

2016 ANNUAL REPORT

OF THE MIAMI-DADE TRANSPORTATION PLANNING ORGANIZATION

SMART STRATEGIC MIAMI AREA RAPID TRANSIT PLAN



Concept Design of Downtown MiamiCentral Development and Brightline Train Station Currently Under Construction

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Message from the Miami-Dade TPO Executive Director

n 2016, the Miami-Dade Transportation Planning Organization (TPO) Governing Board, formerly known as the Metropolitan Planning Organization (MPO),



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approved a record-breaking number of resolutions in the 40-year history of the organization. These resolutions were bold and action-oriented, resulting in the establishment of a new vision to dramatically increase mobility options and decrease congestion in Miami-Dade County. Among the many TPO Board transportation directives in 2016, it is clear that the most impactful was the unanimous support to advance rapid transit and transit supportive projects as the highest priority in the County.

Representing the most populous county in the State of Florida, the Miami-Dade TPO Governing Board spoke with one unified voice to advance a comprehensive program of projects known as the Strategic Miami Area Rapid Transit (SMART) Plan. The organization and development of the SMART Plan are detailed in the following pages. As a result of this bold unified vision, Miami-Dade County saw a significant range of transportation activities implemented and approved. The timetable on this page provides a summary of some of the major action items approved by the TPO Governing Board during the past year.

I invite you to learn more about our ongoing activities on our website at www.miamidadetpo.org.

Aileen Bouclé, AICP Executive Director Miami-Dade TPO

2016 Miami-Dade TPO Timeline

• Aileen Bouclé, AICP, started as the new Miami-Dade TPO Executive Director

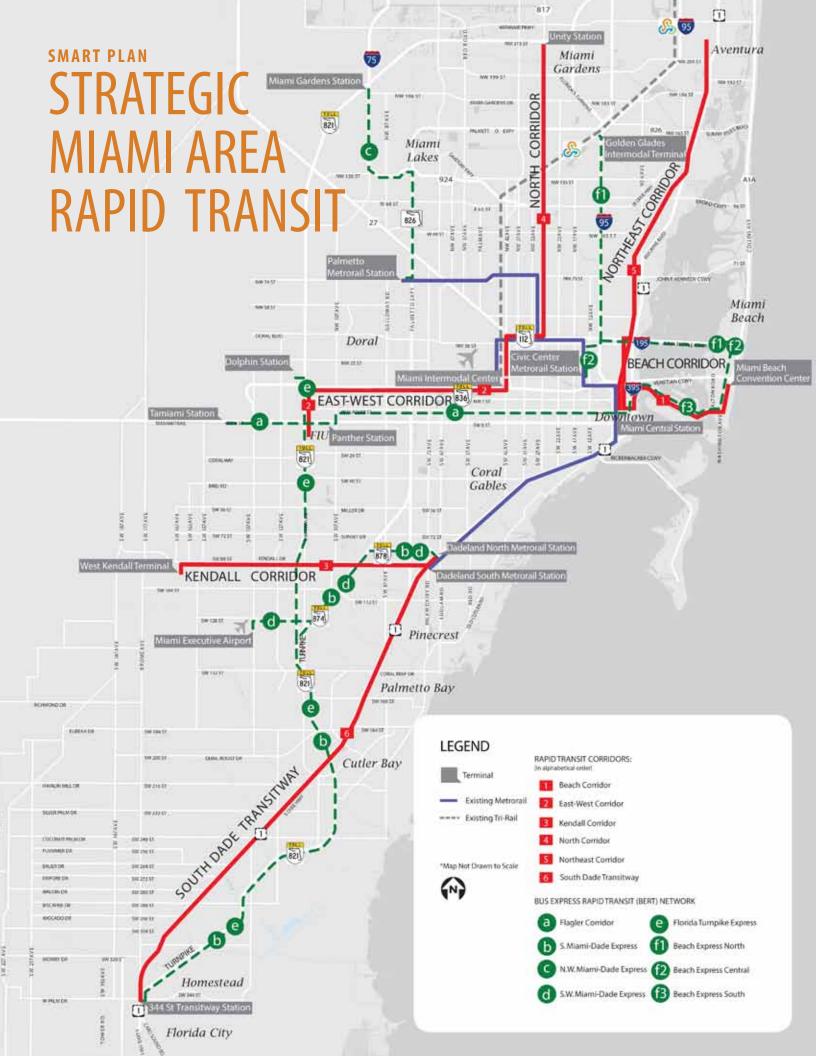
- Adopted a policy to set as "highest priority" the advancement of rapid transit corridor projects in Miami-Dade County
- Hosted the Federal Highway Administration's (FHWA) Beyond Traffic Roundtable on the Freight Economy
- Formation of a working group with transportation partners and community groups regarding green transit solutions

Hosted the Autonomous Vehicle (AV) Exhibition

- Creation of the Connected and Autonomous Vehicle (CAV) Task Force
- Approval of the Strategic Miami Area Rapid Transit (SMART) Plan
- Requested the Florida Department of Transportation (FDOT) to include the SMART Plan as part of the State's Strategic Intermodal System (SIS)
- Approval of the FY 2017-2021 Transportation Improvement Program (TIP)
- Approval of the FY 2017 and 2018 Unified Planning Work Program (UPWP)
- Approval of the FY 2022 TPO Program Priorities
- Peer Exchange with the San Francisco Bay Area Metropolitan Transportation Commission (MTC)

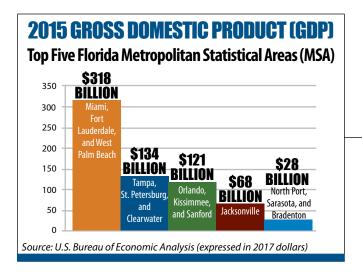
• Peer Exchange with the Houston-Galveston Advisory Council (H-GAC)

- Approval of two SMART Corridors to proceed to Step 3, Project Development and Environmental (PD&E)
 - ✓ East-West Corridor
 - ✓ South Dade Transitway
- Approval of the Beach Corridor to proceed into Step 3, PD&E
 Approval of \$7.1 million for activities related to the implement
 - Approval of \$7.1 million for activities related to the implementation of the SMART Plan
- SMART Plan briefing with FHWA and the Federal Transit Administration (FTA)
- Participated in the Copenhagen Bicycle Study Tour
 - Amendment to the TIP and the UPWP to reflect the additional \$7.1 million for the implementation of the SMART Plan
 - Approval for the establishment of a permanent TPO committee structure:
- OCT ✓ Executive Policy Committee (EPC)
 - ✓ Fiscal Priorities Committee (FPC)
 - ✓ Transportation and Mobility Committee (TMC)
 - Hosted the FDOT Statewide Intermodal Systems Development (ISD) Team
 - Peer Exchange with New York Metropolitan Transportation Council (NYMTC)
 - Participated in the FTA's "MPOwerment" Roundtable in Atlanta, Georgia
 - Supported and participated in the inaugural Miami-Dade County Public Transit Day event



SMART Mobility Growth

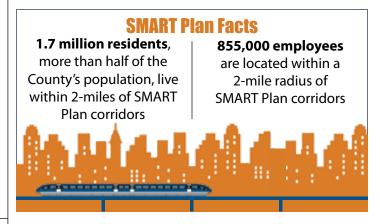
During the past year, the Miami-Dade Transportation Planning Organization (TPO), formerly known as the MPO, intensified efforts to prioritize projects that both increase mobility and decrease traffic congestion. As the most populous county in the State of Florida with over 15 million visitors per year, providing mobility options for future growth is not only necessary, but **smart**. With strategic improvements and investments in the transportation system, the County will continue to expand economic opportunities to accommodate future growth. Last year, Miami-Dade County's economic performance generated \$144 billion of the State's \$888 billion Gross Domestic Product (GDP), resulting in the number one GDP generator in the State of Florida.



