze transportation resources within the City of Miami, project future conditions and prepare a foundation for the formulation of goals, objectives, policies and implementation programs.

Data has been analyzed and portrayed in text and graphic formats including a series of transportation maps (**Appendix TR-1**). In this analysis, the City's Comprehensive Plan horizon year is 2040. The Transportation Element Data Inventory and Analysis includes:

- An analysis of the existing transportation systems, including the ability of transportation facilities and services to serve existing land uses
- Growth trends and travel patterns, including relationships between land use and transportation systems;
- Projected transportation system levels of service;
- An analysis of local and state transportation programs;
- Maintenance of adopted level of service standards; and
- Land use policy implications of transportation management programs necessary to promote public transportation.



### DEFINITIONS OF TERMS AND CONCEPTS

#### CLASSIFICATION OF MAJOR THOROUGHFARES

Major thoroughfares are categorized into functional classification groups according to the character of service. The four functional classification groups for urban areas are principal arterials, minor arterials, collectors and local streets. The extent and degree of access control is a significant factor in defining the functional classification of a roadway. Regulated limitation of access is necessary on arterials to enhance their primary function of mobility, while the primary function of local streets is to provide access. Functional classifications for major thoroughfares are defined in *A Policy on Geometric Design of Highways and Streets* (American Association of State Highway and Transportation Officials, 2011).

**Principal Arterials:** serves the major centers of activity and the highest volume traffic corridors of urbanized areas. Principal arterials typically serve longer distance trips. Although principal arterials constitute a small percentage of the total roadway network, they carry a high proportion of total urban traffic. The principal arterial system also carries most of the trips entering and leaving the urban area. Service on principal arterials is normally continuous with relatively high traffic volumes, long average trip lengths and high operating speeds. Service to abutting land is typically subordinate to the provision of travel service and major traffic movements. Typical principal arterials include interstates, freeways and other limited access facilities.

**Minor Arterials:** The minor arterial system interconnects and supports the principal arterial system. It accommodates trips of moderate lengths at a lower level of mobility than provided on principal arterials. Minor arterials provide continuity among communities and may also carry local bus routes. Ideally, minor arterials do not penetrate identifiable neighborhoods. The spacing of minor arterials is typically not much greater than one mile in most urbanized areas.

**Collectors:** The collector street system provides vehicular access to and mobility within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that it penetrates neighborhoods and distributes trips from arterials to their ultimate destinations. Conversely, collectors also transition vehicular traffic from local streets onto the arterial system. The collector street system may carry local bus routes. Service on collectors has relatively moderate traffic volumes, average trip lengths and average operating speeds.

**Local Streets:** The local street system comprises all roadways not in one of the higher systems. It provides direct access to abutting land uses and connections to the higher order systems. It offers the lowest level of vehicular mobility and usually contains no bus routes. Service to through traffic is often discouraged on local streets. Service on local streets has relatively low average traffic volumes, short average trip length or minimal through traffic movements and high land access for abutting property.

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The City and the State of Florida Department of Transportation further distinguish roadways for purposes of analysis applied according to whether the facility falls within the State Strategic Intermodal System (SIS) facilities and other facilities of State importance. For SIS facilities, the City monitors for a level of service “D” as required for urbanized areas using a vehicle-trip measure (FDOT Planning Topic No. 525-000-006a dated October 9, 2015). Quality/level of service for other highway modes on SIS facilities will be determined on a case by case basis.

### LEVEL OF SERVICE

Level of Service (LOS) standards were determined for various modes of transportation within the Miami urbanized area for both existing and future conditions. Automobile LOS thresholds were derived from the *2012 FDOT Quality/Level of Service Handbook*. The person trip LOS methodology used in the previous update (2004) of the Transportation Element only included automobiles and transit. Because of the emphasis placed on providing an efficient multimodal transportation system, a new Person Trip LOS methodology was developed for this update which considers bicycle and pedestrian trips along with the automobile and transit trips. Additionally, a preliminary bicycle suitability analysis was conducted to determine the transportation network’s suitability for bicyclists within the City of Miami. LOS standards for automobiles and person trips, as well as the bicycle suitability analysis are further discussed below.

### AUTOMOTIVE LEVEL OF SERVICE

The *Traffic Engineering Handbook* (Institute of Transportation Engineers 7th Edition) defines automobile LOS for roadways as:

*“A qualitative measure that characterizes operational conditions within a traffic stream and perception of these conditions by motorists and passengers. The descriptions of individual levels of service characterize these conditions in terms of factors such as speed and travel time, freedom to maneuver, traffic interruptions and comfort and convenience.”*

The automobile LOS definition can be further simplified as the ratio of roadway traffic volume to capacity (V/C). The six (6) different LOS are described below:

- **LOS A** – This LOS represents an ideal condition of primarily free-flow traffic operations at average travel speeds. Vehicles are completely unimpeded in their ability to maneuver within the traffic stream and delays at intersections are minimal.
- **LOS B** – This LOS represents reasonably stable, unimpeded traffic flow at average travel speeds. The ability to maneuver within the traffic stream is only slightly restricted and stopped delays are not bothersome.

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- **LOS C** – Traffic flow is stable but drivers are becoming restricted in their choice of speeds and ability to maneuver. This service level is often selected as being an appropriate criterion for roadway design purposes.
- **LOS D** – Most motorists would consider this LOS unsatisfactory, as traffic flow is unstable. Driving speeds are tolerable for short periods but are subject to sudden variance. Time delays do occur due to high volumes of traffic. The ability to maneuver and choose speed is severely restricted.
- **LOS E** – Traffic flow is unstable as speeds and flow rates vary. Traffic flow has either stopped or is maintained at a low speed. There is little independence in selection of speeds or ability to maneuver. Driving comfort is low and accident potential is high due to limited space between vehicles and rapidly changing speeds. The roadway may act as a storage area resulting from downstream congestion. Generally, a facility at Level of Service E is operating at or above capacity.
- **LOS F** – Traffic flow has generally come to a stopped condition, but will have slight inconsistent movement. No independence in selection of speeds or ability to maneuver exists at this level of service. Driving comfort is low and accident potential is high due to limited space between vehicles and rapidly changing speeds. The roadway is congested. Generally, a facility at Level of Service F is operating above capacity.

The generalized AADT tables from the *2012 FDOT Quality/Level of Service Handbook* were used to assess the City of Miami's roadways existing and future LOS. Within urbanized areas, LOS 'A' is not attainable based on these tables and LOS 'B' is only attainable on uninterrupted flow facilities. The generalized LOS tables from the FDOT handbook and a more detailed description of the methodology used for this analysis are included in the *Analysis of Existing Transportation* section of this document. The traditional automobile-based methodology will be applied to all non-SIS facilities and non-center areas within the City. Person trip methodology is not appropriate for SIS facilities, including any facilities of state importance. For SIS facilities, traditional automobile level of service methodology will be applied using vehicle trip measures.

### **PERSON TRIP LEVEL OF SERVICE**

The City of Miami, through its Transportation Element, has adopted a progressive method for measuring the LOS for roadways – measuring LOS by person trips rather than the traditional approach of only analyzing automobiles. As a part of updating the Transportation Element, the Person Trip Methodology is slightly modified to include bicycle and pedestrian trips in the context of the *Centers and Transit Corridors* framework. Areas within the Downtown Development of Regional Impact Increment III (DDRI III) are identified as Centers, which generally feature frequent transit service (defined as roadway segments with cumulative transit headways of 10 minutes or less) and access to bicycle facilities. Areas within the City that feature frequent transit service are identified as Transit Corridors.

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Only non-SIS roadways within the Center areas (as illustrated in Map TR-13.2) use the Person Trip Methodology for analyzing LOS. All other SIS roadways and facilities of state importance within the City including Transit Corridors outside of the Center areas will continue to use the traditional automobile LOS methodology when reviewing traffic impacts for new developments. The Person Trip Methodology establishes a broader definition for LOS by including person trips along with vehicle trips. The calculated person trip LOS ultimately yields letter grades A through F, similar to the traditional automobile-based methodology, to denote utilization of a roadway by all modes as a percent of a total multimodal capacity.

The person trip approach takes into account that dense, urban areas provide many options for personal mobility. The goal is to encourage new development in these areas with high levels of transit availability and other mobility options, such as enhanced bicycle and pedestrian facilities, in order to reduce the dependency on automobiles while reducing traffic congestion. As a community develops and becomes more mature, its land uses are able to support more alternative modes of transportation. Planning for all of these modes is integral for fully developing a healthy and vibrant community from a quality of life and economic perspective.

When calculating the person trip LOS, capacities are enhanced by adding existing transit capacities, which are based on physical dimensions and frequency of transit service, to the automobile capacity of the roadway. Assumed future bicycle and pedestrian trips are then incorporated into the capacity of the roadway by applying a trip reduction factor to the volume side of the equation. Assuming that some of the new development's trips will be either internally captured or completed using the bicycle or pedestrian network, a reduction rate is applied to the volume of the roadway. A person trip LOS is then computed using the volume of the roadway with reduction rates for estimated bicycle and pedestrian trips divided by the enhanced vehicle/transit capacity of the roadway to yield a new letter grade.

**Table 1 - Volume/Capacity Level of Service**

Level of Service	Person-Trip Volume to Capacity Ratio
A	0.01 - 0.60
B	0.61 - 0.70
C	0.71 - 0.80
D	0.81 - 0.90
E	0.91 - 1.00
F	1.01+

*Source: City of Miami, Transportation Corridors: Meeting the Challenge of Growth Management in Miami*



**METHODOLOGY**

**AUTOMOBILE TRIP LEVEL OF SERVICE METHOLODOLGY**

Level of service evaluations for all major roadways within the City were performed using average traffic count information provided by the FDOT. Traffic volumes were converted to peak-hour volumes using K-factors published by FDOT.

Automobile level of service was determined by comparing the reported 2014 peak-hour traffic volumes on each of the major roadway’s segments to the maximum service capacity listed for that specific facility type and cross section in the *2012 Quality/Level of Service Handbook* (Table 4-4) published by the FDOT, which can be seen below.

**Table 2 - Generalized Peak Hour Two-Way Volumes for Florida's Urbanized Areas**

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
<b>STATE SIGNALIZED ARTERIALS</b>						<b>FREEWAYS</b>					
<b>Class I (40 mph or higher posted speed limit)</b>						Lanes	B	C	D	E	
Lanes	Median	B	C	D	E	4	4,120	5,540	6,700	7,190	
2	Undivided	*	1,510	1,600	**	6	6,130	8,370	10,060	11,100	
4	Divided	*	3,420	3,580	**	8	8,230	11,100	13,390	15,010	
6	Divided	*	5,250	5,390	**	10	10,330	14,040	16,840	18,930	
8	Divided	*	7,090	7,210	**	12	14,450	18,880	22,030	22,860	
<b>Class II (35 mph or slower posted speed limit)</b>						<b>Freeway Adjustments</b>					
Lanes	Median	B	C	D	E	Auxiliary Lanes		Ramp			
2	Undivided	*	660	1,330	1,410	Present in Both Directions		Metering			
4	Divided	*	1,310	2,920	3,040	+ 1,800		+ 5%			
6	Divided	*	2,090	4,500	4,590						
8	Divided	*	2,880	6,060	6,130						
<b>Non-State Signalized Roadway Adjustments</b>						<b>UNINTERRUPTED FLOW HIGHWAYS</b>					
(Alter corresponding state volumes by the indicated percent.)						Lanes	Median	B	C	D	E
Non-State Signalized Roadways - 10%						2	Undivided	770	1,530	2,170	2,990
<b>Median &amp; Turn Lane Adjustments</b>						4	Divided	3,300	4,660	5,900	6,530
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		6	Divided	4,950	6,990	8,840	9,790
2	Divided	Yes	No	+5%		<b>Uninterrupted Flow Highway Adjustments</b>					
2	Undivided	No	No	-20%		Lanes	Median	Exclusive left lanes		Adjustment factors	
Multi	Undivided	Yes	No	-5%		2	Divided	Yes		+5%	
Multi	Undivided	No	No	-25%		Multi	Undivided	Yes		-5%	
-	-	-	Yes	+ 5%		Multi	Undivided	No		-25%	
<b>One-Way Facility Adjustment</b>											
Multiply the corresponding two-directional volumes in this table by 0.6											

Source: 2012 FDOT Quality/Level of Service Handbook

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### PERSON-TRIP LEVEL OF SERVICE CALCULATION METHODOLOGY

With this update to the City of Miami's Transportation Element, the Person Trip Methodology has been updated to include additional transit service and bicycle and pedestrian accommodations. This new method will only be utilized in identified Center areas according to the Centers and Transit Corridors map (Map TR-13.2) for the purpose of new development or redevelopment impact review on transportation facilities. Similar to the traditional LOS methodology, each roadway within a Center area uses a volume-to-capacity ratio to determine the LOS. In this methodology, roadway capacity includes both automobile and public transit modes and volume is reduced if there are existing bicycle and pedestrian facilities. To evaluate the traffic impact of a new development or redevelopment, LOS is evaluated for the existing condition, the projected future condition without the new development, and the projected future condition (opening year) with the new development.

The volume of the roadway is calculated to take into account automobiles, transit, bicycles, and pedestrians. Roadway Annual Average Daily Traffic (AADT) is calculated using existing AADT from traffic counts, projected AADT without the new development, and projected AADT plus new trips associated with the development based on the most recent version of the ITE Trip Generation Manual.

For Centers, the volume of automobile trips is converted to person trips by multiplying the automobile occupancy rate of persons per vehicle trip by the volume of automobiles based on the rates established for the individual project area for the Development of Regional Impact. The previous update to the Transportation Element assumed an automobile occupancy rate of 1.4 for this conversion based on the Downtown DRI III counts developed in 1989. More recent counts were developed for the Southeast Overtown Park West DRI Increment III in 2009; however, the consistency of information sources is not confirmed. New data collection is recommended to reassess this factor. In the interim, the occupancy rate used for the specific DRI will be used for this update. Once new data is collected and confirmed, the demand and usage of the bicycle and pedestrian network will be reconsidered to make appropriate level of accommodations. Once all credits have been absorbed in the currently adopted increments III for these DRIs, potential update for these requirements will be reviewed.

Because detailed data collection is required to accurately measure bicycle and pedestrian levels of demand, trips using these two modes are not added to total number of person trips estimated. Instead, the Person Trip Methodology applies a specific automobile trip reduction rate similar to the reduction rates given to new developments within the Downtown Development of Regional Impact (DRI) Increment III. Therefore, to compute person trip level of service, roadways within the Center areas will receive a trip reduction based on recent U.S. Census American Community Survey data or locally-specific travel surveys to reflect the share of new trips that are assumed to either be internally captured or accommodated through the bicycle or pedestrian network. This trip reduction is applied to the volume estimated previously (automobile volume \* occupancy rate).

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This newly computed person trip volume that includes the trip reduction rates for the bicycle and pedestrian trips is then summed with the transit ridership, which is simply based on the latest weekday ridership numbers provided by Miami-Dade DTPW.

Roadway capacity is based on FDOT standards adjusted for vehicle occupancy of persons per vehicle. The capacity of transit used for the Person Trip methodology for LOS is based on the frequency of service and the seating/person capacity of the transit vehicles. Transit capacity for Motorbus is based on the available seats and standing room of the 40 foot buses used by Miami-Dade DTPW. These buses offer 38 seats and enough room for 21 additional standees for a total of 59 passengers possible per bus. Transit capacity for the Metrorail is calculated based on six-car trains, with each car accommodating 164 possible passengers. Each six car train-set has a carrying capacity of up to 984 passengers. Transit capacity for the Metromover has not changed since the 2003 Transportation Element of the MCNP defined each car as being able of holding up to 96 passengers. The transit and vehicular capacities are combined to determine the denominator (total capacity) of the volume-to-capacity ratio used for the Person Trip Methodology.

Person trip volumes are then divided by the person trip capacity to calculate the LOS and the associated letter grade according to the LOS table provided earlier. Again, this methodology will only be applied to roadways within areas designated as a Center (Map TR-13.2). All other areas within the City outside of the identified Centers area will use the traditional automobile LOS methodology.

The example equations listed below and detailed on the following page demonstrate the volume-to-capacity ratio required for computing the person trip LOS under three conditions:

1. Existing Level of Service,
2. Projected Level of Service without the Proposed Project, and
3. Projected Level of Service with the Proposed Project

The resulting comparison will provide the basis for determining the need for and extent of mitigation for traffic and congestion impacts associated with the projected future condition with the proposed new development or redevelopment.



**PERSON-TRIP LEVEL OF SERVICE EQUATIONS**

$$1. \textit{Existing LOS} = \frac{[A \times n \times C] + D}{(E \times n) + F}$$

Where traffic volumes represent peak hour being analyzed:

- A = Existing Roadway Traffic Volume
- C = Pedestrian and Bicycle Trip Reduction Factor
- D = Existing Transit Ridership
- E = Existing Roadway Capacity
- F = Existing Transit Capacity
- n = Vehicle Occupancy Rate

*2. Projected LOS without Proposed Project*

$$= \frac{[(A + B) \times n \times C] + D}{(E \times n) + F}$$

Where traffic volumes represent peak hour being analyzed:

- A = Projected Roadway Traffic Volume
- B = Committed Developments
- C = Pedestrian and Bicycle Trip Reduction Factor
- D = Existing Transit Ridership
- E = Existing Roadway Capacity
- F = Existing Transit Capacity
- n = Vehicle Occupancy Rate

*3. Projected LOS with Proposed Project*

$$= \frac{[(A + B + C) \times n \times D] + E}{(F \times n) + G}$$

Where traffic volumes represent peak hour being analyzed:

- A = Projected Roadway Traffic Volume without New Development
- B = Committed Developments
- C = Development-Generated Vehicle Trips
- D = Pedestrian and Bicycle Trip Reduction Factor
- E = Transit Ridership
- F = Roadway Capacity
- G = Transit Capacity
- n = Vehicle Occupancy Rate

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The applicant may consider any Future Transportation Projects represented as variable B in the above equations with and without the project. This variable does not apply to existing conditions. Project must be funded and included in a Transportation Improvements Plan that is approved by the Miami-Dade Metropolitan Planning Organization. Projects may be any public project sponsored by the Florida Department of Transportation, Miami-Dade Expressway Authority, Florida's Turnpike, the City of Miami and Miami-Dade Department of Transportation and Public Works. Roadway capacities may reach 100% of their capacity, including allowances for transit, pedestrian, and bicycle trips as described above.

Roadway capacities may reach 100% of their capacity, including allowances for transit, pedestrian, and bicycle trips as described above.

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### EXISTING CONDITIONS

#### EXISTING MODAL SPLIT

According to journey-to-work data collected in the 2010 Census, single occupant automobile trips account for 69.2 percent of all work trips to-and-from-work reported by residents in the City of Miami. Carpools account for 9.4 percent, public transportation including bus or trolley account for 11.4 percent, walking for 4.5 percent, and 'other means' including bicycle and motorcycle account for 2.1 percent. In addition, approximately 3.3 percent of the residents in Miami report working at home. The City of Miami has a higher percentage of work trips using public transportation and walking than Miami-Dade County as a whole (4.5% compared to 2.3% and 2.1% compared to 1.9% respectively).

#### EXISTING PUBLIC TRANSIT FACILITIES AND ROUTES

The City of Miami has several transit options within its limits. Miami-Dade Department of Transportation and Public Works (DTPW) provides Metromover, Metrorail, and Metrobus transit services while the City of Miami provides trolley services. These transit options are further described below.

**Metrorail:** is a 25-mile dual track, elevated rapid transit system that provides service to Miami International Airport (MIA) and runs from Kendall through South Miami, Coral Gables, and downtown Miami; to the Civic Center/Jackson Memorial Hospital area; and to Brownsville, Liberty City, Hialeah, and Medley in northwest Miami-Dade, with connections to Broward and Palm Beach counties at the Tri-Rail/Metrorail transfer station. The Metrorail has two lines – Orange and Green. The Green Line train provides service between the Palmetto Station to the Dadeland South Station. The Orange Line train provides service between the Miami International Airport Station and the Dadeland South Station. Both lines serve all the stations between Dadeland South and Earlington Heights.

The system currently uses 136 train cars with a normal capacity of 164 passengers per car. There are typically eight cars per train during peak hour operations and six cars per train during off-peak periods, or a capacity of 1,312 people per train during the peak periods. The 23 accessible Metrorail stations are about one mile apart, providing easy access for bus riders, pedestrians, and passengers who are dropped off and picked up. Eleven of these 23 stations are within the City of Miami and include Douglas Road, Coconut Grove, Vizcaya, Brickell, Government Center, Historic Overtown/Lyric Theatre, Culmer, Civic Center, Santa Clara, Allapattah, and Earlington Heights.

Metrorail operates from 5:00am to 12:48am, seven days a week. For stations served by both the Orange and Green Lines, trains arrive every five minutes during weekday rush hours, every eight minutes at midday, and every 15-30 minutes after 8pm. For stations served by the Green Line only, trains arrive every ten minutes during weekday rush hours, every fifteen minutes at midday, and every 30-35 minutes after 8pm. For stations served by both the Orange and Green

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Lines, weekend service runs every fifteen minutes from 5:00am to 12:48am. For stations served by the Green Line only, weekend service runs every thirty minutes from 5:00am to 12:48am.

**Metromover:** Metromover is a 4.4-mile electrically-powered, fully automated people mover system that provides free service to downtown Miami from Omni to Brickell and connects with Metrorail at Government Center and Brickell stations and with Motorbus at various locations throughout downtown. Major destinations of the Metromover system include the American Airlines Arena, Bayside Market Place, Miami-Dade College, the Brickell business district, and the Miami-Dade County School Board. Each car is designed to carry 88 standing and eight seated passengers. In FY 2015, the Metromover system carried nearly 10 million people with a monthly ridership average of 828,000 riders. Metromover is made up of three loops – downtown inner loop, Omni loop, and Brickell loop. All three loops provide service from 5am to midnight seven days a week. Trains arrive frequently.

**Motorbus:** Fifty-five Motorbus routes serve the City of Miami including Routes 2, 3, 6, 7, 8, 9, 10, 11, 12, 16, 17, 21, 22, 24, 27, 32, 33, 36, 37, 40, 42, 46, 48, 51, 54, 57, 62, 73, 77, 79, 93, 95, 101, 102, 103, 110, 112, 113, 119, 120, 136, 150, 195, 196, 202, 207, 208, 211, 238, 246, 249, 277, 297, 338, and 500. The fifty-five routes directly serving Miami are illustrated in Map TR-5.1 and described below:

- **Route 2** provides service to the Mall at 163 Street, Jackson North, Miami Avenue, Horace Mann Middle School, NW 2 Avenue, Historic Overtown/Lyric Theatre Metrorail station, MDC Wolfson Campus, Downtown Bus Terminal, Government Center Metrorail station, Main Library, Historical Museum. Headways are maintained at 20 minutes during the weekday rush hour, 30-35 minutes during the weeknight, 20-40 minutes on Saturday and 30 minutes on Sunday. DTPW ridership data from October 2015 shows that approximately 2,805 passengers per weekday and 83,549 monthly passengers access this route.
- **Route 3** provides service to the Mall at 163 Street, Jackson North, Miami Avenue, Horace Mann Middle School, NW 2 Avenue, Historic Overtown/Lyric Theatre Metrorail station, MDC Wolfson Campus, Downtown Bus Terminal, Government Center Metrorail station, Main Library, Historical Museum. Headways are maintained at 18 minutes throughout the weekday until about 8:00, when headways are increased to 30 minutes. After midnight, headways are 60 minutes. Weekend headways start at 30 minutes and decrease to 15 minutes after 8:00am. After 9:00pm, headways are increased to 30 minutes and then 60 minutes after midnight. DTPW ridership data from October 2015 shows that approximately 7,349 passengers per weekday and 220,951 monthly passengers access this route.
- **Route 6** provides service to Bird Road, Coconut Grove Metrorail station, Douglas Road (37 Avenue), NW 14 Street, Little Havana, Brickell Metrorail/Metromover Station, Downtown Miami, Miami Avenue Metromover Station, NW 29 Street. Headways are maintained at 60 minutes throughout the weekday and weekend. DTPW ridership data from October

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2015 shows that approximately 800 passengers per weekday and 22,762 monthly passengers access this route.

- **Route 7** provides service to Miami International Airport (MIA) Metrorail station, City of Sweetwater, Dolphin Mall, Miami International Mall, Fontainebleau Blvd., Mall of the Americas, Downtown Bus Terminal, Main Library, Historical Museum of South Florida, Miami Art Museum, MDC Wolfson Campus, Historic Overtown/Lyric Theatre Metrorail station. Headways are maintained at 15 minutes during the weekday rush hour, 20-30 minutes during the weeknight, 20 minutes during the day on weekends, and 30-35 minutes weekend nights. DTPW ridership data from October 2015 shows that approximately 4,242 passengers per weekday and 114,259 monthly passengers access this route.
- **Route 8** provides service to Florida International University Bus Terminal, FIU South Campus, SW 8 Street west of SW 82 Ave., Coral Way west of 82 Ave (Rt. 8), Westchester Shopping Center (Rt. 8), Little Havana, Calle Ocho, Brickell Metrorail Station, MDC Wolfson Campus. Headways are maintained at 10 minutes during the weekday rush hour, 30 minutes during the weeknight, and 15-30 minutes on the weekends. DTPW ridership data from October 2015 shows that approximately 7,172 passengers per weekday and 187,876 monthly passengers access this route.
- **Route 9** provides service to City of Aventura, Aventura Mall, the Mall at 163rd Street, City of North Miami Beach, City of North Miami, NE 2 Avenue, City of Miami Shores, Govt. Center Metrorail station, Stephen P. Clark Center, Downtown Bus Terminal, Main Library, Historical Museum of South Florida, and Miami Art Museum. Headways are maintained at 12 minutes during the weekday rush hour, 25-30 minutes during the weeknight, and 30 minutes on the weekends. DTPW ridership data from October 2015 shows that approximately 6,573 passengers per weekday and 175,553 monthly passengers access this route.
- **Route 10** provides service to Skylake Mall, The Mall at 163rd Street, City of North Miami Beach, City of North Miami, NE 2 Avenue, Omni Metromover Station/Bus Terminal. Headways are maintained at 30 minutes during the weekdays, 30 minutes during most of the weekend, and 60 minute headways on weekend evenings. DTPW ridership data from October 2015 shows that approximately 2,667 passengers per weekday and 76,055 monthly passengers access this route.
- **Route 11** provides service to Florida International University South Campus, FIU Bus Terminal, W. Flagler Street, Mall of the Americas, Little Havana, Downtown Miami, Government Center Metrorail station, Stephen P. Clark Center, Main Library, Historical Museum of South Florida, and Miami Art Museum. Headways are maintained at 8 minutes during the weekday rush hour, 20 minutes during the weeknight, 15 minutes during the day on weekends, and 60 minute headways after 10:00pm on weekends. DTPW ridership data from October 2015 shows that approximately 10,952 passengers per weekday and 308,554 monthly passengers access this route.

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- **Route 12** provides service to the Northside Metrorail station, Northside Shopping Center, Liberty City, NW/SW 12 Avenue, Allapattah Metrorail station, Civic Center Metrorail Station, Civic Center, VA Hospital, University of Miami/Jackson Memorial Hospital and Clinics, Vizcaya Metrorail station, Mercy Hospital, and Coconut Grove. Headways are maintained at 30 minutes throughout most of the weekday and are increased to 65 minutes after 7:00pm. Headways are maintained at 40 minutes during the weekend until after 6:00pm where headways are increased to 60 minutes. DTPW ridership data from October 2015 shows that approximately 3,261 passengers per weekday and 71,735 monthly passengers access this route.
- **Route 16** provides service to the City of North Miami Beach, The Mall at 163rd Street, NE 6 Avenue, City of North Miami, City of Biscayne Park, City of Miami Shores, City of El Portal, Biscayne Boulevard, and Omni Bus Terminal. Headways are maintained at 20 minutes during the weekday rush hour, 25-30 minutes during the weeknight, and 25-30 minutes on the weekends. DTPW ridership data from October 2015 shows that approximately 2,784 passengers per weekday and 77,327 monthly passengers access this route.
- **Route 17** provides service to Rolling Oaks, Carol City, City of Opa-locka via NW 22 Avenue, North Miami, West Little River, Model City, Earlington Heights Metrorail station, Allapattah, Little Havana, and the Vizcaya Metrorail station. Headways are maintained at 15 minutes during the weekday rush hour, 30-60 minutes during the weeknight, 30 minutes during most of the day on weekends, and 60 minutes during the weekend nights. DTPW ridership data from October 2015 shows that approximately 4,849 passengers per weekday and 129,737 monthly passengers access this route.
- **Route 21** provides service to the Northside Shopping Center, Northside Metrorail Station, Allapattah Metrorail Station, Santa Clara Metrorail Station, University of Miami/Jackson Memorial Hospitals and Clinics, Overtown, Downtown Bus Terminal, Stephen P. Clark Center, Main Library, Historical Museum of South Florida, and Miami Art Museum. Headways are maintained at 30 minutes throughout most of the weekdays until after 8:00pm when headways increase to 60 minutes. During the day on weekends headways are maintained at 40 minutes until 6:00pm when headways are increased to 60 minutes. DTPW ridership data from October 2015 shows that approximately 2,257 passengers per weekday and 49,662 monthly passengers access this route.
- **Route 22** provides service to the City of North Miami Beach, The Mall at 163rd Street, Golden Glades Park & Ride, NW 22 Avenue, Earlington Heights Metrorail station, clinics, Coconut Grove Metrorail station, and the Sunshine State Industrial Park (No service to Industrial Park on weekends or weekdays after 9pm). Headways are maintained at 15-20 minutes during the weekday, 30 minutes during the weeknight, 30 minutes throughout most of the weekends, and 60 minutes weekend nights. DTPW ridership data from October 2015 shows that approximately 5,044 passengers per weekday and 134,053 monthly passengers access this route.

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- **Route 24** provides service to SW 152 Avenue during Rush Hour, SW 137 Court/Coral Way, Florida International University Park Campus, FIU Bus Terminal, West Dade Regional Library, Westchester Shopping Center, City of Coral Gables, Vizcaya Metrorail station, and the Brickell Metrorail station. Coral Way Limited: Limited stop service from Ponce de Leon to Brickell Metrorail Station, Monday through Saturday. Headways are maintained at 20 minutes during the weekday rush hour, 30 minutes during the weeknight, 30 minutes throughout most of the weekends, and 60 minutes weekend nights after 8:00pm. DTPW ridership data from October 2015 shows that approximately 2,416 passengers per weekday and 66,844 monthly passengers access this route.
- **Route 27** provides service to the Calder Casino & Race Track, Sun Life Stadium, Carol City, NW 27 Avenue, Miami Dade College North Campus (weekdays/Saturdays; no overnight trips), Dr. Martin Luther King Jr. Metrorail station (no overnight trips), Brownsville Metrorail station (no overnight trips), and the Coconut Grove Metrorail station. Headways are maintained at 15-20 minutes during the weekday rush hour, 30 minutes during the weeknight, 15-25 minutes throughout most of the weekend, and 60 minute headways after midnight all week. DTPW ridership data from October 2015 shows that approximately 9,058 passengers per weekday and 247,752 monthly passengers access this route.
- **Route 32** provides service to the Landmark Learning Center, Carol City, St. Thomas University, Florida Memorial College, City of Opa-locka, Opa-locka Tri-Rail station, NW 32 Avenue, Miami Dade College North Campus (weekdays/Saturdays), Northside Metrorail station, Northside Shopping Center, Santa Clara Metrorail Station, Omni Bus Terminal, and N. Bayshore Drive. Headways are maintained at 30 minutes throughout most of the weekday and increase to 60 minutes after 9:30pm. Headways are maintained at 40 minutes throughout most of the weekend and increase to 60 minutes after 8:30pm. DTPW ridership data from October 2015 shows that approximately 3,117 passengers per weekday and 80,264 monthly passengers access this route.
- **Route 33** provides service to NW 106 Street/South River Drive, Lehigh Industrial Park, City of Hialeah Gardens City Hall, City of Hialeah, Westland Mall, West/East 49 Street (NW 103 Street), NW/NE 95 Street, North Shore Hospital, and Miami Shores Village. Headways are maintained at 30 minutes throughout most of the weekday and increase to 50-60 minutes after 7:30pm. Headways are maintained at 30 minutes throughout most of the weekend and increase to 60 minutes after 6:30pm. DTPW ridership data from October 2015 shows that approximately 2,033 passengers per weekday and 54,005 monthly passengers access this route.
- **Route 36** provides service to Dolphin Mall, Miami International Mall, Miami Dade College West Campus. Doral Center (36A), City of Miami Springs (36), Miami Springs High School (select trips), NW/NE 36 Street, Allapattah Metrorail station, Biscayne Boulevard, NE 36 Street and 4 Avenue. Headways are maintained at 20 minutes during the weekday rush hour, 35-40 minutes during the weeknight, and 30-40 minutes on weekends. DTPW

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ridership data from October 2015 shows that approximately 2,987 passengers per weekday and 78,967 monthly passengers access this route.

- **Route 37** provides service to the City of Hialeah, Dept. of Children & Families, Hialeah Metrorail station, Tri-Rail Airport station, Miami International Airport (MIA) Metrorail station, Douglas Road (SW 37 Avenue), Douglas Road Metrorail station, City of South Miami via Sunset Drive, Cocoplum Circle, and the South Miami Metrorail station. Headways are maintained at 30 minutes throughout most of the weekday and increase to 60 minutes after 8:30pm. Headways are maintained at 35 minutes throughout most of the weekend and increase to 60 minutes after 6:30pm. DTPW ridership data from October 2015 shows that approximately 4,010 passengers per weekday and 111,932 monthly passengers access this route.
- **Route 40** provides service to 152 Avenue & SW 56 Street, SW 132 Avenue/18 Street (no weekend service), Bird Road, and the Douglas Road Metrorail station. Headways are maintained at 15 minutes during the weekday rush hour, 30 minutes during the weeknight, and 60-65 minutes during the weekends. DTPW ridership data from October 2015 shows that approximately 2,314 passengers per weekday and 57,786 monthly passengers access this route.
- **Route 42** provides service to Miami Springs, City of Opa-locka City Hall, Opa-locka Tri-Rail Station, City of Hialeah, East 8 Avenue (LeJeune Road), Amtrak Passenger Terminal, Tri-Rail Metrorail station, Miami International Airport (MIA) Metrorail station, City of Coral Gables and the Douglas Road Metrorail station. (No weekend service) Headways are maintained at 30 minutes throughout most of the weekday and increase to 60 minutes after 8:00pm. Headways are maintained at 40 minutes throughout most of the weekend and increase to 60 minutes after 8:00pm. DTPW ridership data from October 2015 shows that approximately 1,347 passengers per weekday and 36,164 monthly passengers access this route.
- **Route 46 (Liberty City Connection)** provides service to the Caleb Center, Brownsville Metrorail station, NW 54 Street, NW 37 Avenue, NW 46 Street, NW 10 Avenue, Winn Dixie, Belafonte Tacolcy Center, Miami Northwestern High School, MDC Entrepreneurial Center. Headways are maintained at 60 minutes from 6:30am to 8:30am and from 2:50pm to 6:50pm weekdays only. DTPW ridership data from October 2015 shows that approximately 45 passengers per weekday and 982 monthly passengers access this route.
- **Route 48** provides service to the Brickell Avenue Business District, Brickell Metrorail station, Mercy Hospital, Douglas Road Metrorail station, Coconut Grove, City of Coral Gables, University Metrorail station. Headways are maintained at 60 minutes from 6:44am to 6:42pm weekdays only. DTPW ridership data from October 2015 shows that approximately 280 passengers per weekday and 6,154 monthly passengers access this route.
- **Route 51 (Flagler MAX)** provides service to SW 137 Ave/Coral Way, West Miami-Dade, West Flagler St., Downtown Bus Terminal, Govt. Center Metrorail station, Main Library, Historical Museum, and the Miami Art Museum. Headways are maintained at 15 minutes

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during the weekday rush hour and 30 minutes during the weekday off-peak. No weekend service. DTPW ridership data from October 2015 shows that approximately 3,455 passengers per weekday and 76,000 monthly passengers access this route.

- **Route 54** provides service to Miami Gardens Drive & NW 87th Avenue (weekdays only), City of Hialeah, Westland Mall, Hialeah Metrorail station, Department of Children and Families, Brownsville Metrorail station, and Biscayne Boulevard/NE 58 Street. Headways are maintained at 30 minutes during the weekday rush hour, 30-40 minutes during the weeknight, and 30 minutes for most of the weekend except after 8:00pm when headways are increased to 60 minutes. DTPW ridership data from October 2015 shows that approximately 3,545 passengers per weekday and 95,425 monthly passengers access this route.
- **Route 57** provides service to the Tri-Rail Airport Station, Miami International Airport (MIA) Metrorail station, South Miami Metrorail station, Red Road (NW/SW 57 Avenue), Busway at SW 152 Street, SW 152 Street Park & Ride Lot, and Jackson South Hospital. Weekday headways are maintained at 60 minutes from 6:30am to 5:40pm. No weekend service. DTPW ridership data from October 2015 shows that approximately 525 passengers per weekday and 11,550 monthly passengers access this route.
- **Route 62** provides service to Biscayne, City of Hialeah, East 9 Street (NW 62 Street), Dr. Martin Luther King, Jr. Metrorail Station, Biscayne Boulevard, City of Miami Beach via Julia Tuttle Causeway (rush hours only), Collins Avenue, Omni Bus Terminal, and NE 14 Street/North Bayshore Drive. Headways are maintained at 12 minutes during the weekday rush hour, 30-40 minutes during the weeknight, and 20-30 on the weekends. DTPW ridership data from October 2015 shows that approximately 3,434 passengers per weekday and 91,677 monthly passengers access this route.
- **Route 73** provides service to Miami Gardens Dr. & NW 73 Ave Park & Ride Lot, Town of Miami Lakes, Hialeah, Palmetto Metrorail Station, Milam Dairy Road (NW 72 Avenue), US Postal Annex, Dadeland Mall, and the Dadeland South Metrorail station. Headways are maintained at 30-35 minutes during the weekday rush hour, 55-60 minutes during the weeknight, and 60-70 minutes on the weekends. DTPW ridership data from October 2015 shows that approximately 2,685 passengers per weekday and 67,919 monthly passengers access this route.
- **Route 77** provides service to NW 199 Street/NW 2 Avenue (SR 441), Golden Glades Park & Ride Lot, NW 7 Avenue, Liberty City, Culmer Metrorail station, Government Center Metrorail station, Main Library, Historical Museum of South Florida, Miami Art Museum, and the Downtown (Miami) Bus Terminal. Headways are maintained at 8 minutes during the weekday rush hour, 30 minutes during the weeknight, 15 minutes for most of the weekend, and 60 minutes for weekend nights after 8:00pm. DTPW ridership data from October 2015 shows that approximately 10,202 passengers per weekday and 269,070 monthly passengers access this route.
- **Route 79** provides service to the Northside Metrorail Station, NW 79 St., 79th Street Causeway, North Bay Island, Normandy Isle, Miami Beach, Collins Ave., Harding Ave., and

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73 St. Headways are maintained at 20-25 minutes during the weekday rush hour. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 657 passengers per weekday and 14,457 monthly passengers access this route.

- **Route 93 (Biscayne MAX)** provides service to Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail station, Biscayne Boulevard, Omni Bus Terminal, El Portal Village, City of North Miami, City of North Miami Beach, City of Aventura, and Aventura Mall. Headways are maintained at 15 minutes during the weekday rush hour and 20-30 minutes during the off-peak. No weekend service. DTPW ridership data from October 2015 shows that approximately 4,141 passengers per weekday and 91,093 monthly passengers access this route.
- **Route 95 (Express)** provides service to Golden Glades Park & Ride Lot, Civic Center, Veterans Hospital, Jackson Memorial Hospital, Norwood, Earlington Heights Metrorail station, Downtown Miami, and Brickell. Headways are maintained at 10 minutes during the weekday rush hour. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 2,270 passengers per weekday and 49,938 monthly passengers access this route.
- **Route 101 (A)** provides service to NE 17 Terrace/Biscayne Boulevard, Omni Bus Terminal, City of Miami Beach via Venetian Causeway, Lincoln Road, and South Beach. Rush hour headways are maintained at 35 minutes throughout the week. Rush hour service only. DTPW ridership data from October 2015 shows that approximately 78 passengers per weekday and 2,049 monthly passengers access this route.
- **Route 102 (B)** provides service to the Brickell Metrorail station, Brickell Business District, Rickenbacker Causeway, Miami Seaquarium, Crandon Park, Village of Key Biscayne, and Cape Florida State Park. Headways are maintained at 15 minutes during the weekday rush hour, 30 minutes during the off-peak and 60 minutes after 9:00pm. Weekend headways are maintained at 30 minutes until after 9:00pm when headways are increased to 60 minutes. DTPW ridership data from October 2015 shows that approximately 1,840 passengers per weekday and 49,520 monthly passengers access this route.
- **Route 103 (C)** provides service to Downtown (Miami) Bus Terminal, Main Library, Historical Museum of South Florida, Miami Art Museum, Government Center Metrorail station, Omni Metromover Station/Bus Terminal, City of Miami Beach via MacArthur Causeway, South Beach, Washington Ave., Lincoln Rd., Collins Ave., 41 St., Alton Rd., and Mt. Sinai Hospital. Headways are maintained at 20 minutes during the weekday rush hour, 30-35 minutes during the weeknight, and 60 minutes after 10:00pm. Weekend headways are maintained at 20 minutes most of day until the headways are increased to 60 minutes after 10:00pm. DTPW ridership data from October 2015 shows that approximately 3,638 passengers per weekday and 103,880 monthly passengers access this route.
- **Route 110 (J)** provides service to Miami International Airport (MIA) Metrorail station, NW 36 St., Allapattah Metrorail station, and the City of Miami Beach. Weekday headways are maintained at 20 minutes throughout the day until after 8:00pm when headways are

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increased to 60 minutes. Weekend headways are maintained at 30 minutes until being increased to 60 minutes after 7:00pm. DTPW ridership data from October 2015 shows that approximately 3,020 passengers per weekday and 84,665 monthly passengers access this route.

- **Route 112 (L)** provides service to the Lincoln Road Mall, Miami Beach Convention Center, Miami Beach Senior High School, 41 St/Indian Creek Dr., JFK Causeway, Northside Metrorail station, Amtrak Terminal, and the Hialeah Metrorail station. Headways are maintained at 12 minutes during the weekday rush hour, 30 minutes during the weeknight, and 60 minutes after midnight. Weekend headways are maintained at 15 minutes throughout the day on weekends and increases to 30 minutes in the evenings and 60 minutes after midnight. DTPW ridership data from October 2015 shows that approximately 9,395 passengers per weekday and 270,042 monthly passengers access this route.
- **Route 113 (M)** provides service to NW 21 Street & 19 Avenue via 17 Avenue, NW 19 Ave/20 St., Civic Center Metrorail station, University of Miami/Jackson Memorial hospitals and clinics, Cedars Medical Center, VA Hospital, Omni Metromover Station/Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Rd., Collins Ave/41 St., and Mt. Sinai Hospital. Headways are maintained at 45 minutes during the weekday rush hour and 60 minutes during weeknights and weekends. DTPW ridership data from October 2015 shows that approximately 1,055 passengers per weekday and 27,933 monthly passengers access this route.
- **Route 119 (S)** provides service to Downtown (Miami) Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Government Center Metrorail station, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, South Beach, Lincoln Road, Collins Avenue, 192 Street Causeway, City of Aventura, and Aventura Mall. Headways are maintained at 12 minutes during the weekday rush hour, 20-25 minutes during the weeknight, and 60 minutes after midnight. Weekend headways are maintained at 15-25 for most of the day until headways are increased to 60 minutes after midnight. DTPW ridership data from October 2015 shows that approximately 11,684 passengers per weekday and 341,151 monthly passengers access this route.
- **Route 120 (South Beach MAX)** provides service to Downtown Bus Terminal, Main Library, Historical Museum, Miami Art Museum, Govt. Center Metrorail station, Miami Dade College Wolfson Campus, Omni Bus Terminal, MacArthur Causeway, City of Miami Beach, Collins Avenue, Town of Surfside, City of Bal Harbour, Haulover Park Marina, and Aventura Mall. Headways are maintained at 12 minutes during the weekday rush hour, 30 minutes during the weeknight, 15 minutes throughout most of the day on the weekends, and 30 minutes during the evenings on the weekends. DTPW ridership data from October 2015 shows that approximately 7,518 passengers per weekday and 210,284 monthly passengers access this route.
- **Route 136** provides service to SW 147 Ave., SW 120 St., SW 117 Ave., SW 107 Ave., SW 136 St., The Falls, SW 128 St., The Busway, Dadeland South Metrorail station, Douglas

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Road Station, Cocoplum Plaza, and the Village of Pinecrest. Weekday rush hour headways are maintained at 60 minutes. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 321 passengers per weekday and 7,071 monthly passengers access this route.

- **Route 150 (Miami Beach Airport Flyer)** provides service to Miami International Airport (MIA) Metrorail station, 41st Street, Alton Rd., Collins Ave., Lincoln Rd., and Washington Ave. Headways are maintained at 20 minutes during the weekday rush hour, 30 minutes during the weeknight, 20 minutes throughout most of the weekend until headways are increased to 30 minutes after 9:40pm. DTPW ridership data from October 2015 shows that approximately 1,940 passengers per weekday and 59,659 monthly passengers access this route.
- **Route 195 (Dade-Broward Express: Broward Blvd)** provides southbound A.M. service from Broward Blvd (Ft. Lauderdale Tri-Rail Station) to Downtown Miami and northbound P.M. from Downtown Miami to Broward Blvd. (Ft. Lauderdale Tri-Rail Station). Another 195 provides service to/from Broward Blvd to/from the Civic Center in Miami. Headways are maintained at 15 minutes during the weekday rush hour. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 615 passengers per weekday and 13,536 monthly passengers access this route.
- **Route 196 (Dade-Broward Express: Sheridan St)** provides southbound A.M. service from Sheridan St. (Sheridan St. Tri-Rail Station) to Downtown Miami and northbound P.M. from Downtown Miami to Sheridan St. (Sheridan St. Tri-Rail Station). Another 195 provides service to/from Sheridan St. to/from the Civic Center in Miami. Headways are maintained at 15 minutes during the weekday rush hour. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 519 passengers per weekday and 11,424 monthly passengers access this route.
- **Route 202 (Little Haiti Connector)** provides service to NE 36 Street, Miami Design Center, NE 2 Avenue, Sabal Palm, Douglas Gardens, Edison Middle School, Village Carver, N. Miami Avenue and NW 83 Street. Weekday headways are maintained at 45-60 minutes while weekend headways are 60 minutes. DTPW ridership data from October 2015 shows that approximately 237 passengers per weekday and 6,246 monthly passengers access this route.
- **Route 207 (Little Havana Circulator: 7<sup>th</sup> St)** provides (clockwise) service via SW 7 St to SW 25 Ave., Beacom Blvd., SW 1 St., NW 2 Ave., Government Center Metrorail station, Downtown Miami, SW 2 Ave., SW 7 St., and the Brickell station. Headways are maintained at 15 minutes during the weekday rush hour, 20 minutes during the off-peak and evenings, and 20 minutes on weekends. DTPW ridership data from October 2015 shows that approximately 1,816 passengers per weekday and 39,951 monthly passengers access this route.
- **Route 208 (Little Havana Circulator: 8<sup>th</sup> St)** provides service (counter-clockwise) via W Flagler St. to SW 27 Ave., SW 8 St., SW/NW 2 Ave., Government Center Metrorail station, Downtown Miami, W. Flagler St., City of Miami Police Substation, Beacom Blvd., and the



Brickell station. Headways are maintained at 15 minutes during the weekday rush hour, 20 minutes during the off-peak and evenings, and 20 minutes on weekends. DTPW ridership data from October 2015 shows that approximately 2,062 passengers per weekday and 45,364 monthly passengers access this route.