The above chart illustrates the vast productivity and economic vitality of the Miami Urbanized Area. Although there are many factors contributing to this success, the transportation network remains the backbone of a strong economy. To facilitate projected future growth, the Miami-Dade TPO Governing Board unanimously endorsed the Strategic Miami Area Rapid Transit (SMART) Plan in order to increase travel choices and address congestion. Increasing mobility options directly impacts quality of life, congestion, connectivity, and modal choice. In support of the SMART Plan, the following projects and efforts were advanced in 2016:

- Groundbreaking of the Dolphin Station Park-and-Ride facility located at NW 12th Street and the Homestead Extension of the Florida's Turnpike (HEFT) for the East-West Corridor
- Development of Park-and-Ride facilities and a Multi-Modal Center along the South Dade Transitway with the SW 344th Street Park-and-Ride facility already operational
- Prioritization and funding of SMART Plan Corridors to Step 3, Project Development and Environment (PD&E)
- Development of a Transit Oriented Development (TOD) at the HEFT and County Line Road for the North Corridor
- Development of the All Aboard Florida's MiamiCentral Station for the Northeast Corridor
- Prioritization and funding of implementation plans for all SMART Plan corridors

Currently, about 95 percent of all work trips in Miami-Dade County are made by single occupant vehicles, and the average commuter spends more than 50 extra hours each year in traffic due to congestion. This has a direct economic impact on businesses, and reduces the quality of life in general for Miami-Dade residents. Without a viable transportation alternative, total vehicle trips are expected to increase by at least 35 percent over the next 20 years.



Improving Mobility

The following were the key initiatives undertaken over the past year by Miami-Dade County to improve the reliability of public transportation services:

- Bus Replacement
- Additional Bus Operators
- · New Metrorail Vehicles
- Modernized Traffic Control Center
- Adaptive Traffic Signals
- Transit Signal Priority
- Waze © Connected Citizens Program
- Infrastructure Replacement and Upgrades
- Bus Route Service Adjustments
- Metrorail Maintenance

Increasing mobility, efficiency, and travel choice are critical components to balance the transportation network and address traffic congestion. The public transit network includes Metrorail, Metromover, Metrobus, and Special Transportation Service (STS) that span a service area of over 300 square miles. This transit service consists of 1,448 vehicles that handle 98 million annual boardings. This system connects with 27 local municipal circulators and a larger regional network that includes Tri-Rail, Broward County Transit, and PalmTran. To facilitate transit use, there are nearly 30 defined Park-and-Ride facilities that provide over 11,000 parking spaces. The system requires constant upgrade in order to meet future demands. Last year the following significant groundbreaking initiatives took place:

 In March 2016, Miami-Dade County inaugurated the Hitachi Rail manufacturing facility for the assembly of a new Metrorail fleet consisting of 136 railcars.

Continued on next page...

SMART Mobility Growth

- In October 2016, the first two new railcars were completed and began comprehensive testing.
- The Miami-Dade Department of Transportation and Public Works (DTPW) anticipates that the new full fleet of railcars will be assembled, tested, and placed into service by the end of 2019.
- In 2016, 11 new Hybrid electric/diesel, articulated 60-foot buses were added to the fleet.



SMART Technology/SMART Mobility

The Miami-Dade TPO Governing Board demonstrated strong leadership in recognizing the need to stay ahead of the curve with emerging technologies and advancements in transportation. As a result, early last year, the TPO Governing Board passed a resolution to form a Connected and Autonomous Vehicle (CAV) Task Force to better understand and explore emerging technologies. The TPO also hosted a Miami-Dade County Autonomous Vehicle (AV) Exhibition and formalized a CAV Working Group with the goal of assessing and advancing innovations in a wide range of transportation technologies. Over the past year, the below activities were advanced by the Miami-Dade County Department of Transportation and Public Works (DTPW):

- Integration of Ride Sourcing: Last spring, an ordinance was approved to regulate mobility providers, such as Lyft and Uber. As a result, efforts were initiated to partner with these companies to improve access to public transit and address gaps in first and last mile connections.
- The Miami-Dade Transit (MDT) Tracker: The MDT Tracker
 was re-designed and included a fresh look with a new
 support tab for simpler navigation, and more options.
 Features include a "Nearby" tab, real-time tracking, and the
 trip planner feature.
- New real-time parking space counters: Installation began of real-time parking counters in five parking garages. This new technology allows customers to check real-time parking availability via the internet, smartphones, and tablets. The goal is to reduce congestion, save commuter time, and reduce pollution.
- EASY Pay: This is a new state-of-the-art mobile app that was developed last year in partnership with Cubic and Passport, and allows riders to purchase tickets for bus and rail from their mobile device. The EASY Pay app will be launched in several phases. The first phase is already active allowing for the purchase of one-day or ten-day passes. The second phase is expected to be completed by the end of spring 2017.

- MDT Transit Watch app: In April 2016, the MDT Transit Watch app was launched. The app provides real-time information, enabling riders to report security incidents anonymously without having to communicate verbally.
- Waze® Connected Citizens Program: Last year, Miami-Dade County partnered with the Waze® Connected Citizens Program (CCP), which is a two-way data exchange of publicly available traffic information. This allows for the gathering of additional information about traffic conditions in real-time. Drivers receive travel suggestions through the least congested routes with accurate information of road closures, traffic delays, and any other issues that might influence mobility.
- Pay-by-Phone: The County is using technology to leverage convenience by implementing a Pay-by-Phone application.
 This provides riders with the option of paying for daily parking at Metrorail garages or surface parking lots.
- Special Transportation Services (STS) virtual upgrade: The County modernized the way riders can request a ride and track their trips. This upgrade provides more options for riders. Updates to this program include the ability to book a ride, track a trip, confirm or cancel, view upcoming schedules, update travel plans, and provide comments or recommendations.

Bicycle/Pedestrian Mobility

In 2016, 12.8 new miles of bike lanes, paved shoulders, and shared-use paved paths were added to the County's network. The Miami-Dade TPO is working to continually improve and expand the County's non-motorized transportation system. One way is through addressing first and last mile connections by improving bicycle/pedestrian access countywide. Currently, Miami-Dade County has almost 400 miles of bicycle/pedestrian facilities and another 150 miles funded for construction within the next five years. This network of bicycle/pedestrian infrastructure not only provides access to transit, but also encourages health benefits and alternatives to driving.



Aviation

Miami International Airport (MIA) is amongst the largest freight and passenger transporter in the world. Often referred to as the "Gateway to the Americas," Miami-Dade County is a global and vital center for international trade. Among U.S. airports, MIA is ranked first in international freight and third in total cargo. MIA, located on 3,230 acres of land near Downtown Miami, now offers more flights to Latin America and the Caribbean than any other U.S. airport. It is America's second-busiest airport for international passengers, boasts a lineup of

SMART Mobility Growth

over 100 air carriers, and is the top U.S. airport for international freight. MIA is also the leading economic engine for Miami-Dade County and the State of Florida, generating business revenue of \$33.7 billion annually and welcoming 70 percent of all international visitors to Florida.

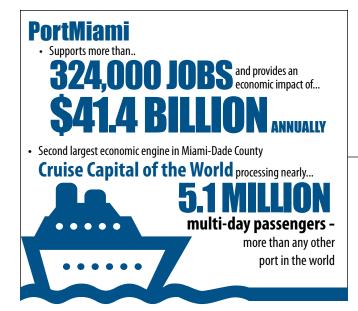


Seaport

In 2016, the Miami-Dade TPO, with former USDOT Secretary Anthony Foxx and Federal Highway Administration (FHWA) Administrator Gregory G. Nadeau, hosted the "Administrator's Beyond Traffic Roundtable" at PortMiami. This was organized to discuss national, state, and local freight economic opportunities and impacts, including elements of national and state freight plans, and related performance measures. The meeting included the former FDOT Secretary of Transportation, Florida FHWA Administrator, and other state, regional, and local transportation representatives. In addition, the business community, safety and environmental advocates, and freight stakeholders also participated. This resulted in an opportunity to share ideas, insights, and experiences to improve

Handling approximately 8.9 million tons of cargo and nearly 5.1 million cruise passengers, PortMiami is a leading cargo and cruise port. Of the 8.9 million cargo tons, 8.8 million of these

freight movement nationally and in our region.



tons are containerized cargo while the remaining tonnage is a combination of project cargo and break bulk cargo. Additionally, PortMiami serves as global headquarters for Carnival Cruise Lines, Norwegian Cruise Lines, Royal Caribbean Cruises, Oceania Cruises, and Regent Seven Seas Cruises. In 2016, 1,030 cruises used PortMiami's seven cruise terminals, carrying nearly 5.1 million passengers to and from popular cruising destinations such as the Bahamas, Caribbean, and Mexico, making it the "Cruise Capital of the World."

Together, MIA and PortMiami move nearly 12 million tons of cargo annually, valued at approximately \$90 billion. In addition, they support over 600,000 jobs and provide an economic impact of \$75 billion annually. These two engines are the primary drivers of Miami-Dade County's 15 million visitors each year, contributing approximately \$24 billion to the local, regional, and state economy.



Improving Traffic Operations

Last summer, the County fully modernized and renovated the Traffic Management Center (TMC). The TMC has been upgraded with the technological infrastructure necessary to synchronize and maximize the efficiency of Miami-Dade's signal system through the implementation of adaptive signal control and active arterial management strategies. With a new state-of-the art facility in Miami-Dade County, transportation engineers are now able to oversee the new traffic monitoring cameras and improve the synchronization of signals in real-time. County engineers use information from Waze®, cameras, and other traffic speed data feeds to improve traffic flow. The system has been able to reduce congestion by as much as 25 percent along northbound US-1 between SW 152nd Street and SW 16th Avenue. This is about a 10-minute savings in commuting time.

Maximizing Infrastructure

To further maximize these infrastructure assets, Miami-Dade County led the charge as the only TPO in the State of Florida to adopt a comprehensive transit program of projects. Looking forward, there are more than 450 roadway, transit, bicycle/pedestrian, and freight improvement projects planned by 2040 in the TPO's Long Range Transportation Plan (LRTP). These initiatives and plans are being implemented to directly increase mobility options for residents and visitors of South Florida.



Strategic Miami Area Rapid Transit Plan

he Strategic Miami Area Rapid Transit (SMART) Plan is a comprehensive program of projects to significantly improve transportation mobility in Miami-Dade County and the South Florida Region. It represents a world-class transportation system that will support economic growth and strengthen the region's national and international competitiveness.

Miami-Dade County is a global gateway. It represents not only the Gateway of the Americas, but is also the nation's capital for international air freight and cargo, as well as the number one passenger cruise port in the world. Miami-Dade County is the most populous county in Florida, representing 2.7 million residents. On a regional level, the Miami Urbanized Area is the 8th most populous in the U.S. with over 6.1 million residents.

Over the past decade, Miami-Dade voters approved a half penny sales surtax to demonstrate a local commitment to mass transit expansion. This commitment expresses the desire and dedication to seek and implement alternative transportation methods from all levels of the community. In 2016, the Miami-Dade TPO Governing Board, along with Miami-Dade County Mayor Carlos A. Gimenez's support, declared the advancement of the SMART Plan as the "top priority" for the County. This prioritization is strongly supported by public and private sector partners, residents, and other elected officials.

The SMART Plan represents a vision for the region that is both strategic and far-reaching. It creates a system of multiple transportation options by leveraging existing infrastructure and integrating technology at the highest levels. The Plan is comprehensive, proactive, and supports the future population and employment growth anticipated in the region.

The Federal Highway Administration (FHWA) estimates the annual cost of congestion to motorists in urban areas is approximately \$7 billion. For Miami-Dade County, this cost is approximately \$3.6 billion. This represents a significant cost and economic disadvantage that, if not addressed, will result in

urban areas like Miami-Dade County being left behind.

The SMART Plan will expand mobility with appropriate rapid transit options along six critical corridors that are linked to local, regional, national, and global economic markets. Another critical component of the SMART Plan will be a network of Express Buses, known as Bus Express Rapid Transit (BERT). The BERT will connect the SMART rapid transit corridors on limited access facilities, promoting the expansion of South Florida's existing Express Lanes network. This innovative approach effectively extends the reach of transit in Miami-Dade County and beyond.

Working with local transportation partner agencies over the next few years, the Miami-Dade TPO will lead the most effective process to implement rapid transit service. This could be in a form ranging from passenger rail services to Bus Rapid Transit (BRT), as well as the application of new and emerging technologies, such as connected and autonomous vehicles. All this will depend on the needs of the corridor and funding availability. New services along the SMART corridors will work together, complemented by BERT, with the current Metrorail system to create an integrated transit system.

In 2016, the following organizations officially endorsed the SMART Plan via resolutions of support:

- Citizens Independent Transportation Trust (CITT)
- Citizens' Transportation Advisory Committee (CTAC)
- Greater Miami Chamber of Commerce (GMCC)
- Latin Builders Association, Inc. (LBA)
- Miami Beach Chamber of Commerce (MBCC)
- Miami-Dade County Board of County Commissioners (BCC)
- Miami-Dade County League of Cities (MDCLC)
- Miami-Dade Expressway Authority (MDX)
- South Florida Regional Council (SFRC)

Why is the SMART Plan so critical?