- **Route 211 (Overtown Circulator)** provides service to the Culmer Metrorail station, NW 5th Ave./5th St., US Post Office, Historic Overtown/Lyric Theatre Metrorail station, Culmer Neighborhood Center, NW 5th Ave./19 St., and NW 3rd Ave./20 St. Weekday headways are maintained at 45 minutes. No weekend service. DTPW ridership data from October 2015 shows that approximately 119 passengers per weekday and 2,623 monthly passengers access this route.
- **Route 238 (East/West Connector)** provides service to the Dolphin Mall, passes by Miami International Mall, NW 72 Ave./25 St., Airport Corporate Center, Airport Cargo City, NW 65 Ave./Blue Lagoon Dr., Airport Hilton Hotel, and the Miami International Airport (MIA) Metrorail station. Headways are maintained at 40 minutes during the weekday rush hour and 60 minutes during the off-peak. No weekend service. DTPW ridership data from October 2015 shows that approximately 531 passengers per weekday and 11,676 monthly passengers access this route.
- **Route 246 (Night Owl)** provides service to the Mall at 163 Street, Jackson North, Miami Avenue, Horace Mann Middle School, NW 2 Avenue, Historic Overtown/Lyric Theatre Metrorail station, MDC Wolfson Campus, Downtown Bus Terminal, Government Center Metrorail station, Main Library, Historical Museum. Headways are maintained at 20 minutes during the weekday rush hour, 30-35 minutes during the weeknight, 20-40 minutes on Saturday and 30 minutes on Sunday. DTPW ridership data from October 2015 shows that approximately 100 passengers per weekday and 3,234 monthly passengers access this route.
- **Route 249 (Coconut Creek Circulator)** provides service to the Mall at 163rd Street, Downtown Miami, Government Center Metrorail station, Overtown, Civic Center Metrorail station, University of Miami/Jackson Memorial Hospitals and clinics, and the Allapattah Metrorail station. Headways are maintained at 60 minutes every day of the week. Service only provided from midnight to 5:00am every day. DTPW ridership data from October 2015 shows that approximately 1,304 passengers per weekday and 34,951 monthly passengers access this route.
- **Route 277 (7<sup>th</sup> Avenue MAX)** provides service to Downtown Miami, Government Center Metrorail station, Culmer Metrorail station, NW 7 Ave., Lindsey Hopkins, Edison Center, North Miami, Biscayne Gardens, and the Golden Glades Park & Ride Lot. Headways are maintained at 24 minutes. Weekday rush hour service only. DTPW ridership data from October 2015 shows that approximately 932 passengers per weekday and 20,507 monthly passengers access this route.
- **Route 297 (27<sup>th</sup> Avenue MAX)** provides service to NW 27 Avenue, Miami International Airport (MIA) Metrorail station, Martin Luther King Jr. Metrorail station, Brownsville Transit Village, Brownsville Metrorail station, Miami Dade College North, City of Opa-

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locka, City of Miami Gardens, Dolphin Stadium, NW 27 Avenue/211 Street (northbound and southbound), and NW 37 Avenue/211 Street. Headways are maintained at 15 minutes during the weekday rush hour and 30 minutes during the off-peak. No weekend service. DTPW ridership data from October 2015 shows that approximately 2,010 passengers per weekday and 44,228 monthly passengers access this route.

- **Route 338 (Weekend Express)** provides service to Dolphin Mall and Miami International Airport. Weekend headways are maintained at 60 minutes from 11:25am to 7:27pm. No weekday service. DTPW ridership data from October 2015 shows that approximately 224 passengers per Saturday, 227 passengers per Sunday, and 2,050 monthly passengers access this route.
- **Route 500** provides service to Metrorail stations from Dadeland South to Government Center stations. Headways are maintained at 60 minutes every day and service is provided from 12:30am to 5:00am only. DTPW ridership data from October 2015 shows that approximately 66 passengers per weekday and 2,100 monthly passengers access this route.

**City of Miami Trolley:** Ten Trolley routes operate throughout the City of Miami and include:

- **Allapattah Route:** provides service from the Omni Bus Terminal along NW 20 Street to the Allapattah Neighborhood stopping at the Santa Clara Metrorail Station and along the Health District. Service is provided Monday through Saturday 6:30am to 7:00pm.
- **Overtown Route:** provides service within the Overtown and Health District neighborhoods, stopping at the Culmer Metrorail Station. Service is provided Monday through Friday 6:30am to 7:00pm.
- **Stadium Route:** provides seasonal service (April through September) within the Little Havana and Health District neighborhoods, stopping at the Miami Marlins Stadium and various medical offices and centers. Service is provided Monday through Saturday 6:30am to 11:00pm.
- **Health District Route:** provides service within the Health District neighborhoods, stopping at various medical office and centers. Service is provided Monday through Saturday 6:30am to 11:00pm.
- **Biscayne Route:** provides service between the Brickell Metrorail Station and the Midtown neighborhood along Biscayne Boulevard, stopping at the Omni Transit Terminal and Bayfront Park. Service is provided Monday through Saturday 6:30am to 11:00pm and Sundays from 8:00am to 8:00pm.
- **Brickell Route:** provides service between the Brickell Metrorail Station and Mercy Hospital along Brickell Avenue and Bayshore Drive. Service is provided Monday through Saturday 6:30am to 11:00pm and Sundays from 8:00am to 8:00pm.
- **Coral Way Route:** provides service between the Port of Miami and downtown Coral Gables at Ponce de Leon Boulevard and Coral Way Drive, stopping in downtown Miami as well as the Brickell and Vizcaya Metrorail Stations. Service is provided Monday through Saturday 6:30am to 11:00pm and Sundays from 8:00am to 8:00pm.



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- **Coconut Grove Route:** provides service between Mercy Hospital and downtown Coconut Grove along Bayshore Drive, stopping at the Douglas Road Metrorail Station and the Cocowalk Shopping Center. Service is provided Monday through Saturday 6:30am to 11:00pm and Sundays from 8:00am to 8:00pm.
- **Little Havana Route:** provides service between the Brickell Metrorail Station and the Magic City Casino traveling along W Flagler and SW 8<sup>th</sup> Streets. Service is provided Monday through Saturday 6:30am to 11:00pm and Sundays from 8:00am to 8:00pm.
- **Wynwood Route:** provides service between the Omni Transit Terminal and downtown Wynwood along NW 2<sup>nd</sup> Avenue. Service is provided Monday through Saturday 6:30am to 11:00pm

## POPULATION CHARACTERISTICS

The City of Miami had a 2014 population of 430,332 as reported by the US Census, which constitutes approximately 16.16% of the total 2014 Miami-Dade County population. Among its residents, 70% consider themselves Hispanic or Latino, 19.2% consider themselves Black or African American, 11.9% consider themselves White, 1.3% consider themselves other races, and 2.7% consider themselves more than one race. The average household size is 2.67 persons per household and the average family size is 3.59 persons per family. Furthermore, median age for residents of Miami is 39.1 years and the median household income is \$30,858. The 2010 Census Data indicates a healthy urban setting made up of a diverse racial mix of people living within low to middle income brackets.

## TRANSPORTATION DISADVANTAGED

The transportation disadvantaged include individuals who, because of physical or mental disability, income status or age, are unable to transport themselves or purchase individual transportation. As a result, these individuals are dependent upon others to obtain access to health care, employment, education, shopping, social or other life-sustaining activities. Currently, Miami-Dade County offers transportation services to the transportation disadvantaged through the County's Community Action and Human Services Department. The Community Action and Human Services Department has a transportation unit that offers reliable, on-demand transportation to disadvantaged citizens. This program benefits approximately 2% of those who are unable to commute to work using private transportation. Moreover, it assists approximately 4% of families living in poverty.

According to the 2010 US Census Data, approximately 31,730 or 20.8% of the 152,525 occupied households in the City of Miami are without a vehicle. The Census also stated that 33,212 persons or 18.1% of the total working population that does not work at home use public transportation (bus, trolley, streetcar, subway, railroad or taxi), walked, or used a bicycle as their means of transportation to work. Based on the above information, a significant portion of the population within the City of Miami would be considered transportation disadvantaged. It appears that the existing public transportation system provides this segment of the population

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access to transportation for work, shopping and other activities; however, the City continues to monitor the local needs of the transportation disadvantaged to assure that adequate service is always provided.

### **EXISTING CHARACTERISTICS OF MAJOR TRIP GENERATORS AND ATTRACTORS**

The City of Miami has many major trip generators and attractors within its limits. The major trip generators consist primarily of high density residential areas with densities greater than ten units per acre. These areas are scattered throughout the city with clusters of higher density census blocks in Little Havana, near Blue Lagoon, Brickell, Edgewater, and in Coconut Grove. The major trip attractors are divided into five categories as listed below:

#### **Hospitals:**

Metropolitan Hospital of Miami  
VA Medical Center  
University of Miami/Jackson Memorial Hospital  
Mercy General Hospital

#### **Culture and Education Facilities:**

Perez Art Museum of Miami  
Adrienne Arsht Center  
Miami Main Library and 11 other libraries  
Vizcaya Museum and Gardens  
Miami-Dade Cultural Center  
James L. Knight International Center  
Miami-Dade Community College Wolfson Campus  
Miami-Dade Community College Medical Center Campus  
Miami Youth Museum  
Virginia Key Park

#### **Sports and Leisure Facilities:**

American Airlines Arena  
Miami Civic Center  
Miami Marlins Stadium  
Magic City Casino  
Miami Convention Center  
Watson Park/Watson Island (Parrot Jungle)  
Dade County Amphitheater  
Bayfront Park  
Virginia Key Park  
Barnacle Historic State Park  
87 other City parks

#### **Retail and Commercial Facilities:**

Bayside Marketplace  
Cocowalk / Mayfair in the Grove  
Shops at Midtown Miami

#### **Government and other Public Facilities:**

City Hall  
Miami Government Center  
DTPW Park-and-Ride lots (6)

### **EXISTING PEDESTRIAN FACILITIES**

The availability of pedestrian facilities and amenities plays an important role in encouraging the use of non-automobile modes of travel. Benefits associated with walking include the ability to ease traffic congestion, personal health/recreation and reduced need for automobile parking facilities. In order to be considered a realistic transportation option, however, existing conditions need to be favorable for pedestrian use. The existing pedestrian network within

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Miami is excellent (see Map TR-7). The majority of streets within the residential neighborhoods have sidewalks on both sides.

### **EXISTING BICYCLE FACILITIES**

The availability of bicycle facilities plays an important role in encouraging the use of non-automobile modes of travel. Benefits associated with biking include the ability to ease traffic congestion, personal health/recreation, and reduced need for automobile parking facilities. In order to be considered a realistic transportation, however, existing conditions need to be favorable for bicycle use.

Existing information maintained by Miami-Dade County and the City of Miami show the existing bicycle facilities within the City of Miami which include paved paths, bike lanes, paved shoulders, sharrows, Citi Bike stations, and bicycle racks (Map TR-6). A bicycle suitability analysis was completed for the major thoroughfares and downtown streets for the City of Miami to identify roadways more suitable for bicyclists based on standard criteria. The analysis used roadway volumes, lane configuration, posted speed limits, and existing facilities to identify suitable roadways for bicyclists. Many downtown roadways were considered suitable for bicyclists while other major thoroughfares such as W Flagler St, SW 27 Ave, and SW 37 Ave were considered not suitable.

### **AVAILABILITY OF TRANSPORTATION FACILITIES AND SERVICE TO SERVE EXISTING LAND USES**

Miami contains approximately 36.5 square miles of land (or 23,365 acres) and 19.95 square miles of water. Residential land uses account for 50.4 percent of the total acreage. The next largest existing land use categories are public/semi-public and retail/office, which total an estimated 14.4 percent and 11.1 percent of the total land use respectively. Vacant land (residential and non-residential cumulatively) accounts for approximately 11.3 percent of the City of Miami's total acreage as well.

Results from the level of service analysis demonstrate poor traffic conditions on the arterial network within Miami, which can be seen in Map TR-8. These facilities play a primary role in the countywide traffic circulation system and carry a high percentage of through trips. The remaining roadways within Miami primarily provide access to adjacent land uses and the arterial roadways mentioned above. However, as congestion worsens on the arterial roadways, cut-through traffic may increase on collector roadways thereby degrading their level of service. In addition to roadway facilities, the existing land uses are served by transit and pedestrian/sidewalk facilities. Maps TR-5.1, TR-5.2, and TR-7 illustrate the transit and pedestrian/sidewalk facilities that serve Miami.

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### **ADEQUACY OF EXISTING EVACUATION TRANSPORTATION SYSTEM**

Miami-Dade County's Adopted Comprehensive Development Master Plan identifies the designated local and regional transportation facilities critical to the evacuation of the coastal population. The evacuation network within Miami consists of Biscayne Boulevard (US 1/SR 5), Kennedy Causeway (SR 934), Julia Tuttle Causeway (I- 195/SR 112), Venetian Causeway, MacArthur Causeway (I-395/A1A/US 41/SR 836), Rickenbacker Causeway, NE 83rd Street, Crandon Boulevard, 5th Street, South Dixie Highway, and Interstate 95.

According to the South Florida Regional Planning Council, portions of the City of Miami are within the five evacuation zones. For Miami-Dade County in 2015, in-county clearance times for the base scenarios range from 15 hours for the evacuation Level A scenario to 87 hours for evacuation Level E scenario. The base scenarios were developed to estimate a series of worst case scenarios with Level E being the scenario with the most damage. These scenarios assume 100 percent of the vulnerable population evacuates and includes impacts from counties outside of the RPC area. These scenarios are generally designed for growth management purposes, in order to ensure that all residents that choose to evacuate during an event are able to do so. The Planning Council's current hurricane evacuation model shows that the evacuation time for the areas east of Miami would be approximately 20 hours under current (2015) development conditions for the evacuation Level A scenario.

### **EXISTING INTERMODAL FACILITIES**

An intermodal center is any connection point between two or more transportation modes. Possible modes include automobile, bus, rail, bicycle, and pedestrian, among others. An intermodal center typically includes a set of amenities or infrastructure provided to make the transfer between or among modes of transportation as direct, convenient, pleasant, and safe as possible. Characteristics of intermodal facilities typically include accessibility to pedestrians and transfers, location near an activity center, at least one mode is usually a public transportation mode, and usually includes various user amenities such as shelters, seating, and retail activities.

At its simplest definition, an intermodal center could include all bus stops, sidewalks, and bicycle facilities including bike paths and bike racks. Miami-Dade DTPW Motorbus routes offer a network of bus coverage within the City of Miami, generally becoming denser approaching the Downtown activity centers such as the Miami-Dade County Government Center, Downtown Bus Terminal, and Omni Bus Terminal. Sidewalks are provided along most streets within the City of Miami. Sidewalks in the vicinity of bus stops are vital for increasing accessibility to public transit. Bicycle lane coverage is not as extensive within the City as sidewalk coverage.

Existing intermodal locations within the City of Miami were identified and are depicted in Map TR-12. These intermodal facilities include the following:



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- Miami International Airport
- Port of Miami
- Downtown Bus Terminal
- Omni Bus Terminal
- Miami Intermodal Center
- Douglas Road Metrorail Station
- Coconut Grove Metrorail Station
- Vizcaya Metrorail Station
- Brickell Metrorail Station
- Government Center Metrorail Station
- Historic Overtown/Lyric Theatre Station
- Culmer Metrorail Station
- Civic Center Metrorail Station
- Santa Clara Metrorail Station
- Allapattah Metrorail Station
- Earlington Heights Metrorail Station
- Twenty-one Metromover Stations

## FUTURE CONDITIONS

### ANALYSIS OF FUTURE TRANSPORTATION SYSTEMS

Automobile travel continues to be the easiest and most convenient mode of travel for residents within the City of Miami. However, increasing congestion and limited right-of-way along area roadways, coupled with public transportation improvements targeted by Miami-Dade Department of Transportation and Public Works (DTPW), have induced higher public transportation usage for Miami residents as compared to the rest of Southeast Florida. Assuming this trend continues, the degrees of freedom and speed of travel found in the automobile may lower over time and therefore make public transportation and other alternative modes of transportation more attractive to residents in Miami for travel to-and-from-work.

Miami is in the process of producing and analyzing a land use scenario that assumes additional development targeted in the Downtown Development of Regional Impact (DRI) Increment III. The Downtown DRI Increment III is an urban redevelopment program for three general areas in Downtown Miami; Omni, Central Business District, and Brickell (see Map TR-4.2). The areas within the DRI are mostly built-out, but the DRI identifies key redevelopment projects within the Downtown area that are considered as part of the DRI Increment III. The land use program assumed for Increment III includes 534,600 square feet of office, 712,800 square feet of retail, 630 hotel rooms, 5,346 residential units, and 250,000 square feet of industrial use. The proposed buildout of Increment III is scheduled for 2024.

The mix of land uses proposed in the Downtown DRI Increment III coupled with the proximity to quality public transit service will help make public transit an integral component of any development program proposed in downtown. The linkage between transit-oriented land uses and public transit systems already in place, or under development, will provide infrastructure that could help relieve anticipated roadway congestion. Congestion benefits would extend beyond the proposed DRI as fewer people would commute to downtown from outlying areas by automobile.

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Information for the Downtown DRI was incorporated into the approved Southeast Regional Planning Model (SERPM) for the Year 2040. The SERPM model has been adopted by FDOT as the traffic forecasting model for Miami-Dade County and is used to forecast the traffic impacts from additional growth anticipated in the City of Miami. Further analysis, refinement and continuous coordination of this data with the MPO and Miami-Dade County will be necessary as the DRI process moves forward.

Future traffic volumes for major thoroughfares in Miami were developed through the Year 2040 using the SERPM model, which were used to analyze the future Level of Service (LOS). Traffic forecasting models are only approximations of actual traffic behavior. As such, they can provide order of magnitude projections rather than accurate traffic volumes. These 2040 traffic volumes were then multiplied by a FDOT-provided 'K' factor to compute peak hour volumes for the AM and PM periods. These volumes were then compared to the FDOT Q/LOS tables to determine the LOS letter grade. As seen in Maps TR-21.1 and TR-21.2, there are many roadways within the City of Miami that are projected to operate at LOS F during the AM and PM peak periods.

In general, most of the roadways analyzed for 2040 exhibit a deterioration in LOS. Volumes consistently rise while capacity is limited. This clearly points to a need to develop alternative modes of transportation. Officials in Miami will have to consider policy decisions and/or target capital improvements to address some of these deficiencies. Anticipating an increased demand on roadways already constrained by available right-of-way, the City of Miami will proactively look at densities, diversities, and design issues related to adjacent land uses and their potential to promote non-automobile modes of travel.

Simply changing the way the City measures its transportation system will not solve the congestion challenges that Miami will continue to face. Traditionally, congestion issues are addressed with either supply-side or demand-side strategies. Supply-side strategies include tactics such as building more roads to increase capacity while demand-side strategies include tactics such as encouraging more ridesharing among commuters. Potential strategies and policies that Miami is considering or already utilizing to manage and/or reduce traffic congestion include:

- A focused effort to better pair land use policies and development strategies with the transportation networks by concentrating future development within the existing urban core.
- Implementation of transportation control measures for all new developments and redevelopment such as parking management strategies; ridesharing, car sharing, and bike sharing programs; carpooling and vanpooling programs; electric car charging stations; flexible work hours and telecommuting opportunities; enhanced transit amenities; enhanced bicycle amenities such as bicycle storage areas, inclusion of

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showers in new developments to help encourage bicycling, and expanded bicycle facilities; and park-and-ride lots.

- Active coordination with Miami-Dade Transit and Miami-Dade County to implement major transit improvements similar to those being proposed as a part of the SMART Plan.
- Active coordination with Miami-Dade County, the MPO, South Florida Regional Transportation Authority and other stakeholders to implement the FEC Coastal Link Commuter Rail, All Aboard Florida, and other premium transit options that improve access and mobility to the City
- Working with South Florida Commuter Services (SFCS) to increase the use of alternative modes of transportation by offering commuter programs to South Florida employers and their employees. These programs include carpooling services, vanpooling services, emergency ride home services, transit discount programs, employer tax benefits assistance, and others.

Upon completion of the 2016 Evaluation and Appraisal Report (EAR) process, the City of Miami will develop a new Miami Transportation Master Plan (MTMP) will identify, describe, measure, and evaluate the multimodal transportation corridors, facilities, and terminals in the City of Miami. The MTMP will recommend measures to enhance vehicular and mass transit operations, provide for greater pedestrian access and amenity, and offer incentives for use of alternative transportation modes. The Plan will recommend transportation-related improvements that will complement neighborhood development, redevelopment, and conservation by considering Miami's land use, population density, economic activity, and housing patterns. It is anticipated that the MTMP will be completed by the end of 2017.

The City of Miami supports the plans of other entities and agencies that focus on the provision of a multimodal transportation system to meet the needs of deficient corridors. The City will continue to coordinate with other local agencies to address the transportation challenges facing the City. The following multimodal recommendations are within the boundaries of the city of Miami and were developed by the implementation plans of other State, Regional, and County agencies.

### **MIAMI-DADE COUNTY MPO TRANSPORTATION IMPROVEMENT PROGRAM (TIP) FOR FY 2016 TO 2020**

There are several FDOT projects within the City of Miami that are included in the TIP, most of which include general maintenance of pavement and bridges, intersection improvements, and bicycle facility improvements. The table below lists all of the projects included in the TIP within the jurisdiction of the City of Miami.

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**Table 3 - Miami-Dade County MPO Transportation Improvement Program (TIP) for FY 2016 to 2020**

Project Name	Agency	Limits	Project Description
Overtown Greenway along NW 11 St	FDOT	from NW 7 Ave to east of NW 12 Ave	Bike Path/Trail
SR 836 Westbound	FDOT	Bridge #870371	Bridge Painting
Port of Miami Bridge	FDOT	Port of Miami	Bridge Repair
Metromover Station Access Improvements	FDOT	(7) Metromover Station	Sidewalk
NW 12 Avenue Bridge over Miami River	FDOT	Bridge #871005	Bridge Repair
Downtown Distributor at I-95 NB	FDOT	to SR 970 EB Bridge #870472	Bridge Painting
NW 12 Avenue	FDOT	from SW 22 Street to NW 8 Terrace	Landscaping
Brickell Avenue over Miami River	FDOT	Bridge #870759	Bridge Painting
Brickell Station Park and Recreation	FDOT	Brickell Metrorail Station	Bike Path/Trail
Bike Path along NW 17 St	FDOT	from NW 7 Ave to NW 9 Ave	Bike Path/Trail
Miami Women's Club Baywalk	FDOT	along the Bay	Bike Path/Trail
Shoreline and Roadway Protection	FDOT	Rickenbacker Causeway	Road/Slope Protection
I-95	FDOT	from SR 836 to Broward County Line	PD&E/EMO Study
SR-836/I-95 Interchange Ramps	FDOT	from NW 17 Ave to I-95	Interchange Improvement
I-95 Southbound Ramp	FDOT	to westbound SR-836	Interchange Improvement
SR-836/I-395	FDOT	from west of I-95 to MacArthur Causeway	Bridge Replacement and add lanes
SW 1st Street Bridge	FDOT	Bridge #870660	Bridge Replacement
SW 7th and 8th Streets	FDOT	at SW 3 and 4 Avenues	Intersection Improvement
I-95	FDOT	from US-1 to south of SR-836	PD&E/EMO Study
SW 7th and 8th Streets	FDOT	from Brickell Ave to SW 27 Ave	PD&E/EMO Study
NE 79 Street	FDOT	from west of I-95 to SR-934	PD&E/EMO Study
I-95	FDOT	from south of SR-836 to Broward County Line	PD&E/EMO Study
I-95	FDOT	from NW 8 St to NW 79 St	Rigid Pavement Reconstruction

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Project Name	Agency	Limits	Project Description
NE/NW 54 Street	FDOT	from east of NW 7 Ave to Biscayne Blvd	Resurfacing
NE 36 Street	FDOT	from N Miami Ave to NE 5 Ave	Resurfacing
NW 12 Avenue	FDOT	from NW 15 St to NW 20 St	Resurfacing
W Flagler Street	FDOT	from NW 14 Ave to NW 2nd Ave	Flexible Pavement Reconstruction
NW 8 Avenue	FDOT	from SW 8 St to NW 3 St	Resurfacing
SW 1 Street	FDOT	from SW 17 Ave to SW 6 Ave	Flexible Pavement Reconstruction
NW/SW 12 Avenue	FDOT	from SW 13 St to NW 15 St	Resurfacing
SE 2 Avenue	FDOT	from SE 2 St to SE 4 St	Resurfacing
Biscayne Boulevard	FDOT	from SE 3 Ave to SE 3 St	Resurfacing
Brickell Avenue	FDOT	from SE 5 St to SE 3 Ave	Resurfacing
South Miami Avenue	FDOT	from SW 10 St to SW 9 St	Road Reconstruction
NW 54 Street	FDOT	from NW 6 Ave to NW 1 Ave	Intersection Improvement
I-195 Frontage Rd	FDOT	along SR-112	New road construction
Biscayne Boulevard	FDOT	from NW 32 St to NE 38 St	Intersection Improvement
NW 36 Street	FDOT	at NW 27 Avenue	Intersection Improvement
NW 27 Avenue	FDOT	at NW 17 Street	Intersection Improvement
NW 27 Avenue	FDOT	at NW 7 Street	Intersection Improvement
NW 27 Avenue	FDOT	from SW 10 St to NW 1 St	Intersection Improvement
SW 8 Street	FDOT	from SW 39 Ave to SW 33 Ave	Intersection Improvement
NW/SW 42 Avenue	FDOT	from SW 2 St to NW 11 St	Intersection Improvement
SW 8 Street	FDOT	at SW 67 Ave	Intersection Improvement
Safe Routes to School	County Public Works	Multiple Schools	Pedestrian Safety Improvements

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### MIAMI-DADE COUNTY MPO LONG RANGE TRANSPORTATION PLAN (LRTP) PROJECTS

The LRTP includes all projects that are planned to be implemented before 2040, which includes funded and unfunded projects. The funded projects are organized into four categories or priorities. Projects within Priority I are the projects that are also included in the TIP, because they are to be implemented within the next five years. Projects in Priority II are to be implemented between 2021 and 2025. Projects in Priority III are to be implemented between 2026 and 2030. And projects in Priority IV are to be implemented between 2031 and 2040. The table below lists the funded projects in Priorities II – IV that are within the boundaries of the City of Miami.