The SMART Plan includes rapid transit corridors and express bus routes to increase connectivity for approximately 77% of Miami-Dade County residents that travel outside their residential district for employment in other areas of the County.



All About the Smart Corridors

The SMART Corridors have advanced to the Project Development and Environmental (PD&E) Phase where the appropriate analysis will determine the specific next steps.

Beach Corridor

The Beach Corridor (formally known as Bay Link) is an important connection between the mainland and Miami Beach. It will integrate with other existing and proposed transit services on both sides of Biscayne Bay. A vital link between two key economic engines, Miami International Airport (MIA) and PortMiami, this SMART Plan corridor will improve conditions in the area and serve anticipated growth.

Metrorail currently provides a direct connection between MIA and Downtown Miami. This SMART Plan corridor will provide the final link to destinations most frequented by millions of visitors each year. Additionally, this will also serve the surrounding entertainment and commercial sectors for local residents and employees traveling across the Bay or connecting from outside the area.

Providing a transit alternative near Miami Beach will help locals and visitors with their travel needs during peak travel times and special events. Important consideration will also be taken to coordinate future transit improvements with major development now occurring in Downtown Miami.

East-West Corridor

The East-West Corridor runs mostly State Road 836 (Dolphin Expressway), which contains numerous businesses that are critical to the local economy, including office parks, warehouses, and industrial activity. The Dolphin Expressway and other neighboring east-west corridors, such as Flagler Street and SW 8th Street, connect directly to Downtown Miami. These are some of the most heavily traveled and congested roadways in Miami-Dade County. A rapid transit service along this corridor will provide an important link between major regional, state, and international activity centers, such as the Miami Intermodal Center (MIC), MIA, and Florida International University (FIU), with its annual enrollment of more than 50.000 students.

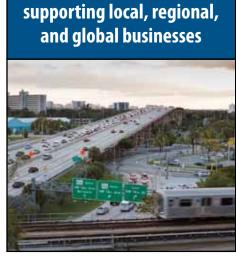
Other transit upgrades nearby are currently being advanced by the Miami-Dade TPO and partner agencies as part of the effort to prioritize public transportation in the region. New multimodal transit terminals and Park-and-Rides, known as the "Dolphin Station" and "Panther Station," are planned and/or underway at the western end of the corridor.

Kendall Corridor

The Kendall Corridor is an important connection between the County's western residential areas employment centers, shopping areas, major expressways, and Metrorail stations further to the east. Kendall Drive is a heavily traveled roadway by a sizable portion of the population. As a result, it experiences high levels of traffic congestion. A rapid transit link along Kendall Drive will provide alternative options for traveling the corridor and connecting to other premium transit services such as Metrorail.

The Miami-Dade TPO is planning for other infrastructure improvements such as Park-and-Ride facilities that will supplement a rapid transit route. These Park-and-Ride locations and multimodal transit terminals will provide more opportunities for connections between surrounding neighborhoods and other parts of the County. This corridor is an example of how land use is integrally tied to transportation, and how strategic improvements can result in effective mobility options in areas with autooriented development patterns.





High demand corridor



All About the Smart Corridors

North Corridor

The North Corridor runs along NW 27th Avenue, extending from the MIC at MIA to NW 215th Street, near the Miami-Dade/Broward County line. This roadway is a key component of the transportation system, because it is one of the few continuous northsouth arterial corridors in Miami-Dade County. It serves as a gateway to the central part of the South Florida region to the north. This corridor is also ripe for potential infill and redevelopment opportunities, such as transit oriented developments (TOD), which would be further supported by a new rapid transit service.

The Miami-Dade TPO has prioritized funding for implementing a new transit terminal and Park-and-Ride facility at the northern end of this corridor. This Park-and-Ride, known as "Unity Station," will be located near the Broward County line at NW 215th Street and the Florida's Turnpike. The Miami-Dade TPO is also coordinating with the Broward MPO to determine potential options for extending this future service further north in order to create a truly regional rapid transit route.

Northeast Corridor

The Northeast Corridor is a regional connection that links Miami-Dade County with neighbors to the north via the Florida East Coast (FEC) Railway. The corridor is currently used only for freight traffic, but multiple development plans are planned to transform this corridor for passenger service over the next few years.

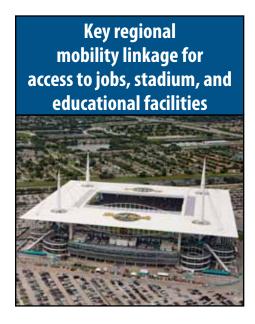
The MiamiCentral Station development, currently under construction Downtown Miami, will eventually serve as the terminus station for multiple new passenger rail services along this corridor. All Aboard Florida's intercity "Brightline" service will connect the downtown areas between Miami and Orlando. Additionally, the South Florida Regional Transportation Authority (SFRTA) is planning to expand its Tri-Rail service to provide one-seat rides to MiamiCentral Station. The TPO has been working with SFRTA and the Florida Department of Transportation (FDOT) to conduct the necessary planning efforts related to this service. These include working with local communities to ensure station locations are integrated with surrounding land uses and development.

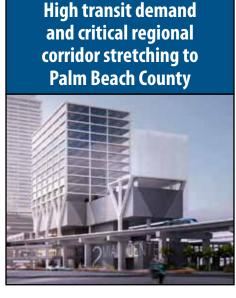
South Dade Transitway

The South Dade Transitway (formerly known as South Link) is a 20-mile exclusive busway that operates local and limited stop Metrobus service between the Dadeland South Metrorail Station and Florida City. There are currently 30 Metrobus stations and six Parkand-Ride facilities along this corridor.

Recent projections indicate that the southern portion of Miami-Dade County will experience approximately 50 percent increase in population and 65 percent increase in employment by 2040, which represents the highest growth rate in the County. Communities in this area are growing, and as a result, will experience an increasing demand for transportation infrastructure and services.

In addition to assessing the overall costs and benefits of different service options, passenger amenities will be evaluated as a part of the corridor development process. These potential improvements will help increase the system's reliability, decrease transit travel time, and enhance the overall ridership experience.











Central Station Capitol

MPO PEER EXCHANGES



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Best Practices and Lessons Learned

he Miami-Dade TPO Governing Board approved fact-finding trips to exchange best practices and lessons learned with three top performing MPO agencies in the nation. An extensive search was conducted to identify nationwide MPOs that were the most successful in advancing major regional transit systems, as well as securing new federal transportation funds, to build transit projects. As a result of this research, peer exchanges were conducted with: the San Francisco Bay Area Metropolitan Transportation Commission (MTC); Houston-Galveston Area Council (H-GAC); and New York Metropolitan Transportation Council (NYMTC). Although each MPO presented a unique organization and transportation network, there were noticeable similarities that clearly strengthened the success of their regions. These included a consistent unified voice and vision to advance transportation initiatives in their respective areas. Below is a summary of Top 10 Takeaways from the peer exchanges:

Top 10 Peer Exchange Takeaways **Prioritize and Advance Comprehensive Program of Projects Annual Federal Agency Briefings** 2 3 **Strong Land-Use and Transportation Linkage** 4 **Maximize Economic Opportunities** Strong Consensus, Committee Structure, and Board 5 **Member Engagement Active Board Participation from Federal and State** 6 Transportation Agencies 7 Staggered Project Implementation Approach 8 **Inter-Agency Cooperation and Readiness is Key** Strong Unified Voice and Message **Maximize Opportunities for Federal Funding and Public-Private Partnerships**

Another striking observation was the efficiency and effectiveness of permanent Governing Board committee structures. As a result of these peer exchanges, in 2016 the TPO Governing Board adopted the following permanent committee structure via an amendment to the TPO's *Prospectus for Transportation Improvements*:

- Executive Policy Committee (EPC)
- Fiscal Priorities Committee (FPC)
- Transportation and Mobility Committee (TMC)

Throughout these exchanges, the Miami-Dade TPO was also provided with a firsthand look at other national transit systems in operation. It is clear that large metropolitan areas with strong land use and transportation linkage are the most successful in terms of sustained economic development and transportation mobility. Each of these regions developed integrated land use and transportation plans, also referred to as "Implementation Plans." As a result, the TPO Governing Board unanimously adopted a resolution approving an amendment to the Fiscal Year 2017 Transportation Improvement Program (TIP) to assign and program federal funds in the amount of \$7.1 million for the development of Implementation Plans for each of the SMART Plan corridors.

In addition, the TPO was provided with an opportunity to discuss the SMART Plan initiative, and obtain critical input and recommendations from experienced national peers. As implementation begins on the SMART Plan, the Miami-Dade TPO will continue to look for applicable best practice examples across the country to help accelerate the project development processes.



New York Metropolitan Transportation Council (NYMTC)



San Francisco Bay Area Metropolitan Transportation Commission (MTC)



Houston-Galveston Advisory Council (H-GAC)



MAKING A DIFFERENCE

TPO IN ACTION













Staying Ahead of the Curve

he Miami-Dade TPO is constantly working to improve mobility by initiating efforts to advance transportation in Miami-Dade County. These activities help raise awareness and encourage collaboration amongst partner transportation agencies, as well as promote a safe, effective, and integrated transportation system. The following information briefly summarizes some of the various 2016 TPO initiatives:

Autonomous Vehicle Exhibition

The Miami-Dade TPO held a one-day event on autonomous vehicle (AV) technology at the Stephen P. Clark Government Center in Downtown Miami. The various exhibits included the AV "Plan B" vehicle and an AV simulator developed by the Florida Department of Transportation (FDOT), Embry-Riddle Aeronautical University, and the University of South Florida. A Transportation Fair complemented the AV Exhibition with participation from various agency partners. In the afternoon, the Miami-Dade TPO Governing Board meeting moved to the AV Exhibition area where participants were addressed by former TPO Chairman Jean Monestime, Miami-Dade County Mayor Carlos A. Gimenez, TPO Executive Director Aileen Bouclé, and FDOT Assistant Secretary Brian Blanchard. The main message was that Miami-Dade County is preparing for new and emerging technology with upgraded roadways, transit systems, and freight facilities. The AV Exhibition was highlighted by a unanimous TPO Governing Board resolution directing the Miami-Dade TPO Executive Director to establish a technical group to identify the next steps for the implementation of AV. With this directive, the Miami-Dade TPO positioned itself to fully support innovative future technologies that will increase transportation mobility choices. During the AV Exhibition, members of the public and TPO Governing Board Members viewed "Plan B" and tested out the AV simulator.

CAV Task Force and Working Group

The Miami-Dade TPO was one of the first transportation planning agencies in the state to initiate and approve a resolution endorsing the creation of a Connected-Autonomous Vehicle (CAV) Task Force. This action was critical in order to better understand emerging technologies and advancements in transportation. The first meeting focused on establishing interagency dialogue and collaboration, and to facilitate CAV project development and deployment within Miami-Dade County and the region. Members from applicable local transportation agencies attended, alongside nationwide businesses from the private sector including: Ford Motor Company Innovation Lab, Intelsat, Kymeta Corporation, Lear Corporation, Local Motors, Assurant and NuTonomy, Inc. As a result of the CAV Task Force, a formal partnership was developed between the Miami-Dade TPO, the Miami-Dade County Department of Transportation and Public Works (DTPW), FDOT District Six, Miami-Dade Expressway Authority (MDX), and Florida International University (FIU). This group was formalized as the CAV Working Group, and initiated efforts to develop safe and secure testing, deployment, and operation of CAV technologies in Miami-Dade County.

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Staying Ahead of the Curve

Freight Economy Roundtable

The Miami-Dade TPO, with former USDOT Secretary Anthony Foxx and Federal Highway Administration (FHWA) Administrator Gregory G. Nadeau, hosted the "Administrator's Beyond Traffic Roundtable." These FHWA events were limited, and Miami-Dade County was selected as the Florida location. Participants included state, regional, and local transportation representatives, the business community, safety and environmental advocates, and freight stakeholders. The roundtable discussion included issues related to the region's freight economy and impacts. Discussions also included elements of national and state freight plans and related performance measures. This was an opportunity to share ideas, insights, and experiences to improve freight movement locally and nationwide.



Copenhagen Bicycle Study Tour

Teams from nine Knight Communities joined an annual study tour of Copenhagen, Denmark, supported by the Knight Foundation and the non-profit organization, 8 80 Cities. For five days, 27 civic leaders and innovators visited the Danish capital, a city that consistently ranks in the top five of the most livable cities in the world. Participants experienced how Copenhagen designs and programs its parks and other public spaces to attract residents. They also explored how well the City accommodates both pedestrians and bicyclists. The study tour is an annual event organized by 8 80 Cities that focuses on creating "more vibrant, healthy, and equitable communities." The teams represented were from the cities of Miami, Tallahassee, and West Palm Beach,

Florida; Detroit, Michigan; Duluth, Minnesota; Macon and Milledgeville, Georgia; Philadelphia, Pennsylvania; and San Jose, California.



FDOT Intermodal Systems Development (ISD) Team

The Miami-Dade TPO, FDOT District Six, and the Miami-Dade DTPW joined together to cohost the FDOT's ISD Team over a two day site visit. The team was comprised of staff from the seven FDOT Districts around the state, along with staff from FDOT Central Office, including the State Chief Planner and Freight Logistics and Passenger Operations Administrator. The tour included site visits utilizing Metrorail, Metrobus, and Metromover to PortMiami, the Port Tunnel, the SR 826/SR 836 Interchange Project, the NW 25th Street Viaduct Project, the



Miami Intermodal Center (MIC), Miami International Airport (MIA), the MiamiCentral Station, the Underline, the 95 Express Lanes, the Miami River Greenway, and the TPO Governing Board meeting. The group toured and viewed major developments and experienced, firsthand, the challenges and opportunities of mobility management in the most populous and urbanized area of the state.