**Table 4 - Miami-Dade County MPO Long-Range Transportation Plan (LRTP) Projects**

Project Name	Agency	Priority	Limits	Project Description
Douglas Road Corridor Enhanced Bus	MDT	II	from US-1 to the MIC	Incremental improvements on PTP corridor
I-95 Ramp Reconstruction	FDOT	II	from I-95 to E 2nd Ave and to S Miami Ave	Ramp reconstruction/reconfiguration
NW 20 Street	FDOT	II	from I-95 to NW 27 Ave	Roadway Infrastructure Improvements
NW 7 Avenue Enhanced Bus	MDT	III	from downtown Miami to Golden Glades Interchange	Premium limited stop transit service
I-195 Ramps	FDOT	III	from I-195 to NW 36 and 38 Streets	Ramp reconstruction/reconfiguration
US-1/Biscayne Boulevard	FDOT	III	at Port Boulevard	expand SB left turn lane for trucks
N Miami Ave	FDOT	IV	from NW 14 St to City of Miami limits	Roadway Improvements
NW 14 Street	FDOT	IV	from Civic Center to US-1	Widen to 3 lanes and resurface
NW 79 St/NW 81 St/NW 82 St	FDOT	IV	from NW 13 Ct to Biscayne Bay	Capacity Improvements
US-1	FDOT	IV	at SW 27 Avenue	Grade separation of US-1 over SW 27 Ave

### MIAMI DOWNTOWN TRANSPORTATION MASTER PLAN (MDTMP)

The MDTMP was undertaken to establish a framework for transportation system improvements through the year 2020. The target area is bounded by I-95 to the west, Biscayne Bay to the east, I-195 to the north and SE 26th Road to the south. The plan emphasizes the importance of

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promoting a transit system that improves regional connectivity while providing uncomplicated and non-problematic access to downtown Miami. The plan also stresses the importance of enhanced connectivity to neighborhoods, parks, and open spaces.

The MDTMP recommends goals and policies to address the City's transportation challenges, such as:

- Implement a new Miami Bicycle Master Plan to create a signature bicycle network throughout the City of Miami
- Promote a unique, progressive, and vibrant Downtown through a balanced transportation system, preservation of neighborhoods, protection of the environment, and the improvement of the community's overall quality of life
- Expand Metrorail, new streetcar services, water taxi service, and other transit-oriented projects to change Miami into a transit driven city
- Design roadways to calm automobile traffic and improve bicycle and pedestrian safety
- Implement the Miami Streetcar project
- Expand Metromover to close the Brickell and Omni loops
- Actively promote greater connectivity between Downtown Miami and the City of Miami Beach through the implementation of Baylink, bus rapid transit, and water taxis
- Support the plans for the FEC Coastal Link Commuter Service being proposed by the SFRTA

### **TRANSIT DEVELOPMENT PLAN (TDP) IMPROVEMENTS SCHEDULED IN THE CITY OF MIAMI (2015)**

The TDP prepared by the Miami-Dade DTPW is updated periodically to include improvements to the County's transit service which includes joint development opportunities, adjustments/improvements to existing transit services, new transit services, and also the unfunded needs of the transit system. The projects programmed and scheduled for funding within the next five years are also included in the TIP. Project within the City of Miami are listed below:

#### **Joint Development**

- *NW 7<sup>th</sup> Avenue Transit Village* – is a funded joint development project that will feature an enhanced transit facility within an active, mixed-use development including space for housing, community serving activities, and retail space. The transit village will include 25 park-and-ride spaces and four bus bays. The project is located at NW 62<sup>nd</sup> Street and NW 7<sup>th</sup> Avenue.

#### **Park & Rides**

- *NW 7<sup>th</sup> Avenue Transit Village* – will feature 25 park-and-ride spaces.



### Committed Transit

- *Flagler Enhanced Bus Service* – this route will provide premium limited-stop transit service along Flagler Street from Downtown Miami to the proposed Panther Station (Florida International University’s Modesto A. Maidique Campus – MMC). This service will connect the new Marlins Ballpark along NW 7<sup>th</sup> Street as well as serve the Government Center Metrorail Station, Miami-Dade College Wolfson Campus, American Airlines Arena, the Metropolitan Hospital, the Magic City Casino and Mall of the Americas. In addition, this route will serve Florida International University’s Engineering Campus. Service headways will be 10 minutes during the AM/PM peak hour and 20 minutes during the mid-day. Revenue service is anticipated to begin in 2021 using 10 new 60-foot alternative fuel buses.
- *Biscayne Enhanced Bus Service* – this route will provide premium limited-stop transit service along Biscayne Boulevard/US-1 from Downtown Miami to Aventura Mall. This route provides service to the Adrienne Arsht Performing Arts Center, and a direct connection to Little Haiti, Miami Shores, North Miami and North Miami Beach. Service headways will be 15 minutes during the AM and PM peak-hours and 30 minutes during the mid-day. Revenue service is anticipated to begin in 2016 using 10 new 60-foot alternative fuel buses. The bus purchase component is considered Phase I for this corridor. The Miami-Dade MPO in cooperation with Miami-Dade DTPW developed a detailed plan for the staged implementation of Bus Rapid Transit (BRT) along Biscayne Boulevard. This EBS route will feature robust stations, Wi-Fi, real-time “Where is the Bus?” arrival times via the internet or on web-enabled mobile devices, real-time “Next Bus” arrival information via electronic signs, Transit Signal Priority (TSP), and Park-and-Rides. Phase II for the Biscayne Enhanced Bus Service project will feature 10-minute service headways during the AM/PM peak-hour and 20 minutes during the mid-day using an additional five (5) new 60-foot alternative fuel buses. Phase II is expected to be completed by 2021.

### New Bus Routes

- *Route 195 (Civic)* – this route will provide express commuter transit service from Broward County (Broward Boulevard and Sheridan Street) to the Civic Center Metrorail Station via I-95 during the AM and PM peak periods. Service headways will be 30 minutes. Revenue service began in April 2015

### Transit Hubs

- *Downtown Intermodal Terminal* – is a privately funded intermodal center that will accommodate various transportation modes including Miami-Dade DTPW Metrobus, Metrorail, and Metromover as well as the All Aboard Florida and Tri-Rail commuter trains.

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### Service Improvements

- *Route 95* – add five minutes of northbound PM running time between SE 8th Street/Brickell Avenue and Dade County Courthouse and start trips earlier
- *Route 120* – add an additional weekday northbound trip to Aventura Mall departing from the Omni Transit Terminal at approximately 7:30am.
- *Route 150* – improve headway from 30 minutes to 20 minutes seven days a week

### Unfunded Needs

- *Brickell Station Transit Center (SW 11th Street and SW 1st Avenue)* – this project will upgrade the transit center site to improve bus and passenger access as well as upgrade area drainage, lighting, signage, shelters, and other station area amenities
- *Civic Center Transit Center (NW 15th Street and NW 12th Avenue)* – this project will upgrade the transit center site to improve bus and passenger access as well as upgrade area drainage, lighting, signage, shelters, and other station area amenities
- *Little River Park-and-Ride* – located at NE 79th Street and Biscayne Boulevard

This element was developed in concert with the other elements of the Miami Comprehensive Neighborhood Plan, particularly the Future Land Use Element, to ensure internal consistency within the Comprehensive Plan. As noted throughout this document, the analysis of the future transportation system for Miami was based upon the vision of the City as expressed within the Goals, Objectives and Policies of the Comprehensive Plan.

# APPENDIX TR-1



## City of Miami | Miami Comprehensive Neighborhood Plan TRANSPORTATION ELEMENT

### EXISTING TRANSPORTATION MAP SERIES

The following series of maps represent existing conditions for the transportation network on a multi-modal basis. The network includes the roadway system, public transit system and bicycle and pedestrian facilities within the City of Miami.

**Map TR-1: Major Thoroughfares by Number of lanes (2016)** identifies the number of through lanes in each direction for the major thoroughfares within the City.

**Map TR-2: Major Thoroughfares by Functional Classification (2016)** identifies the local, collector, arterial, expressway, and interstate facilities within the City. The functional classification system indicates the role of each thoroughfare in meeting current travel demands, assists in defining land use relationships, and typically reveals the jurisdiction responsible for maintenance.

**Map TR-3: Limited Access Facilities, Significant Parking Facilities (2016)** identifies the limited access facilities that are within the City of Miami such as Interstate 95, Interstate 195 (SR 112 Airport Expressway), and Interstate 395 (SR 836 Dolphin Expressway). Existing parking garages with over 1,000 parking spots, existing parking garages with 200-1,000 parking spots, surface parking lots with over 200 parking spots, and Miami-Dade DTPW park-and-ride lots were identified. Significant parking facility information was obtained from the Miami Parking Authority and the Complete Consulting Services Group and included among others:

- Miami-Dade Community College parking facilities
- Miami Marlins Stadium parking garages
- The Health District parking facilities

**Map TR-4.1: Major Trip Generators (2016)** illustrates the major trip generators in Miami by identifying the density of residential areas within the City. Densities were categorized as census blocks with more than 10 units per acre, 5-10 units per acre, less than 5 units per acre, and census blocks with no housing units. Areas with higher densities tend to produce more trips.

**Map TR-4.2: Major Trip Attractors (2016)** identifies the location of the major trip attractors in Miami including the Adrienne Arsht Center, American Airlines Arena, Barnacle Historic State Park, Bayfront Park, Bayside Marketplace, CocoWalk, Government Center, James L. Knight International Center, Magic City Casino, multiple Miami-Dade College campuses, Miami Convention Center, Miami-Dade County Auditorium, Miami Marlins Stadium, Perez Art Museum of Miami, and the Vizcaya Museum. Public parks, public libraries, hospitals, DTPW park-and-ride lots, the Little Havana and Wynwood neighborhoods, and the area of the Development of Regional Impact Increment III were also included.

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**Map TR-5.1: Existing DTPW Motorbus Service (2016)** illustrates the existing DTPW Motorbus service within the City of Miami. Currently, 57 Motorbus routes operate within the City, covering an extensive area.

**Map TR-5.2: Existing Metrorail, Metromover, and City of Miami Trolleys (2016)** illustrates the existing DTPW Metrorail and Metromover services within the City of Miami. The City of Miami's Trolley routes are also illustrated, which include three (3) newly implemented trolley routes and three (3) potential future trolley routes. A total of ten (10) trolley routes are currently in service.

**Map TR-6: Existing Bicycle Facilities (2016)** identifies existing bicycle facilities located within the City of Miami, which include paved paths, bike lanes, paved shoulders, sharrows, as well as Citi Bike rental stations and bicycle racks. Several bicycle facilities were identified in the City.

**Map TR-7: Existing Pedestrian Facilities (2016)** delineates the presence of a sidewalk along roadways within the City. Most of the roadways regardless of classification offer sidewalks on both sides of the roadway.

**Map TR-8.0: Existing Vehicular Peak-Hour Levels of Service (LOS) on Major Thoroughfares (2014)** illustrates existing vehicular peak-hour LOS calculated for major roadways with the City of Miami. Peak hour volumes were calculated based on the most up-to-date AADT and K-factor (peak) data provided by FDOT. LOS was calculated based on the FDOT 2012 Quality/Level of Service Handbook's Generalized Peak Hour Two-Way Level of Service tables.

**Map TR-9: Freight/Passenger Rail Facilities (2016)** illustrates the Florida East Coast (FEC) Railroad rail corridor within the City of Miami, the CSX rail corridor along the western portion of Miami near the Miami International Airport, DTPW's Metrorail and Metromover facilities, and South Florida Regional Transportation Authority's (SFRTA) Tri-Rail facilities.

**Map TR-10: Hurricane Evacuation Routes (2016)** identifies designated local and regional evacuation routes within the City of Miami in the event of an impending storm. Major evacuation routes within Miami include Biscayne Boulevard (US 1/SR 5), Kennedy Causeway (SR 934), Julia Tuttle Causeway (I-195/SR 112), MacArthur Causeway (I-395/SR 836), SW 8<sup>th</sup> Street (US 41/SR 90), and Interstate 95. The graphic also includes the City's evacuation areas provided by the Federal Emergency Management Agency (FEMA).

**Map TR-11.1: Existing Seaport and Airport Facilities (2016)** illustrates the limits of the Port of Miami, the Port of Miami River facilities, Miami International Airport, and the Miami

# APPENDIX TR-1



## City of Miami | Miami Comprehensive Neighborhood Plan TRANSPORTATION ELEMENT

Seaplane Base. The only existing Free Trade Zone within the City of Miami – the Port of Miami – is also illustrated.

**Map TR-11.2: Miami-Dade County Manatee Protection Areas (2016)** illustrates the protected waterways with enforced idle speeds and no wake zones in Biscayne Bay and the Miami River. These zones are established by the Florida Fish and Wildlife Conservation Commission.

**Map TR-12: Intermodal Centers and Access to such Facilities (2016)** illustrates the intermodal centers in and within close proximity to the City of Miami including Miami International Airport, the Port of Miami, Downtown Bus Terminal, Omni Bus Terminal, and the Miami Intermodal Center (MIC). In addition, DTPW's Metromover and Metrorail facilities are shown along with SFRTA's Tri-Rail facilities.

**Map TR-13.1: Transportation Concurrency Exemption Areas Boundary (2016)** illustrates the Transportation Concurrency Exception Area (TCEA) boundary, which includes the entire City of Miami. TCEAs were established in the State's growth management legislation to reduce the adverse impact transportation concurrency may have on potential urban infill development and redevelopment within the city.

**Map TR-13.2: Centers and Transit Corridors (2016)** illustrates the centers and transit corridors within City of Miami. Transit corridors, based on the definition of City Ordinance 13114, are areas within a quarter mile from a thoroughfare that are served by one or more transit routes with cumulative headways of ten (10) minutes or better Monday thru Friday between the hours of 7am and 7pm. Areas within a half mile around Metrorail stations are also considered transit corridors. Centers are defined as areas within the Downtown Development of Regional Impact Increment III. This DDRI/Center area provides frequent transit service similar to Transit Corridors and also features bike facilities (bike lane, paved path, or shared-use path).

These areas will be used when applying the Person Trip Methodology and providing parking reductions for new developments in the City. New developments within center areas will use the Person Trip Methodology for LOS when determining their impacts, while all other areas of the City (including Transit Corridors) will require a traditional traffic impact study to assess impacts on adjacent roadways and identification of required improvements for mitigating impacts. New developments within either the centers or transit corridor area designations that are not within a T3 zone will be eligible for parking reductions up to 50 percent.

**Map TR-14: Roadway Vulnerability Rating (2016)** illustrates the vulnerability of roadways within the City of Miami based on analysis from the 2012 Regional Climate Action Plan conducted by the MPOs for Palm Beach, Broward, and Miami-Dade counties. This analysis takes

# APPENDIX TR-1



## City of Miami | Miami Comprehensive Neighborhood Plan TRANSPORTATION ELEMENT

into consideration flood inundation and sea level rise associated with future climate change projections.

### FUTURE TRANSPORTATION MAP SERIES

The following series of maps represent the future conditions (2040) for the transportation network on a multi-modal basis. This includes the roadway system, public transit system and bicycle and pedestrian facilities within the City of Miami.

**Map TR-15: Major Thoroughfares by Number of Lanes (2040)** illustrates the major thoroughfares in Miami by the number of through lanes for each facility anticipated in 2040.

**Map TR-16: Limited Access Facilities, Significant Parking Facilities (2040)** delineates the limited and controlled access facilities in Miami to the year 2040, as well as the locations of proposed significant parking facilities (facilities with more than 200 parking spaces).

**Map TR-17: Future Major Trip Generators (2040)** based on demographic projections from the Southeast Regional Planning Model (SERPM), illustrates the major trip generators in Miami by identifying the higher density residential areas – ten dwelling units per acre or greater.

**Map TR-18: Future Metrobus Service and Transit Facilities (2040)** along with the existing Miami-Dade DTPW MetroBus routes, this map indicates the programmed transit routes (funded and unfunded) between 2015 and 2024 from Miami-Dade DTPW's Transit Development Plan (TDP). Two future transit centers are also illustrated – the Downtown Intermodal Center and the NW 7<sup>th</sup> Avenue Transit Village.

**Map TR-19: Future Bicycle Facilities (2040)** identifies the existing bicycle facilities along with programmed bicycle facility improvements that are in the design or construction phase of implementation, which include bike lanes and sharrows. This information was provided by the City of Miami Bicycle Coordinator.

**Map TR-20: Future Pedestrian Facilities (2040)** delineates the presence of a sidewalk along roadways within the City. Most of the roadways regardless of classification offer sidewalks on both sides of the roadway.

**Map TR-21.1: Future A.M. Vehicular Peak Hour Levels of Service (LOS) on Major Thoroughfares (2040)** illustrates future A.M. vehicle peak-hour levels of service for major roadways within the City with anticipated build-out of the existing land use pattern plus the potential development in the Downtown Development of Regional Impact Increment III based on the Southeast Regional Planning Model (SERPM).

# APPENDIX TR-1



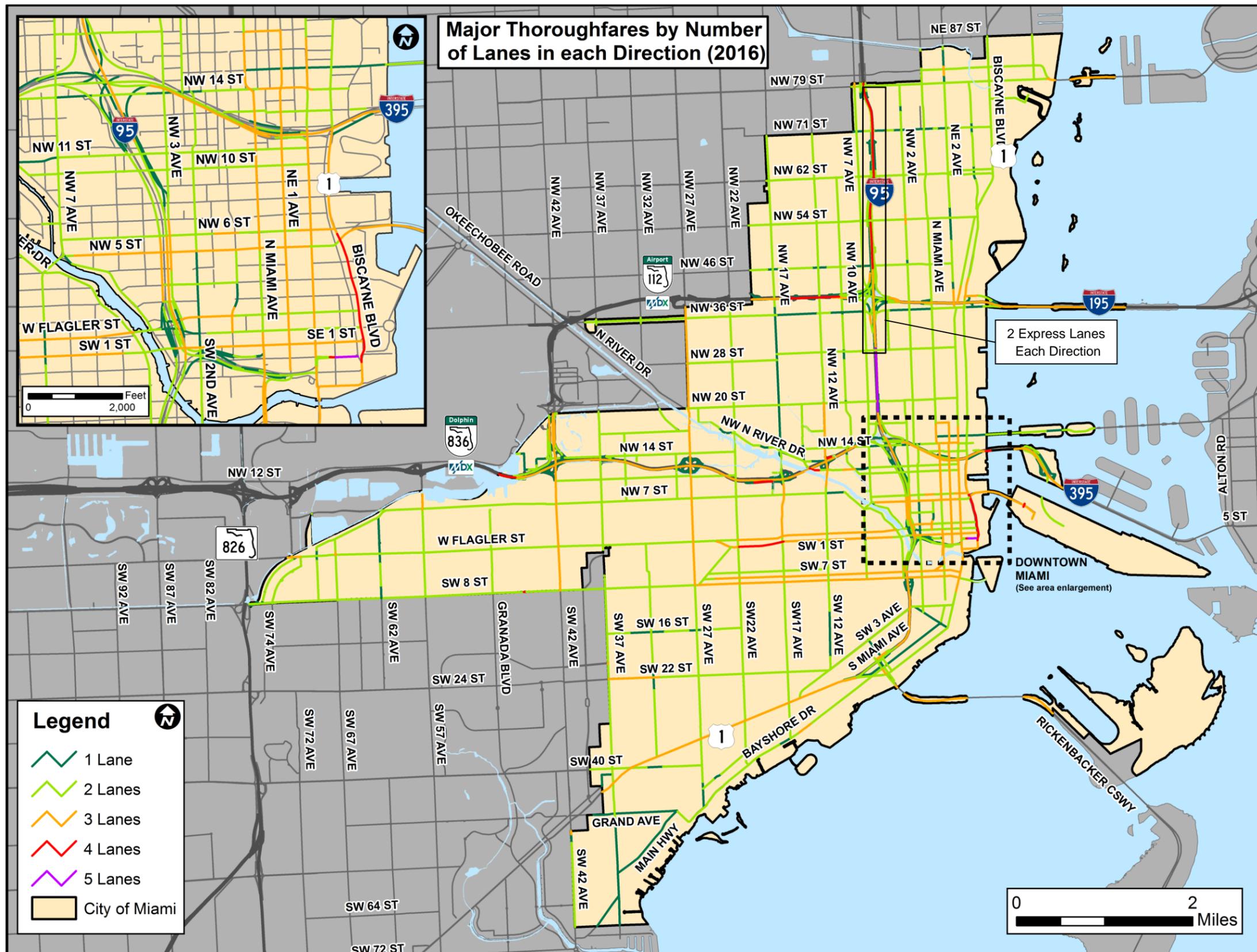
## City of Miami | Miami Comprehensive Neighborhood Plan TRANSPORTATION ELEMENT

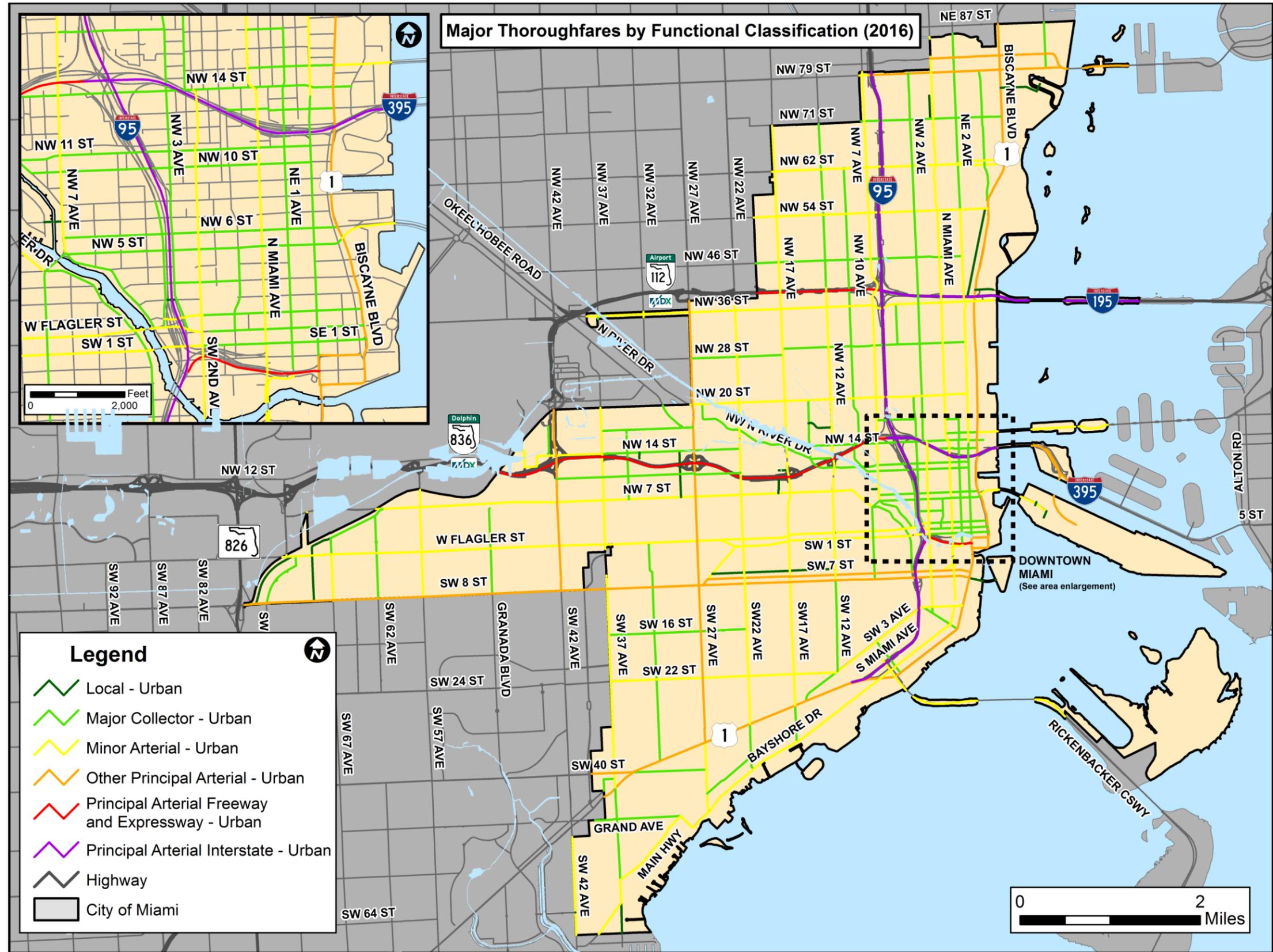
**Map TR-21.2: Future P.M. Vehicular Peak Hour Levels of Service (LOS) on Major Thoroughfares (2040)** illustrates future P.M. vehicle peak-hour levels of service for major roadways within the City with anticipated build-out of the existing land use pattern plus the potential development in the Downtown Development of Regional Impact Increment III based on SERPM.

**Map TR-22: Future Intermodal Centers and Access to such Facilities (2040)** illustrates the existing intermodal centers in the City of Miami including Miami International Airport, the Port of Miami, Omni Bus Terminal, Miami Intermodal Center (MIC), Miami-Dade DTPW's MetroMover and MetroRail facilities, as well as the future All Aboard Florida and Tri-Rail extension from the future Downtown Intermodal Terminal.

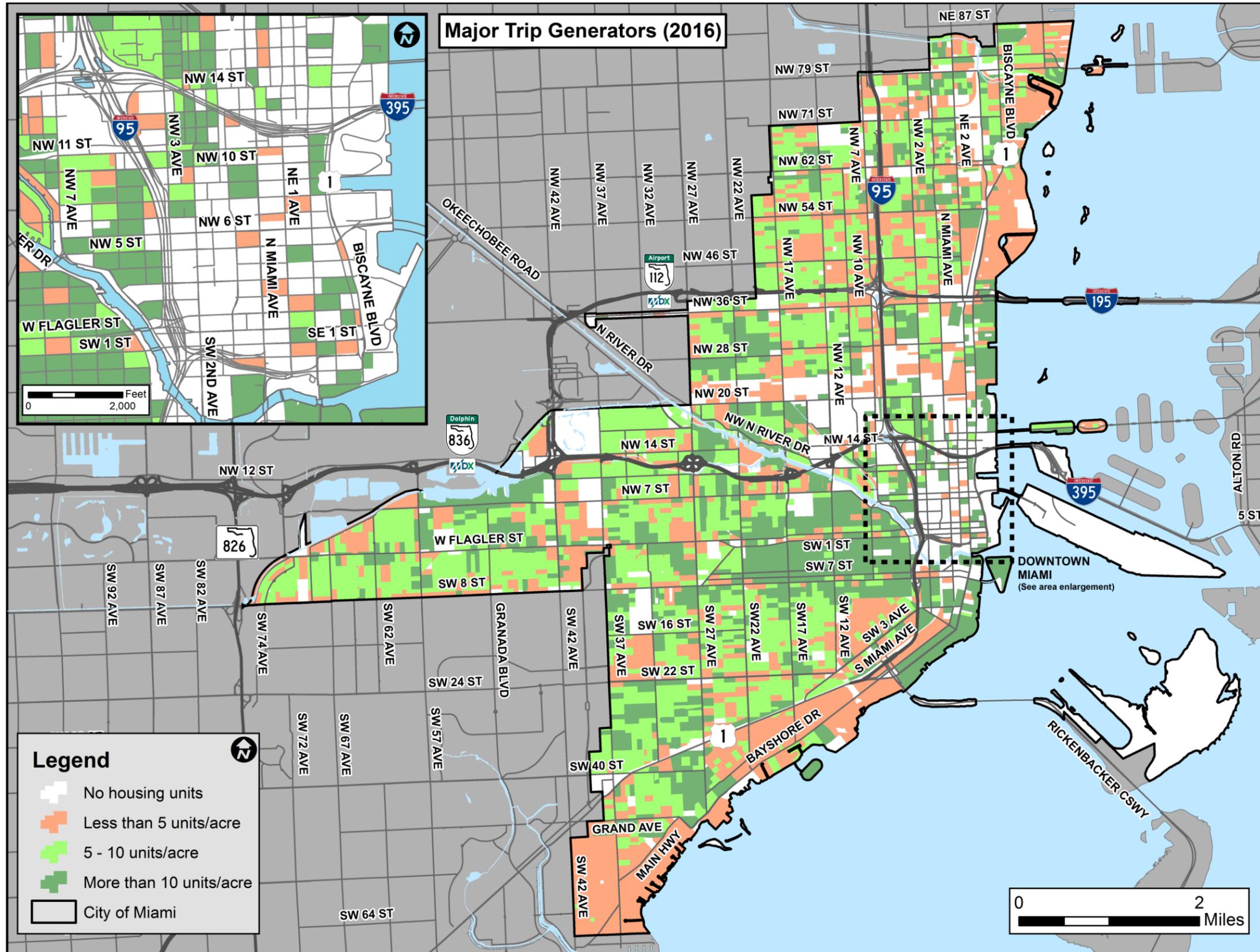
**Map TR-23: Future Beach Connection (Baylink), City of Miami Streetcar, and Water Taxi (2040)** illustrates the proposed Baylink connection to the City of Miami Beach from downtown Miami, the proposed City of Miami streetcar that circulates from the Midtown/Design District area to downtown Miami, and the proposed water taxi service that will provide service between downtown Miami and Haulover Beach.

Major Thoroughfares by Number of Lanes (2016)





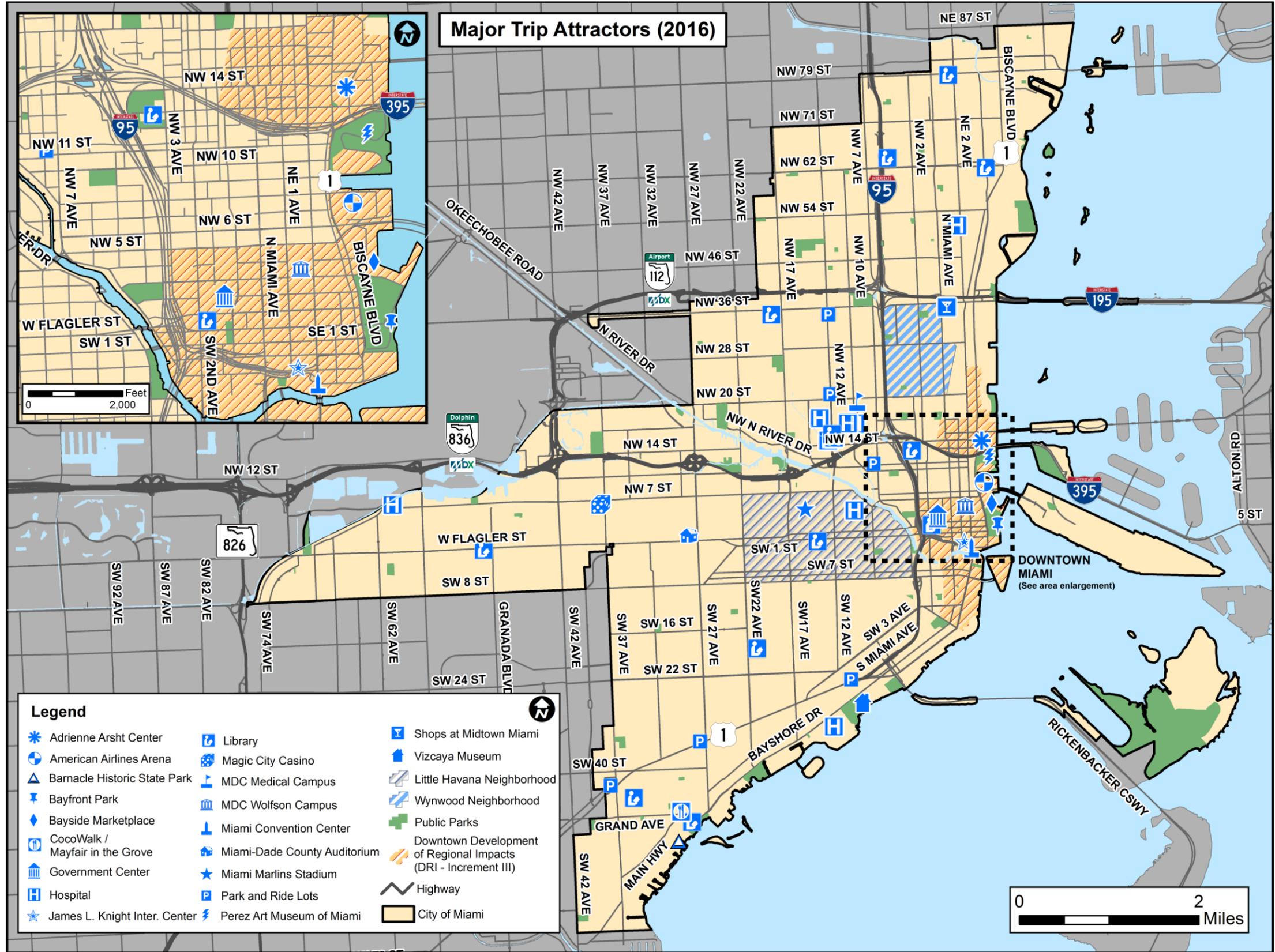


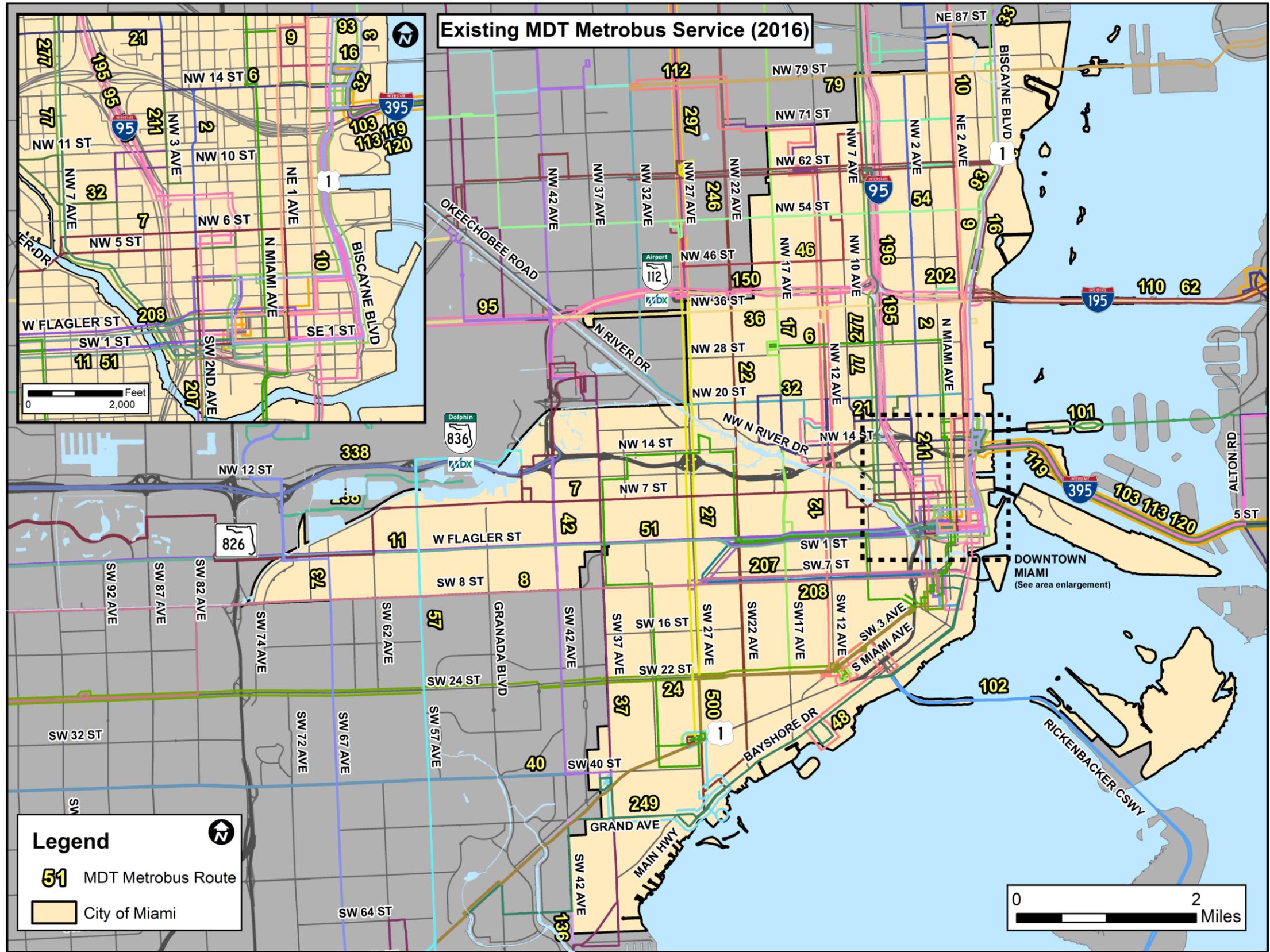


Map TR - 4.1

Major Trip Generators (2016)





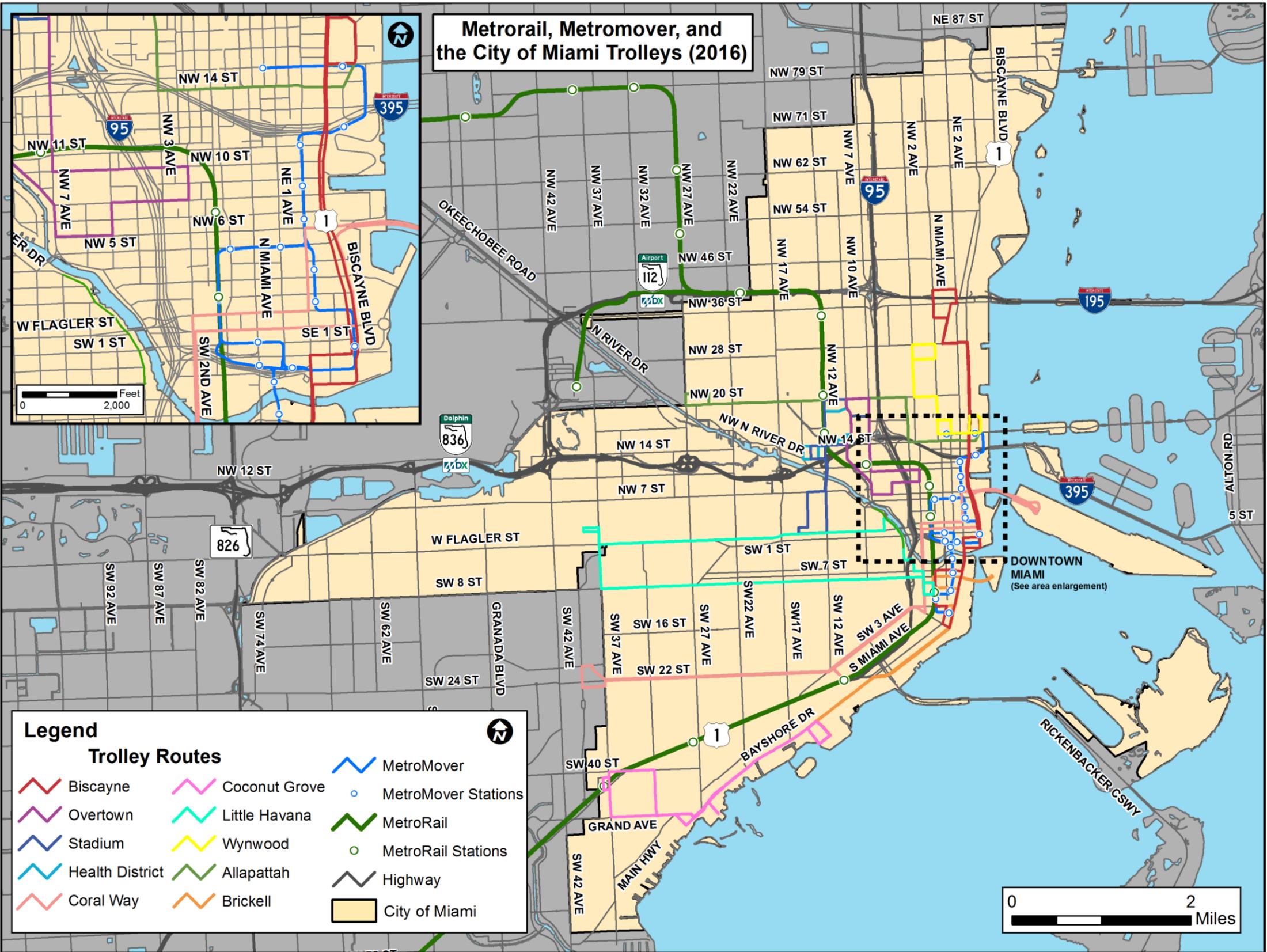


Map TR - 5.1

Existing Metrobus Service (2016)



**Metrorail, Metromover, and the City of Miami Trolleys (2016)**



**Legend**

**Trolley Routes**

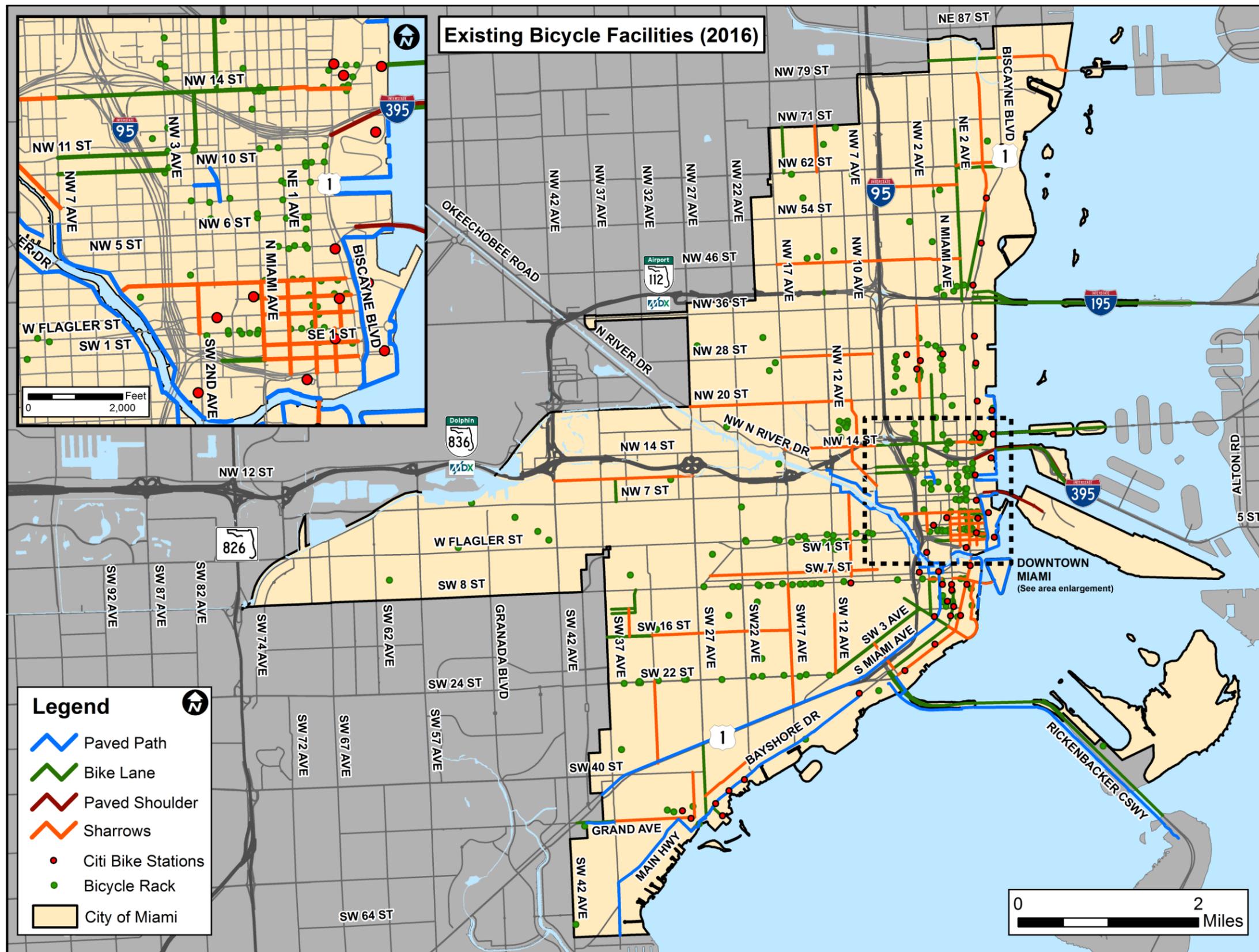
Biscayne	Coconut Grove	MetroMover
Overtown	Little Havana	MetroMover Stations
Stadium	Wynwood	MetroRail
Health District	Allapattah	MetroRail Stations
Coral Way	Brickell	Highway
		City of Miami