Social Media and Website Enhancements

The Miami-Dade TPO made several notable improvements to its website, and increased its social media presence. These efforts provided increased access to the TPO's work products, information, and various activities. This helps local residents and others around the U.S. to become more aware of the TPO's planning process. Major enhancements included:

- Establishing a Facebook, Twitter, YouTube, Instagram, SlideShare, and Texting service presence online
- Incorporating the live Twitter feed on the website's homepage
- Maintaining over 1,000 documents on the website, which are accessed by users nationally
- Adding new program webpages to grow the website, such as the SMART Plan, the CAV Program, and the Freight & Logistics Planning Program

Additional Major Activities

Throughout 2016, the Miami-Dade TPO participated in and supported a number of activities related to community outreach, educational efforts, and the encouragement of local transportation alternatives including:

- Age-Friendly Workshop
- Bike 305's "Bike to Work" Event
- Bike Friendly Miami-Dade
- Chamber South's "Transportation Solutions Breakfast"
- City of Doral Grand Opening of NW 97 Avenue
- Florida Department of Transportation's (FDOT)
 "Trade and Logistics Academy"
- North American Traffic Monitoring Expo and Conference
- · PARK(ing) Day Miami
- "Put it Down" Campaign
- Public Transit Day (Inaugural)
- Snapper Creek Trail Segment B Master Plan Public Meeting
- South Florida Transportation Safety Event
- Town Hall Meeting for the South Dade Busway
- · Walk to School Day Event at Country Club Middle School
- Walk to School Day Event at Miami Lakes K-8
- WLRN Topical Currents "Miami-Dade Traffic and Transit Issues and How Road Projects Are Coordinated and Managed"
- FHWA's Fostering Livable Communities Newsletter
- Environmental Justice (EJ) Tools Peer Exchange Webinar
- Miami-Dade County Transportation Disadvantaged (TD) Program
- FDOT District Six's Aggressive Driving Awareness Campaign
- DTPW and PAXY's "Wake Up Miami! Musical Interlude"



The Miami-Dade TPO's transportation priorities are implemented by multiple transportation partner agencies throughout the county and region. These agencies work closely with the TPO during the metropolitan planning process. They refine plans and concepts, and ultimately oversee construction activities so that projects can become functioning pieces of the local transportation system. Recently completed multimodal projects, such as those described below, are examples of the Miami-Dade TPO and its partner agencies working together to improve infrastructure and mobility throughout Miami-Dade County.

Florida Department of Transportation (FDOT) District Six

FDOT District Six is responsible for maintaining and improving a roadway network of nearly 3,000 lane miles and almost 500 bridges in Miami-Dade and Monroe Counties. State roadways in District Six accommodate more than 30 million miles traveled on a daily basis. Like other partner agencies, FDOT District Six coordinates its funding plans and priority projects with the Miami-Dade TPO. In addition to numerous activities related to resurfacing, widening, and intersection improvements, in 2016 FDOT District Six:

 Finalized the upgrade of one of the largest interchanges in the State of Florida. The State Road 826/836 Interchange

- connecting the Dolphin and Palmetto Expressways is a critical piece of infrastructure for the efficient movement of automobiles and future transit service. This \$563 million project now provides increased safety and helps reduce delays allowing drivers greater mobility for the movement of people and goods within Miami-Dade County.
- Completed the NW 25th Street Viaduct, which was a joint effort with Miami-Dade County. This facility provides direct access between MIA's west cargo area and the Palmetto Expressway via an elevated route allowing freight trucks to avoid local traffic.

Miami-Dade Department of Transportation and Public Works (DTPW)

DTPW oversees transit and all the transportation infrastructure responsibilities, such as maintaining County roads, bridges, traffic signals, signage, sidewalks, and right-of-way landscaping. DTPW's transit system is the largest and most robust in Florida and the 15th largest in the country in terms of vehicle revenue miles. It contains multiple forms of public transportation ranging from local and express bus services to the elevated Metrorail and Metromover systems. This comprehensive system handles approximately 98 million annual boardings. Throughout 2016, DTPW accomplished the following:



- Continued to maintain and improve the County-operated infrastructure system.
- Opened a new facility for assembling 136 new and upgraded Metrorail cars to completely replace the existing fleet by 2019. The new vehicles will modernize the ridership experience by offering free WiFi and other passenger amenities.
- Developed new transit projects and facilities to enhance mobility, including Park-and-Ride stations and other Transit Oriented Development (TOD) related projects for increasing access to public transit services.
- Rolled out an EASY Pay app allowing users to purchase fare tickets directly from their smartphones.
- Initiated the process of acquiring new alternative fuel buses that use electricity or compressed natural gas (CNG) to help reduce overall emissions.
- Unveiled a newly renovated Traffic Management Center (TMC). The TMC was upgraded with the technological infrastructure necessary to synchronize and maximize the efficiency of Miami-Dade's signal system through the implementation of adaptive signal control and active arterial management strategies. This allows DTPW to

observe real-time traffic conditions through cameras and detectors in order to manage road conditions, improve traffic flow and travel time, and help reduce congestion.

Florida's Turnpike Enterprise (FTE)

FTE is the agency responsible for operations on all FDOT-owned toll roads and bridges, which account for about 80 percent of Florida's toll facilities. Most notably in Miami-Dade County, this includes the Turnpike Mainline and the Homestead Extension of Florida's Turnpike (HEFT). FTE has been working to:

 Complete a series of major improvement projects along the HEFT, which will widen the roadway in both directions, add express lanes, and construct sound walls along certain adjacent residential areas. These capacity improvements will help meet travel demand in this growing part of the County. The effort has been divided into multiple phases spanning from Homestead to the Dolphin Expressway, and is expected to be completed in 2019.

Miami-Dade Expressway Authority (MDX)

MDX is the agency that oversees and maintains tolled expressways in Miami-Dade County, minus the FTE's HEFT. Its system contains roughly 225 lane-miles covering five major expressways: SR 112/Airport Expressway, SR 836/Dolphin

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Mobility Enhancements

Expressway, SR 874/Don Shula Expressway, SR 878/Snapper Creek Expressway, and SR 924/Gratigny Parkway. By reinvesting local toll revenues back into the roadway system, MDX improves mobility, roadway conditions, and travel time for its users. MDX has been working on:

- Several major modernization and rehabilitation projects to key areas of its expressways. These range from milling and resurfacing projects to major interchange reconstructions.
- Coordinating activities such as the joint development of the Dolphin Station Park-and-Ride facility with DTPW and FDOT District Six, which is a significant component of the TPO's SMART Plan.

Miami-Dade Aviation Department (MDAD)

MDAD is the agency responsible for managing the County's five airports. In addition to four general aviation airports, Miami International Airport (MIA) is one of the largest airports in the world in terms of both passenger and freight activity. After the opening of the world-class Miami Central Station at the Miami Intermodal Center (MIC) in 2015, MIA continues to grow and welcome new air carriers to its terminals. In fact, in 2016:

- Approximately 45 million passengers and more than 2 million tons of freight passed through MIA.
- Contributed approximately \$34 billion and nearly 300,000 direct and indirect jobs to the local economy.
- Implemented projects to increase security features and modernize its cargo facilities.