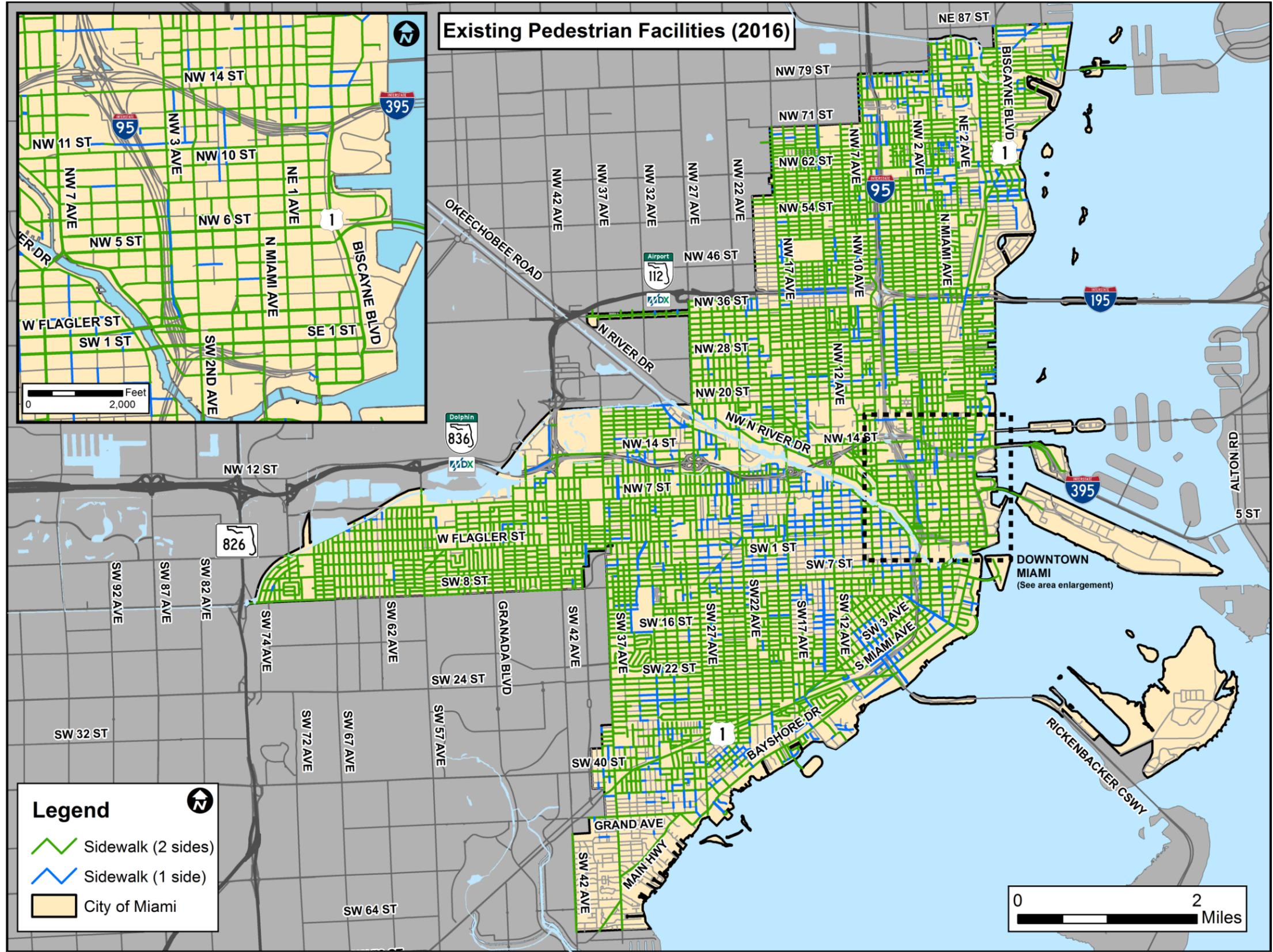
Map TR – 5.2

Metrorail, Metromover and the City of Miami Trolleys (2016)

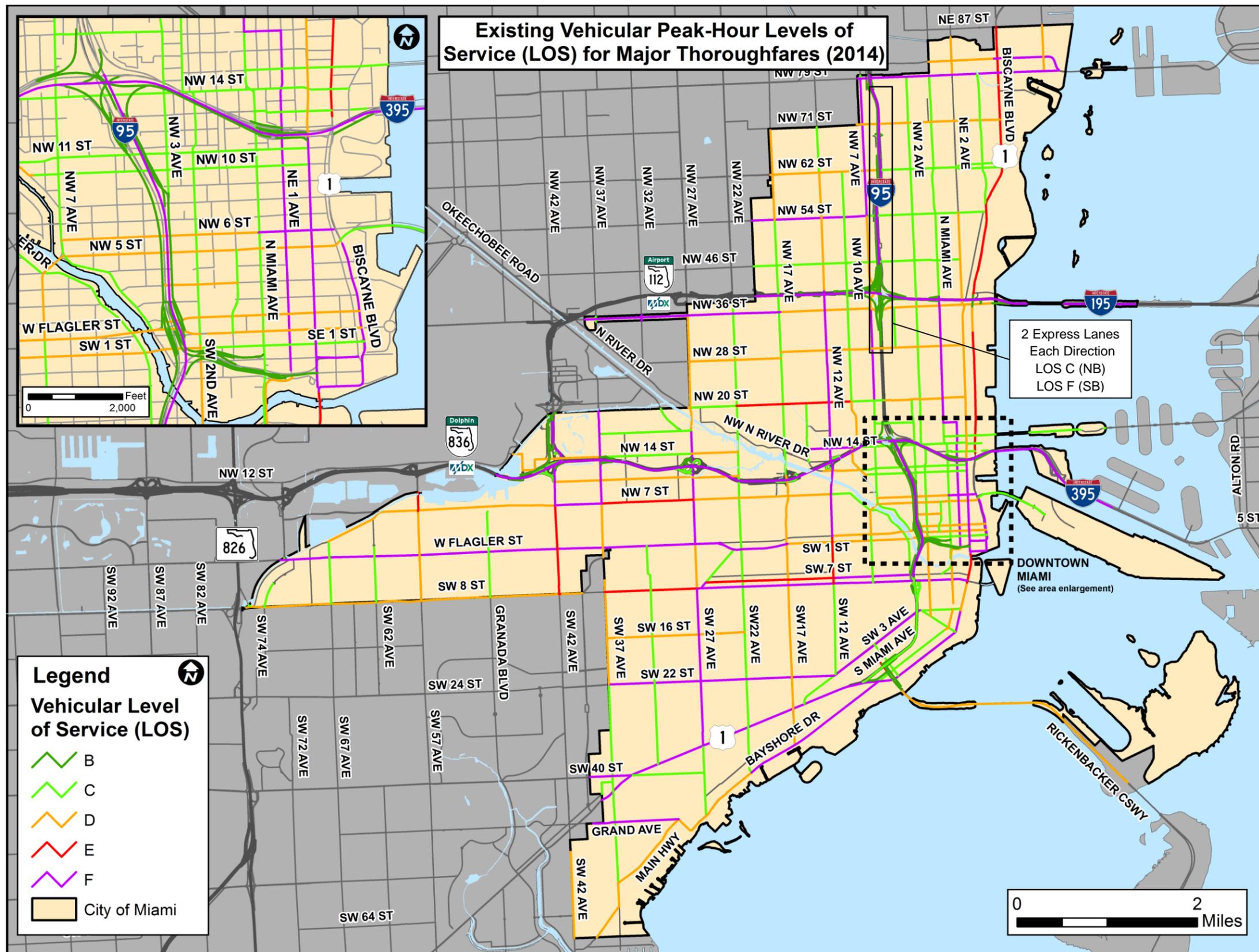


Existing Bicycle Facilities (2016)



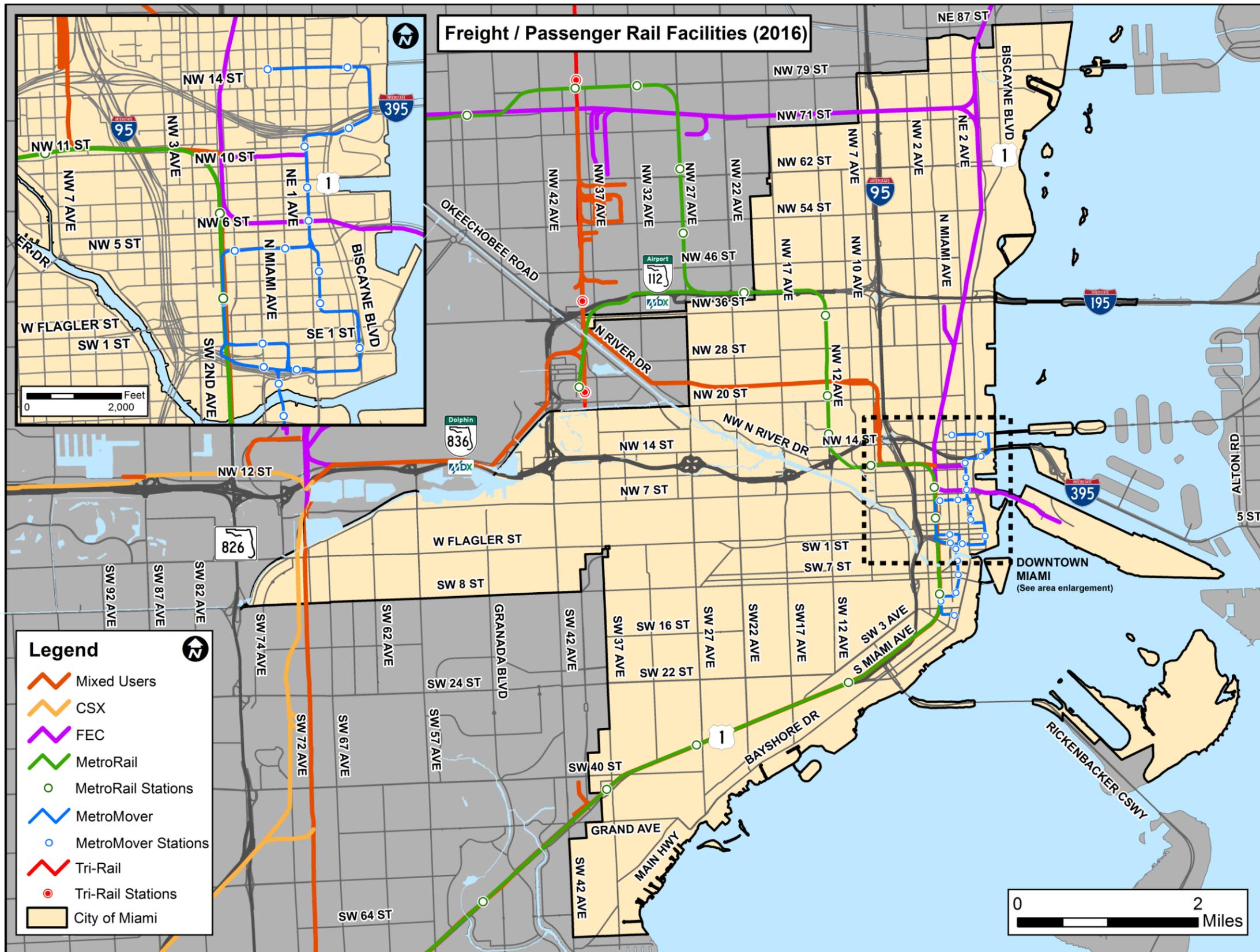


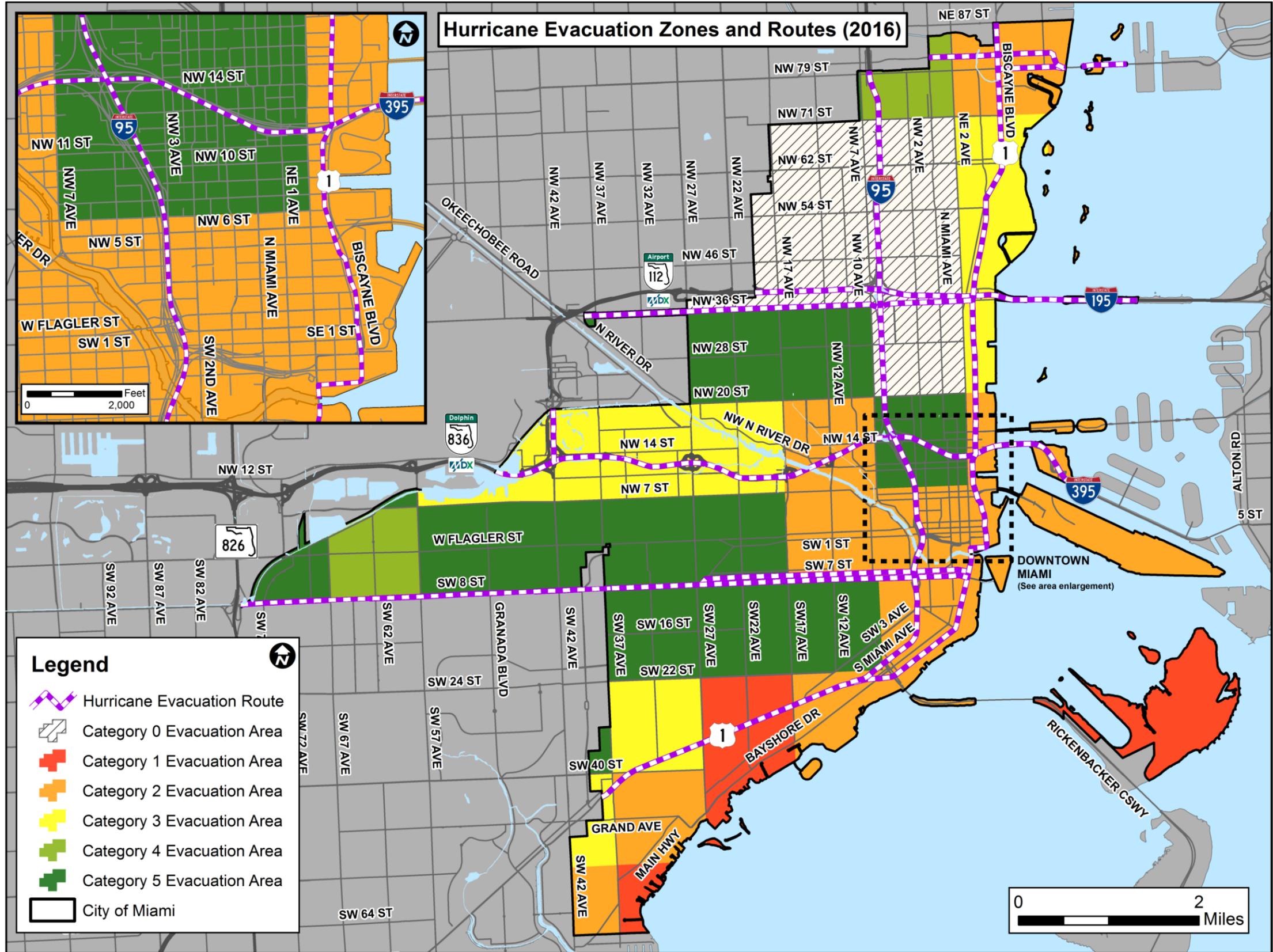
Existing Vehicular Park-Hour Levels of Service (LOS) for Major Thoroughfares (2014)



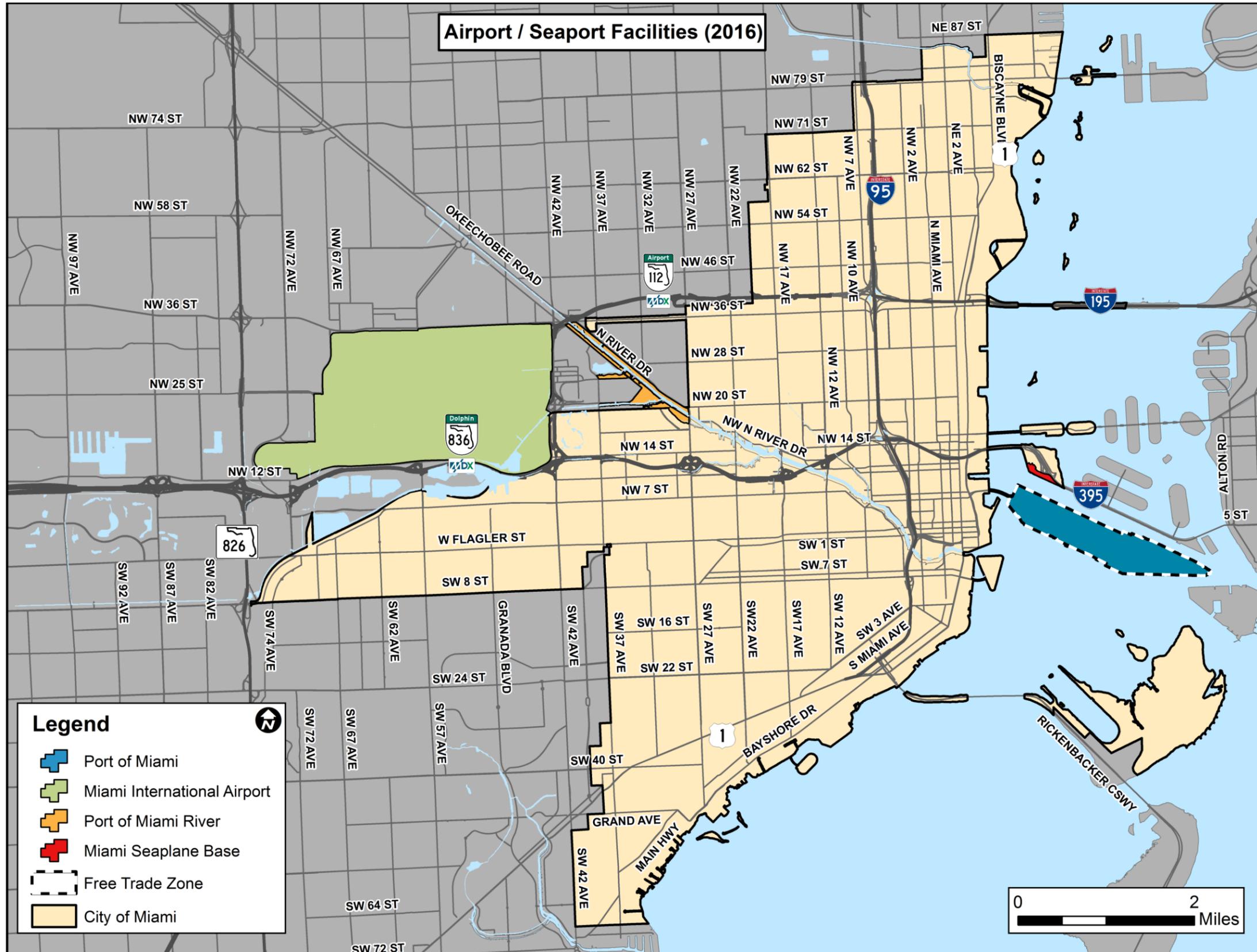


Freight / Passenger Rail Facilities (2016)





**Airport / Seaport Facilities (2016)**



**Legend**

-  Port of Miami
-  Miami International Airport
-  Port of Miami River
-  Miami Seaplane Base
-  Free Trade Zone
-  City of Miami

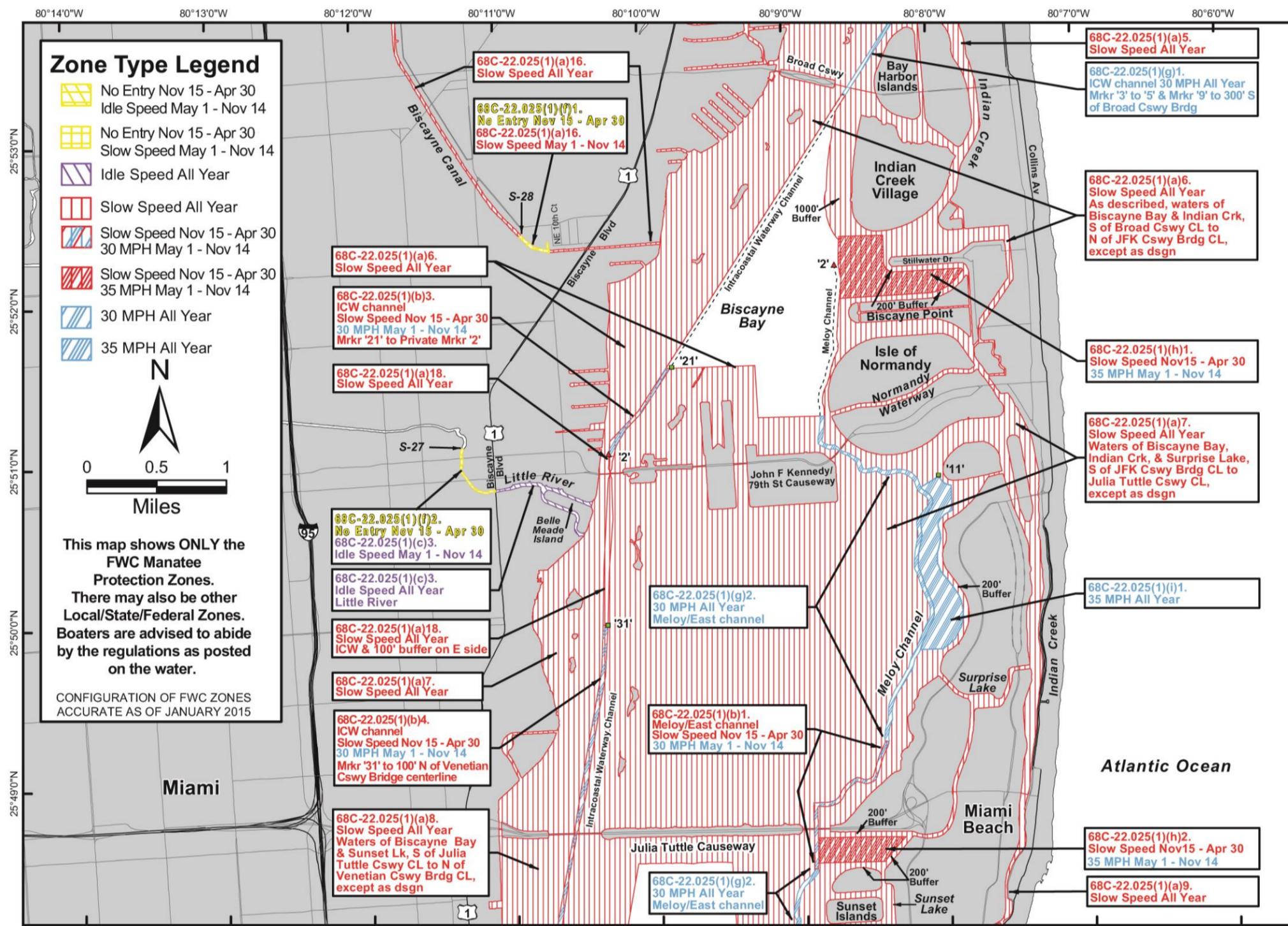
Map TR – 11.1

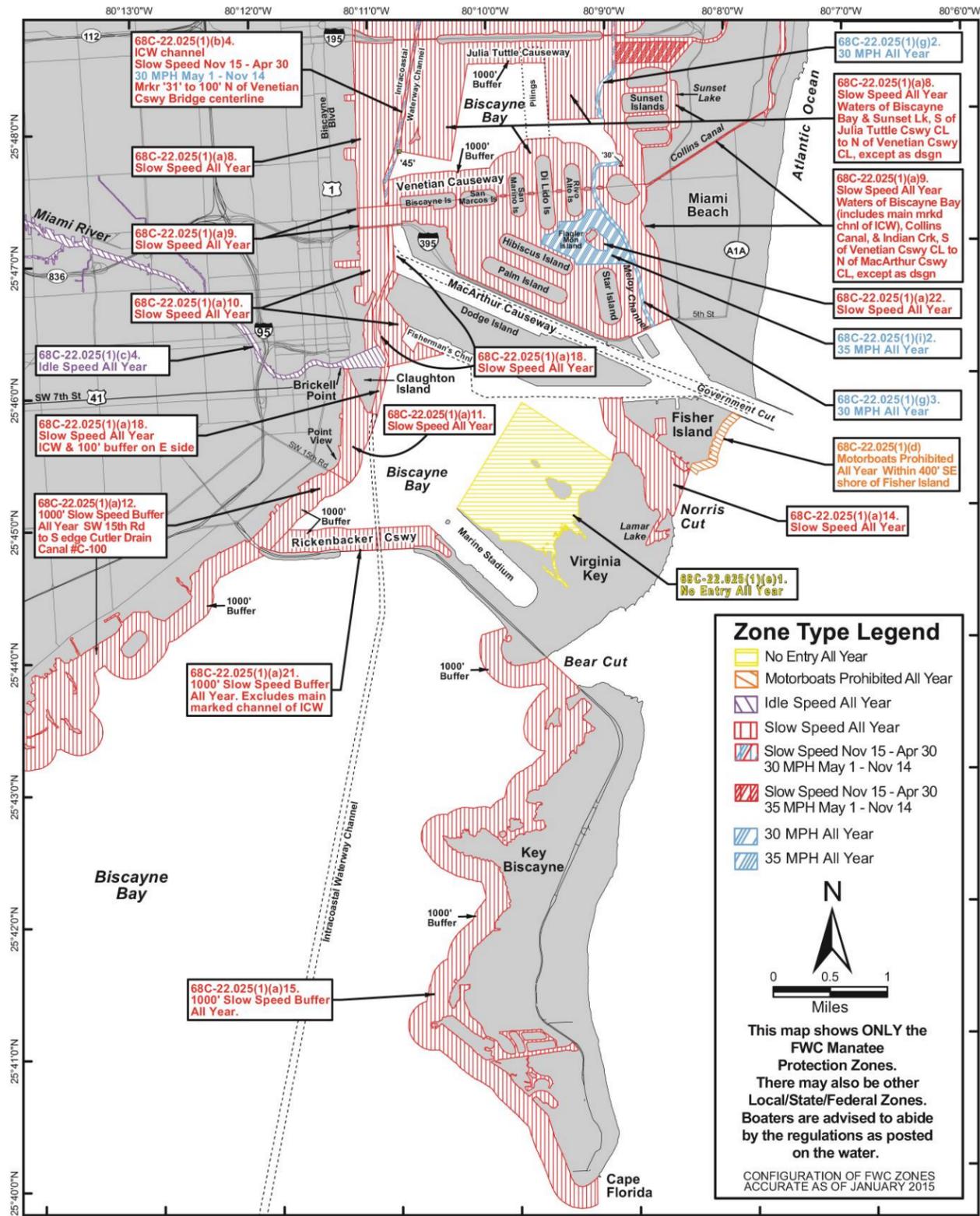
Airport / Seaport Facilities (2016)