Miami-Dade Seaport Department

The Miami-Dade Seaport Department operates PortMiami. As the "Cruise Capital of the World," PortMiami is a globally significant hub for cruise ship activity. In addition, cargo shipping plays a major role in the local, state, and national economy. Over the past few years, PortMiami has been positioning itself to be "Big Ship Ready" through improvement projects that will accommodate major cargo shipments passing through the newly widened Panama Canal. These upgrades

included new gantry cranes and a deep dredge project allowing larger containerized cargo vessels to pass through Government Cut. In 2016, PortMiami:

- Welcomed over 5 million passengers, and boasted some of the world's most modern port facilities.
- Processed nearly 9 million tons of cargo, and served as a major international trade gateway to the U.S.
- Improved its intermodal rail facilities to allow for more efficient transfers of cargo directly to regional rail corridors and beyond. Combined with newly expanded and modernized cruise ship terminals, these cargo improvements will allow PortMiami to continue to strengthen the local economy well into the coming decades.

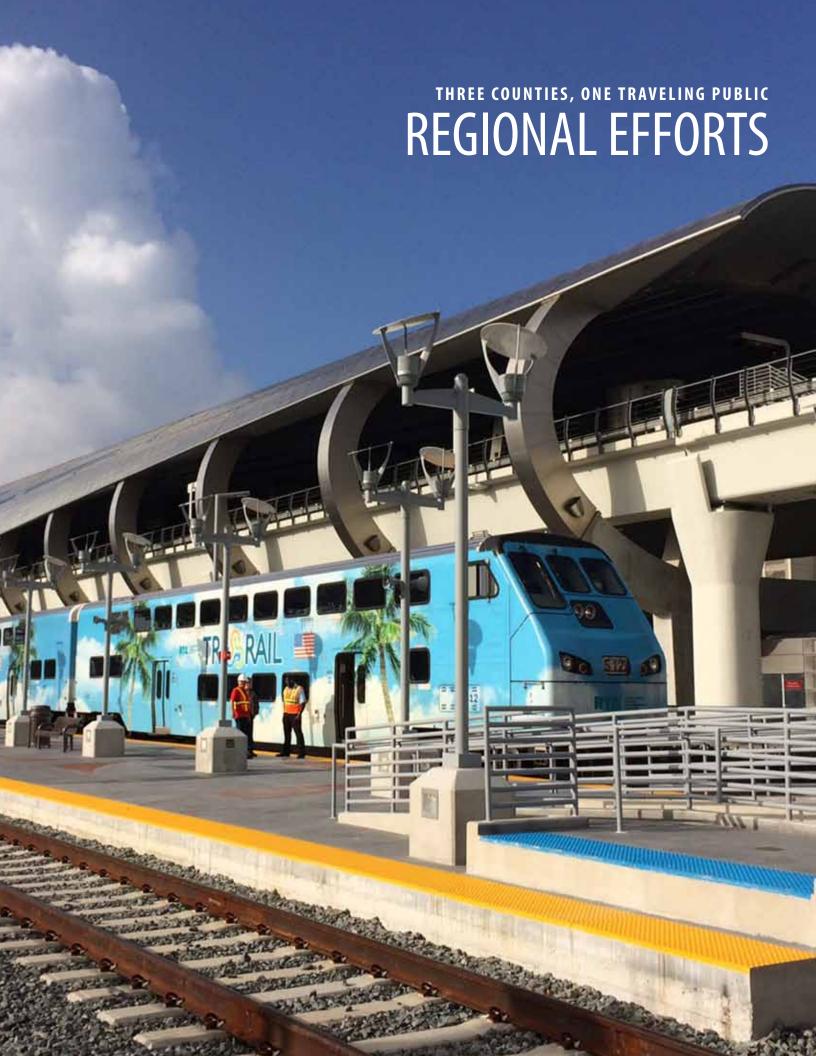
South Florida Regional Transportation Authority (SFRTA)

SFRTA is the agency that operates Tri-Rail commuter rail service and its complimentary bus system throughout the tri-county region. The 72-mile passenger rail system operates along the South Florida Rail Corridor (SFRC), providing crucial connections to all three major airports in the region. Tri-Rail currently provides more than 4 million passenger trips each year, and serves five stations in Miami-Dade County, with the southernmost station located at the MIC. In 2016, SFRTA accomplished the following:

- Took major steps in developing service expansion plans and preparing for additional passenger rail opportunities.
- Developed capacity improvements over the Miami River to increase access and connectivity for passenger and freight trains alike.
- Completed infrastructure improvements, which allow Tri-Rail trains to crossover and service Downtown Miami via the SMART Plan's Northeast Corridor.
- Coordinated with multiple partner agencies in the development of the Downtown MiamiCentral Station, which will soon serve as the intermodal terminus for Tri-Rail and All Aboard Florida's Brightline trains.







Regional Initiatives

Despite the size and significance of Miami-Dade County's population, economy, and transportation network, it is part of an interconnected region that ranks as the 8th largest urbanized area in the nation. Travel patterns and needs do not neatly conform to geographic boundaries. The Miami-Dade TPO undertakes considerable effort to work collaboratively with neighboring MPOs, regional planning councils, and transportation agencies. This is primarily accomplished through the Southeast Florida Transportation Council (SEFTC). SEFTC is a tri-county entity that provides a platform for planning decisions to be made in a unified and coordinated manner that benefits the entire South Florida Region. In fact, the Federal Highway Administration (FHWA) has recognized SEFTC as a national "model of regional cooperation."

The region consists of Miami-Dade, Broward, and Palm Beach Counties, and is currently the 8th most populous urbanized area in the United States, with approximately 6.1 million people. The region contributes \$317 billion to the U.S. Gross Domestic Product (GDP), which is the 11th highest of the 400 U.S. metropolitan areas. During the next 25 years, the region is expected to grow by about 1.5 million people, as well as experience increased tourism and freight-related activity. As growth continues within a geographically constrained region, the connections between land use and strategic transportation

planning will become even more important to the future of the region's economy and mobility.

In 2016, the Miami-Dade TPO collaborated the following regional efforts:

- A major household travel data collection effort was initiated, led by the Miami-Dade TPO, as part of the SEFTC Regional Travel Survey (RTS) effort. The RTS included the collection of origin-destination travel data from various GPS sources. This information will provide an up-to-date and accurate picture of the changing travel patterns in the region, and assist decision makers with addressing traffic congestion and improving infrastructure.
- The Miami-Dade TPO collaborated with its regional partners to successfully speak with a single voice, through SEFTC, regarding federal policy reform that may have negatively impacted the region.
- SEFTC conducted its annual prioritization of Transportation Regional Incentive Program (TRIP) projects.
- In recognition that significant strides could be made in the area of congestion management, SEFTC formed a Regional Transportation System Management and Operation (TSM&O) Subcommittee to address regional transportation needs.



Concept design for MiamiCentral Station located in Downtown Miami



2016 TPO Initiatives

Miami-Dade County saw a significant number of transportation planning initiatives in 2016.



Aerial Cable Transit Feasibility Study

This study evaluated the feasibility of Aerial Cable Transit systems for short distances of one to three miles as an extension of the existing rapid transit network.

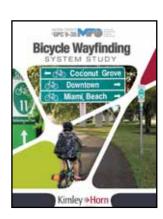
Result: To be prioritized in the 2045 Long Range Transportation Plan (LRTP).



Bicycle Route Planning System Project

This report developed several extensions and data updates for an interactive web application titled "Bicycle Route Planner" (BIKE) with an improved algorithm to locate bike rental stations.

Result: Implemented a new online tool available via Florida International University and TPO websites.



Bicycle Wayfindings System Study

Recommended improvements including signage to key destinations, as well as a bicycle route numbering system that allows bicyclists to easily navigate the available facilities and travel throughout the county.

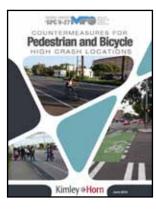
Result: To be prioritized in the 2045 Non-Motorized Plan Update.



Bus Lanes in Downtown Miami

This study estimated what the construction costs would be for retrofitting streets to accommodate bus lanes. Policy changes related to on-street parking and signal system development were also identified.

Result: Miami-Dade County initiated its first Complete Streets project along SW 1st Street, from SW 2nd Avenue to Biscayne Boulevard.



Countermeasures for Pedestrian and Bicycle High Crash Locations

This study developed countermeasure strategies for facilitating improvements at locations where high levels of traffic crashes involving pedestrians and cyclists have occurred.

Result: Six of the high bicycle/pedestrian crash locations identified are being implemented by FDOT and DTPW.



Countywide Bus and Auto/ Rideshare Access to Transit Facility Assessment Study

This study evaluated ways to optimize access, utilization, and connectivity for passengers at five Park-and-Ride facilities that are approaching parking capacity.

Result: Planning and Design Phase for the SW 152 Street Park-and-Ride project programmed for Fiscal Year 2019.

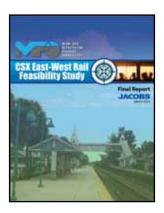
2016 TPO Initiatives



CSX East-West Corridor Transit-Oriented Development (TOD) Study

The purpose of the evaluation along this corridor was to identify the land use measures necessary to advance a viable premium transit corridor.

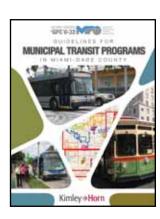
Result: New federal transit funds were awarded to advance recommendations.



CSX East-West Rail Feasibility Study

Alternatives considered in this study included various passenger rail transit technologies, alignment options, and potential station locations along the corridor.

Result: Under consideration as part of the SMART Plan.



Guidelines for Municipal Transit Programs in Miami-Dade County

This study provided unified guidance for increasing local transit planning capacity within local municipalities.

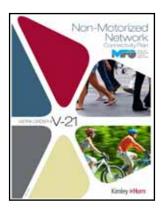
Result: Implemented policies and recommendations to improve coordination and avoid duplication between county and municipal transit services.



NE 125th Street Multimodal Improvements

This study evaluated local improvement alternatives that support the future land use plan, improve the bicycle/pedestrian environment, and have a relatively small impact on travel times.

Result: The City of North Miami is utilizing the study data and analysis to evaluate improvements to create a vibrant downtown area.



Non-Motorized Network Connectivity Plan

This study aimed to identify and fill critical gaps in the County's non-motorized transportation network, and was primarily focused on walking, wheelchair travel, and bicycling.

Result: DTPW has submitted a \$1 million TAP application under the Commodore Trail to the Rickenbacker Causeway project.



Public-Private Partnership (P3) Roadmap to Project Implementation Study

This study evaluated the use of financial resources and operational efficiencies that the private sector could provide to expedite the development of public infrastructure projects.

Result: Submitted to FDOT/FHWA and will be added to the 5-Year Transportation Improvement Program and 2045 LRTP.

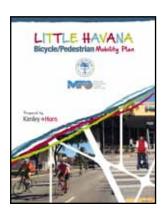
2016 TPO Initiatives



Improving Regional Transportation Planning in Miami-Dade County via Enhanced Local Access to Healthy Living

This study provided information regarding planning for enhanced access to healthy living in Miami-Dade County.

Result: The South Florida Regional Council is taking the lead to implement recommendations at the regional level.



Little Havana Bicycle/Pedestrian Mobility Plan

This non-motorized plan developed and recommended projects to help implement the City of Miami's goals related to bicycle and pedestrian mobility.

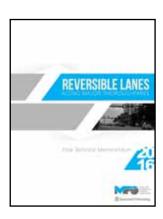
Result: The City of Miami has submitted an application to the DTPW Quick Build Program for the Beacom Boulevard Bike Lane Project identified in the study.



Miami Beach Middle Beach Recreational Corridor

This study was conducted to improve the quality of bicycle/pedestrian access to existing segments of the Atlantic Greenway Network, including the construction of a pedestrian walkway.

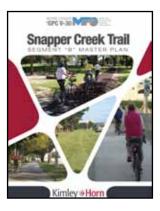
Result: Funded under the City of Miami Beach – Pedestrian and Bicycle Pathway program for \$13 million in Fiscal Year 2019.



Reversible Lanes Along Thoroughfares Study

This study examined the possibility of utilizing reversible lanes to ensure a better use of existing transportation assets while reducing the need for roadway widening.

Result: Miami-Dade County is testing the feasibility of implementation along NW 25th Street and NW 36th Street, between the Palmetto Expressway and the HEFT.



Snapper Creek Trail Segment "B" Master Plan

This study evaluated different options for improving trail facilities to provide safer bicycling and walking conditions, healthier lifestyles, and additional mobility options.

Result: The Department of Parks and Recreation & Open Spaces (PROS) submitted this project for TAP funding.



South Miami Complete Streets Policies and Design

This study recommended policies for the development and implementation of Complete Streets to integrate all aspects of mobility and enhance local quality of life.

Result: South Miami is using the final report to support improvements along SW 64 Street, and other transportation infrastructure projects.



111 NW 1st Street, Suite 920 Miami, FL 33128-1916 (305) 375-4507 www.miamidadetpo.org #MiamiSMARTPlan

The Miami-Dade TPO has set a policy that assures that no person shall on the basis of race, color, national origin, sex, age, disability, family, or religious status, as provided by Title VI of the Civil Rights Act of 1964, the Civil Rights Restoration Act of 1987, and the Florida Civil Rights Act of 1992, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination or retaliation under any program or activity. It is the policy of the Miami-Dade TPO to comply with all of the requirements of the Americans with Disabilities Act (ADA). To request this document in accessible format, please call (305) 375-1881. If you are interested in participating in the transportation planning process, please contact the Miami-Dade TPO at (305) 375-4507.

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