Map TR – 11.2 (a)

Miami-Dade County Manatee Protection Areas (2016)



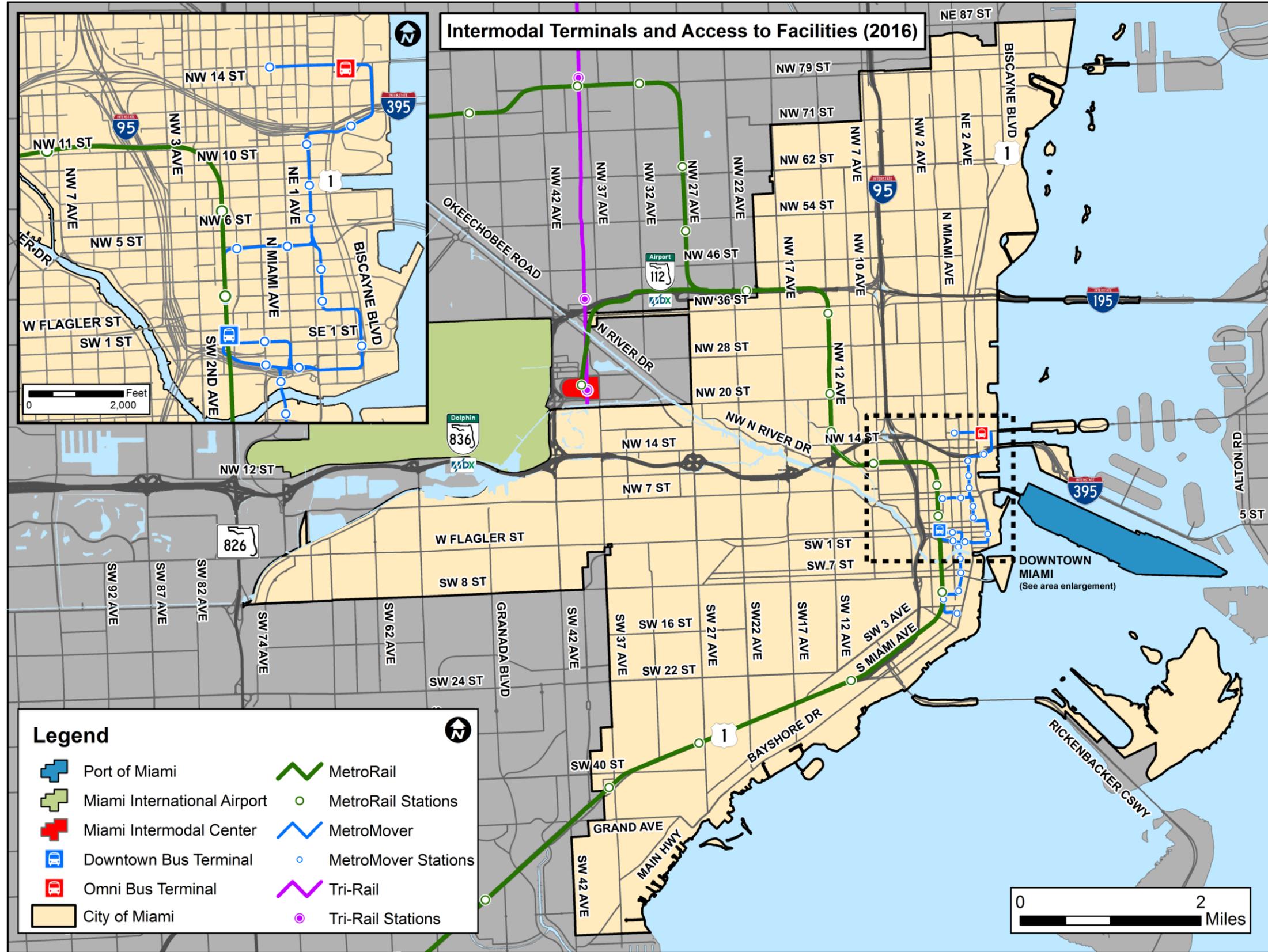


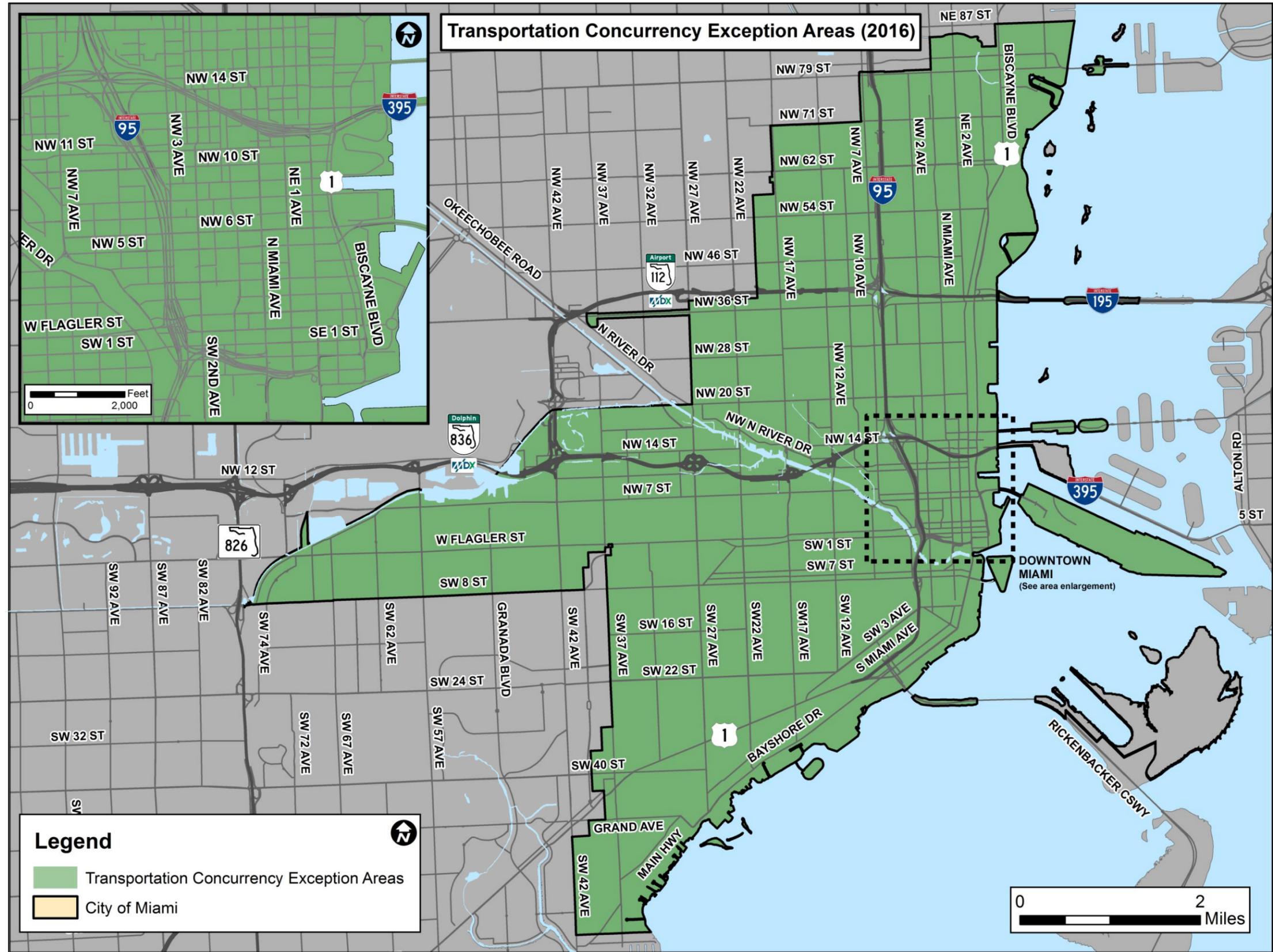
Map TR – 11.2 (b)

Miami-Dade County Manatee Protection Areas (2016)



Intermodal Centers and Access to Facilities (2016)



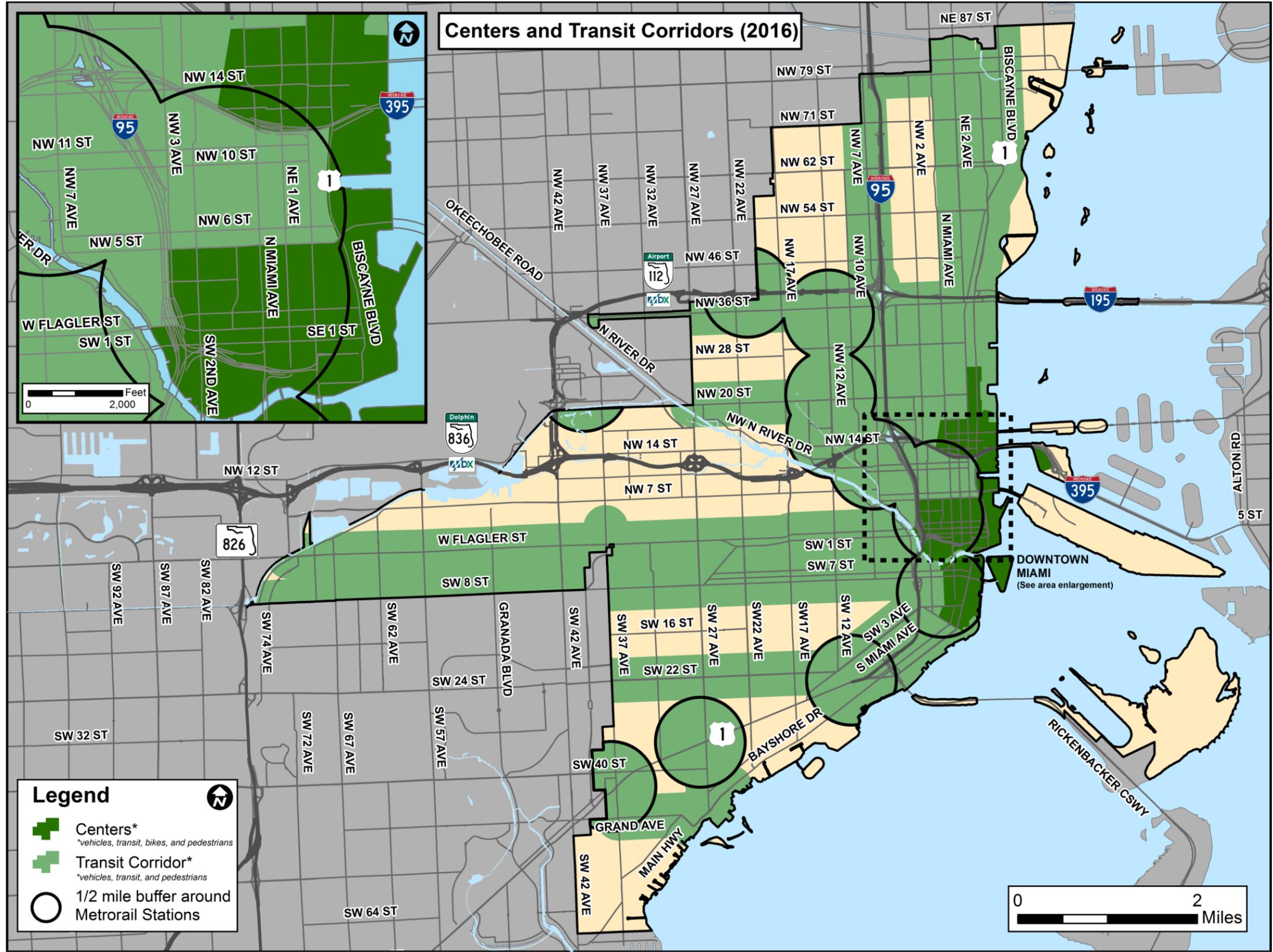


Transportation Concurrency Exception Areas (2016)

Map TR – 13.1

Transportation Concurrency Exemption Areas Boundary (2016)

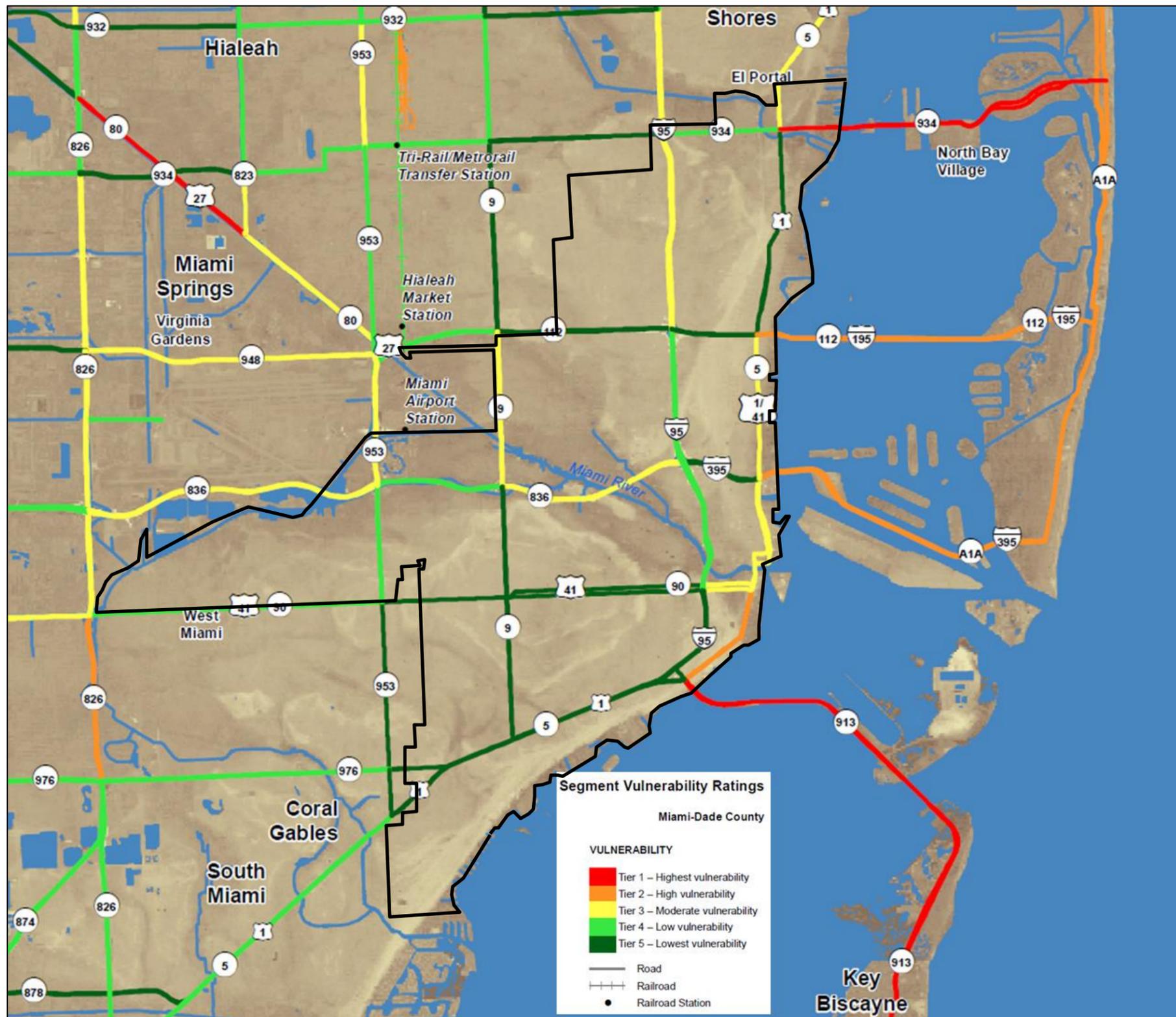




Map TR – 13.2

Centers and Transit Corridors (2016)





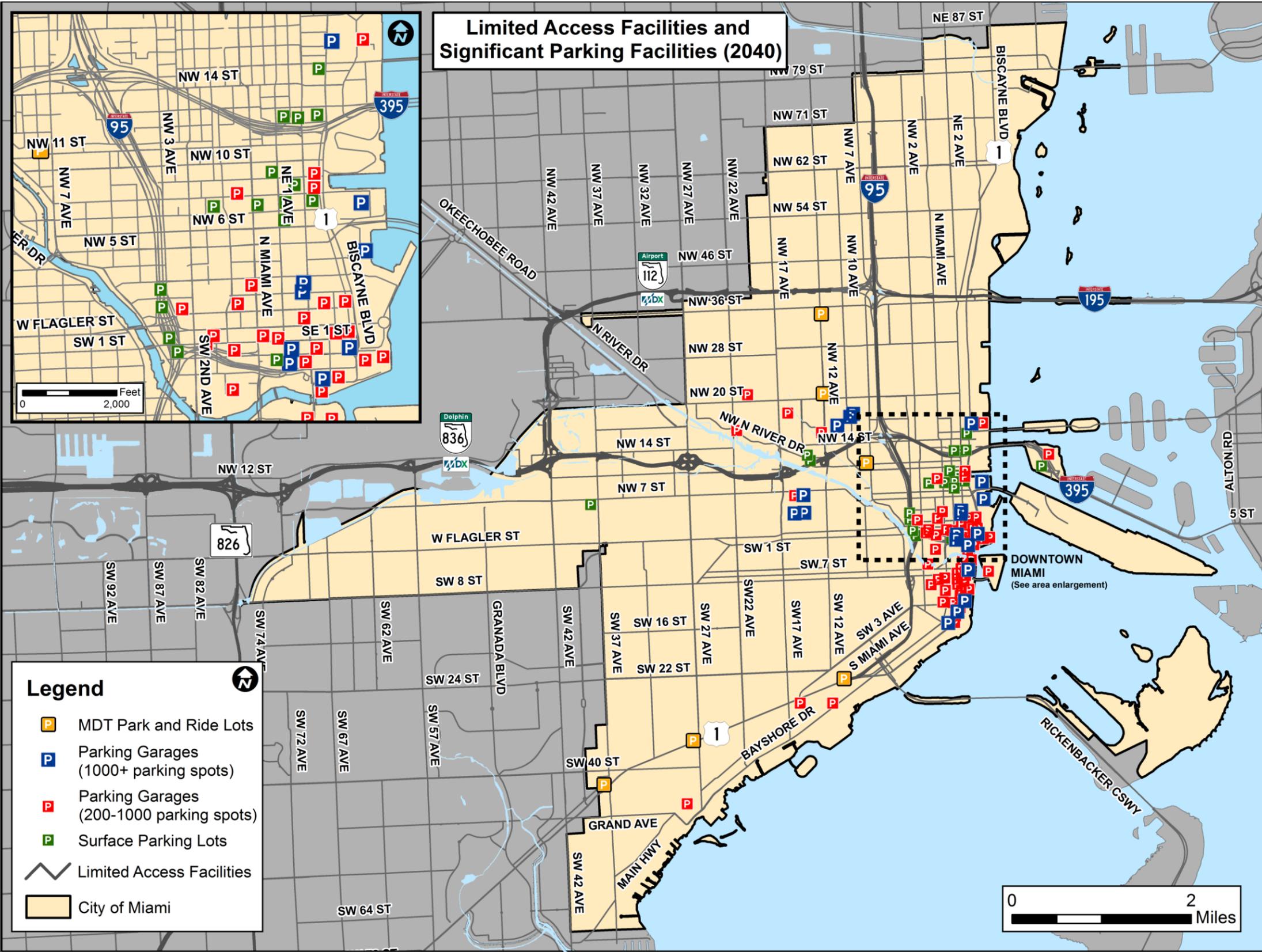
Map TR – 14

Roadway Vulnerability Rating (2016)





**Limited Access Facilities and Significant Parking Facilities (2040)**



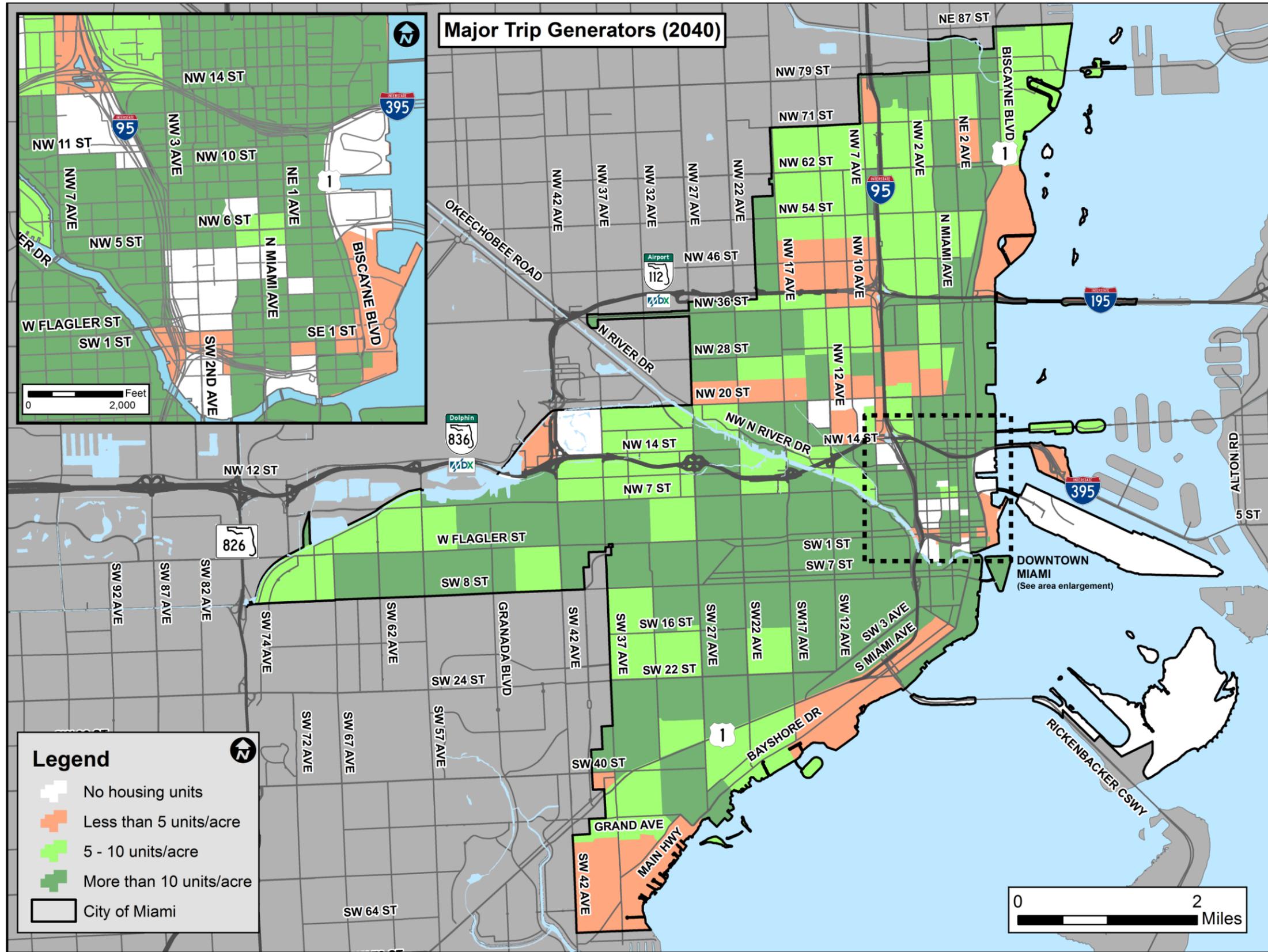
**Legend**

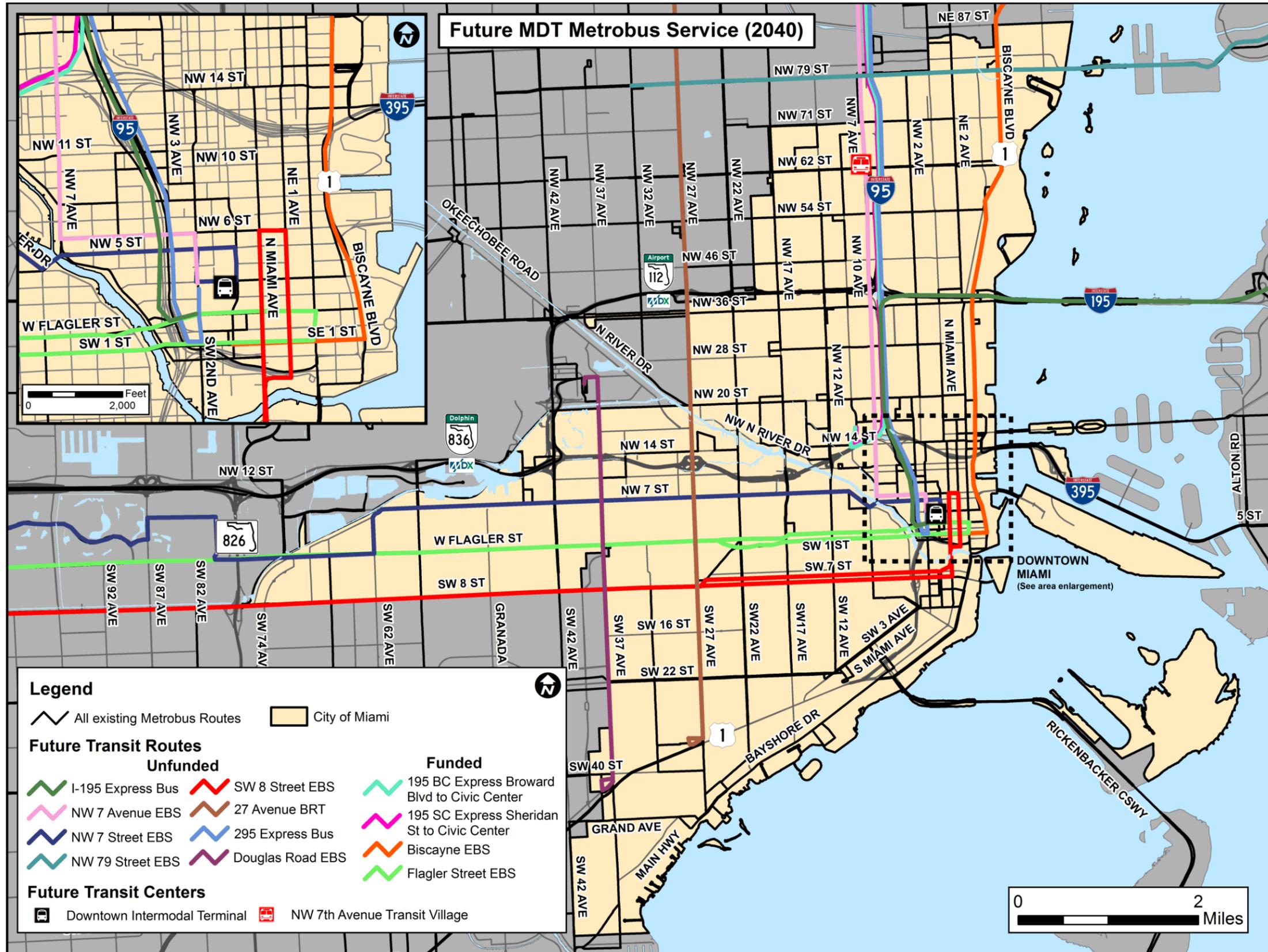
- MDT Park and Ride Lots
- Parking Garages (1000+ parking spots)
- Parking Garages (200-1000 parking spots)
- Surface Parking Lots
- Limited Access Facilities
- City of Miami

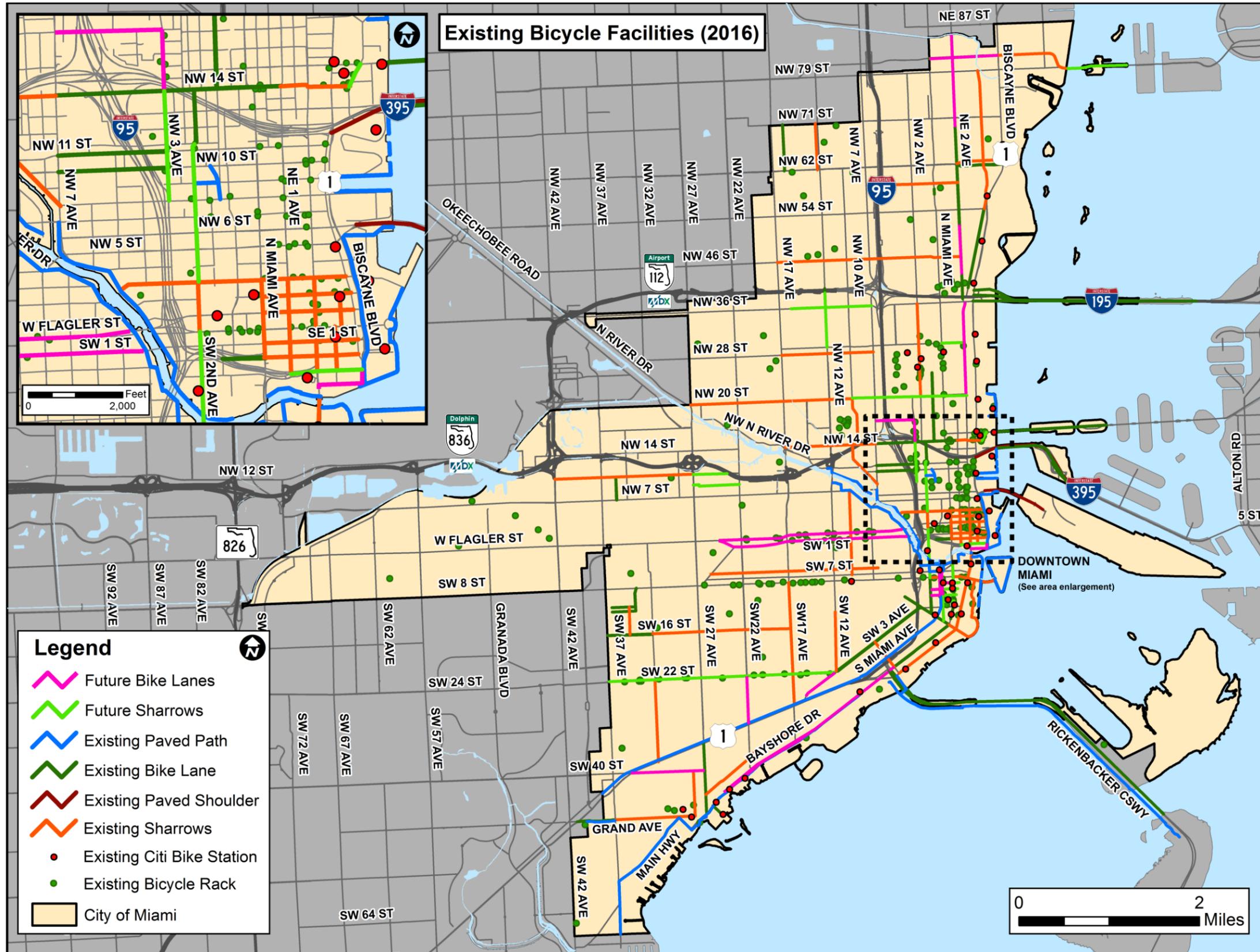
**Limited Access Facilities and Significant Parking Facilities (2040)**

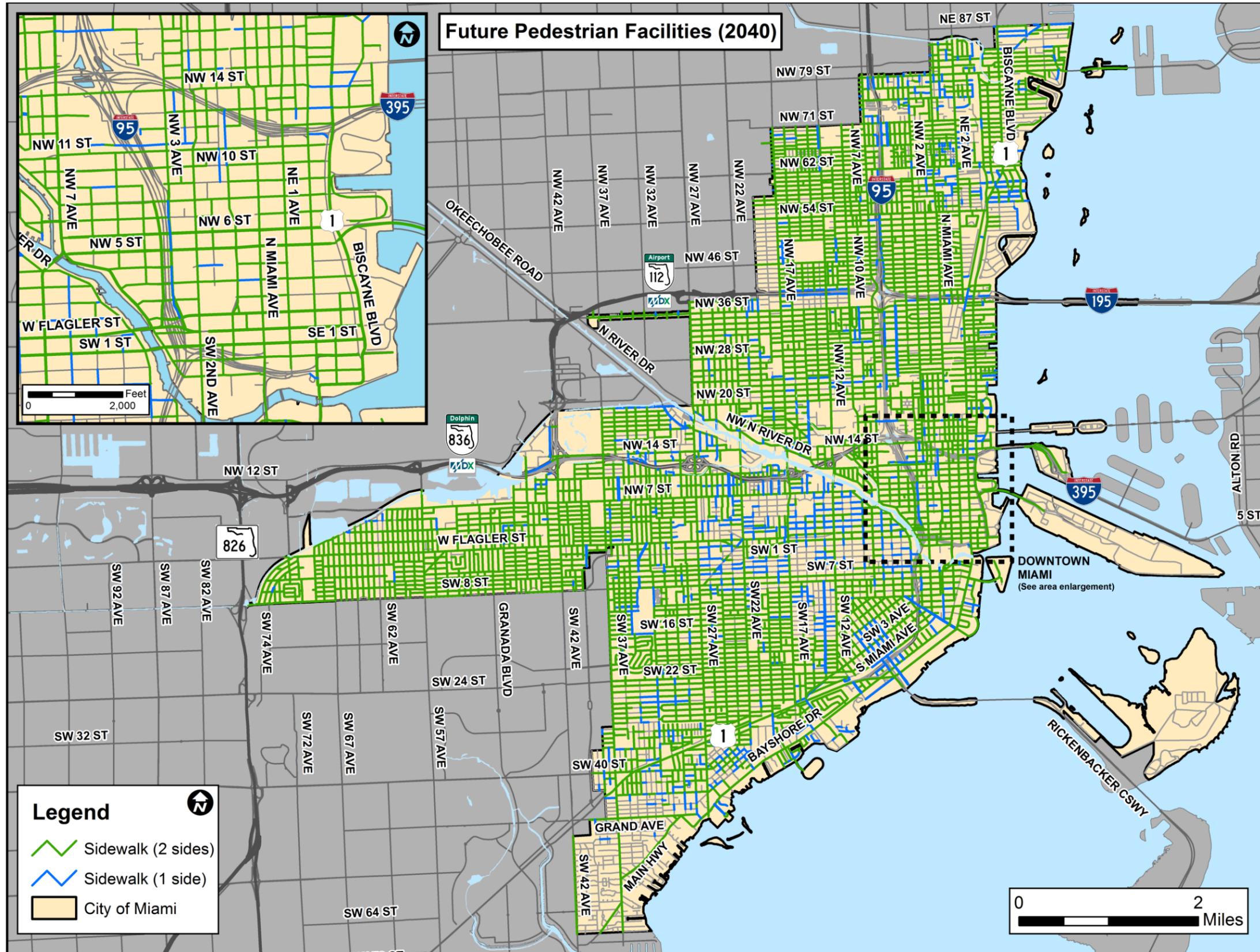


Future Major Trip Generators (2040)





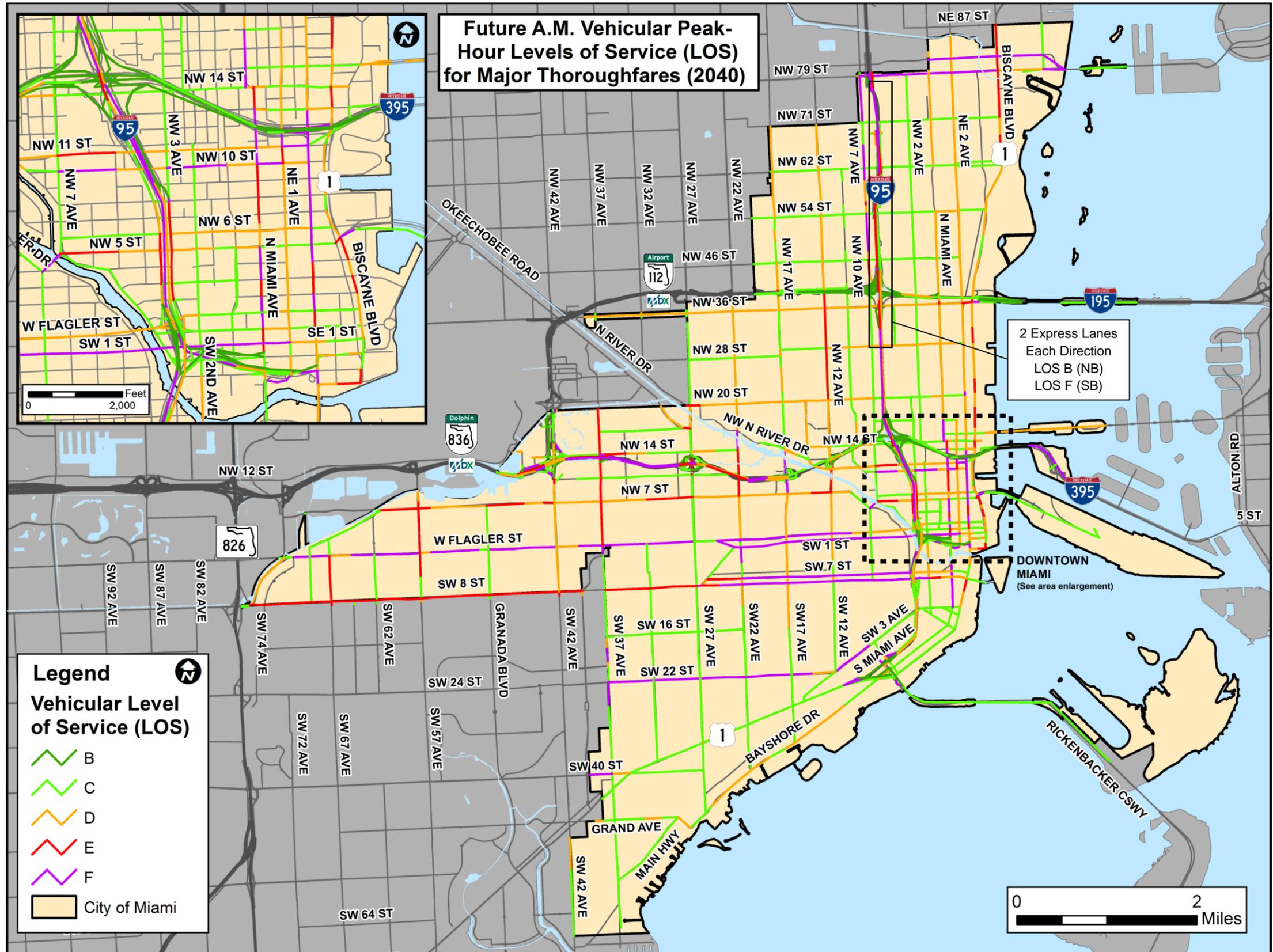




Map TR – 20

Future Pedestrian Facilities (2040)



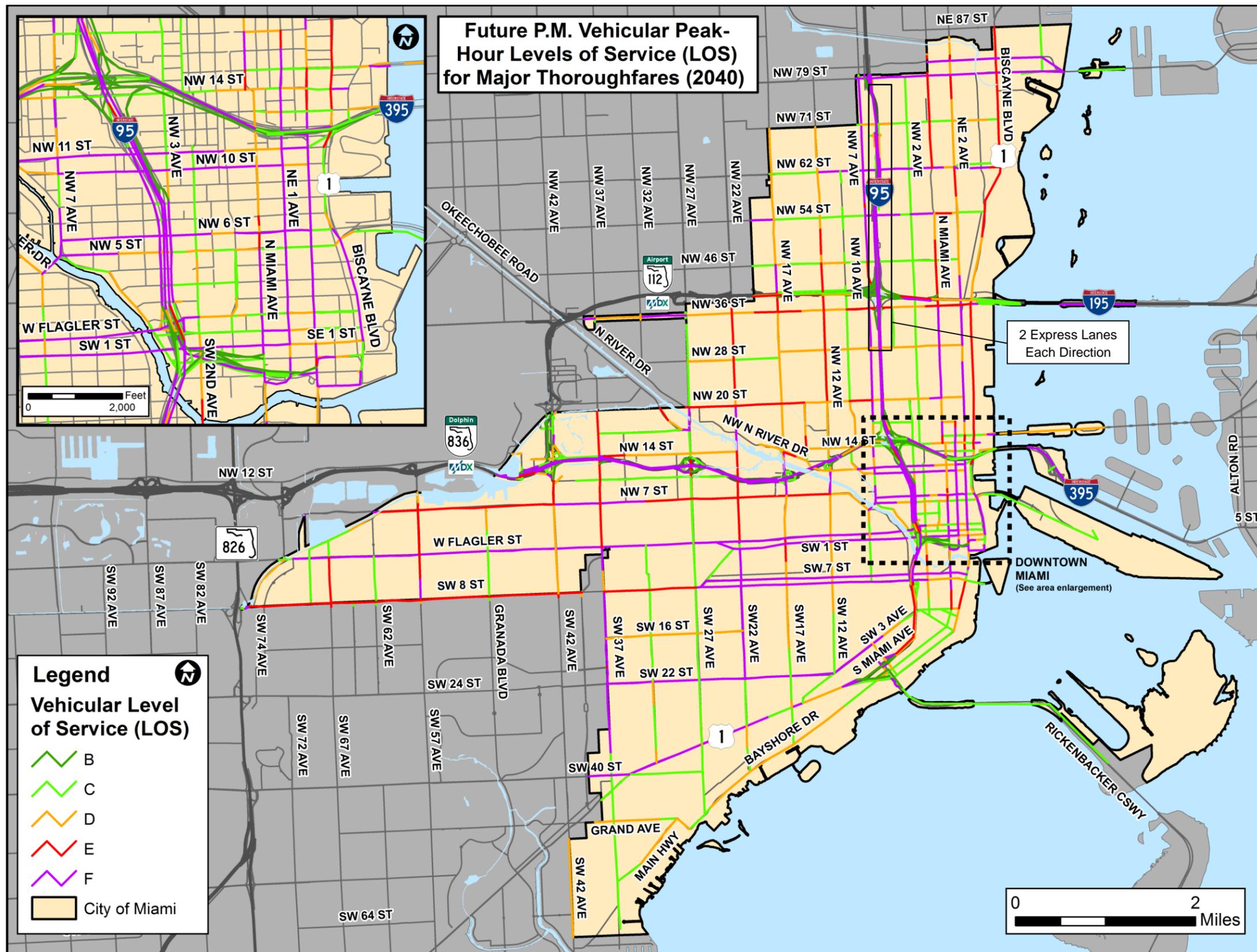


Map TR - 21.1

Future A.M. Vehicular Peak Hour Levels of Service (LOS) on Major Thoroughfares (2040)



Future P.M. Vehicular Peak Hour Levels of Service (LOS) on Major Thoroughfares (2040)



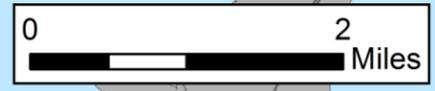
Future P.M. Vehicular Peak-Hour Levels of Service (LOS) for Major Thoroughfares (2040)

**Legend**

**Vehicular Level of Service (LOS)**

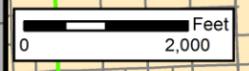
- B
- C
- D
- E
- F

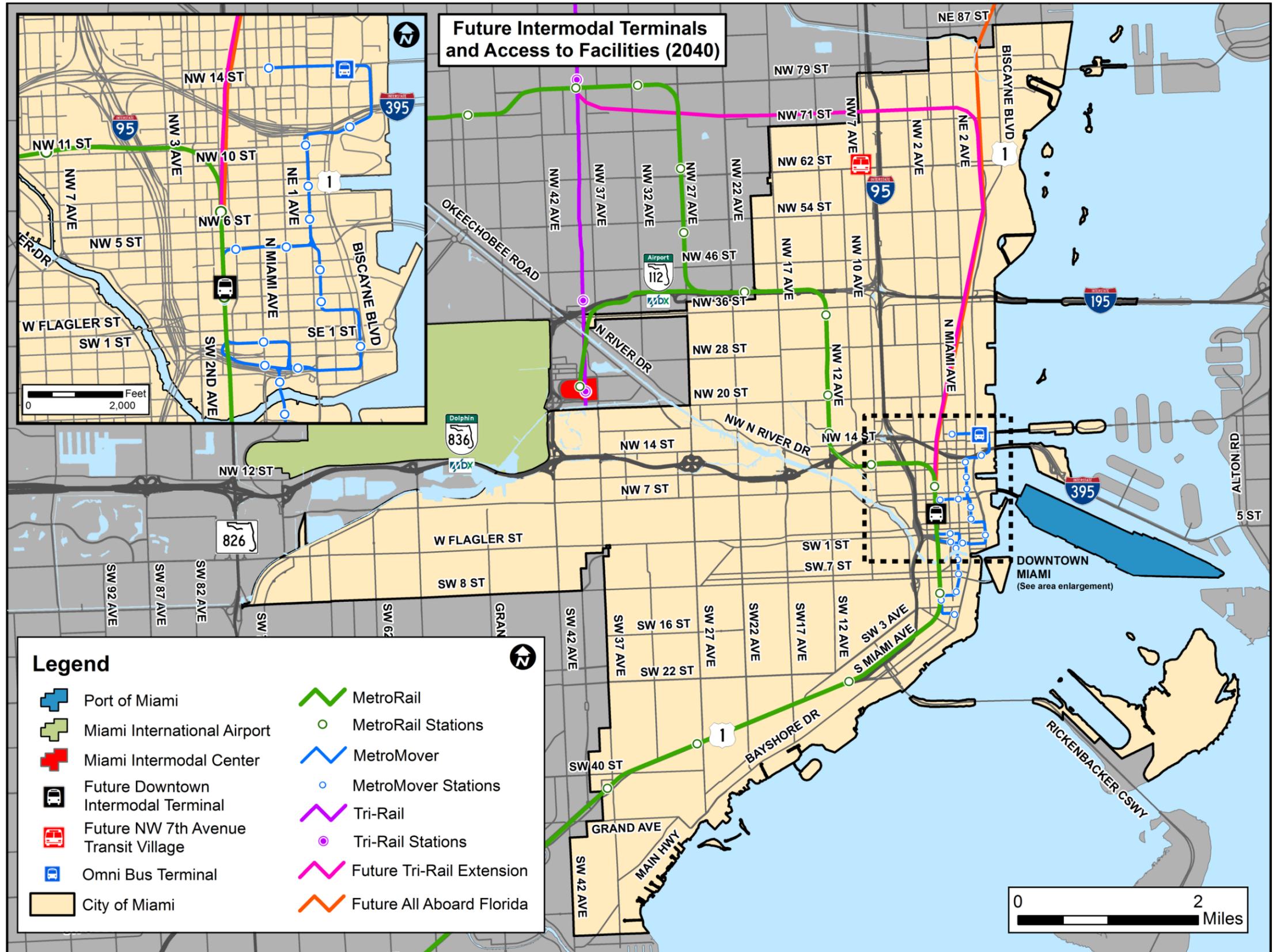
City of Miami



2 Express Lanes Each Direction

DOWNTOWN MIAMI (See area enlargement)





**Future Intermodal Terminals and Access to Facilities (2040)**

- Legend**
- Port of Miami
  - Miami International Airport
  - Miami Intermodal Center
  - Future Downtown Intermodal Terminal
  - Future NW 7th Avenue Transit Village
  - Omni Bus Terminal
  - City of Miami
  - MetroRail
  - MetroRail Stations
  - MetroMover
  - MetroMover Stations
  - Tri-Rail
  - Tri-Rail Stations
  - Future Tri-Rail Extension
  - Future All Aboard Florida

Map TR - 22

Future Intermodal Centers and Access to Facilities (2040)



